TRADELINE Catalog

Honeywell

Environmental and Combustion Controls
24th Edition Product Catalog

In addition to the most up-to-date information on Honeywell's products the 24th edition of the Trade-line® catalog has many new products including

- Prestige® 2.0 Thermostats
- New VisionPRO® 8000 with RedLINK capability
- Communicating commercial thermostats for zone control, roof-top units and everything in-between
- Honeywell's line of building access monitoring and video surveillance
- Universal pilot burners and identified universal Service Parts
- Honeywell LED lighting for commercial and industrial uses
- Lighting Controls and sensors
- Industrial flame monitoring products
- Residential bypass dampers
- TrueCLEAN™ enhanced air cleaners
- TrueFRESH™ ventilation system
- A redesigned line of Definite Purpose Contactors

For more information on these products, the product literature, a cross-reference for obsolete products, and the latest information about new product please visit us at https://customer.honeywell.com

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Honeywell Environmental and Combustion Controls Maintains ISO 9001:2008 Registration

What is ISO?
ISO is the International Organization for Standardization. ISO standards used to apply only to manufacturing, but now can be applied to many types of businesses. This promotes a common standard for accessing systems worldwide.

What does ISO 9001 registration involve?
ISO 9001 is part of the ISO 9000 family. Registration is evidence that a Quality Management System has been put in place to verify that customer requirements are being identified and met. This means that an Organization has demonstrated the capability to define, document, and control the processes that define the product or service being supplied. Continuous improvement is assured through the preventive and corrective actions that result from a comprehensive system of Internal Audits and Agency (3rd party) Audits.

Registration focuses on the concept of companies using a process approach to quality management. ISO requires that companies meet some very specific requirements, which include defining the process used and controls for each level of every process, from design, through delivery of the finished product or service. Systems, procedures and documentation are required for all processes.

Each facility must be registered separately since it is the quality management system of each facility that is registered, not the products that are manufactured by the system.

Characteristics of ISO Compliant Businesses
ISO Management system standards provide the organization with a model to follow in setting up and operating the management system. This model incorporates the features on which experts in the field have reached a consensus as representing the international state of the art. A management system, which follows the model - or “conforms to the standard” - is built on a firm foundation of state-of-the-art practices. It is a well-organized operation with trained and motivated people. It continually rethinks how it runs its business and focuses on meeting and exceeding customer specifications through eliminating non-value-added functions.

It welcomes outside auditors who review its processes and ensure continual improvement against a universally recognized standard of performance.

What does Honeywell ISO registration offer you?
It offers the confidence and peace of mind that the Honeywell quality system requires production processes that meet highest standards for consistency and control, which translates to consistent product quality.

Honeywell ISO Registered Facilities
Many of the products described in this catalog are built in ISO registered facilities.

The following facilities are registered under ISO 9001:2008 registered by Quality Management Institute; Certificate # CERT-0067107:

ACS ECC – Golden Valley Facility
1985 Douglas Drive North
Golden Valley, MN 55422-3992
USA
File No: 014498

Honeywell International ACS ECC (West Coast Operations)
2055 Dublin Drive
San Diego, CA 92154-8203
USA
File No: 014499

Honeywell International Manufacturas de Chihuahua S de RL de CV
Avenida Cristobal Colon #11364 Complejo Ind. Chihuahua
Chihuahua, C.P. 31136
México
File No: 014501

Honeywell International ACS ECC (Mexhon)
Mexhon S.A. de C.V. Blvd. Insurgentes No. 8503-2
Tijuana, Baja, CA
México
File No: 014504

Honeywell International Inc., A Delaware Corporation ACS ECC
304 S. Chicago Avenue
Freeport, IL 61032
USA
File No: 014587

Honeywell International Inc., A Delaware Corporation
25 E. Spring Street
Freeport, IL 61032
USA
File No: 014588

Honeywell International Manufacturas de Chihuahua S de RL de CV
Ave. Parque Industrial Juárez #3328
Parque Industrial Juárez
Juárez, Chihuahua 32630
México
File No: 1065696

General Information

Order Specification Number System

TYPE LETTER	TYPE NUMBER	SUFFIX LETTER	OS NUMBER
V	4055	A	1007

The type letter is the single letter, or two letter group, which begins the model number. This letter usually indicates the general type of device involved, however, some product model numbers may not follow these designations exactly. If you have questions about a particular product designation, please contact your Honeywell sales representative. A list of type letters used is shown below (some may fit in more than one category):

A —Testers.
AT —Transformers.
BC —Microcomputer burner control system.
C or CS —Combustion controls; sensors.
D or DM —Dampers.
DSP —Demonstrators.
EL —Lighting controls.
ER —Energy recovery ventilators.
F —Electronic air cleaners.
H —Humidity controls, including combination temperature and humidity controllers.
L, LA or LS —Limit controllers.
M —Motors.
P —Pressure controllers.
PM —Program modules.
Q —Accessories.
QS —Communication interface modules.
R, RA or RW —Relays.
RM —Primary controls.
S —Switches and ignition modules.
ST —Electronic fan timers.
SV —Integrated controls.
T, TA or TS —Thermostats and remote bulb temperature controllers.
TG —Thermostat guards.
V, VR, VS or VW —Valves.
W —Load control panels, accessories.
Y —Package sets.
ZM —Software packages.

Summary of Honeywell Control Series Designations

Series Designation	Controller Type	Controller Action	Relay or Valve Type	Motor Action	Example
Series 20	3-wire, low voltage (2-position)	Makes circuit to start; makes second circuit to stop.	—	Low voltage; rotates 180 to open, continues 180 to close; stops on power interruption.	V2045
Series 40	2 wire, line voltage (2-position)	Makes circuit to start; breaks it to stop.	Line voltage coil circuit; makes (opens) when powered; breaks (closes) when power interrupted.	Line voltage; motor drives open when powered; spring returns on power interruption.	T42, L4064, L4008
Series 50	Mechanical (nonelectrical) series.				V5011
Series 60	3-wire, line voltage (2-position)	Makes circuit to start; makes second circuit to stop.	—	Old style—line voltage equivalent to series 20. New style—line or low voltage drives open when powered open; reverses and drives closed when powered closed; stops on power interruption.	M6284
Series 70	Electronic series.				M7285, C7031
Series 80	2-wire, low voltage (2-position)	Makes circuit to start; breaks it to stop.	Low voltage coil circuit; makes (opens) when powered; breaks (closes) when power interrupted.	Low voltage; motor drives open when powered; spring return closed on power interruption.	T87, L8124
Series 90	3-wire, low voltage (modulating)	Varies resistance between common terminal and two end terminals in response to controlled variable.	—	Low voltage; motor modulates position in response to changes in controlled variable signaled by controller.	T921, M9164, W899

Approval Bodies

Most of the devices described in this catalog have been approved or listed by one or more of the approval bodies listed below.

Underwriters Laboratories Inc.

Underwriters Laboratories Inc., is a Limited Liability Corporation (LLC) that examines and tests devices, systems and materials. Its membership represents a broad cross section of industry, education, and government.

Field inspectors for Underwriters Laboratories Inc., do not normally inspect equipment installed on job sites, but restrict their activities entirely to periodic inspections of products coming off manufacturers' assembly lines.

The three general categories of acceptance of a product by Underwriters Laboratories Inc., are:

1. Listing
2. Component Recognition
3. Classification

Listed devices are structurally and functionally complete and suitable for field installation.

Component Recognized devices are incomplete in some way that makes them unsuitable for general field installation. They are intended to be factory installed as part of some other piece of equipment. Classified devices or products have been evaluated as to specific hazards only.

Underwriters Laboratories of Canada can also provide certification services to Canadian standards, which is displayed as a “c” adjacent to the UL mark (cUL).

CSA - Canadian Standards Association

The Canadian Standards Association is a not-for-profit, membership-based, non-governmental organization which provides a national standardizing body for Canada.

The Canadian Standards Association Testing Laboratories, inaugurated in May 1940, is a division of the Canadian Standards Association, and is recognized as a testing and investigating agency by Inspection Authorities and by Fire Marshals and Fire Commissioners throughout Canada.

The Canadian Standards Association Laboratories test and examine electrical products submitted for approval in compliance with pertinent Canadian Standards Association codes and standards.

The Canadian Standards Association now includes International Approval Services (IAS).

CSA can also provide certification services to UL standards, which is indicated by a “US” adjacent to the CSA mark.

International Approval Services—U.S.

IAS, now part of CSA and no longer known as IAS, is the testing organization of the American gas industry with laboratories in Cleveland, Ohio and Irvine, Calif. The CSA sponsors the American National Standards Institute Z21 and Z83 Committees on standards for gas-fired equipment.

Any manufacturer of gas appliances or gas appliance accessories may submit their products to the Laboratories and secure certification of their designs upon compliance with the appropriate national standards. Upon such compliance, the manufacturer is granted an Appliance Certificate or an Accessory Certificate and is permitted to display the trademarked Laboratories' Certification Seal or trademarked Laboratories' Certification Symbol on the appliance or accessory.

International Approval Services—Canada

IAS, now part of CSA and no longer known as IAS, represents all segments of the Canadian gas industry, has been accredited by the Standards Council of Canada and the Standards Advisory Committee to prepare National Standards in the area of equipment for use with natural gas and propane. CSA has laboratories in Toronto, Canada.

Each standard is intended to be used within the scope of the standard by the manufacturing sector, those applying the equipment or those respons ble for its application. It is the responsibility of the user to determine in each case that the standard is suitable for the application.

IAS operates a certification program for gas appliances, equipment, and accessories.

Canadian Gas Association (CGA), is now part of CSA and is no longer known as CGA, although some legacy products still may display the CGA mark.

American Gas Association (AGA) is also now part of CSA and is no longer known as AGA, although some legacy products still may display the AGA mark.

Factory Mutual

Factory Mutual is an association of mutual insurance companies dedicated to loss prevention. Through its research arm, the Factory Mutual Research Corporation, it investigates means of preventing and minimizing fire and other losses. Factory Mutual Laboratories test and approve two broad categories of devices and materials:

1. Those used for the control or prevention of property damage.
2. Those that in themselves would present serious hazards if not properly designed.

Factory Mutual Acceptance refers to a specific installation or arrangement of equipment. Installations using approved devices, if found satisfactory following review of plans and inspection of completed work, are “accepted”.

A continuing follow-up program is carried out through periodic plant inspections and reports of performance in actual use.

CE Mark (“Conformité Européene” European Self-Certification mark)

CE marking is mandatory for products covered by one or more Directives. The manufacturer must apply the CE mark and declare conformity to the applicable Directives in order to bring a product on the market in the European Community. CE marking requirements vary from Directive to Directive, and even within Directives.

Some of the Directives (e.g. Gas Appliance Directive) require third party testing by Notified Bodies, in which case a product surveillance contract with a Notified Body is also mandatory. Other Directives can be satisfied by Declarations of Conformity provided by the manufacturer as a result of internal testing and documentation.

C-Tick

The Australian C-Tick mark is intended for use on products that comply with EMC standards. The C-Tick mark is a certification trademark registered to the ACA by the Trademarks Office and is only to be used in accordance with conditions laid down by the ACA (Australian Communications Authority). The C-Tick mark is valid for both countries and may be applied by either a New Zealand supplier or an Australian supplier.

AGA – Australia Gas Association

AGA reviews a product’s CE Mark EMC report and/or Declarations and issues a certificate allowing import into Australia and New Zealand.

The approved product will bear the C-Tick mark with the assigned number of the importer.

Reference Information

Date Code

A date code is stamped on each device to identify the date of manufacture.

In October 1975, Honeywell adopted the industry standard date code system of a 4-digit code. The first 2 digits indicate the year; the second 2 digits indicate the week of the year. EXAMPLE: 7812—the last week of March 1978.

For devices manufactured before October 1975, the following date code was used. If the letter “R” is added as a third letter, it indicates a repair date.

A January	G July	H 1962	Z 1970
B February	H August	G 1963	Y 1971
C March	I September	F 1964	X 1972
D April	J October	E 1965	W 1973
E May	K November	D 1966	V 1974
F June	L December	C 1967	U 1975
		B 1968	T 1976
		A 1969	

Terms of Payment and Prices

Contact your local Honeywell TRADELINE Wholesaler or Authorized Distr butor for your discount and terms of payment.

Taxes

The amount of any and all present or future taxes or other government charges upon the production, shipment, installation or sale of the equipment covered hereby, including use or occupation taxes, shall be added to the price and paid by the Purchaser; or in lieu thereof, the Purchaser shall furnish the Company with a tax-exemption certificate acceptable to the taxing authorities.

International Controls

Some Honeywell controls are available with Celsius scales and/or at 110/220V, 50 Hz. For information on the availability of these devices, contact:

Commercial/Industrial Combustion Controls
Honeywell International Inc., MN10-181B
1985 Douglas Drive North
Golden Valley, MN 55422-3992

All other controls and systems:
International Marketing MN10-131A
Honeywell International Inc.
1985 Douglas Drive North
Golden Valley, MN 55422-3992

Horsepower Ratings

Ratings of Honeywell controls listed herein are in amperes, and correspond generally to the values for various horsepowers as shown in this chart. Full load ratings are taken from the National Electrical Code, 1978 edition; locked motor ratings are 6 times full load rating (ac) or 10 times full load rating (dc).

All motors do not necessarily come within the maximum ampere ratings shown in the table, and control devices must be used which have a rating equal to, or greater than, the actual motor running and starting currents.

	120V		240V	
Approximate Horsepower	**Full Load**	**Locked Rotor**	**Full Load**	**Locked Rotor**
1/6 ac dc	4.4 —	26.4 —	2.2 —	13.2 —
1/4 ac dc	5.8 3.1	34.8 31.0	2.9 1.6	17.4 16.0
1/3 ac dc	7.2 4.1	43.2 41.0	3.6 2.0	21.6 20.0
1/2 ac dc	9.8 5.4	58.8 54.0	4.9 2.7	29.4 27.0
3/4 ac dc	13.8 7.6	82.8 76.0	6.9 3.8	41.4 38.0
1 ac dc	16.0 9.5	96.0 95.0	8.0 4.7	48.0 47.0
1 to 1-1/2 ac dc	20.0 13.2	120.0 132.0	10.0 6.6	60.0 66.0
2 ac dc	24.0 17.0	144.0 170.0	12.0 8.5	72.0 85.0
3 ac dc	34.0 25.0	204.0 250.0	17.0 12.2	102.0 122.0

NEMA Standard Classification Code for Flame Safeguard Enclosures

NEMA 1—General purpose. for indoor protection, where conditions are not unusually severe.

NEMA 2—Driptight. Designed to exclude falling moisture or dirt. Particularly applicable to cooling rooms, laundries, etc., where condensation is prevalent. For indoor use.

NEMA 3—Weather Resistant (weatherproof). For outdoor use; designed to withstand all normal exposure to natural elements. Controls mounted on pullout racks for easy access. With rain hood and weather seals.

NEMA 4—Watertight. Withstands water pressure from 1 in. hose nozzle, 65 gallons per minute, from distance of not less than 10 ft for five minutes. Suitable for maritime applications, breweries, etc.

NEMA 5—Dust-tight. Equipped with dust-tight gaskets. Suitable for mills and other high-dust atmospheres.

NEMA 6—Submers ble. For submerged operation under specified pressures and time.

NEMA 7—Hazardous Locations, National Electrical Code Class 1 (circuit breaks in air).

NEMA 8—Hazardous Locations, National Electrical Code Class 1 (circuit breaks immersed in oil).

NEMA 9—Hazardous Locations, National Electrical Code Class 2.

NEMA 10—Explosion-proof. Meets U.S. Bureau of Mines requirements for explosive atmospheres.

NEMA 11—Acid or Fume Resistant. Provides for immersion of enclosed equipment in oil.

NEMA 12—IIndustrial Use. Excludes oils, dust, moisture, to satisfy individual requirements.

Conversion of Pressure Units

(Convert by multiplying value in known pressure units by factor listed under required pressure unit.)

	Required Pressure Unit								
Known Pressure Unit	**Kilo-pascals**	**Pounds per sq in.**	**Ounces per sq in.**	**Millimeters of Mercury**	**Kilograms per sq cm**	**Inches of Water**	**Inches of Mercury**	**Feet of Water**	**Centimeters of Water**
Centimeters of Water	0.0981	0.0142	0.227	0.735	0.000999	0.394	0.0289	0.0328	—
Feet of Water	2.99	0.433	6.94	22.4	0.0305	12.0	0.883	—	30.5
Inches of Mercury	3.39	0.491	7.86	25.4	0.0345	13.6	—	1.13	34.6
Inches of Water	0.249	0.0361	0.578	1.87	0.00254	—	0.0735	0.0833	2.54
Kilograms per sq cm	98.1	14.2	228.0	735.0	—	394.0	29.0	32.8	1000.0
Millimeters of Mercury	0.133	0.0193	0.308	—	0.00136	0.535	0.0394	0.0446	1.36
Ounces per sq in.	0.431	0.0625	—	8.24	0.00439	1.73	0.128	0.144	4.40
Pounds per sq in.	6.89	—	16.0	51.7	0.0703	27.7	2.04	2.31	70.4
Kilo pascals	—	0.145	2.32	7.52	0.010	4.02	0.295	0.334	10.2

Absolute Pressure = Gauge Pressure +14.74 psi.

Capacities

Most gas capacities listed in this catalog are stated for natural gas, based on 1,000 Btu per cu ft, 0.64 sp. gr. nat. gas, at a pressure drop of 1.0 in. w.c. (37.3 MJ/m^3, 0.64 sp. gr. at a pressure drop of 0.25 kPa).

To calculate the Btu/h capacity for other gases, multiply the listed Btu/h capacity by the conversion factor.

Total Heating Value for Gas X			
Btu/cu ft	**MJ/m^3**	**At sp. gr.**	**Conversion Factor (multiply)**
500 to 800	18.7 to 29.8	0.60	0.516[a]
800 to 950	29.8 to 35.4	0.70	0.765[a]
2500	93.3	1.53 (LP gas)	1.62

[a] Nominal conversion factor for range of total heat value.

For gases not listed in table, use one of the following formulas:

$$\left(\frac{\text{Listed Btu/h Capacity}}{(0.64 \text{ sp. gr.})}\right)\left(\sqrt{\frac{0.64}{\text{sp. gr. gas X}}}\right)\left(\frac{\text{Btu/cu ft (MJ/m}^3\text{ gas X)}}{\text{1000 Btu/cu ft (37.3 MJ/m}^3\text{)}}\right) = \text{Btu/h Capacity gas X}$$

or

$$\left(\frac{\text{Btu/h Capacity}}{(\text{gas A})}\right)\left(\sqrt{\frac{\text{sp. gr. gas A}}{\text{sp. gr. gas B}}}\right)\left(\frac{\text{Btu/cu ft (MJ/m}^3\text{) gas B}}{\text{Btu/cu ft (MJ/m}^3\text{) gas A}}\right) = \text{Btu/h Capacity gas B}$$

M18317

Reference Information

Power & Heat

1 Btu	776 ft-lb 0.293 Watt-hr 252 cal
1 cal	0.003968 Btu 0.0011619 Watt-hr
1 Btu/h	0.293 Watt 4.2 cal/min
1 Watt	3.413 Btu/h
1 Watt-hr	3.413 Btu
1 kW (1000 Watts)	3413 Btu/h
1 kW-hr	3413 Btu
1 hp	0.746 kW 2544.65 Btu/h 33,000 ft-lb./min
1 Bohp[a]	9.809 kW 33,479 Btu/h 34.5 lb of steam per hour

[a] Boiler Output Horsepower is the equivalent of the heat required to evaporate 34.5 lb of water per hour into dry, saturated steam at 212 F.

Btu Contents of Fuels

Grade or Type	Unit	Btu
No. 1 Oil	Gallon	137,400
No. 2 Oil	Gallon	139,600
No. 3 Oil	Gallon	141,800
No. 4 Oil	Gallon	145,100
No. 5 Oil	Gallon	148,800
No. 6 Oil	Gallon	152,400
Nat. Gas	cu ft	950 to 1,150
Propane	cu ft	2,550
Butane	cu ft	3,200

Commercial/Industrial Combustion Conversion Factors

Simplified method of determining combustion air required to completely burn a given amount of fuel.

$$\text{Cf/h Air} = \frac{\text{Btu/hr input}}{100}$$

M18318

To correct gas volume from one set of conditions to another.

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$$

P=Absolute pressure.
=14.7 + gauge psi.
T=Absolute temperature in -R = 460.
V=Volume in any consistent terms.

Normally useful for determining standard cubic feet of fuel consumed when metering pressure is other than standard; e.g., gas passing through a volumetric gas meter at 5 psig. (The heating value of fuel gases is based on Btu/cf at standard gas conditions.)

Turndown ratio of fixed area burner.

$$\text{T.D.} = \sqrt{\frac{\text{Maximum Pressure Drop across Burner}}{\text{Minimum Pressure Drop across Burner}}} = \frac{\text{Maximum Firing Rate}}{\text{Minimum Firing Rate}}$$

M18319

Where pressure drops are expressed in the same units.

Relationship between flow capacity at a specified pressure drop and Cv factor.

Cv = Flow Factor. Defined as the amount of water at 60 F in gallons per minute which will flow through a valve in the open position with a pressure drop through the valve of 1 pound per square inch.

For capacity conversion to gases the following may be used for pressure ratios less than critical ratios.

$$Q = 1360\ Cv \sqrt{\frac{(P_1 - P_2)\ P_2}{GT}}$$

M18320

Q = Standard cubic feet per hour at 14.7 psia and 60 F.
P1 = Inlet pressure, psia.
P2 = Outlet pressure, psia.
T = Absolute temperature in -R = -F+460.
G = Specific gravity of the gas.

Steam Valve Selection

There are five steps in choosing the appropriate steam valve:

1. Determine the steam medium temperature, pressure, and the pressure drop across the valve. (This is often determined using inlet vs. outlet pressures. For example, a valve with a 75 psi inlet and a 50 psi outlet would have a pressure drop of 25 psi.)
2. Using this information (and Tables 1and 2), calculate the C_v or select the pipe size.
3. Check the average pressure and the temperature to determine the quality of the steam medium. The quality of the steam is:
   • Saturated
   • Superheated
4. Establish the required valve body configuration for the application. This is typically fixed by the particular application and is often part of the design specifications. Standard body configurations are:
   • Two-way
   —Straight-through
   —Angle Body
5. See valve and actuator Product Overview Table and individual catalog pages.

NOTE: Traditionally, steam valves use a linear flow characteristic, but equal percentage characteristics are used in Europe.

All steam valves are two-way valves. There are two valve operation control types; two-position (open/closed) and modulating (proportional).

Two-Position

Two-position steam valves are typically selected based on the pipe size of the line, which is matched to the coil to deliver the amount of steam required at design conditions. For example, if the pipe size is three inches in diameter, you would select a three inch steam valve. Delivered heat is a function of steam pressure, valve capacity index (Cv), and the percentage open time of the valve (duty cycle). The condensed steam may be returned to the boiler by active or passive methods.

Modulating

Two-way modulating steam valves are typically used to throttle the flow of steam in proportion to the load. Similar to water valves, when sizing a modulating valve for steam, consider the pressure throughout the valve travel. The pressure drop must be large enough so that, as the valve starts to close, it can diminish the flow. If this is not accomplished, the valve is not able to maintain control throughout its entire range of travel. However, a pressure drop that is too large causes noisy valve operation and decreases the life-span of the valve.

Calculating C_v

To determine the appropriate C_v rating, one must know:

Supply pressure (psi)

Valve differential pressure (Δp)

Flow rate (lb/hr)

$$C_v = \frac{Q\sqrt{v}}{63.5\sqrt{\Delta p}}$$

Q = Quantity of Steam (pounds per hour)
v = specific volume of steam (cubic feet per pound) at the average pressure in the valve
63.5 = scaling constant
Δp = pressure drop in psi

When Btu/hr (heat output) is known:
Using the supply pressure, differential pressure and the Table 1, determine the value of Factor A for the application. Then using Factor A, the flow rate and Table 2, determine the Cv for the application.

Table 1. Calculations of Factor A for Steam Valves

Supply (psig)	Return Pressure (psig)																					Supply (Bar)
	0	1	2	3	4	5	6	7	8	9	10	11	12	15	20	25	30	40	50	60	70	
2	4.0	5.5																				0.1
3	3.2	3.9	5.4																			0 2
4	2.7	3.1	3.7	5.2																		0 3
5	2.4	2.7	3.0	3.7	5.1																	0 3
6	2.2	2.3	2.6	2.9	3.6	5.0																0.4
7	2.0	2.1	2.3	2.5	2.9	3.5	4.9															0 5
8	1.8	1.9	2.1	2.2	2.5	2.8	3.4	4.8														0.6
9	1.7	1.8	1.9	2.0	2.2	2.4	2.8	3.3	4.7													0.6
10	1.6	1.7	1.7	1.8	2.0	2.1	2.4	2.7	3.3	4.6												0.7
11	1.5	1.6	1.6	1.7	1.8	1.9	2.1	2.3	2.6	3.2	4.5											0 8
12	1.4	1.5	1.5	1.6	1.7	1.8	1.9	2.0	2.3	2.6	3.1	4.4										0 8
15	1.2	1.3	1.3	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.1	2.5									1 0
20	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.8								1.4
25	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.7							1.7
30	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.1	1.6						2.1
40	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.9	1.0					2 8
50	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.9				3.4
60	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.9			4.1
70	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.8		4 8
80	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0 8	5 5
	.00	**.07**	**.14**	**.21**	**.28**	**.34**	**.41**	**.48**	**.55**	**.62**	**.69**	**.76**	**.83**	**1.03**	**1.38**	**1.72**	**2.07**	**2.76**	**3.45**	**4.14**	**4.83**	
	Return Pressure (Bar)																					

Reference Information

Table 2. Steam valve Cv final Calculation

	Steam Flow Rate (in lb/hr)																							
		5	10	25	50	75	100	200	300	400	500	600	700	800	900	1k	2k	3k	4k	5k	7.5k	10k	20k	30k
FACTOR A	0.4			0.16	0.31	0.47	0.63	1.26	1.9	2.5	3.1	3.8	4.4	5.0	5.7	6.3	13	19	25	31	47	63	126	189
	0.5		0.08	0.20	0.39	0.59	0.79	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.9	16	24	31	39	59	79	157	236
	0.6		0.09	0.24	0.47	0.71	0.94	1.9	2.8	3.8	4.7	5.7	6.6	7.6	8.5	9.4	19	28	38	47	71	94	189	283
	0.7		0.11	0.28	0.55	0.83	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8 8	9.9	11.0	22	33	44	55	83	110	220	331
	0.8		0.13	0.31	0.63	0.94	1.3	2.5	3.8	5.0	6.3	7.6	8.8	10.1	11.3	13	25	38	50	63	94	126	252	378
	0.9		0.14	0.35	0.71	1.1	1.4	2.8	4.3	5.7	7.1	8.5	9.9	11.3	13	14	28	43	57	71	106	142	283	425
	1		0.16	0.39	0.79	1 2	1.6	3.1	4.7	6.3	7.9	9.4	11.0	13	14	16	31	47	63	79	118	157	315	472
	1.1		0.17	0.43	0.87	1 3	1.7	3.5	5.2	6.9	8.7	10.4	12	14	16	17	35	52	69	87	130	173	346	520
	1.2		0.19	0.47	0.94	1.4	1.9	3.8	5.7	7.6	9.4	11.3	13	15	17	19	38	57	76	94	142	189	378	567
	1.3	0.10	0.20	0.51	1.0	1 5	2.0	4.1	6.1	8.2	10.2	12	14	16	18	20	41	61	82	102	154	205	409	614
	1.4	0.11	0.22	0.55	1.1	1.7	2.2	4.4	6.6	8.8	11.0	13	15	18	20	22	44	66	88	110	165	220	441	
	1.5	0.12	0.24	0.59	1.2	1 8	2.4	4.7	7.1	9	12	14	17	19	21	24	47	71	94	118	177	236	472	
	1.6	0.13	0.25	0.63	1.3	1 9	2.5	5.0	7.6	10.1	13	15	18	20	23	25	50	76	101	126	189	252	504	
	1.7	0.13	0.27	0.67	1.3	2 0	2.7	5.4	8.0	10.7	13	16	19	21	24	27	54	80	107	134	201	268	535	
	1.8	0.14	0.28	0.71	1.4	2.1	2.8	5.7	8.5	11.3	14	17	20	23	26	28	57	85	113	142	213	283	567	
	1.9	0.15	0.30	0.75	1.5	2 2	3.0	6.0	9.0	12	15	18	21	24	27	30	60	90	120	150	224	299	598	
	2	0.16	0.31	0.79	1.6	2.4	3.1	6.3	9.4	13	16	19	22	25	28	31	63	94	126	157	236	315	630	
	2.1	0.17	0.33	0.83	1.7	2 5	3.3	6.6	9.9	13	17	20	23	26	30	33	66	99	132	165	248	331		
	2.2	0.17	0.35	0.87	1.7	2.6	3.5	6.9	10.4	14	17	21	24	28	31	35	69	104	139	173	260	346		
	2.3	0.18	0.36	0.91	1.8	2.7	3.6	7.2	10.9	14	18	22	25	29	33	36	72	109	145	181	272	362		
	2.4	0.19	0.38	0.94	1.9	2 8	3.8	7.6	11.3	15	19	23	26	30	34	38	76	113	151	189	283	378		
	2.5	0.20	0.39	0.98	2.0	3 0	3.9	7.9	12	16	20	24	28	31	35	39	79	118	157	197	295	394		
	2.6	0.20	0.41	1.0	2.0	3.1	4.1	8.2	12	16	20	25	29	33	37	41	82	123	164	205	307	409		
	2.7	0.21	0.43	1.1	2.1	3 2	4.3	8.5	13	17	21	26	30	34	38	43	85	128	170	213	319	425		
	2.8	0.22	0.44	1.1	2.2	3 3	4.4	8.8	13	18	22	26	31	35	40	44	88	132	176	220	331	441		
	2.9	0.23	0.46	1.1	2.3	3.4	4.6	9.1	14	18	23	27	32	37	41	46	91	137	183	228	343	457		
	3	0.24	0.47	1.2	2.4	3 5	4.7	9.4	14	19	24	28	33	38	43	47	94	142	189	236	354	472		
	3.1	0.24	0.49	1.2	2.4	3.7	4.9	9.8	15	20	24	29	34	39	44	49	98	146	195	244	366	488		
	3.2	0.25	0.50	1.3	2.5	3 8	5.0	10.1	15	20	25	30	35	40	45	50	101	151	202	252	378	504		
	3.3	0.26	0.52	1.3	2.6	3 9	5.2	10.4	16	21	26	31	36	42	47	52	104	156	208	260	390	520		
	3.4	0.27	0.54	1.3	2.7	4 0	5.4	10.7	16	21	27	32	37	43	48	54	107	161	214	268	402	535		
	3.5	0.28	0.55	1.4	2.8	4.1	5.5	11.0	17	22	28	33	39	44	50	55	110	165	220	276	413	551		
	3.6	0.28	0.57	1.4	2.8	4 3	5.7	11.3	17	23	28	34	40	45	51	57	113	170	227	283	425	567		
	3.7	0.29	0.58	1.5	2.9	4.4	5.8	11.7	17	23	29	35	41	47	52	58	117	175	233	291	437	583		
	3.9	0.31	0.61	1.5	3.1	4.6	6.1	12	18	25	31	37	43	49	55	61	123	184	246	307	461	614		
	4.4	0.35	0.69	1.7	3.5	5 2	6.9	14	21	28	35	42	49	55	62	69	139	208	277	346	520			
	4.5	0.35	0.71	1.8	3.5	5 3	7.1	14	21	28	35	43	50	57	64	71	142	213	283	354	531			
	4.6	0.36	0.72	1.8	3.6	5.4	7.2	14	22	29	36	43	51	58	65	72	145	217	290	362	543			
	4.7	0.37	0.74	1.9	3.7	5.6	7.4	15	22	30	37	44	52	59	67	74	148	222	296	370	555			
	4.8	0.38	0.76	1.9	3.8	5.7	7.6	15	23	30	38	45	53	60	68	76	151	227	302	378	567			
	4.9	0.39	0.77	1.9	3.9	5 8	7.7	15	23	31	39	46	54	62	69	77	154	231	309	386	579			
	5	0.39	0.79	2.0	3.9	5 9	7.9	16	24	31	39	47	55	63	71	79	157	236	315	394	591			
	5.2	0.41	0.82	2.0	4.1	6.1	8.2	16	25	33	41	49	57	66	74	82	164	246	328	409	614			
	5.3	0.42	0.83	2.1	4.2	6 3	8.3	17	25	33	42	50	58	67	75	83	167	250	334	417				
	5.4	0.43	0.85	2.1	4.3	6.4	8.5	17	26	34	43	51	60	68	77	85	170	255	340	425				
	5.5	0.43	0.87	2.2	4.3	6 5	8.7	17	26	35	43	52	61	69	78	87	173	260	346	433				

IMPORTANT

If the steam is superheated, it can require a valve with a larger C_v. Use the following equation to determine the correct C_v to use:

$C_V = C_{V\ Calculated}\ x\ [1 + (0.00075\ x\ S)]$

Where: S = degrees of superheat (in Fahrenheit).

If the calculated C_v falls between two valve sizes, use a valve with the next higher C_v value unless the calculated C_v is within 10 percent of the next lower C_v value.

⚠ CAUTION

Pressure reducing valves can also produce superheated steam and exceed the valve's temperature rating.

For example: 100 psi steam at 338F passing through a pressure reducing valve gives up no heat as it expands to 10 psi, so the 10 psi steam downstream will be at 338F not 239F. This is 99 Fahrenheit degrees of superheat and downstream valves and piping will be exposed to the higher temperature. To correct for superheated steam, 1 Btu/ b is added for each Fahrenheit degree of superheat.

Superheat–The additional heat contained in a vapor at a temperature higher than the saturation (boiling) temperature corresponding to the pressure of the vapor.

Table 3. Properties of Saturated Steam

Vacuum, Inches of Mercury	Boiling Point or Steam Temperature Deg. F	Specific Volume (V), cu. ft/lb	$\sqrt{V}$ (For valve sizing)	Maximum Allowable Pressure Drop, psi. (For valve sizing)	Heat of the Liquid, Btu	Latent Heat of Evap., Btu	Total Heat of Steam, Btu
29	76.6	706.00	26.57	0.23	44.7	1048.6	1093.3
25	133.2	145.00	12.04	1.2	101.1	1017.0	1118.1
20	161.2	75.20	8.672	2.4	129.1	1001.0	1130.1
15	178.9	51.30	7.162	3.7	146.8	990.6	1137.4
14	181.8	48.30	6.950	3.9	149.7	988.8	1138.5
12	187.2	43.27	6.576	4.4	155.1	985.6	1140.7
10	192.2	39.16	6.257	4.9	160.1	982.6	1142.7
8	196.7	35.81	5.984	5.4	164.7	980.0	1144.7
6	201.0	32.99	5.744	5.9	168.9	977.2	1146.1
4	204.8	30.62	5.533	6.4	172.8	974.8	1147.6
2	208.5	28.58	5.345	6.9	176.5	972.5	1149.0
Gage Pressure, psig							
0	212.0	26.79	5.175	7.4	180.0	970.4	1150.4
1	215.3	25.20	5.020	7.8	183.3	968.2	1151.5
2	218.5	23.78	4.876	8.4	186.6	966.2	1152.8
3	221.5	22.57	4.751	8.8	189.6	964.3	1153.9
4	224.4	21.40	4.626	9.4	192.5	962.4	1154.9
5	227.1	20.41	4.518	9.8	195.3	960.6	1155.9
6	229.8	19.45	4.410	10.4	198.0	958.8	1156.8
7	232.3	18.64	4.317	10.8	200.5	957.2	1157.7
8	234.8	17.85	4.225	11.4	203.0	955.5	1158.5
9	237.1	17.16	4.142	11.8	205.4	954.0	1159.4
10	239.4	16.49	4.061	12.4	207.7	952.5	1160.2
11	241.6	15.90	3.987	12.8	209.9	951.1	1161.0
12	243.7	15.35	3.918	13.4	212.1	949.7	1161.8
15	249.8	13.87	3.724	14.8	214.2	948.3	1162.5
20	258.8	12.00	3.464	17.4	227.4	939.5	1166.9
25	266.8	10.57	3.251	19.8	235.6	934.0	1169.6
30	274.0	9.463	3.076	22.4	243.0	928.9	1171.9
40	286.7	7.826	2.797	27.4	255.9	919.9	1175.8
50	297.7	6.682	2.585	32.4	267.1	911.9	1179.0
60	307.3	5.836	2.416	37.4	277.1	904.7	1181.8
70	316.0	5.182	2.276	42.4	286.1	898.0	1184.1
80	323.9	4.662	2.159	47.4	294.3	891.9	1186.2
90	331.2	4.239	2.059	52.4	301.9	886.1	1188.0
100	337.9	3.888	1.972	57.4	308.9	880.7	1189.6
120	350.0	3.337	1.827	67.4	321.7	870.7	1192.4
140	360.9	2.923	1.710	77.4	333.1	861.5	1194.6

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TL116A Line Volt Electric Heating Thermostat

This thermostat is designed to control an electric heating system such as a baseboard heater, a convector or a fan-forced heater.

Application: Electric Heating; Baseboard heater; Convector or Fan-forced Heater
Dimensions, Approximate: 5.0 in. X 3.05 in. X 2.4 in. (127 mm x 77 mm x 60 mm)
Accuracy: 0.9 F / 0.5 C
Ambient Temperature Range: 32 F to 120 F / 0 C to 50 C
Switch Type: Relay
Switching Action: SPST
Frequency: 50/60 Hz
Power Method: Hardwired
Sensor Element: Thermistor
Color: White
Mounting: Vertical
Comments: Min & Max temperature locks; battery-free

Approvals
Canadian Standards Association: Certified

Product Number	Temperature Setting Range (F)	Temperature Setting Range (C)	Minimum Temperature Setting (F)	Minimum Temperature Setting (C)	Maximum Temperature Setting (F)	Maximum Temperature Setting (C)	Electrical Ratings
TL116A1008/U	—	5 C to 27 C	—	5 C	—	27 C	Minimum Load: 1.25 A (resistive only) 300 W @240 Vac, 150 W @ 120 Vac Maximum Load: 12.5 A (resistive only), 3000 W @ 240 Vac, 1500 W @ 120 Vac
TL116A1016/U	41 F to 80 F	—	40 F	—	80 F	—	Minimum Load: 1.25 A (resistive only) 300 W @240 Vac, 150 W @ 120 Vac Maximum Load: 12.5 A (resistive only), 3000 W @ 240 Vac, 1500 W @ 120 Vac

LineVoltPRO® 8000 7-Day Programmable Electric Heat Thermostat

The LineVoltPRO™ programmable thermostat provides electronic control of 208/240 Vac resistive rated electric baseboard heaters, radiant ceiling heat, convectors and fan forced heaters.

- 7 day programmable - maintain the pre-set program schedule for up to 20% energy savings, or modify the schedule to fit your lifestyle
- Electronic temperature control - precision of ±1 F saves up to an additional 10% on heating bills
- Large, clear, backlit display - easy to read in various lighting conditions
- Soundproofed for quiet operation - reduces the clicking noise commonly heard with conventional thermostats
- On/Off or On/Standby switch allows you to turn the thermostat off at the end of the heating season
- Early start - ensures programmed temperature is reached by programmed time
- Heating indicator - at a glance confirmation that the heat is on
- Maintenance free - no batteries required

Application: Electric baseboards, convectors and fan forced heaters (resistive rated loads).
Dimensions, Approximate: 4 7/8 in. high x 2 3/4 in. wide x 7/8 in. deep (124 mm high x 70 mm wide x 23 mm deep)
Color: Premier White®
Programmability: 7 Day Program
Electrical Connections: 5.5 in. (140 mm) tinned copper lead wires
Temperature Setting Range: 40 F to 86 F (5 C to 30 C)
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Frequency: 50 Hz; 60 Hz
Sensor Element: Thermistor
Mounting: Vertical

Approvals
Canadian Standards Association: cCSAus, File Number: LR76030
Underwriters Laboratories, Inc: UL Listed 9R12, File Number: E183695

Product Number	Stages	Electrical Ratings	Display Size	Switching Action
TL8130A1005/U	1 Heat	16.7 Amps Max; 4000 Watts at 240 VAC, 3470 Watts at 208 VAC	2.67 sq in.	SPST
TL8230A1003/U	1 Heat	15 Amps Max; 3600 Watts at 240 VAC, 3120 Watts at 208 VAC	2.67 sq in.	DPST

Electric Heat Thermostats

LineVoltPRO® 8000 7-Day Programmable Hydronic Thermostat

The TL8100 Hydronic Thermostat offers the energy savings of a programmable control for a wide variety of applications. With the TL8100 there's no need to carry multiple thermostats for different applications. It can be used to control 2-way zone valves, 3-way zone valves or circulator pumps in both line volt and low volt applications. It also offers special protection modes to prevent system seizures and to reduce callbacks. Easy to install, the TL8100 is exactly what you need to provide your customers with cost-efficient programmable control of hydronic heating systems.

Application: Baseboards, Convectors, Fan-forced Heaters, Radiant Ceilings, Central Heating (Conventional)
Dimensions, Approximate: 3.3 in. X 3.1 in. X 0.5 in. (83 mm X 79 mm X 13 mm)
Color: White
Programmability: 7-Day Program
Electrical Connections: Screw terminals
Electrical Ratings: Maximum Load: 5 A (resistive), 2 A (inductive) @ 24 VDC, 120 Vac, 240 Vac; Compatible with millivolt systems
Voltage: Millivolt Compat ble, 240 Vac, 120 Vac, 24 Vdc
Operating Humidity Range (% RH): 0% to 95%, non-condensing
Temperature Setting Range: 40 F to 85 F (5 C to 30 C)
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Differential Temperature: 0.1 F (0.1 C)
Power Method: 2 X AA (LR6) batteries
Sensor Element: Thermistor
Switch Type: Relay
Mounting: Vertical
Approvals
Underwriters Laboratories, Inc: Approved

Product Number	Description	Stages	Accuracy	Terminal Designations	Comments	Used With
TL8100A1008/U	Multi-Application 7-Day Programmable Electronic Thermostat	1 Heat	0.5 C	R, W, (X, C, optional remote input)	Pump Protection (for hot water heating)	Aube CT240-02 Telephone Controller

LineVoltPRO™ 7000 Digital Non-Programmable Electric Heat Thermostats

The LineVoltPRO™ non-programmable digital thermostat provides electronic control of 208/240 Vac resistive rated electric baseboard heaters, radiant ceiling heat, convectors and fan forced heaters. If used as directed, electronic thermostats can save up to 10% on annual heating costs. Savings may vary based on geographic region and usage.

- Electronic temperature control - precision of ±1 F saves up to 10% on heating bills.
- Large, clear, backlit display - easy to read in various lighting conditions.
- Soundproofed for quiet operation - reduces the clicking noise commonly heard with conventional thermostats.
- On/Off switch allows you to turn the thermostat off at the end of the heating season.
- Heating indicator - at a glance confirmation that the heat is on.
- Maintenance free - no batteries required.

Application: Electric baseboards, convectors and fan forced heaters (resistive rated loads)
Dimensions, Approximate: 4 7/8 in. high x 2 3/4 in. wide x 7/8 in. deep (124 mm high x 70 mm wide x 23 mm deep)
Accuracy: ±1 F (±0.5 C)
Switch Type: Relay
Switching Action: DPST
Frequency: 50 Hz; 60 Hz
Sensor Element: Thermistor
Color: Premier White®
Mounting: Vertical Mount
Approvals
Canadian Standards Association: cCSAus, File Number: LR76030
Underwriters Laboratories, Inc: UL Listed 9R12, File Number: E183695

Product Number	Electrical Ratings	Stages	Temperature Setting Range	
			(F)	(C)
TL7235A1003/U	15 Amps Max; 3600 Watts at 240 VAC, 3120 Watts at 208 VAC	1 Heat	40 F to 86 F	5 C to 30 C

T410 Electric Heat Thermostats

Economy thermostats that provide reliable line voltage control of resistive rated electric heating equipment. Snap-action switch makes heating circuit on temperature fall.

- Economical.
- Replace virtually any two-wire (T410A) or four-wire (T410B) line voltage wall-mounted electric heating thermostat.
- Easy to install; 6 in. (150 mm) color-coded leads.
- Include long-lasting Micro Switch™ mechanism.
- Rugged, plastic mounting base and one-piece cover with vents.
- Ideally suited to new construction applications.

Application: Electric baseboards, convectors and fan forced heaters (resistive rated loads)
Dimensions, Approximate: 4 1/2 in. high x 2 3/4 in. wide x 2 1/4 in. deep (115 mm high x 70 mm wide x 57 mm deep)
Electrical Ratings: Noninductive resistive; 22A at 120/208/240 Vac; 19A at 277 Vac
Accuracy: 2 C
Differential Temperature: 3 F (2 C)
Frequency: 60 Hz

Sensor Element: Bimetal
Mounting: Vertical Mount
Approvals
Canadian Standards Association: Listed: File No. LR1322
Underwriters Laboratories, Inc: Listed; File No. E4436, Guide No. XAPX

Accessories:
272804A-Range Stop and Locking Screws Assembly

Product Number	Color	Switch Positions System	Switching Action	Stages	Temperature Setting Range (F)	Includes
T410A1013/U	Premier White®	No Switch	SPST	1 Heat	40 F to 80 F	—
T410B1004/U	White	No Switch	DPST	1 Heat	40 F to 80 F	Positive OFF

T498 Electric Heat Thermostats

Electric Heat Thermostats provide line voltage control of electric heating systems.

- Easy to install; color-coded leads
- Include thermometer. Include long-lasting Micro Switch™ mechanism; makes on temperature fall
- Rugged, plastic mounting base
- Mount on standard 2 x 4 in. outlet box or 4 x 4 in. junction box
- Select models include extra knob decal for recalibration, if necessary

Application: Electric baseboards, convectors and fan forced heaters (resistive rated loads)
Dimensions, Approximate: 4 9/16 in. high x 2 7/8 in. wide x 1 15/16 in. deep (116 mm high x 73 mm wide x 33 mm deep)
Electrical Ratings: Noninductive resistive 22A at 120/208/240 Vac 19A at 277 Vac
Accuracy: 1 F (2 C)
Ambient Temperature Range: 40 F to 80 F (5 C to 27 C)
Differential Temperature: 3 F (2 C)
Frequency: 60 Hz

Sensor Element: Bimetal
Color: Brush gold finish
Mounting: Vertical Mount
Approvals
Canadian Standards Association: Listed: File No. LR1322
Underwriters Laboratories, Inc: Listed; File No. E4436, Guide No. XAPX

Accessories:
272804A-Range Stop and Locking Screws Assembly
272823-Blind Locking Cover and Range Stop Assembly

	Product Number	Color	Switch Positions System	Switch Positions Fan	Switching Action	Stages	Temperature Setting Range (F)	Temperature Setting Range (C)	Includes
	T498A1778/U	Brush gold finish	Switch		SPST	1 Heat	40 F to 80 F	—	Range stops, locking cover and extra knob decal for recalibration
	T498A1810/U	Brush gold finish	Switch		SPST	1 Heat	40 F to 80 F	—	—
*	**T498B1512/U**	Brush gold finish	Switch		DPST	1 Heat	40 F to 80 F	—	Positive OFF, Range stops, locking cover and extra knob decal for recalibration
	T498B1553/U	Brush gold finish	Switch		DPST	1 Heat	40 F to 80 F	—	Positive OFF

** TRADELINE models • SUPER TRADELINE models*

Electric Heat Thermostats

T4398 High Performance Electric Heat Thermostats

High Performance Electric Heat Thermostats provide precise line voltage control of resistive-rated electric heating equipment.

- For control of resistive-rated baseboard electric heaters.
- Extremely sensitive to temperature changes.
- Replace virtually all standard wall-mounted line voltage thermostats.
- Color-coded leads allow easy installation.
- Include long-lasting Micro Switch™ mechanism.
- Rugged, plastic mounting base.
- Cover thermometer indicates room temperature.
- Well suited for upgrades and high-end new construction.
- Mounts directly on vertical 2 x 4 in. outlet box, or on 4 x 4 in. outlet box.

Application: Electric baseboards, convectors and fan forced heaters (resistive rated loads)
Dimensions, Approximate: 4 1/2 in. high x 2 7/8 in. wide x 2 5/8 in. deep (115 mm high x 73 mm wide x 67 mm deep)
Electrical Ratings: Noninductive resistive 22A at 120/208/240 Vac 19A at 277 Vac
Accuracy: 1 C
Ambient Temperature Range: 50 F to 80 F (10 C to 25 C)
Differential Temperature: 2 F (1 C)
Temperature Setting Range: 50 F to 80 F

Frequency: 60 Hz
Sensor Element: Vapor filled dual diaphragm
Color: Premier White®
Mounting: Vertical Mount

Approvals
Canadian Standards Association: Listed: File No. LR1322
Underwriters Laboratories, Inc: Listed; File No. E4436, Guide No. XAPX

Accessories:
272804A-Range Stop and Locking Screws Assembly

		Switch Positions				
	Product Number	**System**	**Fan**	**Switching Action**	**Stages**	**Includes**
*	**T4398A1021/U**	SPST		SPST	1 Heat	Thermometer, range stops and locking cover screws
*	**T4398B1029/U**	DPST		DPST	1 Heat	Thermometer, range strops, locking cover screws, Positive Off

** TRADELINE models • SUPER TRADELINE models*

EConnect™ Wireless Line Volt Thermostat

Easily relocate line voltage thermostats or upgrade electric baseboard heaters with built-in thermostat without running new wires with EConnect wireless Line Volt Thermostat.

- Wireless Installation - eliminates opening walls for system or control upgrades
- Precise Temperature Control - on the wall where it belongs, for optimal sensing and comfort
- Electronic Programmable Thermostat - enables energy savings of up to 33%
- User-friendly, Plain-language Interface - easily adjust your comfort settings
- Compat ble Wireless Accessories - for added comfort and convenience

Application: Electric Heating, Baseboard heater, Convector or Fan-forced Heater

Dimensions, Approximate

Thermostat: 5.13 in. high x 3.22 in. wide x 1.14 in. deep (130 mm him x 82 mm wide x 29 mm deep)

Relay: 3.03 in. high x 2.49 in. wide x 1.28 in. deep (73 mm high x 63 mm wide x 29 mm deep)

Antenna: 2.89 in. high x 2.63 in. wide x 1.16 in. deep (71 mm high x 62 mm wide x 33 mm deep)

Electrical Ratings:
Minimum Load: 0.4 A (resistive only) 100 W @ 240 Vac, 50 W @ 120 Vac
Maximum Load: 12.5 A (resistive only), 3000 W @ 240 Vac, 1500 W @ 120 Vac

Switching Action: SPST

Operating Humidity Range (% RH): 5 to 95% RH, non-condensing

Operating Temperature Range: -4 F to 140 F (-20 C to 60 C)

Voltage: 100 to 240 Vac

Frequency: 50 Hz; 60 Hz

Power Method: Hardwired

Switch Type: Relay

Mounting: Vertical

Outdoor Sensor: C7089R1013, optional

Approvals

Underwriters Laboratories, Inc: Approved

Federal Communications Commission: Approved

Accessories:

C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.

REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.

THM6000R1002-RedLINK Internet Gateway

Product Number	Description	Display Size	Parts Needed for Operation (not included) Non-Zoned System	Color	Temperature Setting Range (F)	Temperature Setting Range (C)	Used With	Includes
TLM1110R1000/U	Easily add 12.5A of capacity to a Honewell EConnect™ Wireless Electrical Heat Thermostat Kit	—	YTL9160AR1000	Relay: Grey Antenna: White or Light Almond	—	—	YTL9160AR1000 EConnect™ thermostat	Honeywell Electrical Heat Equipment Interface, white and light almond antenna covers
YTL9160AR1000/U	Honeywell Wireless Programmable Line Volt Thermostat Kit With English Only User Interface	4.53 sq. in.	—	Antenna: White or Light Almond Thermostat: White	41F to 86F	5C to 30C	—	TLM1110R1000 Equipment Interface Module

Programmable Thermostats

Prestige® IAQ 2-Wire Comfort System

THX9421R5021SG

THX9421R5021BB

THX9421R5021WW or THX9421R5021WG

THM5421R1021

C7735A1000 Discharge and Return Air Sensors

C7089R1013

The Prestige® IAQ thermostat is a 2-wire, high-definition, color, touchscreen thermostat, 7-day programmable and selectable for residential or light commercial use. Controls up to 4-stages of heat and 2-stages of cool in a heat pump system and up to 3-stages of heat and 2-stages of cool in a conventional system. Three sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices. Works with the Equipment Interface Module and RedLINK® accessories including the RedLINK® Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor and Wireless Indoor Sensor.

- Control heating, cooling and IAQ equipment with only 2 wires at the thermostat. Heating, cooling and IAQ equipment wires to the Equipment Interface Module.
- Smart Schedule - programs in seconds for any lifestyle.
- Patented interview based programming and installer setup.
- Increase profit per job by including RedLINK® accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications. Meets commercial code and is title 24 compliant.
- Light commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day.
- Delta T Alerts and Diagnostics informs customers when their system is not performing as expected.
- Keeps a history of heating and cooling performance.
- Quickly determine if the system is performing as expected and reduces service time on the job.
- Customizable Service Reminders allow dealers to remind their customers when to call for service, when their warranty is expiring and to provide customized alerts.
- USB port for transferring Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- 3 assignable outputs to control humidification, dehumidification, ventilation and a stage of heating or cooling.
- 4 assignable inputs on the Equipment Interface Module can be used with wired outdoor, indoor or discharge/return sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts.
- Tri-lingual - English, French and Spanish - display options.

REDLINK Wireless Technology

Application: Up to 4 Heat/2 Cool Heat Pumps or Up to 3 Heat/2 Cool Conventional Systems
Dimensions, Approximate: 3 1/2 in. High, 4 1/2 in. Wide, 7/8 in. Deep (88 mm. High, 115 mm. Wide, 22 mm. Deep)
Display Size: 8.06 sq in.
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Stages: Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Switch Positions (System): HEAT-OFF-COOL-AUTO-EM.HEAT
Switch Positions (Fan): AUTO-ON-CIRC-FOLLOW SCHEDULE
Terminal Designations: R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Humidification Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Temperature Setting Range: Heat: 40 F to 90 F; Cool 50 F to 99F (Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C)
Frequency: 50 Hz; 60 Hz

Power Method: Hardwired
Comments: Tri-Lingual Display (selectable for English, French or Spanish)
Used With: THM5421R1021 Equipment Interface Module and RedLINK® accessories

Accessories

THM6000R1002-RedLINK Internet Gateway
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THM5421R1021-Equipment Interface Module
YTHM5421R1010-Equipment Interface Module Kit with 2 Duct Sensors.
REM1000R1003-Wireless Entry/Exit Remote
HVC20A1000-Wireless Vent and Filter Boost Remote
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7189R1004-Wireless Indoor Air Sensor.
THP2400A1027W-White Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027G-Gray Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027B-Black Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.

Material Number	Color	Includes
YTHX9421R5085WW/U	Front: White, Side: White	Kit contains THX9421R5021WW Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors
YTHX9421R5085BB/U	Front: Black, Side: Black	Kit contains THX9421R5021BB Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors
YTHX9421R5085WG/U	Front: White, Side: Gray	Kit contains THX9421R5021WG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors
YTHX9421R5085SG/U	Front: Silver, Side: Gray	Kit contains THX9421R5021SG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors
YTHX9421R5101WW/U	Front: White, Side: White	Kit contains THX9421R5021WW Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101BB/U	Front: Black, Side: Black	Kit contains THX9421R5021BB Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101WG/U	Front: White, Side: Gray	Kit contains THX9421R5021WG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101SG/U	Front: Silver, Side: Gray	Kit containsTHX9421R5021SG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors

Prestige® IAQ 2-Wire Thermostat

THX9421R5021WW or THX9421R5021WG

THX9421R5021BB

THX9421R5021SG

The Prestige® IAQ thermostat is a 2-wire, high-definition, color, touchscreen thermostat, 7-day programmable and selectable for residential or light commercial use. Controls up to 4-stages of heat and 2-stages of cool in a heat pump system and up to 3-stages of heat and 2-stages of cool in a conventional system. Three sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices. Works with the Equipment Interface Module and RedLINK® accessories including the RedLINK® Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor and Wireless Indoor Sensor.

- Control heating, cooling and IAQ equipment with only 2 wires at the thermostat. Heating, cooling and IAQ equipment wires to the Equipment Interface Module.
- Smart Schedule - programs in seconds for any lifestyle.
- Patented interview based programming and installer setup.
- RedLINK® wireless communication.
- Increase profit per job by including RedLINK® accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications. Meets commercial code and is title 24 compliant
- Light commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day.
- Delta T Alerts and Diagnostics informs customers when their system is not performing as expected.
- All Prestige® IAQ kits come standard with a return and discharge air temperature sensor to measure Delta T.
- Keeps a searchable history of alerts and setting changes to the thermostat to determine if there is a system malfunction or if the issue was caused by user error. Saves time in troubleshooting.
- Keeps a history of heating and cooling performance.
- Quickly determine if the system is performing as expected and reduces service time on the job.
- Customizable Service Reminders allow dealers to remind their customers when to call for service, when their warranty is expiring and to provide customized alerts.
- USB port for transferring Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- USB port for adding the dealer's full color business logo on the screen.
- 3 assignable outputs to control humidification, dehumidification, ventilation and a stage of heating or cooling.
- 4 assignable inputs on the Equipment Interface Module can be used with wired outdoor, indoor or discharge/return sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts.
- Tri-lingual - English, French and Spanish - display options.

REDLINK Wireless Technology

Application: Up to 4 Heat/2 Cool Heat Pumps or Up to 3 Heat/2 Cool Conventional Systems
Dimensions, Approximate: 3 1/2 in. High, 4 1/2 in. Wide, 7/8 in. Deep (88 mm. High, 115 mm. Wide, 22 mm. Deep)
Display Size: 8.06 sq in.
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Stages: See Equipment Interface Module
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Terminal Designations: R, C then RedLINK to Equipment Interface Module
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Humidification Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Temperature Setting Range: Heat: 40 F to 90 F; Cool 50 F to 99F (Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C)
Frequency: 50 Hz; 60 Hz
Power Method: Hardwired
Comments: Tri-Lingual Display (selectable for English, French or Spanish)

Accessories:
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
THM6000R1002-RedLINK Internet Gateway
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THM5421R1021-Equipment Interface Module
YTHM5421R1010-Equipment Interface Module Kit with 2 Duct Sensors.
REM1000R1003-Wireless Entry/Exit Remote
HVC20A1000-Wireless Vent and Filter Boost Remote
C7189R1004-Wireless Indoor Air Sensor.
THP2400A1027W-White Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027G-Gray Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027B-Black Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.

Material Number	Color	Switch Positions (System)	Switch Positions (Fan)	Used With
THX9421R5021WW/U	Front: White, Side: White	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	THM5421R1021 Equipment Interface Module and RedLINK® accessories
THX9421R5021BB/U	Front: Black, Side: Black	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	THM5421R1021 Equipment Interface Module and RedLINK® accessories
THX9421R5021WG/U	Front: White, Side: Gray	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	THM5421R1021 Equipment Interface Module and RedLINK® accessories
THX9421R5021SG/U	Front: Silver, Side: Gray	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	THM5421R1021 Equipment Interface Module and RedLINK® accessories

Programmable Thermostats

Prestige® 2.0 Comfort System

- Patented interview based programming and installer setup.
- RedLINK™ wireless communication.
- Increase profit per job by including RedLINK™ accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications.
- Meets commercial code and is title 24 compliant.
- Light commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day.
- Keeps a searchable history of alerts and setting changes to the thermostat to determine if there is a system malfunction or if the issue was caused by user error.
- Customizable Service Reminders allow dealers to remind customers when to call for service, when warranty is expiring and to provide customized alerts.
- USB port for transferring Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- USB port for adding the dealer's full color business logo on the screen.
- 2 assignable outputs to control humidification, dehumidification, ventilation and a stage of heating or cooling.
- Tri-lingual - English, French and Spanish - display options.

The Prestige® 2.0 thermostat is a high-definition, color, touchscreen thermostat, 7-day programmable, selectable for residential and light commercial, up to 3 heat/2 cool heat pump and up to 2 heat / 2 cool conventional, controls humidification, dehumidification, or ventilation. Works with RedLINK™ accessories including the RedLINK™ Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor and Wireless Indoor Sensor.

Application: Up to 3 Heat/2 Cool Heat Pumps; Up to 2 Heat/2 Cool Conventional Systems
Dimensions, Approximate: 3 15/16 in. High, 6 7/8 in. Wide, 1 1/2 in. Deep (100 mm. High, 175 mm. Wide, 38 mm. Deep)
Display Size: 8.06 sq in.
Color: Arctic White
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Operating Humidity Range (% RH): 0 to 90% RH, non-condensing
Humidity Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Stages:
Up to 3 Heat / 2 Cool Heat Pump or
Up to 2 Heat / 2 Cool Conventional
Frequency: 50 Hz; 60 Hz

Power Method: Hardwired
Used With: RedLINK™ accessories

Accessories:
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7189R1004-Wireless Indoor Air Sensor.
HVC20A1000-Wireless Vent and Filter Boost Remote
REM1000R1003-Wireless Entry/Exit Remote
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THP9045A1023-WireSaver
THM6000R1002-RedLINK Internet Gateway
50028399-001-Cover plate for Prestige Thermostats 7 7/8 in. (200 mm) x 5 1/2 in. (140 mm)

Product Number	Switch Positions		Terminal Designations	Temperature Setting Range		Includes
	System	Fan		(F)	(C)	
THX9321R5030/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, U1 U1, U2 U2	Heat: 40 F to 90 F; Cool 60 F to 99F	Heat: 4.5 C to 32.0 C; Cool: 10.0 C to 37.0 C	Prestige 2.0 High Definition Color Touchscreen Thermostat
YTHX9321R5061/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, U1 U1, U2 U2	Heat: 40 F to 90 F; Cool 50 F to 99F	Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C	THX9321R5030 Prestige 2.0 HD Thermostat, REM5000R1001 Portable Comfort Control and C7089R1013 Wireless Outdoor Air Sensor
YTHX9321R5079/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, U1 U1, U2 U2	Heat: 40 F to 90 F; Cool 50 F to 99F	Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C	THX9321R5030 Prestige 2.0 HD Thermostat and C7089R1013 Wireless Outdoor Air Sensor

VisionPRO® 8000 with RedLINK™

VisionPRO® 8000 with RedLINK™ is a 7 day programmable touchscreen thermostat that is selectable for residential or light commercial use. The thermostat can be wired directly to the equipment, used with the THM5421R1021 Equipment Interface Module or used with the THM4000R1000 TrueZONE Wireless Adapter. Works with the RedLINK™ accessories including the RedLINK™ Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor, Wireless Indoor Sensor, Wireless Entry/Exit Remote and Wireless Vent and Filter Boost Remote.

- Thermostat works standalone or with a THM5421R1021 Equipment Interface Module or with a TrueZONE Wireless Adapter.
- Smart Schedule - programs in seconds for any lifestyle.
- Patented interview based programming and installer setup.
- RedLINK™ wireless communication.
- Increase profit per job by including RedLINK™ accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications. Meets commercial code and is title 24 compliant.
- Light commercial - commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day. Remote Setback requires THM5421R1021 Equipment Interface Module.
- Plain language setup, no manual needed.
- Keeps a searchable history of alerts and setting changes to the thermostat to determine if there is a system malfunction or if the issue was caused by a user error. Saves time in troubleshooting.
- Customizable Service Reminders allow dealers to remind their customers when it is time to call for service, when their warranty is expiring and to provide customized alerts.
- MicroSD port for copying the Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- MicroSD port for adding the dealer's contact information on the screen.
- 1 assignable output on the TH8321 model to control humidification, dehumidification, ventilation or a stage of heating/cooling.
- 3 assignable outputs on the Equipment Interface Module to control humidification, dehumidification, ventilation or a stage of heating/cooling. The TH8110 and TH8320 models require the use of a Wireless Indoor Sensor to control humidification and dehumidification.
- 1 assignable input can be used with a wired outdoor, indoor or discharge sensor.
- 4 assignable inputs on the Equipment Interface Module can be used with wired outdoor, indoor or discharge/return sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts.
- Dual powered - battery or hardwired (C wire).

Applications: Residential or commercial use. 7 day programmable. Works standalone or with the THM5421R1021 Equipment Interface Module.
Dimensions, Approximate: 4 5/8 in. High, 4 15/16 in. Wide, 1 1/8 in. Deep (118 mm. High, 126 mm. Wide, 29 mm. Deep)
Display Size: 10 sq in.
Color: Arctic White
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Electrical Ratings: 18 to 30 Vac or 750 mV
Frequency: 50 Hz; 60 Hz
Electrical Connections: Screw terminals
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Humidification Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range (F): 32 F to 120 F (0 C to 48.9 C)
Temperature Setting Range: Heat: 40 F to 90 F; Cool 50 F to 99F, (Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C)
Power Method: Battery or Hardwired
Used With: Used with optional THM5421R1021 Equipment Interface Module and RedLINK® accessories

Accessories:
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
THM6000R1002-RedLINK Internet Gateway
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THM5421R1021-Equipment Interface Module
YTHM5421R1010-Equipment Interface Module Kit with 2 Duct Sensors.
REM1000R1003-Wireless Entry/Exit Remote
HVC20A1000-Wireless Vent and Filter Boost Remote
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7189R1004-Wireless Indoor Air Sensor.
THP2400A1019-Coverplate assembly for use with the RedLINK® VisionPRO®. Includes a coverplate, bracket for j-boxes and mounting hardware. Coverplate is 5-3/4 in. x 6-5/32 in.

Material Number	Terminal Designations	Stages	Switch Positions (System)	Switch Positions (Fan)	Includes
TH8321R1001/U	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, U1 U1, S1 S1	Up to 3 Heat / 2 Cool Heat Pump or Up to 2 Heat / 2 Cool Conventional when used standalone. Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional when used with the Equipment Interface Module.	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	Includes a set of Universal IAQ contacts to control humidification, dehumidification or ventilation.
TH8320R1003/U	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, S1 S1	Up to 3 Heat / 2 Cool Heat Pump or Up to 2 Heat / 2 Cool Conventional when used standalone. Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional when used with the Equipment Interface Module.	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	—
TH8110R1008/U	R, RC, C, W-O/B, Y, G, K, S1 S1	Up to 1 Heat / 1 Cool Heat Pump or Up to 1 Heat / 1 Cool Conventional when used standalone. Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional when used with the Equipment Interface Module.	HEAT-OFF-COOL-AUTO	AUTO-ON-CIRC-FOLLOW SCHEDULE	—

THM5421 Equipment Interface Module for Prestige® IAQ and VisionPRO® 8000 with RedLINK™

Equipment Interface Module controls up to 4-stages of heat and 2-stages of cool in a heat pump system and up to 3-stages of heat and 2-stages of cool in a conventional system. Three sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices.

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Dimensions, Approximate: 9 5/16 in. High, 4 13/16 in. Wide, 1 5/8 in. Deep (237.4 mm High, 122.5 mm Wide, 40.6 mm Deep)
Color: Gray
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Operating Temperature Range: -40 F to 165 F (-40 C to 73.9 C)
Currents (Cooling): 1.0 A running
Currents (Heating): 1.0 A running
Currents (Fan): 0.5A running
Frequency: 50 Hz; 60 Hz
Power Method: Hardwired
Mounting: Vertical

Product Number	Terminal Designations	Stages	Includes	Used with
THM5421R1021/U	R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D	Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional	—	Prestige® IAQ 2-Wire Thermostat and VisionPRO® Thermostat with RedLINK™
YTHM5421R1010/U	R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D	Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional	THM5421R1021 and 2 Duct Sensors	Prestige® IAQ 2-Wire Thermostat and VisionPRO® Thermostat with RedLINK™

Wi-Fi VisionPRO® 8000 Thermostat

Expanding your business has just been made easier. Offer your customers the VisionPRO® Wi-Fi thermostat from Honeywell, a trusted name and leader of thermostats. Millions of homes today are equipped with Wi-Fi enabled devices, and while a consumer might not understand the technology, they certainly understand what it allows them to do on a daily basis. This could translate into an easy selling opportunity for you. Conscientious homeowners who want a simple way to remotely monitor and help manage their energy costs will have the peace of mind with this latest Wi-Fi offering from Honeywell. And, they will have you to thank.

- Get Connected - Connect to home's existing Wi-Fi network.
- Remote Control - Convenience, comfort and control from anywhere through web, tablet or smartphone access.
- Dual Fuel Capable.
- Touchscreen Interaction.

Application: Wi-Fi VisionPRO Thermostat, Heat/Cool or Heat Pump with Auxiliary Heat
Dimensions, Approximate: 4 9/16 in. high x 6 in. wide x 1 1/4 in. deep (116 mm high x 152 mm wide x 32 mm deep)
Color: Premier White®
Display Size: 10 sq in
Programmability: 7 Day Multiple Day Programming or Non-Programmable
Changeover: Auto/Manual Selectable
Electrical Ratings: 20 to 30 Vac or 750 mV
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Differential Temperature: ± 1 F (±0.5 C)
Currents (Cooling): 1.0 A running
Currents (Heating): 1.0 A running
Currents (Fan): 0.6A running
Frequency: 50 Hz; 60 Hz
Power Method: Battery or Hardwired
Mounting: Horizontal
Comments: Selectable: Programmable or Non-Programmable; The L terminal is an input or output.

	Switch Positions				Temperature Setting Range	
Product Number	**System**	**Fan**	**Terminal Designations**	**Stages**	**(F)**	**(C)**
TH8320WF1029/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC	R, RC, W (O/B), W2 (AUX), Y, Y2, L, E, G, C, S1, S2	Up to 2 Heat/2 Cool Conventional; Up to 3 Heat/2 Cool Heat Pump	Heat: 40 F to 90 F; Cool 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

Z-Wave Touch Screen Programmable Thermostat

VisionPRO Z-Wave offers you top-of-the-line features like touchscreen interaction, a real-time clock, and a large, easy-to-read backlit display.

Color: Premier White®
Changeover: Auto or Manual
Electrical Ratings: 18 to 30 Vac

Product Number	Programmability	Terminal Designations
YTH8320ZW1007/U	Universal Programming from 7 Day to Non-Programmable	R, RC, C, W-O/B, W2-E/Aux, Y, Y2, G, L, K, S1, S2

VisionPRO® IAQ Total Home Comfort System

The VisionPRO IAQ touchscreen universal programmable thermostat provides electronic control of 24 Vac heating and cooling systems in addition to humidification, dehumidification and ventilation all with just 3 wires to the thermostat.

- Advanced dual-fuel control
- Three wires to the living space allows for easy equipment upgrade without having to run additional thermostat wire
- Thermostat connects with Equipment Interface Module or EnviraZONE panel to control temperature, humidification, dehumidification and ventilation from a single point in the home
- Automatically raises humidity levels throughout all rooms in the home, moisturizing air to prevent symptoms of dryness and to protect hardwood flooring and woodwork
- Removes air pollutants by exchanging the stale air in a house with fresh, filtered air better than having an open window

Dimensions, Approximate: 4 9/16 in. high x 6 in. wide x 1 1/4 in. deep (116 mm x 152 mm x 32 mm)
Color: Premier White®
Programmability: 7 Day Multiple Day Programming or Non-Programmable
Changeover: Auto/Manual Selectable
Electrical Ratings: THM5421 is rated 20 to 30 Vac
Humidity Setting Range: Dehumid.: 40 to 80% RH, Humid.: 10 to 60% RH
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Temperature Setting Range: Cooling: 60 F to 99 F (15 C to 37 C), Heating: 40 F to 90 F (4.5 C to 32 C)
Differential Temperature: ± 1 F (±0.5 C)
Power Method: Communicating

Sensor Element: Thermistor
Switch Type: Yes, optional
Outdoor Sensor: Yes, optional
Remote Sensor: Yes, optional
Comments: Includes Humidification Control with or without Frost Protection, Dehumidification using Whole House Dehumidifier or Air Conditioning with High or Low speed fan, Advanced Patented Ventilation Control and Advanced Dual Fuel Heat Pump Control

Accessories:
32003796-001-Premier White® cover plate 7 7/8 in. x 5 1/2 in. (200 mm x 140 mm)
C7089U1006-Remote Outdoor Sensor
C7189U1005-Remote Indoor Sensor

Product Number	Application	Stages	Display Size	Mounting	Switch Positions		Terminal Designations	Used With	Includes
					System	Fan			
TH9421C1004/U	Conventional and Heat Pump systems	Up to 3 Heat/2 Cool Conventional; Up to 4 Heat/2 Cool Heat Pump	10 sq in.	Horizontal	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC	1, 2, 3	THM5421C1008 Equipment Interface Module	Thermostat only
THM5421C1008/U	Heat/Cool or Heat Pump with Auxiliary Heat	Up to 3 Heat/2 Cool Conventional; Up to 4 Heat/2 Cool Heat Pump	—	Vertical	—	—	1, 2, 3, C, R, Rc, Rh, R, W1-O/B, W2-Aux, W3-Aux2, Y, Y2, G, L, Out1, Out2, In1, In2, Dats1, Dats2, Hum1, Hum2, Dhm1, Dhm2, Vnt1, Vnt2	TH9421 VisionPRO IAQ Thermostat	Equipment Interface Module Only
YTH9421C1002/U	Heat/Cool or Heat Pump with Auxiliary Heat	Up to 3 Heat/2 Cool Conventional Up to 4 Heat/2 Cool Heat Pump	10 sq in.	Horizontal	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC		—	TH9421C1004 Thermostat and THM5421C1008 Equipment Interface Module
YTH9421C1010/U	Heat/Cool or Heat Pump with Auxiliary Heat	Up to 3 Heat/2 Cool Conventional Up to 4 Heat/2 Cool Heat Pump	10 sq in.	Horizontal	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC		—	TH9421C1004 Thermostat, THM5421C1008 Equipment Interface Module and C7089U1006 Outdoor Temperature Sensor

Programmable Thermostats

VisionPRO® 8000 Touchscreen 7-Day Programmable Thermostat

The VisionPRO Touchscreen Universal Programmable Thermostats provides electronic control of 24 Vac heating and cooling systems or 750 mV heating system.

- Large, Clear Display with Backlighting current temperature, set temperature and time are easy-to-read and all are displayed on the home screen
- Menu Driven Programming Guides you through the scheduling process, showing only necessary information and choices on each screen
- Ability to Select Multiple Days allows you to easily customize the thermostat for your unique schedule
- Real-Time Clock keeps time during power failure; automatically updates for daylight saving time
- Armchair Programming allows you to remove thermostat from wall to set the schedule
- Precise Temperature Control (±1 F) reliable, consistent comfort
- Multiple HOLD options allow you to modify schedule indefinitely or for a specific time
- Change Reminders reminds you to service or replace the air filter, humidifier pad, ultraviolet lamp or thermostat batteries
- Adaptive Intelligent Recovery™ - ensures programmed temperature is reached by programmed time
- Temperature range stops - prevents user from setting the temperature too high or too low
- Keypad lockout options for partial or full lockout

Application: Heat/Cool or Heat Pump without Auxiliary Heat
Dimensions, Approximate: 4 9/16 in. high x 6 in. wide x 1 1/4 in. deep (116 mm x 152 mm x 32 mm)
Color: Premier White®
Display Size: 10 sq in.
Programmability: 7 Day Multiple Day Programming or Non-Programmable
Changeover: Auto/Manual Selectable
Electrical Ratings: 20 to 30 Vac or 750 mV
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Temperature Setting Range: Cooling: 50 F to 99 F (10 C to 37 C), Heating: 40 F to 90 F (4.5 C to 32 C)
Differential Temperature: ± 1 F (±0.5 C)
Currents (Cooling): 1.0 A running
Currents (Heating): 1.0 A running
Currents (Fan): 0.6 A running
Frequency: 50 Hz; 60 Hz
Power Method: Battery or Hardwired
Sensor Element: Thermistor
Mounting: Horizontal
Outdoor Sensor: Yes, optional outdoor or indoor remote

Accessories:
32003796-001-Premier White® cover plate 7 7/8 in. x 5 1/2 in. (200 mm x 140 mm)
C7089U1006-Remote Outdoor Sensor
C7189U1005-Remote Indoor Sensor
C7735A1000-Mount on return duct for backup control of non-zoned RedLINK™ enabled wireless systems; Works with the EIM to maintain safe indoor temperatures if power is lost at the wireless thermostat

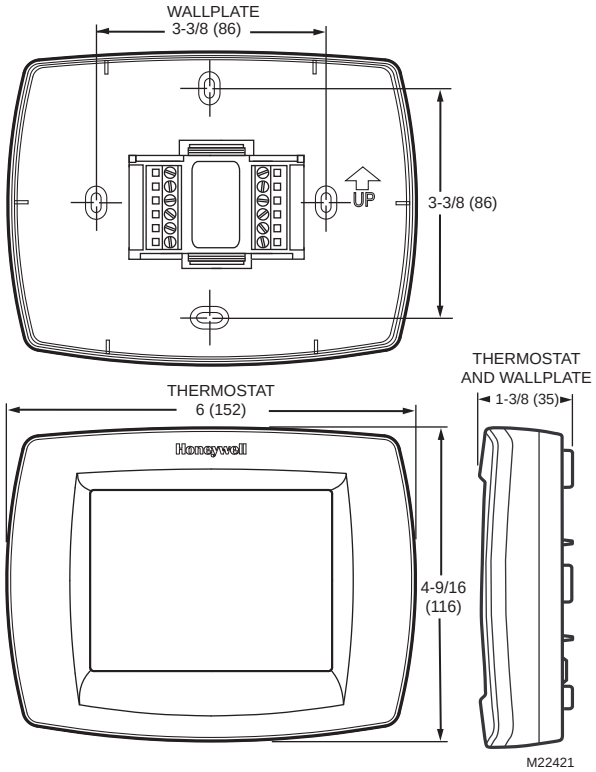
Product Number	Description	Switch Positions		Terminal Designations	Stages
		System	Fan		
TH8110U1003/U	VisionPRO® Touchscreen 7-Day Programmable 1 Heat/1 Cool Conventional and Heat Pump Thermostat	HEAT-OFF-COOL-AUTO	AUTO-ON-CIRC	R, RC, C, W (O/B), Y, G, S1, S2	Up to 1 Heat/1 Cool
TH8320U1008/U	VisionPRO® Touchscreen 7-Day Programmable with automatic/manual changeover and up to 3 Heat/2 Cool stages for heating and cooling systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC	R, RC, C, W-O/B, G, Y, Y2, W2-AUX/E, L, S1, S2	Up to 2 Heat/2 Cool Conventional; Up to 3 Heat/2 Cool Heat Pump
TH8321U1006/U	VisionPRO® Touchscreen 7-Day Programmable 3 Heat/2 Cool Conventional and Heat Pump Thermostat with Dehumidification Control	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC	R, RC, W (O/B), W2 (AUX), Y, Y2, L, E, G, C, S1, S2	Up to 2 Heat/2 Cool Conventional; Up to 3 Heat/2 Cool Heat Pump
TH8321U1097/U	VisionPRO® Touchscreen 7-Day Programmable 3 Heat/2 Cool Conventional and Heat Pump Thermostat with Dehumidification Control	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC	R, C, W (O/B), W2 (E/AUX), Y, Y2, G, L, U1, U1, S1, S2	Up to 2 Heat/2 Cool Conventional; Up to 3 Heat/2 Cool Heat Pump

Commercial VisionPRO® 8000

- Large, clear display with backlight shows the current and set temperature and time even in the dark
- Menu-driven programming make setup effortless
- Beautiful ergonomic design is smart and sophisticated to match your customers' lifestyle
- Touchscreen interaction Real-time clock keeps time during power failures and automatically updates to daylight savings
- Saving Changes notification lets you know when the schedule changes have been saved
- Change reminders let you know when to replace the batteries
- Holiday Override options allow you to override the program schedule, as desired
- Speedy same--schedule programming--no need to copy multiple days
- Armchair programming allows you to remove the thermostat from the wall for programming

The TB8220 Commercial VisionPRO 8000 Touchscreen Programmable Thermostat is an effortless, seven day programmable thermostat that provides universal system compatibility, precise comfort control and is easy to program. The TB8220 provides temperature control for gas, oil, electric and heat pumps for up to 2 heat, 2 cool systems.

Dimensions in inches (millimeters)



Application: 24 Vac heating and cooling systems; Heat Pump Systems; Conventional systems; Packaged RTU
Color: Premier White®
Network Communications: None
Comments: The L-terminal is an input only Selectable programmable or non-programmable.Includes A terminal to enable an economizer or control a lighting panel when used as a time of day relay

Accessories:
C7041B2005-20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013-20K ohm NTC Temperature Sensor with 12 in. insertion
C7041C2003-20K ohm NTC Temperature Sensor with 18 in. insertion
C7041P2004-20K ohm NTC Stainless Steel Button Sensor, 11/16 in. dia.
C7089U1006-Remote Outdoor Sensor
C7189U1005-Remote Indoor Sensor
C7770A1006-6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor
C7772A1004-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor without logo
C7772A1012-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor with Honeywell logo
TR21-20 K ohm NTC non-linear Temperature Wall Module
TR21-A-10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
W7212A1009-Series 72 Economizer Logic Module with Demand Control Ventilation
32003796-001-Premier White® cover plate 7 7/8 in. x 5 1/2 in. (200 mm x 140 mm)

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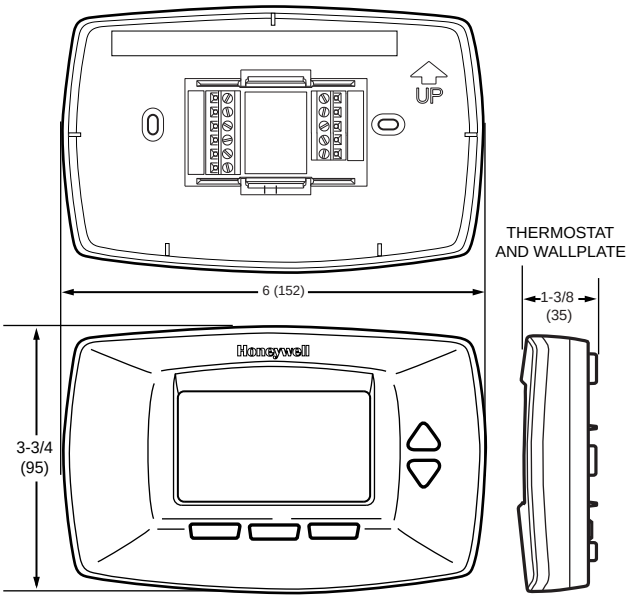
Product Number	Switch Position		Terminal Designations	Stages	Setting Temperature Range	
	System	Fan			(F)	(C)
TB8220U1003/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	R, Rc, W (O/B), W2 (W1), Y, Y2, L, A, G, C, S1, S2	Up to 2 Heat/2 Cool Conventional; Up to 3 Heat/2 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

Programmable Thermostats

CommercialPRO® 7000

The COMMERCIALPRO® 7000 Programmable Thermostat is an effortless, seven-day programmable thermostat that provides universal system compatibility, precise comfort control and is easy-to-program.

Dimensions in inches (millimeters)



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The TB7220 provides temperature control for gas, oil, electric and heat pumps for up to 2 heat, 2 cool systems.

- Large, clear display with backlight shows the current and set temperature and time--even in the dark
- Menu-driven programming make setup effortless
- Beautiful ergonomic design is smart and sophisticated to match your customers' lifestyle
- Real-time clock keeps time during power failures and automatically updates to daylight savings
- Saving Changes notification lets you know when the schedule changes have been saved
- Change reminders let you know when to replace the batteries
- Holiday Override options allow you to override the program schedule, as desired
- Speedy same--schedule programming--no need to copy multiple days
- Armchair programming allows you to remove the thermostat from the wall for programming

Application: 24 Vac heating and cooling systems; Heat Pump Systems; Conventional systems; Packaged RTU
Color: Premier White®
Network Communications: None
Comments: Selectable programmable or non-programmable.Includes A terminal to enable an economizer or control a lighting panel when used as a time of day relay

Accessories:
C7041B2005-20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013-20K ohm NTC Temperature Sensor with 12 in. insertion
C7041C2003-20K ohm NTC Temperature Sensor with 18 in. insertion
C7041P2004-20K ohm NTC Stainless Steel Button Sensor, 11/16 in. dia.
C7089U1006-Remote Outdoor Sensor
C7189U1005-Remote Indoor Sensor
C7770A1006-6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor
C7772A1004-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor without logo
C7772A1012-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor with Honeywell logo
TR21-20 K ohm NTC non-linear Temperature Wall Module
TR21-A-10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
W7212A1009-Series 72 Economizer Logic Module with Demand Control Ventilation
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 Cover Plate Assembly

Product Number	Switch Position		Terminal Designations	Stages	Setting Temperature Range	
	System	Fan			(F)	(C)
TB7220U1012/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	R, Rc, W (O/B), W2 (W1), Y, Y2, A, G, C, S1, S2	Up to 2 Heat/2 Cool Conventional; Up to 3 Heat/2 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

MultiPRO™ 7000

The MultiPRO™ Multispeed and Multipurpose Thermostat is an effortless, seven-day programmable or non-programmable thermostat that provides universal system compatibility, precise comfort and is easy to program.

The MultiPRO provides temperature control for gas, oil, electric, heat pumps, PTACs, and fan-coil equipment for the following types of applications: 1H/1C conventional; Up to 2H/1C heat pump; 4 pipe fan coil (3 fan speeds); 2 pipe fan coil (3 fan speeds); 2 pipe fan coil w/Auxiliary Heat (3 fan speeds); PTAC (Hi, Lo fan speeds).

Application: Conventional, Heat Pump, Fan Coil, and PTAC Systems
Color: Premier White®
Network Communications: None
Comments: Includes 3 speed fan control and configurable sensor input for indoor temperature, occupancy sensor, or changeover; Selectable programmable or non-programmable

- Large, clear display with backlight shows the current and set temperature and time--even in the dark
- Menu-driven programming make setup effortless
- Beautiful ergonomic design is smart and sophisticated to match your customers' lifestyle
- Real-time clock keeps time during power failures and automatically updates to daylight savings
- Saving Changes notification lets you know when the schedule changes have been saved
- Change reminders let you know when to replace the batteries
- Holiday Override options allow you to override the program schedule, as desired
- Speedy same--schedule programming--no need to copy multiple days
- Armchair programming allows you to remove the thermostat from the wall for programming
- Programmable or non-programmable modes
- Remote setback input for occupancy sensors or time clocks
- VersaSpeed™ fan ramping algorithm and fan reset algorithm (fan coil and PTAC applications)
- Up to 3 fan speeds for fan coil and 2 fan speeds for PTAC applications
- Remote Indoor air sensing option (20K ohm or 10K ohm)

Accessories:
C7041B2005- 20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013 -20K ohm NTC Temperature Sensor with 12 in. insertion
C7041C2003 -20K ohm NTC Temperature Sensor with 18 in. insertion
C7041P2004 -20K ohm NTC Stainless Steel Button Sensor, 11/16 in. dia.
C7189U1005- Remote Indoor Sensor
C7770A1006- 6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor
C7772A1004- 20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor without logo
C7772A1012- 20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor with Honeywell logo
TR21- 20 K ohm NTC non-linear Temperature Wall Module
TR21-A- 10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
WSK-24-Wireless Occupancy Solution
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 Cover Plate Assembly

Product Number	Switch Position		Terminal Designations	Stages	Setting Temperature Range	
	System	Fan			(F)	(C)
TB7100A1000/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON; Fan Coil: HI-MED-LO-AUTO; PTAC: HI-LO-AUTO	R, Rc, W1, O/B, Y, G, G2, G3, C, S1, S2	1 Heat/ 1Cool Conventional; Up to 2 Heat/ 1 Cool Heat Pump; 2 or 4 pipe Fan Coil; Up to 2 Heat/ 1 Cool PTAC	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

Programmable Thermostats

Wireless FocusPRO® 6000

Everything you need to relocate thermostat or upgrade equipment without running new wires

- WIRELESS FOCUSPRO® THERMOSTAT: Same great features of the FocusPRO® thermostat - now wireless. Installs in minutes. Can display outdoor temperature and humidity. 1 year battery life. 2 month low battery warning. Dual Fuel enabled -requires C7089R1013 wireless outdoor sensor (sold separately).
- EQUIPMENT INTERFACE MODULE (EIM): All HVAC equipment is wired to the module. Module receives communication from the wireless devices.
- RETURN AIR SENSOR: Works with the Equipment Interface Module to maintain safe indoor temperatures if power is lost at the wireless thermostat. Maintains 62 F for heating and 82 F for cooling.
- REDLINK™ WIRELESS TECHNOLOGY: Powered by RedLINK™ reliability. No interference with other wireless devices in the home.

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Electrical Ratings: Equipment Interface Module--18 to 30 Vac, 50 Hz; 60 Hz
Changeover: Auto/Manual Selectable
Current (Cooling): 1.0 A running
Current (Heating): 1.0 A running
Current (Fan): 0.6 A running
Power Method: Thermostat--Battery

Accessories:
50002883-001-FOCUSPRO® 5000/6000 and PRO 3000/4000 Cover Plate Assembly
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
REM5000R1001-Use the Portable Comfort Control anywhere in the home to experience a new level of comfort and convenience.

Replacement Parts:
50007072-001-Replacement Battery Holder for FocusPRO TH5220, TH5320, TH6110, TH6220, and TH6320 Thermostat

Product Number	Switch Positions		Terminal Designations	Stages	Includes
	System	Fan			
YTH6320R1001/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	C, R, Rc, Rh, W-O/B, W2-Aux/E, Y, Y2, G, L, RAS	Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	TH6320R1004 Wireless FocusPRO® 5-1-1 Programmable Thermostat; THM5320R1000 Equipment Interface Module; C7735A1000 Return Air Sensor
YTH6320R1114/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	C, R, Rc, Rh, W-O/B, W2-Aux/E, Y, Y2, G, L, RAS	Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	THM6000R1002 RedLINK Internet Gateway; TH6320R1004 Wireless FocusPRO® 5-1-1 Programmable Thermostat; THM5320R1000 Equipment Interface ModuleC7735A1000 Return Air Sensor
YTH6320R1122/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	C, R, Rc, Rh, W-O/B, W2-Aux/E, Y, Y2, G, L, RAS	Up to 3 Heat / 2 Cool Heat Pump or Up to 2 Heat / 2 Cool Conventional	THM6000R1002 RedLINK Internet GatewayTH6320R1004 Wireless FocusPRO® 5-1-1 Programmable Thermostat C7089R1013 Wireless Outdoor Sensor THM5320R1000 Equipment Interface Module C7735A1000 Return Air Sensor

Wireless FocusPRO® 6000

Easily add a zone to a TrueZONE® system without running new wires. Choose from programmable or non-programmable.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Works with compatible RedLINK™ enabled devices
- Same great features of the FocusPRO thermostat now wireless
- Installs in minutes
- Can display outdoor temperature and humidity
- 1 year battery life
- 2 month low battery warning
- Dual Fuel enabled - requires THM5320R1000 Equipment Interface Module and C7089R1013 Wireless Outdoor Sensor (sold separately)

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Dimensions, Approximate: 3 9/16 in. High X 5 13/16 in. Wide X 1 1/2 in. Deep (91 mm High X 147 mm Wide X 38 mm Deep)
Changeover: Auto/Manual Selectable
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Temperature Setting Range: Heat: 40 F to 90 F; Cool: 50 F to 99 F (Heat: 4.5 C to 32 C; Cool: 10 C to 37 C)
Differential Temperature: ± 1 F (±0.5 C)
Power Method: Battery
Sensor Element: Thermistor
Color: Premier White®
Mounting: Horizontal
Comments: Thermostat is also available in kits for zoned and non-zoned systems

Accessories:
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7735A1000-Mount on return duct for backup control of non-zoned RedLINK™ enabled wireless systems. Works with the EIM to maintain safe indoor temperatures if power is lost at the wireless thermostat.
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 Cover Plate Assembly
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)

Replacement Parts:
50007072-001-Replacement Battery Holder for FocusPRO TH5220, TH5320, TH6110, TH6220, and TH6320 Thermostat

Product Number	Switch Positions		Stages	Parts Needed for Operation (not included) - TrueZONE® System	Parts Needed for Operation (not included) - Non-Zoned System
	System	Fan			
TH6320R1004/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	HZ432 or HZ322 TrueZONE panel; THM4000R1000 Wireless Adapter	THM5320R1000 Equipment Interface Module

THM5320 Equipment Interface Module

Easily relocate thermostat or upgrade equipment without running new wires using this module and a wireless FocusPRO® thermostat.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Works with TH6320R1004 or TH5320R1002 Wireless FocusPRO thermostats
- Input for Return Air Sensor
- Quick-connect terminal blocks
- LEDs for power and system status

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Dimensions, Approximate: 8 1/8 in. high x 8 in. wide x 1 7/8 in. deep (206 mm high x 203 mm wide x 47 mm deep)
Electrical Ratings: 18 to 30 Vac, 50/60 Hz
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Cooling: 1.0 A running
Heating: 1.0 A running
Fan: 0.6 A running
Color: Gray

Accessories:
C7735A1000-Mount on return duct for backup control of non-zoned RedLINK™ enabled wireless systems. Works with the EIM to maintain safe indoor temperatures if power is lost at the wireless thermostat.
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
THM6000R1002-RedLINK Internet Gateway

Product Number	Terminal Designations	Stages	Description	Parts Needed for Operation (not included)	Comments
THM5320R1000/U	C, R, Rc, Rh, W-O/B, W2-Aux/E, Y, Y2, G, L, RAS	Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	Controls up to 3 heat /2 cool heat pump systems or up to 2 heat/2 cool conventional systems when used with the wireless FocusPRO® thermostat.	TH6320R1004 or TH5320R1002 Wireless FocusPRO® Thermostat	Equipment Interface Module is also available in kits

Programmable Thermostats

Wi-Fi FocusPRO® 6000 Thermostat

Honeywell's Wi-Fi FocusPRO® 6000 allows remote access to the thermostat through a computer, tablet, or smart phone with Honeywell's Total Connect Comfort Service.

- Homeowners can monitor and control their home's comfort settings from anywhere at anytime.
- Connect using a regular computer, tablet or smartphone.
- automatic software updates through Wi-Fi.
- Selectable to 7-Day or Non-programmable thermostat.
- Large, clear, backlit display - easy to read in various lighting conditions.
- Precise comfort control (±1 F) - maintains consistent comfort to the highest level of accuracy.
- Simplified programming and operation.
- Built in instructions - simple, pull out instruction manual.
- Adaptive Intelligent Recovery™ - ensures programmed temperature is reached by programmed time.
- Temperature range stops - prevents user from setting the temperature too high or too low.

Application: Up to 3 Heat/2 Cool Heat Pumps; Up to 2 Heat/2 Cool Conventional Systems
Dimensions, Approximate: 3 9/16 in. High X 5 13/16 in. Wide X 1 1/2 in. Deep (91 mm High X 147 mm Wide X 38 mm Deep)
Color: Premier White®
Display Size: Large display size 5.09 sq. in.
Programmability: 7-Day Program
Changeover: Auto/Manual Selectable
Electrical Ratings: 20 to 30 Vac

Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Differential Temperature: ± 1 F (±0.5 C)
Currents (Cooling): Y = 0.02 A to 1.0 A running, Y2 = 0.02 A to 1.0 A running
Currents (Heating): W2 (AUX/E) = 0.02 A to 0.5 A running; W = 0.02 A to 1.0 A running
Frequency: 50 Hz; 60 Hz
Power Method: Hardwired
Mounting: Horizontal

	Switch Positions				Temperature Setting Range	
Product Number	**System**	**Fan**	**Terminal Designations**	**Stages**	**(F)**	**(C)**
TH6320WF1005/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Rc, R, W (O/B), W2 (AUX/E), Y, Y2, G, C, K	Up to 2 Heat / 2 Cool Conventional; Up to 3 Heat / 2 Cool Heat Pump	Heat: 40 F to 90 F; Cool 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

FocusPRO® 6000 5-1-1 Day Programmable Thermostat

The FocusPRO® programmable thermostat provides electronic control of 24 Vac conventional and heat pump systems or 750 mV heating systems.

- Selectable to 5-1-1 (Weekdays, Saturday, Sunday) or 5-2 (Weekdays, Weekend) programmable thermostat
- Large, clear, backlit display - easy to read in various lighting conditions
- Display size options - available in large screen or standard
- Precise comfort control (±1 F) - maintains consistent comfort to the highest level of accuracy
- Simplified programming and operation
- Easy change battery door - flip out door allows for easy battery replacement without removing or disassembling the thermostat
- Built in instructions - simple, pull out instruction manual
- Adaptive Intelligent Recovery™ - ensures programmed temperature is reached by programmed time
- Temperature range stops - prevents user from setting the temperature too high or too low

Dimensions, Approximate: 3 9/16 in. High X 5 13/16 in. Wide X 1 1/2 in. Deep (91 mm High X 147 mm Wide X 38 mm Deep)
Color: Premier White®
Programmability: 5-1-1 Day Program or 5-2 Day Program
Changeover: Auto/Manual Selectable
Electrical Ratings: 20 to 30 Vac or 750 mV
Voltage: 20 to 30 Vac or 750 mV
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Differential Temperature: ± 1 F (±0.5 C)
Currents (Cooling): 0.02 A to 1.0 A running
Currents (Heating): 0.02 A to 1.0 A running
Currents (Fan): 0.02 A to 0.5 A running

Frequency: 50 Hz; 60 Hz
Power Method: Battery or Hardwired
Sensor Element: Thermistor
Mounting: Horizontal

Accessories:
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 and Horizontal PRO 1000/2000 Cover Plate Assembly
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)

Replacement Parts:
50007072-001-Replacement Battery Holder for FocusPRO TH5220,

Product Number	Application	Switch Positions		Terminal Designations	Stages	Temperature Setting Range		Comments
		System	Fan			(C)	(F)	
TH6110D1005/U	Heat/Cool or Heat Pump without Auxiliary Heat	HEAT-OFF-COOL-AUTO	AUTO-ON	Rc, R, W (O/B), Y, G, C	Up to 1 Heat/1 Cool	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Standard display size 3.75 sq. in.
TH6110D1021/U		HEAT-OFF-COOL-AUTO	AUTO-ON	Rc, R, W (O/B), Y, G, C		Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Large display size 5.09 sq. in.
TH6220D1002/U	Heat/Cool or Heat Pump with Auxiliary Heat	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	R, RC, C, W-O/B, G, Y, W2-AUX/E, Y2-L	Up to 2 Heat/1 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Standard display size 3.75 sq. in.
TH6220D1028/U		HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	R, RC, C, W-O/B, G, Y, W2-AUX/E, Y2-L		Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Large display size 5.09 sq. in.
TH6320U1000/U		HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Rc, R, W (O/B), W2 (AUX/E), Y, Y2, G, L, C	Up to 3 Heat / 2 Cool Heat Pump or Up to 2 Heat / 2 Cool Conventional	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Large display size 5.09 sq. in.

Programmable Thermostats

PRO 4000 5-2 Day Programmable Thermostat

The PRO programmable family of thermostats provides basic and simple programming with specific models for conventional and heat pump systems.

- Weekday/Weekend programming - 5-2 (Weekdays, Weekend) programming
- Backlit digital display - both current and set temperatures are easy to read in various lighting conditions
- Precise comfort control [±1 F (± 0.5 C)] - maintains consistent comfort to the highest level of accuracy
- Basic operation - easy-to-use slide switches allow you to select the heat or cool mode, and operate the fan
- Built in instructions - simple, pull out instruction manual
- Adaptive Intelligent Recovery™ - ensures programmed temperature is reached by programmed time

Dimensions, Approximate: 3 13/16 in. High X 5 3/8 in. Wide X 1 1/4 in. Deep (97 mm X 137 mm X 32 mm)
Display Size: 1.73 sq in.
Color: Premier White®
Programmability: 5-2 Day Program
Changeover: Manual
Electrical Ratings: 20 to 30 Vac or 750 mV
Temperature Setting Range: Heat: 40 F to 90 F (4.5 C to 32 C); Cool: 50 F to 99 F (10 C to 37 C)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Differential Temperature: ± 1 F (±0.5 C)

Currents (Cooling): 0.02 A to 1.0 A running
Currents (Heating): 0.02 A to 1.0 A running
Frequency: 50 Hz; 60 Hz
Power Method: Dual Powered: Battery or Hardwire
Sensor Element: Thermistor
Mounting: Horizontal

Accessories:
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 and Horizontal PRO 1000/2000 Cover Plate Assembly
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)

Product Number	Application	Switch Positions		Terminal Designations	Stages
		System	Fan		
TH4110D1007/U	Heat/Cool or Heat Pump without Auxiliary Heat	HEAT-OFF-COOL	AUTO-ON	R, Rc, W, Y, G, O, B, C	1 Heat/1 Cool
TH4210D1005/U	Heat Pump Systems	HEAT-OFF-COOL-EM. HT	AUTO-ON	R, Y, AUX, E, G, O, B, L, C	2 Heat/1 Cool Heat Pump

PRO 2000 Horizontal Programmable Thermostats

The PRO programmable family of thermostats provides basic and simple programming with specific models for conventional and heat pump systems.

- Weekday/Weekend programming - 5-2 (Weekdays, Weekend) programming
- Backlit digital display - both current and set temperatures are easy to read in various lighting conditions
- Precise comfort control [±1 F (±0.5 C)] - maintains consistent comfort to the highest level of accuracy
- Basic operation - easy-to-use slide switches allow you to select the heat or cool mode, and operate the fan
- Adaptive Intelligent Recovery™ - ensures programmed temperature is reached by programmed time

Dimensions, Approximate: 3 7/16 High x 4 10/16 Wide x 1 3/16 Deep (87mm x 119mm x 30mm)
Color: Premier White®
Programmability: 5-2 Day Program
Changeover: Manual
Electrical Ratings: 20 to 30 Vac or 750 mV
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Currents (Cooling): 0.02 A to 1.0 A running
Currents (Heating): 0.02 A to 1.0 A running

Frequency: 50 Hz; 60 Hz
Power Method: Dual Powered: Battery or Hardwire
Sensor Element: Thermistor
Switch Type: Relay
Mounting: Horizontal

Accessories:
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 and Horizontal PRO 1000/2000 Cover Plate Assembly

	Product Number	Application	Accuracy	Switch Positions		Terminal Designations	Stages	Temperature Setting Range	
				System	Fan			(F)	(C)
*	**TH2110DH1002/U**	Heat/Cool or Heat Pump without Auxiliary Heat	± 1 F (±0.5 C)	HEAT-OFF-COOL	AUTO-ON	R, RC, C, W, Y, G, O, B	1 Heat/1 Cool	Heat: 40 to 90 F; Cool: 50 to 99 F	Heat: 4.5 to 32 C; Cool: 10 to 37 C
	TH2210DH1000/U	Heat Pump Systems	± 1 F (±0.5 C)	HEAT-OFF-COOL-EM. HT	AUTO-ON	R, C, Y, AUX/E, G, O, B	2 Heat/1 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

** TRADELINE models • SUPER TRADELINE models*

PRO 2000 Vertical Programmable Thermostat

The PRO programmable family of thermostats provides basic and simple programming with specific models for conventional and heat pump systems.

- Weekday/Weekend programming - 5-2 (Weekdays, Weekend) programming
- Backlit digital display - both current and set temperatures are easy to read in various lighting conditions
- Precise comfort control [±1 F (±0.5 C)] - maintains consistent comfort to the highest level of accuracy
- Basic operation - easy-to-use slide switches allow you to select the heat or cool mode, and operate the fan
- Adaptive Intelligent Recovery™ - ensures programmed temperature is reached by programmed time

Dimensions, Approximate: 4 11/16 in. High X 2 7/8 in. Wide X 1 1/8 in. Deep (120 mm x 74 mm x 28 mm)
Color: Premier White®
Programmability: 5-2 Day Program
Changeover: Manual
Electrical Ratings: 20 to 30 Vac or 750 mV
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Currents (Cooling): 0.02 A to 1.0 A running
Currents (Heating): 0.02 A to 1.0 A running
Frequency: 50 Hz; 60 Hz

Power Method: Dual Powered: Battery or Hardwire
Sensor Element: Thermistor
Accuracy: ± 1 F (±0.5 C)
Switch Type: Relay
Mounting: Vertical

Accessories:
50022893-001-Premier White® cover plate 5 3/4 in. x 7 3/8 in. (146 mm x 187 mm)

Product Number	Application	Switch Positions		Terminal Designations	Stages	Temperature Setting Range	
		System	Fan			(F)	(C)
TH2110D1009/U	Heat/Cool or Heat Pump without Auxiliary Heat	HEAT-OFF-COOL	AUTO-ON	R, C W, Y G, O/B	1 Heat/1 Cool	Heat: 40 to 90 F; Cool: 50 to 99 F	Heat: 4.5 to 32 C; Cool: 10 to 37 C
TH2210D1007/U	Heat Pump Systems	HEAT-OFF-COOL-EM. HT	AUTO-ON	R, C, Aux, Y, G, O/B	2 Heat/1 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

Non-Programmable Thermostats

Wireless FocusPRO® 5000

- WIRELESS FOCUSPRO® THERMOSTAT: Same great features of the FocusPRO® thermostat - now wireless. Installs in minutes. Can display outdoor temperature and humidity. 1 year battery life. 2 month low battery warning. Dual Fuel enabled -requires C7089R1013 wireless outdoor sensor (sold separately).
- EQUIPMENT INTERFACE MODULE (EIM): All HVAC equipment is wired to the module. Module receives communication from the wireless devices.
- RETURN AIR SENSOR: Works with the Equipment Interface Module to maintain safe indoor temperatures if power is lost at the wireless thermostat. Maintains 62 F for heating and 82 F for cooling.
- REDLINK™ WIRELESS TECHNOLOGY: Powered by RedLINK™ reliability. No interference with other wireless devices in the home.

Everything you need to relocate thermostat or upgrade equipment without running new wires.

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Electrical Ratings: Equipment Interface Module--18 to 30 Vac, 50 Hz; 60 Hz
Changeover: Auto/Manual Selectable
Current (Cooling): 1.0 A running
Current (Heating): 1.0 A running
Current (Fan): 0.6 A running
Power Method: Thermostat--Battery

Accessories:
50002883-001-FOCUSPRO® 5000/6000 and PRO 3000/4000 and Horizontal PRO 1000/2000 Cover Plate Assembly
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
REM5000R1001-Use the Portable Comfort Control anywhere in the home to experience a new level of comfort and convenience.

Replacement Parts:
50007072-001-Replacement Battery Holder for FocusPRO TH5220, TH5320, TH6110, TH6220, and TH6320 Thermostat

Product Number	Switch Positions		Terminal Designations	Stages	Includes
	System	Fan			
YTH5320R1000/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	C, R, Rc, Rh, W-O/B, W2-Aux/E, Y, Y2, G, L, RAS	Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	TH5320R1002 Wireless FocusPRO® Non-Programmable Thermostat; THM5320R1000 Equipment Interface Module; C7735A1000 Return Air Sensor
YTH5320R1116/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	C, R, Rc, Rh, W-O/B, W2-Aux/E, Y, Y2, G, L, RAS	Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	THM6000R1002 RedLINK Internet Gateway, TH5320R1002 Wireless FocusPRO® Non-Programmable Thermostat, THM5320R1000 Equipment Interface Module, C7735A1000 Return Air Sensor

Wireless FocusPRO® 5000

Easily add a zone to a TrueZONE® system without running new wires. Choose from programmable or non-programmable.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Works with compatible RedLINK™ enabled devices
- Same great features of the FocusPRO thermostat now wireless
- Installs in minutes
- Can display outdoor temperature and humidity
- 1 year battery life
- 2 month low battery warning
- Dual Fuel enabled - requires THM5320R1000 Equipment Interface Module and C7089R1013 Wireless Outdoor Sensor (sold separately)

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Dimensions, Approximate: 3 9/16 in. High X 5 13/16 in. Wide X 1 1/2 in. Deep (91 mm High X 147 mm Wide X 38 mm Deep)
Changeover: Auto/Manual Selectable
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Temperature Setting Range: Heat: 40 F to 90 F; Cool: 50 F to 99 F (Heat: 4.5 C to 32 C; Cool: 10 C to 37 C)
Differential Temperature: ± 1 F (±0.5 C)
Power Method: Battery
Sensor Element: Thermistor
Color: Premier White®
Mounting: Horizontal
Comments: Thermostat is also available in kits for zoned and non-zoned systems

Accessories:
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7735A1000-Mount on return duct for backup control of non-zoned RedLINK™ enabled wireless systems. Works with the EIM to maintain safe indoor temperatures if power is lost at the wireless thermostat.
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 and Horizontal PRO 1000/2000 Cover Plate Assembly
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)

Replacement Parts:
50007072-001-Replacement Battery Holder for FocusPRO TH5220, TH5320, TH6110, TH6220, and TH6320 Thermostat

Product Number	Switch Positions		Stages	Parts Needed for Operation (not included) - TrueZONE® System	Parts Needed for Operation (not included) - Non-Zoned System
	System	Fan			
TH5320R1002/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	HZ432 or HZ322 TrueZONE panel; THM4000R1000 Wireless Adapter	THM5320R1000 Equipment Interface Module

THM5320 Equipment Interface Module

Easily relocate thermostat or upgrade equipment without running new wires using this module and a wireless FocusPRO® thermostat.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Works with TH6320R1004 or TH5320R1002 Wireless FocusPRO thermostats
- Input for Return Air Sensor
- Quick-connect terminal blocks
- LEDs for power and system status

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Dimensions, Approximate: 8 1/8 in. high x 8 in. wide x 1 7/8 in. deep (206 mm high x 203 mm wide x 47 mm deep)
Electrical Ratings: 18 to 30 Vac, 50/60 Hz
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Cooling: 1.0 A running
Heating: 1.0 A running
Fan: 0.6 A running
Color: Gray

Accessories:
C7735A1000-Mount on return duct for backup control of non-zoned RedLINK™ enabled wireless systems. Works with the EIM to maintain safe indoor temperatures if power is lost at the wireless thermostat.
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
THM6000R1002-RedLINK Internet Gateway

Product Number	Terminal Designations	Stages	Description	Parts Needed for Operation (not included)	Comments
THM5320R1000/U	C, R, Rc, Rh, W-O/B, W2-Aux/E, Y, Y2, G, L, RAS	Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional	Controls up to 3 heat /2 cool heat pump systems or up to 2 heat/2 cool conventional systems when used with the wireless FocusPRO® thermostat.	TH6320R1004 or TH5320R1002 Wireless FocusPRO® Thermostat	Equipment Interface Module is also available in kits

Non-Programmable Thermostats

FocusPRO® 5000 Digital Non-Programmable Thermostats

Standard Display

Large Display

TH5110

Standard Display

Large Display

TH5220

The FocusPRO® non-programmable thermostat provides control of 24 Vac conventional and heat pump systems or 750 mV heating systems.

- Non-programmable digital thermostat.
- Large, clear, backlit display - easy to read in various lighting conditions.
- Display size options - available in large screen or standard.
- Precise comfort control (± 1 F) - maintains consistent comfort to the highest level of accuracy.
- Easy change battery door - flip out door allows for easy battery replacement without removing or disassembling the thermostat.
- Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional.
- Dual-powered (battery and/or hardwire).

Dimensions, Approximate
TH5110: 3 7/16 in. high x 4 1/2 in. wide x 1 5/16 in. deep (86 mm x 114 mm x 33 mm)
TH5220: 3 9/16 in. High X 5 13/16 in. Wide X 1 1/2 in. Deep (91 mm X 147 mm X 38 mm)
Electrical Ratings: 20 to 30 Vac or 750 mV
Changeover: Auto/Manual Selectable
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Accuracy: ±1 F (±0.5 C)
Cycles per Hour: Heating 1-12 CPH; Cooling 1-6 CPH
Switch Type: Relay
Cooling: 1.0 A running
Heating: 1.0 A running
Fan: 0.5 A running
Frequency: 50 Hz; 60 Hz
Power Method: Dual Powered: Battery or Hardwire

Sensor Element: Thermistor
Color: Premier White®
Mounting: Horizontal

Accessories:
50001137-001-FocusPRO TH5110 and Horizontal PRO 1000/2000 Cover Plate Assembly
50002883-001-FocusPRO 5000/6000, PRO 3000/4000 and horizontal PRO 1000/2000 Cover Plate Assembly
50007297-001-12 pack of small coverplates (4 5/16 in. x 5 1/2 in.)
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)

Replacement Parts:
50000951-001-Replacement Battery Holder for FocusPRO TH5110 Thermostat
50007072-001-Replacement Battery Holder for FocusPRO TH5220, TH5320, TH6110, TH6220, and TH6320 Thermostat

Product Number	Application	Switch Positions		Terminal Designations	Stages	Temperature Setting Range		Comments
		System	Fan			(F)	(C)	
TH5110D1006/U	Up to 1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	HEAT-OFF-COOL-AUTO	AUTO-ON	R, Rc, C, W (O/B), Y, G	Up to 1 Heat/1 Cool	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Standard display size 1.95 sq. in.
TH5110D1022/U		HEAT-OFF-COOL-AUTO	AUTO-ON	R, Rc, C, W (O/B), Y, G	Up to 1 Heat/1 Cool	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Large display size 2.98 sq. in.
TH5220D1003/U	Up to 2 Heat/2 Cool Conventional Systems. Up to 2 Heat/1 Cool Heat Pumps	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Rc, R, W (O/B), W2 (AUX), Y, Y2 (E), G, L, C	Up to 2 Heat/2 Cool	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Standard display size 3.75 sq. in.
TH5220D1029/U		HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Rc, R, W (O/B), W2 (AUX), Y, Y2 (E), G, L, C	Up to 2 Heat/2 Cool	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Large display size 5.09 sq. in.
TH5320U1001/U	Up to 2 Heat/2 Cool Conventional Systems. Up to 3 Heat/2 Cool Heat Pumps	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Rc, R, W (O/B), W2 (AUX/E), Y, Y2, G, L, C	Up to 3 Heat/2 Cool	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Large display size 5.09 sq. in.

FocusPRO® Communicating Thermostats

The FocusPRO® non-programmable digital thermostat provides control when connected to an EnviraZone Zone Panel or an EnviraCOM equipment interface model or an EnviraCOM control board at the equipment.

- Non-programmable digital thermostat
- Large, clear, backlit display - easy to read in various lighting conditions
- Precise comfort control (± 1½ F) - maintains consistent comfort to the highest level of accuracy
- Up to 3 Heat/2 Cool Heat Pump or Up to 2 Heat/2 Cool Conventional

Application: Conventional and Heat Pump systems; Network Zoning 3H/2C system
Dimensions, Approximate: 3 7/16 in. high x 4 1/2 in. wide x 1 5/16 in. deep (86 mm x 114 mm x 33 mm)
Display size: 2.98 sq. in.
Changeover: Auto/Manual Selectable
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Accuracy: ±1 F (±0.5 C)
Switch Type: Relay
Frequency: 50 Hz; 60 Hz

Power Method: Communicating
Sensor Element: Thermistor
Color: Premier White®
Mounting: Horizontal
Used With: W8835A ENVIRAZONE PANELTHM5421C1008 Equipment Interface Module

Replacement Parts:
50001137-001-FocusPRO TH5110 Cover Plate Assembly

Product Number	Switch Positions		Terminal Designations	Stages	Temperature Setting Range		Zones
	System	Fan			(C)	(F)	
TH5320C1002/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	1, 2, 3	Up to 3 Heat/2 Cool	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Up to 9

PRO 3000 Non-Programmable Thermostats

The PRO non-programmable family of thermostats provides basic and simple operation with specific models for conventional and heat pump systems.

- Non-programmable digital thermostat
- Backlit digital display - both current and set temperatures are easy to read in various lighting conditions
- Shows both current and set temperatures at the same time
- Precise comfort control [± 1 F (± 0.5 C)] - maintains consistent comfort to the highest level of accuracy
- Basic operation - easy-to-use slide switches allow you to select the heat or cool mode, and operate the fan

Dimensions, Approximate: 3 13/16 in. High X 5 3/8 in. Wide X 1 1/4 in. Deep (97 mm High X 137 mm Wide X 32 mm Deep)
Display Size: 1.32 sq in.
Electrical Ratings: 20 to 30 Vac or 750 mV
Changeover: Manual
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Accuracy: ±1 F (±0.5 C)
Cycles per Hour: Heating 1-12 CPH; Cooling 1-6 CPH
Switch Type: Relay
Current (Cooling): 0.02 A to 1.0 A running
Current (Heating): 0.02 A to 1.0 A running

Frequency: 50 Hz; 60 Hz
Power Method: Dual Powered: Battery or Hardwire
Sensor Element: Thermistor
Color: Premier White®
Mounting: Horizontal

Accessories:
50002883-001-FocusPRO 5000/6000, PRO 3000/4000 and Horizontal PRO 1000/2000 Cover Plate Assembly
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)

Product Number	Application	Switch Positions		Terminal Designations	Stages	Temperature Setting Range	
		System	Fan			(F)	(C)
TH3110D1008/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	HEAT-OFF-COOL	AUTO-ON	R, Rc, W, Y, G, O, B, C	1 Heat/1 Cool	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C
TH3210D1004/U	2 Heat/1 Cool Heat Pump Systems	HEAT-OFF-COOL-EM. HT	AUTO-ON	R, Y, AUX, E, G, O, B, L, C	2 Heat/1 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

Non-Programmable Thermostats

PRO 1000 Horizontal Non-Programmable Thermostats

The PRO non-programmable family of thermostats provides basic and simple operation with specific models for conventional and heat pump systems.

- Non-programmable digital thermostat
- Easy-to-read backlit display - easy to read in various lighting conditions
- Precise comfort control [±1 F (±0.5 C)] - maintains consistent comfort to the highest level of accuracy
- Basic operation - easy-to-use slide switches allow you to select the heat or cool mode, and operate the fan

Dimensions, Approximate: 3 7/16 in. High x 4 10/16 in. Wide x 1 3/16 in. Deep (87mm High x 119mm Wide x 30mm Deep)
Display Size: 1.32 sq in.
Electrical Ratings: 20 to 30 Vac or 750 mV
Changeover: Manual
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Accuracy: ±1 F (±0.5 C)
Cycles per Hour: Heating 2-6 CPH
Switch Type: Relay
Heating: 0.02 A to 1.0 A running
Frequency: 50 Hz; 60 Hz
Power Method: Dual Powered: Battery or Hardwire
Sensor Element: Thermistor
Color: Premier White®
Mounting: Horizontal

Accessories:
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 and Horizontal PRO 1000/2000 Cover Plate Assembly

Product Number	Application	Switch Positions		Terminal Designations	Stages	Temperature Setting Range		Comments
		System	Fan			(F)	(C)	
TH1100DH1004/U	Heat Only	HEAT-OFF	—	R, C, W,	1 Heat	Selectable Heat: 40 F to 90 F or 35 F to 90 F	Selectable Heat 4.5 C to 32 or 1.5 C to 32 C	Adjustable Temperature Scale: Standard selection of 40 to 90F or Garage selection of 35 to 90F
TH1110DH1003/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	HEAT-OFF-COOL	AUTO-ON	R, RC, C, W, Y, G, O, B	1 Heat/1 Cool	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	—
TH1210DH1001/U	2 Heat/1 Cool Heat Pump Systems	HEAT-OFF-COOL-EM. HT	AUTO-ON	R, C, Y, AUX/E, G, O, B	2 Heat/1 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	—

PRO 1000 Vertical Non-Programmable Thermostats

The PRO non-programmable family of thermostats provides basic and simple operation with specific models for conventional and heat pump systems.

- Non-programmable digital thermostat
- Easy-to-read backlit display - easy to read in various lighting conditions
- Precise comfort control [±1 F (±0.5 C)] - maintains consistent comfort to the highest level of accuracy
- Basic operation - easy-to-use slide switches allow you to select the heat or cool mode, and operate the fan

Dimensions, Approximate: 4 11/16 in. High X 2 7/8 in. Wide X 1 1/8 in. Deep (120 mm high x 74 mm wide x 28 mm deep)
Display Size: 1.32 sq in.
Electrical Ratings: 20 to 30 Vac or 750 mV
Changeover: Manual
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Accuracy: ±1 F (±0.5 C)
Cycles per Hour: Heating 2-6 CPH
Switch Type: Relay
Heating: 0.02 A to 1.0 A running

Frequency: 50 Hz; 60 Hz
Power Method: Dual Powered: Battery or Hardwire
Sensor Element: Thermistor
Color: Premier White®
Mounting: Vertical

Accessories:
50022893-001-Premier White® cover plate 5 3/4 in. (146 mm) x 7 3/8 in. (187 mm)

Product Number	Application	Switch Positions		Terminal Designations	Stages	Temperature Setting Range		Comments
		System	Fan			(F)	(C)	
TH1100D1001/U	Heat Only	HEAT-OFF	—	R, C, W,	1 Heat	Selectable Heat: 40 F to 90 F or 35 F to 90 F	Selectable Heat 4.5 C to 32 or 1.5 C to 32 C	Adjustable Temperature Scale: Standard selection of 40 to 90F or Garage selection of 35 to 90F
TH1110D1000/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	HEAT-OFF-COOL	AUTO-ON	R, C, W, Y, G, O/B	1 Heat/ 1 Cool	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	—
TH1210D1008/U	2 Heat/1 Cool Heat Pump Systems	HEAT-OFF-COOL-EM. HT	AUTO-ON	R, C, Aux, Y, G, O/B	2 Heat/1 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	—

Non-Programmable Thermostats

T8775A,C The Digital Round® Non-Programmable Thermostats

The Digital Round® Thermostats provide 24V control of heating only or heat/cool systems.

- Attractive styling complements any decor
- One-touch backlit display
- Familiar twist-to-see operation
- Available in Heat/Cool and Heat Only models

Dimensions, Approximate: 3 11/16 in. diameter x 1 7/16 in. deep (94 mm diameter x 37 mm deep)
Display Size: 0.75 sq in.
Operating Humidity Range (% RH): 5 to 90% RH (non-condensing)
Accuracy: ±1 F (±0.5 C)
Cycles per Hour: Adjustable 1, 3, 6, 9
Switch Type: Electronic
Cooling: 0.02A to 1.5A running; 6.0A inrush
Heating: 0.02A to 1.5A running, 3.5A inrush
Fan: 0.02A to 0.5A running, 2.5A inrush
Electrical Ratings: 18 to 30 Vac
Frequency: 60 Hz
Power Method: Powered through system heating controls

Sensor Element: Thermistor
Color: Premier White®
Mounting: Round
Comments: Large easy-to-see backlit display
Includes: Wallplate, resistor assembly, mounting screws and wall anchors

Accessories:
50000066-001-Decorative Cover Plate for T8775 or T87K,N

Replacement Parts:
50034437-001-T8775 Resistor/Transorb Bag Assembly

Product Number	Application	Switch Positions		Terminal Designations	Stages	Temperature Setting Range	
		System	Fan			(F)	(C)
T8775A1009/U	Heat Only	—	—	R, W	1 Heat	40 to 90	4.5 to 32
T8775C1005/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	HEAT-OFF-COOL	AUTO-ON	R, Rc, W, Y, G, O, B	1 Heat/1 Cool	40 to 90 in heat; 45 to 99 in cool	4.5 to 32 in heat; 7 to 37 in cool

T87K,N The Round®

The Round® thermostats provide electronic control of 24Vac heating and cooling systems with the classic twist to set dial.

- Mercury Free
- Classic Styling
- Premier White®
- The T87K heat only works with 2 or 3 wire heat-only systems

Operating Humidity Range (% RH): 5 to 90% RH (non-condensing)
Accuracy: ±1 F (± 0.5 C)
Cycles per Hour: Adjustable 1, 3, 5, 9
Switch Type: Relay
Heating: 0.02 A to 1.0 A running
Electrical Ratings: 20 to 30 Vac
Frequency: 50 Hz; 60 Hz
Power Method: Battery assisted power stealing
Sensor Element: Thermistor
Color: Premier White®
Mounting: Round

Accessories:
50000066-001-Decorative Cover Plate for T8775 or T87K,N
50010944-001-Range Stop Assembly

Product Number	Application	Switch Positions		Terminal Designations	Stages	Temperature Setting Range	Dimensions, Approximate		Comments	Includes
		System	Fan			(F)	(inch)	(mm)		
T87K1007/U	Heat Only	—	—	R, W, Y	1 Heat	40 to 90	3 11/16 in. diameter x 1 3/4 in. deep	94 mm diameter x 45 mm deep	—	—
T87N1000/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	HEAT-OFF-COOL	AUTO-ON	R, Rc, W, Y, G, O, B	1 Heat/ 1 Cool	40 to 90	3 11/16 in. diameter x 1 3/4 in. deep	94 mm diameter x 45 mm deep	—	—
T87N1026/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	HEAT-OFF-COOL	AUTO-ON	R, Rc, W, Y, G, O, B	1 Heat/ 1 Cool	40 to 90	4 in. diameter x 1 3/4 in. deep	102 mm diameter x 45 mm deep	EASY-TO-SEE model with Large raised markings and a click at each 2 degree setpoint change	6 in. (152 mm) cover ring and switch position labels

Mercury Free T834; T8034 Econo Thermostats

1 Heat/1 Cool

Cool Only

1 Heat/1 Cool

Meet all current and future mercury-free thermostat compliance needs with Honeywell's Mercury-Free Econostat. With a sleek, attractive appearance, the Mercury-Free Econostat is the perfect electromechanical replacement choice for you and your customers. Thermostats for low voltage control of single-stage heating, cooling or heating-cooling systems.

- Integrated thermometer and temperature setting scale
- Precise Snap-action switch
- Mount directly on wall or outlet box
- Includes dealer logo pocket

Dimensions, Approximate:
T8034N1015: 2 7/8 in. high x 4 3/4 in. wide x 1 3/8 in. deep (73 mm high x 121 mm wide x 35 mm deep)
T834L1004 and T834N1002: 4 3/4 in. high x 2 7/8 in. wide x 1 3/8 in. deep (121 mm high x 73 mm wide x 35 mm deep)
Electrical Ratings: 20 to 30 Vac
Changeover: Manual
Anticipator (heating): 0.18 to 1.0A adjustable
Anticipator (cooling): fixed 24 to 30 Vac
Accuracy: ±2 F (±1 C)
Switch Type: Precision Snap Action
Switching Action: SPST
Cooling: 1.5A running, 7.5A inrush at 25 Vac
Heating: 0.18A to 1.0A at 30 Vac max
Fan: 2.0A
Sensor Element: Bimetal
Color: Premier White®

Accessories:
50019661-001-Range Stop Assembly for Econostat

Product Number	Application	Mounting	Switch Positions		Terminal Designations	Temperature Setting Range		Description
			System	Fan		(F)	(C)	
T8034N1007/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	Horizontal	OFF-HEAT-COOL	AUTO-ON	R, Rc, W, Y, G, O, B	45 to 95		Mercury Free 1Heat/1Cool Stage Thermostat for control of single stage low voltage heating/cooling systems
T834L1004/U	Cool Only	Vertical	COOL-OFF	AUTO-ON	R, Y, G, O	45 to 95	7 to 32	Temperature scale in Fahrenheit and Celsius; Mercury Free Cool Only Thermostat with Positive Off for control of single stage low voltage cooling systems
T834N1002/U	1 Heat/1 Cool Conventional Systems and Heat Pumps with No Auxiliary Heat	Vertical	HEAT-OFF-COOL	AUTO-ON	R, Rc, W, Y, G, O, B	45 to 95	—	Mercury Free 1Heat/1Cool Stage Thermostat for control of single stage low voltage heating/cooling systems

Non-Programmable Thermostats

Mercury Free T822 Econo Thermostats

Heat-Off

Heat Only

Dual Scale

Meet all current and future mercury-free thermostat compliance needs with Honeywell's Mercury-Free Econostat. With a sleek, attractive appearance, the Mercury-Free Econostat is the perfect electromechanical replacement choice for you and your customers. Thermostats provide 24 Vac control of heating or cooling systems.

- Vented cover for improved temperature sensing
- Setting lever and thermometer scale on thermostat cover
- Mounts directly on the wall or on vertical outlet box
- Integrated thermometer and setting scale

Dimensions, Approximate: 4 3/4 in. high x 2 7/8 in. wide x 1 3/8 in. deep (121 mm high x 73 mm wide x 35 mm deep)
Electrical Ratings: 20 to 30 Vac
Accuracy: ±2 F (±1 C)
Switch Type: Precision Snap Action
Switching Action: SPST
Heating: 0.02 A to 1.0 A running
Sensor Element: Bimetal
Color: Premier White®
Mounting: Vertical

Product Number	Application	Switch Positions	Terminal Designations	Stages	Temperature Setting Range		Description
		System			(F)	(C)	
T822K1000/U	Heat Only	HEAT-OFF	R, W	1 Heat	45 to 95	—	Mercury Free Heat Only Thermostat with Positive Off for control of single stage low voltage heating systems
T822K1018/U	Heat Only	—	R, W	1 Heat	45 to 95	—	Mercury Free Heat Only Thermostat for control of single stage low voltage heating systems
T822K1042/U	Heat Only	HEAT-OFF	R, W	1 Heat	35 to 85	—	Mercury Free Heat Only Thermostat with Low Temperature Scale, Ideal for Garages. Heat/Off. For control of heat only low voltage systems.
T822L1000/U	Cool Only or Heat Only for Normally Open Hot Water Zone Valves	—	R, Y	1 Cool	45 to 95	7 to 32	Temperature scale in Fahrenheit and Celsius, Mercury Free Cool Only Thermostat control of single stage low voltage cooling systems

Mercury Free T827 Econo Thermostats

Meet all current and future mercury-free thermostat compliance needs with Honeywell's Mercury-Free Econostat. With a sleek, attractive appearance, the Mercury-Free Econostat is the perfect electromechanical replacement choice for you and your customers. Thermostats for 12 Vdc or 750 mV control of heating systems.

- Integrated thermometer and temperature setting scale
- Precise Snap-action switch
- Mount directly on wall or outlet box
- Includes dealer logo pocket

Application: Heat Only
Dimensions, Approximate: 4 3/4 in. high x 2 7/8 in. wide x 1 3/8 in. deep (121 mm high x 73 mm wide x 35 mm deep)
Accuracy: ±2 F (±1 C)
Switch Type: Precision Snap Action
Switching Action: SPST
Sensor Element: Bimetal
Color: Premier White®
Mounting: Vertical

Product Number	Switch Positions	Terminal Designations	Stages	Temperature Setting Range	
	System			(F)	(C)
T827K1009/U	HEAT-OFF	R, W	1 Heat	45 to 95	—

T812; TS812 Heating and/or Cooling Thermostats

Basic thermostats for low voltage control of single-stage heating, cooling or heating-cooling systems.

- Snap-acting bimetal switch uses no mercury and does not require leveling
- Thermostat is streamlined and economical
- Model available for 12 Vdc (T812B) and 750 mV (TS812)
- Includes dealer logo pocket

Dimensions, Approximate: 3 1/8 in. high x 3 1/8 in. wide x 7/8 in. deep (79 mm high x 79 mm wide x 23 mm deep)
Operating Humidity Range (% RH): 5 to 90% RH
Temperature Setting Range: 45 to 95 F (7 to 35 C)
Accuracy: ±3 F (±1.5 C)
Switch Type: Snap action
Heating: 1.0A running, 2.5A inrush at 24 Vac
Fan: 1.0A running, 5A inrush at 24 Vac
Sensor Element: Bimetal

Color: Premier White®
Mounting: Square
Includes: Wallplate, resistor assembly, mounting screws and wall anchors

Accessories:
50005625-001-Premier White® Cover Plate Assembly 4 3/4 in. (120 mm) x 4 3/4 in. (120 mm)

	Product Number	Application	Switch Positions		Switching Action	Terminal Designations	Stages	Electrical Ratings
			System	Fan				
	T812A1002/U	Heat Only	—	—	SPST	W, R	1 Heat	18 to 30 Vac
	T812A1010/U	Heat Only	Positive Off	—	SPST	W, R	1 Heat	18 to 30 Vac
	T812B1001/U	Heat Only - 12 Vdc	Positive Off	—	SPST	W, R	1 Heat	12 Vdc
	T812C1000/U	1 Heat/1 Cool Conventional Systems	OFF-HEAT-COOL	AUTO-ON	SPST	R, W, Y, G	1 Heat/1 Cool	18 to 30 Vac
	T812D1009/U	Cool Only	—	—	SPST	R, Y	1 Cool	18 to 30 Vac
*	**TS812A1007/U**	Heat Only - Millivolt	Positive Off	—	SPST	R, W	1 Heat	750 mV

* TRADELINE models • SUPER TRADELINE models

RedLINK Wireless Products

Wireless Zoning Adapter Kits

Wireless Zoning Adapter Kit allows you to easily add to a TrueZONE® system without running new wires.

- WIRELESS ADAPTER: Allows for wireless zoning when used with HZ432 or HZ322 TrueZONE panels (sold separately). Adapter receives communication from the wireless devices.
- WIRELESS FOCUSPRO® THERMOSTAT: Same great features of the FocusPRO® thermostat - now wireless. Installs in minutes. Displays outdoor temperature and humidity (outdoor sensor sold separately).1 year battery life. 2 month low battery warning.
- REDLINK™ WIRELESS TECHNOLOGY: Powered by RedLINK™ reliability. No interference with other wireless devices in the home

Application: Heat Pump Systems; Forced warm air
Changeover: Auto/Manual Selectable
Power Method: Thermostat--Battery

Accessories:
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.

50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 Cover Plate Assembly
50007298-001-12 pack of medium coverplates (5 in. x 6 7/8 in.)

Replacement Parts:
50007072-001-Replacement Battery Holder for FocusPRO TH5220, TH5320, TH6110, TH6220, and TH6320 Thermostat

	Switch Positions		
Product Number	**System**	**Fan**	**Includes**
YTH5320R1025/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	THM4000R1000 Wireless Adapter, TH5320R1002 Wireless FocusPRO® Non-Programmable Thermostat
YTH6320R1023/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	THM4000R1000 Wireless Adapter, TH6320R1004 Wireless FocusPRO® 5-1-1 Programmable Thermostat

RedLINK™ Internet Gateway

The RedLINK™ Internet Gateway provides remote access to any RedLINK™ enabled thermostat through the internet, smart phone or tablet.

- RedLINK™ enabled to communicate with compatible wireless devices.
- Control any RedLINK™ enabled thermostat.
- 3 foot ethernet cable included.
- Simple installation to home or business router.
- Easily change system modes and indoor temperature through the web portal or mobile app.
- Multiple HOLD options allows modification of schedule as needed.
- High/Low temperature and humidity messaging alerts the user when the indoor conditions are too high or too low.

Application: Up to 4 Heat/2 Cool Heat Pumps, Internet control of RedLINK thermostats
Dimensions, Approximate: 5 in. high X 6 in. wide X 2 1/2 in. deep (127 mm x 152 mm x 64 mm)
Color: Black
Electrical Connections: Screw terminals, 24 Volt plug in transformer

Electrical Ratings: 20 to 30 Vac
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Power Method: Hardwired,24 Volt Plug In Transformer
Outdoor Sensor: •Yes, optional

Product Number	Description	Switch Positions	Terminal Designations	Stages	Used With	Includes
THM6000R1002/U	RedLINK Internet Gateway Prestige® IAQ Thermostat. Controls Humidification, Dehumidification and Ventilation Control	HEAT-OFF-COOL-AUTO-EM.HEAT	R, C then RedLINK to Equipment Interface Module	See Equipment Interface Module	RedLINK™ enabled thermostats and accessories	3 Foot Ethernet Cable and Plug in Power Adapter

C7089R Wireless Outdoor Sensor

Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Reliable performance in all climates
- Installs in minutes
- Up to 5 year battery life
- 2 month low battery warning
- Battery warning displayed on RedLINK™ enabled thermostats
- Includes 2 AA Lithium batteries and mounting hardware

Application: Outdoor Sensor
Dimensions, Approximate: (with mounting bracket) 5 in. high x 3 1/2 in. wide x 1 11/16 in. deep ((with mounting bracket) 127 mm high x 89 mm wide x 43 mm deep)
Color: Gray
Operating Humidity Range (% RH): 0 to 100% RH, condensing
Operating Temperature Range: -40 F to 140 F (-40 C to 60 C)
Power Method: Battery
Sensor Element: Thermistor
Mounting: Mounts on a vertical wall with supplied bracket and mounting hardware

Product Number	Comments	Used With	Includes
C7089R1013/U	Wireless Outdoor Sensor is also available in kits	RedLINK™ enabled thermostats and accessories	2 AA Lithium Batteries and mounting hardware

C7189R Wireless Indoor Air Sensor

The Wireless Indoor Sensor(s) is used to change the sensing location of the thermostat. Sense temperature and humidity remotely, average temperature, and humidify and dehumidify in separate locations.

- The Wireless Indoor Sensor(s) is used to change the sensing location of the thermostat.
- Sense temperature and humidity remotely.
- Average temperature
- Control temperature and humidity in separate locations.
- Humidify and dehumidify in separate locations. For example, humidify on the main level and dehumidify in the crawl space.
- Up to 6 Wireless Indoor Sensors per thermostat.

Application: Wireless Indoor Air Sensor
Dimensions, Approximate: 2 7/8 in. high x 1 7/8 in. wide x 15/16 in. deep (73 mm x 48 mm x 24 mm)
Color: Arctic White
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Operating Temperature Range: 0 F to 120 F (-17.8 C to 48.9 C) (35 F to 114 F (1.7 C to 45.6 C) for optimal battery life)
Power Method: Battery
Mounting: Mounts on a vertical wall with supplied bracket and mounting hardware

Product Number	Description	Used With	Includes
C7189R1004/U	Senses indoor temperature and humidity	Prestige® IAQ, Prestige® 2.0 and VisionPRO with RedLINK™ Thermostats	2 AAA alkaline batteries and mounting hardware

REM1000 RedLINK™ Wireless Entry/Exit Remote

Application: Heating and Cooling systems, RedLINK Thermostat Accessory
Dimensions, Approximate : 6 1/4 in. high x 3 1/8 in. wide x 1 5/8 in. deep (159 mm high x 79 mm wide x 41 mm deep)
Used With: RedLINK™ enabled thermostats and accessories
Color: White
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Operating Temperature Range : 35 F to 114 F (1.7 C to 45.6 C) for optimal battery life
Sensor Element: Thermistor
Power Method: Battery, Lithium Coin Cell

Accessories:
HVC20A1000-Wireless Vent and Filter Boost Remote

Product Number	Description
REM1000R1003/U	RedLINK Wireless Entry/Exit Remote

RedLINK Wireless Products

Wireless Vent and Filter Boost Remote

The Wireless Vent Boost Remote provides one-touch control of your ventilation system from bathrooms, laundry rooms, or any location in your home or building. The remote has three buttons: 20, 40, and 60 minutes. The ventilator can be temporarily boosted for 20, 40, or 60 minutes, depending on the button pressed.

Pressing one of these buttons temporarily boosts the ventilator for either the time on the button or the current run time at the thermostat, whichever is greater. Vent boost can be cancelled from the thermostat.

	Product Number	Application	Description
*	**HVC20A1000/U**	Ventilation Control	Wireless Vent and Filter Boost Remote works with RedLINK 2.0 thermostats

** TRADELINE models • SUPER TRADELINE models*

REM5000 Portable Comfort Control

Use the Portable Comfort Control anywhere in the home to experience a new level of comfort and convenience. Works in both zoned and non-zoned applications.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Works with compatible RedLINK™ enabled thermostats and accessories
- Installs in minutes
- Touchscreen interface with backlit display
- Can display outdoor temperature and humidity
- Built-in pager with an aud ble noise helps locate the device in the home
- Screen-lock feature helps prevent accidental changes
- 1 year battery life
- 2 month low battery warning In Non-Zoned Applications:
- Bring it with you anywhere in the home to sense and control temperature from the room that you are in. In Zoned Applications:
- View and adjust all RedLINK™ enabled thermostats from a single control.
- Controls up to 16 thermostats

Application: Zoned and Non-Zoned Applications
Dimensions, Approximate : 6 1/4 in. high x 3 1/8 in. wide x 1 5/8 in. deep (159 mm high x 79 mm wide x 41 mm deep)
Used With: RedLINK™ enabled thermostats and accessories
Comments: Portable Comfort Control is also available in kits.
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing

Operating Temperature Range : 32 F to 120 F (0 C to 48.9 C)
Sensor Element: Thermistor
Differential Temperature : ± 1 F (±0.5 C)
Power Method: Battery
Changeover: Auto or Manual

Product Number	Description
REM5000R1001/U	Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.

Wireless Adapter

Wireless Adapter allows you to easily add RedLINK™-enabled thermostats to a TrueZONE® system without running new wires. Use a RedLINK™-enabled TrueSTEAM™ Humidification System with a Wireless Adapter to communicate and control humidity from Prestige without running new wires to the living space. Prestige also controls whole-house dehumidifiers like the Honeywell TrueDRY™.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Communicates with Wireless Outdoor Sensor to automatically control humidity to proper levels

Dimensions, Approximate: 5 9/16 in. high x 4 3/8 in. wide x 1 1/4 in. deep (141 mm high x 112 mm wide x 32 mm deep)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing

Color: Gray
Mounting: Mount Wireless Adapter on wall near HVAC equipment or on the duct.

Product Number	Terminal Designations	Requirements
THM4000R1000/U	A, B, C, D	One adapter per zone control panel, HZ322 or HZ432 TrueZONE panel

C7735 Return Air Sensor

Mount on return duct for backup control of non-zoned RedLINK™ enabled wireless systems. Works with the EIM to maintain safe indoor temperatures if power is lost at the wireless thermostat.

- Works with THM5320R1000 Equipment Interface Module to maintain safe indoor temperatures if power is lost at the wireless thermostat
- Takes control of the equipment by turning on the blower fan and sensing the indoor temperature of the home
- Controls heating at 62 F and cooling at 82 F
- Provides homeowners with peace of mind
- Installs in minutes
- Includes mounting hardware

Application: Mount on return duct for backup control of non-zoned systems
Dimensions, Approximate: 3 7/8 in. high x 4 1/8 in. wide x 1 1/4 in. deep (77 mm x 102 mm x 25 mm). Sensor probe: 3 3/4 in. long (77 mm)

Color: Gray
Operating Temperature Range: 0 F to 200 F (-17.8 C to 93.3 C)
Mounting: Mounts on return duct

Product Number	Comments	Used With
C7735A1000/U	Return Air Sensor is also available in kits for non-zoned systems	THM5320R1000 Equipment Interface Module; TH6320R1004 or TH5320R1002 Wireless FocusPRO® Thermostat

C7089 Outdoor Sensor

Remote outdoor temperature sensor, when installed, the current outdoor temperature is displayed. Also can be used to manage dual fuel and lock-out expensive auxiliary heat in heat pump applications.

- Mounting clip allows easy sensor positioning on siding or soffit
- Includes 60 in. leadwires
- Factory calibrated; no field calibration required
- Maximum wire run of 200 feet

Dimensions, Approximate: 2 1/4 in. x 3/8 in. with 60 in. leadwires (57 mm x 10 mm with 1524 mm leadwires.)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing

Ambient Temperature Range: -40 F to +128 F (-40 C to +53 C)
Mounting: Mounting Clip provided and screws provided.

Product Number	Description	Application	Used With
C7089B1000/U	Outdoor sensor used to measure outdoor temperature	Outdoor sensor for Chronotherm IV thermostats and TZ-4 Zone Panel	TZ-4 Zone Panel
C7089U1006/U	Outdoor Sensor used to measure the outdoor temperature	Outdoor sensor for Prestige® IAQ, VisionPRO with RedLINK™ and VisionPRO IAQ Thermostats	Prestige® IAQ, VisionPRO® Series Thermostats, VisionPRO® IAQ Thermostat

C7189 Remote Indoor Sensor

The Remote Indoor Temperature Sensor is used to sense temperature remotely.

- Used to sense temperature if the thermostat is installed in a poor temperature sensing location.
- Small remote temperature sensor to match any room decor.
- Easy to install and use.
- Factory calibrated; no field calibration required.
- Works with a maximum 200 foot wire run.

Application: Remote Indoor Temperature Sensor for Prestige® IAQ, VisionPRO and VisionPRO IAQ Thermostats
Dimensions, Approximate: 1 1/2 in. wide x 2 1/4 in. high x 3/4 in. deep (38 mm x 57 mm x 19 mm)
Color: Premier White®
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: 45 F to 88 F (7 C to 32 C)
Mounting: Mounts directly on wall using mounting screws and anchors provided

	Product Number	Description	Temperature Setting Range	Used With
*	**C7189U1005/U**	Remote indoor sensor for remote sensing applications	See Thermostats	Prestige IAQ®, VisionPRO® and VisionPRO® IAQ Series Thermostats

** TRADELINE models • SUPER TRADELINE models*

Freeze Warning

S483 Winter Watchman

Used as a freeze warning device. Completes circuit to household lamp on temperature fall, indicating inoperative heating equipment.

- Plugs directly into wall outlet
- Lamp plugs into receptacle at bottom of Winter Watchman device
- Useful when house is unoccupied to notify a neighbor of a temperature drop so heating source fault can be rectified before freeze-up occurs
- Not precision cal brated for use as a thermostat

Dimensions, Approximate: 3 3/8 in. high x 2 1/8 in. wide x 13/16 in. deep (86 mm high x 54 mm wide x 21mm deep)
Electrical Ratings: Load: 120W maximum for incandescent lamp load only.
Accuracy: ±5 F (±3 C)
Ambient Temperature Range: 30 F to 60 F (-1 C to +16 C)

Switching Action: SPST
Heating: 1.0A
Frequency: 60 Hz
Sensor Element: Bimetal
Color: Beige
Mounting: Vertical Mount

Product Number	Application	Temperature Setting Range (F)	Temperature Setting Range (C)
S483B1002/U	Incandescent Lamp	30 F to 60 F	-1 C to 16 C

Parts and Accessories

Product Number	Size	Color	Description	Used With	Includes	
32003796-001/U	—	Premier White®	Premier White® cover plate 7 7/8 in. (200 mm) x 5 1/2 in. (140 mm)	TH8000 VisionPRO® Series Thermostats	—	
50000066-001/U	—	—	Decorative Cover Plate for T87K, T87N and T8775	T87K, T87N, T8775	—	
50000951-001/U	—	Premier White®	Replacement Battery Holder for FocusPRO TH5110 Thermostat	FocusPRO® TH5110 Thermostat	—	
50001137-001/U	Small Cover Plate 4 5/16 in. high, 5 1/2 in. wide. Medium Cover Plate 5 in. high, 6 7/8 in. wide.	Premier White®	Coverplate assembly for use with FocusPRO® TH5110 thermostat. Includes one small and one medium coverplate, bracket for j-boxes and mounting hardware. Small coverplate is 4 5/16 in. x 5 1/2 in. Medium coverplate is 5 in. x 6 7/8 in.	FocusPRO® TH5110 Thermostat	—	
50002883-001/U	Medium Cover Plate 5 in. high, 6 7/8 in. wide. Large Cover Plate 6 in. high, 8 5/16 in. wide.	Premier White®	Coverplate assembly for use with FocusPRO® 6000/5000 and PRO 4000/3000 thermostats. Includes one medium and one large coverplate, bracket for j-boxes and mounting hardware. Medium coverplate is 5 in. x 6 7/8 in. Large coverplate is 6 in. x 8 5/16 in.	FocusPRO® 6000, 5000; PRO 4000, 3000, 2000, 1000, Horizontal PRO 2000/ 1000	—	
50007297-001/U	Small Cover Plate 4 5/16 in. high, 5 1/2 in. wide. Medium Cover Plate 5 in. high, 6 7/8 in. wide.	Premier White®	12 pack of small coverplates for use with FocusPRO® TH5110 thermostat. Small coverplate is 4 5/16 in. x 5 ¾ in.	FocusPRO® TH5110 Thermostat	—	
50007298-001/U	Medium Cover Plate 5 in. high, 6 7/8 in. wide. Large Cover Plate 6 in. high, 8 5/16 in. wide.	Premier White®	12 pack of medium coverplates for use with FocusPRO ® 6000/5000 and PRO 4000/3000 thermostats. Medium coverplate is 5 in. x 6 7/8 in.	FocusPRO® 6000, 5000; PRO 4000, 3000	—	
50010944-001/U	—	—	Range Stop Assembly for T87K, T87N, includes: range stops for degree F and C with screws	The Round® T87K and T87N Mercury Free Thermostats	Range stops and screws	
50022893-001/U	5 3/4 in. (146mm) x 7 3/8 in. (187mm)	Premier White®	White Coverplate 5 3/4 in. (146 mm) x 7 3/8 in. (187mm)	PRO TH1000 and TH2000 Series Thermostats	—	

Thermostat Parts and Accessories

Product Number	Size	Color	Description	Used With	Includes	
50028399-001/U	—	Arctic White	Cover plate for Prestige Thermostats 7 7/8 in. (200 mm) x 5 1/2 in. (140 mm) Premier White® cover plate 7 7/8 in. (200 mm) x 5 1/2 in. (140 mm)	THX9000 Series Thermostats	—	
50034437-001/U	—	—	Bag Assembly for T8775 thermostats	T8775 Digital Round	—	
THP1000A1007/U		Gray	Battery demo pack used with Prestige thermostat. Powered by 6 AA batteries. Batteries sold separately.	THX9000 Series Thermostats	—	
THP2400A1027W/U		White	White Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat. Includes one small and one large white coverplate, bracket for j-boxes and mounting hardware. Small coverplate is 4-21/64 in. x 5-33/64 in. Large coverplate is 5 in. x 6-7/8 in.	THX9421R5021WW Prestige® IAQ 2-Wire Thermostat		
THP2400A1027B/U		Black	Black Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat. Includes one small and one large black coverplate, bracket for j-boxes and mounting hardware. Small coverplate is 4-21/64 in. x 5-33/64 in. Large coverplate is 5 in. x 6-7/8 in.	THX9421R5021BB Prestige® IAQ 2-Wire Thermostat		
THP2400A1027G/U		Gray	Gray Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostats. Includes one small and one large gray coverplate, bracket for j-boxes and mounting hardware. Small coverplate is 4-21/64 in. x 5-33/64 in. Large coverplate is 5 in. x 6-7/8 in.	THX9421R5021WG Prestige® IAQ 2-Wire Thermostat		
THP2400A1019/U		Arctic White	Thermostat cover plate assembly. Use to cover marks on the wall or to mount the thermostat to a 2 in. X 4 in. electrical box. Includes one cover plate, one bracket and mounting hardware. Use with RedLINK™ VisionPRO thermostats.	VisionPRO® 8000 with RedLINK®.		
THP9045A1023/U		Gray	Wiring module that connects to “K” terminal on thermostat and separates into Y and G signals to equipment. Can be used in conventional and heat pump systems requiring one wire more than is available.	THX9000 Series Thermostats, VisionPRO with RedLINK® and Wi-Fi Thermostats	—	

TG510 Versaguard Universal Thermostat Guards

The Versaguard® Universal Thermostat Guards cover wall thermostats and protect against tampering, damage and unauthorized adjustment of thermostat settings.

- Unique double-wall construction provides extra measure of tamper-resistance.
- Used in both new and existing applications.
- Tamper-resistant lock; key cannot be removed unless in locked position.
- All models mount vertically or horizontally on wall or exposed junction box.
- Vents in guard base allow airflow for optimum thermostat performance.

Inside Height: 4 7/16 in. (113 mm)
Inside Width: 4 7/16 in. (113 mm)
Outside Height: 5 7/8 in. (149 mm)
Outside Width: 5 7/8 in. (149 mm)

Outside Depth: 2 1/2 in. (64 mm)

Accessories:
191990A-Replacement Keys (set of 2) for TG509, TG510, TG511 and TG512

	Product Number	Size	Color	Ring Base Color	Wallplate Color	Description	Used With
*	**TG510A1001/U**	small	Clear Acrylic	clear acrylic	Opaque Polystyrene	Small universal thermostat guard Clear cover, clear base opaque wallplate Fits T87 RS TX400	T87 and others of similar size
	TG510D1005/U	small	Painted metal	opaque polystyrene	Opaque Polystyrene	Small Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate	T87 and others of similar size

** TRADELINE models • SUPER TRADELINE models*

TG511 Versaguard Universal Thermostat Guards

The Versaguard® Universal Thermostat Guards cover wall thermostats and protect against tampering, damage and unauthorized adjustment of thermostat settings.

- Unique double-wall construction provides extra measure of tamper-resistance.
- Used in both new and existing applications.
- Tamper-resistant lock; key cannot be removed unless in locked position.
- All models mount vertically or horizontally on wall or exposed junction box.
- Vents in guard base allow airflow for optimum thermostat performance.

Inside Height: 5 1/16 in. (129 mm)
Inside Width: 6 1/16 in. (154 mm)
Outside Height: 6 1/2 in. (165 mm)
Outside Width: 7 1/2 in. (191 mm)

Outside Depth: 2 15/16 in. (75 mm)

Accessories:
191990A-Replacement Keys (set of 2) for TG509, TG510, TG511 and TG512

	Product Number	Size	Color	Ring Base Color	Wallplate Color	Description	Used With
*	**TG511A1000/U**	medium	Clear Acrylic	clear acrylic	Opaque Polystyrene	Medium Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T822, T834, T8034, T841, T874 with Q674, WR1F46, and others	TH3000 Series, TH4000 Series, TH5000 Series, TH6000 Series, TH8000 Series, Others thermostats of similar size
	TG511D1004/U	medium	Painted metal	opaque polystyrene	Opaque Polystyrene	Medium Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T822, T834, T8034, T841, T874 with Q674, and others	TH3000 Series, TH4000 Series, TH5000 Series, TH6000 Series, TH8000 Series, Others thermostats of similar size

** TRADELINE models • SUPER TRADELINE models*

Thermostat Guards

TG512 Versaguard Universal Thermostat Guards

The Versaguard® Universal Thermostat Guards cover wall thermostats and protect against tampering, damage and unauthorized adjustment of thermostat settings.

- Unique double-wall construction provides extra measure of tamper-resistance.
- Used in both new and existing applications.
- Tamper-resistant lock; key cannot be removed unless in locked position.
- All models mount vertically or horizontally on wall or exposed junction box.
- Vents in guard base allow airflow for optimum thermostat performance.

Inside Height: 5 7/8 in. (149 mm)
Inside Width: 8 3/8 in. (213 mm)
Outside Height: 7 1/4 in. (184 mm)
Outside Width: 9 3/4 in. (248 mm)

Outside Depth: 3 3/8 in. (86 mm)

Accessories:
191990A-Replacement Keys (set of 2) for TG509, TG510, TG511 and TG512

	Product Number	Size	Color	Ring Base Color	Wallplate Color	Description	Used With
*	**TG512A1009/U**	large	Clear Acrylic	clear plastic	Opaque Polystyrene	Large Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T8082, T8085, T8600, and most electronic thermostats	TH5000 Series, TH6000 Series, TH8000 Series, Others thermostats of similar size
	TG512D1003/U	large	Painted metal	opaque polystyrene	Opaque Polystyrene	Large Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T8082, T8085, T8600, and most electronic thermostats	TH5000 Series, TH6000 Series, TH8000 Series, Others thermostats of similar size

** TRADELINE models • SUPER TRADELINE models*

TrueZONE® HZ432 Panel

TrueZONE® HZ432 Panel for conventional, heat pump or dual fuel applications expandable up to 32 zones (3H/2C)

- Intuitive Installer setup. Easy-to-follow, digital display uses real language to guide installer through four easy steps
- Standard Checkout Procedure
- Robust Push Terminals
- Variable-Speed Fan Control
- Discharge Air Temperature Staging
- Advanced Dual-Fuel Operation
- Use with TAZ-4 Add-A-Zone to expand to 32 zones
- RedLINK™ enabled for up to 4 wireless zones when used with THM4000R1000 Wireless Adapter
- Controls up to 3 Heat/2 Cool conventional or heat pump
- Controls up to two stages compressor and two stages fossil fuel in dual fuel mode

Application: Zoning
Available for: 4 Zones
Auto Changeover: Yes
Discharge Air Temperature Compatible: Yes

Individual Zone Fan Control: Yes
Resettable Fuse: Yes
Voltage: 24V

Product Number	Stages	Number of Zones	LEDs	Heat Pump Compatible	Emergency Heat Switch	Includes
HZ432/U	3 Heat/2 Cool	4 Zone, Expandable	Yes	Yes	Yes	—
HZ432K/U	3 Heat/2 Cool	4 Zone, Expandable	Yes	Yes	Yes	HZ432 Zone Control Panel, AT140 Transformer, C7735A Discharge Air Temperature Sensor

TrueZONE® HZ322 Panel

TrueZONE® HZ322 Panel for conventional and heat pump applications up to 3 zones (2H/2C).

- Intuitive Installer setup. Easy-to-follow, digital display uses real language to guide installer through four easy steps
- Standard Checkout Procedure
- Robust Push Terminals
- Smaller Footprint
- Variable-Speed Fan Control
- Discharge Air Temperature Staging
- RedLINK™ enabled for wireless operation when used with THM4000R1000 wireless adapter
- Controls up to 2 Heat/2 Cool conventional or 2 Heat/1 Cool heat pump

Application: Zoning
Available for: 3 Zones
Auto Changeover: Yes
Discharge Air Temperature Compatible: Yes

Individual Zone Fan Control: Yes
Resettable Fuse: Yes
Voltage: 24V

Product Number	Stages	Number of Zones	LEDs	Heat Pump Compatible	Emergency Heat Switch	Includes
HZ322/U	2 Heat/2 Cool	3 Zone	Yes	Yes	Yes	—
HZ322K/U	2 Heat/2 Cool	3 Zone	Yes	Yes	Yes	HZ322 Zone Control Panel, AT140 Transformer, C7735A Discharge Air Temperature Sensor

TrueZONE Zoning Panels and Kits

TrueZONE® HZ311 Panel

TrueZONE® HZ311 Panel for conventional, single stage applications up to 3 zones (1H/1C).

- Robust Push Terminals
- Common-Sense LEDs
- Clean, Professional Installation
- Smaller Footprint
- Variable-Speed Fan Control

Application: Zoning
Available for: 3 Zones
Auto Changeover: Yes
Discharge Air Temperature Compatible: Yes
Individual Zone Fan Control: Yes
Resettable Fuse: Yes
Voltage: 24V

Product Number	Stages	Number of Zones	LEDs	Heat Pump Compatible	Includes
HZ311/U	1 Heat/1 Cool	3 Zone	Yes	No	—
HZ311K/U	1 Heat/1 Cool	3 Zone	Yes	No	HZ311 Zone Control Panel, AT140 Transformer, C7735A Discharge Air Temperature Sensor

TrueZONE® HZ221 Panel

TrueZONE® HZ221 Panel for single stage heat pumps with auxiliary heat applications up to two zones.

- Robust Push Terminals
- Common-Sense LEDs
- Clean, Professional Installation
- Smaller Footprint
- Variable-Speed Fan Control

Application: Zoning
Available for: 2 Zones
Auto Changeover: Yes
Discharge Air Temperature Compatible: Yes
Individual Zone Fan Control: Yes
Resettable Fuse: Yes
Voltage: 24V

Product Number	Stages	Number of Zones	LEDs	Heat Pump Compatible	Emergency Heat Switch	Includes
HZ221/U	1 stage heat pump with auxiliary heat	2 Zone	Yes	Yes/Heat Pump Only	Yes	—
HZ221K/U	1 stage heat pump with auxiliary heat	2 Zone	Yes	Yes/Heat Pump Only	Yes	HZ221 Zone Control Panel, AT140 Transformer, C7735A Discharge Air Temperature Sensor

TotalZONE™ Add-A-Zone (TAZ) Panel

Zone panel used to add zones to HZ432.

- Used with HZ432 TrueZONE Panel to expand number of zones
- Use multiple TAZ-4 Control Panels to control up to 32 zones

Application: Zoning - add a zone panel (4-zone)
Auto Changeover: Yes
Compatible with Supply Air Sensor: No
Discharge Air Temperature Compatible: Yes
Individual Zone Fan Control: Yes
Resettable Fuse: Yes
Voltage: 24V

Product Number	Stages	Number of Zones	LEDs	Heat Pump Compatible	Emergency Heat Switch
TAZ-4/U	3 Heat/2 Cool	4 Zone	Yes	Yes	No

C7735 Return Air Sensor

Mount on return duct for backup control of non-zoned RedLINK™ enabled wireless systems. Works with the EIM to maintain safe indoor temperatures if power is lost at the wireless thermostat.

- Works with THM5320R1000 Equipment Interface Module to maintain safe indoor temperatures if power is lost at the wireless thermostat
- Takes control of the equipment by turning on the blower fan and sensing the indoor temperature of the home
- Controls heating at 62 F and cooling at 82 F
- Provides homeowners with peace of mind
- Installs in minutes
- Includes mounting hardware

Application: Mount on return duct for backup control of non-zoned systems
Dimensions, Approximate: 3 7/8 in. high x 4 1/8 in. wide x 1 1/4 in. deep (77 mm x 102 mm x 25 mm). Sensor probe: 3 3/4 in. long (77 mm)

Color: Gray
Operating Temperature Range: 0 F to 200 F (-17.8 C to 93.3 C)
Mounting: Mounts on return duct

Product Number	Comments	Used With
C7735A1000/U	Return Air Sensor is also available in kits for non-zoned systems	THM5320R1000 Equipment Interface Module; TH6320R1004 or TH5320R1002 Wireless FocusPRO® Thermostat

Zone Control Panel Accessories

Product Number	Description	
FPC/U	Freeze Protection Control - Breaks Y circuit to compressor below 36 F and remakes at 46 F	
MSTN/U	Power Open Power Close Damper Actuator	
SDCR/U	Slave Damper Control Relay	
SPC/U	Static Pressure Control - Used with MARD for bypass control	

Bypass Dampers

TrueZONE Bypass Damper (CPRD)

The TrueZONE® Bypass constant pressure regulating damper (CPRD) is a round static pressure relief damper. It is used in forced-air bypass applications to relieve excess static pressure when some of the zone dampers are closed.

- Quick installation and setup
- No weight to adjust
- Can be installed in any orientation
- Engineered to provide constant system pressure regardless of changes in zones celling or blower speed

Application: Constant Pressure Regulating (Bypass) Damper
Damper Type: Bypass
Shape: Round
Motor: Cal brated spring tension regulator

Product Number	Size		Description
	in.	mm	
CPRD8/U	8 in. Diameter	203 mm diameter	8 in. Round Constant Pressure Regulating Damper
CPRD10/U	10 in. Diameter	254 mm diameter	10 in. Round Constant Pressure Regulating Damper
CPRD12/U	12 in. Diameter	305 mm diameter	12 in. Round Constant Pressure Regulating Damper
CPRD14/U	14 in. Diameter	356 mm diameter	14 in. Round Constant Pressure Regulating Damper

Replacement Regulator for CPRD

Product Number	Application	Description
CPR8/U	Replacement regulator for CPRD	8 in. TrueZONE Bypass replacement regulator
CPR10/U	Replacement regulator for CPRD	10 in. TrueZONE Bypass replacement regulator
CPR12/U	Replacement regulator for CPRD	12 in. TrueZONE Bypass replacement regulator
CPR14/U	Replacement regulator for CPRD	14 in. TrueZONE Bypass replacement regulator

Static Pressure Regulating Damper (SPRD)

Single-blade, steel barometric damper used to bypass excess air when majority of zone dampers are closed.

- Counter-balanced weighted arm to control bypass air for zoned systems
- Air pressure in duct system increases as zone dampers close, pushing the SPRD open automatically
- Arm and weight both adjustable to control amount of air bypassed
- Recommended for low pressure systems with less than 0.5 in. wc
- For larger systems and tighter pressure control, use MARD damper and static pressure controller (SPC)
- Additional weights available

Application: Static Pressure Regulating Damper
Motor Type: Weighted damper arm

Product Number	Shape	Size (in.)	Motor Type	Used With
SPRD8/U	Round	6 in. Diameter	Weighted damper arm	Honeywell zoning systems
SPRD7/U	Round	7 in. Diameter	Weighted damper arm	Honeywell zoning systems
SPRD10/U	Round	10 in. Diameter	Weighted damper arm	Honeywell zoning systems
SPRD12/U	Round	12 in. Diameter	Weighted damper arm	Honeywell zoning systems
SPRD14/U	Round	14 in. Diameter	Weighted damper arm	Honeywell zoning systems
SPRD16/U	Round	16 in. Diameter	Weighted damper arm	Honeywell zoning systems

SPRD Damper Replacement Parts

Product Number	Description
32005688-001/U	SPRD Weight
32005981-003/U	SPRD Counterweight Assembly (includes, arm, coupling, and weight). Used with SPRD 6, 8,9 and SPRD12x8, 20x8, 12x10, and 20x10.
32005981-004/U	SPRD Counterweight Assembly (includes arm, coupling, and weight). Used with SPRD10, 12,14,16, and SPRD12x12 and 20x12.

Automatic Round Damper (ARD)

Round damper with 24-volt, spring return damper motor used to control volume of circulating air in heating, cooling, and ventilating systems.

- Galvanized steel
- Single-blade damper
- Shipped as power closed/spring return open damper for use with Honeywell Zoning Systems
- Can be field-converted to power open/spring return closed damper when used as an independent zone or for fresh air intake
- Blade closes off tightly against gasket for minimal leakage
- Rated to operate up to 1 in. wc
- Available in 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, and 20 in. diameter sizes

Application: Zone Damper
Voltage: 24V
Wires to Motor: 2
Motor Timing: 30 seconds power open/10 seconds spring return
Other Motor Information: Range stops

Product Number	Shape	Size (in.)	Motor Mount	Motor Type	Description
ARD5/U	Round	5 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD6/U	Round	6 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD7/U	Round	7 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD8/U	Round	8 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD9/U	Round	9 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD10/U	Round	10 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD12/U	Round	12 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD14/U	Round	14 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD16/U	Round	16 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD18/U	Round	18 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper
ARD20/U	Round	20 in. Diameter	Top; Side	Power closed, spring open, revers ble	Spring Return Round Damper

EARD Fresh Air Damper

The EARD is a round damper with a 24 Vac powered-open/spring-closed motor. It is used for fresh air intake for ventilation or for combustion makeup air.

- Adjustable damper position range stops
- Single-blade damper
- Shipped as power open/spring return closed damper
- Galvanized steel
- Quiet operation
- Can be field-converted to power closed/spring return open damper
- Blade closes off tightly against gasket for minimal leakage
- Male (crimped) and female (uncrimped) ends to connect to any rigid or flexible round duct

Application: Fresh Air Damper
Voltage: 24V
Wires to Motor: 2
Motor Timing: 30 seconds power closed/10 seconds spring return
Other Motor Information: Range stops

Product Number	Shape	Size (in.)	Motor Mount	Motor Type	Description
EARD6/U	Round	6 in. Diameter	Top; Side	Power open, spring closed, reversible	Spring Return Round Damper
EARD8/U	Round	8 in. Diameter	Top; Side	Power open, spring closed, reversible	Spring Return Round Damper

Zone Control Dampers

Modulating Automatic Round Dampers (MARD)

The Modulating Automatic Round Damper is a round damper with a 24-Vac, floating-control type modulating motor for bypass and zone damper control.

- Uses 90-second open to closed motor
- Can be used as a zone damper
- ML6161 is replacement motor
- Available in 6, 8, 10, 12, 14, 16, and 18 in. diameter sizes
- Used with Static Pressure Control (SPC) for bypass applications

Application: Motorized Bypass or Zone Damper
Voltage: 24V
Motor Type: Floating
Wires to Motor: 3
Motor Timing: 90 seconds

Product Number	Shape	Size (in.)	Motor Mount	Description
MARD6/U	Round	6 in. Diameter	Top; Side	Power Open, Power Close Damper
MARD8/U	Round	8 in. Diameter	Top; Side	Power Open, Power Close Damper
MARD10/U	Round	10 in. Diameter	Top; Side	Power Open, Power Close Damper
MARD12/U	Round	12 in. Diameter	Top; Side	Power Open, Power Close Damper
MARD14/U	Round	14 in. Diameter	Top; Side	Power Open, Power Close Damper
MARD16/U	Round	16 in. Diameter	Top; Side	Power Open, Power Close Damper
MARD18/U	Round	18 in. Diameter	Top; Side	Power Open, Power Close Damper

Retrofit Round Damper (RRD)

The RRD is a round damper that is easily inserted into rigid round ducts for retrofit zoning in forced air heating and cooling systems. It is available in four sizes for use in 5 in., 6 in., 7 in., and 8 in. ducts. The damper is used with Honeywell HZ221, HZ311, HZ322, HZ432 and similar zone control systems. The power open, power closed actuator draws 2 VA allowing multiple dampers per zone, but delivers high torque for reliable operation.

- Easy slide-in installation
- 2 VA allows for many dampers on one zone
- Available in 4 sizes to fit most rigid round branch ducts
- Quiet, long life motor automatically shuts itself off in full open and closed positions
- Gaskets around blade and under motor housing for low internal leakage and very low external leakage
- Range stops with easy adjustment from top of motor
- Easy to see and reliable mechanical blade position indicator
- Easy to hook up with conventional thermostat wire
- Simple manual blade positioning with push button gear release

Application: Zone Damper
Voltage: 24V
Wires to Motor: 3
Motor Timing: 90 seconds
Other Motor Information: Range stops

Product Number	Shape	Size (in.)	Motor Mount	Motor Type	Description
RRD5/U	Round	5 in. Diameter	Direct connection to damper shaft	Power open/Power close	Retrofit Round Damper
RRD6/U	Round	6 in. Diameter	Direct connection to damper shaft	Power open/Power close	Retrofit Round Damper
RRD7/U	Round	7 in. Diameter	Direct connection to damper shaft	Power open/Power close	Retrofit Round Damper
RRD8/U	Round	8 in. Diameter	Direct connection to damper shaft	Power open/Power close	Retrofit Round Damper

ZD Series Dampers

The ZD is a power close and spring open damper. It has a 24-volt motor used to control circulating air in heating, cooling and ventilating systems. It is used when a normally-open damper is required. The ZD is typically used with the TrueZONE systems and other electronic zoning systems.

- Adjustable range stops
- Mechanical visual position indicator for damper status
- Solid construction using extruded aluminum frame and blades
- Parallel blade design for low leakage performance
- Simple, easy-to-wire, two-wire installation
- Reliable, strong, 24-volt spring-return motor
- Fail-safe, normally open operation
- Ordering Instructions: Order ZD (dimension 1) x (dimension 2). (Motor is always mounted on dimension 2 side.) For example, ZD10x8 is a 10 in. x 8 in. damper with the motor on the 8 in. side; but a ZD8x10 is a 8 in. x 10 in. damper that has the motor on the 10 in. side.
- Damper can be installed in any orientation (mounting side can be on either the bottom or the side of the duct)

Application: Parallel Blade Damper
Voltage: 24V
Wires to Motor: 2
Motor Timing: 30 seconds power open/10 seconds spring return
Other Motor Information: Range stops

Product Number	Shape	Size (in.)	Motor Mount	Motor Type	Used With
ZD6X6/U	Square	6 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD6X8/U	Rectangular	6 in. x 8 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X10/U	Rectangular	6 in. x 10 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X12/U	Rectangular	6 in. x 12 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X14/U	Rectangular	6 in. x 14 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X16/U	Rectangular	6 in. x 16 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X18/U	Rectangular	6 in. x 18 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X20/U	Rectangular	6 in. x 20 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X22/U	Rectangular	6 in. x 22 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X24/U	Rectangular	6 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD6X28/U	Rectangular	6 in. x 26 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X6/U	Rectangular	8 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD8X8/U	Square	8 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD8X10/U	Rectangular	8 in. x 10 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X12/U	Rectangular	8 in. x 12 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X14/U	Rectangular	8 in. x 14 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X16/U	Rectangular	8 in. x 16 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X18/U	Rectangular	8 in. x 18 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X20/U	Rectangular	8 in. x 20 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X22/U	Rectangular	8 in. x 22 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X24/U	Rectangular	8 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X26/U	Rectangular	8 in. x 26 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD8X28/U	Rectangular	8 in. x 28 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD10X6/U	Rectangular	10 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD10X8/U	Rectangular	10 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD10X10/U	Square	10 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD10X12/U	Rectangular	10 in. x 12 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD10X14/U	Rectangular	10 in. x 14 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD10X16/U	Rectangular	10 in. x 16 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD10X18/U	Rectangular	10 in. x 18 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD10X20/U	Rectangular	10 in. x 20 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD10X22/U	Rectangular	10 in. x 22 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD10X24/U	Rectangular	10 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems

Zone Control Dampers

Product Number	Shape	Size (in.)	Motor Mount	Motor Type	Used With
ZD10X26/U	Rectangular	10 in. x 26 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD10X28/U	Rectangular	10 in. x 28 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD12X6/U	Rectangular	12 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD12X8/U	Rectangular	12 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD12X10/U	Rectangular	12 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD12X12/U	Square	12 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD12X14/U	Rectangular	12 in. x 14 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD12X16/U	Rectangular	12 in. x 16 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD12X18/U	Rectangular	12 in. x 18 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD12X20/U	Rectangular	12 in. x 20 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD12X22/U	Rectangular	12 in. x 22 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD12X24/U	Rectangular	12 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD12X26/U	Rectangular	12 in. x 26 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD12X28/U	Rectangular	12 in. x 28 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD14X6/U	Rectangular	14 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD14X8/U	Rectangular	14 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD14X10/U	Rectangular	14 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD14X12/U	Rectangular	14 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD14X14/U	Square	14 in. x 14 in.	Side	power closed, spring open	Honeywell zoning systems
ZD14X16/U	Rectangular	14 in. x 16 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD14X18/U	Rectangular	14 in. x 18 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD14X20/U	Rectangular	14 in. x 20 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD14X22/U	Rectangular	14 in. x 22 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD14X24/U	Rectangular	14 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD14X26/U	Rectangular	14 in. x 26 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD14X28/U	Rectangular	14 in. x 28 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD16X6/U	Rectangular	16 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD16X8/U	Rectangular	16 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD16X10/U	Rectangular	16 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD16X12/U	Rectangular	16 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD16X14/U	Rectangular	16 in. x 14 in.	Side	power closed, spring open	Honeywell zoning systems
ZD16X16/U	Square	16 in. x 16 in.	Side	power closed, spring open	Honeywell zoning systems
ZD16X18/U	Rectangular	16 in. x 18 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD16X20/U	Rectangular	16 in. x 20 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD16X22/U	Rectangular	16 in. x 22 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD16X24/U	Rectangular	16 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD16X26/U	Rectangular	16 in. x 26 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD18X6/U	Rectangular	18 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD18X8/U	Rectangular	18 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD18X10/U	Rectangular	18 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD18X12/U	Rectangular	18 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD18X14/U	Rectangular	18 in. x 14 in.	Side	power closed, spring open	Honeywell zoning systems
ZD18X16/U	Rectangular	18 in. x 16 in.	Side	power closed, spring open	Honeywell zoning systems
ZD18X18/U	Square	18 in. x 18 in.	Side	power closed, spring open	Honeywell zoning systems
ZD18X20/U	Rectangular	18 in. x 20 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD18X22/U	Rectangular	18 in. x 22 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD18X24/U	Rectangular	18 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD18X26/U	Rectangular	18 in. x 26 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD20X6/U	Rectangular	20 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD20X8/U	Rectangular	20 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD20X10/U	Rectangular	20 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems

Product Number	Shape	Size (in.)	Motor Mount	Motor Type	Used With
ZD20X12/U	Rectangular	20 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD20X14/U	Rectangular	20 in. x 14 in.	Side	power closed, spring open	Honeywell zoning systems
ZD20X16/U	Rectangular	20 in. x 16 in.	Side	power closed, spring open	Honeywell zoning systems
ZD20X18/U	Rectangular	20 in. x 18 in.	Side	power closed, spring open	Honeywell zoning systems
ZD20X20/U	Square	20 in. x 20 in.	Side	power closed, spring open	Honeywell zoning systems
ZD20X22/U	Rectangular	20 in. x 22 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD20X24/U	Rectangular	20 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD22X6/U	Rectangular	22 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X8/U	Rectangular	22 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X10/U	Rectangular	22 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X12/U	Rectangular	22 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X14/U	Rectangular	22 in. x 14 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X16/U	Rectangular	22 in. x 16 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X18/U	Rectangular	22 in. x 18 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X20/U	Rectangular	22 in. x 20 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X22/U	Square	22 in. x 22 in.	Side	power closed, spring open	Honeywell zoning systems
ZD22X24/U	Rectangular	22 in. x 24 in.	Bottom	power closed, spring open	Honeywell zoning systems
ZD24X6/U	Rectangular	24 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X8/U	Rectangular	24 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X10/U	Rectangular	24 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X12/U	Rectangular	24 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X14/U	Rectangular	24 in. x 14 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X16/U	Rectangular	24 in. x 16 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X18/U	Rectangular	24 in. x 18 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X20/U	Rectangular	24 in. x 20 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X22/U	Rectangular	24 in. x 22 in.	Side	power closed, spring open	Honeywell zoning systems
ZD24X24/U	Square	24 in. x 24 in.	Side	power closed, spring open	Honeywell zoning systems
ZD26X8/U	Rectangular	26 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD26X10/U	Rectangular	26 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD26X12/U	Rectangular	26 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD26X14/U	Rectangular	26 in. x 14 in.	Side	power closed, spring open	Honeywell zoning systems
ZD26X16/U	Rectangular	26 in. x 16 in.	Side	power closed, spring open	Honeywell zoning systems
ZD26X18/U	Rectangular	26 in. x 18 in.	Side	power closed, spring open	Honeywell zoning systems
ZD26X20/U	Rectangular	26 in. x 20 in.	Side	power closed, spring open	Honeywell zoning systems
ZD28X6/U	Rectangular	28 in. x 6 in.	Side	power closed, spring open	Honeywell zoning systems
ZD28X8/U	Rectangular	28 in. x 8 in.	Side	power closed, spring open	Honeywell zoning systems
ZD28X10/U	Rectangular	28 in. x 10 in.	Side	power closed, spring open	Honeywell zoning systems
ZD28X12/U	Rectangular	28 in. x 12 in.	Side	power closed, spring open	Honeywell zoning systems
ZD28X14/U	Rectangular	28 in. x 14 in.	Side	power closed, spring open	Honeywell zoning systems
ZD28X16/U	Rectangular	28 in. x 16 in.	Side	power closed, spring open	Honeywell zoning systems
ZD28X20/U	Rectangular	28 in. x 18 in.	Side	power closed, spring open	Honeywell zoning systems

Zoning Damper Accessories

Application: Accessory

Product Number	Description	Includes
32006184-001/U	Filler strip kit used to install ZD dampers in odd sized ducts	1 1/8 in. x 3/4 in. adhesive-backed foam strips

Zone Control Damper Accessories

AT140 Universal Mount Transformer

The AT140 is a 24V, 40VA universal mount transformer.

- Provides a low voltage power source for any Honeywell zone control panel or damper
- Powers up to 5 ZD or ARD damper motors and 14 RRD damper motors from one 40VA transformer
- Mounting options include plate or foot mounting
- 120/240 VAC primary

Application: Accessory

Product Number	Voltage
AT140A1042/U	120/240V Primary, 24V Secondary 40VA

M847D Damper Actuator

The M847D is a two position, 24 Vac spring return actuator designed to operate ARD, EARD and ZD zone dampers.

- Low voltage, spring-return damper actuator
- Equipped with anti-rotation and drive shaft extensions for direct mounting to 7/16 inch diameter coupling style dampers
- Adjustable range stops
- Direct replacement for M847D1004

Application: Damper Actuator
Voltage: 24V
Wires to Motor: 2
Motor Timing: 30 seconds powered/10 seconds spring return
Other Motor Information: Range stops

Product Number	Motor Mount	Motor Type	Description
M847D1012/U	Direct connection to damper shaft	Spring return	Spring Return Damper Actuator

TrueCLEAN™ Enhanced Air Cleaner

FH8000A

FH8000F

Application: Duct mounted
Efficiency Standard: Efficiency ratings are based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-1999. Efficiency ranges are defined for small particles, E1=0.3 to 1.0 microns; medium particles, E2=1.0 to 3.0 microns; and large particles, E3=3.0 to 10.0 microns.
Fractional Efficiency: E1=90%, E2=96%, E3=99%
Frequency: 60 Hz
Minimum Efficiency Reporting Value: MERV 15
Approvals
Canadian Standards Association: CSA 22.2 No. 187-09
Filter Element: UL900
Underwriters Laboratories, Inc: CSA 22.2 No. 187-09
Filter Element: UL900

TrueCLEAN Air Handler Models

	Product Number	Air Cleaner Size Dimensions, Approximate (inch)	Air Cleaner Size Dimensions, Approximate (mm)	Airflow Max. Capacity (cfm)	Airflow Max. Capacity (m^3/hr)	Electrical Ratings	Static Pressure Drop (in. w.c.)	Replacement Filters
*	**FH8000A1620/U**	16 in. x 20 in.	406 mm x 508 mm	1350 cfm	3000 m^3/hr	230 Vac, 0.5 A max	0.22 at 500 FPM	FR8000A1620
*	**FH8000A2020/U**	20 in. x 20 in.	508 mm x 508 mm	1800 cfm	3060 m^3/hr	230 Vac, 0.5 A max	0.25 at 500 FPM	FR8000A2020
*	**FH8000A2520/U**	25 in. x 20 in.	635 mm x 508 mm	2000 cfm	3400 m^3/hr	230 Vac, 0.5 A max	0.22 at 500 FPM	FR8000A2520

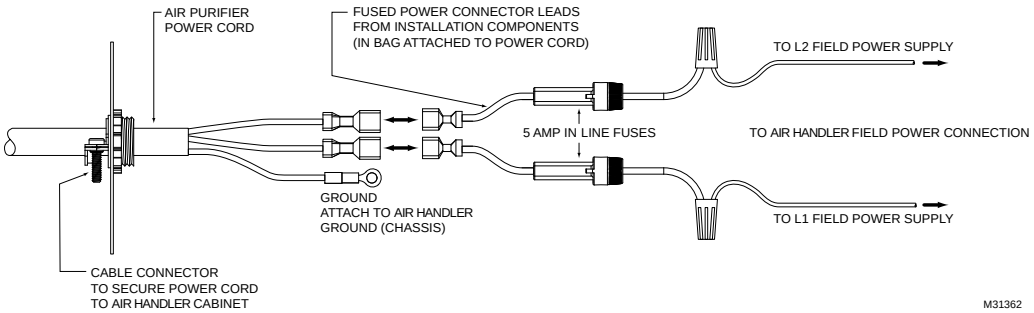
** TRADELINE models • SUPER TRADELINE models*

TrueCLEAN Furnace Models

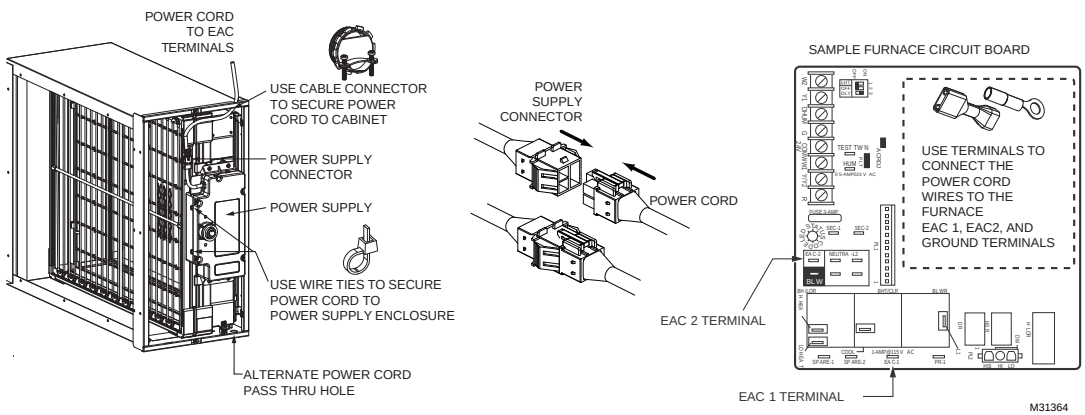
	Product Number	Air Cleaner Size Dimensions, Approximate (inch)	Air Cleaner Size Dimensions, Approximate (mm)	Airflow Max. Capacity (cfm)	Airflow Max. Capacity (m^3/hr)	Electrical Ratings	Static Pressure Drop (in. w.c.)	Replacement Filters
*	**FH8000F1625/U**	16 in. x 25 in.	406 mm x 635 mm	1600 cfm	2720 m^3/hr	120 Vac, 0.5 A max	0.25 at 500 FPM	FR8000F1625
*	**FH8000F2025/U**	20 in. x 25 in.	508 mm x 635 mm	2000 cfm	3400 m^3/hr	120 Vac, 0.5 A max	0.25 at 500 FPM	FR8000F2025

** TRADELINE models • SUPER TRADELINE models*

FH8000A Wiring

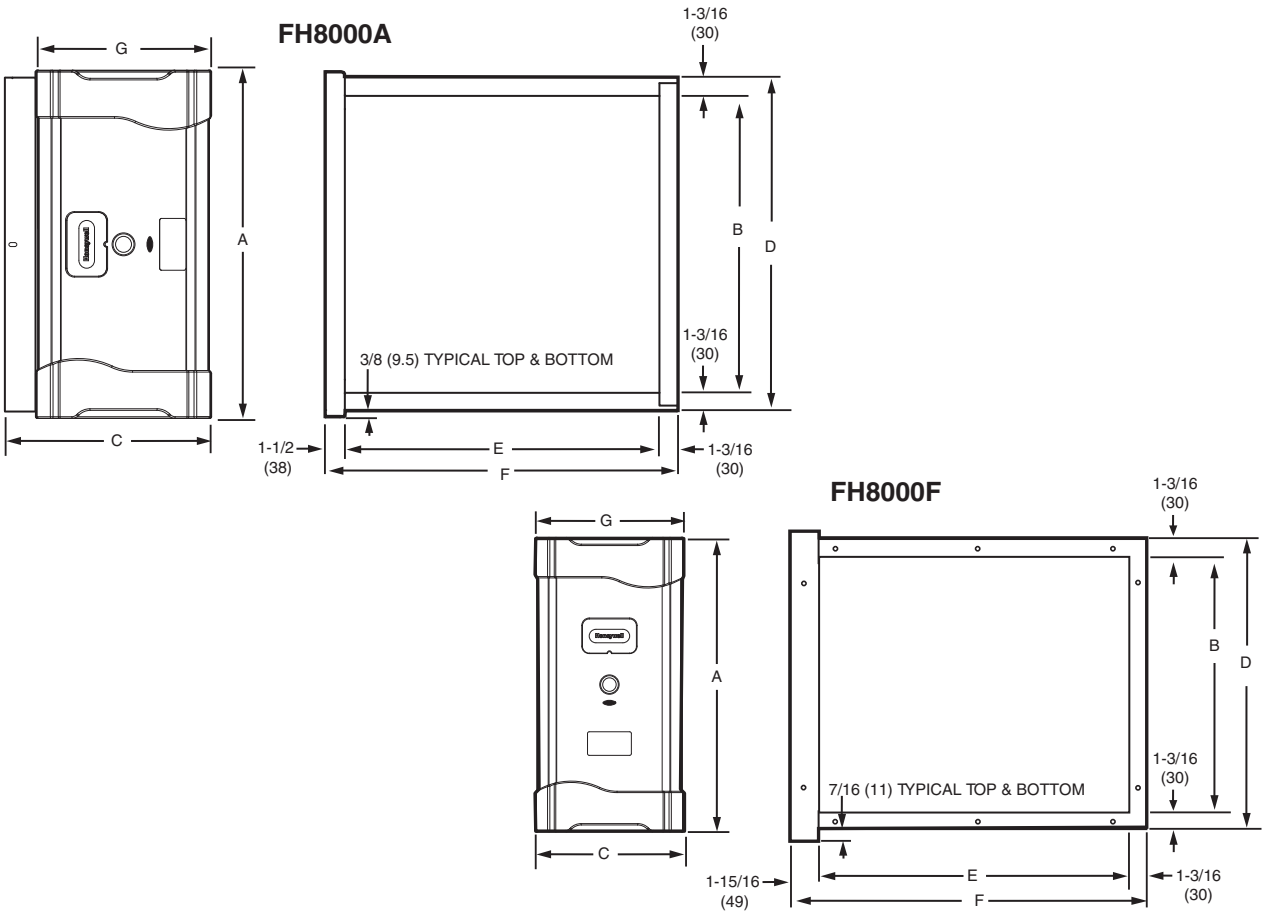


FH8000F Wiring



TrueCLEAN Enhanced Air Cleaner

Dimensions in inches (millimeters)



DIMENSIONS	FH8000A1620	FH8000A2020	FH8000A2520	FH8000F1625	FH8000F2025
A	18-5/8 (473)	22-1/8 (562)	25-5/8 (651)	18-3/8 (467)	21-7/8 (556)
B	15-3/8 (391)	18-7/8 (479)	22-3/8 (568)	15-1/8 (384)	18-5/8 (473)
C	13-1/8 (333)	13-1/8 (333)	13-1/8 (333)	11-1/8 (283)	11-1/8 (283)
D	17-5/8 (448)	21-1/8 (537)	24-5/8 (626)	17-1/2 (445)	21 (533)
E	19-7/8 (505)	19-7/8 (505)	19-7/8 (505)	22-1/8 (562)	22-1/8 (562)
F	22-1/4 (565)	22-1/4 (565)	22-1/4 (565)	25-1/4 (641)	25-1/4 (641)
G	11-1/4 (286)	11-1/4 (286)	11-1/4 (286)	—	—

M34704

F300 High Efficiency Electronic Air Cleaner

Capturing up to 98% of particles (3.0 - 10.0 micron) that pass through the filter, the F300 offers a level of filtration among the highest. It is widely compatible, operating with all gas, oil and electric forced warm air furnaces and air-conditioning systems, and is also available in four convenient sizes to fit most ducts.

- Media post-filter provides enhanced filtration
- Solid state power supply is self-regulating and maintains peak efficiency during a wide range of cell dirt loading conditions
- Low-profile door with test button to check system operation
- Helps filter efficiency-robbing "gunk" before it coats critical system parts
- Very low pressure drop
- Exclusive 10-year Clean Coil Guarantee
- Rugged zinc-coated, roll-formed cabinet provides superior strength and corrosion protection

Application: Duct mounted
Electrical Ratings: 120 Vac, 0.4A max
Frequency: 60 Hz
Efficiency Standard: Efficiency ratings are based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-1999. Efficiency ranges are defined for small particles, E1=0.3 to 1.0 microns; medium particles, E2=1.0 to 3.0 microns; and large particles, E3=3.0 to 10.0 microns.
Approvals
Underwriters Laboratories, Inc: Listed: Report E30954

Accessories:
W8600A1007-AIRWATCH indicator for use with F100F, F200 or F300A,E
W8600F1014-White EAC Performance indicator for use with F50F or F300E

Replacement Parts:
4074EHG-FC37A Terminal Board Repair Kit. Contains 2 connector clips, 1 Terminal Board and instruction sheet
FC37A1049-Electronic Air Cleaner Cell, 9.8 x 20
FC37A1064-Electronic Air Cleaner Cell, 12.4 x 20
FC37A1114-Electronic Air Cleaner Cell, 9.8 x 16
FC37A1130-Electronic Air Cleaner Cell, 12.4 x 16
203365A-Conversion Kit for changing 120V Power Supply to 240V
50000293-001-16x10 Post Filter for 16x20 F300E and F50F
50000293-002-16x12.5 Post Filter for 16x25 F300E and F50F
50000293-003-20x10 Post Filter for 20x20 F300E and F50F
50000293-004-20x12.5 Post Filter for 20x25 and 20x12.5 F300E and F50F

F300 Electronic Air Cleaner

	Product Number	Air Cleaner Size-Dimensions, Approximate (inch)	(mm)	Airflow Max. Capacity (cfm)	(m^3/hr)	Fractional Efficiency	Static Pressure Drop (in. w.c.)	Replacement Filters
*	**F300A1620/U**	16 in. x 20 in.	406 mm x 508 mm	1200 cfm	2040 m^3/hr	E1=73%, E2=88%, E3=95%	0.15 at 500 FPM	50000293-001
*	**F300A1625/U**	16 in. x 25 in.	406 mm x 635 mm	1400 cfm	2380 m^3/hr	E1=73%, E2=88%, E3=95%	0.15 at 500 FPM	50000293-002
*	**F300A2012/U**	20 in. x 12 1/2 in.	508 mm x 318 mm	875 cfm	1487 m^3/hr	E1=73%, E2=88%, E3=95%	0.15 at 500 FPM	50000293-004
*	**F300A2020/U**	20 in. x 20 in.	508 mm x 508 mm	1400 cfm	2380 m^3/hr	E1=73%, E2=88%, E3=95%	0.15 at 500 FPM	50000293-003
*	**F300A2025/U**	20 in. x 25 in.	508 mm x 635 mm	2000 cfm	3400 m^3/hr	E1=73%, E2=88%, E3=95%	0.15 at 500 FPM	50000293-004
*	**F300B2012/U**	20 in. x 12 1/2 in.	508 mm x 318 mm	875 cfm	1487 m^3/hr	E1=73%, E2=88%, E3=95%	0.15 at 500 FPM	50000293-004

** TRADELINE models • SUPER TRADELINE models*

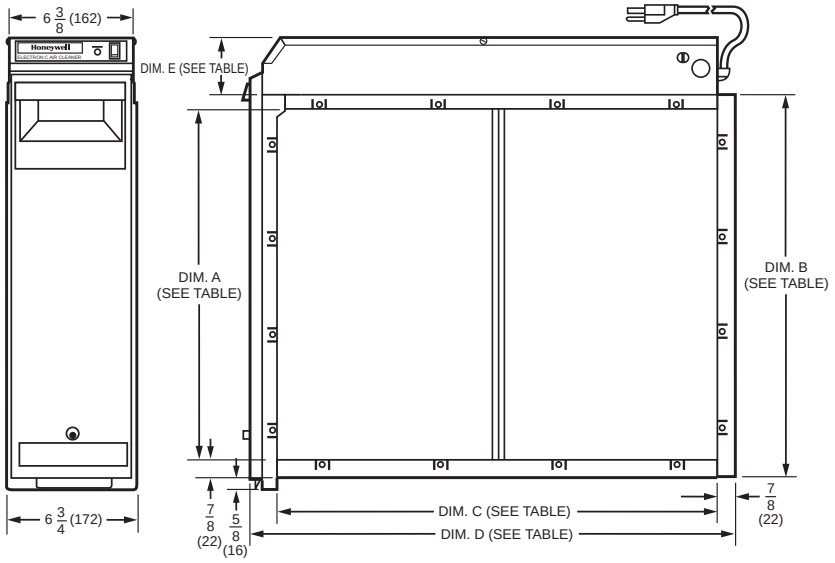
F300 Electronic Air Cleaner with Performance Enhancing Post Filter

	Product Number	Air Cleaner Size-Dimensions, Approximate (inch)	(mm)	Airflow Max. Capacity (cfm)	(m^3/hr)	Fractional Efficiency	Static Pressure Drop (in. w.c.)	Replacement Filters	Comments
*	**F300E1001/U**	16 in. x 20 in.	406 mm x 508 mm	1200 cfm	2040 m^3/hr	E1=81%, E2=93%, E3=99%	0.26 at 500 FPM	50000293-001	Enhanced Filtration
*	**F300E1019/U**	16 in. x 25 in.	406 mm x 635 mm	1400 cfm	2380 m^3/hr	E1=81%, E2=93%, E3=99%	0.26 at 500 FPM	50000293-002	Enhanced Filtration
*	**F300E1027/U**	20 in. x 20 in.	508 mm x 508 mm	1400 cfm	2380 m^3/hr	E1=81%, E2=93%, E3=99%	0.26 at 500 FPM	50000293-003	Enhanced Filtration
*	**F300E1035/U**	20 in. x 25 in.	508 mm x 635 mm	2000 cfm	3400 m^3/hr	E1=81%, E2=93%, E3=99%	0.26 at 500 FPM	50000293-004	Enhanced Filtration

** TRADELINE models • SUPER TRADELINE models*

Electronic Air Cleaners

F300 Electronic Air Cleaner dimensions in inches (millimeters)



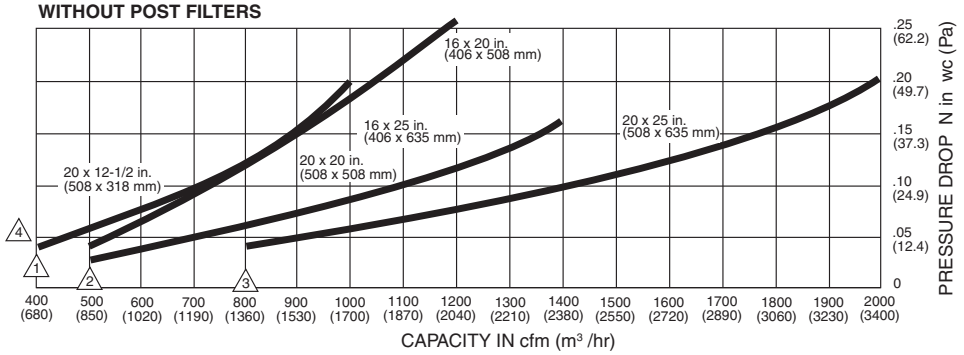
F50F SIZE		DIM. A		DIM. B		DIM. C		DIM. D		DIM. E	
IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
16 X 25	406 X 635	14 7/16	367	16 3/16	411	23 1/4	591	25 1/2	648	2 3/4	70
16 X 20	406 X 508	14 7/16	367	16 3/16	411	18 1/4	457	20 1/2	521	2 3/4	70
20 X 25	508 X 635	18 7/16	468	20 3/16	513	23 1/4	591	25 1/2	648	2 3/4	70
20 X 20	508 X 508	18 7/16	468	20 3/16	513	18 1/4	457	20 1/2	521	2 3/4	70
20 X 12 1/2	508 X 318	18 7/16	468	20 3/16	513	10 7/8	276	13 1/8	333	3 5/8	92

M2872B

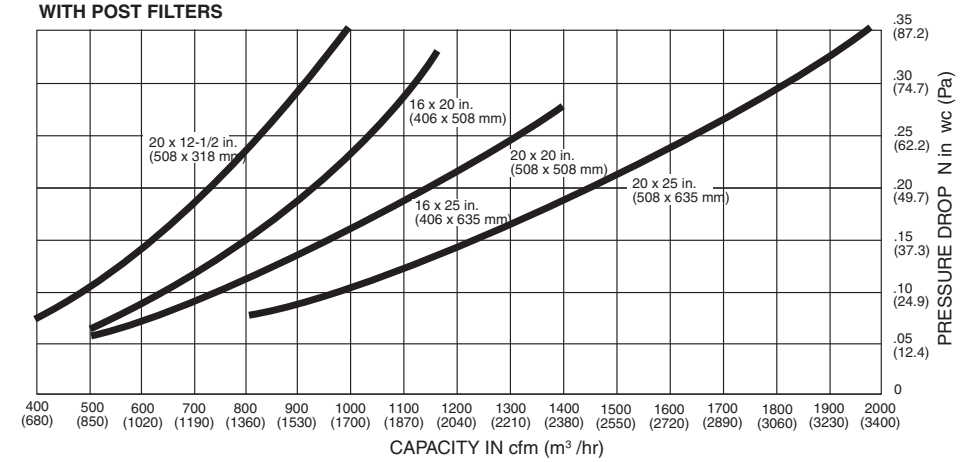
Pressure Drop versus Airflow

AIR CLEANER EFFICIENCY AND PRESSURE DROP AT VARIOUS AIRFLOW RATES.

WITHOUT POST FILTERS



WITH POST FILTERS



1 MINIMUM RECOMMENDED cfm FOR 20 x 12-1/2 in. (508 x 318 mm) MODEL.

2 MINIMUM RECOMMENDED cfm FOR 16 x 25 in. (406 x 635 mm), 20 x 20 in. (508 x 508 mm), 16 x 20 in. (406 x 508 mm) MODELS.

3 MINIMUM RECOMMENDED cfm FOR 20 x 25 in. (508 x 635 mm) MODEL.

4 SELECT SIZE THAT MOST CLOSELY FITS DIMENSIONS OF FURNACE/AIR HANDLER RETURN AIR OPENING

M13654

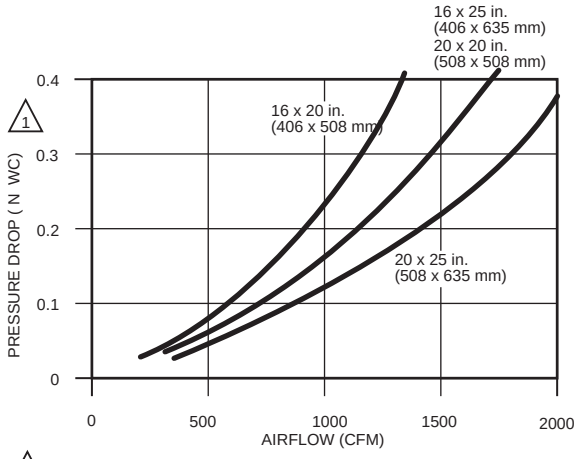
F200 High Efficiency Media Air Cleaner

The F200E Media Air Cleaner captures a significant amount of the airborne particles from the air circulated through the unit. Recommended high efficiency media air quality product.
The F200E Media Air Cleaner includes cabinet, access door and FC200E pleated media filter, and W8600B RF Airwatch Indicator.

- W8600B RF AIRWATCH filter change indicator included
- Integral pressure sensors signal when filter change is required based on increased pressure drop threshold at filter
- Filter change status is transmitted to wall-mounted RF AIRWATCH Indicator
- High efficiency charged-media filter captures particles as small as 0.3 microns
- Applicable to all gas, oil and electric forced air furnaces and to compressor cooling up to 5 tons
- Mounts in the return air duct
- Rugged zinc-coated, roll-formed cabinet resists corrosion and can support weight of residential furnace and evaporator coil
- Requires no electrical connections
- Mounts in any position
- Requires no maintenance except periodic media filter replacement
- Quick and easy media filter replacement
- Later upgrade to higher performing media or electronic air cleaner is easy

Application: Duct mounted
Description: High efficiency Media air cleaner, 4 inch extended Media.
Efficiency Standard: Efficiency ratings are based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-1999. Efficiency ranges are defined for small particles, E1=0.3 to 1.0 microns; medium particles, E2=1.0 to 3.0 microns; and large particles, E3=3.0 to 10.0 microns.
Fractional Efficiency: E1=63%, E2=91%, E3=99%
Minimum Efficiency Reporting Value (Media Filters Only): MERV 13
Static Pressure Drop (in. w.c.): 0.3 at 500 FPM
Approvals
Underwriters Laboratories, Inc: Filter Element: UL Listed, UL900, Class 2

Pressure Drop of FC200 Filter



1 WHEN FIRST INSTALLED. PRESSURE DROP INCREASES AS FILTER BECOMES LOADED. REPLACE FILTER WHEN PRESSURE DROP REACHES 0.5 IN. WC. (0.1 kPa).

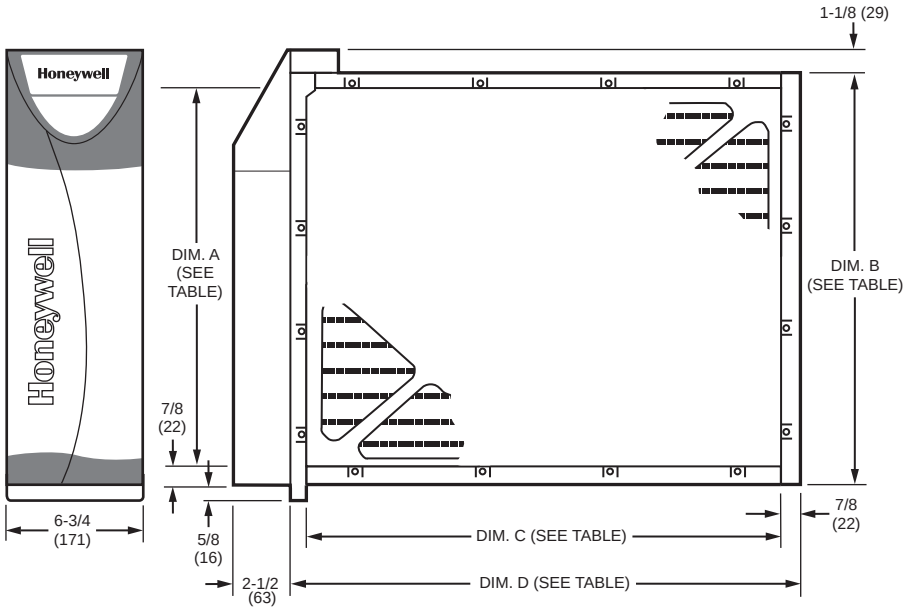
M13662

	Product Number	Air Cleaner Size-Dimensions, Approximate (inch)	(mm)	Airflow Max. Capacity (cfm)	(m^3/hr)	Replacement Filters
*	**F200E1003/U**	16 in. x 20 in.	406 mm x 508 mm	1200 cfm	2040 m^3/hr	FC100A1003, FC200E1003, POPUP1620
*	**F200E1011/U**	20 in. x 20 in.	508 mm x 508 mm	1400 cfm	2380 m^3/hr	FC100A1011, FC200E1011, POPUP2020
*	**F200E1029/U**	16 in. x 25 in.	406 mm x 635 mm	1400 cfm	2380 m^3/hr	FC100A1029, FC200E1029, POPUP1625
*	**F200E1037/U**	20 in. x 25 in.	508 mm x 635 mm	2000 cfm	3400 m^3/hr	FC100A1037, FC200E1037, POPUP2025

** TRADELINE models • SUPER TRADELINE models*

Media Air Cleaners

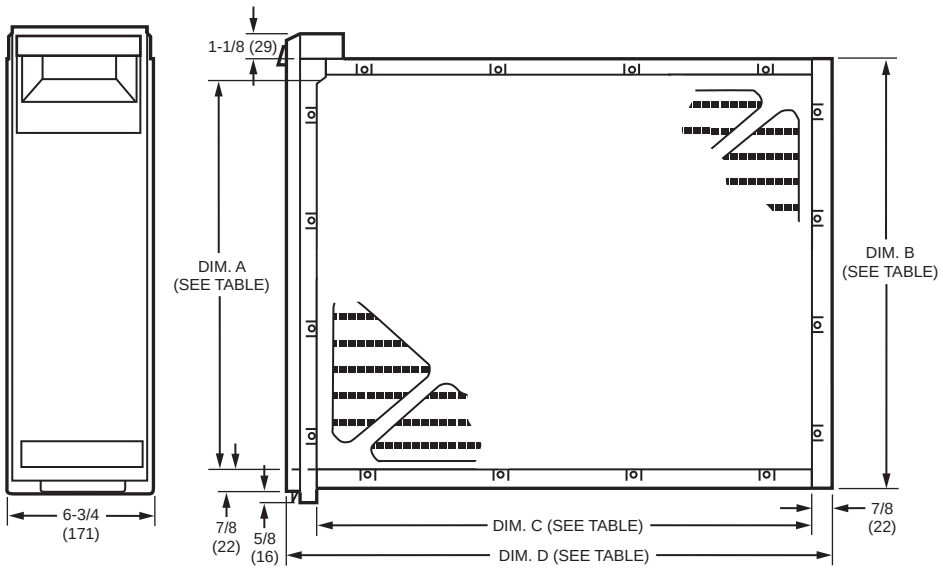
F200 High Efficiency Media Air Cleaner dimensions in inches (millimeters)



F200E SIZE		DIM. A		DIM. B		DIM. C		DIM. D	
IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
16 X 25	406 X 635	14 7/16	367	16 3/16	411	23 1/4	591	25	648
16 X 20	406 X 508	14 7/16	367	16 3/16	411	18 1/4	457	20	521
20 X 25	508 X 635	18 7/16	468	20 3/16	513	23 1/4	591	25	648
20 X 20	508 X 508	18 7/16	468	20 3/16	513	18 1/4	457	20	521

M14784C

F100 Media Air Cleaner dimensions in inches (millimeters)



F100 SIZE		DIM. A		DIM. B		DIM. C		DIM. D	
IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
16 X 25	406 X 635	14 7/16	367	16 3/16	411	23 1/4	591	25 1/2	648
16 X 20	406 X 508	14 7/16	367	16 3/16	411	18 1/4	457	20 1/2	521
20 X 25	508 X 635	18 7/16	468	20 3/16	513	23 1/4	591	25 1/2	648
20 X 20	508 X 508	18 7/16	468	20 3/16	513	18 1/4	457	20 1/2	521
25 X 20	635 X 508	23 5/16	592	25 1/8	638	18 3/8	467	20 5/8	524
25 X 22	635 X 559	23 5/16	592	25 1/8	638	20 1/4	514	22 1/2	572

M14710D

F100F Media Air Cleaner

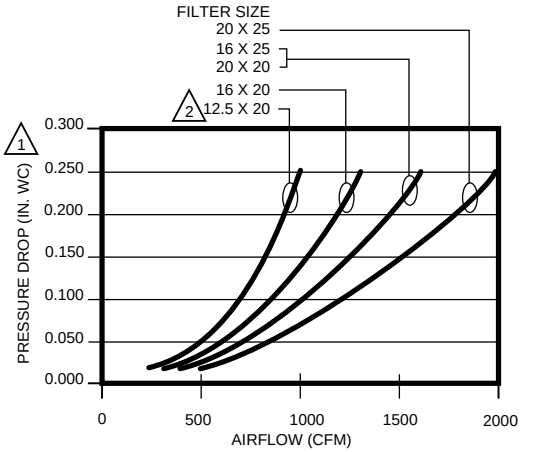
The F100F Media Air Cleaner captures a significant amount of the airborne particles from the air circulated through the unit. Recommended as the basic minimum air quality product. The F100F Media Air Cleaner includes cabinet, access door and FC100A pleated media filter.

- High efficiency media filter captures particles as small as 0.3 microns
- Applicable to all gas, oil and electric forced air furnaces and to compressor cooling up to 5 tons
- Mounts in the return air duct
- Rugged zinc-coated, roll-formed cabinet resists corrosion and can support weight of residential furnace and evaporator coil
- Requires no electrical connections
- Mounts in any position
- Requires no maintenance except periodic media filter replacement
- Quick and easy media filter replacement
- Later upgrade to higher performing media or electronic air cleaner is easy

Application: Duct mounted
Description: Entry level Media air cleaner, 4 inch extended Media.
Efficiency Standard: Efficiency ratings are based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-1999. Efficiency ranges are defined for small particles, E1=0.3 to 1.0 microns; medium particles, E2=1.0 to 3.0 microns; and large particles, E3=3.0 to 10.0 microns.
Fractional Efficiency: E1=32%, E2=72%, E3=96%
Minimum Efficiency Reporting Value (Media Filters Only): MERV 11
Static Pressure Drop (in. w.c.): 0.23 at 500 FPM
Approvals
Underwriters Laboratories, Inc: Filter Element: UL Listed, UL900, Class 2

Replacement Parts:
FC100A1003/U-F16X20 Media Air Filter - MERV 11
FC100A1011/U-20X20 Media Air Filter - MERV 11
FC100A1029/U-16X25 Media Air Filter - MERV 11
FC100A1037/U-20X25 Media Air Filter - MERV 11
FC100A1045/U-21.5X27.5 Media Air Filter - MERV 11
FC100A1052/U-20X12.5 Media Air Filter - MERV 11
FC200E1003/U-16x20 Charged-Media Filer - MERV 13
FC200E1011/U-20x20 Charged-Media Filter - MERV 13
FC200E1029/U-16x25 Charged-Media Filer - MERV 13
FC200E1037/U-220x25 Charged-Media Filter - MERV 13

Pressure Drop of FC100 Filter



1 WHEN FIRST INSTALLED. PRESSURE DROP INCREASES AS FILTER BECOMES LOADED. REPLACE FILTER WHEN PRESSURE DROP REACHES 0.5 IN. WC. (0.1 kPa).

2 AVAILABLE ONLY IN UNITED STATES.

M14709

F100 Media Air Cleaner with MERV 11 Filter

	Product Number	Air Cleaner Size-Dimensions, Approximate (inch)	(mm)	Airflow Max.-Capacity (cfm)	(m^3/hr)	Replacement Filters
*	**F100F2002/U**	16 in. x 25 in.	406 mm x 635 mm	1400 cfm	2380 m^3/hr	FC100A1029, FC200E1029, POPUP1625
*	**F100F2010/U**	20 in. x 25 in.	508 mm x 635 mm	2000 cfm	3400 m^3/hr	FC100A1037, FC200E1037, POPUP2025
*	**F100F2028/U**	16 in. x 20 in.	406 mm x 508 mm	1200 cfm	2040 m^3/hr	FC100A1003, FC200E1003, POPUP1620
*	**F100F2036/U**	20 in. x 20 in.	508 mm x 508 mm	1400 cfm	2380 m^3/hr	FC100A1011, FC200E1011, POPUP2020
*	**F100F2044/U**	25 in. x 20 in.	635 mm x 508 mm	2000 cfm	3400 m^3/hr	FC100A1037, FC200E1037, FC100C1017
*	**F100F2051/U**	25 in. x 22 in.	635 mm x 559 mm	2000 cfm	3400 m^3/hr	FC100A1037, FC200E1037, FC100C1017

** TRADELINE models • SUPER TRADELINE models*

F100 Media Air Cleaner Boot Only

	Product Number	Air Cleaner Size-Dimensions, Approximate (inch)	(mm)	Airflow Max. Capacity (cfm)	(m^3/hr)	Replacement Filters
	F100B1016/U	16 in. x 25 in.	406 mm x 635 mm	1400 cfm	2380 m^3/hr	FC100A1029, FC200E1029, FC100C1009, POPUP1625
*	**F100B1024/U**	20 in. x 20 in.	508 mm x 508 mm	1400 cfm	2380 m^3/hr	FC100A1011, FC200E1011, POPUP2020
*	**F100B1032/U**	20 in. x 25 in.	508 mm x 635 mm	2000 cfm	3400 m^3/hr	FC100A1037, FC200E1037, FC100C1017, POPUP2025
*	**F100B1040/U**	25 in. x 22 in.	635 mm x 559 mm	2000 cfm	3400 m^3/hr	FC100A1037, FC200E1037, FC100C1017

** TRADELINE models • SUPER TRADELINE models*

Replacement Media Filters

Residential Air Cleaner Replacement Media Filter

Replacement Expandapac™ Media Filters are for use in Research Products cabinet models 2200, 2250 and 2400.

- High filtration efficiency
- Low pressure drop
- Easy to install
- Long life
- UL listed
- Replacement filter for Space-Gard or Aprilaire Models 2200 or 2400
- MERV 11

Application: Replacement Filter

Efficiency Standard: Efficiency ratings are based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-1999. Efficiency ranges are defined for small particles, E1=0.3 to 1.0 microns; medium particles, E2=1.0 to 3.0 microns; and large particles, E3=3.0 to 10.0 microns.

	Product Number	Minimum Efficiency Reporting Value (Media Filters Only)	Air Cleaner Size-Dimensions, Approximate		Fractional Efficiency	Static Pressure Drop (in. w.c.)	Used With
			(inch)	(mm)			
	FC200E1003/U	MERV 13	16 in. x 20 in.	406 mm x 508 mm	E1=63%, E2=90%, E3=97%	0.28 at 500 FPM	Honeywell 16X20 F100 and F200 Media Air Cleaners
	FC200E1011/U	MERV 13	20 in. x 20 in.	508 mm x 508 mm		0.28 at 500 FPM	Honeywell 20X20 F100 and F200 Media Air Cleaners
	FC200E1029/U	MERV 13	16 in. x 25 in.	406 mm x 635 mm		0.28 at 500 FPM	Honeywell 16X25 F100 and F200 Media Air Cleaners
	FC200E1037/U	MERV 13	20 in. x 25 in.	508 mm x 635 mm		0.28 at 500 FPM	Honeywell 20X25, 25X20, 25X22 F100 and F200 Media Air Cleaners, SpaceGard 2200

** TRADELINE models • SUPER TRADELINE models*

	Product Number	Minimum Efficiency Reporting Value (Media Filters Only)	Air Cleaner Size-Dimensions, Approximate		Fractional Efficiency	Static Pressure Drop (in. w.c.)	Used With
			(inch)	(mm)			
	FC100A1003/U	MERV 11	16 in. x 20 in.	406 mm x 508 mm	E1=32%, E2=72%, E3=96%	0.23 at 500 FPM	Honeywell 16X20 F100 and F200 Media Air Cleaners
	FC100A1011/U	MERV 11	20 in. x 20 in.	508 mm x 508 mm		0.23 at 500 FPM	Honeywell 20X20 F100 and F200 Media Air Cleaners
	FC100A1029/U	MERV 11	16 in. x 25 in.	406 mm x 635 mm		0.23 at 500 FPM	Honeywell 16X25 F100 and F200 Media Air Cleaners
	FC100A1037/U	MERV 11	20 in. x 25 in.	508 mm x 635 mm		0.23 at 500 FPM	Honeywell 20X25, 25X20, 25X22 F100 and F200 Media Air Cleaners, SpaceGard 2200
	FC100A1045/U	MERV 11	21 1/2 in. x 27 1/2 in.	546 mm x 699 mm		0.23 at 500 FPM	F27F1057
	FC100A1052/U	MERV 11	20 in. x 12 1/2 in.	508 mm x 318 mm		0.23 at 500 FPM	F27F1032

** TRADELINE models • SUPER TRADELINE models*

	Product Number	Minimum Efficiency Reporting Value (Media Filters Only)	Air Cleaner Size-Dimensions, Approximate		Fractional Efficiency	Static Pressure Drop (in. w.c.)	Used With
			(inch)	(mm)			
*	**FC2200A1009/U**	MERV 10	20 1/4 in. x 24 1/4 in. x 5 7/8 in.	514 mm x 616 mm x 149 mm	E1=19%, E2=54%, E3=86%	0.21 at 500 FPM	SpaceGard 2200
*	**FC2400A1005/U**	MERV 10	16 in. x 27 1/8 in. x 5 7/8 in.	406 mm x 689 mm x 149 mm		0.21 at 500 FPM	SpaceGard 2400

** TRADELINE models • SUPER TRADELINE models*

TrueCLEAN™ Replacement Filter

	Product Number	Air Cleaner Size Dimensions, Approximate (inch)	(mm)	Airflow Max. Capacity (cfm)	(m^3/hr)	Static Pressure Drop (in. w.c.)	Used With
*	**FR8000A1620/U**	16 in. x 20 in.	406 mm x 508 mm	1350 cfm	3000 m^3/hr	0.22 at 500 FPM	FH8000A1620
*	**FR8000A2020/U**	20 in. x 20 in.	508 mm x 508 mm	1800 cfm	3060 m^3/hr	0.25 at 500 FPM	FH8000A2020
*	**FR8000A2520/U**	25 in. x 20 in.	635 mm x 508 mm	2000 cfm	3400 m^3/hr	0.22 at 500 FPM	FH8000A2520
*	**FR8000F1625/U**	16 in. x 25 in.	406 mm x 635 mm	1600 cfm	2720 m^3/hr	0.25 at 500 FPM	FH8000F1625
*	**FR8000F2025/U**	20 in. x 25 in.	508 mm x 635 mm	2000 cfm	3400 m^3/hr	0.25 at 500 FPM	FH8000F2025

** TRADELINE models • SUPER TRADELINE models*

Residential Air Cleaner POPUP™ Replacement Media Filter

Honeywell PopUP filters store flat and pop into shape for installation.

- Save space on the truck
- Less damage during storage
- Save time on assembly
- So easy you can sell over-the-counter to homeowners without worry of mistakes
- Compact shape makes PopUP easy to ship
- No combs, pleat spacers or end caps

Application: Replacement Filter

Efficiency Standard: Efficiency ratings are based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-1999. Efficiency ranges are defined for small particles, E1=0.3 to 1.0 microns; medium particles, E2=1.0 to 3.0 microns; and large particles, E3=3.0 to 10.0 microns.

	Product Number	Minimum Efficiency Reporting Value (Media Filters Only)	Air Cleaner Size-Dimensions, Approximate (inch)	(mm)	Used With
	POPUP1620/U	MERV 11	16 in. x 20 in.	406 mm x 508 mm	Honeywell 16X20 F100 and F200 Media Air Cleaners
	POPUP1625/U	MERV 11	16 in. x 25 in.	406 mm x 635 mm	Honeywell 16X25 F100 and F200 Media Air Cleaners
	POPUP2020/U	MERV 11	20 in. x 20 in.	508 mm x 508 mm	Honeywell 20X20 F100 and F200 Media Air Cleaners
	POPUP2025/U	MERV 11	20 in. x 25 in.	508 mm x 635 mm	Honeywell 20X25 F100 and F200 Media Air Cleaners. Does not work with 25X20 or 25X22 Media Air Cleaners.
*	**POPUP2200/U**	MERV 11	20 1/4 in. x 24 1/4 in. x 5 7/8 in.	514 mm x 616 mm x 149 mm	SpaceGard 2200, 2120, 2250, Lennox PMAC20, GeneralAire AC-1
*	**POPUP2400/U**	MERV 11	16 in. x 27 1/8 in. x 5 7/8 in.	406 mm x 689 mm x 149 mm	SpaceGard 2400, 2140, Lennox PMAC12

** TRADELINE models • SUPER TRADELINE models*

Replacement Media Filters

Return Grille Media Air Filter

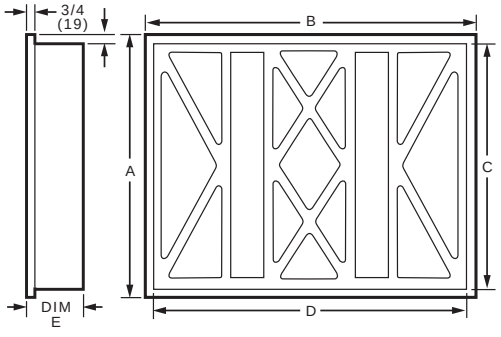
The Return Grille Filter provides high efficiency, long life alternative to a 1 in. filter. It captures a significant amount of the airborne particles in the air that circulates through the filter.

- Mounts in most return filter grilles
- Pleated for greater media capacity
- Low pressure drop provides a comfortable air flow
- Maintains equipment efficiency longer than standard filters
- FC40 is MERV 10

Application: Return Grill
Efficiency Standard: Efficiency ratings are based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-1999. Efficiency ranges are defined for small particles, E1=0.3 to 1.0 microns; medium particles, E2=1.0 to 3.0 microns; and large particles, E3=3.0 to 10.0 microns.
Fractional Efficiency: E1=31%, E2=61%, E3=86%
Static Pressure Drop (in. w.c.): 0.12 at 300FPM

Product Number	Minimum Efficiency Reporting Value (Media Filters Only)	Air Cleaner Size-Dimensions, Approximate		Airflow Max. Capacity	
		(inch)	(mm)	(cfm)	(m^3/hr)
FC40R1003/U	MERV 10	20 in. x 20 in.	508 mm x 508 mm	1150 cfm	1950 m^3/hr
FC40R1011/U	MERV 10	20 in. x 25 in.	508 mm x 635 mm	1450 cfm	2460 m^3/hr
FC40R1029/U	MERV 10	20 in. x 30 in.	508 mm x 762 mm	1800 cfm	3060 m^3/hr
FC40R1037/U	MERV 10	12 in. x 24 in.	305 mm x 610 mm	800 cfm	1360 m^3/hr
FC40R1045/U	MERV 10	14 in. x 25 in.	356 mm x 635 mm	1000 cfm	1700 m^3/hr
FC40R1052/U	MERV 10	16 in. x 20 in.	406 mm x 508 mm	900 cfm	1530 m^3/hr
FC40R1060/U	MERV 10	16 in. x 25 in.	406 mm x 635 mm	1150 cfm	1950 m^3/hr
FC40R1078/U	MERV 10	24 in. x 24 in.	610 mm x 610 mm	1700 cfm	2890 m^3/hr
FC40R1094/U	MERV 10	12 in. x 12 in.	305 mm x 305 mm	350 cfm	590 m^3/hr
FC40R1102/U	MERV 10	14 in. x 14 in.	356 mm x 356 mm	500 cfm	850 m^3/hr
FC40R1110/U	MERV 10	14 in. x 20 in.	356 mm x 508 mm	750 cfm	1270 m^3/hr
FC40R1128/U	MERV 10	14 in. x 24 in.	356 mm x 610 mm	950 cfm	1610 m^3/hr
FC40R1136/U	MERV 10	18 in. x 24 in.	457 mm x 610 mm	1250 cfm	2120 m^3/hr
FC40R1144/U	MERV 10	20 in. x 24 in.	508 mm x 610 mm	1400 cfm	2380 m^3/hr
FC40R1169/U	MERV 10	14 in. x 30 in.	356 mm x 762 mm	1200 cfm	2040 m^3/hr
FC40R1177/U	MERV 10	24 in. x 30 in.	610 mm x 762 mm	2050 cfm	3480 m^3/hr
FC40R1185/U	MERV 10	18 in. x 18 in.	457 mm x 457 mm	950 cfm	850 m^3/hr
FC40R1830/U	MERV 10	18 in. x 30 in.	457 mm x 762 mm	1550 cfm	2610 m^3/hr

Dimensions in inches (millimeters)



DIMENSIONS IN. (MM)

Product Numbers	Size	A	B	C	D	E
FC40R1003	20 X 20 (508 x 508)	19-3/4 (502)	19-3/4 (502)	18-1/2 (470)	18-1/2 (470)	4-3/8 (111)
FC40R1011	20 X 25 (508 x 635)	19-3/4 (502)	24-3/4 (629)	18-1/2 (470)	23-1/2 (597)	4-3/8 (111)
FC40R1029	20 X 30 (508 x 762)	19-3/4 (502)	29-3/4 (756)	18-1/2 (470)	28-1/2 (724)	4-3/8 (111)
FC40R1037	12 X 24 (305 X 610)	11-3/4 (298)	23-3/4 (603)	10-1/2 (266)	22-1/2 (571)	4-3/8 (111)
FC40R1045	14 X 25 (356 X 635)	13-3/4 (349)	24-3/4 (629)	12-1/2 (317)	23-1/2 (596)	4-3/8 (111)
FC40R1052	16 X 20 (406 X 508)	15-3/4 (400)	19-3/4 (502)	14-1/2 (368)	18-1/2 (470)	4-3/8 (111)
FC40R1060	16 X 25 (406 X 635)	15-3/4 (400)	24-3/4 (629)	14-1/2 (368)	23-1/2 (596)	4-3/8 (111)
FC40R1078	24 X 24 (610 X 610)	23-3/4 (603)	23-3/4 (603)	22-1/2 (571)	22-1/2 (571)	4-3/8 (111)
FC40R1094	12 X 12 (305 X 305)	11-3/4 (298)	11-3/4 (298)	10-1/2 (266)	10-1/2 (266)	4-3/8 (111)
FC40R1102	14 X 14 (356 X 356)	13-3/4 (349)	13-3/4 (349)	12-1/2 (317)	12-1/2 (317)	4-3/8 (111)
FC40R1110	14 X 20 (356 X 508)	13-3/4 (349)	19-3/4 (502)	10-1/2 (266)	18-1/2 (470)	4-3/8 (111)
FC40R1128	14 X 24 (356 x 610)	13-3/4 (349)	23-3/4 (603)	12-1/2 (317)	22-1/2 (571)	4-3/8 (111)
FC40R1136	18 X 24 (457 x 610)	17-3/4 (451)	23-3/4 (603)	16-1/2 (419)	22-1/2 (571)	4-3/8 (111)
FC40R1144	20 X 24 (508 x 610)	19-3/4 (502)	23-3/4 (603)	18-1/2 (470)	22-1/2 (571)	4-3/8 (111)
FC40R1169	14 X 30 (356 X 762)	13-3/4 (349)	29-3/4 (756)	12-1/2 (317)	28-1/2 (724)	4-3/8 (111)
FC40R1177	24 X 30 (610 X 762)	23-3/4 (603)	29-3/4 (756)	22-1/2 (571)	28-1/2 (724)	4-3/8 (111)
FC40R1185	18 X 18 (457 X 457)	17-3/4 (451)	17-3/4 (451)	16-1/2 (419)	16-1/2 (419)	4-3/8 (111)
FC40R1830	18 X 30 (457 X 762)	17-3/4 (451)	29-3/4 (756)	16-1/2 (419)	28-1/2 (724)	4-3/8 (111)

M18953D

HEPA Replacement Media

HEPA stands for high-efficiency particulate arresting. Honeywell HEPA air cleaners offer powerful filtration: They capture 99.97% of particles that are 0.3 microns in size from the air that passes through the filter.
Application: Replacement Filter

Replacement Parts:
F500A1000-Whole House HEPA Air Cleaner
F500B1009-Whole House HEPA Air Cleaner

Product Number	Description	Used With
32006026-001/U	Carbon Filter for Whole House HEPA Air Cleaner	F500
32006027-001/U	2 inch Prefilter for Whole House HEPA Air Cleaner	F500
32006028-001/U	HEPA Filter for Whole House HEPA Air Cleaner	F500

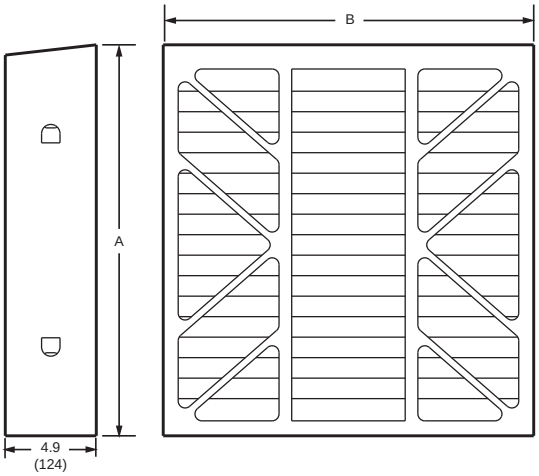
Replacement Filter for Perfect Fit™

The replacement filter is a high-efficiency. long-life filter for Perfect Fit media air cleaners. It captures a significant amount of airborne particles in the air that circulates through the filter.
- Higher efficiency and lower pressure drop than OEM filter
- Captures particles as small as 0.3 microns
- Pleated filter for greater media capacity
- Low pressure drop reduces strain on equipment, provides a comfortable air flow, and helps maintain equipment efficiency
- Easy installation
- Angled edge fits neatly into offset side of air cleaner frame

Application: Replacement Filter
Efficiency Standard: Efficiency ratings are based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-1999. Efficiency ranges are defined for small particles, E1=0.3 to 1.0 microns; medium particles, E2=1.0 to 3.0 microns; and large particles, E3=3.0 to 10.0 microns.
Fractional Efficiency: E1=22%, E2=61%, E3=87%
Static Pressure Drop (in. w.c.): 0.17 at 500 FPM
Approvals
Underwriters Laboratories, Inc: Filter Element: UL Listed, UL900, Class 2

Product Number	Minimum Efficiency Reporting Value (Media Filters Only)	Air Cleaner Size-Dimensions, Approximate		Used With
		(inch)	(mm)	
TRN1427T1/U	MERV 10	14 1/2 in. X 27 in. X 5 in.	360 mm x 670 mm x 120 mm	Trane Perfect Fit Media Air Cleaners
TRN1727T1/U	MERV 10	17 1/2 in. X 27 in. X 5 in.	440 mm x 670 mm x 120 mm	Trane Perfect Fit Media Air Cleaners
TRN2121T1/U	MERV 10	21 1/2 in. x 21 in. x 5 in.	540 mm x 510 mm x 120 mm	Trane Perfect Fit Media Air Cleaners
TRN2127T1/U	MERV 10	21 in. x 27 in. x 5 in.	530 mm x 670 mm x 120 mm	Trane Perfect Fit Media Air Cleaners
TRN2321T1/U	MERV 10	23 1/2 in. x 21 in. x 5 in.	590 mm x 51 mm x 120 mm	Trane Perfect Fit Media Air Cleaners
TRN2427T1/U	MERV 10	24 in. x 27 in. x 5 in.	620 mm x 670 mm x 120 mm	Trane Perfect Fit Media Air Cleaners
TRN2621T1/U	MERV 10	26 in. X 21 in. X 5 in.	660 mm x 510 mm 120 mm	Trane Perfect Fit Media Air Cleaners

Dimensions in inches (millimeters)



SIZE INCHES (MM)	DIM A INCHES (MM)	DIM B INCHES (MM)
21-1/2 X 21 X 5 (546 X 533 X 127)	21.2 (538)	20.1 (511)
23-1/2 X 21 X 5 (597 X 533 X 127)	23.3 (592)	20.1 (511)
26 X 21 X 5 (660 X 533 X 127)	25.8 (655)	20.1 (511)
14-1/2 X 27 X 5 (368 X 686 X 127)	14.3 (363)	26.2 (665)
17-1/2 X 27 X 5 (445 X 686 X 127)	17.3 (439)	26.2 (665)
21 X 27 X 5 (533 X 686 X 127)	20.8 (528)	26.2 (665)
24 X 27 X 5 (610 X 686 X 127)	24.3 (617)	26.2 (665)

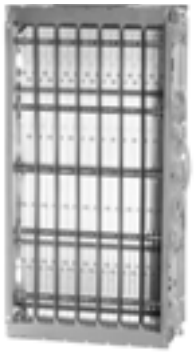
M28670A

Perfect Fit is a trademark of Trane

Air Cleaner Parts and Accessories

Residential Air Cleaner Parts and Accessories

Product Number	Description	Used With	
136434AA/U	20 in. Replacement Ionizer wire for F50A, F50E, F50F, F57A, B, F58F and F70C	—	
136434BA/U	16 in. Replacement Ionizer wire for F50A, F50E, F50F, F59A	—	
136518/U	F50F, F58C,F Cell Key	—	
137266/U	F50F and F58F Cell Handle	—	
137980A/U	Test Button Assembly for F50A, F50E, F50F, or F58C,F	F50	
138889A/U	Contact Board Assembly for F58C, F59A, F70C, F90, or F50E	F50, F59	
190912A/U	F52C,D,E,F or F57A,B Contact Board Assembly	F52	
202668/U	20 inch Ionizer Grid	—	
203321/U	ON/OFF Switch for F50F, F52F, or F58F	F52	
203329A/U	F50F, F58F Rear Terminal Board Assembly	F50	
203329B/U	F50F, F58F Front Terminal Board Assembly	F50	
203366/U	Round insulator for FC37A,B Cells	FC37	
203368/U	Prefilter for 16X25 - F50F, F300, no spring clips	F300, F50	
203369/U	Prefilter for 20X25 inch and 20X12-1/2 inch F50F, F300, no spring clip	F300, F50	
203370/U	Prefilter for 20X20 - F50F, F300, no spring clip	F300, F50	
203371/U	Prefilter for 16X25 - F50, F300	F300, F50	
203372/U	Prefilter for 20X25 inch and 20X12-1/2 inch F50, F300, or F58C,F	F300, F50	
203373/U	Prefilter for 20X20 - F50, F300	F300, F50	
207631/U	Door Latch, F52F	F52	
208536/U	Prefilter for F52F 1-Cell	F52	
208537/U	Prefilter for F52F 2-Cell	F52	
208543/U	interlock Switch, F52F	F52	
209989/U	Prefilter for 16X20 F50, F300	F300, F50	
32004876-001/U	20 inch F200E Door, RF transmitter	F200	
32004876-002/U	16 inch F200E Door, RF transmitter	F200	
32004930-001/U	25 inch Power Pack Cover, White - F300E	F300	
4074EHG/U	FC37A Terminal Board Repair Kit. Contains 2 connector clips, 1 Terminal Board and instruction sheet	FC37A	
4074ETD/U	Line Cord and Strain Relief	F50	
4074ETE/U	F50F, F52F, F58F Neon Light Assembly, includes lens and wire tie	F50, F52	
4074ETG/U	F50F and F58F Interlock bracket and switch	F50	
4074ETH/U	Air Flow Switch Bag Assembly, with pin connections, for F50 air cleaners	F50	
4074EYS/U	F50F Neon Light Assembly	F50	
4074EZB/U	Air Flow Switch Bag Assembly with molex plug connection. F300E, F50F, AFS	F300, F50F	
50053268-001/U	TrueCLEAN Replacement Enhancement Module	FH8000F1625	
50053268-002/U	TrueCLEAN Replacement Enhancement Module	FH8000F2025	
50053268-003/U	TrueCLEAN Replacement Enhancement Module	FH8000A1620	
50053268-004/U	TrueCLEAN Replacement Enhancement Module	FH8000A2020	
50053268-005/U	TrueCLEAN Replacement Enhancement Module	FH8000A2520	
50053268-006/U	TrueCLEAN Replacement Door	FH8000F1625	
50053268-007/U	TrueCLEAN Replacement Door	FH8000F2025	
50053268-008/U	TrueCLEAN Replacement Door	FH8000A1620	
50053268-009/U	TrueCLEAN Replacement Door	FH8000A2020	
50053268-010/U	TrueCLEAN Replacement Door	FH8000A2520	
50053268-011/U	TrueCLEAN Replacement Screen	FH8000F1625	
50053268-012/U	TrueCLEAN Replacement Screen	FH8000F2025	
50053268-013/U	TrueCLEAN Replacement Screen	FH8000A1620	
50053268-014/U	TrueCLEAN Replacement Screen	FH8000A2020	
50053268-015/U	TrueCLEAN Replacement Screen	FH8000A2520	
50053268-016/U	TrueCLEAN Replacement Power Cord	FH8000F	

Product Number	Description	Used With	
50053268-017/U	TrueCLEAN Replacement Power Cord	FH8000A	
50053268-018/U	TrueCLEAN Replacement Air Flow Sensor	FH8000A	
FC37A1049/U	Electronic Air Cleaner Cell, 9.8 x 20	—	
FC37A1064/U	Electronic Air Cleaner Cell, 12.4 x 20	—	
FC37A1114/U	Electronic Air Cleaner Cell, 9.8 x 16	—	
FC37A1130/U	Electronic Air Cleaner Cell, 12.4 x 16	—	
FC37A1171/U	Electronic Air Cleaner Cell, 12.4 x 20	F52	
FC37B1030/U	Electronic Air Cleaner Cell, 12.4 x 20	—	

W8600B AIRWATCH Indicator

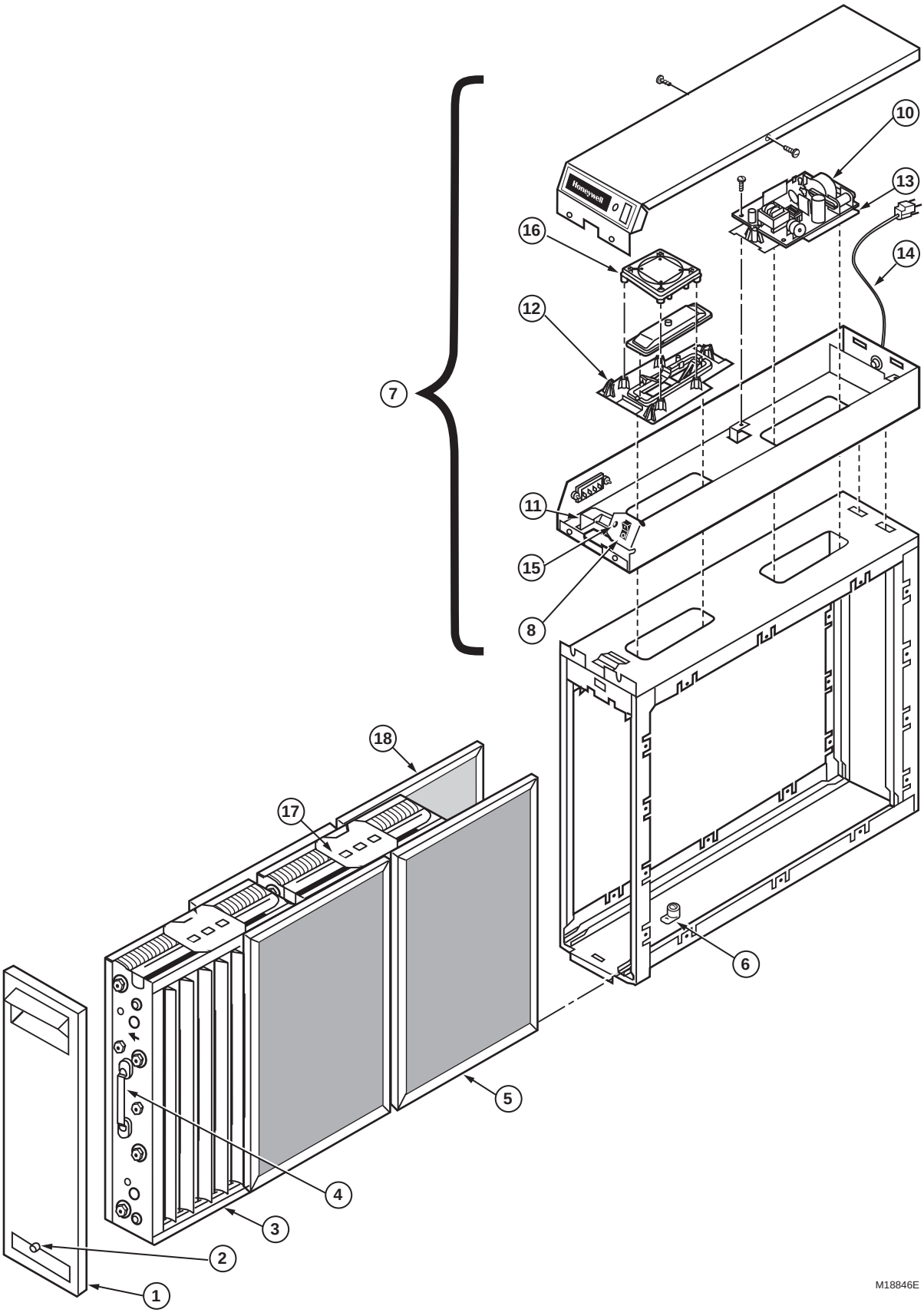
Reminds you when to change your air filter.
- Mounts in any convenient location
- Easily mounted with two screws through holes in base
- No wiring needed
- Indicator light flashes when batteries need changing (CR-123 Lithium Battery available separately)
- Indicator light flashes when media filter needs replacing or electronic filter needs washing

Application: Accessory

Product Number	Description	Used With
W8600B1005/U	RF AIRWATCH indicator F200E	F200

Air Cleaner Parts and Accessories

F300E Exploded View



No.	Description	Nominal Return Air Opening				
		16 x 20 in. (406 x 508 mm)	16 x 25 in. (406 x 635 mm)	20 x 12-1/2 in. (508 x 318 mm)	20 x 20 in. (508 x 508 mm)	20 x 25 in. (508 x 635 mm)
1	F50 Access Door includes No. 2	203306AB (1)	203306AB (1)	203305AB (1)	203305AB (1)	203305AB (1)
1	F300 Access Door includes No. 2	32007528-003	32007528-003	32007528-002	32007528-002	32007528-002
2	Test Button Assembly	137980A (1)	137980A (1)	137980A (1)	137980A (1)	137980A (1)
3	Electronic Cell	FC37A1114 (2)	FC37A1130 (2)	FC37A1064 (1)	FC37A1049 (2)	FC37A1064 (2)
4	Cell Handle	137266 (2)	137266 (2)	137266 (1)	137266 (2)	137266 (2)
5	Prefilter (without spring clips)	209989 (2)	203368 (2)	203369 (1)	203370 (2)	203369 (2)
6	Cell Key	136518 (1)	136518 (1)	136518 (1)	136518 (1)	136518 (1)
7	F50 Power Box Assembly Series One[a]. Includes No. 8-20, 120V, 60 Hz. Brown Cover.	208418G[c] (1)	208417Q[c] (1)	208419D[d] (1)	208418F[c] (1)	208417Q[c] (1)
7	F300 Power Box Assembly Series Two[b]. Includes No. 8-20, 120V, 60 Hz. White Cover.	208418J (1)	208417S (1)	208419D[d]	208418H (1)	208417R (1)
8	Switch	203321 (1)	203321 (1)	203321 (1)	203321 (1)	203321 (1)
10	F50 and F300 Power Supply, Series Two[b]. 120V, 60 Hz	208045J[c] (1)	208045G[c] (1)	208045G (1)	208045G[c] (1)	208045G[c] (1)
11	Interlock Bracket and Switch	4074ETG (1)	4074ETG (1)	4074ETG (1)	4074ETG (1)	4074ETG (1)
12	Terminal Board Assembly Front	203329B (1)	203329B (1)	N/A	203329B (1)	203329B (1)
13	Terminal Board Assembly Rear	203329A (1)	203329A (1)	N/A	203329A (1)	203329A (1)
14	Line Cord	4074ETD (1)	4074ETD (1)	4074ETD (1)	4074ETD (1)	4074ETD (1)
15	Neon Assembly	4074EYS (1)	4074EYS (1)	4074EYS (1)	4074EYS(1)	4074EYS (1)
16	Airflow Switch, pin connection	4074ETH (1)	4074ETH (1)	4074ETH (1)	4074ETH (1)	4074ETH (1)
16	Airflow Switch, plug connection	4074EZB (1)	4074EZB (1)	N/A	4074EZB (1)	4074EZB (1)
17	FC37A Bag Assembly for cell repair. Contains 2 Connector Clips, 1 Terminal Board and Instructions.	4074EHG	4074EHG	4074EHG	4074EHG	4074EHG
18	Post Filter (not included with F300A)	50000293-001	50000293-002	50000293-004	50000293-003	50000293-004

[a] Series One compatible with W8600E and W8600F.

[b] Series Two compatible with W8600F only.

[c] Use 203365A Conversion Kit for changing 120V, 60Hz model to 240V, 60 Hz.

[d] Change from brown cover to white cover as a running change. Use original cover for color match.

(#) = Quantity required per unit

N/A = Not available as merchandised part.

Parts and Accessories Not Illustrated

Description	Nominal Return Air Opening				
	16 x 20 in. (406 x 508 mm)	16 x 25 in. (406 x 635 mm)	20 x 12-1/2 in. (508 x 318 mm)	20 x 20 in. (508 x 508 mm)	20 x 25 in. (508 x 635 mm)
Ionizer Wires (multiples of 5)	136434BA	136434BA	136434AA	136434AA	136434AA
240V Conversion Kit	203365A	203365A	N/A	203365A	203365A

(#) = Quantity required per unit

N/A = Not available as merchandised part.

EAC Media Post Filter

Our high-efficiency, charged postfilters boost the efficiency of any Honeywell electronic air cleaner with negligible effect on pressure drop.

Application: Replacement Filter

Replacement Parts:
F300E1027-Electronic Air Cleaner, 20x20

Product Number	Description	Used With
50000293-001/U	High air flow media post-filter for EAC, 16x10	F300, F50F
50000293-002/U	High air flow media post-filter for EAC, 16x12.5	F300, F50F
50000293-003/U	High air flow media post-filter for EAC, 20x10	F300, F50F
50000293-004/U	High air flow media post-filter for EAC, 20x12.5	F300, F50F

Electronic Air Cleaner Filters

F52F Exploded View

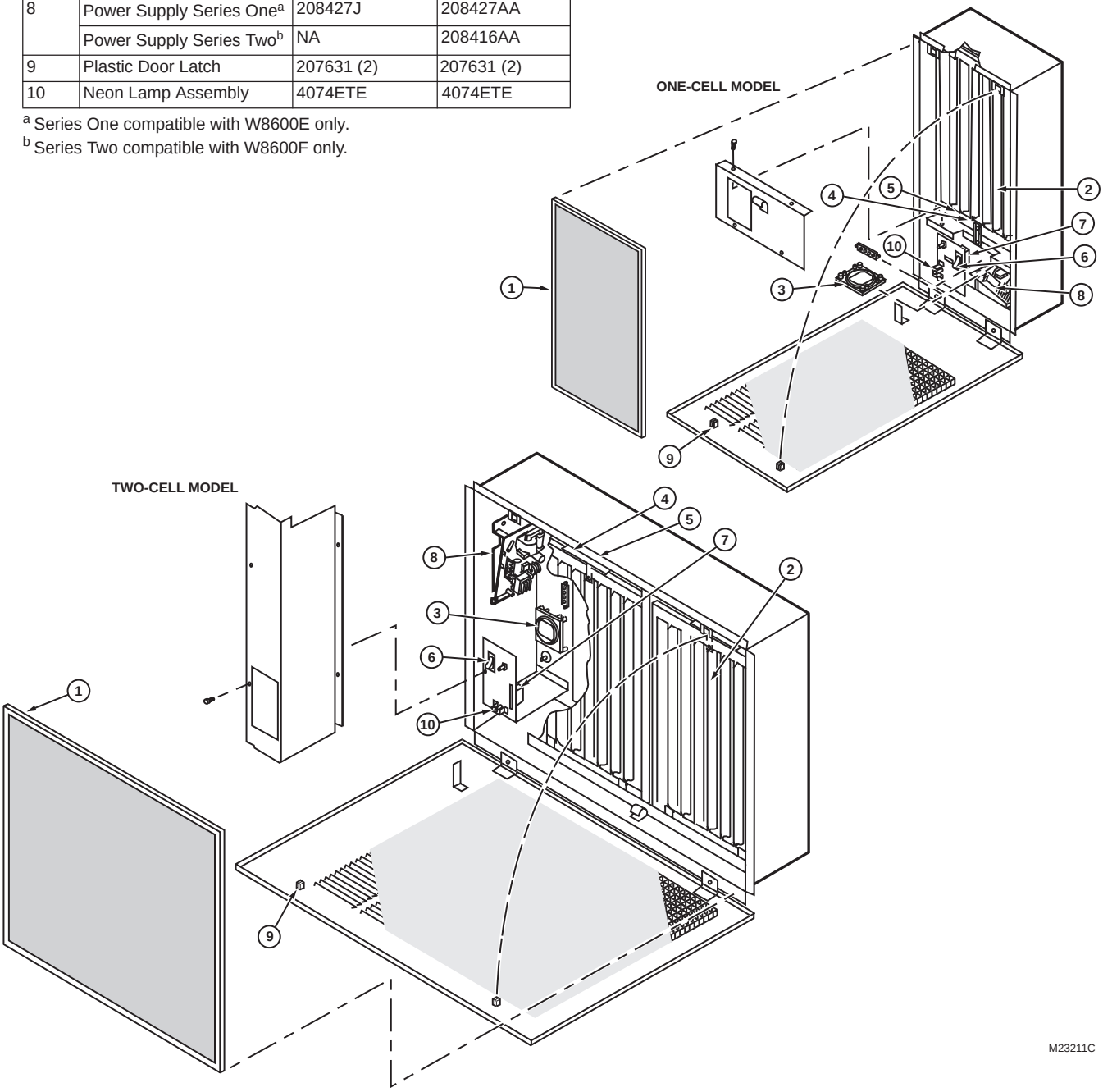
No.	Description	Part Number	
		120 Vac Model	
		F52F1048 1-Cell	52F1055 2-Cell
1	Prefilter	208536	208537
2	Electronic Cell	FC37A1171	FC37A1171 (2)
3	Air Flow Switch	4074ETH	4074ETH
4	Cell Contact Board	4074EHG	4074EHG (2)
5	Cabinet Contact Board	190912A	190912A (2)
6	On/Off Switch	203321	203321
7	Interlock Switch	208543	208543
8	Power Supply Series One[a]	208427J	208427AA
	Power Supply Series Two[b]	NA	208416AA
9	Plastic Door Latch	207631 (2)	207631 (2)
10	Neon Lamp Assembly	4074ETE	4074ETE

[a] Series One compatible with W8600E only.

[b] Series Two compatible with W8600F only.

Parts and Accessories not Illustrated

Description	Part Number
	120 Vac Model
Cell Handle	137266
Ionizer Wires (Must be ordered in multiples of 5.)	136434AA (9/cell)



Residential Air Cleaners Replacement Power Supply

Electronic Air Cleaner					Replacement Power Supply	
		Nominal Cell Size				
Model	Voltage	in.	mm	Old Power Supply Cross Reference	Universal Power Supply (No Box)	Universal Power Supply (With Box)
F300A, F300E	120 Vac	20 x 12.5	508 x 318	208419A	**PS1201A00**	**PS1201B12**
		16 x 20	406 x 508	208418J		**PS1201B20**
		16 x 25	406 x 635	208417S		**PS1201B25**
		20 x 20	508 x 508	208418H		**PS1201B20**
		20 x 25	508 x 635	208417R		**PS1201B25**
F300B	240 Vac	20 x 12.5	508 x 318	208419E	**PS2401A00**	**PS2401B12**
F50A F50E	120 Vac	16 x 25	406 x 635	—	**PS1201C01**	—
		20 x 20	508 x 508	—		—
		20 x 25	508 x 635	—		—
		20 x 12.5	508 x 318	—	**PS1201C02**	—
	240 Vac	16 x 25	406 x 635	—	**PS2401C00**	—
		20 x 20	508 x 508	—		—
		20 x 25	508 x 635	—		—
		20 x 12.5	508 x 318	—		—
	220 Vac/50 Hz	16 x 25	406 x 635	—		—
F50F	120 Vac	20 x 12.5	508 x 318	208419E	**PS1201A00**	—
		16 x 20	406 x 508	208418E, 208418K		—
		16 x 25	406 x 635	208417B		—
		20 x 20	508 x 508	208418A, 208418L		—
		20 x 25	508 x 635	208417A		—
	240 Vac	20 x 12.5	508 x 318	208419C	**PS2401A00**	**PS2401B12CE**
		16 x 20	406 x 508	—		—
		16 x 25	406 x 635	208417P		—
		20 x 20	508 x 508	—		—
		20 x 25	508 x 635	208417N		**PS2401B25**
F52C (One-Cell)	120 Vac	20 x 12.5	508 x 318	—	**PS1201C02**	—
	220-240 Vac	20 x 12.5	508 x 318	—	**PS2401C00**	—
F52D (Two-Cell)	120 Vac	20 x 25	508 x 635	—	**PS1201C02**	—
	220-240 Vac	20 x 25	508 x 635	—	**PS2401C00**	—
F52F	120 Vac	12.5 x 20	317.5x508	208416AA	**PS1201C02**	**PS1201C00**
	120 Vac/60 Hz	20 x 25	508 x 635	208416AB	**PS1201C02**	**PS1201C00**
F54C	120 Vac	20 x 25	508 x 635	—	**PS1201C02**	—
	220-240 Vac	20 x 25	508 x 635	—	**PS2401C00**	—
F55A F55E	120 Vac	16 x 25	406 x 635	—	**PS1201C02**	—
		20 x 25	508 x 635	—		—
	240 Vac	16 x 25	406 x 635	—	**PS2401C00**	—
		20 x 25	508 x 635	—		—
F56A	120 Vac	16 x 12.5	406 x 318	—	**PS1201C02**	—
F57A (Two-Cell)	120 Vac	20 x 25	508 x 635	—	**PS1201C02**	—
F57B (One- Cell)	120 Vac	20 x 12.5	508 x 318	—	**PS1201C02**	—
F57B	220-240V, 50 Hz	20 x 12.5	508 x 318	—	**PS2401C00**	—
F58A, F58E	120 Vac	16 X 25	406 x 635	—	**PS1201C02**	—
F59A	120 Vac	16 x 12.5	406 x 318	—	**PS1201C02**	—
	220 Vac/50 Hz	16 x 12.5	406 x 318	—	**PS2401C00**	—
F70C	120 Vac	20 x 25	508 x 635	—	**PS1201C00**	—

TrueDRY™ Dehumidification Systems

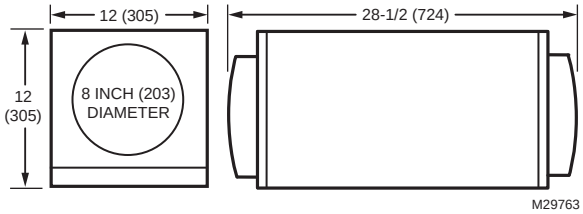
The Honeywell TrueDRY dehumidifiers provide great value to contractors and homeowners by doing more with less energy. Our compact units have the smallest footprint in their class; come with an anti-corrosion e-coating coil and now, according to ENERGY STAR's performance testing, they are among the most efficient in the industry.

- Removes 65/90/120 pints of water per day from the indoor air
- Built-in fresh air supply
- Energy Star 3.0 Rated
- E-Coated Coil delivers longer life and increased efficiency.
- Improved design to reduce noise and save space.
- 65 pint model offers on-board dehumidistat

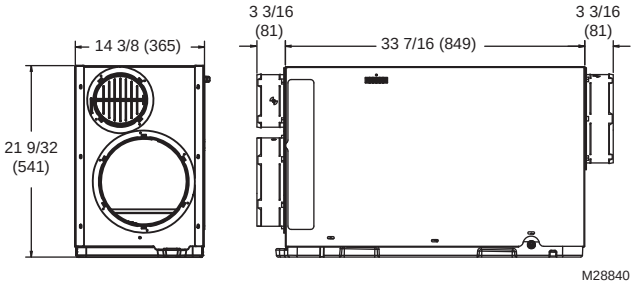
Application: Dehumidifier

Product Number	Capacity (pints per day)	Capacity (gallons per day)	Capacity (liters per day)	Plenum Opening (Diameter) (inch)	Plenum Opening (Diameter) (mm)	Amps.	Includes	Weight (lb)
DR65A2000/U	65 pints per day	8 3/25 gal per day	30 L per day	8 in. collars	203 mm collar	5.2 Amps	Four leveling feet with rubber isolation pads.	55 lb
DR90A2000/U	90 pints per day	11 1/4 gal per day	45 L per day	10 in. collars; 6 in. ventilation collar	254 mm collars; 152 mm vent collar	5.9 Amps	Four leveling feet with rubber isolation pads.	82 lb
DR120A2000/U	120 pints per day	15 gal per day	57 L per day	10 in. collars; 6 in. ventilation collar	254 mm collars; 152 mm vent collar	7.3 Amps	Four leveling feet with rubber isolation pads.	90 lb

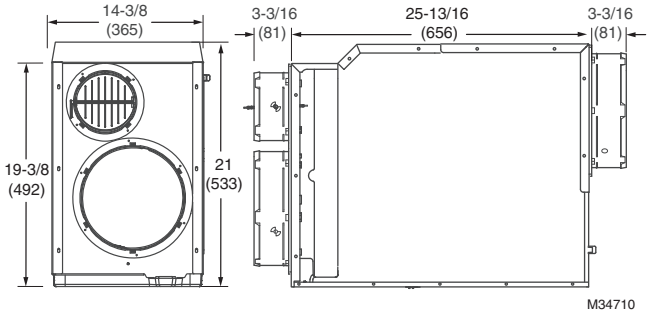
DR65A dimensions in Inches (millimeters)



DR90A dimensions in Inches (millimeters)



DR120A dimensions in Inches (millimeters)



Parts List DR65

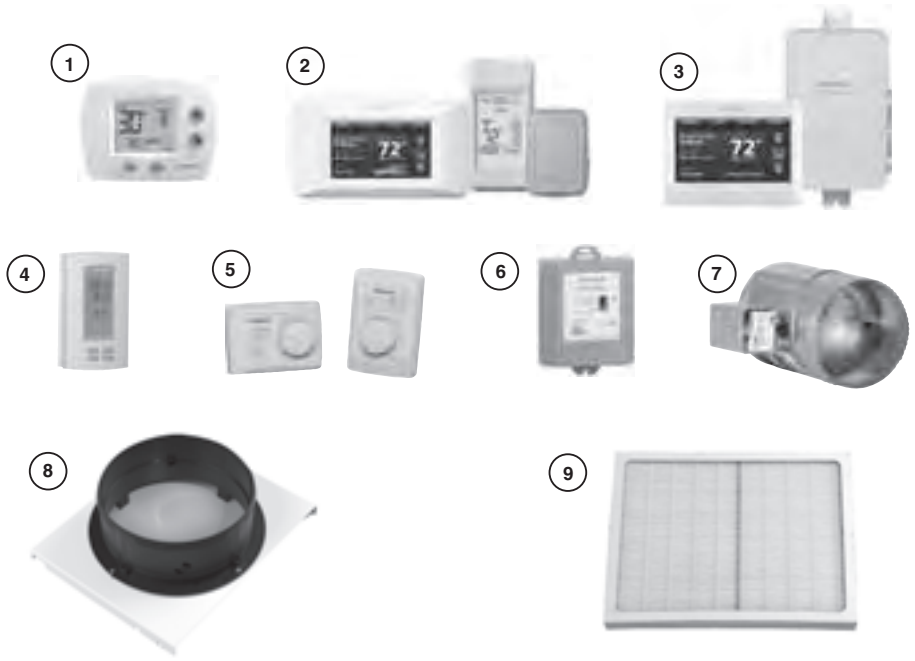


Figure Reference	Description	Part Number
1	HumidiPRO Digital Humidity Control	H6062A1000
2	Prestige Comfort System	YTHX9321R5003
3	VisionPRO IAQ Total Comfort Control	YTH9421C1010
4	TrueIAQ digital IAQ control	DG115EZIAQ
5	H8908D Manual Dehumidistat	H8908DSPST
6	Automatic ventilation control	W8150A1001
7	Motorized ventilation damper	EARD 6
	Compressor overload	50049537-001
	Compressor relay, DPDT 24 VAC, 30A	50049537-002
	Run capacitor, 35 MFD	50049537-003
8	8-in. Duct Collar	50049537-004
9	Filter	50049537-005
	Fan	50049537-006
	Fan relay, SPDT, 24 Vac, 15A	50035445-011

M34850

TrueDRY Dehumidification System

Parts List DR65

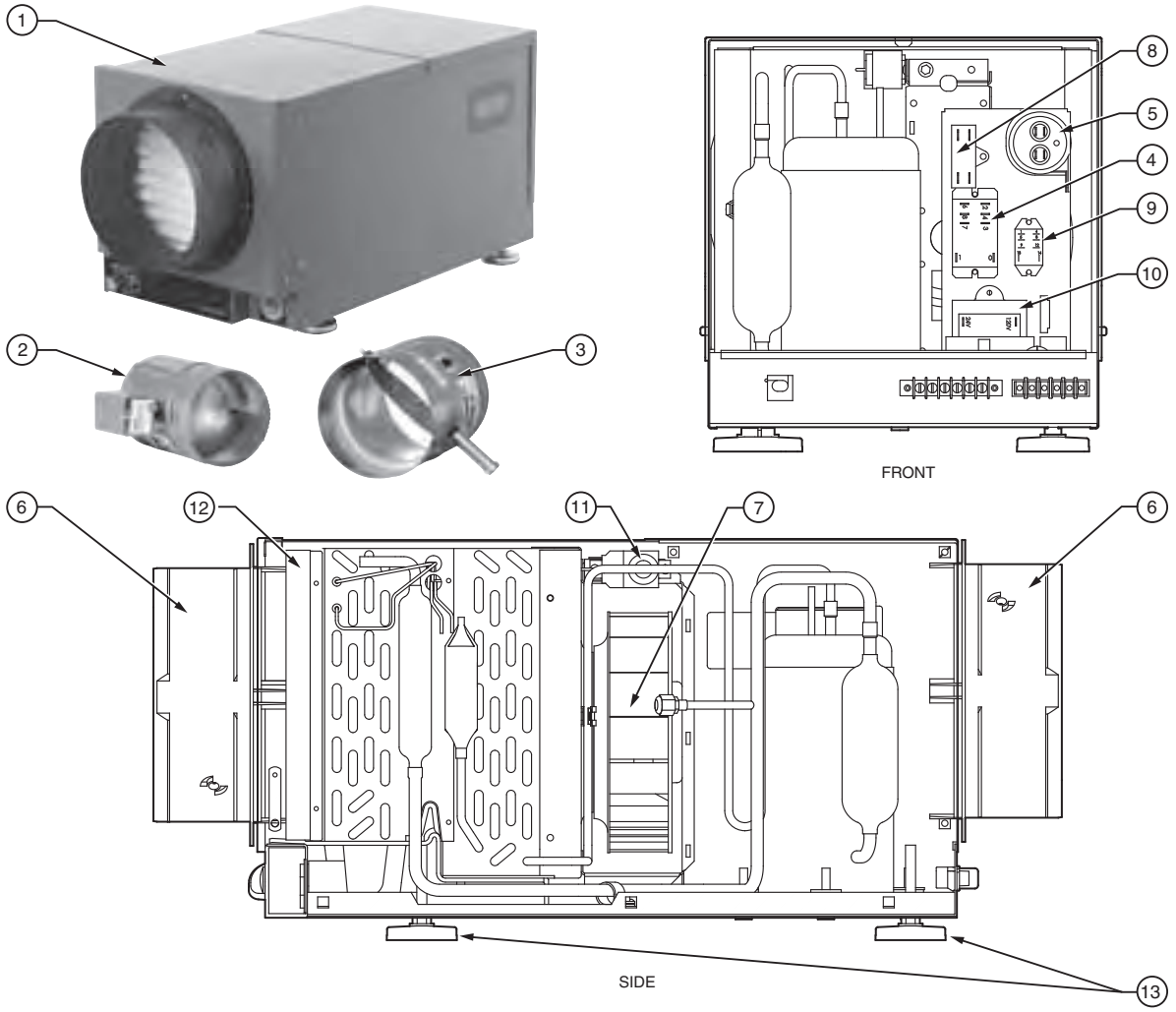
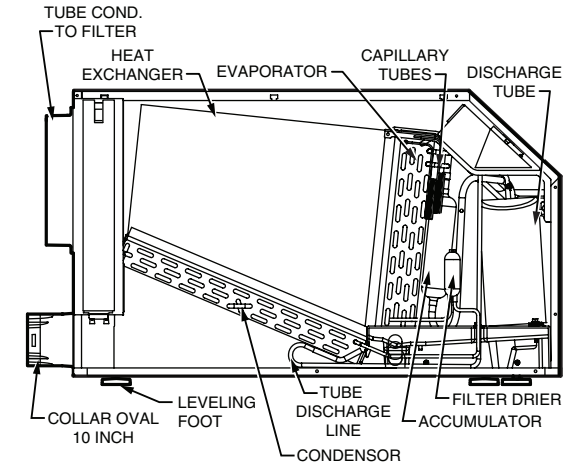
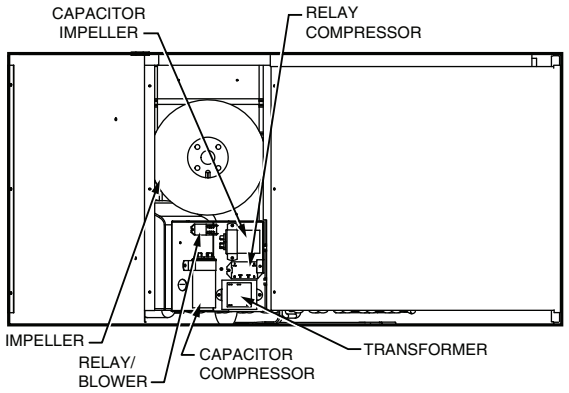


Figure Reference	Base and Accessory Parts	Part Number
1	TrueDRY DR65	DR65A2000/U
2	Motorized Ventilation Damper	EARD6
3	8 in. Backdraft Damper (Discard Included Counterweight)	SPRD8
	Replacement Parts	
4	Compressor Relay, 24 VAC, 30 A	50049537-002
5	Compressor Run Capacitor	50049537-003
6	8" Duct Collar	50049537-004
7	Fan Assembly	50049537-006
8	Capacitor - Fan	50070204-001
9	Fan Relay, SPDT, 24 VAC, 15A	50035445-011
10	Transformer 120/24 VAC, 40 VA	50035445-013
11	Defrost Thermostat	50070204-002
12	Filter	50049537-005
13	Leveling Foot	50035445-019

M33733

Parts List DH150





Description	Part Number
Heat Exchanger	50035445-001
Evaporator	50035445-002
Capillary Tubes .050 in. x .124 in. x 59.00 in.	50035445-003
Compressor — Toshiba 8.1	50035445-004
Accumulator	50035445-005
Filter/Drier	50035445-006
Tube — Cond. to Filter	50035445-007
Tube — Discharge Line	50035445-008
Condensor	50035445-009
Impeller	50035445-010
Relay/Blower	50035445-011
45mFd Capacitor — Compressor	50035445-012
Transformer	50035445-013
Relay/Compressor	50035445-014
15mFd Capacitor — Impeller	50035445-015
Collar — 10 in.	50035445-016
Collar — Oval 10 in. x 4 in.	50035445-017
Collar 6 in. with damper	50035445-018
Leveling Foot	50035445-019
Filter MERV II	50035445-020

M33732

TrueDRY Parts and Accessories

Product Number	Description	Used With
50018994-001/U	MERV11 1 in. Filter Replacement for DH90 Dehumidifier	DH90
50018995-001/U	DH90 10 in. Backdraft Damper	DH90
50027976-001/U	DR90 blower assembly	DH90, DR90A1000
50027980-001/U	DH90 compressor (capacitor)	DH90
50027981-001/U	DH90 leveling feet (4 ft per kit)	DH90
50033204-001/U	DH65 compressor	DH65
50033205-001/U	DH65 compressor overload	DH65
50033205-002/U	DH65 compressor relay, SPST 24 Vac 30A	DH65
50033205-003/U	DH65 compressor run capacitor 35 MFD	DH65
50033205-004/U	Blower Motor and Fan	DH65
50033205-005/U	Fan relay, SPDT, 24 Vac, 15A	DH65
50033205-006/U	DH65 condenser, evaporator, strainer and capillary tube assembly	DH65
50033205-009/U	DH65 air filter. MERV 11	DH65
50035445-001/U	DH150 heat exchanger	DH150
50035445-002/U	DH150 Evaporator	DH150
50035445-003/U	DH150 capillary tubes, 0.050in x 0.124in x 59.00in	DH150
50035445-004/U	DH150 compressor	DH150
50035445-005/U	DH150 accumulator	DH150
50035445-006/U	DH150 filter/drier	DH150
50035445-007/U	DH150 tube -condenser to filter	DH150
50035445-008/U	DH150 tube -discharge line	DH150

TrueDRY Dehumidification System

Product Number	Description	Used With
50035445-009/U	DH150 condenser	DH150
50035445-010/U	DH150 Fan Assembly	DH150
50035445-011/U	TrueDRY Fan relay, SPDT, 24 Vac, 15A	DR65, DR90, DR120, DH150
50035445-012/U	DH150 45 MFD capacitor -compressor	DH150
50035445-013/U	TrueDRY Transformer 120/24 Vac, 40 VA	DR65, DR90, DR120, DH150
50035445-014/U	TrueDRY compressor relay, SPST, 24 Vac, 30A	DR90, DR120
50035445-015/U	DH150 15 MFD capacitor-impeller	DH150
50035445-016/U	DH150 collar 10 inch	DH150
50035445-017/U	DH150 collar oval 10 inch	DH150
50035445-018/U	DH150 collar w/damper 6 inch	DH150
50035445-019/U	TrueDRY leveling feet (4 feet)	DR65A2000, DR90, DR120, DH150
50035445-020/U	DH150 MERV 11 filter	DH150
50049536-001/U	DR90 compressor run capacitor	DR90A1000
50049536-003/U	DR90 Filter	DR90A1000
50049536-004/U	DR90 6 in. duct collar	DR90, DR120
50049536-005/U	TrueDRY 10 in. duct collar	DR90, DR120
50049536-006/U	DR90 magnetic door, white	DR90A1000
50049536-007/U	Defrost Thermostat for TrueDRY	DR90A1000, DH150
50049536-008/U	Styrofoam Assembly with Tape	DR90A1000
50049537-001/U	Compressor overload	DR65A1000
50049537-002/U	Compressor relay, DPDT 24 VAC, 30A	DR65
50049537-003/U	Compressor Run capacitor, 35 MFD	DR65
50049537-004/U	8 in. Duct Collar	DR65
50049537-005/U	DR65 Filter	DR65
50049537-006/U	TrueDRY Blower Motor	DR65, DR90A2000 with date code up to K12XXXXX
DR90XFAN1/U	TrueDRY Blower Motor	DR90A2000 with date code L12XXXXX and beyond.
50049537-007/U	Defrost Thermostat for TrueDRY	DR65A1000
50070171-001/U	Compressor Run Capacitor	DR90A2000
50070171-002/U	TrueDRY Filter	DR90A2000, DR120
50070171-003/U	TrueDRY Magnetic door, black	DR90A2000, DR120
50070204-001/U	TrueDRY Fan Capacitor	DR65A2000, DR90A2000 with date code up to K12XXXXX
DR90XCFA1/U	TrueDRY Fan Capacitor	DR90A2000 with date code L12XXXXX and beyond
50070204-002/U	Defrost Thermostat for TrueDRY	DR65, DR90, DR120
50070205-001/U	Compressor Run Capacitor	DR120 with date code up to K12XXXXX
DR120XCRC1/U	Compressor Run Capacitor	DR120A2000 with date code L12XXXXX and beyond
50070205-002/U	TrueDRY Blower Motor	DR120
50070205-003/U	TrueDRY Fan Capacitor	DR120

TrueSTEAM™ Humidification System

Steam provides the highest and most consistent levels of humidity.

- Application flexibility - Mount directly to the duct or remotely up to 20 feet away into tight-fitting or unconditioned air spaces
- Installs in minutes - Limited duct cutting and bracket-mount design takes less than 5 minutes to complete
- Easy maintenance - Self-regulates cleaning cycles throughout the year
- Annual maintenance requires no tools to access and clean, saving time and money on annual contractor service calls
- 5-year warranty
- Some models include HumidiPRO Digital Humidity Control

Type: Steam
Color: Dark Empire Gray
Dimensions, Approximate: 19 in. high x 11 1/4 in. wide x 9 in. deep (482.6 mm x 285.75 mm x 228.6 mm)
Mounting: Duct or Remote Mount (up to 20 feet/6 meters)
Temperature Range: 34 F to 104 F (1.1 C to 40 C)
Voltage: 120 Vac

TrueSTEAM Humidifiers

Product Number	Capacity (per day)		Plenum Opening		Description	Includes
	gallons	liters	(inch)	(mm)		
HM506A2000/U	6 gal per day	23 L per day	1 3/4 in. diameter	44.45 mm diameter	TrueSTEAM 6-gallon with HumidiPRO Digital Humidity Control	Humidifier, H6062 Digital Humidity Control, Outdoor Temperature Sensor, duct template hardware, saddle valve, drain supply water tubing, duct nozzle, mounting bracket, backflow valve
HM509A2000/U	9 gal per day	34 L per day	1 3/4 in. diameter	44.45 mm diameter	TrueSTEAM 9-gallon with HumidiPRO Digital Humidity Control	Humidifier, H6062 Digital Humidity Control, Outdoor Temperature Sensor, duct template hardware, saddle valve, drain supply water tubing, duct nozzle, mounting bracket, backflow valve
HHM512A2000/U	12 gal. per day	46 L per day	1 3/4 in. diameter	44.45 mm diameter	TrueSTEAM 12-gallon with HumidiPRO Digital Humidity Control	Humidifier, H6062 Digital Humidity Control, Outdoor Temperature Sensor, duct template hardware, saddle valve, drain supply water tubing, duct nozzle, mounting bracket, backflow valve
HM512VPIAQ/U	12 gal. per day	46 L per day	1 3/4 in. diameter	44.45 mm diameter	TrueSTEAM 12-gallon with VisionPRO IAQ control	Humidifier, VisionPRO IAQ control, duct template hardware, saddle valve, drain supply water tubing, duct nozzle, mounting bracket, backflow valve

TrueSTEAM Humidifiers with RO Filter Kit

Product Number	Capacity (per day)		Plenum Opening		Description	Includes
	gallons	liters	(inch)	(mm)		
YHM506HRO1/U	6 gal per day	23 L per day	1 3/4 in. diameter	44.45 mm diameter	TrueSTEAM 6-gallon with HumidiPRO Digital Humidity Control and RO Filter Kit	Humidifier, H6062 Digital Humidity Control, Outdoor Temperature Sensor, duct template hardware, saddle valve, drain supply water tubing, duct nozzle, mounting bracket, backflow valve and RO Water Filter Kit
YHM509HRO1/U	9 gal per day	34 L per day	1 3/4 in. diameter	44.45 mm diameter	TrueSTEAM 9-gallon with HumidiPRO Digital Humidity Control and RO Filter Kit	Humidifier, H6062 Digital Humidity Control, Outdoor Temperature Sensor, duct template hardware, saddle valve, drain supply water tubing, duct nozzle, mounting bracket, backflow valve and RO Water Filter Kit
YHM512HRO1/U	12 gal. per day	46 L per day	1 3/4 in. diameter	44.45 mm diameter	TrueSTEAM 12-gallon with HumidiPRO Digital Humidity Control and RO Filter Kit	Humidifier, H6062 Digital Humidity Control, Outdoor Temperature Sensor, duct template hardware, saddle valve, drain supply water tubing, duct nozzle, mounting bracket, water filter, backflow valve
YHM512VRO1/U	12 gal. per day	46 L per day	1 3/4 in. diameter	44.45 mm diameter	TrueSTEAM 12-gallon with VisionPRO IAQ control and RO Filter Kit	Humidifier, VisionPRO IAQ control, duct template hardware, saddle valve, drain supply water tubing, duct nozzle, mounting bracket, backflow valve and RO Water Filter Kit

TrueSTEAM Humidification System

TrueSTEAM Installation Accessories

Product Number	Description	
50024917-001/U	TrueSTEAM 10-Foot Remote Mount Kit. Compat ble with all TrueSTEAM models	
50024917-002/U	TrueSTEAM 20-Foot Remote Mount Kit. Compat ble with HM512 and HM509 TrueSTEAM models	
50027910-001/U	Duct or Remote Mount Differential Pressure Switch	

TrueSTEAM Parts

Product Number	Description
32001647-001/U	Quantity 25 Residential humidifier cone screen filter
50024917-002/U	TrueSTEAM 20-Foot Remote Mount Kit
50024921-002/U	TrueSTEAM handle
50027910-001/U	Duct or Remote Mount Differential Pressure Switch
50027997-001/U	Solenoid Valve for TrueSTEAM
50027998-002/U	TrueSTEAM water Level Sensor assembly
50028001-001/U	Remote-Mount Nozzles for TrueSTEAM
50028003-001/U	TrueSTEAM Duct Nozzle
50028004-001/U	TrueSTEAM Cover
50032048-002/U	Quantity 25 Residential humidifier quick connect adapter
50033181-001/U	Large water Tank for TrueSTEAM HM509 and HM512
50033182-001/U	Small Water Tank for TrueSTEAM HM506
50034043-001/U	TrueSTEAM Tank Sediment Screen
50040111-001/U	Ductboard Adaptor Kit for TrueSTEAM Remote Mount
50043771-001/U	TrueSTEAM filter for solenoid valve (25)
50051144-001/U	Tank Replacement Gasket for TrueSTEAM

Reverse Osmosis Water Filter Parts

Product Number	Description	
50045947-001/U	Reverse Osmosis Water Filter with Storage Tank	
50045947-002/U	Reverse Osmosis Water Filter with Storage Tank, Water Pump	
50046083-001/U	Replacement #1 Sediment Filter for Reverse Osmosis Filter System	
50046084-001/U	Replacement #2 Reverse Osmosis Filter for Reverse Osmosis Filter System	
50046086-001/U	Bundled replacement filters for Reverse Osmosis	
50046089-001/U	Replacement #3 Staging Tank for Reverse Osmosis Filter System	
50044721-001/U	Water hardness test kits for residential homes	

TrueEASE™ Bypass or Fan-powered Humidifier

The TrueEASE Humidifier Line is easy to install with quick snap bypass direction adjustment. Advanced models save 30-50% of water. Easy to replace pads. Advanced models save energy by automatically closing the bypass when not in use.

- Versatile fit designed for more jobs
- Operational efficiencies to drive higher margins with values homeowners understand
- Fast installation for labor and time savings
- Un-intimidating, engaging maintenance to drive repeat business
- Operational noise reduction for humidity comfort without the ear aches
- Includes HumidiPRO Digital Humidity Control

Type: Evaporative Flow-Through

TrueEASE Basic Humidifiers

Product Number	Capacity (per day))		Description
	gallons	liters	
HE100A1000/U	12 gal. per day	46 L per day	TrueEASE Small Basic Bypass Humidifier with HumidiPRO Digital Humidity Control
HE200A1000/U	17 gal. per day	64 L per day	TrueEASE Large Basic Bypass Humidifier with HumidiPRO Digital Humidity Control

TrueEASE Advanced Humidifiers

Product Number	Capacity (per day))		Description
	gallons	liters	
HE150A1005/U	12 gal. per day	46 L per day	TrueEASE Small Advanced Bypass Humidifier with HumidiPRO Digital Humidity Control
HE250A1005/U	17 gal. per day	64 L per day	TrueEASE Large Advanced Bypass Humidifier with HumidiPRO Digital Humidity Control
HE300A1005/U	18 gal. per day	68 L per day	TrueEASE Advanced Fan-Powered Humidifier with HumidiPRO Digital Humidity Control

TrueEASE Parts and Accessories

Product Number	Description
32001647-001/U	Quantity 25 Residential humidifier cone screen filter
32001652-002/U	10V transformer
50032048-002/U	Quantity 25 Residential humidifier quick connect adapter
50041861-001/U	Frame and tray assembly for small bypass models
50041861-002/U	Frame and tray assembly for large bypass models
50041883-001/U	DC Solenoid valve
50041883-002/U	AC Solenoid valve
50041886-001/U	Bottom cover for small basic bypass models
50041887-001/U	Bottom cover for Large basic bypass models
50041888-001/U	Small bypass duct with manual damper
50041888-002/U	Large bypass duct with manual damper
50041890-001/U	Small bypass duct with automatic damper
50041890-002/U	Large bypass duct with automatic damper
50041919-001/U	Frame and tray assembly for fan model
50045729-001/U	Blower and motor assembly with isolator
50050349-001/U	15V transformer
50052641-001/U	Top cover for small bypass models
50052641-002/U	Top cover for large bypass models
50052642-001/U	Bottom cover for small advanced bypass models
50052642-002/U	Bottom cover for large advanced bypass models
50052653-001/U	Wire terminal cover for fan model
50057547-001/U	Circuit board for HE300 TrueEASE fan humidifier
50057547-002/U	Circuit board for HE150 TrueEASE small advanced bypass humidifier
50057547-003/U	Circuit board for HE250 TrueEASE large advanced bypass humidifier

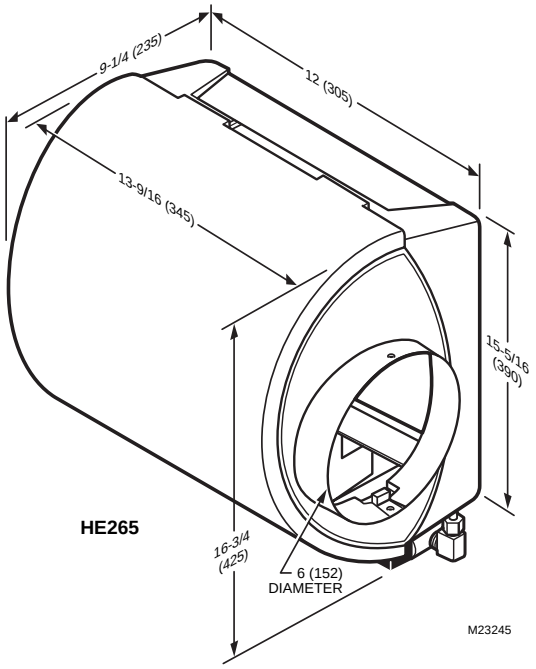
Bypass Humidifers

HE225; HE265 Bypass Flow-through Humidifier

Bypass Flow-through Humidifiers use the warm air furnace blower to provide whole house humidification.

- Humidifier pad is coated with AGION antimicrobial agent
- Preassembled for quicker installation
- Small footprint, light weight and reversible components allow for easy mounting on either warm air supply or cold air return of any forced air furnace
- Interior components designed for quick maintenance and service
- Option of automatic humidity control or standard humidistat
- Standard tested per ARI Standard 610

Dimensions in inches (millimeters)

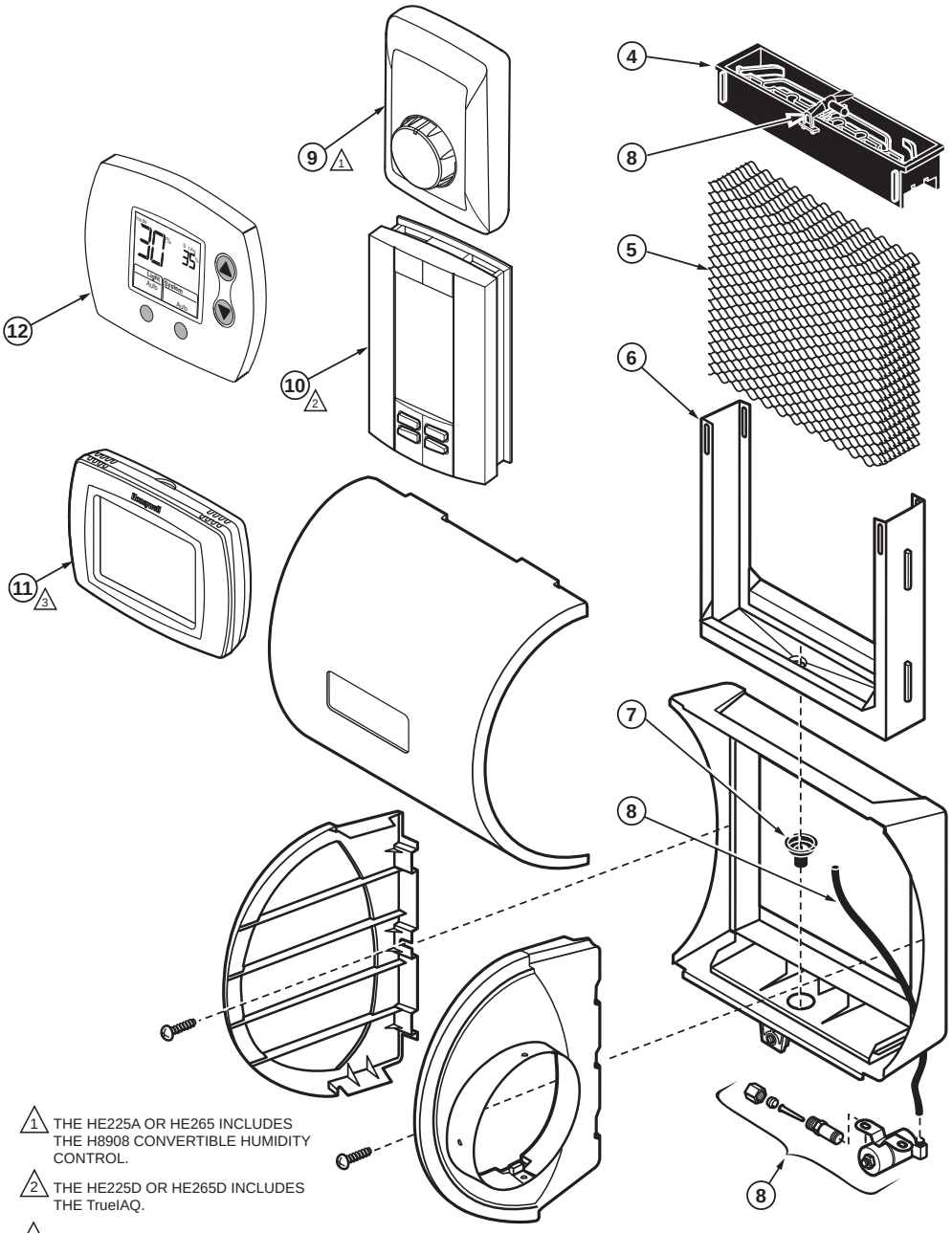


HE265

Type: Evaporative Flow-Through
Dimensions, Approximate: 13 9/16 in. high x 12 in. wide x 9 1/8 in. deep (345 mm high x 305 mm wide x 232 mm deep)
Color: White and Blue
Mounting: Duct mount
Voltage: 24 Vac
Frequency: 60 Hz
Electrical Ratings: 0.5A
Approvals
Underwriters Laboratories, Inc: UL/cUL Listed Report E185662

Product Number	Capacity (per day) gallons	liters	Plenum Opening (inch)	(mm)	Mounting	Includes
HE225H8908/U	12 gal. per day	46 L per day	9 7/16 in. high x 9 5/18 in. wide	241 mm high x 238 mm wide	Duct or Remote Mount (up to 20 feet/6 meters)	Humidifier, summer shut-off damper humidifier pad, mounting template, self-piercing saddle valve 24 Vac transformer and wire, H8908 humidistat
HE265H8908/U	17 gal. per day	64 L per day	12 5/8 in. high x 9 3/4 in. wide	321 mm high x 248 mm wide	Duct or Remote Mount (up to 20 feet/6 meters)	Humidifier, summer shut-off damper humidifier pad, mounting template, self-piercing saddle valve 24 Vac transformer and wire, H8908 humidistat
HE225A1014/U	12 gal. per day	46 L per day	9 7/16 in. high x 9 5/18 in. wide	241 mm high x 238 mm wide	Duct mount	Humidifier, summer shut-off damper humidifier pad, mounting template, self-piercing saddle valve 24 Vac transformer and wire, H8908 humidistat, and bypass installation materials
HE265A1234/U	17 gal. per day	64 L per day	12 5/8 in. high x 9 3/4 in. wide	321 mm high x 248 mm wide	Duct mount	Humidifier, summer shut-off damper humidifier pad, mounting template, self-piercing saddle valve 24 Vac transformer and wire, H8908 humidistat, and bypass installation materials

HE225 and HE265 Exploded View



1 THE HE225A OR HE265 INCLUDES THE H8908 CONVERTIBLE HUMIDITY CONTROL.

2 THE HE225D OR HE265D INCLUDES THE TrueIAQ.

3 THE HE225V AND HE265V INCLUDES THE VisionPRO IAQ.

No.	Description	HE225 Part Number	HE265 Part Number
4	PerfectFlo™ water distribution tray	32001619-001	32001630-001
5	Humidifier Pad (pad has antimicrobial coating)	HC22E1003	HC26E1004
6	Humidifier Pad Frame	32001621-001	32001632-001
7	Drain fitting	32001615-001	32001615-001
8	Solenoid valve assembly(includes nozzle)	32001639-002	32001639-002
9	H8908 Humidity Control	H8908ASPST	H8908ASPST
10	TrueIAQ Digital Automatic Control with Outdoor Enthalpy Sensor	DG115EZIAQ	DG115EZIAQ
11	VisionPRO IAQ with outdoor temp sensor	YTH9421C1010	YTH9421C1010
12	HumidiPRO Digital Humidity Control	H6062A1000	H6062A1000
—	Hardware Kit for Solenoid Assembly (same as Solenoid valve assembly without the solenoid valve)	32001752-001	32001752-001
—	Current Sensing Relay	32001754-001	32001754-001

M23213C

Humidifier Replacement Pads and Filters

Humidifier Replacement Pads and Filters

Product Number	Description	Includes	Used With	
32000146-001/U	HE120 Replacement Humidifier Pad (includes clips)	—	HE120	
50028044-001/U	Plumb in-line scale and sediment filter with quick-connect fittings.	1 filter	All Honeywell steam and evaporative humidifiers; also fits AprilAire evaporative models	
HC22A1007/U	HE220 Humidifier Pad	Standard Humidifier Pad	Honeywell HE220, HE225, Aprilaire Models 110, 220, 550, 558	
HC22E1003/U	HE225 Humidifier Pad with AgION™ Coating	AgION Antimicrobial Humidifier Pad	Honeywell HE220, HE225, Aprilaire Models 110, 220, 550, 558	
HC26A1008/U	HE260 Humidifier Pad	Standard Humidifier Pad	Honeywell HE260, HE265, HE360, HE365, Aprilaire 350, 360, 560, 568, 600, 700, 760, 768	
HC26E1004/U	HE265 Humidifier Pad with AgION™ Coating	AgION Antimicrobial Humidifier Pad	Honeywell HE260, HE265, HE360, HE365, Aprilaire 350, 360, 560, 568, 600, 700, 760, 769	

Humidifier Parts

Product Number	Description	Used With
32000132-001/U	HE120 24 Vac Motor	HE120
32000136-001/U	HE120 Float Valve	HE120
32000156-001/U	HE420 Fan Wiring Assembly	HE420
32000408-001/U	HE360, HE365 Feed Tube Nozzle	HE360, HE365
32000429-001/U	HE360, HE365 Fan Blade	HE360, HE365
32001615-001/U	HE220, HE225, HE260, HE265, HE360, HE365 Drain Fitting	HE220, HE225, HE260, HE265, HE360, HE365
32001616-001/U	HE120, HE220, HE225, HE260, HE265, HE360, HE365 Saddle Valve Assembly	HE120, HE220, HE225, HE260, HE265, HE360, HE365
32001619-001/U	HE220, HE225, HE360A1001 PerfectFlo™ Water Distribution Tray	HE220, HE225, HE360
32001621-001/U	HE220, HE225 Humidifier Pad Frame	HE220, HE225
32001630-001/U	HE260, HE265, HE360, HE365 PerfectFlo™ Water Distr bution Tray	HE260, HE265, HE360, HE365
32001632-001/U	HE260, HE265, HE360, HE365 Humidifier Pad Frame	HE260, HE265, HE360, HE365
32001639-002/U	HE220, HE225, HE260, HE265 Solenoid Valve Assembly (includes water feed tube and nozzle)	HE220, HE225, HE260, HE265
32001652-001/U	HE220, HE225, HE260, HE265 Transformer (10VA)	HE260, HE265, HE360, HE365
32001676-001/U	HE360, HE365 Printed Wiring Board Assembly	HE360, HE365
32001676-001/U	HE360, HE365 Printed Wiring Board Assembly	HE360, HE365
32001752-001/U	HE220, HE225, HE260, HE265, HE360, HE365 Hardware Kit for Solenoid Assembly (does not include solenoid valve)	HE220, HE225, HE260, HE265, HE360, HE365
32001754-001/U	Current Sensing Relay	HE220, HE225, HE260, HE265, HE360, HE365
32001876-001/U	HE360, HE365 Solenoid Valve Assembly (includes water feed tube)	HE360, HE365
32006450-001/U	HE440 Filter Pack	HE440
32006451-001/U	HE440 Chlorine Filter	HE440
50018841-001/U	Mounting Bracket for HE420	HE420
50018847-001/U	SPDT Relay for HE420	HE420
50019240-001/U	In-line Chlorine Filter used with a HE420	HE420
50020012-001/U	Mounting Bracket for TrueSTEAM	—
50027997-001/U	Solenoid Valve for TrueSTEAM	—
50028001-001/U	Remote-Mount Nozzles for TrueSTEAM	—
50028003-001/U	TrueSTEAM Duct Nozzle	—
50028004-001/U	TrueSTEAM Cover	—
50033181-001/U	Large water Tank for TrueSTEAM HM509 and HM512	HM509; HM512
50033182-001/U	Small Water Tank for TrueSTEAM HM506	HM506
50040111-001/U	Ductboard Adaptor Kit for TrueSTEAM Remote Mount	—
50043683-001/U	Water Backflow Prevention Valve with Manual Water Shutoff. For use with TrueSTEAM	—
50051144-001/U	Tank Replacement Gasket for TrueSTEAM	—

S688 Sail Switch

The Sail Switch activates an electronic air cleaner, a humidifier, or other equipment in response to airflow from the system fan. The S688A is mounted in the return air duct where the sail will be in the direct path of an unrestricted air stream.

- Simplified installations with multi-speed fans, in- accessible air handlers, fan motors with voltage or phase different from controlled equipment; eliminated wiring to system fan.
- Polyester film sail mounted on a micro switch snap switch.
- Removable spring counterbalances sail to allow mounting in either vertical (up or down) or horizontal air flow.
- Top and bottom conduit knockouts for wiring convenience.
- Low air velocity switch operation makes at 250 fpm and breaks at 75 fpm.

Dimensions, Approximate: 2 15/16 in. high x 3 3/4 in. wide x 2 in. deep (59 mm high x 95 mm wide x 51 mm deep)
Contact Ratings (AFL): N.C. Contacts: 0.5 A @ 240 Vac; N.C. Contacts: 1.0 A @ 24 Vac, 120 Vac; N.O. Contacts: 1.0 A @ 240 Vac; N.O. Contacts: 2.0 A @ 24 Vac, 120 Vac
Contact Ratings (ALR): N.C. Contacts: 3.0 A @ 240 Vac; N.C. Contacts: 6.0 A @ 24 Vac, 120 Vac; N.O. Contacts: 6.0 A @ 240 Vac; N.O. Contacts: 12.0 A @ 24 Vac, 120 Vac
Contact Ratings (Resistive): N.C. Contacts: 2.5 A @ 24 Vac, 120 Vac, 240 Vac; N.O. Contacts: 2.5 A @ 240 Vac; N.O.Contacts: 5.0 A @ 24 Vac, 120 Vac

Maximum Ambient Temperature: At switches: 125 F; At sail: 170 F (At switches: 52C) (At sail: 77 C)
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: UL Listed: File No. E4436, Guide No. XAPX. For use in ambient temperatures normally prevailing in occupiable spaces, which usually are not higher than 77 F (25 C) but occasionally may be as high as 104 F (40 C) for brief periods.

Product Number	Switching	Operating Velocity		Sail Dimensions		Insertion Length	
		(fpm)	(m/s)	(inch)	(mm)	(inch)	(mm)
S688A1007	SPDT	75 fpm-250 fpm	0.4 m/s-22.9 m/s	5 in. wide (max), 26.2 sq. in. of area	127 mm wide (max), 16,903 mm^2	10 in.	254 mm

Sail Switch Accessories

Product Number	Description	Used With
123773A	Sail assembly for S688A	S688A

Digital IAQ Control

HumidiPRO™ Digital Humidity Control

Easy to use, digital control of your home's humidification or dehumidification. HumidiPRO™ will automatically adjust settings for changes in outdoor temperature to ensure no condensation will appear in your home (window protection).

- Automatic humidification (window protection) with included outdoor sensor
- Manual humidification control
- Manual dehumidification control
- Dehumidifier compressor protection
- Large, digital backlit display
- Simple, intuitive programming
- RH% and outdoor temperature cal bration
- Adjustable high and low range stops (10-90%)
- Automatically detects presence of outdoor sensor to set control to Automatic or Manual Mode

Application: Provides humidity control for whole-house humidifiers and dehumidifiers
Type: Digital
Mounting: Return air duct mount (recommended), wall mount

Voltage: 24 Vac constant
Terminal Designations: C, R, U, U, S, S
Power: Hardwire

Product Number	Humidity Range Setting (% RH)	Color	Used With
H6062A1000/U	Manual Mode - 10- 90% (Adjustable) Automatic Mode - 20-60% (35% Default)	Premier White	TrueEASE, TrueSTEAM, all dry-contact humidifiers and dehumidifiers

TrueIAQ® Automatic Digital IAQ Control

Integrate control of you home's humidification, dehumidification, ventilation and even bathroom fans into a single device with Honeywell's TrueIAQ control. TrueIAQ allows you to program your air quality and fan settings individually, or as a system for increased comfort and energy savings. Plus, TrueIAQ will automatically adjust settings for changes in outside temperature and humidity, and provides maintenance reminders to help keep your equipment operating at peak efficiency. For true indoor air quality control, choose TrueIAQ.

- Setting changes can be made easily with the touch of a button.
- Manages humidification, dehumidification, ventilation and bathroom fans from a central point in your home
- Simultaneously displays both indoor and outdoor temperature and humidity levels on-screen
- Automatically adjusts inside settings based on outdoor conditions
- Include individual air quality enhancements to your system with TrueIAQ, or integrate them all as part of a total air quality system
- Intuitive digital backlit display

Application: Provides humidity control for ducts, greenhouses, computer rooms, printing and photographic laboratories, and other applications where electronic accuracy, as well as remote sensing, is desired
Type: Steam

Mounting: Duct or Remote Mount (up to 20 feet)
Temperature Range: (1.1 C to 40 C)
Voltage: 24 Vac

Product Number	Operating Humidity Range (% RH)	Electrical Ratings	Color	Includes	Used With
DG115EZIAQ/U	95% RH at 95 F, non-condensing	2.0A at 24 Vac, humidifier, dehumidifier, vent contacts	White	TrueIAQ control and outdoor sensor for temperature and humidity	Outdoor temp/humidity sensor (included)

H8908 Humidistat/Dehumidistat

The H8908A Humidistat and H8908D Dehumidistat (humidity controllers) provide automatic low voltage control of humidifiers and dehumidifiers or ventilators, respectively, in central heating and air conditioning systems. They have a SPST, snap-acting, dust-proof switch and are designed for wall or surface duct mounting.

- SPST, snap-acting, dust-proof switch and are designed for wall or surface duct mounting
- Positive ON and OFF settings
- Twelve-inch ribbon of thin, moisture-sensitive nylon ribbon wound around three bobbins effectively gives optimum control for reliable operation under changing ambient conditions
- Mounts in duct or on wall surface

Type: Steam
Dimensions, Approximate: 19 in. high x 11 1/4 in. wide x 9 in. deep (482.6 mm x 285.75 mm x 228.6 mm)
Mounting: Duct or Remote Mount (up to 20 feet/6 meters)
Temperature Range: (1.1 C to 40 C)
Voltage: 24 Vac

Product Number	Color	Application
H8908ASPST/U	White	Provides humidity control for ducts, greenhouses, computer rooms, printing and photographic laboratories, and other applications where electronic accuracy, as well as remote sensing, is desired
H8908DSPST/U	White	Provides humidity control for ducts, greenhouses, computer rooms, printing and photographic laboratories, and other applications where electronic accuracy, as well as remote sensing, is desired

H46 Humidity Controller

Provide automatic control of a humidifier or dehumidifier for dehumidification in air conditioning systems.

- Positive ON-OFF settings permit manual operation of controlled equipment
- Impact-resistant, molded plastic cover mounts on wall
- Fully enclosed, dust free, SPST, snap-acting switch
- Sensing element of thin, moisture sensitive nylon ribbon provides reliable operation even when ambient temperature conditions change

Type: Humidity Control
Dimensions, Approximate: 4 11/16 in. high x 2 15/16 in. wide x 2 1/8 in. deep (119 mm high x 75 mm wide x 54 mm deep)
Mounting: Wall mount
Temperature Range: 50 F to 125 F (10 C to 52 C)
Differential: 4% to 6% RH
Voltage: 24 Vac; 120 Vac; 240 Vac

	Product Number	Operating Humidity Range (% RH)	Electrical Ratings						Color	Description
			(120 Vac, Full Load)	(120 Vac, Locked Rotor)	(120 Vac, Resistive)	(240 Vac, Full Load)	(240 Vac, Locked Rotor)	(240 Vac, Resistive)		
*	**H46C1166/U**	20 to 80% RH	7.5A	30.0A	6.0A	3.8A	15.0A	6.0A	Premier White®	Wall mounted Dehumidistat
*	**H46D1214/U**	10 to 60% RH	4.4A	26.4A	6.0A	2.2A	13.2A	6.0A	Premier White®	Wall mounted Humidistat
*	**H46E1013/U**	20 to 80% RH	7.5A	30.0A	6.0A	3.8A	15.0A	6.0A	Beige	Dehumidistat with plug for window Air Conditioner or portable dehumidifier

** TRADELINE models • SUPER TRADELINE models*

Humidity Controllers

H600 Humidity Controllers

Operates humidification equipment on RH fall or dehumidification equipment on RH rise.

- Sensing element of thin, moisture sensitive nylon r bbon provides reliable operation even when ambient temperature conditions change
- Fully enclosed, dust free, SPDT, snap-acting switch
- Removable setting knob prevents tampering
- Mount vertically on 2 x 4 in. junction box (not to be duct mounted)
- Includes alternate scale and faceplate for horizontal mounting

Type: Humidity Control
Dimensions, Approximate: 6 3/16 in. high x 3 3/8 in. wide x 2 1/4 in. deep (157 mm high x 86 mm wide x 57 mm deep)
Mounting: Wall mount
Temperature Range: 50 F to 125 F (10 C to 52 C)
Operating Humidity Range (% RH): 20 to 80% RH
Differential: 5% RH
Voltage: 24 Vac; 120 Vac; 240 Vac
Color: Gray

		Electrical Ratings					
	Product Number	**(120 Vac, Full Load)**	**(120 Vac, Locked Rotor)**	**(120 Vac, Resistive)**	**(240 Vac, Full Load)**	**(240 Vac, Locked Rotor)**	**(240 Vac, Resistive)**
*	**H600A1014/U**	Dehumidifier Contacts 7.5A Humidifier Contacts 4.4 A	Dehumidifier Contacts 30A Humidifier Contacts 26.4 A	Dehumidifier Contacts 6 A Humidifier Contacts 6 A	Dehumidifier Contacts 3.8A Humidifier Contacts 2.2 A	Dehumidifier Contacts 15A Humidifier Contacts 13.2 A	Dehumidifier Contacts 6 A Humidifier Contacts 6 A

** TRADELINE models • SUPER TRADELINE models*

24 Volt UV Air Purifier with AirBRIGHT™ Odor Absorption

Honeywell's UV Air Purifier with AirBRIGHT Odor Absorption is installed in the ductwork of your central air system and is designed to help reduce airborne odors, toxic chemical vapors, germs and mold in your home. Through the use of Advanced Photocatalytic Oxidation (PCO) technology, Honeywell's UV Air Purifier combines germicidal UV light and activated carbon cells to reduce volatile organic compounds (VOC's) in the air.

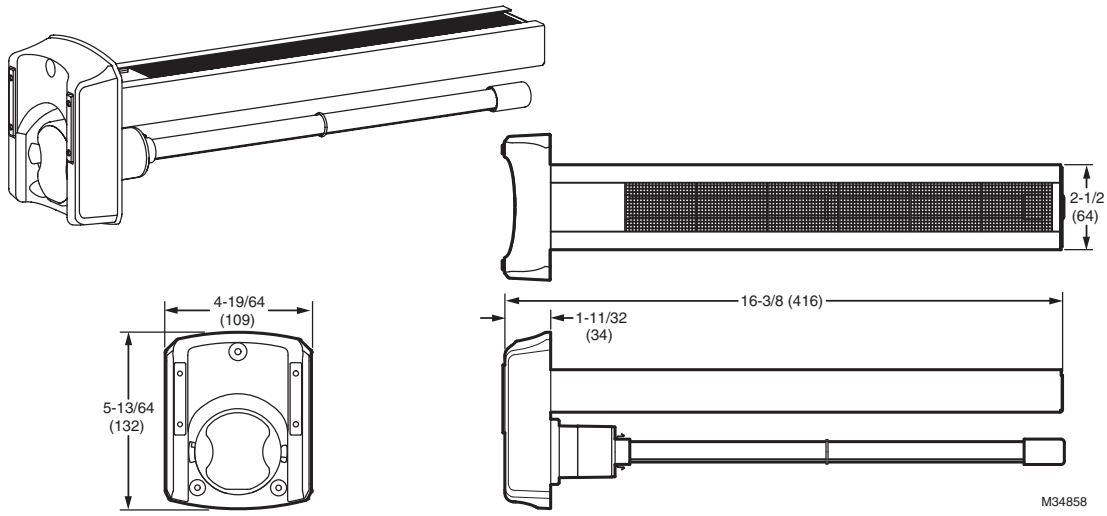
- Lamp is Always On
- Replace Lamp Annually
- AirBRIGHT Odor Absorber never needs replacing
- SnapLamp™ features replacement lamp handle with detachable replacement lamp.
- Universal Installation with a single product
  - — UV Only
  - — UV + Odor Removal
  - — Internal Mount
  - — External Mount

Input: 18-32
Voltage : 0.8A
Application: Whole Home Air Purification

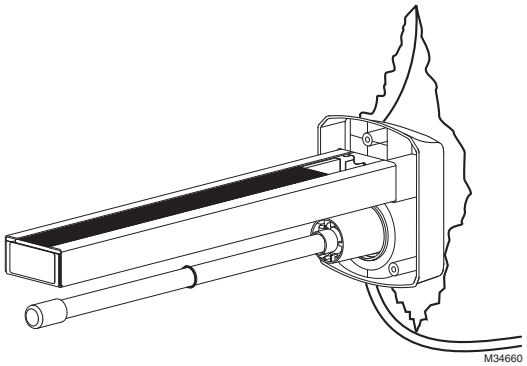
Mounting: Universal - External or Internal (Magnets)
Color: Dark Empire Grey

Product Number	Description	Comments
UV2400U1000/U	UV Air Purifier	Surface Treatment
UV2400U5000/U	UV Air Purifier with AirBRIGHT Odor Absorption	Surface Treatment Plus VOC Reduction/Odor Absorption
UV2400XPCO1/U	AirBRIGHT Odor Assembly	Odor Assembly Only - Requires UV Air Purifier
UV2400XLAM1/U	Replacement Lamp	Replace every 12 Months
UV2400XBAL1/U	Replacement Ballast	—
UV2400XDBA1/U	Duct Board Adapter	Securely fasten UV Air Purifier to Duct Board Applications

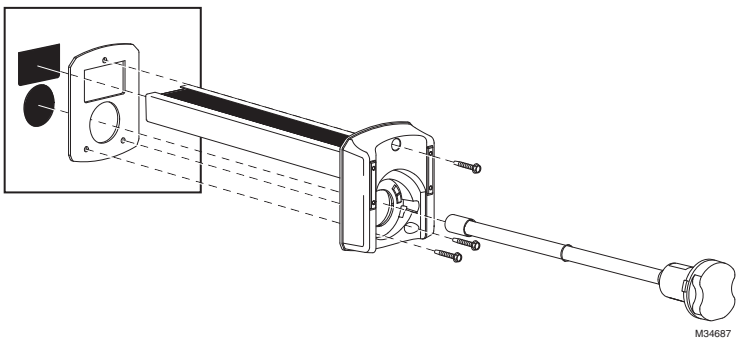
Dimensions in inches (millimeters)



Internal and external (universal) mounting for the UV air purifier



Internal Mount



External Mount

Ultraviolet Air Treatment Systems

UV100 Ultraviolet Air Treatment Systems

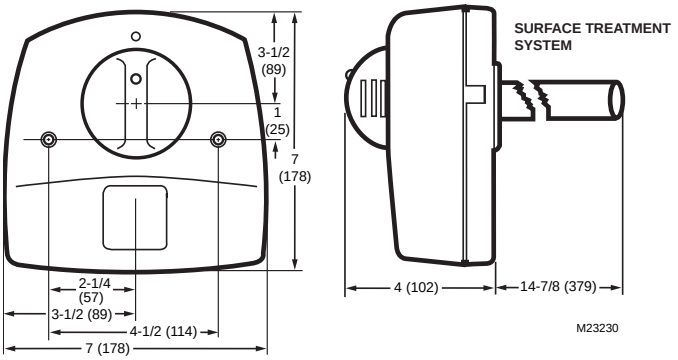
- SnapLamp™ features replacement lamp handle with detachable replacement bulb, UC18W or UC36W, to make replacement more economical
- UV-C light kills airborne bacteria or surface mold
- Continuously emits ultraviolet energy
- UV lamp does not produce ozone
- Sealed unit design prevents accidental installer and homeowner contact with the voltage and with the ultraviolet rays
- Safe design prevents lamps from lighting unless the base is correctly mounted on the HVAC duct
- Lamp light indicator to safely view the lamp operation
- Power cord that plugs into electrical outlet
- Quick and easy bulb replacement
- Easy lamp maintenance
- Optional AIRWATCH™ Indicator can be installed to remind customers when to change bu b
- To capture and minimize micro-organism pass-through in residential heating, ventilation and air conditioning (HVAC) systems, combine the Ultraviolet System with a high-efficiency air filtration system that includes an electronic air cleaner

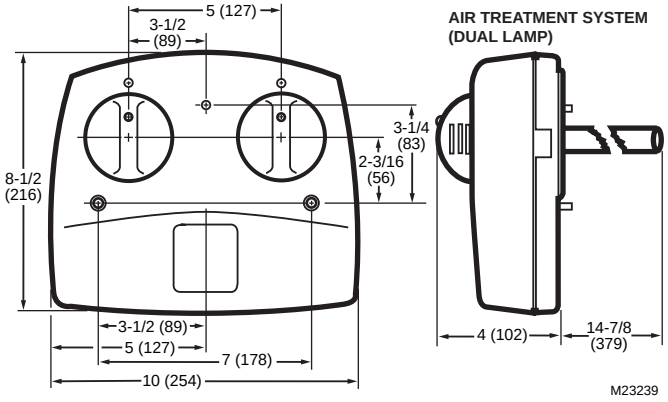
Operating Temperature (inside Duct): 30 F to 140 F (-2 C to +60 C)
Operating Temperature (outside Duct): 30 F to 104 F (-2 C to +40 C)

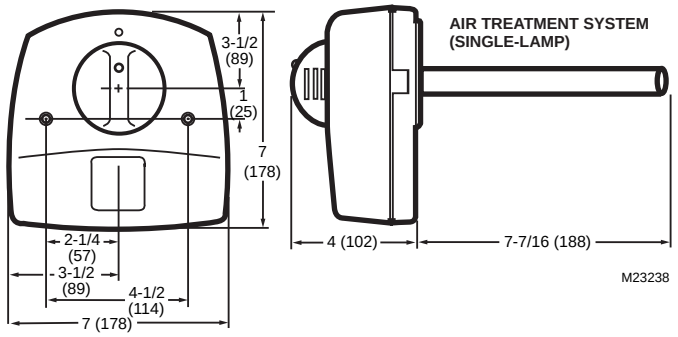
Replacement Parts:
UC36W1006-Replacement Bulb for 36W Dual Lamp Return Air Models and Coil Irradiation Models

Product Number	Contaminants Reduced	Electrical Ratings (Watts)	Electrical Ratings (Vac)	Description
UV100A1059/U	Airborne Bacteria, Surface Mold	120 Vac	36W	Ultraviolet Surface Treatment or Air Treatment System, Coil Plus Model
UV100A2008/U	Airborne Bacteria, Surface Mold	240 Vac	36W	Ultraviolet Surface Treatment or Air Treatment System, Coil Plus Model, 240V
UV100E1043/U	Airborne Bacteria	120 Vac	18W	SmartLamp Ultraviolet Air Treatment System, Single Lamp Return Air Model
UV100E2009/U	Airborne Bacteria	120 Vac	36W each	SmartLamp Ultraviolet Air Treatment System, Dual Lamp Return Air Model
UV100E3007/U	Surface Mold	120 Vac	36W	SmartLamp Ultraviolet Surface Treatment System, Coil Irradiation Model

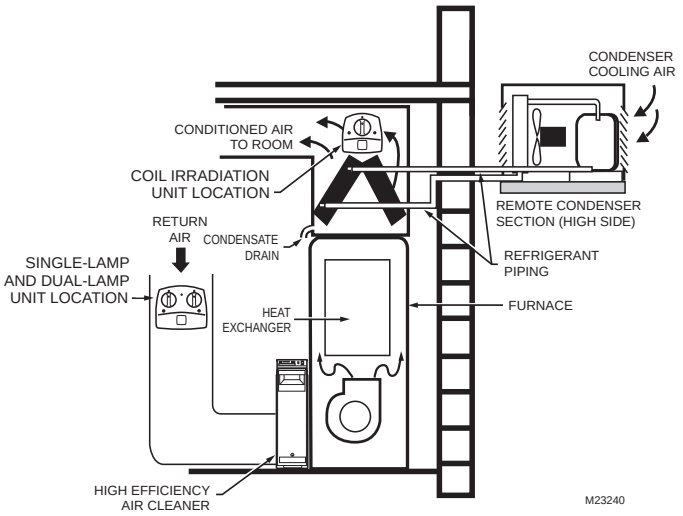
Dimensions in inches (millimeters)







Possible mounting locations for Ultraviolet Air Treatment Systems



Replacement Lamp Ultraviolet Air Treatment System

The UC100 Ultraviolet Air Treatment System Replacement Lamp is for use with the UV100 Ultraviolet Air Treatment System.

Product Number	Electrical Ratings (Vac)	Description	Used With
UC100E1006/U	18W	Replacement SnapLamp for UV100E1001 and UV100E1043, blue handle	UV100E1001, UV100E1043
UC100E1030/U	36W	Replacement SnapLamp for UV100E3007, UV100E1035, UV100A1059 and UV100A2008, blue handle	UV100A1018, UV100E3007, UV100E1035, UV100A2009, UV100A1059, UV100A2008
UC18W1004/U	18W	Replacement Bu b for 18W SnapLamp Models	UC100A1005, UC100E1006, UV100A1000, UV100E1043
UC36W1006/U	36W	Replacement Bu b for 36W SnapLamp Models	UC100A1013, UC100A1054, UC100E1014, UC100E1030, UV100A1018, UV100A1059, UV100A2008, UV100E2009, UV100E3007
UV2400XLAM1/U	16W	Replacement Lamp, Replace every 12 Months	UV2400U

TrueFRESH Ventilation System

TrueFRESH™ Balanced Ventilation System

Honeywell's TrueFRESH eliminates Balanced Ventilation Systems is a True Time Saver. TrueFRESH eliminates the need for overhead ducting, and balance without adjusting dampers, they change everything when it comes to time consuming installation.

- Removable Duct Collars
- Damperless Balancing
- Adjustable Hanging Straps
- Centralized Wiring and Speed Control
- Customizable
- Compact Size
- Meets ASHRAE 62.2 Standards
- 5-Year Warranty

Application: Energy Recovery Ventilator
Electrical Ratings: 120 Vac
Frequency: 60 Hz
Defrost Control: Exhaust Only Defrost

TrueFRESH Energy Recovery Ventilators

	Product Number	Airflow Capacity (external static pressure)	Current Draw, Nominal (maximum speed)	Type of Core	Apparent Sensible Effectiveness	Total Recovery Ratio
*	**VNT5070E1000/U**	80 cfm (0.4 in. wc)	0.85 A	Enthalpy 10 inch ERV Core	0.74	0.43
*	**VNT5150E1000/U**	159 cfm (0.4 in. wc)	1.5 A	Enthalpy 10 inch ERV Core	0.76	0.34
*	**VNT5200E1000/U**	188 cfm (0.4 in. wc)	1.5 A	Enthalpy 15 inch ERV Core	0.81	0.48

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TrueFRESH Heat Recovery Ventilators

	Product Number	Airflow Capacity (external static pressure)	Current Draw, Nominal (maximum speed)	Type of Core	Apparent Sensible Effectiveness	Total Recovery Ratio
*	**VNT5070H1000/U**	75 cfm (0.4 in. wc)	0.85 A	Polypropylene 10 inch HRV Core	0.72	—
*	**VNT5150H1000/U**	150 cfm (0.4 in. wc)	1.5 A	Polypropylene 10 inch HRV Core	0.75	—
*	**VNT5200H1000/U**	200 cfm (0.4 in. wc)	1.5 A	Polypropylene 15 inch HRV Core	0.71	—

** TRADELINE models • SUPER TRADELINE models*

Energy Star rated Ventilators

	Product Number	Airflow Capacity (external static pressure)	Current Draw, Nominal (maximum speed)	Type of Core	Apparent Sensible Effectiveness	Total Recovery Ratio
*	**VNT6150H1000/U**	150 cfm (0.4 in. wc)	1.5 A	Polypropylene 10 inch HRV Core	0.84	—
*	**VNT6200H1000/U**	200 cfm (0.4 in. wc)	1.5 A	Polypropylene 10 inch HRV Core	0.80	—

** TRADELINE models • SUPER TRADELINE models*

Residential Ventilation Replacement Filters

Product Number	Application	Used With
50053952-005/U	Replacement Filter Kit VNT5150 (Kit quantity 2)	VNT5150
50053952-006/U	Replacement Filter Kit VNT5200 (Kit quantity 2)	VNT5200

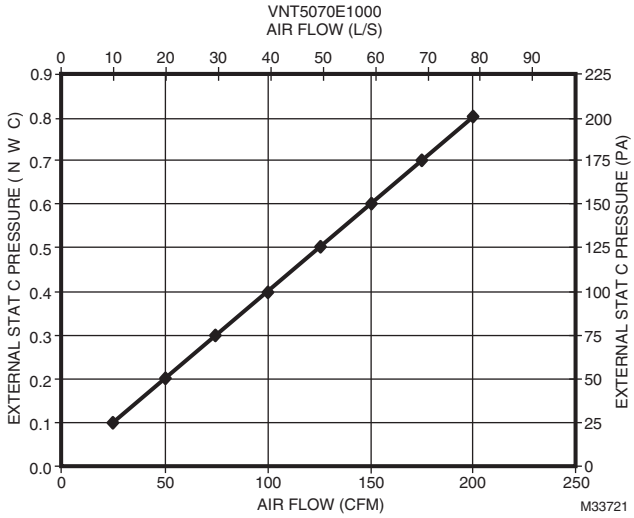
Residential Ventilation Accessories and Replacement Parts

Product Number	Description	Used With
50048694-001/U	Door Latch, for HR150B, HR200B, ER150B, ER200B, ER150C	HR150B; HR200B; ER150B; ER150C; ER200C; ER200B
50053952-001/U	Polypropylene 10 inch HRV Core for VNT5150H1000	VNT5150H1000
50053952-002/U	Polypropylene 15 inch HRV Core for VNT5200H1000	VNT5200H1000
50053952-003/U	Enthalpy 10 inch ERV Core for VNT5150E1000	VNT5150E1000
50053952-004/U	Enthalpy 15 inch ERV Core for VNT5200E1000	VNT5200E1000
50053952-007/U	6 inch diameter Plastic Double Collar	VNT5150, VNT5200
50053952-008/U	6 inch diameter Plastic Keeper	VNT5150, VNT5200
50053952-009/U	Adjustable Hanging Straps (set)	VNT5070, VNT5150, VNT5200
50053952-010/U	Replacement Motor	VNT5150, VNT5200
50053952-011/U	Condensation Drain Fitting Kit	VNT5070, VNT5150, VNT5200

Product Number	Description	Used With
50053952-012/U	Replacement low voltage control electronic board	VNT5150, VNT5200
50053952-013/U	Replacement high voltage control electronic board	VNT5070, VNT5150, VNT5200
50053952-014/U	Latch and Hinge Kit	VNT5070, VNT5150, VNT5200
50053952-015/U	Front Access Door	VNT5150, VNT5200
50053952-020/U	20-40-60 Minute Boost Control	VNT5150, VNT5200

VNT5070E Ventilation Performance

External Static Pressure		Net Supply Air Flow		Gross Air Flow			
				Supply		Exhaust	
Pa	in. W.C.	L/s	CFM	L/s	CFM	L/s	CFM
25	0.1	49	105	49	105	46	97
50	0.2	46	97	47	99	41	86
75	0.3	44	92	44	93	41	86
100	0.4	37	80	38	81	34	73
125	0.5	34	73	35	74	29	63
150	0.6	29	62	29	63	25	52
175	0.7	23	48	23	49	18	37
200	0.8	22	46	22	47	10	20



VNT5070E Energy Performance

	Supply Temperature		Net Supply Air Flow		Average Power	Sensible Recovery	Apparent Sensible
	°C	°F	L/s	CFM	Watts	Efficiency %	Effectiveness %
Heating	0	32	20	41	30	65	74
	0	32	30	64	36	64	71
	-15	5	16	35	27	54	80
	35	95	19	41	30		
	35	95					

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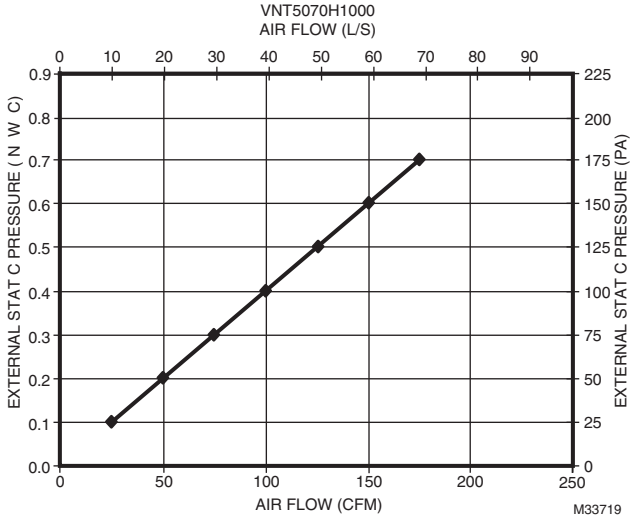
VNT5070H Ventilation Performance

External Static Pressure		Net Supply Air Flow		Gross Air Flow			
				Supply		Exhaust	
Pa	in. W.C.	L/s	CFM	L/s	CFM	L/s	CFM
25	0.1	47	99	48	100	48	102
50	0.2	44	93	45	94	43	92
75	0.3	39	83	40	84	38	80
100	0.4	35	75	35	75	36	78
125	0.5	30	65	30	66	32	68
150	0.6	27	56	27	57	25	52
175	0.7	22	46	22	47	19	41



VNT5070H Energy Performance

	Supply Temperature		Net Supply Air Flow		Average Power	Sensible Recovery	Apparent Sensible
	°C	°F	L/s	CFM	Watts	Efficiency %	Effectiveness %
Heating	0	32	19	40	28	64	72
	0	32	30	65	40	59	66
	-25	-13	18	37	30	55	73
	35	95					

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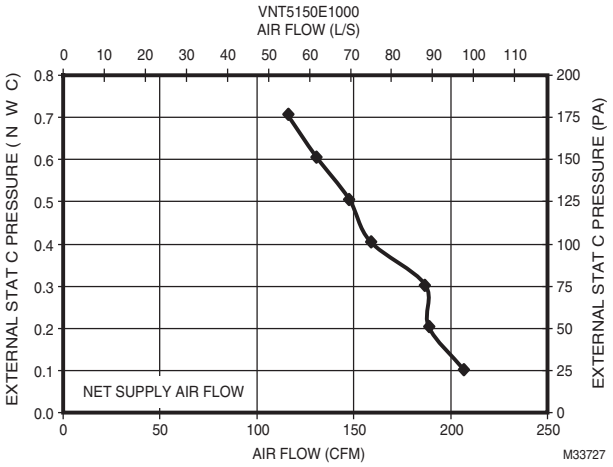
TrueFRESH Ventilation System

VNT5150E Ventilation Performance

External Static Pressure		Net Supply Air Flow		Gross Air Flow			
				Supply		Exhaust	
Pa	in. W.C.	L/s	CFM	L/s	CFM	L/s	CFM
25	0.1	97	207	99	210	99	211
50	0.2	89	189	91	193	91	193
75	0.3	88	187	84	179	84	178
100	0.4	75	159	76	162	76	162
125	0.5	70	148	71	150	69	147
150	0.6	62	131	63	133	62	131
175	0.7	55	116	55	118	55	117
200	0.8	49	104	50	106	48	102
225	0.9	42	90	43	91	43	92
250	1.0	36	77	37	78	40	86
275	1.1	32	68	32	69	32	69



VNT5150E Energy Performance

	Supply Temperature		Net Supply Air Flow		Average Power	Sensible Recovery	Apparent Sensible
	°C	°F	L/s	CFM	Watts	Efficiency %	Effectiveness %
Heating	0	32	24	51	58	65	76
	0	32	38	80	76	65	73
	0	32	56	118	96	62	70
	-15	5	26	55	59	52	78
	35	95	30	64	66		

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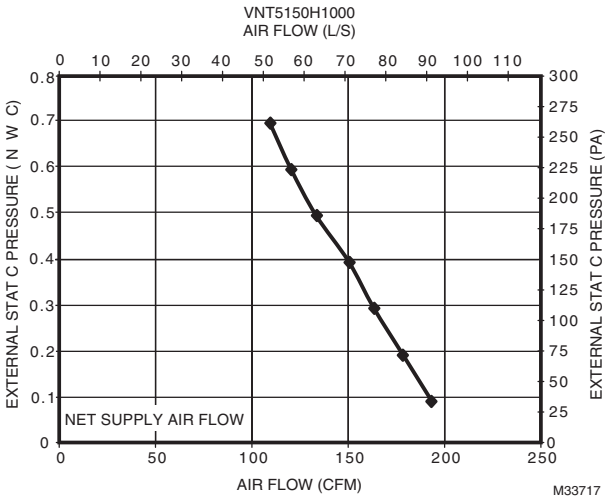
VNT5150H Ventilation Performance

External Static Pressure		Net Supply Air Flow		Gross Air Flow			
				Supply		Exhaust	
Pa	in. W.C.	L/s	CFM	L/s	CFM	L/s	CFM
25	0.1	91	193	91	194	103	217
50	0.2	84	178	85	179	95	201
75	0.3	77	163	77	163	86	183
100	0.4	71	150	71	151	80	169
125	0.5	63	133	63	134	71	152
150	0.6	57	120	57	121	66	138
175	0.7	51	109	51	109	57	121
200	0.8	46	96	46	96	50	106
225	0.9	40	85	40	86	43	91
250	1	35	75	36	75	39	82



VNT5150H Energy Performance

	Supply Temperature		Net Supply Air Flow		Average Power	Sensible Recovery	Apparent Sensible
	°C	°F	L/s	CFM	Watts	Efficiency %	Effectiveness %
Heating	0	32	31	65	72	66	75
	0	32	39	83	80	63	72
	0	32	50	107	94	60	67
	-25	-13	36	76	72	56	73

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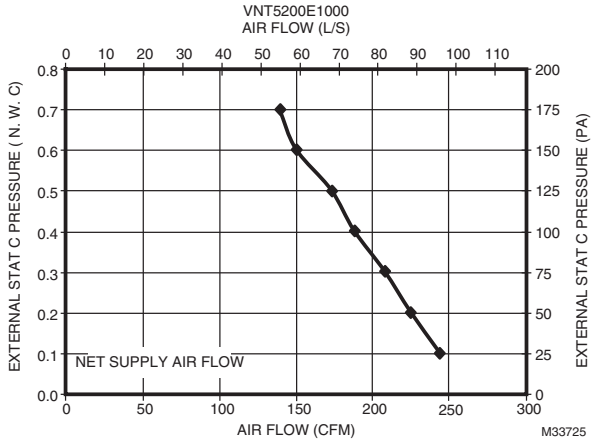
VNT5200E Ventilation Performance

External Static Pressure		Net Supply Air Flow		Gross Air Flow			
				Supply		Exhaust	
Pa	in. W.C.	L/s	CFM	L/s	CFM	L/s	CFM
25	0.1	115	244	116	247	108	230
50	0.2	106	225	107	228	101	215
75	0.3	98	208	99	210	95	202
100	0.4	88	188	89	190	83	177
125	0.5	81	173	82	175	74	157
150	0.6	71	150	71	152	67	142
175	0.7	65	139	66	140	60	127
200	0.8	57	122	58	124	52	110
225	0.9	49	105	50	106	42	89
250	1	40	86	41	87	67	74
275	1.1	34	72	34	73	30	63



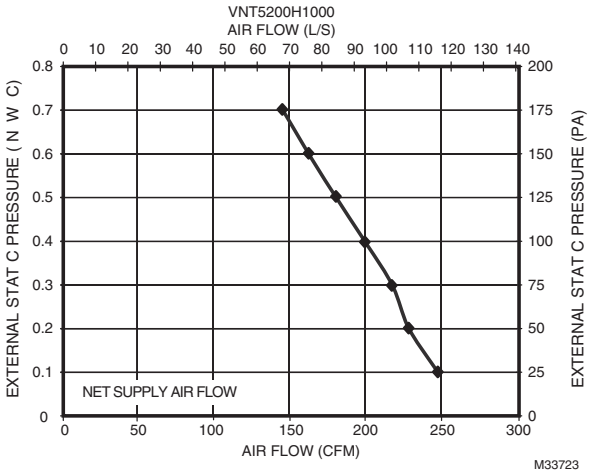
VNT5200E Energy Performance

	Supply Temperature		Net Supply Air Flow		Average Power	Sensible Recovery	Apparent Sensible
	°C	°F	L/s	CFM	Watts	Efficiency %	Effectiveness %
Heating	0	32	37	78	74	71	81
	0	32	50	107	80	72	79
	0	32	71	150	102	69	77
	-15	5	36	75	65	58	82
	35	95	35	75	72		

M33726

VNT5200H Ventilation Performance

External Static Pressure		Net Supply Air Flow		Gross Air Flow			
				Supply		Exhaust	
Pa	in. W.C.	L/s	CFM	L/s	CFM	L/s	CFM
25	0.1	117	248	118	250	130	277
50	0.2	108	229	109	231	119	253
75	0.3	102	218	103	220	110	234
100	0.4	94	200	95	202	101	216
125	0.5	85	181	86	183	92	197
150	0.6	77	163	78	165	82	175
175	0.7	69	146	70	148	71	151
200	0.8	61	129	61	131	60	128
225	0.9	52	110	52	111	49	104
250	1	45	96	46	97	40	86



VNT5200H Energy Performance

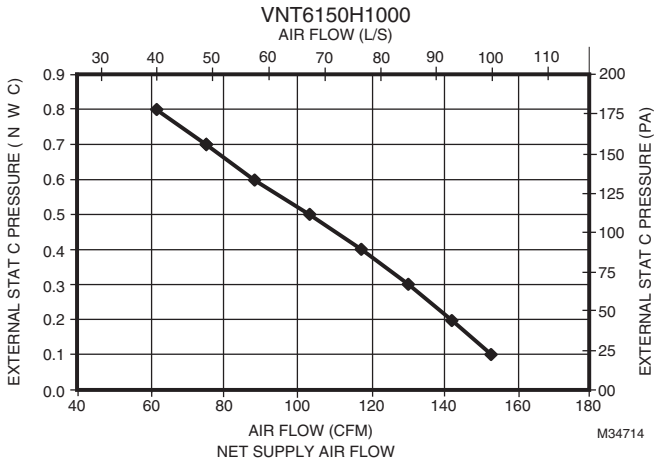
	Supply Temperature		Net Supply Air Flow		Average Power	Sensible Recovery	Apparent Sensible
	°C	°F	L/s	CFM	Watts	Efficiency %	Effectiveness %
Heating	0	32	55	118	106	61	71
	0	32	75	160	132	58	65
	0	32	87	185	150	55	62
	-25	-13	57	120	105	58	72

M33724

TrueFRESH Ventilation System

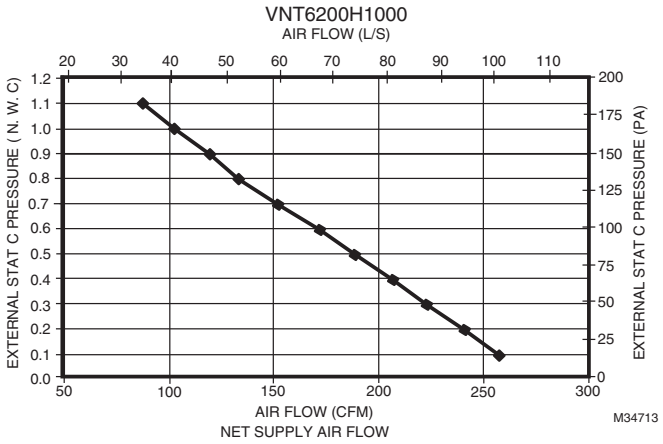
VNT6150H Ventilation Performance

EXTERNAL STATIC PRESSURE		NET SUPPLY AIR FLOW		GROSS AIR FLOW			
				SUPPLY		EXHAUST	
Pa	in. W.C.	L/s	CFM	L/s	CFM	L/s	CFM
25	0.1	72	153	72	153	67	142
50	0.2	67	142	68	143	61	129
75	0.3	61	130	62	130	55	116
100	0.4	55	117	55	118	47	101
125	0.5	49	103	49	103	41	87
150	0.6	42	88	42	89	34	73
175	0.7	35	75	35	75	27	59
200	0.8	28	61	28	61	22	46



VNT6200H Ventilation Performance

EXTERNAL STATIC PRESSURE		NET SUPPLY AIR FLOW		GROSS AIR FLOW			
				SUPPLY		EXHAUST	
Pa	in. W.C.	L/s	CFM	L/s	CFM	L/s	CFM
25	0.1	122	258	126	260	120	254
50	0.2	114	241	115	242	111	235
75	0.3	105	223	106	225	103	218
100	0.4	98	207	99	209	94	199
125	0.5	89	189	90	190	85	180
150	0.6	81	72	82	174	76	161
175	0.7	72	152	73	154	67	142
200	0.8	63	133	64	135	58	123
225	0.9	56	119	57	121	50	106
250	1.0	48	102	48	102	42	89
275	1.1	41	87	42	88	35	74



VNT6150H Energy Performance

	SUPPLY TEMPERATURE		NET SUPPLY AIR FLOW		AVERAGE POWER	SENSIBLE RECOVERY	APPARENT SENSIBLE
	°C	°F	L/s	CFM	Watts	Efficiency %	Effectiveness %
HEAT NG	0	32	31	66	52	75	84
	0	32	40	84	64	73	80
	0	32	50	106	74	70	77
	-25	-13	32	68	49	62	81

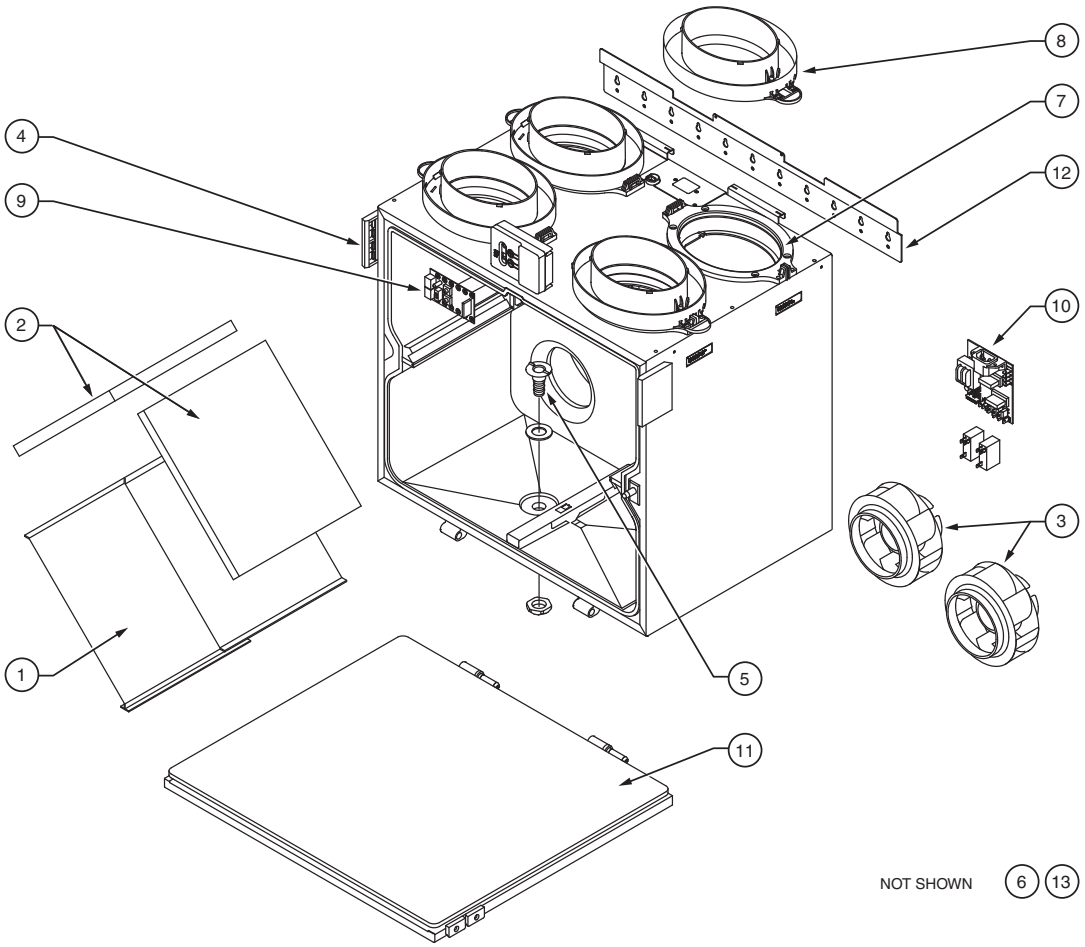
M34715

VNT6200H Energy Performance

	SUPPLY TEMPERATURE		NET SUPPLY AIR FLOW		AVERAGE POWER	SENSIBLE RECOVERY	APPARENT SENSIBLE
	°C	°F	L/s	CFM	Watts	Efficiency %	Effectiveness %
HEAT NG	0	32	29	61	62	78	90
	0	32	43	91	74	76	85
	0	32	60	127	92	73	80
	-25	-13	31	66	59	66	88

M34716

VNT5070 Parts List



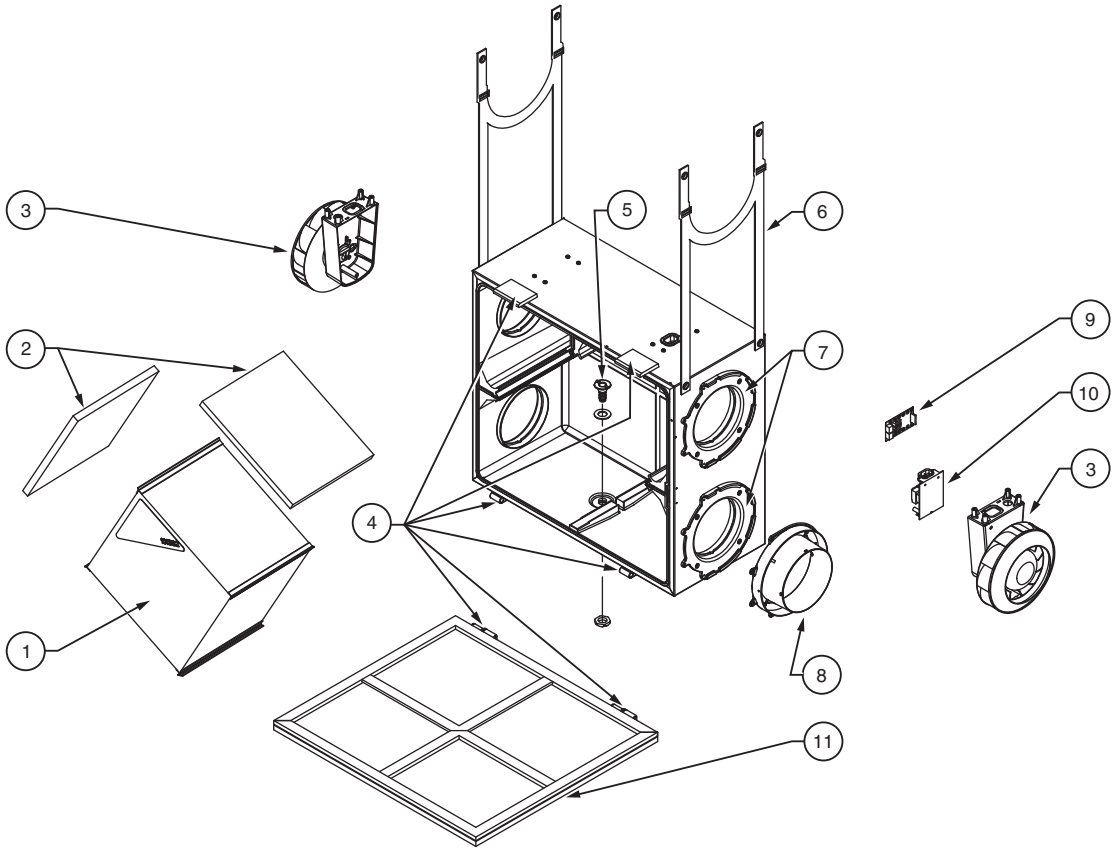
Parts List		
Figure Number	Description	VNT5070
1	Polypropylene HRV Core	50063805-001 9" Core
	Enthalpy ERV Core	50063805-002 9" Core
2	Replacement Filter Kit	50063805-003
3	Replacement Motor	50063805-004
4	Latch & Hinge Kit	50053952-014
5	Condensation Drain Fitting Kit	50053952-011
6	Adjustable Hanging Strap Set (optional on VNT5070)	50053952-009
7	5" diameter Plastic Keeper	50063805-006
8	5" diameter Plastic Collar	50063805-005
9	Replacement LVC Electronic Board (Speed Control)	50063805-010
10	Replacement HVC Electronic Board	50053952-013
11	Front Access Door	50063805-007
12	Mounting Bracket	50063805-008
13	Matrix Ventilation Hood	50063805-009

Parts List (not illustrated)	
Honeywell Part Number	Description
50053952-016	Drain Cap (VNT5150E1000V and VNT5200E1000 only)
50053952-020	20/40/60 Minute Timer

M33731

TrueFRESH Ventilation System

VNT5150 and VNT5200 Parts List

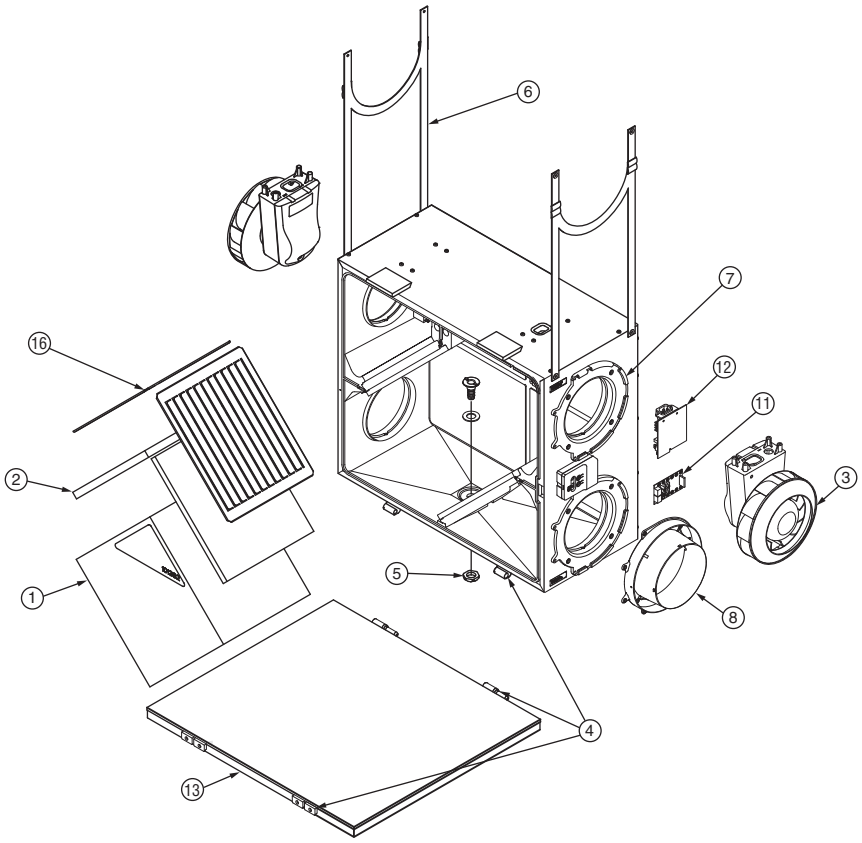


Parts List			
Figure Number	Description	VNT5150	VNT5200
1	Polypropylene HRV Core	50053952-001 10” Core	50053952-002 15” Core
	Enthalpy ERV Core	50053952-003 10” Core	50053952-004 15” Core
2	Replacement Filter Kit	50053952-005	50053952-006
3	Replacement Motor	5053952-010	
4	Latch & Hinge Kit	50053952-014	
5	Condensation Drain Fitting Kit	50053952-011	
6	Adjustable Hanging Strap Set (optional on VNT5070)	50053952-009	
7	6" diameter Plastic Keeper	50053952-008	
8	6" diameter Plastic Double Collar	50053952-007	
9	Replacement LVC Electronic Board (Speed Control)	50053952-012	
10	Replacement HVC Electronic Board	50053952-013	
11	Front Access Door	50053952-015	

Parts List (not illustrated)	
Honeywell Part Number	Description
50053952-016	Drain Cap (VNT5150E1000V and VNT5200E1000 only)
50053952-020	20/40/60 Minute Timer

M33729

VNT6150 and VNT6200 Parts List



No.	Description	VNT6150	VNT6200
1	Polypropylene HRV Core	50053952-001 10” Core	50053952-002 15” Core
2	Replacement Filter Kit	50053952-005	50053952-006
3	Replacement Motor	VNT6150XIMPEL1	50053952-010
4	Latch & Hinge Kit	50053952-014	
5	Condensation Drain Fitting Kit	50053952-011	
6	Adjustable Hanging Strap Set	50053952-009	
7	6" diameter Plastic Keeper	50053952-008	
8	6" diameter Plastic Double Collar	50053952-007	
11	Replacement LVC Electronic Board (Speed Control)	VNT6150XLVCBD1	VNT6200XLVCBD1
12	Replacement HVC Electronic Board	50053952-013	
13	Front Access Door	50053952-015	
16	Aluminum Distribution Plates	VNT6150XALPLT1	VNT6200XALPLT1
PARTS NOT DISPLAYED			
	20/40/60 Minute Timer (compatible with all HRVs & ERVs)	50053952-020	

M34717

Fresh Air Ventilation System

Fresh Air Ventilation Kit

The Y8150 Fresh Air Ventilation System provides fresh air to a home. The control operates a fresh air intake damper and, when necessary, activates the main HVAC blower to efficiently meet ASHRAE ventilation rates.

- Designed to help meet local ventilation codes and standards, including ASHRAE 62.2-2010 standard, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings
- Smart Control optimizes air delivery by syncing ventilation calls with heating/cooling.
- Easy-to-use input dials allow customized ventilation for each installation
- Test mode that includes immediate feedback to installer to confirm that air delivery requirements of selected ventilation standard are being met
- Economical supply-only ventilation; works with forced air system
- Can be used with other equipment, such as an HRV/ ERV, for balanced ventilation

Electrical Ratings: 120 Vac
Frequency: 60 Hz

	Product Number	Application	Airflow Capacity (external static pressure)	Current Draw, Nominal (minimum speed)	Used With
*	**Y8150A1009/U**	Ventilation System	50 to 160 cfm	0.6 A	—

** TRADELINE models • SUPER TRADELINE models*

Fresh Air Ventilation Control

Electrical Ratings: 24 Vac
Frequency: 60 Hz

W8150 Fresh Air Ventilation Control provides fresh air to a home. The control operates a fresh air intake damper and, when necessary, activates the main HVAC blower to efficiently meet ASHRAE ventilation rates.

- Designed to help meet local ventilation codes and standards, including ASHRAE 62.2-2010 standard, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings.
- Smart Control optimizes air delivery by syncing ventilation calls with heating/cooling.
- Easy-to-use input dials allow customized ventilation for each installation.
- Test mode that includes immediate feedback to installer to confirm that air delivery requirements of selected ventilation standard are being met.
- Economical supply-only ventilation; works with forced air system.
- Can be used with other equipment, such as an HRV/ ERV, for balanced ventilation.

Product Number	Application	Airflow Capacity (external static pressure)	Current Draw, Nominal (minimum speed)	Used With
W8150A1001/U	Ventilation Control	50 to 160 cfm	0.6 A	VNT5070; VNT5200; VNT5150; EARD6

EARD Fresh Air Damper

Application: Fresh Air Damper
Voltage: 24V
Wires to Motor: 2

Motor Timing: 30 seconds power closed/10 seconds spring return
Other Motor Information: Range stops

The EARD is a round damper with a 24 Vac powered-open/spring-closed motor. It is used for fresh air intake for ventilation or for combustion makeup air.

- Adjustable damper position range stops
- Single-blade damper
- Shipped as power open/spring return closed damper
- Galvanized steel
- Quiet operation
- Can be field-converted to power closed/spring return open damper
- Blade closes off tightly against gasket for minimal leakage
- Male (crimped) and female (un-crimped) ends to connect to any rigid or flex ble round duct

Product Number	Shape	Size (in.)	Motor Mount	Motor Type	Description
EARD6/U	Round	6 in. Diameter	Top; Side	Power open, spring closed, reversible	Spring Return Round Damper
EARD8/U	Round	8 in. Diameter	Top; Side	Power open, spring closed, reversible	Spring Return Round Damper

Digital Bath Fan Control

Application: Ventilation Control
Electrical Ratings: 120 Vac

Frequency: 60 Hz

Every home can benefit from proper ventilation. Honeywell's new Digital Bath Fan Control can operate a bath fan to meet ASHRAE 62.2 ventilation standards, allowing you to offer increased ventilation control that is smart, affordable and efficient.

- Installs in place of a normal switch.
- Manually turn fan on / off or program to run at certain times of day for increased energy efficiency and convenience.
- Can run in timer mode up to 60 minutes.
- Meets ASHRAE 62.2 Ventilation Standard, required or recommended in most states and provinces for new construction or whenever a permit is required.
- Easy-to-see backlit display shows current time to keep you on schedule when getting ready.

	Product Number	Color
*	**HVC0001/U**	White
*	**HVC0002/U**	Biscuit

** TRADELINE models • SUPER TRADELINE models*

Wireless Vent and Filter Boost Remote

The Wireless Vent and Filter Boost Remote provides one-touch control of your ventilation system from bathrooms, laundry rooms, or any location in your home or building. The remote has three buttons: 20, 40, and 60 minutes. The ventilator can be temporarily boosted for 20, 40, or 60 minutes, depending on the button pressed.

Pressing one of these buttons temporarily boosts the ventilator for either the time on the button or the current run time at the thermostat, whichever is greater. Vent boost can be cancelled from the thermostat.

	Product Number	Application	Description
*	**HVC20A1000/U**	Ventilation Control	Wireless Vent and Filter Boost Remote works with RedLINK 2.0 thermostats

** TRADELINE models • SUPER TRADELINE models*

Carbon Monoxide Alarm

C8600 Carbon Monoxide Alarm

Residential carbon monoxide alarm with Advanced Detection Technology.

- The only biotechnology-based infrared-gas sensor that mimics the human response to carbon monoxide
- Detects low levels of carbon monoxide (70 parts per million)
- Detects toxic CO gas resulting from incomplete combustion such as emitted from appliances, furnaces, fireplaces and auto exhaust
- Quick recovery-Rapidly returns to its original state when carbon monoxide is eliminated from the environment
- Every unit is 100% gas-tested to ensure accurate, timely response
- Microprocessor intelligence-Self-tests every 10 minutes
- Supervises sensor and alarm circuit status to ensure protection
- Easy to install-no wiring, battery operation lets you locate the unit almost anywhere
- Energy easing design extends battery life to more than one year under normal use
- Low battery warning, chirps, and LED double flashes
- Test/Retest button

Mounting: Wall mount, Ceiling Mounted
Color: Premier White®
Approvals
Underwriters Laboratories, Inc: 2034 Standard, cUL Standard

	Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	LEDs	Includes
*	**C8600A1000/U**	4 3/4 in. diameter x 1 1/2 in. high	121 mm diameter x 38 mm high	Status and Diagnostic	9 volt alkaline battery

** TRADELINE models • SUPER TRADELINE models*

V400 Line Voltage; V800 Low Voltage Combination Gas Controls

Used on gas fired standing pilot appliances with 30 mV thermocouple. These gas controls include a manual gas valve, safety shutoff, single millivoltage automatic operator, pressure regulator, pilot gas filter and flow adjustment, pressure tapping, and thermocouple connector.

- Include pilot flow adjustment screw.
- Easy to install, adjust and service; all adjustments and connections are accessible from top of control.
- Add separate energy cutoff (ECO) where codes call for dual safety shutoff.
- Complete safety shutoff on pilot flame failure.
- LITE-RITE (OFF-PILOT-ON) lighting sequence.
- ECO connector for V800 models. Part No. 392451-1.

Type: Single Stage
Body Pattern: Straight-through, multi-tapped with 1/2 in. right and left outlets plugged
Type of Gas: Natural
Capacity @ 1 in. p.d.
250,000 BTU/hr Nat Gas 1/2" x 3/4" Inlet x Outlet;
335,000 BTU/hr Nat Gas 3/4" x 3/4" Inlet x Outlet
Ignition Type: Standing Pilot
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. NPT with plug
Ambient Temperature Range: 32 F to 175 F (0 C to 79 C)
Frequency: 60 Hz
Pilot Gas Outlet: Compression fitting for 1/4 in. OD tubing
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.

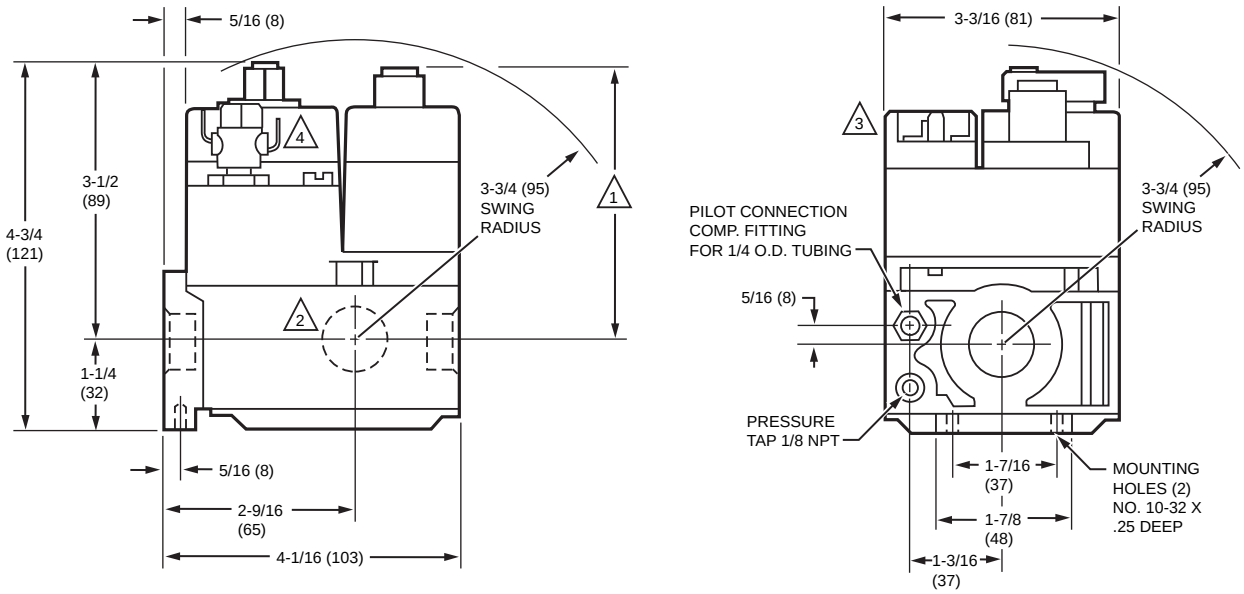
Approvals
Underwriters Laboratories, Inc: UL Component Recognized. MCCZ2.MH5323
CSA International: 112395

Accessories:
390427A-3/4 inch x 1/2 inch reducer bushing for valves
390427B-1/2 inch x 3/8 inch reducer bushing for valves
390427E-Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
390795-Remote gas cock knob and instruction sheet
391936-LP to Natural Gas Conversion kit, including regulator spring, O-ring, screw and cap
391937-Natural Gas to LP Conversion kit, including regulator spring, O-ring, screw and cap
392451-1-ECO (energy cutoff) connector for 1/4 inch (6 mm) quick-connect

Product Number	Electrical Ratings	Opening Characteristics (standard, step)	Inlet/ Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Includes
V400A1095/U	120 Vac	Standard	3/4 in. x 3/4 in.	3.5 in. wc	0.87 kPa	Two 3/4 in. x 1/2 in.; One 1/2 x 3/8 in. Reducer Bushing/Adapters
V800A1070/U	24 Vac	Standard	1/2 in. x 3/4 in.	3.5 in. wc	0.87 kPa	One 1/2 in. x 3/8 in. reducer bushing; One 3/4 in. x 1/2 in. reducer bushing; Q340 Thermocouple; Natural to LP Conversion Kit
V800A1088/U	24 Vac	Standard	3/4 in. x 3/4 in.	3.5 in. wc	0.87 kPa	One 1/2 in. x 3/8 in. reducer bushing; Two 3/4 in. x 1/2 in. reducer bushings; Q340 Thermocouple; Natural to LP Conversion Kit
V800A1476/U	24 Vac	Standard	1/2 in. x 3/4 in.	3.5 in. wc	0.87 kPa	One 3/4 in. x 1/2 in. reducer bushing
V800A1591/U	24 Vac	Standard	3/4 in. x 3/4 in.	3.5 in. wc	0.87 kPa	Natural to LP Conversion Kit; Two 3/4 x 1/2 in. reducer bushings
V800C1052/U	24 Vac	Step Opening	3/4 in. x 3/4 in.	Full Rate: 3.5 in. wc; Step Setting: 0.9 in. wc	Full Rate: 0.87 kPa; Step Setting: 0.22 kPa	Two 3/4 x 1/2 in.; One 1/2 x 3/8 in. Reducer Bushing/Adapters

Combination Gas Controls

Dimensions in inches (millimeters)



1 WITH V5306 (ILLUSTRATED), V5307 OR 5390 PRESSURE REGULATOR: 24V MODELS–3-1/2 (89), 120V MODEL–3-5/8 (92) MANUAL MODELS–2-13/16 (71), FOR V5308 ADD 5/8 (16) TO DIMENSIONS GIVEN.

2 SIDE OUTLETS–LEFT AND RIGHT HAND. STANDARD ONLY ON TRADELINE MODELS.

3 CONTROL WITH 24V VALVE OPERATOR SHOWN. LINE VOLT MODEL HAS COVER FOR CONDUIT CONNECTION (TOP SURFACE).

4 ECO CONNECTOR ON STANDARD CAPACITY V800 ONLY.

M16547A

Pressure Regulators–Standard and Step Opening

Servo gas pressure regulator for add-on or replacement use on Honeywell V400,V800, VR400, VR800 and VR8440 Combination gas controls. Utilizing the servo principle of operation, it controls burner manifold pressure by repositioning the main valve diaphragm.

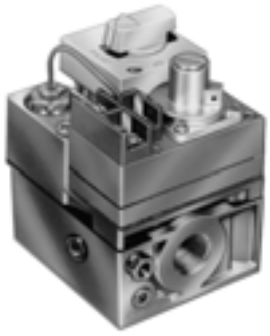
- Interchangeable and adapt to all pipe sizes and capacities.
- Mount on top surface of control. Installation and adjustment readily accomplished with a screwdriver.

Mounting: Top surface of combination gas control (two mounting screws and a gasket).

Pressure Ratings: 1/2 psi (3.5 kPa)
Temperature Range: -40 F to +175 F (-40 C to +79 C)

Product Number	Type of Gas	Opening Characteristics (standard, step)	Pressure Regulator Setting
V5306B1009/U	Natural	Standard Opening	3.5 in. wc; adj. range 3-5 in. wc
V5306B1033/U	LP	Standard Opening	11.0 in. wc; adj. range 8-12 in. wc

VS820 Millivoltage Combination Gas Controls



These gas controls combine a Lite-Rite manual gas cock, safety shutoff Pilotstat assembly, millivoltage automatic valve operator, and optional gas pressure regulator. They require the use of a 750 mV Powerpile generator (thermopile). The generator, heated by the pilot burner flame, provides the electrical energy to operate the combination gas control. A millivoltage thermostat with suitable accessory controls completes the automatic control system for the heating appliance.

- Include pilot flow adjustment screw.
- Easy to install, adjust and service; all adjustments and connections are accessible from top of control.
- Add separate energy cutoff (ECO) where codes call for dual safety shutoff.
- Complete safety shutoff on pilot flame failure.
- LITE-RITE (OFF-PILOT-ON) lighting sequence.

Application: Self-powered automatic control. Use with 750 mV pilot generator.
Dimensions, Approximate: 4 3/4 in. high x 4 1/16 in. wide x 3 3/16 in. deep (121 mm high x 103 mm wide x 81 mm deep)
Body Pattern: Straight-through. multi-tapped with 1/2 in. right and left outlets plugged, except as noted.
Capacity:
1/2 x 1/2 inlet x outlet: 225,000 BTU/hr 1 in. PD;
23,000 BTU/hr minimum; 225,000 BTU/hr maximum
1/2 x 3/4 inlet x outlet: 250,000 BTU/hr 1 in. PD;
23,000 BTU/hr minimum; 290,000 BTU/hr maximum
3/4 x 3/4 inlet x outlet: 335,000 BTU/hr 1 in. PD;
34,000 BTU/hr minimum; 425,000 BTU/hr maximum
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. npt with plug.
Temperature Range: 32 F to 175 F (0 C to 79 C)
Electrical Ratings: 750 mV
Pilot Gas Outlet: Compression fitting for 1/4 in. OD tubing.
Electrical Connections: Terminal block has 3 combination screw and 1/4 in. quick connect terminals.
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.
Approvals
Underwriters Laboratories, Inc: UL Component Recognized MH5323
CSA International: 112395

Accessories:
390427A-3/4 inch x 1/2 inch reducer bushing for valves
390427B-1/2 inch x 3/8 inch reducer bushing for valves
390427E-Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
390795-Remote gas cock knob and instruction sheet
391936-LP to Natural Gas Conversion kit, including regulator spring, O-ring, screw and cap
391937-Natural Gas to LP Conversion kit, including regulator spring, O-ring, screw and cap
392451-1-ECO (energy cutoff) connector for 1/4 inch (6 mm) quick-connects

	Product Number	Type of Gas	Pressure Regulator	Inlet/Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Includes
	VS820A1047/U	Natural	Standard	1/2 in. x 3/4 in. NPT with 1/2 in. NPT side outlets	3.5 in. wc Reg. Set/ 3-5 in. Adj. Range	0.87 kPa	One 3/4 in. x 1/2 in. reducer bushing; One 1/2 in. x 3/8 in. reducer bushing
	VS820A1054/U	Natural	Standard	3/4 in. x 3/4 in. NPT with 1/2 in. NPT side outlets	3.5 in. wc Reg. Set/ 3-5 in. Adj. Range	0.87 kPa	Two 3/4 in. x 1/2 in. reducer bushings; One 1/2 in. x 3/8 in. reducer bushing
	VS820A1088/U	Natural	Standard	3/4 in. x 3/4 in. NPT with 1/2 in. NPT side outlets	3.5 in. wc Reg. Set/ 3-5 in. Adj. Range	0.87 kPa	Remote Rod Adapter Knob; One Natural to LP Conversion Kit; Two 3/4 in. x 1/2 in. reducer bushings; One 1/2 in. x 3/8 in. reducer bushing
	VS820A1336/U	LP	Standard	3/4 in. x 3/4 in. NPT with 1/2 in. NPT side outlets	10.0 in. wc Reg. Set/ 8-12 in. Adj. Range	2.49 kPa	One 1/2 in. x 3/8 in. reducer bushing; Two 3/4 in. x 1/2 in. reducer bushings
	VS820C1100/U	Natural	Step Opening	3/4 in. x 3/4 in. NPT with 1/2 in. NPT side outlets	Step: 0.9 in. wc non-adjustable; Full rate: 3.5 in. wc, 3-5 in. adjustable	Step: 0.22 kPa; Full rate: 0.87 kPa	One 1/2 in. x 3/8 in. reducer bushing; Two 3/4 in. x 1/2 in. reducer bushings
U	**VS820M1309/U**	Natural	Standard	3/4 in. x 3/4 in. NPT with 1/2 in. NPT side outlets	3.5 in. wc	0.87 kPa	Remote Rod Adapter knob; Natural to LP Gas Conversion Kit; Two 3/4 in. to 1/2 in. reducer bushings; One 1/2 in. x 3/8 in. reducer bushing

U Universal Service Part

VR8200 Continuous Pilot Dual Automatic Valve Combination Gas Controls

Combination gas controls for use in 24 Vac, gas-fired, standing pilot appliances with capacities from 20 to 200 cfh.

- Controls include manual valve, two automatic operators, servo pressure regulator and pilot adjustment.
- Compact size.
- Provide two automatic valves.
- Solenoid-operated first automatic valve opens on thermostat call for heat; closes when call for heat ends.
- Diaphragm-operated second automatic valve opens under control of regulator; closes if gas or power supply is interrupted.
- Meet codes requiring dual safety shutoff.
- Natural to LP and LP to Natural conversion kits available for standard and slow opening gas valves.
- LITE-RITE (OFF-PILOT-ON) lighting sequence.
- All adjustments, wiring connections and pilot outlet are accessible from top of control.
- Adjustable servo regulator effectively maintains almost constant gas output pressure under wide fluctuations in gas supply pressure.
- Compat ble with ECO connector.

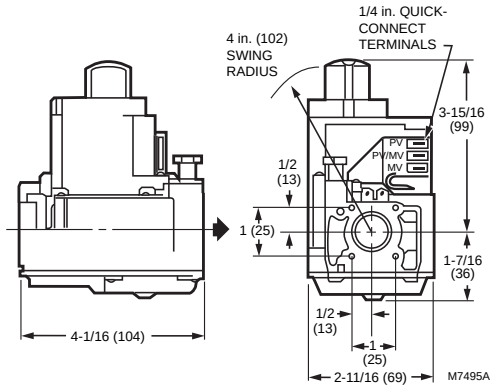
Type: Single Stage
Body Pattern: Straight-through
Type of Gas: Natural
Capacity: 130,000 BTU/hr 1 in. PD; 20,000 BTU/hr minimum 200,000 BTU/hr maximum
Anticipator Setting: 0.5 A
Ignition Type: Standing Pilot
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. NPT with plug
Ambient Temperature Range: 0 F to 175 F (-18 C to +79 C)
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Pilot Gas Outlet: Compression fitting for 1/4 in. OD tubing
Electrical Connections: Combination screw and 1/4 in. male quick connects.
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.

Approvals
Australian Gas Association: 4717
CSA International: 112395
Underwriters Laboratories, Inc: UL Component Recognized MCCZ2.MH5323.

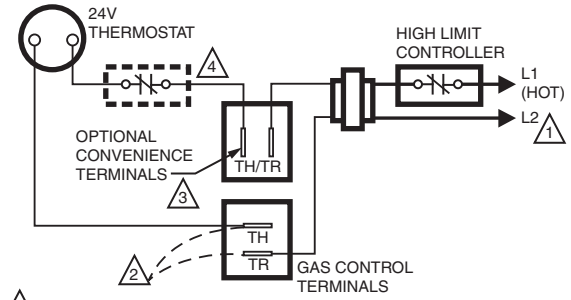
Accessories:
390427A-3/4 inch x 1/2 inch reducer bushing for valves
390427B-1/2 inch x 3/8 inch reducer bushing for valves
390427E-Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
392877-1/4 inch barbed vent fitting
393200-1-ECO connector bag assembly, includes ECO adapter with 1/4 inch (6 mm) quick-connects
393690-4-Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.
393690-13-Flange Kit bag assembly, includes 1/2 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393690-15-Flange Kit bag assembly, includes 3/4 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393691-Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap
394588-Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap
395253-1-Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).

Product Number	Opening Characteristics (standard, step)	Inlet/Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Includes
VR8200A2124/U	Standard	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	One 3/4 in. straight flange; One 1/2 in. x 3/8 in. reducer bushing; Q340 Thermocouple; Natural to LP Conversion Kit
VR8200A2132/U	Standard	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	One 3/4 in. straight flange; One 1/2 in. x 3/8 in. reducer bushing; Natural to LP Conversion Kit
VR8200A2744/U	Standard	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	One 1/2 in. x 3/8 in. reducer bushing; One 3/4 in. straight flange with O-ring screws and wrench, Natural to LP gas conversion kit; One 3/4 in. angle flange
VR8200H1251/U	Slow Opening	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	One 3/4 in. straight flange; One 1/2 in. x 3/8 in. reducer bushing; Natural to LP Conversion Kit

Dimensions in inches (millimeters)



Wiring connections for 24 volt control



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

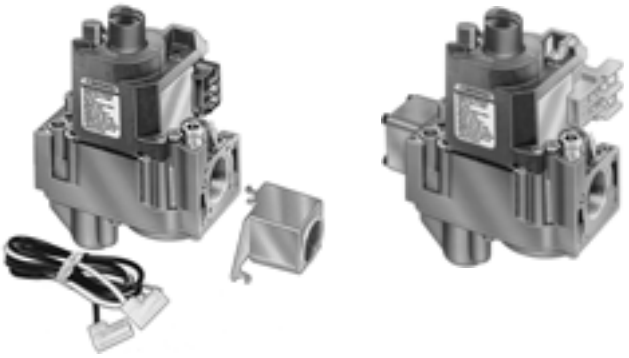
2 DO NOT JUMPER THESE TERMINALS. THIS SHORTS VALVE COIL AND CAN BURN OUT ANTICIPATOR IN THERMOSTAT.

3 CONVENIENCE TERMINALS SERVE ONLY AS A TIE POINT. THEY ARE NOT INTERNALLY WIRED TO THE CONTROL CIRCUIT OR TO GROUND.

4 OPTIONAL HIGH LIMIT.

M2915C

VR4300 Line Voltage; VR8300 Low Voltage Standing Pilot Dual Automatic Valve Combination Gas Control



Combination gas control for use in 24 Vac, 120 Vac, gas-fired, standing pilot appliances with capacities from 30 to 300 cfh.

- Control includes safety shutoff, manual valve, two automatic operators, pressure regulator and pilot adjustment.
- Compact size.
- Provides two automatic valves.
- Solenoid operated first automatic valve opens on thermostat call for heat, closes when call for heat ends.
- Diaphragm-operated second automatic valve opens under control of regulator; closes if gas or power supply is interrupted.
- Meets codes requiring dual safety shut-off.
- Natural to LP and LP to Natural conversion kits available for standard and slow opening gas valves.
- All adjustments, wiring connections and pilot outlet are accessible from top of control.
- Adjustable servo regulator effectively maintains almost constant gas output pressure under wide fluctuations in gas supply pressure.
- Compat ble with ECO connector.
- LITE-RITE (OFF-PILOT-ON) lighting sequence.

Type: Single Stage
Body Pattern
VR4300 : Straight-through with flange
VR8300: Straight through with integral tapping; with flange
Type of Gas: Natural
Capacity
1/2 x 3/4 inlet x outlet: 190,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 290,000 BTU/hr maximum
3/4 x 3/4 inlet x outlet: 200,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 300,000 BTU/hr maximum
Ignition Type: Standing Pilot
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. NPT with plug
Ambient Temperature Range: 0 F to 175 F (-18 C to +79 C)
Pilot Gas Outlet: Compression fitting for 1/4 in. OD tubing
Electrical Connections
24 Vac models: 1/4 in. male quick connects
120 Vac models: 21 in. leadwires
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.

Approvals
Australian Gas Association: 4717
CSA International: 112395
Underwriters Laboratories, Inc: UL Component Recognized MCCZ2.MH5323.

Accessories:
390427A-3/4 inch x 1/2 inch reducer bushing for valves
390427B-1/2 inch x 3/8 inch reducer bushing for valves
390427E-Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
392877-1/4 inch barbed vent fitting
393200-1-ECO connector bag assembly, includes ECO adapter with 1/4 inch (6 mm) quick-connects
393690-4-Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.
393690-13-Flange Kit bag assembly, includes 1/2 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393690-15-Flange Kit bag assembly, includes 3/4 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393691-Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap
394588-Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap
395253-1-Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).

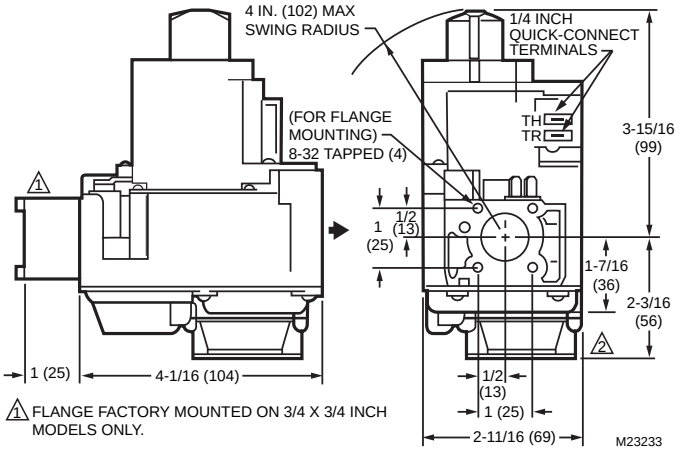
	Product Number	Electrical Ratings	Opening Characteristics (standard, step)	Frequency	Anticipator Setting	Inlet/Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Includes
	VR4300A4502/U	120 Vac	Standard	60 Hz	0.13 A	3/4 in. straight flange x 3/4 in.	3.5 in. wc	0.87 kPa	One 1/2 in. x 3/8 in. reducer bushing; Two 3/4 x 1/2 in. reducer bushings; Natural to LP gas conversion kit.
	VR8300A3500/U	24 Vac	Standard	60 Hz	0.7 A	1/2 in. x 3/4 in.	3.5 in. wc	0.87 kPa	One 3/4 x 1/2 in. reducer bushing; Natural to LP gas conversion kit.
	VR8300A3518/U	24 Vac	Standard	60 Hz	0.7 A	1/2 in. x 3/4 in.	3.5 in. wc	0.87 kPa	One 3/4 x 1/2 in. reducer bushing 3/4 in. straight flange; ECO adapter; Q340 thermocouple with adapters; Natural to LP gas conversion kit.
	VR8300A4508/U	24 Vac	Standard	60 Hz	0.7 A	3/4 in. straight flange x 3/4 in.	3.5 in. wc	0.87 kPa	Two 3/4 x 1/2 in. reducer bushings; Natural to LP gas conversion kit.
	VR8300A4516/U	24 Vac	Standard	60 Hz	0.7 A	3/4 in. straight flange x 3/4 in.	3.5 in. wc	0.87 kPa	Two 3/4 x 1/2 in. reducer bushing; ECO adapter; Q340 thermocouple with adapters; Natural to LP gas conversion kit.
	VR8300C4506/U	24 Vac	Step Opening	60 Hz	0.7 A	3/4 in. straight flange x 3/4 in.	Full Rate: 3.5 in. wc; Step Setting: 0.9 in. wc	Full Rate: 0.87 kPa; Step Setting: 0.22 kPa	Two 3/4 x 1/2 in. reducer bushings

U Universal Service Part

	Product Number	Electrical Ratings	Opening Characteristics (standard, step)	Frequency	Anticipator Setting	Inlet/Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Includes
	VR8300H4501/U	24 Vac	Slow Opening	60 Hz	0.7 A	3/4 in. straight flange x 3/4 in.	3.5 in. wc	0.87 kPa	—
U	**VR8300M4406/U**	24 Vac	Standard	50 Hz; 60 Hz	0.7 A	3/4 in. x 3/4 in.	3.5 in. wc	0.87 kPa	Q340 thermocouple; Two 3/4 in. to 1/2 in. reducer bushings; One natural to LP conversion kit

U Universal Service Part

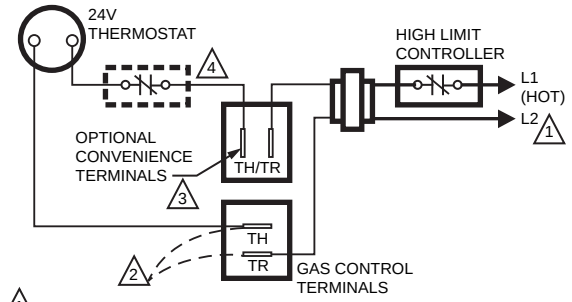
Dimensions in inches (millimeters)



1 FLANGE FACTORY MOUNTED ON 3/4 X 3/4 INCH MODELS ONLY.

2 STEP-OPEN MODELS ONLY.

Wiring connections for 24 volt control



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

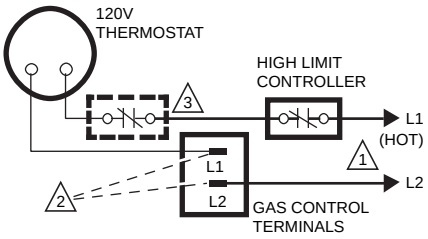
2 DO NOT JUMPER THESE TERMINALS. THIS SHORTS VALVE COIL AND CAN BURN OUT ANTICIPATOR IN THERMOSTAT.

3 CONVENIENCE TERMINALS SERVE ONLY AS A TIE POINT. THEY ARE NOT INTERNALLY WIRED TO THE CONTROL CIRCUIT OR TO GROUND.

4 OPTIONAL HIGH LIMIT.

M2915A

Wiring connections for 120 volt control



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 DO NOT JUMPER THESE TERMINALS. THIS SHORTS VALVE COIL AND MAY BURN OUT ANTICIPATOR IN THERMOSTAT.

3 OPTIONAL HIGH LIMIT.

M3092B

VR8204 Intermittent Pilot Dual Automatic Valve Combination Gas Controls

Combination gas controls for use in 24 Vac, gas-fired, intermittent pilot appliances with capacities from 20 to 200 cfh.

- Controls include manual valve, two automatic operators, servo pressure regulator and pilot adjustment.
- Use with S86F,H; S8600F,H and S8610 Control Modules.
- Compact size.
- Provide two automatic valves.
- Solenoid operated first automatic valve opens on thermostat call for heat; closes when call for heat ends.
- Diaphragm operated second automatic valve opens under control of regulator; closes if gas or power supply is interrupted.
- Meet codes requiring dual safety shutoff.
- Natural to LP and LP to Natural conversion kits available for standard and slow opening gas valves.
- All adjustments and wiring connections are accessible from top of control.
- ON-OFF lighting sequence.

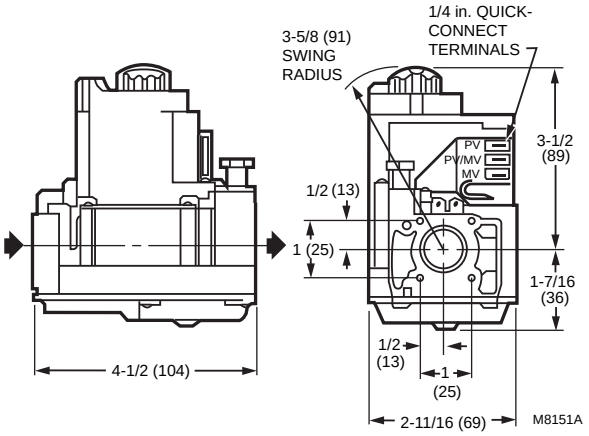
Type: Single Stage
Body Pattern: Straight-through
Type of Gas: Natural
Capacity: 150,000 BTU/hr 1 in. PD; 20,000 BTU/hr minimum 200,000 BTU/hr maximum
Anticipator Setting: 0.5 A
Ignition Type: Intermittent Pilot
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. NPT with plug
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Pilot Gas Outlet: Compression fitting for 1/4 in. OD tubing
Electrical Connections: 1/4 in. quick-connect male terminals
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.

Approvals
Australian Gas Association: 4717
CSA International: 112395
Underwriters Laboratories, Inc: UL Component Recognized MCCZ2.MH5323.

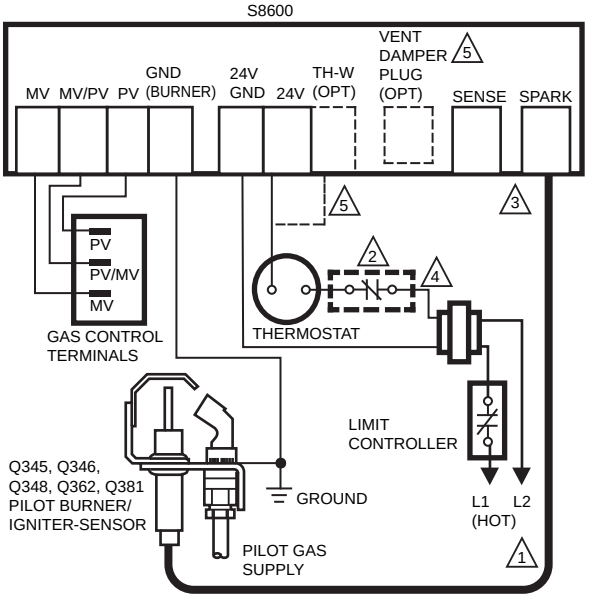
Accessories:
390427A-3/4 inch x 1/2 inch reducer bushing for valves
390427B-1/2 inch x 3/8 inch reducer bushing for valves
390427E-Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
392877-1/4 inch barbed vent fitting
393690-4-Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.
393690-13-Flange Kit bag assembly, includes 1/2 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393690-15-Flange Kit bag assembly, includes 3/4 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393691-Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap
394588-Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap
395253-1-Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).

Product Number	Opening Characteristics (standard, step)	Inlet/ Outlet Size (in.)	Pressure Regulator Setting		Ambient Temperature Range		Includes
			(psi)	(kPa)	(F)	(C)	
VR8204A2076/U	Standard	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	0 F to 175 F	-18 C to +79 C	One 3/4 in. straight flange; One 1/2 in. x 3/8 in. reducer bushing; Natural to LP Conversion Kit
VR8204C1019/U	Step Opening	1/2 in. x 1/2 in.	Full Rate: 3.5 in. wc; Step Setting: 0.9 in. wc	Full Rate: 0.87 kPa; Step Setting: 0.22 kPa	0 F to 175 F	-18 C to +79 C	—
VR8204H1006/U	Slow Opening	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	0 F to 175 F	-18 C to +79 C	—
VR8204M1091/U	Standard	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	One 3/4 in. straight flange; One 1/2 in. x 3/8 in. reducer bushing; Natural to LP Conversion Kit

Dimensions in inches (millimeters)



Wiring connections for 24 volt control in intermittent ignition system with S8600.



1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. ALTERNATE LIMIT CONTROLLER LOCATION.
3. MAXIMUM WIRE LENGTH 3 ft [.9 m].
4. CONTROLS IN 24V CIRCUIT MUST NOT BE IN GROUND LEG TO TRANSFORMER.
5. FOR MODULE WITH TH-W TERMINAL AND VENT DAMPER PLUG, CONNECT THERMOSTAT TO TH-W. LEAVE 24V OPEN. DO NOT REMOVE VENT DAMPER PLUG.

M9056

VR4304 Line Voltage; VR8304 Low Voltage Intermittent Pilot Dual Automatic Valve Combination Gas Controls

Combination gas control for use in 24 Vac and 120 Vac, gas-fired, intermittent pilot appliances with capacities from 30 to 415 cfh.

- Controls include safety shutoff, manual valve, two automatic operators, pressure regulator and pilot adjustment.
- Use with S86F,H; S860D; S8600F,H; S8610 and S90A,B Control Modules.
- Compact size.
- Provide two automatic valves.
- Solenoid operated first automatic valve opens on thermostat call for heat; closes when call for heat ends.
- Diaphragm-operated second automatic valve opens under control of regulator; closes if gas or power supply is interrupted.
- Meet codes requiring dual safety shutoff.
- Natural to LP and LP to Natural conversion kits available for standard and slow opening gas valves.
- All adjustments, wiring connections and pilot outlet are accessible from top of control.
- Adjustable servo regulator effectively maintains almost constant gas output pressure under wide fluctuations in gas supply pressure.
- Compat ble with ECO connector.
- ON-OFF lighting sequence.

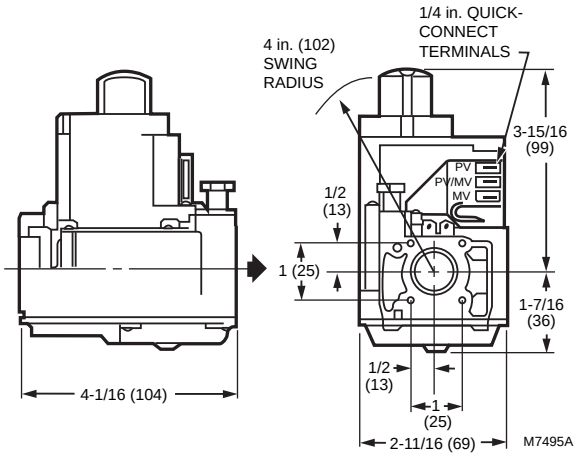
Body Pattern: Straight-through
Capacity:
1/2 x 1/2 inlet x outlet: 240,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 340,000 BTU/hr maximum
1/2 x 3/4 inlet x outlet: 270,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 370,000 BTU/hr maximum
3/4 x 3/4 inlet x outlet: 300,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 415,000 BTU/hr maximum
Ignition Type: Intermittent Pilot
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. NPT with plug
Ambient Temperature Range: -40 F to +175 F (-40 C to +79 C)
Pilot Gas Outlet: Compression fitting for 1/4 in. OD tubing
Electrical Connections
24 Vac models: 1/4 in. male quick connects
120 Vac models: 21 in. leadwires
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.
Approvals
Australian Gas Association: 4717
CSA International: 112395
Underwriters Laboratories, Inc: Component Recognized MCCZ2.MH5323

Accessories:
390427A-3/4 inch x 1/2 inch reducer bushing for valves
390427B-1/2 inch x 3/8 inch reducer bushing for valves
390427E-Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
392877-1/4 inch barbed vent fitting
393690-4-Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.
393690-13-Flange Kit bag assembly, includes 1/2 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393690-15-Flange Kit bag assembly, includes 3/4 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393691-Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap
394588-Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap
395253-1-Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).
396021-2 Stage Natural Gas to LP Gas Conversion kit, includes regulator shaft
396025-2 Stage LP to Natural Gas Conversion kit, includes regulator shaft

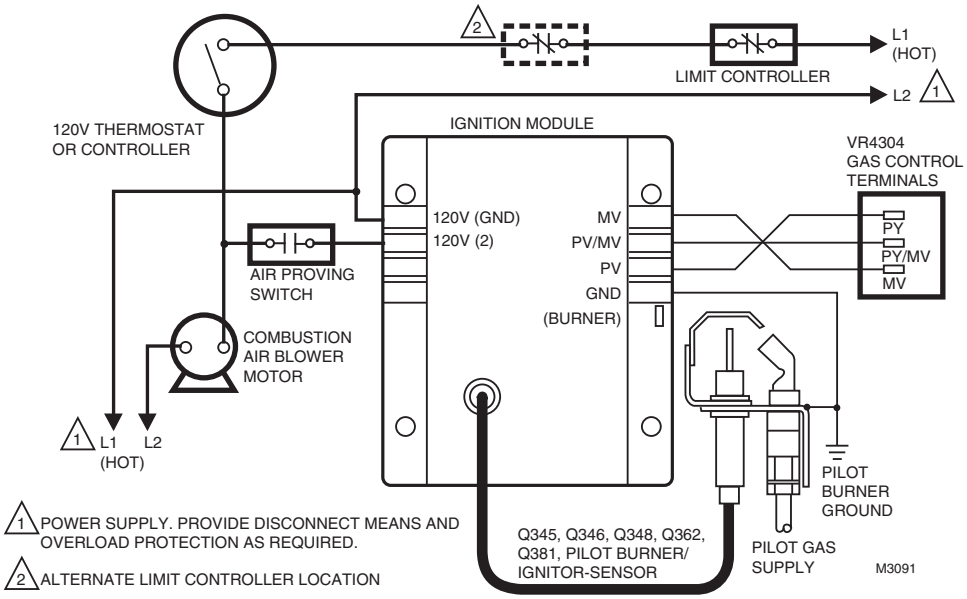
Product Number	Electrical Ratings	Type	Type of Gas	Frequency	Opening Characteristics (standard, step)	Anticipator Setting	Inlet/ Outlet Size (in.)	Pressure Regulator Setting		Ambient Temperature Range		Includes
								(psi)	(kPa)	(F)	(C)	
VR4304M4519/U	120 Vac	Single Stage	Natural	60 Hz	Standard	0.1 A	3/4 in. x 3/4 in.	3 5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	One 1/2 in. x 3/8 in. reducer bushing; Natural to LP Conversion Kit; Two 3/4 x 1/2 in. reducer bushings
VR8304H4503/U	24 Vac	Single Stage	Natural	60 Hz	Slow Opening	0.7 A	3/4 in. x 3/4 in.	3 5 in. wc	0.87 kPa	0 F to 175 F	-18 C to +79 C	Natural to LP gas conversion kit.
VR8304M2501/U	24 Vac	Single Stage	Natural	60 Hz	Standard	0.7 A	1/2 in. x 1/2 in.	3 5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	Natural to LP gas conversion kit.
VR8304M3509/U	24 Vac	Single Stage	Natural	60 Hz	Standard	0.7 A	1/2 in. x 3/4 in.	3 5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	One 3/4 in. x 1/2 in. reducer bushing; Natural to LP gas conversion kit.
VR8304M4507/U	24 Vac	Single Stage	Natural	60 Hz	Standard	0.7 A	3/4 in. x 3/4 in.	3 5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	Two 3/4 in. x 1/2 in. reducer bushings; Natural to LP gas conversion kit.
VR8304P4330/U	24 Vac	Single Stage	LP	60 Hz	Step Opening	0.7 A	3/4 in. x 3/4 in.	Full Rate: 10.0 in. wc; Step Setting: 2 5 in. wc	Full Rate: 2.49 kPa; Step Setting: 0.62 kPa	-40 F to +175 F	-40 C to +79 C	—

Product Number	Electrical Ratings	Type	Type of Gas	Frequency	Opening Characteristics (standard, step)	Anticipator Setting	Inlet/ Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Includes
VR8304P4504/U	24 Vac	Single Stage	Natural	60 Hz	Step Opening	0.7 A	3/4 in. x 3/4 in.	Full Rate: 3 5 in. wc; Step Setting: 0 9 in. wc	Full Rate: 0.87 kPa; Step Setting: 0.22 kPa	-40 F to +175 F	-40 C to +79 C	—
VR8304Q4511/U	24 Vac	Two Stage	Natural	50 Hz; 60 Hz	Standard	0.7 A	3/4 in. x 3/4 in.	1.7 in. wc low; 3 5 in. wc high	0.48 kPa low; 0.87 kPa high	-40 F to +175 F	-40 C to +79 C	Natural to LP Conversion Kit; Two 3/4 x 1/2 in. reducer bushings

Dimensions in inches (millimeters)



VR4304 wiring connections in intermittent ignition system.



VR8205 Direct Ignition Dual Automatic Valve Combination Gas Controls

Body Pattern: Straight-through
Type of Gas: Natural
Capacity: 150,000 BTU/hr 1 in. PD; 20,000 BTU/hr minimum 200,000 BTU/hr maximum
Anticipator Setting: 0.5 A
Ignition Type: Direct Ignition
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. NPT with plug
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Electrical Connections: 1/4 in. quick-connect male terminals
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.

Approvals
Australian Gas Association: 4717
CSA International: 112395
Underwriters Laboratories, Inc: Component Recognized MCCZ2.MH5323

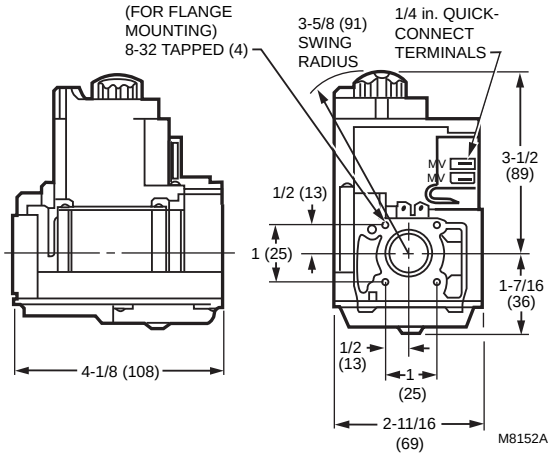
Combination gas controls for use with hot surface/direct spark systems in 24 Vac, gas-fired appliances with capacities from 20 to 200 cfh.

- Controls include manual valve, two automatic operators, and pressure regulator.
- Provide two automatic valves.
- Solenoid operated first automatic valve opens on thermostat call for heat; closes when call for heat ends.
- Diaphragm operated second automatic valve opens under control of the regulator; closes if gas or power supply is interrupted.
- Meet codes requiring dual safety shutoff.
- Natural to LP and LP to Natural conversion kits available for standard and slow opening gas valves.
- Adjustments and wiring connections are accessible from top of the control.
- ON-OFF lighting sequence.

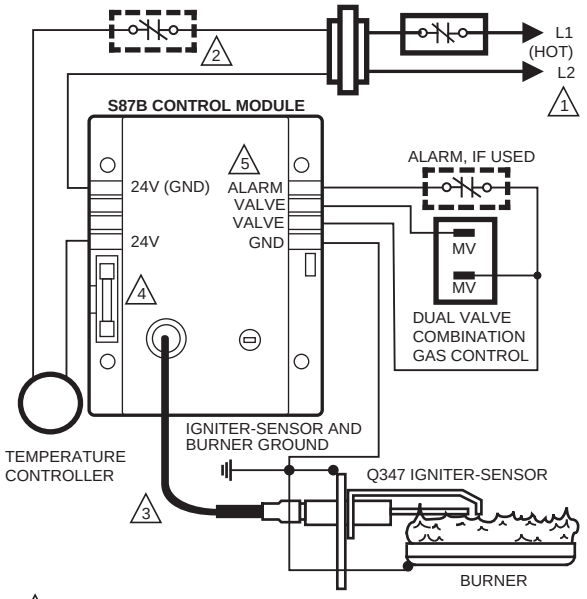
Accessories:
390427A-3/4 inch x 1/2 inch reducer bushing for valves
390427B-1/2 inch x 3/8 inch reducer bushing for valves
390427E-Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
392877-1/4 inch barbed vent fitting
393690-4-Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.
393690-13-Flange Kit bag assembly, includes 1/2 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393690-15-Flange Kit bag assembly, includes 3/4 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393691-Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap
394588-Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap
395253-1-Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).
396021-2 Stage Natural Gas to LP Gas Conversion kit, includes regulator shaft
396025-2 Stage LP to Natural Gas Conversion kit, includes regulator shaft

Product Number	Type	Opening Characteristics (standard, step)	Inlet/ Outlet Size (in.)	Pressure Regulator Setting		Ambient Temperature Range		Includes
				(psi)	(kPa)	(F)	(C)	
VR8205A2024/U	Single Stage	Standard	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	0 F to 175 F	-18 C to +79 C	One 3/4 in. straight flange; One 1/2 in. x 3/8 in. reducer bushing; Natural to LP Conversion Kit
VR8205C1024/U	Single Stage	Step Opening	1/2 in. x 1/2 in.	Full Rate: 3.5 in. wc; Step Setting: 1.2 in. wc	Full Rate:0.87 kPa; Step Setting: 0.30 kPa	0 F to 175 F	-18 C to +79 C	—
VR8205H1003/U	Single Stage	Slow Opening	1/2 in. x 1/2 in.	3.5 in. wc	0.87 kPa	0 F to 175 F	-18 C to +79 C	—
VR8205Q2555/U	Two Stage	Standard	1/2 in. x 1/2 in.	1.7 in. wc low; 3.5 in. wc high	0.48 kPa low; 0.87 kPa high	-40 F to +175 F	-40 C to +66 C	One 1/2 in. x 3/8 in. reducer bushing; Natural to LP Conversion Kit

Dimensions in inches (millimeters)



Wiring connections for 24 volt control in S87 Direct Ignition System.



1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. ALTERNATE LIMIT CONTROLLER LOCATION.
3. MAXIMUM IGNITER-SENSOR CABLE LENGTH: 3 ft. (0.9 m) OR LESS.
4. 3A REPLACEABLE FUSE.
5. ALARM TERMINAL PROVIDED ON SOME MODELS.

M9043A

VR4305 Line Voltage; VR8305 Low Voltage Direct Ignition Dual Automatic Valve Combination Gas Control

Combination gas control for use with hot surface/direct spark systems in 24 Vac or 120 Vac, gas-fired appliances, with capacities from 30 to 415 cfh.

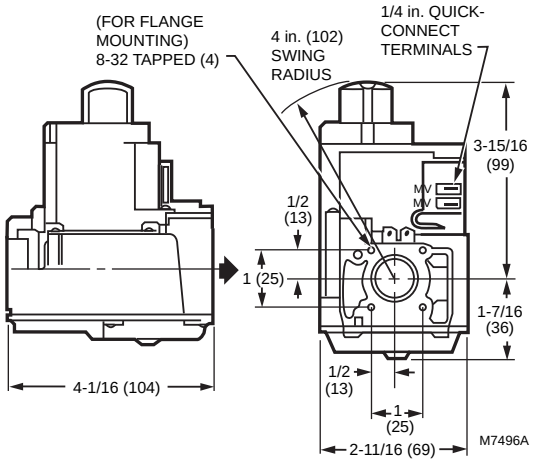
- Controls include manual valve, two automatic operators and pressure regulator.
- Compact size.
- Provides two automatic valves.
- Solenoid operated first automatic valve opens on thermostat call for heat; closes when call for heat ends.
- Diaphragm-operated second automatic valve opens under control of regulator; closes if gas or power supply is interrupted.
- Meets codes requiring dual safety shut-off.
- Natural to LP and LP to Natural conversion kits available for standard and slow opening gas valves.
- Adjustable servo regulator effectively maintains almost constant gas output pressure under wide fluctuations in gas supply pressure.
- ON/OFF lighting sequence.
- Use VR8305 models with S89C,E,F and S87 series 5 and later.
- All adjustments, wiring connections and pilot outlet are accessible from top of control.

Body Pattern: Straight-through
Capacity:
1/2 x 1/2 inlet x outlet: 240,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 340,000 BTU/hr maximum
1/2 x 3/4 inlet x outlet: 270,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 370,000 BTU/hr maximum
3/4 x 3/4 inlet x outlet: 300,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 415,000 BTU/hr maximum
Anticipator Setting: 0.13 A
Ignition Type: Direct Ignition
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. NPT with plug
Frequency: 60 Hz
Electrical Connections
24 Vac models: 1/4 in. male quick connects
120 Vac models: 21 in. leadwires
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.
Approvals
Australian Gas Association: 4717
CSA International: 112395
Underwriters Laboratories, Inc: Component Recognized MCCZ2.MH5323

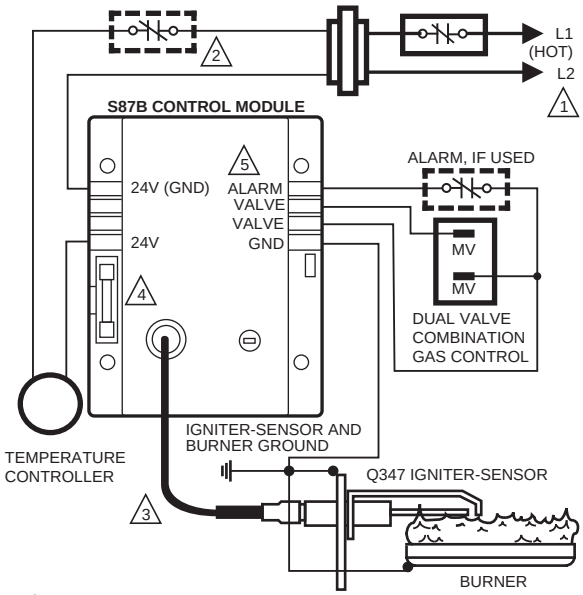
Accessories:
390427A-3/4 inch x 1/2 inch reducer bushing for valves
390427B-1/2 inch x 3/8 inch reducer bushing for valves
390427E-Two 3/4 in. NPT x 1/2 in. NPT reducer bushings
392877-1/4 inch barbed vent fitting
393690-4-Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.
393690-13-Flange Kit bag assembly, includes 1/2 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393690-15-Flange Kit bag assembly, includes 3/4 inch angle flange, O-ring, 9/64 inch hex screws and 9/64 inch hex wrench
393691-Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap
394588-Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap
395253-1-Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).
396021-2 Stage Natural Gas to LP Gas Conversion kit, includes regulator shaft
396025-2 Stage LP to Natural Gas Conversion kit, includes regulator shaft

Product Number	Electrical Ratings	Type	Type of Gas	Opening Characteristics (standard, step)	Inlet/ Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Includes
VR4305M4532/U	120 Vac	Single Stage	Natural	Standard	3/4 in. x 3/4 in.	3.5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	One 1/2 in. x 3/8 in. reducer bushing; Natural to LP Conversion Kit; Two 3/4 x 1/2 in. reducer bushings
VR8305M3506/U	24 Vac	Single Stage	Natural	Standard	1/2 in. x 3/4 in.	3.5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	One 3/4 in. straight flange; One 3/4 in. x 1/2 in. reducer bushing; Natural to LP Conversion Kit
VR8305P2224/U	24 Vac	Single Stage	LP	Step Opening	1/2 in. x 1/2 in.	Full Rate: 10.0 in. wc; Step Setting: 4.0 in. wc	Full Rate: 2.49 kPa; Step Setting: 1.0 kPa	-40 F to +175 F	-40 C to +79 C	—
VR8305P4279/U	24 Vac	Single Stage	Natural	Step Opening	3/4 in. x 3/4 in.	Full Rate: 3.5 in. wc; Step Setting: 0.9 in. wc	Full Rate: 0.87 kPa; Step Setting: 0.22 kPa	-40 F to +175 F	-40 C to +79 C	—
VR8305Q4500/U	24 Vac	Two Stage	Natural	Standard	3/4 in. x 3/4 in.	1.7 in. wc low; 3.5 in. wc high	0.48 kPa low; 0.87 kPa high	-40 F to +175 F	-40 C to +79 C	Natural to LP Conversion Kit; Two 3/4 x 1/2 in. reducer bushings

Dimensions in inches (millimeters)



Wiring Connections in S87 Direct Ignition System for 24 volt control.



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 ALTERNATE LIMIT CONTROLLER LOCATION.

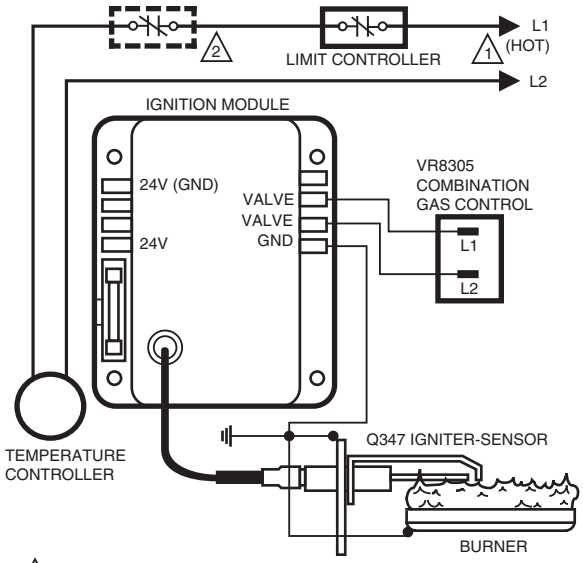
3 MAXIMUM IGNITER-SENSOR CABLE LENGTH: 3 ft. (0.9 m) OR LESS.

4 3A REPLACEABLE FUSE.

5 ALARM TERMINAL PROVIDED ON SOME MODELS.

M9043A

Wiring Connections in S87 Direct Ignition System for 120 volt control.



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 ALTERNATE LIMIT CONTROLLER LOCATION.

M3088

Combination Gas Controls

VR8245; VR8345 Low Voltage
Universal Electronic Ignition Combination Gas Control

Universal electronic ignition combination gas control for use with direct spark ignition, hot surface ignition or intermittent pilot ignition in 24 Vac, gas-fired appliances, with capacities from 20 to 200 cfh (VR8245M) or 30 to 415 cfh (VR8345M).

- Control includes manual valve, two automatic operators, pressure regulator, pilot adjustment, pilot plug and ignition adapter.
- Replaces virtually any IP, HSI, or DSI gas control.
- For use with natural or manufactured gas or LP gas.
- Includes converter kit to adapt from natural to LP gas.
- Compact size.
- All adjustments and wiring connections accessible from top of control.
- Four-inch swing radius allows easy rotation into position inside the tightest furnace vestibules.
- Clearly marked, keyed terminal block allows quick attachment of wires and IP/DSI/HSI jumper.
- Internal inlet screen blocks contaminants in gas line from entering valve.

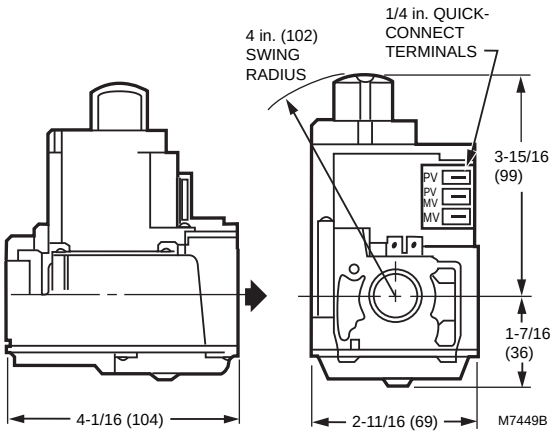
Body Pattern: Straight-through
Capacity:
1/2 x 1/2 inlet x outlet: 240,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 340,000 BTU/hr maximum
3/4 x 3/4 inlet x outlet: 300,000 BTU/hr 1 in. PD; 30,000 BTU/hr minimum; 415,000 BTU/hr maximum
Ignition Type: Direct Ignition; Intermittent Pilot
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. NPT with plug
Ambient Temperature Range: -40 F to +175 F (-40 C to +79 C)

Electrical Ratings: 24 Vac
Frequency: 50 Hz; 60 Hz
Electrical Connections: 1/4 in. quick-connect male terminals
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.
Approvals
CSA International: 112395
Underwriters Laboratories, Inc: Component Recognized MCCZ2.MH5323

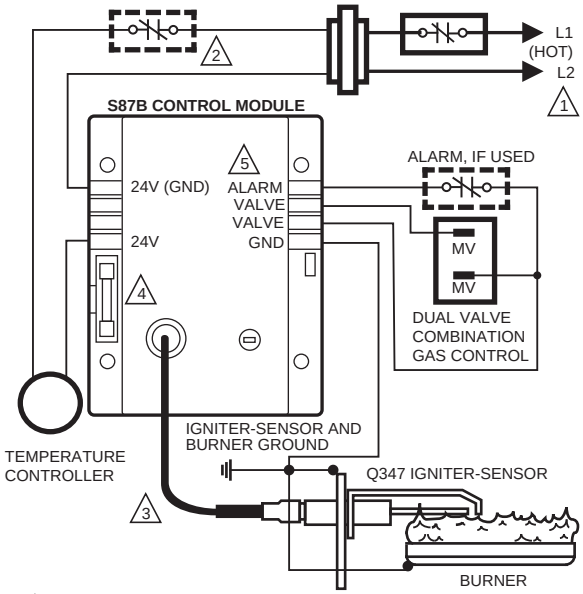
	Product Number	Type	Type of Gas	Opening Characteristics (standard, step)	Inlet/Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Includes
U	**VR8245M2530/U**	Single Stage	Natural or LP	Standard	1/2 in. x 1/2 in.	3.5 in. wc	0.9 kPa	Natural to LP Conversion Kit; One 1/2 x 3/8 in.reducer bushing
U	**VR8345K4809/U**	Single Stage	Natural or LP	Slow Opening	3/4 in. x 3/4 in	3.5 in. wc	0.87 kPa	Natural to LP Conversion Kit; Two 3/4 x 1/2 in. reducer bushings
U	**VR8345M4302/U**	Single Stage	Natural	Standard	3/4 in. x 3/4 in.	3.5 in. wc	0.87 kPa	Natural to LP Conversion Kit; Two 3/4 x 1/2 in. reducer bushings
U	**VR8345Q4563/U**	Two Stage	Natural	Standard	3/4 in. x 3/4 in.	1.7 in. wc low; 3.5 in. wc high	0.48 kPa low; 0.87 kPa high	Natural to LP Conversion Kit; Two 3/4 x 1/2 in. reducer bushings

U Universal Service Part

Dimensions in inches (millimeters)



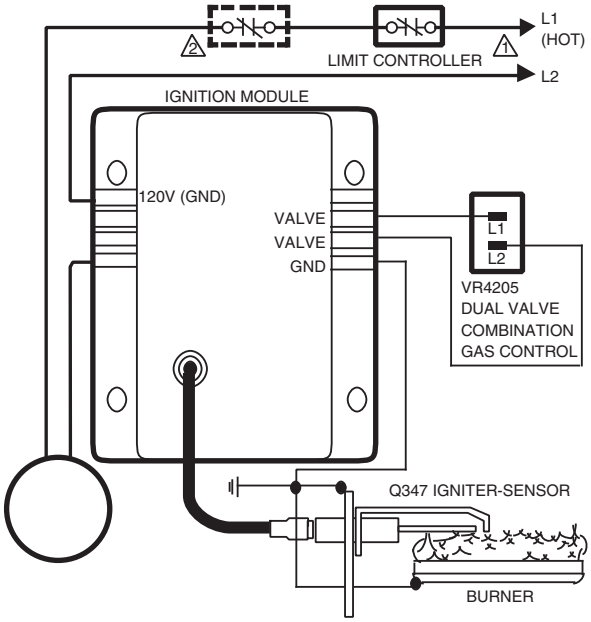
Wiring Connections in S87 Direct Ignition System for 24 volt control.



1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. ALTERNATE LIMIT CONTROLLER LOCATION.
3. MAXIMUM IGNITER-SENSOR CABLE LENGTH: 3 ft. (0.9 m) OR LESS.
4. 3A REPLACEABLE FUSE.
5. ALARM TERMINAL PROVIDED ON SOME MODELS.

M9043A

Wiring Connections in S87 Direct Ignition System for 120 volt control.



1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. ALTERNATE LIMIT CONTROLLER LOCATION.

M3090A

Gas Valve Selection Guide

Trade Replacements (Double-Check Specifications Before Replacement)		Specifications				Accessories (Includes)					
Universal Service Part	Direct Service Part Replacement	Opening Characteristics (standard, step,)	Inlet / Outlet Size (in.)	Pressure Regulator Setting (in. wc)	Temperature Range	Q340 Thermocouple	3/4 in. x 1/2 in. Reducer Bushing	Natural to LP Conversion Kit	3/4 in. Straight Flange	1/2 in. x 3/8 in. Reducer Bushing	Remote Rod Adapter Knob
	VR8300A4508	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	Two	One	None	None	None
	VR8300A3500	Standard	1/2 x 3/4	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	One	One	None	None	None
VR8300A4516/U	VR8300A4516	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	One	Two	One	None	None	None
	VR8200A2124	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	One	None	One	One	One	None
	VR8200A2132	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	None	One	One	One	None
VR8200A2744/U	VR8200A2744	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	None	One	One + One Elbow	One	None
	VR8304M3509	Standard	1/2 x 3/4	3.5 in. wc (0.87 kPa)	-40 to 175 F (-40 to 79 C)	None	One	One	None	None	None
	VR8304M4507	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	-40 to 175 F (-40 to 79 C)	None	Two	One	None	None	None
	VR8305M3506	Standard	1/2 x 3/4	3.5 in. wc (0.87 kPa)	-40 to 175 F (-40 to 79 C)	None	One	One	One	None	None
VR8345M4302/U	VR8345M4302	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	-40 to 175 F (-40 to 79 C)	None	Two	One	None	None	None
	VR8204A2076	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	None	One	One	One	None
	VR8204M1091	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	-40 to 175 F (-40 to 79 C)	None	None	One	One	One	None
	VR8205A2024	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	None	One	One	One	None
VR8245M2530/U	VR8245M2530	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	-40 to 175 F (-40 to 79 C)	None	None	One	None	One	None
	VR8205H1003	Slow	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	None	None	None	None	None
	VR8304H4503	Slow	3/4 x 3/4	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	None	One	None	None	None
VR8345K4809/U	VR8345K4809	Slow	3/4 x 3/4	3.5 in. wc (0.87 kPa)	-40 to 175 F (-40 to 79 C)	None	Two	One	None	None	None
	VR8205Q2555	2-Stage	1/2 x 1/2	1.7 in. wc Low Fire; 3.5 in. wc High Fire	-40 to 175 F (-40 to 79 C)	None	None	One	None	One	None
	VR8304Q4511	2-Stage	3/4 x 3/4	1.7 in. wc Low Fire; 3.5 in. wc High Fire	-40 to 175 F (-40 to 79 C)	None	Two	One	None	None	None
	VR8305Q4500	2-Stage	3/4 x 3/4	1.7 in. wc Low Fire; 3.5 in. wc High Fire	-40 to 175 F (-40 to 79 C)	None	One	One	None	None	None
VR8345Q4563/U	VR8345Q4563	2-Stage	3/4 x 3/4	1.7 in. wc Low Fire; 3.5 in. wc High Fire	-40 to 175 F (-40 to 79 C)	None	Two	One	None	None	None
	VS820A1054	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	32 to 175 F (0 to 79 C)	None	Two	None	None	One	None
	VS820A1336	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	32 to 175 F (0 to 79 C)	None	Two	None	None	One	None
VS820M1309/U	VS820M1309	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	-40 to 175 F (-40 to 79 C)	None	Two	One	None	One	Yes
	VR8300A4508	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	Two	One	None	None	None
	VR8300A3500	Standard	1/2 x 3/4	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	One	One	None	None	None
	VR8300A4516	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	One	Two	One	None	None	None
	VR8200A2124	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	One	None	One	One	One	None
	VR8200A2132	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	None	One	One	One	None
	VR8200A2744	Standard	1/2 x 1/2	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	None	None	One	One + One Elbow	One	None
VR8300M4406/U	VR8300M4406	Standard	3/4 x 3/4	3.5 in. wc (0.87 kPa)	0 to 175 F (-18 to 79 C)	One	Two	One	None	None	None

All piloted valves have a 1/4 in. compression fitting.
All the OR valves come set for natural gas, but can be converted to LP gas.
The VS820A1054 is for natural gas. The VS820A1336 is for LP gas.
All the VR valves have inlet and outlet pressure taps. The VS820 valves have just an outlet pressure tap

Gas Valve Cross Reference Guide

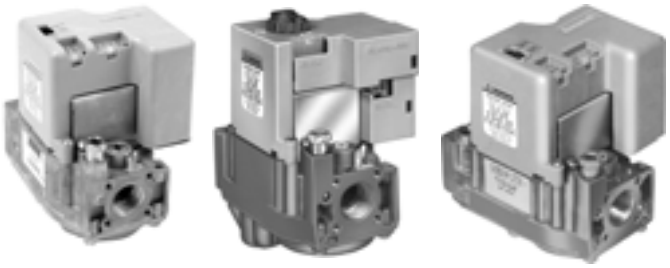
Trade Replacements (Double-Check Specifications Before Replacement)		Competitive Replacement		
Universal Service Part	**Direct Service Part Replacement**	**Honeywell**	**White-Rogers**	**Robertshaw**
	VR8300A4508	VR8300A4003, VR8300A4011, VR8300A4037, VR8300A4045, VR8300A4557, VR8300A4565	36C01-405	700-400, 720-406 (7200ER)
	VR8300A3500	VR8300A3104, VR8300A3120, VR8300A3153, VR8300A3161, VR8300A3203, VR8300A3559, VR8300A3567, VR8300A3575	36C03-300, 36C03-258	720-404 (7200ER) 720-403, 720-400, 720-402
VR8300A4516/U	VR8300A4516	VR8300A4003, VR8300A4011, VR8200A2827, VR8300A4037, VR8300A4045, VR8300A4557, VR8300A4565	36C03-400, 36C03-433	720-400 (7200ER), 720-402 (7200ER)
	VR8200A2124	VR8200A2215, VR8200A2348, VR8200A2116, VR8200A2264, VR8200A2322*, VR8200A2009, VR8200A2082		720-400 (7200ER), 720-402 (7200ER)
	VR8200A2132			720-400 (7200ER), 720-402 (7200ER)
VR8200A2744/U	VR8200A2744	VR8200A2322*		
	VR8204A2076	VR8204A1201, VR8204A1219, VR8204A2001, VR8204A2035, VR8204A2175, VR8204A2183, VR8204A2241, VR8204A2225, VR8204A2803, VR8204A2043		
	VR8204M1091	VR8204M1075, VR8204M1232	36E01-204, 36E01-205, 36E01-206, 36E01-305, 36E93-304	722-079 (2000IPERHC)
	VR8205A2024	VR8205A2008, VR8205A2081	36G22-214, 36J22-214	722-051 (2000DERHC), 720-051
VR8245M2530/U	VR8245M2530	VR8204A2852, VR8205M1080, VR8205M1106, VR8205M2310, VR8205M2443, VR8205M2450, VR8205M2476	36E36-304, 36E22-214	720-079 (7200IPER), 720-080 (7200IPER-LP)
	VR8205H1003	VR8305H4013, VR8305H4039, VR8205H2605		
	VR8304H4503	VR8204H1006, VR8204H1055		720-070 (7200IPER-S7C), 720-071 (7200IPER-S7C), 720-072 (7200IPER-S7C), 720-073 (7200IPER-LP-S7C)
VR8345K4809/U	VR8345K4809	VR8304K3808	36E98-304, 36E24-214, 36E52-214	700-052
	VR8304M3509	VR8304M2501		
	VR8304M4507	VR8304M4002, VR8304M4804		
	VR8305M3506	VR8305M4066, VR8305M4165, VR8305M4231	36G22-214, 36C68-423	720-051 (7200DER)
VR8345M4302/U	VR8345M4302		36E36-304, 36C68-423, 36H32-423	
	VR8205Q2555	VR8205Q2662, VR8205Q2746, VR8205Q2787, VR8205Q2381	36E54-214	
	VR8304Q4511	VR8304Q4453	36C76-406, 36C76-420, 36C76-463	
	VR8305Q4500	VR8305Q4138, VR8305Q4146	36G54-214	
VR8345Q4563/U	VR8345Q4563		36D13-208, 36E96-314, 36D13-405	720-082 (7200IPER2-4)
	VS820A1054	VS820A1260, VS820A1005, VS820A1013, VS820A1047, VS820A1278, VS820A5204, VS820A1922		
	VS820A1336	VS820A1211, VS820A1740, VS820A1120, VS820A1898, VS820A1872, VS820A1906		
VS820M1309/U	VS820M1309	VS820A1807, VS820A2003, VS820A1815, VS820A1039, VS820A2011	36C03U-300, 36C03U-333, 36C03U-400, 36C03U-433	
	VR8300A4508	VR8300A4003, VR8300A4011, VR8300A4037, VR8300A4045, VR8300A4557, VR8300A4565	36C01-405	700-400, 720-406 (7200ER)
	VR8300A3500	VR8300A3104, VR8300A3120, VR8300A3153, VR8300A3161, VR8300A3203, VR8300A3559, VR8300A3567, VR8300A3575	36C03-300, 36C03-258	720-404 (7200ER), 720-403, 720-400, 720-402
	VR8200A2124	VR8200A2215, VR8200A2348, VR8200A2116, VR8200A2264, VR8200A2322*, VR8200A2009, VR8200A2082		720-400 (7200ER), 720-402 (7200ER)
	VR8200A2132			720-400 (7200ER), 720-402 (7200ER)
	VR8200A2744	VR8200A2322*		
VR8300M4406/U	VR8300M4406	VR8300A4003, VR8300A4011, VR8200A2827, VR8300A4037, VR8300A4045, VR8300A4557, VR8300A4565, VR8300A4516	36C03-400, 36C03-433,	720-400 (7200ER), 720-402 (7200ER)

*Canadian Numbers

For a complete cross-reference, visit www.customer.honeywell.com

SmartValve System Controls

SV9501; SV9502; SV9601; SV9602 SmartValve® System



The SmartValve® System Controls combine gas flow control and electronic intermittent pilot sequencing functions into a single unit. This product family offers several different intermittent pilot sequences for a wide range of applications. The specific application of the SmartValve System is the responsibility of the appliance manufacturer. They are directly compatible with the Q3450 or Q3480 Intermittent Pilot burners used with the original controls on the appliance.

- Suitable for a wide range of gas-fired appliances including residential furnaces, roof-top furnaces, residential boilers, unit heaters, infrared heaters, space heaters and commercial cooking units.
- Replaces SV9500, SV9501, SV9502, SV9601, and SV9602 controls as noted below.
- Ignition sequence includes timed trial for ignition.

Dimensions, Approximate: 3.2 in. wide x 4.9 in. high x 4.1 in.long (81 mm wide x124 mm high x 104 mm long.)
Body Pattern: Straight-through
Capacity:
1/2 x 1/2 inlet x outlet: 150 ft^3/hr (4.2 m^3/hr) 1 in. PD;
20 ft^3/hr (0.6 m^3/hr) minimum; 200 ft^3/hr (5.7 m^3/hr) maximum
3/4 x 3/4 inlet x outlet: 300 ft^3/hr (8.5 m^3/hr)1 in. PD;
30 ft^3/hr (0.8 m^3/hr); 415 ft^3/hr (11.8 m^3/hr) maximum
Pilot Gas Outlet: Yes
Electrical Ratings: 24 Vac
Frequency: 50 Hz; 60 Hz
Flame Failure Response Time (sec): 1.6 sec @ 3 µA
Flame Sense: Electrode

Flame Sense: Two Rod
Ignition Sequence: Intermittent Pilot
Ignition Source: Pilot
Ignition System Type: Intermittent Hot Surface Pilot Ignition
Ignition Trial Time: 90 sec
Ignition Trials To Lockout: continuous retry
Pressure Ratings: 1/2 psi (3.45 kPa)
Pressure Tapping: 1/8 in. - NPT
Typical Ignition Hardware: Q3450 or Q3480
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.
Approvals
CSA International: 112395

	Product Number	Type of Gas	Opening Characteristics (standard, step)	Inlet/Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	Ambient Temperature Range (F)	Ambient Temperature Range (C)	PrePurge	Includes
U	**SV9501M2528/U**	Natural	Standard	1/2 in. x 1/2 in. NPT	3.5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	None	—
U	**SV9501M8129/U**	Natural	Fast-Fast	1/2 in. x 1/2 in. NPT	3.4 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	None	—
U	**SV9502H2522/U**	Natural	Slow	1/2 in. x 1/2 in. NPT	3.2 in. wc	0.80 kPa	0 F to +175 F	-18 C to +79 C	15 sec	—
U	**SV9601M4571/U**	Natural	Standard	3/4 in. x 3/4 in. NPT.	3.5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	None	Two 3/4 in. x 1/2 in. reducer bushings; An LP conversion kit.
U	**SV9602P4816/U**	Natural	Step	3/4 in. x 3/4 in. NPT.	Full Rate: 3.5 in. wc; Step Setting: 0.7 in. wc	Full Rate: 0.87 kPa; Step Setting: 0.17 kPa	-40 F to +175 F	-40 C to +79 C	30 sec	—
U	**SV9602P4824/U**	Natural	Step	3/4 in. x 3/4 in. NPT.	Full Rate: 3.5 in. wc; Step Setting: 0.7 in. wc	Full Rate: 0.87 kPa; Step Setting: 0.17 kPa	-40 F to +175 F	-40 C to +79 C	30 sec	—
U	**SV9602P4832/U**	LP	Step	3/4 in. x 3/4 in. NPT.	Full Rate: 10.0 in. wc; Step Setting: 2.5 in. wc	Full Rate: 2.49 kPa; Step Setting: 0.62 kPa	-40 F to +175 F	-40 C to +79 C	30 sec	—
U	**SV9602P4840/U**	LP	Step	3/4 in. x 3/4 in. NPT.	Full Rate: 10.0 in. wc; Step Setting: 2.5 in. wc	Full Rate: 2.49 kPa; Step Setting: 0.62 kPa	-40 F to +175 F	-40 C to +79 C	30 sec	—

U Universal Service Part

SV9510; SV9520 SmartValve® System

The SmartValve® System Controls combine gas flow control and electronic direct main burner ignition sequencing functions into a single unit. The ignition source is 120V hot surface igniter lighting the main burner flame. Provides all gas ignition safety functions by controlling gas flow, ignition source, and a 120 Vac combustion air blower. The control also monitors the appliance airflow proving switch circuit and limit string to assure proper appliance operation. The SmartValve System Controls provide prepurge, postpurge and timed trial for ignition with multiple ignition trials and auto reset from lockout. Diagnostic LED indicates system status.

- The control communicates directly with the ST9160 Electronic Fan Timer (EFT) in typical forced warm air furnace applications.
- It can directly interface with the appropriate power supplies and a system thermostat for additional appliance applications.
- When controlled directly by a thermostat, the control does not provide a postpurge function, as power to the control is removed when the thermostat call for heat ends.
- This system is suitable for a wide range of fan-assisted combustion, gas-fired appliances including furnaces, rooftop furnaces, boilers, unit heaters, infrared heaters, water heaters and commercial cooking appliances.

Dimensions, Approximate: 3.2 in. wide x 4.9 in. high x 4.1 in.long (81 mm wide x124 mm high x 104 mm long.)
Body Pattern: Straight-through
Type of Gas: Natural
Capacity:
1/2 x 1/2 inlet x outlet: 150 ft^3/hr (4.2 m^3/hr) 1 in. PD;
20 ft^3/hr (0.6 m^3/hr) minimum; 200 ft^3/hr (5.7 m^3/hr) maximum
Electrical Ratings: 24 Vac
Frequency: 50 Hz; 60 Hz
Flame Failure Response Time (sec): 2 sec @ 5 µA
Flame Sense: Two Rod
Ignition Sequence: 17/27 sec
Ignition Sequence: 7/12 sec
Ignition System Type: Direct Hot Surface Ignition
Ignition Trials To Lockout: 4 trials
PrePurge: 15 seconds
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. - NPT
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.
Includes: LP Conversion Kit
Approvals
CSA International: 112395

	Product Number	Opening Characteristics (standard, step)	Inlet/Outlet Size (in.)	Pressure Regulator Setting		Ambient Temperature Range		Ignition Trial Time
				(psi)	(kPa)	(F)	(C)	
U	**SV9510K2539/U**	Slow Opening	1/2 in. x 1/2 in. NPT	3.5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	9 sec
U	**SV9510M2511/U**	Standard	1/2 in. x 1/2 in. NPT	3.5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	7 sec
U	**SV9520H8513/U**	Fast-Slow Opening	1/2 in. x 1/2 in. NPT	3.5 in. wc	0.87 kPa	0 F to +175 F	-18 C to +79 C	7 sec
U	**SV9520M2536/U**	Standard	1/2 in. x 1/2 in. NPT	3.5 in. wc	0.87 kPa	-40 F to +175 F	-40 C to +79 C	7 sec

U Universal Service Part

SmartValve System Controls

SV9541; SV9641 SmartValve® System

The SV9541 and SV9641 SmartValve® System Controls combine gas flow control and electronic intermittent pilot sequencing functions into a single unit. The Q3450 or Q3480 Pilot hardware supplies the low voltage igniter, flame sensor and pilot burner. These ignition system controls provide all gas ignition safety functions by controlling gas flow, ignition source, and a 120 Vac or 240 Vac combustion air blower. The controls also monitor the appliance airflow proving switch and limit string to assure proper appliance operation, and provide prepurge, postpurge, and timed trial for pilot ignition with 100 percent shutoff and continuous retry. A diagnostic LED indicates system status.

- These controls communicate directly with an electronic fan timer (ST9160 Electronic Fan Timer for single stage applications; ST9162 Electronic Fan Timer for two-stage applications) in typical forced warm air furnace applications.
- It can directly interface with the appropriate power supplies and a system thermostat for additional appliance applications.
- When controlled directly by a thermostat, these controls do not provide a postpurge function, because power to the control is removed when the thermostat call for heat ends.
- The Systems are suitable for a wide range of fan-assisted combustion gas-fired appliances including furnaces, rooftop furnaces, boilers, unit heaters, infrared heaters, water heaters and commercial cooking appliances.

Dimensions, Approximate: 3.2 in. wide x 4.9 in. high x 4.1 in.long (81 mm wide x124 mm high x 104 mm long.)
Body Pattern: Straight-through
Type of Gas: Natural
Capacity:
1/2 x 1/2 inlet x outlet: 150 ft^3/hr (4.2 m^3/hr) 1 in. PD;
20 ft^3/hr (0.6 m^3/hr) minimum; 200 ft^3/hr (5.7 m^3/hr) maximum
3/4 x 3/4 inlet x outlet: 300 ft^3/hr (8.5 m^3/hr)1 in. PD;
30 ft^3/hr (0.8 m^3/hr); 415 ft^3/hr (11.8 m^3/hr) maximum
Pilot Gas Outlet: Yes
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Flame Failure Response Time (sec): 1.6 sec @ 3 µA

Flame Sense: Two Rod
Ignition Sequence: Intermittent Pilot
Ignition Source: Pilot
Ignition System Type: Intermittent Hot Surface Pilot Ignition
Ignition Trial Time: 90 sec
Ignition Trials To Lockout: continuous retry
Pressure Ratings: 1/2 psi (3.5 kPa)
Pressure Tapping: 1/8 in. - NPT
Ambient Temperature Range: -40 F to +175 F (-40 C to +79 C)
Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.
Approvals
CSA International: 112395

	Product Number	Opening Characteristics (standard, step)	Inlet/Outlet Size (in.)	Pressure Regulator Setting (psi)	Pressure Regulator Setting (kPa)	PrePurge	PostPurge	Includes
U	**SV9541Q2561/U**	Standard; Two-stage	1/2 in. x 1/2 in. NPT	1.7 in. wc low; 3.2 in. wc high	0.42 kPa low; 0.80 kPa high	15 seconds	—	LP Conversion Kit
U	**SV9641M4510/U**	Standard	3/4 in. x 3/4 in. NPT.	3.5 in. wc	0.87 kPa	15 seconds	30 seconds	Two 3/4 in. x 1/2 in. reducer bushings; An LP conversion kit.

U Universal Service Parts

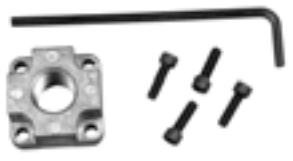
SmartValve® Control Systems Selection Guide

		Specifications							Cross-Reference
Ignition/ Application	**Universal Service Part**	**Gas Type**	**Opening Characteristics**	**Ambient Temperature Range**	**Natural to LP Conversion Kit (Included**	**3/4 in. x 1/2 in. Reducer Bushings (Included)**	**Extension Harness (Included)**	**OEM Brands**	**Replaces**
Intermittent HSI Pilot with Combustion Air Control and Limit Monitoring Forced Air Furnace	SV9541Q2561/U	Natural	2-Stage	-40 to 175 F (-40 to 79 C)	Yes	None	No	ICP, Heil, Tempstar, Arcoaire, Comfortmaker, KeepRite	SV9540Q2464, SV9541Q3098
	SV9641M4510/U		Standard Opening		Yes	Two		ICP, Heil, Tempstar, Arcoaire, Comfortmaker, KeepRite, Mestek, Slant Fin	SV9541M2094, SV9540M2229, SV9540M2260, SV9640M4116, SV9640M4124, SV9540M2278, SV9540M2245, SV9640M3126, SV9640M4132
Direct Ignition, General Application	SV9510M2511/U	Natural	Standard Opening	-40 to 175 F (-40 to 79 C)	Yes	None	No	Modine	SV9510M2347, SV9510M2362, SV9410M2902, SV9510M2412, SV9510M2354, SV9410M2910, SV9510M2388, SV9510M2420
	SV9520M2536/U			-40 to 175 F (-40 to 79 C)				—	SV9420M2331, SV9520M2403, SV9420M2323
	SV9510K2539/U		Slow Opening	-40 to 175 F (-40 to 79 C)				Roberts Gordon	SV9510H2228, SV9510K2133, SV9510K2158, SV9510K2141, SV9510K2166
	SV9520H8513/U		Fast-Slow Opening	0 to 175 F (-18 to 79C)				Armstrong, Concord, AirEase	SV9520H8042, SV9520H8034, SV9520H8067, SV9520H8026
Intermittent HSI Pilot, General Application	SV9601M4571/U	Natural	Standard Opening	-40 to 175 F (-40 to 79C)	Yes	Two	No	—	SV9601M4167, SV9601M3003, SV9601M4225
	SV9501M2528/U					None		ICP, Heil, Tempstar, Arcoaire, Comfortmaker, KeepRite	SV9501M2031, SV9501M2049, SV9501M2056, SV9501M2080, SV9501M2239, SV9501M2700, SV9501M2718, SV9501M2726, SV9501M2734, SV9501M2742
	SV9501M8129/U		Fast-Fast				Yes	—	SV9501M8103
	SV9502H2522/U		Slow Opening	0 to 175 F (-18 to 79)				Laars, Utica, Armstrong, Concord, AireEase	SV9502H1706, SV9501H2409, SV9501H2417, SV9501H2425, SV9502H2704, SV9501H3415, SV9501H3423
	SV9602P4816/U		Step Opening	-40 to 175 F (-40 to 79 C)	None	Two		Burnham, ICP, Heil, Tempstar, Arcoaire, Comfortmaker, KeepRite	SV9501P2004, SV9601P4107, SV9501P2053, SV9502P2101, SV9602P4105
	SV9602P4824/U							Burnham	SV9501P2087, SV9601P4172, SV9502P2127, SV9602P4121
	SV9602P4832/U							Burnham	SV9501P2020, SV9501P2046, SV9601P4149, SV9601P4164, SV9502P2119, SV9502P2135, SV9602P4113, SV9602P4139
	SV9602P4840/U							—	SV9601P4115

For a complete cross-reference, visit www.customer.honeywell.com

Gas Valves Parts and Accessories

Parts and Accessories for Combination Gas Controls

Product Number	Description	Used With	
Conversion Kits			
391936/U	LP to Natural Gas Conversion kit, including regulator spring, O-ring, screw and cap	V400, V800, VS821, VS820	
391937/U	Natural Gas to LP Conversion kit, including regulator spring, O-ring, screw and cap	V400, V800, VS821, VS820	
393691/U	Single Stage Natural Gas to LP Conversion kit, including regulator spring, screw and cap	VR4200, VR4300, VR4204, VR4304, VR4205, VR4305, VR8200, VR8300, VR8104, VR8204, VR8304, VR8205 (not VR8205S), VR8305, (Single stage only, not Q or N models)	
394588/U	Single Stage LP to Natural Gas Conversion kit, including regulator spring, screw and cap	VR4200, VR4300, VR4204, VR4304, VR4205, VR4305, VR8200, VR8300, VR8104, VR8204, VR8304, VR8205 (not VR8205S), VR8305, (Single stage only, not Q or N models)	
395253-1	Single Stage Natural Conversion kit (5 in. wc to 7 in. wc adjustable).	VR8200, VR8300, VR8204, VR8304, VR8205	
396021/U	2 Stage Natural Gas to LP Gas Conversion kit, includes regulator shaft	VR8105Q, VR8105N, VR8205Q, VR8205N, VR8305Q, VR8305N, VR8204Q, VR8204N, VR8304Q, VR8304N, SV9540Q	
396025/U	2 Stage LP to Natural Gas Conversion kit, includes regulator shaft	VR8105Q, VR8105N, VR8205Q, VR8205N, VR8305Q, VR8305N, VR8204Q, VR8204N, VR8304Q, VR8304N, SV9540Q	
Flanges			
393690-13/U* **	Flange Kit bag assembly, includes 1/2 in. angle flange, O-ring, 9/64 inch hex screws and 9/64 in. hex wrench	VR8100, VR8200, VR8300, VR4200, VR4300, SV9500, VR8104, VR8204, VR8304, VR4204, VR4304, VR8105, VR8205, VR8305, VR4205, VR4305	
393690-15/U* **	Flange Kit bag assembly, includes 3/4 in. angle flange, O-ring, 9/64 inch hex screws and 9/64 in. hex wrench	VR8100, VR8200, VR8300, VR4200, VR4300, SV9500, VR8104, VR8204, VR8304, VR4204, VR4304, VR8105, VR8205, VR8305, VR4205, VR4305	
393690-4/U* **	Flange Kit bag assembly, includes 3/4 in. straight flange, O-ring, and hex screws.	VR8100, VR8200, VR8300, VR4200, VR4300, SV9500, VR8104, VR8204, VR8304, VR4204, VR4304, VR8105, VR8205, VR8305, VR4205, VR4305	

* Cannot be used on 3/4 in. inlet/outlet valves that are not threaded for flange screws
** Cannot be used on the inlet end of VR standing pilot models if the ECO connector is used

Reducer Bushings			
390427A/U	One 3/4 inch x 1/2 in. reducer bushing for valves	All Honeywell Combination Gas Controls	
390427B/U	One 1/2 in. x 3/8 in. reducer bushing for valves	All Honeywell Combination Gas Controls	
390427E/U	Two 3/4 in. NPT x 1/2 in. NPT reducer bushings	All Honeywell Combination Gas Controls	

Product Number	Description	Used With	
Vent Fitting			
392877/U	1/4 in. barbed vent fitting	VR4200, VR4300, VR4204, VR4304, VR4205, VR4305, VR8200, VR8300, VR8104, VR8204, VR8304, VR8205 (not VR8205S), VR8305	
Compression Fittings			
386449/U	Compression fitting for 1/4 in. OD pilot tubing, 0.65 in. total overall length	V400, V800, VS820, VR4200, VR4300, VR4204, VR4304, VR8100, VR8200, VR8300, VR8104, VR8204, VR8304	
386449-1/U	Compression fitting for 1/4 in. OD pilot tubing, 0.78 in. total overall length	V400, V800, VS820, VR4200, VR4300, VR4204, VR4304, VR8100, VR8200, VR8300, VR8104, VR8204, VR8304	
386449-4/U	Compression fitting for 1/4 in. OD pilot tubing, 1.15 in. total overall length	V400, V800, VS820, VR4200, VR4300, VR4204, VR4304, VR8100, VR8200, VR8300, VR8104, VR8204, VR8304	
392449/U	Compression fitting for 1/8 in. OD pilot tubing, 0.65 in. total overall length	V400, V800, VS820, VR4200, VR4300, VR4204, VR4304, VR8100, VR8200, VR8300, VR8104, VR8204, VR8304	
392449-1/U	Compression fitting for 1/8 in. OD pilot tubing, 0.78 in. total overall length	V400, V800, VS820, VR4200, VR4300, VR4204, VR4304, VR8100, VR8200, VR8300, VR8104, VR8204, VR8304	
392449-4/U	Compression fitting for 1/8 in. OD pilot tubing, 1.15 in. total overall length	V400, V800, VS820, VR4200, VR4300, VR4204, VR4304, VR8100, VR8200, VR8300, VR8104, VR8204, VR8304	
ECO Connector			
392451-1/U	ECO (energy cutoff) connector with 1/4 in. (6 mm) quick-connects	V400, V800, VS821, VS820	
393200-1/U	ECO connector with 1/4 in. (6 mm) quick-connects	VR8200, VR8300, VR4200, VR4300	

Thermocouples and Thermopiles

Q313 Replacement Thermopile Generators

Q313 Thermopile Generator contains multiple thermocouples connected in series to increase the millivoltage output. The power generated is sufficient to operate an automatic millivolt gas control system, independent of any outside power source.

- Push-in clip, split nut, and adapter assembly for easy pilot burner installation.
- Spade or quick-connect terminals available for millivolt gas control connections.
- Male nut connector for Pilotstat® safety control power units.

Open Circuit Output: 600 mV to 750 mV
Voltage: 750 mV
Temperature Ratings Cold Junction: 780 F (416 C)
Temperature Ratings Hot Junction: 1400 F (760 C)

Approvals
CSA International: 112395

	Product Number	Lead Length (inch)	Lead Length (mm)	Connection Type	Resistance	Includes
*	**Q313A1022/U**	35 in.	889 mm	Spade Terminals	2.89 ohms	1/2 in. thermopile attaching nut
*	**Q313A1055/U**	47 in.	1194 mm	Spade Terminals	2.90 ohms	1/2 in. thermopile attaching nut.
•	**Q313A1139/U**	35 in.	889 mm	Spade Terminals	2.89 ohms	push-in clip
•	**Q313A1170/U**	35 in.	889 mm	Spade Terminals	2.89 ohms	PG9 adapter and 1/2 in. thermopile attaching nut
•	**Q313A1188/U**	35 in.	889 mm	Spade Terminals	2.89 ohms	push-in clip, 1/2 in. thermopile attaching nut.
	Q313A1402/U	35 in.	889 mm	Spade Terminals	2.89 ohms	PG9 adapter and 1/2 in. thermopile attaching nut
	Q313B1005/U	35 in.	889 mm	Spade Terminals	2.89 ohms	Junction box for series hookup with high limit switch and 1/2 in. thermopile attaching nut

** TRADELINE models • SUPER TRADELINE models*

Q340 Universal 30 mV Thermocouple

Thermocouples generate a thermoelectric current that senses a pilot flame on gas-fired heating systems. The pilot flame heats the tip of the thermocouple, producing a temperature differential between it and the base. This temperature difference generates a small amount of DC power, measured in millivolts.

- Push-in clip, split nut, and adapter assembly for easy pilot burner installation.
- Spade or quick-connect terminals available for millivolt gas control connections.
- Male nut connector for Pilotstat® safety control power units.
- Available in a variety of lead lengths.

Open Circuit Output: 26 mV to 32 mV
Voltage: 30 mV
Temperature Ratings Cold Junction: 780 F (416 C)
Temperature Ratings Hot Junction: 1400 F (760 C)

Approvals
CSA International: 112395

	Product Number	Lead Length (inch)	Lead Length (mm)	Connection Type	Resistance	Includes
•	**Q340A1066/U**	18 in.	457 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push In Clip
•	**Q340A1074/U**	24 in.	610 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push In Clip
•	**Q340A1082/U**	30 in.	762 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push In Clip
•	**Q340A1090/U**	36 in.	914 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push In Clip
•	**Q340A1108/U**	48 in.	1219 mm	11/32 32 Male Connector Nut	0.03 ohms	Adapter and Push In Clip

** TRADELINE models • SUPER TRADELINE models*

Q390 Thermocouple

Thermocouples generate a thermoelectric current that senses a pilot flame on gas-fired heating systems. The pilot flame heats the tip of the thermocouple, producing a temperature differential between it and the base. This temperature difference generates a small amount of DC power, measured in millivolts.

- Push-in clip, split nut, and adapter assembly for easy pilot burner installation.
- Spade or quick-connect terminals available for millivolt gas control connections.
- Male nut connector for Pilotstat® safety control power units.
- Available in a variety of lead lengths.

Open Circuit Output: 26 mV to 32 mV
Voltage: 30 mV
Temperature Ratings Cold Junction: 780 F (416 C)
Temperature Ratings Hot Junction: 1400 F (760 C)

Approvals
CSA International: 112395

	Product Number	Lead Length (inch)	Lead Length (mm)	Connection Type	Resistance	Includes
*	**Q390A1046/U**	24 in.	610 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push In Clip
*	**Q390A1053/U**	30 in.	762 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push In Clip
*	**Q390A1061/U**	36 in.	914 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push In Clip
*	**Q390A1095/U**	18 in.	457 mm	11/32 32 Male Connector Nut	0.02 ohms	Adapter and Push In Clip
*	**Q390A1103/U**	48 in.	1219 mm	11/32 32 Male Connector Nut	0.03 ohms	Adapter and Push In Clip

** TRADELINE models • SUPER TRADELINE models*

Thermocouple and Thermopile Accessories

Product Number	Description	
394530/U	Thermocouple Tester Assembly	

Thermopiles and Thermocouples Selection Guide

Thermocouples							
Lead Length (in.)	US Super Tradeline	Tradeline	Canada Tradeline	White-Rodgers	Robertshaw	Husky	Johnson Controls
18	Q340A1066/U	Q390A1095/U	Q340A1405/U	H06E-518, H06E-18	—	K16BT-18	K19AT-18
24	Q340A1074/U	Q390A1046/U	Q340A1413/U	H06E-524, H06E-24	1970-24, 1980-24	K16BT-24	K19AT-24
30	Q340A1082/U	Q390A1053/U	Q340A1421/U	H06E-530, H06E-30	1970-30	K16BT-30	K19AT-30
36	Q340A1090/U	Q390A1061/U	Q340A1439/U	H06E-536, H06E-36	1970-36, 1980-36	K16BT-36	K19AT-36
48	Q340A1108/U	Q390A1103/U	Q340A1447/U	H06E-548, H06E-48	—	K16BT-48	K19AT-48

Thermopiles					
Model	Item	Lead Length (in.)	Connections	Tradeline/Super Tradeline	Notes
Q313	Q313A1022/U	35	Nut & Spade Terminal	Tradeline	—
	Q313A1139/U	35	Clip & Spade Terminal	Super Tradeline	Push-In Clip
	Q313A1170/U	35	Clip & Spade Terminal	Super Tradeline	PG9 Adapter
	Q313A1188/U	35	Nut & Spade Terminal	Super Tradeline	Push-In Clip, 1/2 in. Attaching Nut
	Q313A1055/U	47	Nut & Spade Terminal	Tradeline	1/2 in. Attaching Nut

Pilot Burners

Universal Pilot Burners

Q314U

Q345U

Q3451U

Q348U

Universal Pilot Burners make replacing pilot burners easier than ever. With four pilots, contractors can replace over 100 different models. This means fewer stocking trips and more money in your pocket.

Tip Style: Single

Aeration: Non-primary
Direction of Front Tip : Adjustable Left, Right, and Center
Mounting Bracket: U
Compression Fitting Size: 1/4 in. and 1/8 in.
Type of Gas: Natural; LP

	Product Number	Compression Fitting Length	Orifice2	Lead Length		Includes	Used With
				in.	mm		
U	**Q314U1001/U**	0.65 in.	BCR-18; BBR-10; CAR-12; CAR-13; BBR-8	—	—	BCR-18, BBR-10, CAR-12, CAR-13, BBR-8 orifices, Standard and low BTU hoods, Adjustable tip style, Universal mounting bracket	Q309, Q340, Q390, Q313
U	**Q345U1005/U**	1/8 in. compression fitting = 1.15 in. 1/4 in. compression fitting = 0.78 in.	BCR-20; BCR-18; BBR-12; BBR-11	—	—	BCR-20, BCR-18, BBR-12, BBR-11 orifices, Adjustable tip style, Universal mounting bracket	S8600F, S8600H, S8600M, S8610F, S8610H, S8610M, S8610U, S8660D, S8660E, S8670D, S8670E
U	**Q3451U1000/U**	1.15 in.	BCR-20; BCR-18; BBR-12; BBR-11; BCR-10	36 in. and 55 in.	915 mm and 1397 mm	BCR-20, BCR-18, BBR-12, BBR-11, BCR-10 orifices, Adjustable tip style, Universal mounting bracket, 36 in. and 55 in. igniter lead lengths	S8600F, S8600H, S8600M, S8610F, S8610H, S8610M, S8610U, S8660D, S8660E, S8670D, S8670E

U Universal Service Parts

Tip Style Batwing

Aeration: Primary
Direction of Front Tip : Dual wing - 1 in. wing span
Mounting Bracket: U
Compression Fitting Size: 1/4 in. and 1/8 in.
Type of Gas: Natural; LP

	Product Number	Compression Fitting Length	Orifice2	Includes	Used With
U	**Q348U1009/U**	0.65 in.	NE22, KF24, A26, KR14	NE22, KF24, A26, KR14 orifices, 1 in. batwing, Universal mounting bracket	S8600F, S8600H, S8600M, S8610F, S8610H, S8610M, S8610U, S8660D, S8660E, S8670D, S8670E

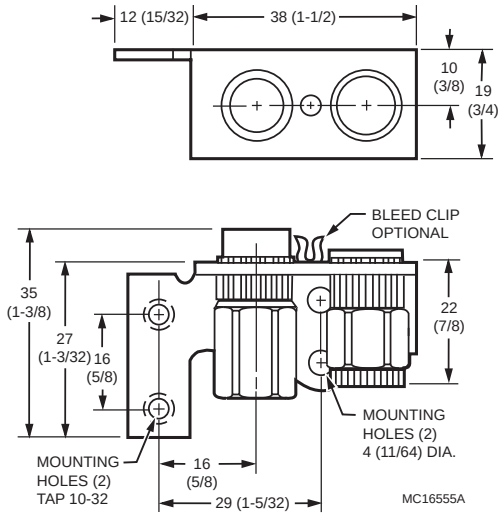
U Universal Service Parts

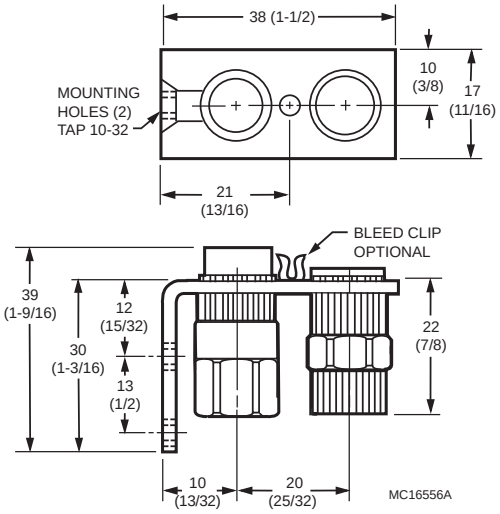
Q314 Pilot Burner

Non primary-aerated, insert orifice type pilot burner for main burner ignition. Used with Q309, Q340, and Q390 thermocouples or Q313 thermopiles.

- Variety of mounting brackets available.
- Variety of tip styles to provide desired flame pattern.
- Interchangeable, color-coded orifice and inlet fittings can be ordered to convert between natural and LP gas.
- Single tip style.

Dimensions in inches (millimeters)





Compression Fitting Size: 1/4 in.
Aeration: Non-primary
Approvals
CSA International: 112395

Product Number	Type of Gas	Mounting Bracket	Tip Style	Direction of Front Tip	Orifice	Includes
Q314A3513/U	Natural	A	Single	(F) Front	BCR-18 (0.018 in.)	—
Q314A3547/U	Natural	A	Single	(L) Left	BCR-18 (0.018 in.)	—
Q314A4586/U	LP; Natural	B	Single	(F) Front	BBR-10 (0.010 in.); BCR-18 (0.018 in.)	Special mounting bracket with screws to convert “B” bracket to “A” bracket.
Q314A6094/U	LP; Natural	B	Single	(L) Left	BBR-10 (0.010 in.); BCR-18 (0.018 in.)	Special mounting bracket with screws to convert “B” bracket to “A” bracket.
Q314A6102/U	LP; Natural	B	Single	(K) Right	BBR-10 (0.010 in.); BCR-18 (0.018 in.)	Special mounting bracket with screws to convert “B” bracket to “A” bracket.

Pilot Burners

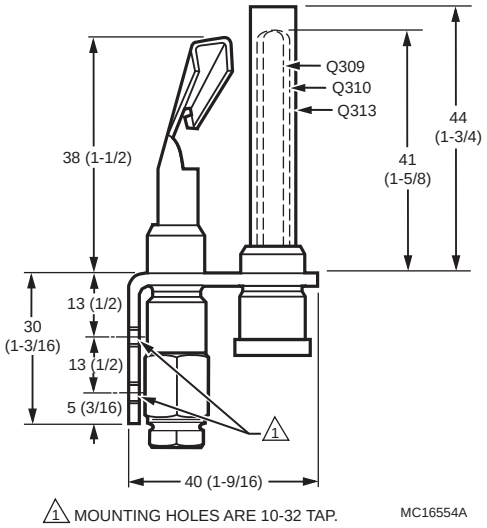
Q327 Pilot Burner

Primary-aerated, spud orifice type pilot burner for main burner ignition. Used with Q309, Q340, and Q390 thermocouples or Q313 thermopiles.

- Variety of mounting brackets available.
- Variety of tip styles to provide desired flame pattern.
- Interchangeable, color-coded orifice and inlet fittings can be ordered to convert between natural and LP gas.
- Batwing tip style.

Compression Fitting Size: 1/4 in.
Aeration: Primary
Approvals
CSA International: 112395

Dimensions in inches (millimeters)



Product Number	Type of Gas	Mounting Bracket	Tip Style	Orifice
Q327A1626/U	LP; Natural	B	1 in. Batwing	K14 (0.014 in.); A26 (0.026 in.)

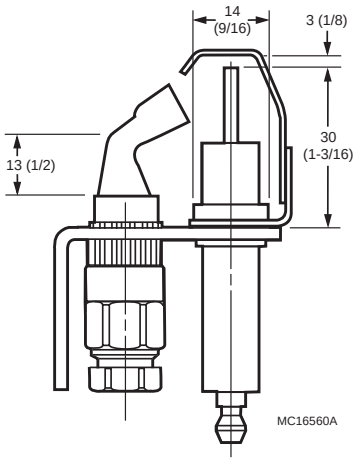
Q345 Igniter-Burner

Non primary-aerated combination pilot burner and ignitor. Used with the S86, S860, S8610, or S8670 in intermittent pilot systems.

- Includes pilot burner with bracket, ceramic-insulated Kanthal flame rod/spark igniter and ground strap.
- Single tip style.

Compression Fitting Size: 1/4 in.
Aeration: Non-primary
Approvals
CSA International: 112395

Dimensions in inches (millimeters)



Accessories:
390686-1-.010" LP Orifice. Orifice is stamped BBR10
390686-25-.012" LP Orifice. Orifice is stamped BBR12

Product Number	Type of Gas	Compression Fitting Length	Mounting Bracket	Tip Style	Direction of Front Tip	Orifice	Includes
Q345A1305/U	Natural	0.78 in.	B	Single	(F) Front	BCR-18 (0.018 in.)	Special mounting bracket with screws to convert “B” bracket to “A” bracket.
Q345A1313/U	Natural	0.78 in.	B	Single	(L) Left	BCR-18 (0.018 in.)	Special mounting bracket with screws to convert “B” bracket to “A” bracket.
Q345A1321/U	Natural	0.78 in.	B	Single	(K) Right	BCR-18 (0.018 in.)	Special mounting bracket with screws to convert “B” bracket to “A” bracket.

Residential Combustion Pilot Burner Accessories

Product Number	Description	
392431/U	Pilot Hardware for Y8610	

Residential Combustion Pilot Burner Parts

Product Number	Description	Used With	
Orifices			
388146AG/U	.026 in. Natural Gas Orifice with 1/4? compression fitting. Ribbed style. Orifice is stamped: A26	Q3480, Q3481, Q348, Q179, Q327	
388146KP/U	.014 in. LP orifice with 1/4? compression fitting. Ribbed style. Orifice is stamped: KR14	Q3480, Q3481, Q348, Q179, Q327	
388146KR/U	.014 in. LP orifice with 1/4? compression fitting. Flat style. Orifice is stamped: KR14	Q3480, Q3481, Q348, Q179, Q327	
388146NE/U	.022 in. Natural Gas Orifice with 1/4? compression fitting. Ribbed style. Orifice is stamped: NE22	Q3480, Q3481, Q348, Q179, Q327	
388468D/U	.010 in. LP Gas Orifice with 1/4? compression fitting. Flat style. Orifice is stamped: L10.	Q324	
388468H/U	.018 in. Natural Gas Orifice with 1/4? compression fitting. Flat style. Orifice is stamped: N18	Q324	
390686-1/U	.010 in. LP Orifice. Orifice is stamped BBR10	Q314; Q345; Q3450; Q3451; Q3452	
390686-15/U	.009 in. LP Orifice. Orifice is stamped BBR9.	Q314; Q362; Q377	
390686-23/U	.008 in. LP Orifice. Orifice is stamped GAF8	Q350, Q380, Q377	
390686-25/U	.012 in. LP Orifice. Orifice is stamped BBR12	Q345, Q379, Q314, Q3450, Q3451, Q373	
390686-36/U	.011 in. LP Orifice. Orifice is stamped BBR11	Q314, Q345, Q373, Q3450, Q3451, Q3452	
390686-4/U	.018 in. Natural Gas Orifice. Orifice is stamped BCR18	Q380, Q314, Q327, Q345, Q362, Q379, Q3450, Q3451, Q3452, Q373, Q308	
390686-5/U	.020 in. Natural Gas Orifice. Orifice is stamped BCR20	Q314, Q327, Q345, Q382, Q3450, Q3451, Q362, Q373	
390686-8/U	.024? Natural Gas Orifice. Orifice is stamped CAR24.	Q308; Q327	

Pilot Burner Parts and Accessories

Product Number	Description	Used With	
Compression Fittings			
386449/U	Compression fitting for 1/4 inch OD pilot tubing, 0.65 inch total overall length	Honeywell pilot burner assemblies for standing pilot and intermittent pilot applications	
386449-1/U	Compression fitting for 1/4 inch OD pilot tubing, 0.78 inch total overall length	Honeywell pilot burner assemblies for standing pilot and intermittent pilot applications	
386449-4/U	Compression fitting for 1/4 inch OD pilot tubing, 1.15 inch total overall length	Honeywell pilot burner assemblies for standing pilot and intermittent pilot applications	
392449/U	Compression fitting for 1/8 inch OD pilot tubing, 0.65 inch total overall length	Honeywell pilot burner assemblies for standing pilot and intermittent pilot applications	
392449-1/U	Compression fitting for 1/8 inch OD pilot tubing, 0.78 inch total overall length	Honeywell pilot burner assemblies for standing pilot and intermittent pilot applications	
392449-4/U	Compression fitting for 1/8 inch OD pilot tubing, 1.15 inch total overall length	Honeywell pilot burner assemblies for standing pilot and intermittent pilot applications	
SmartValve Flame Rod Assemblies			
Q3400A1024/U	30 in. Igniter Flame Rod Assembly	Q3450, Q3480 hot surface pilot burner	
Q3400A1081/U	36 in. Igniter Flame Rod Assembly	Q3450, Q3480 hot surface pilot burner	

S8610U Universal Intermittent Pilot Module

Field service replacement for most Honeywell, Robertshaw, Johnson, and UTEC (HSC) Intermittent Pilot Ignition Modules. Provides electronic control of most intermittent pilot ignition systems used on gas-fired furnaces, boilers, and other heating appliances. Provides ignition sequence, flame monitoring, and safety shutoff for intermittent pilot central furnaces and heating appliances.

- Provides 100 percent pilot gas shutoff if pilot fails to light; after 6-minute delay, trial for ignition is repeated. Ignition trial/delay sequence is repeated until the appliance lights or call for heat is removed.
- For use with Natural or LP gas.
- For use in single rod or dual rod/remote sense applications. Includes relay contacts for use with any intermittent pilot gas control string with maximum 1.0A pilot or 2.0A main valve rating; Honeywell VR8204, VR8304 or VR8345M combination gas control recommended.
- Functional equivalent of S86, S8600, S8610 and S90 modules.
- Includes spark cable adapters to allow field replacement of both Honeywell and competitive controls without replacing existing spark cable.

Application: One or Two Rod Intermittent Pilot Control with continuous retry trial time with configurable lockout timing of 15 or 90 seconds and configurable prepurge of 30 seconds or no prepurge
Dimensions, Approximate: 3 15/16 in. high x 5 7/16 in. wide x 2 5/8 in. deep (100 mm high x 138 mm wide x 67 mm deep)
Type of Gas: Natural or LP
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Flame Failure Response Time (sec): 2 seconds maximum
Ignition Sequence: Continuous Retry
Ignition Source: Internal high voltage spark generator
Ignition System Type: Intermittent Pilot

Maximum Valve Load @ 24 Vac (Amps): 1A Pilot, 2A Main @ 165 F; 1A Pilot, 1A Main @ 175 F
Typical Gas Control: VR8204, VR8304
Typical Ignition Hardware: Q345, Q3451, Q3452
Maximum Ambient Temperature: -40 F to +165 F (-40 C to +74 C)
Approvals
Canadian Standards Association: Design Certified

Accessories:
394800-30-30" Ignition Cable Assembly with a right angle boot for ignition terminal and 1/4" straight quick connect at module end for S8600 family.
394801-30-30" ignition cable assembly with a straight boot on ignitor end and a 1/4" straight connect at ignition module end.

	Product Number	Flame Sense	Ignition Trial Time (sec)	Between Trial Time (sec)	Ignition Trials To Lockout	PrePurge	Includes
*	**S8610U3009/U**	Single Rod or Two Rods	15 or 90 sec	5 minute delay after failed trial for ignition.	continuous retry	Configurable to 30 seconds or no prepurge	Damper connection with automatic vent damper plug

** TRADELINE models • SUPER TRADELINE models*

Ignition Pilot Modules

S87 Direct Spark Ignition Modules

Provide electronic control of direct spark ignition systems used on gas fire furnaces, boilers, and other heating appliances.

- Control ignition sequence and gas control operation.
- Generate high voltage potential for main burner ignition.
- Lockout after one trial for ignition if main burner fails to ignite.
- Reset from thermostat after lockout.
- Use modules (except S87C) with any combination gas control designed for direct spark applications and rated 2.0A or less.

Application: Provide electronic control of direct spark ignition systems used on gas fired furnaces, boilers, and other heating appliances.
Dimensions, Approximate: 5 1/4 in. high x 4 1/16 in. wide x 1 15/16 in. long (133 mm high x 103 mm wide x 49 mm deep)
Type of Gas: Natural or LP
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Flame Failure Response Time (sec): 0.8 sec. @ 5.0 microamp
Flame Failure Re-ignition Time (sec): 0.8 sec. maximum

Ignition Sequence: Single trial for main burner ignition (then shut down and lockout)
Ignition Source: Internal high voltage spark generator
Ignition System Type: Direct Spark Ignition
Maximum Valve Load @ 24 Vac (Amps): 2A
Typical Gas Control: VR8205, VR8305
Typical Ignition Hardware: Q347A
Maximum Ambient Temperature: -40 F to +175 F (-40 C to +79 C)
Approvals
Canadian Standards Association: File 112491_0_000

Product Number	Flame Sense	Ignition Trial Time (sec)	Ignition Trials To Lockout	PrePurge	Includes
S87B1008/U	Single Rod	6 sec.	1	None	Alarm terminal
S87B1065/U	Single Rod	4 sec.	1	None	Alarm terminal
S87C1006/U	Two Rod	6 sec.	1	None	—
S87C1030/U	Two Rod	21 sec.	1	None	—
S87D1004/U	Two Rod	6 sec.	1	None	Alarm terminal
S87D1020/U	Two Rod	4 sec.	1	None	Alarm terminal
S87D1038/U	Two Rod	21 sec.	1	None	Alarm terminal
S87J1026/U	Single Rod	11 sec.	1	30 sec. minimum	—
S87J1034/U	Single Rod	21 sec.	1	30 sec. minimum	—
S87K1008/U	Two Rod	4 sec.	1	30 sec. minimum	—

S8910 Universal Hot Surface Ignition Module

Universal Hot Surface Ignition Module is designed to provide easy field replacement of a wide range of hot surface ignition modules manufactured by Honeywell, Robertshaw and White-Rodgers. The

Application: Provide electronic control of direct hot surface ignition systems used on gas fired furnaces, boilers, and other heating appliances.
Dimensions, Approximate: 5 1/4 in. high x 4 1/16 in. wide x 1 15/16 in. long (133 mm high x 103 mm wide x 49 mm deep)
Type of Gas: Natural or LP
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Flame Failure Response Time (sec): 1.5 sec.
Ignition Sequence: The number of trials for ignition and trial time is determined by the selection tab. If a selection tab is not installed, the module will operate at four seconds trial time and one ignition trial.

S8910U Module provides operating control of a direct ignition system using a 120 Vac hot surface igniter.

- Replaces many White-Rodgers, Robertshaw and Honeywell hot surface ignition models.
- For 120 Vac (up to 5.0A) surface igniter (Norton 201/271 or equivalent).
- For local (single rod) or remote (dual rod) rectification type flame sensing.
- Contains easy-to-use instructions plus the accessories required to adapt the existing hot surface ignition module.
- Provides one or three ignition trials (four-second or seven-second trials) per call for heat; prepurge of 32 seconds or less; up to 96 seconds between purge trial times.
- Temperature range is -40 to +175 F (-40 to +79 C).

Ignition Source: Line Voltage (120 VAC) Hot Surface Element (Norton Model 201 or 270)
Ignition System Type: Direct Hot Surface Ignition
Maximum Valve Load @ 24 Vac (Amps): 2A
Typical Gas Control: VR8205, VR8305
Typical Ignition Hardware: Norton 201, Norton 271, Q354
Maximum Ambient Temperature: -40 F to +175 F (-40 C to +79 C)
Approvals
Canadian Standards Association: Design Certified

	Product Number	Flame Sense	Ignition Trial Time (sec)	Between Trial Time (sec)	Ignition Trials To Lockout	PrePurge
*	**S8910U1000/U**	Single Rod or Two Rods	4 sec. or 7 sec.	(2) 96 sec.- 3 trial mode only	1 or 3	32 seconds

** TRADELINE models • SUPER TRADELINE models*

S89F Direct Spark Ignition Modules

S87 Ignition Modules provide electronic control of direct spark ignition systems, with external spark transformers. Used on gas-fired furnaces, boilers, conversion burners, and other heating appliances.

- Controls ignition sequence and gas control operation in direct spark ignition systems.
- Controls separate 120 Vac spark generator that provides high voltage potential for main burner ignition.
- Lockout after one trial for ignition if main burner fails to ignite.
- Reset from thermostat after lockout. Uses separate electrodes for spark ignition and flame sensing.
- Use any 24 Vac combination gas control designed for direct spark applications and rated at 2.0A or less.

Application: Provide electronic control of direct spark ignition systems. Used on gas fired furnaces, boilers, and other heating appliances.
Dimensions, Approximate: 5 1/4 in. high x 4 1/16 in. wide x 1 15/16 in. long (133 mm high x 103 mm wide x 49 mm deep)
Type of Gas: Natural or LP
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Flame Failure Response Time (sec): 2.0 sec. @ 2.5 microamp
Flame Failure Re-ignition Time (sec): 0.8 sec. maximum

Ignition Sequence: Single trial for main burner ignition (then shut down and lockout)
Ignition Source: External (120 VAC powered) High Voltage Spark Generator
Ignition System Type: Direct Spark Ignition
Maximum Valve Load @ 24 Vac (Amps): 2A
Typical Gas Control: VR8205, VR8305
Maximum Ambient Temperature: -40 F to +175 F (-40 C to +79 C)
Approvals
Canadian Standards Association: Design Certified

Product Number	Flame Sense	Ignition Trial Time (sec)	Ignition Trials To Lockout	PrePurge	Includes
S89F1098/U	Two Rod	4 sec.	1	30 sec. minimum	—
S89F1106/U	Two Rod	4 sec.	1	30 sec. minimum	Labels applied upside down for inverted mounting

Ignition Pilot Modules

Y8610U Universal Retrofit Intermittent Pilot Gas Burner Ignition Systems

Complete kit converts conventional standing pilot system to an intermittent pilot system. For use with 24 Vac gas-fired atmospheric furnaces, boiler and heating appliances.

- Y8610U kits are for use with natural or LP gas. Provides 100 percent pilot gas shutoff if pilot fails to light. After 6-minute delay, trial for ignition is repeated.
- Ignition trail/delay sequence is repeated until the appliance lights or call for heat is removed.

Application: Provides electronic control of intermittent pilot ignition systems used on gas fired furnaces, boilers, and other heating appliances.
Dimensions, Approximate: 3 15/16 in. high x 5 7/16 in. wide x 2 5/8 in. deep (100 mm high x 138 mm wide x 67 mm deep)
Type of Gas: Natural or LP
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Flame Failure Response Time (sec): 2.0 sec

Ignition Sequence: Continuous retry. After trial for ignition, pilot gas shuts off for 5 minutes, then another trial for pilot ignition takes place
Ignition Source: Internal high voltage spark generator
Ignition System Type: Intermittent Pilot
Maximum Valve Load @ 24 Vac (Amps): 1A Pilot, 2A Main @ 24Vac
Typical Gas Control: VR8204, VR8304
Typical Ignition Hardware: Q345, Q3451
Maximum Ambient Temperature: -40 F to +165 F (-40 C to +74 C)

Product Number	Flame Sense	Ignition Trial Time (sec)	Ignition Trials To Lockout	PrePurge	Includes
Y8610U4001/U	Single Rod or Two Rods	15 or 90 seconds	continuous retry	0 or 30 seconds	VR8204A2142 valve (1/2 x 1/2; 3.5" WC setting; 150 kBtu/hr at 1" p.d.)
Y8610U6006/U	Single Rod or Two Rods	15 or 90 seconds	continuous retry	0 or 30 seconds	VR8304M3558 (1/2 x 3/4; 3.5" setting; 270kBtu/hr at 1 in. p.d.)

Ignition Pilot Modules Selection Guide

	Applications			Timings				
Universal Service Part	Ignition System	Flame Sensor	Ignition Sequence (Note 1)	Ignition Trials To Lockout (Note 1)	Ignition Trial Time	Between Trial Time	Pre-Purge	Flame Failure Response Time
S8910U1000/U	Line Volt Hot Surface Ignition	1 or 2 Rods	P	1 or 3 Field Selectable	4 sec. or 7 sec. Field Selectable	96 sec., 3 Trial Mode Only	32 sec.	1.5 sec
S8610U3009/U	Intermittent Pilot	1 or 2 Rods	C	C	15 sec. or 90 sec. Field Selectable	5 Minute Delay After Failed Trial for Ignition	0 sec. or 30 sec. Field Selectable	2.0 sec. max.
Y8610U4001/U	Intermittent Pilot	1 or 2 Rods	C	C	15 sec. or 90 sec. Field Selectable	5 Minute Delay After Failed Trial for Ignition	0 sec.	2.0 sec.
Y8610U6006/U	Intermittent Pilot	Single Rod	C	C	15 sec. or 90 sec. Field Selectable	5 Minute Delay After Failed Trial for Ignition	0 sec.	2.0 sec. max.

Features and Functions					Cross-Reference			
Universal Service Part	Type of Gas	Ignition Source	Typical Ignition Hardware	Includes	Honeywell	White-Rodgers	Robertshaw	Johnson Controls
S8910U1000/U	Nat or LP	Switched Line Voltage	Norton 201, Norton 271, Hot Surface Elements, Q354 Flame Rod	—	S89C1004, S89C1007, S89C1012, S89C1046, S89C1087, S89C1103, S89D1002, S89G1005, S89F1011, S89G1013, S89G1021, S89G1029, S89G1047, S89H1003, S89H1011, S89H1029, S89J1008, S890D1006, S890G1003, S890G1037, S89H1002, S890H1010	50E47 1-79, 101-179, 201-279, 301-379; 5047F1-79, 101-179, 201-279, 301-379	HS780-17NL 104A, 306A, 308A; HS780-17NR 104A, 306A, 308A; HS780-34NL 108A, 304A, 306A, 308A, 312A; HS780-34NR 104A, 306A, 308A, 312A; HS780-34PL 308A	—
S8610U3009/U	Nat or LP	Internal	Q345, Q3451, Q3452	Internal Damper Connector	S86 Series, S90 Series, S8600 Series, S8610 Series, S8620 Series, S8660 Series, S8670 Series, S8680J1004	50D49-350, 50D49-360, 50D49-361, 50D50-843, 50D-401	710-713, 710-715, 735-737, 780-002, 780-003, 780-701, 780-715, 780-735,780-736, 780-737, 780-845, SP710, SP715, SP720, SP730, SP735, SP750 Series	CSA42, 43, 44, 45, 46, 48, 49; G60, G65, G67, G770 Series
Y8610U4001/U	Nat or LP	Internal	Adapter for Pilot Burner Included	Internal Damper Connector	Y8610U3029	—	—	—
Y8610U6006/U	Nat or LP	Internal	Adapter for Pilot Burner Included	Internal Damper Connector	Y8610U3003	—	—	—

Notes:
1. Ignition Sequence
C = Continuous retry - After trial for ignition, pilot gas shuts off for 5 minutes, then another trial for pilot ignition takes place.
P = The number of trials for ignition and trial time is determined by the selection tab. If a selection tab is not installed, the module will operate at four seconds trial time and one ignition trial.

For a complete cross-reference, visit www.customer.honeywell.com

Gas Ignition Module Accessories

Product Number	Description	Used With	
392125-1/U	25" ignition cable assembly with a right angle boot on the igniter end and a straight boot on the module end. For use with the S86/S87 family.	S86/S87 family;	
392125-2/U	36" ignition cable assembly with a right angle boot on the igniter end and a straight boot on the module end. For use with the S86/S87 family.	S86/S87 family;	
392125-5/U	18" ignition cable assembly with a right angle boot on the igniter end and a straight boot on the module end. For use with the S86/S87 family.	S86/S87 family;	
393044/U	Y86 Wiring Harness Assembly	Y86	
394800-30/U	30" Ignition Cable Assembly with a right angle boot for ignition terminal and 1/4" straight quick connect at module end for S8600 family.	S8600 family;	
394800-36/U	36" Ignition Cable Assembly with a right angle boot for ignition terminal and 1/4" straight quick connect at module end for S8600 family.	S8600 family;	
394801-30/U	30" ignition cable assembly with a straight boot on ignitor end and a 1/4" straight connect at ignition module end.	S8600 family;	
394803-2/U	36" High Temperature right angle boot and cable Assembly for S8600 family	S8600 family;	
4074EPM/U	Rajah adapter for S8600 family	S8600 family;	

Q3200U Igniter Bracket Replacement Cross Reference[a]

Manufacturer	OEM Part Number	Q3200U Bracket[b]
American Road Equip.	201W	A
Arco Air	1096048	D
	1380680	
Armstrong Air	38322B001	A
Carrier/Bryant/Payne	LH33ZS001	B or E[c]
	LH33ZS001A	
	LH33ZS002	
	LH33ZS002A	
	LH33ZS003	
	LH33ZS003A	
	LH33ZS004	
Claire Bros.	C-238	A
	C242	
Coleman	1474-051	A
	1474-052	
Comfort Maker	1096048	D
Detroit Radiant	201D	A
DMO Industries	20834	A
Dornback Furnace	271W	A
Ducane	20015201	B
Enero Tech	10399	A
Evcon	1474-051	A
	1474-052	
Evcon Coleman	025-32625-000	B
Goodman	B1401009	D
	B1401018	C
	B1401018S	D
HB Smith	50018	A
Heil	1096048	D
Hupp Industries	09050	A
Intercity	1009604	D
	1096048	
Majestic	75-92-104	A
	75-92-105	
Metzger	201N	A
	201W	
Modine	5H76032A	C
Mor-Flo	3200618	A
	511-330-193	B
Nordyne	105141000	A
	632-0770	
	632-0880	
Norton/St Gobain	201	B
	271	
	201D	A
	201K	
	201L	
	201N	
	201R	
	201W	
	271N	
	271NM	D
	271P	A
	271W	
Raypak	600915	B
Rheem	62-22441-01	A
Roberts Gordon	90434300	B
	90436600	A
Robertshaw	41-402	A
	41-403	B
	41-404	
	41-405	A
	41-407	B
	41-408	A
	41-409	B
	41-410	A
	41-412	D
	41-418	C
Snyder General	1380654	B
	1380672	
	1380680	
Superior Fireplace	94851	A
Tempstar	1096048	D
Trane	340039P01	A
	B138196P01	B
	B144676P01	A
	B144676P02	B
	B340039P01	A
	IGN23	
	IGN26	B
	IGN30	
	IGN34	A
Viessman	9302-094	A
Wayne Home Equip.	62821-001	A
	62821-002	
Weil McLain	511-330-139	B
	511-330-190	
	511-330-193	
White LB	120-07549	A
White-Rodgers	767A-301	A
	767A-303	F
	767A-306	A
	767A-311	
	767A-350	
	767A-353	F
	767A-354	A
	767A-357	F
	767A-361	A
	767A-364	
	767A-366	
	767A-370	B
	767A-371	A
	767A-372	
	767A-373	D
	767A-376	B
	767A-377	A
	767A-382	B
Williamson	9050	A
York	025-27766-000	A
	025-27774-000	A
	025-29043-000	A
	025-29050-000	A

a Table data is correct to the best of Honeywell's knowledge as of this publication's date. However, some appliances may have igniter applications that are beyond the capabilities of this kit.

b For igniters that require bracket A, use the template to determine the tab to be removed.

c For Carrier sealed combustion furnaces, you must use bracket E and retain the existing orange gasket for use with bracket E.

a Table data is correct to the best of Honeywell's knowledge as of this publication's date. However, some appliances may have igniter applications that are beyond the capabilities of this kit.

b For igniters that require bracket A, use the template to determine the tab to be removed.

c For Carrier sealed combustion furnaces, you must use bracket E and retain the existing orange gasket for use with bracket E.

Igniters and Sensors

Q3200 Glowfly™ Universal Hot Surface Igniter Kit

The Q3200U Universal Hot Surface Igniter Kit is designed to provide a robust field service replacement igniter in gas fired appliances with Norton/St Gobain 120 VAC silicon carbide hot surface igniters. The Q3200U uses a 120 volt silicon nitride igniter design with long life and high resistance to damage or burn out in the appliance.

The kit includes the specially designed silicon nitride igniter and six different bracket configurations to adapt the igniter to the specific appliance application along with accessory parts to allow mounting and wiring the igniter. Clear instructions and application templates are provided to simplify selection of the proper bracket and ease installation of the replacement.

Mounting Bracket: Multiple brackets to adapt as field replacement of Norton / St. Gobain silicon carbide igniters

Product Number	Description
Q3200U1004/U	Glowfly™ Universal Hot Surface Igniter. Single Kit
Q3200U2002/U	Glowfly™ Universal Hot Surface Igniter. Service Pack of 6 kits

Q347 Spark Igniter

Produces spark for direct ignition of main burner.
- Includes inner Kanthal electrode with ceramic insulator, bracket and Kanthal ground strap.
- Use with S87C, D, K; S89E,F and Q354A.

Mounting Bracket: Bracket Style D
Approvals
CSA International: 112395

	Length		Mounting		
Product Number	(inch)	(mm)	(inch)	(mm)	Rod Angle
Q347A1004/U	2 1/32 in.	52 mm	One 3/16 in. slot, three 3/16 in. untapped screw holes.	One 5 mm slot, three 5 mm untapped screw holes.	standard orientation
Q347A1012/U	2 1/32 in.	52 mm	One 3/16 in. slot, three 3/16 in. untapped screw holes.	One 5 mm slot, three 5 mm untapped screw holes.	90½ angle

Q354 Flame Rectification Sensor

Detects the presence of main burner flame.
- Includes Kanthal rod supported by ceramic insulator and mounting bracket.
- Use with S825, S87C,D,K or S89E,F.

Mounting Bracket: One 3/16 in. slot, three 3/16 in. untapped screw holes.
Approvals
CSA International: 112395

	Length		Mounting		
Product Number	(inch)	(mm)	(inch)	(mm)	Rod Angle
Q354A1018/U	6 3/8 in.	162 mm	One 3/16 in. slot, three 3/16 in. untapped screw holes.	One 5 mm slot, three 5 mm untapped screw holes.	straight

Airflow Differential Pressure Switch

Airflow Differential Pressure Switches are used to sense positive, negative, or differential air pressure in HVAC systems. They provide high or low limit with alarm or high limit shutdown with manual reset.

- Models available with compression or barb fittings.
- Electrical switch enclosed in metal box with cover.
- Reliable pneumatic operation.
- Adjustable setpoint.

Dimensions, Approximate: 5.0 in. Diameter (127 mm Diameter)
Electrical Ratings: 278 Va @ 24Vac; 300Va @ 120 to 277Vac
Electrical Connections: #6-32 Screw terminal with cup washers
Ambient Temperature Range: -40 F to +190 F (-40 C to +88 C)

Approvals
Underwriters Laboratories, Inc: MFHX2.MP2168
CSA International: 112395
Factory Mutual: Approved

Product Number	Connection Type	Electrical Switch	Pilot Duty Ratings	Maximum Operating Pressure	Setpoint	Additional Features
AP5027-30/U	1/4 in. Compression	SPDT	Gold Flash Contacts; 10 Milliamps @ 5Vdc; 15 Amps resistive to 277Vac	1/2 psi	0.05“± 0.02” wc to 12.0" wc PR	Switching Differential: 0.02"± 0.01 in. wc @ minimum set point to approximately 0.80 in. wc @ maximum set point
AP5208-30/U	1/4 in. Barbed	SPDT	Gold Flash Contacts; 10 Milliamps @ 5Vdc; 15 Amps resistive to 277Vac	1/2 psi	0.05“± 0.02" wc to 12.0" wc PR	Switching Differential: 0.02“± 0.01 in. wc @ minimum set point to approximately 0.80 in. wc @ maximum set point
AP5210-30/U	1/4 in. Compression	SPNC	300 Va @ 120 to 277 Vac; 278 Va @ 24 Vac	1/2 psi	0.30“± 0.20” wc to 12.0" wc PR	Manual Reset

Electronic Fan Timers

ST9103 Electronic Fan Timers

ST9103A integrates control of burner and circulating fan operations in an oil furnace.

- Central appliance wiring point simplifies appliance assembly and service.
- Fixed or field-adjustable heat fan on delay; field adjustable heat fan off delay.

Application: A single circuit board providing combustion air blower control, two speed circulating air blower control, oil primary control, limit circuit inputs, thermostat wiring terminations, & a central appliance wiring point for an oil fixed furnace.
Electrical Ratings: 18 to 30 Vac

Frequency: 50 Hz; 60 Hz
Approvals
Canadian Standards Association: Certified: File No. LR95329-17
Underwriters Laboratories, Inc: Listed: Report MP466

Product Number	Heat Fan On Delay	Heat Fan Off Delay	Cool Fan On Delay	Cool Fan Off Delay	Ambient Temperature Range		Replaces
					(F)	(C)	
ST9103A1002/U	fixed, 45 sec	adj. 60, 90, 120, 150 sec (set at 150 sec)	fixed 0 sec	fixed 0 sec	-40 F to +150 F	-40 C to +66 C	ST9103A1002

ST9120 Electronic Fan Timers

The ST9120U Universal Electronic Fan Timers integrate control of all combustion blower and circulating fan operations in a gas warm air appliance. This control is the central wiring point for most of the electrical components in the furnace. The basic purposes of the ST9120U are to monitor the thermostat for heat, cool, and fan demands, run the induced draft blower motor and run a circulating fan (up to two speeds) as required. The ST9120U also monitors limit switch strings and energizes separate ignition control systems through pressure switches. The ST9120U can replace any ST9101, ST9120, ST9141 or ST9160 listed in Table 3 below. The ST9120U features a field-adjustable heat fan-on delay, a field-adjustable heat fan-off delay, a field adjustable cool fan-on delay and a field-adjustable cool fan-off delay.

Electronic air cleaner (EAC) and humidifier (HUM) convenience terminal connections and continuous low speed indoor air circulation are provided.

Application: Integrates control of combustion blower and circulating fan operations for a gas warm air appliance
Electrical Ratings: 18 to 30 Vac
Frequency: 50 Hz; 60 Hz

Approvals
Canadian Standards Association: Certified: File No. LR95329-17
Underwriters Laboratories, Inc: Listed: Report MP466

	Product Number	Heat Fan On Delay	Heat Fan Off Delay	Cool Fan On Delay	Cool Fan Off Delay	Ambient Temperature Range		Replaces
						(F)	(C)	
*	**ST9120U1011/U**	adj. 30, 60 sec (set at 30 sec)	adj. 60, 120, 150, 180 sec (set at 120 sec)	adj. 4, 30 sec (set at 4 sec)	adj. 30, 60 sec (set at 30 sec)	-40 F to +175 F	-40 C to +79 C	all ST9101's, all ST9120's, all ST9141's, and all ST9160's

** TRADELINE models • SUPER TRADELINE models*

PowerPro Definite Purpose Contactors

The Tougher Contactors

We're tougher than ever. Honeywell PowerPro, a line of definite purpose contactors, out-features, out-performs and is destined to soon out-sell the competition.

Once you compare the features of Honeywell PowerPro definite purpose contactors against what you're using now, we predict you'll soon standardize on PowerPro for all your applications. Especially in 'high stakes' situations where you can't afford to gamble on anything less.

Honeywell PowerPro definite purpose contactors will surprise you in more ways than one. Once you try them you'll be amazed at how these compact contactors easily fit in tight spaces while leaving maneuvering room for hands and tools; how easily contactor accessories snap on or off; how you view the operation of the contactor with the user-friendly button; plus many other installer-friendly features

- **Honeywell PowerPro Contactors Meet ARI Standard 780**—Meeting the ARI Standard 780 means that the contactors stand up to tests that simulate harsh, real-world conditions—500,000 cycle mechanical life test, 200,000 cycle endurance life test and 10,000 cycle recycle life test.
- **Contactors are shorter and sweeter than the competition**—Their small size makes them ideal for replacement inside today's compact equipment.
- **Advanced class H insulated contactor coil design protects against high heat conditions**—Class H contactor coils are standard on all Honeywell Contactors.
- **Convenient button for easy testing**—Use it to safely check for proper electrical functioning of the contactor.

DP Contactors Order Number Guide

It's easy to select the order number that you need for your application. Depending on your application, determine the number of poles, amp rating, coil voltage, and whether you need an economy or deluxe model. Then, simply follow this Order Number Guide:

Product Identifier
Definite Purpose Contactor

Pole Identifier	Number of Poles
0	1 pole without shunt
1	1 pole with shunt
2	2 poles
3	3 poles
4	4 poles

Series Indentifier	Type
1000 4999	Economy
5000 and up	Deluxe PowerPro™ ARI 780 rated

DP 3 040 B 5001

Amperage Identifier	Amperage Rating
020	20 Amps
025	25 Amps
030	30 Amps
040	40 Amps
050	50 Amps
060	60 Amps
075	75 Amps
090	90 Amps
120	120 Amps

Coll Identifier	Coil Voltage
A	24 Vac
B	120 Vac
C	208/240 Vac
D	277 Vac
E	480 Vac
F	600 Vac

M14500

NOTE: Super Tradeline Contactors contain extra mounting hardware.

Deluxe Honeywell PowerPro DP-Series Definite Purpose Contactors - 1 Pole

These electromagnetically-operated Definite Purpose Contactors provide switching for starting induction motors.

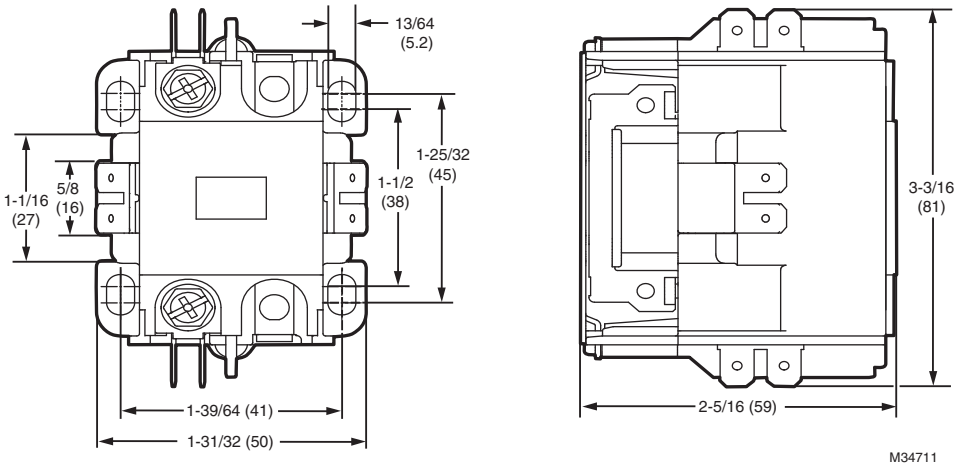
- Meets ARI-780 Standard at started ratings (500,000 cycle mechanical life, 200,000 cycle electrical life and 10,000 cycle recycle life); the most demanding ARI requirement.
- Silver cadmium oxide contacts provide long life under demanding duty cycles.
- Low profile design allows for more wiring room.
- Multiple mounting holes and slots for convenient, interchangeable mounting with most competitive devices.

Application: PowerPro Definite Purpose Contactor
Temperature Range: -4 F to +149 F (-20 C to +65 C)
Frequency: 50 Hz; 60Hz
Switching: SPST

Approvals
Canadian Standards Association: Certified: File No. LR6535
Underwriters Laboratories, Inc: Component Recognized: File No. 14480, Guide No. NLDX2

Product Number	Poles	Coil Ratings Voltage	Contact Connections (coil)	Electrical Connections (main)	Contact Electrical Ratings		Dimensions, Approximate	
					AFL	Resistive	(inch)	(mm)
DP1025A5006/U	1 with shunt	24 Vac	1/4 in. quick-connects	Box Lug	25A	30A	2.2 in. high x 2.5 in. wide x 3.31 in. deep	56 mm high x 59 mm wide x 84 mm deep
DP1030A5014/U	1	24 Vac	1/4 in. quick-connects	Box Lug	30A	48A	2.2 in. high x 2.5 in. wide x 3.31 in. deep	56 mm high x 59 mm wide x 84 mm deep
DP1040A5005/U	1	24 Vac	1/4 in. quick-connects	Box Lug	40A	50A	2.36 in. high x 3.2 in. wide x 2.0 in. deep	60 mm high x 81 mm wide x 51 mm deep

Dimensions in inches (millimeters for 1 pole contactor without shunt



Deluxe Honeywell PowerPro DP-Series Definite Purpose Contactors - 2 Pole

These electromagnetically-operated Definite Purpose Contactors provide switching for starting induction motors.

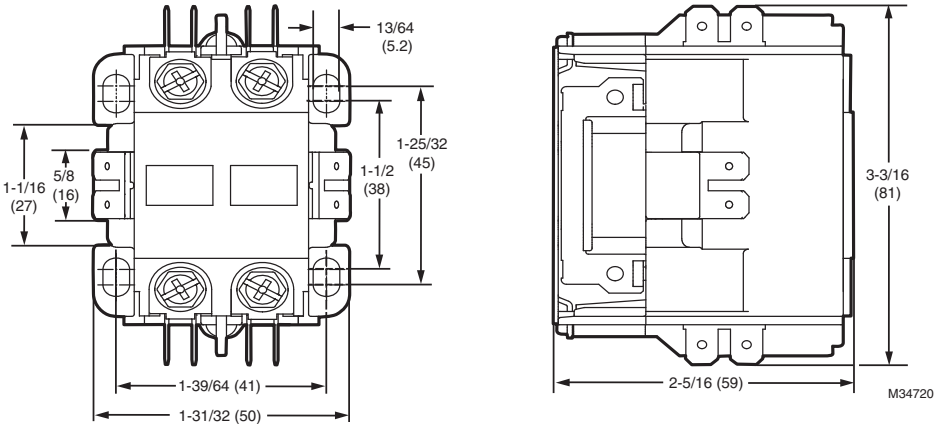
- Meets ARI-780 Standard at started ratings (500,000 cycle mechanical life, 200,000 cycle electrical life and 10,000 cycle recycle life); the most demanding ARI requirement.
- Silver cadmium oxide contacts provide long life under demanding duty cycles.
- Low profile design allows for more wiring room.
- Multiple mounting holes and slots for convenient, interchangeable mounting with most competitive devices.

Application: PowerPro Definite Purpose Contactor
Temperature Range: -4 F to +149 F (-20 C to +65 C)
Frequency: 50 Hz; 60Hz
Switching: DPST

Approvals
Canadian Standards Association: Certified: File No. LR6535
Underwriters Laboratories, Inc: Component Recognized: File No. 14480, Guide No. NLDX2

Product Number	Poles	Coil Ratings Voltage	Contact Connections (coil)	Electrical Connections (main)	Contact Electrical Ratings		Dimensions, Approximate	
					AFL	Resistive	(inch)	(mm)
DP2020A5022/U	2	24 Vac	1/4 in. quick-connects	Box Lug	30A	25A	2.2 in. high x 2.5 in. wide x 3.31 in. deep	56 mm high x 59 mm wide x 84 mm deep
DP2020B5039/U	2	120 Vac	1/4 in. quick-connects	Box Lug	20A	25A		
DP2030A5005/U	2	24 Vac	1/4 in. quick-connects	Box Lug	30A	40A	3.25 in. high x 3.63 in. wide x 3.8 in. deep	83 mm high x 67 mm wide x 95 mm deep
DP2030A5013/U	2	24 Vac	1/4 in. quick-connects	Box Lug	30A	40A		
DP2030B5004/U	2	120 Vac	1/4 in. quick-connects	Box Lug	30A	40A	2.2 in. high x 2.5 in. wide x 3.31 in. deep	56 mm high x 59 mm wide x 84 mm deep
DP2030B5012/U	2	120 Vac	1/4 in. quick-connects	Box Lug	30A	40A		
DP2030C5003/U	2	208 Vac/240 Vac	1/4 in. quick-connects	Box Lug	30A	40A		
DP2030C5011/U	2	208 Vac/240 Vac	1/4 in. quick-connects	Box Lug	30A	40A		
DP2030D5002/U	2	277 Vac	1/4 in. quick-connects	Box Lug	30A	40A		
DP2040A5004/U	2	24 Vac	1/4 in. quick-connects	Box Lug	40A	48A	2.36 in. high x 3.2 in. wide x 2.0 in. deep	60 mm high x 81 mm wide x 51 mm deep
DP2040B5003/U	2	120 Vac	1/4 in. quick-connects	Box Lug	40A	50A		
DP2040C5002/U	2	208 Vac/240 Vac	1/4 in. quick-connects	Box Lug	50A	50A		

Dimensions in inches (millimeters) for 2 Pole 25- 40 Amp Contactor



Deluxe Honeywell PowerPro DP-Series Definite Purpose Contactors - 3 Pole

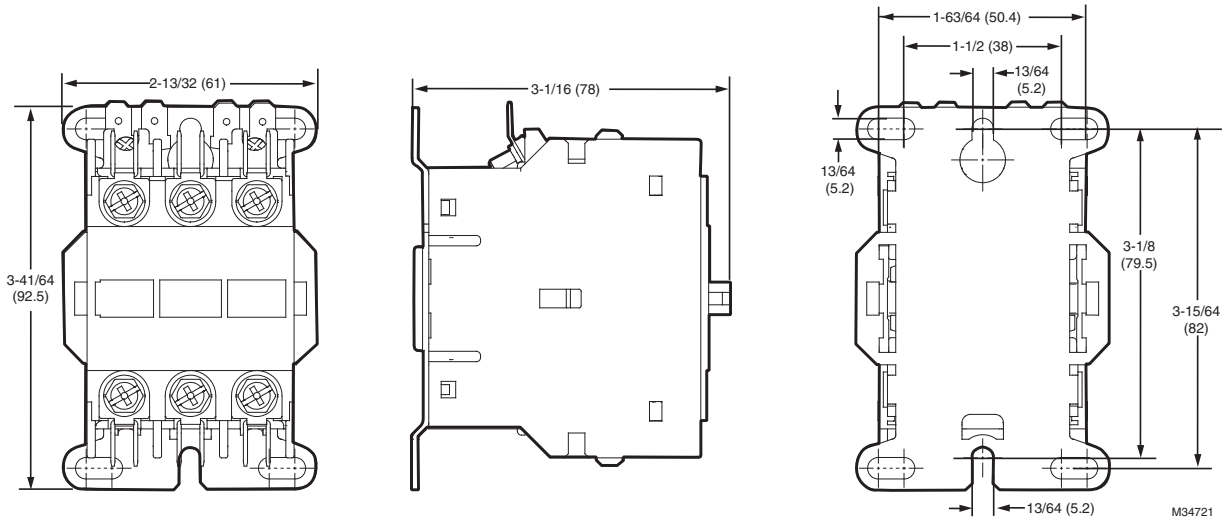
These three pole definite purpose electromagnetically operated contactors provide switching for starting of induction motors.

- Shrouded coils on 3 pole (25A to 60A) models protect the coil from harsh environment factors.
- Moisture proof epoxy is used to encapsulate the 3 pole 75A through 120A coils.
- Multiple mounting holes and slots for convenient, interchangeable mounting with most competitive devices.
- Traditional design meets many needs.
- Full array of replacement coils, contact sets and accessories available.

Application: PowerPro Definite Purpose Contactor
Temperature Range: -4 F to +149 F (-20 C to +65 C)
Frequency: 50 Hz; 60Hz
Switching: DPST
Approvals
Canadian Standards Association: Certified: File No. LR6535
Underwriters Laboratories, Inc: Component Recognized: File No. 14480, Guide No. NLDX2

Product Number	Poles	Coil Ratings Voltage	Contact Connections (coil)	Electrical Connections (main)	Contact Electrical Ratings		Dimensions, Approximate	
					AFL	Resistive	(inch)	(mm)
DP3030A5004/U	3	24 Vac	1/4 in. quick-connects and #6 screws	Box Lug	30A	40A	3.1 in. high x 3.62 in. wide x 2.4 in. deep	79 mm high x 92 mm wide x 61 mm deep
DP3030B5003/U	3	120 Vac		Box Lug	30A	40A		
DP3030C5002/U	3	208 Vac/ 240 Vac		Box Lug	30A	40A		
DP3040A5003/U	3	24 Vac		Box Lug	40A	50A		
DP3040B5002/U	3	120 Vac		Box Lug	40A	50A		
DP3040C5001/U	3	208 Vac/ 240 Vac		Box Lug	40A	50A		
DP3050B5002/U	3	24 Vac		Box Lug	50A	63A		
DP3050B5000/U	3	120 Vac		Box Lug	50A	63A		
DP3050C5010/U	3	208 Vac/ 240 Vac		Box Lug	50A	63A		
DP3060A5001/U	3	24 Vac		Box Lug	60A	75A		
DP3060B5010/U	3	120 Vac		Box Lug	60A	75A		
DP3060C5009/U	3	208 Vac/240 Vac		Box Lug	60A	75A		
DP3075A5017/U	3	24 Vac		Box Lug	75A	94A	4.4 in. high x 5 in. wide x 3.7 in. deep	112 mm high x 127 mm wide x 94 mm deep
DP3075B5016/U	3	120 Vac		Box Lug	75A	94A		
DP3075C5014/U	3	208 Vac/240 Vac		Box Lug	75A	94A		
DDP3090B5007/U	3	120 Vac		Box Lug	90A	120A		
DP3090C5005/U	3	208 Vac/240 Vac		Box Lug	90A	120A		

Dimensions in inches (millimeters) for 3 pole 25 to 40 amp contactors



Deluxe Honeywell PowerPro DP-Series Definite Purpose Contactors - 4 Pole

Definite purpose four (40A) pole contactors provide switching for across-the-line starting of induction motors.

- Shrouded coils on 3 pole (25A to 60A) models protect the coil from harsh environment factors.
- Moisture proof epoxy is used to encapsulate the 3 pole 75A through 120A coils.
- Multiple mounting holes and slots for convenient, interchangeable mounting with most competitive devices.
- Traditional design meets many needs.
- Full array of replacement coils, contact sets and accessories available.

Application: PowerPro Definite Purpose Contactor
Temperature Range: -4 F to +149 F (-20 C to +65 C)
Frequency: 50 Hz; 60Hz
Switching: DPST

Approvals
Canadian Standards Association: Certified: File No. LR6535
Underwriters Laboratories, Inc: Component Recognized: File No. 14480, Guide No. NLDX2

Product Number	Poles	Coil Ratings Voltage	Contact Connections (coil)	Electrical Connections (main)	Contact Electrical Ratings		Dimensions, Approximate	
					AFL	Resistive	(inch)	(mm)
DP4040A5002/U	4	24 Vac	1/4 in. quick-connects and #6 screws	Box Lug	40A	50A	2.76 in. high x 3.75 in. wide x 3.43 in. deep	70 mm high x 95 mm wide x 97 mm deep
DP4040B5001/U	4	120 Vac	1/4 in. quick-connects and #6 screws	Box Lug	40A	50A	2.76 in. high x 3.75 in. wide x 3.43 in. deep	70 mm high x 95 mm wide x 97 mm deep
DP4040C5009/U	4	120 Vac	1/4 in. quick-connects and #6 screws	Box Lug	40A	50A	2.76 in. high x 3.75 in. wide x 3.43 in. deep	70 mm high x 95 mm wide x 97 mm deep

Contactors

Economy DP-Series Definite Purpose Contactors - 1 Pole

These electromagnetically-operated Definite Purpose Contactors provide switching for starting induction motors.

- Silver cadmium oxide contacts provide long life under demanding duty cycles.
- Low profile design allows for more wiring room.
- Multiple mounting holes and slots for convenient, interchangeable mounting with most competitive devices.

Application: Economy Definite Purpose Contactor
Temperature Range: -4 F to +149 F (-20 C to +65 C)
Frequency: 50 Hz; 60Hz
Switching: SPST

Approvals
Canadian Standards Association: Certified: File No. LR6535
Underwriters Laboratories, Inc: Component Recognized: File No. 14480, Guide No. NLDX2

Product Number	Poles	Coil Ratings Voltage	Contact Connections (coil)	Electrical Connections (main)	Contact Electrical Ratings		Dimensions, Approximate	
					AFL	Resistive	(inch)	(mm)
DP1030A1001/U	1	24 Vac	1/4 in. quick-connects	Screw Terminal	30A	40A	2.2 in. high x 2.5 in. wide x 3.31 in. deep	56 mm high x 59 mm wide x 84 mm deep

Economy DP-Series Definite Purpose Contactors - 2 Pole

These electromagnetically-operated Definite Purpose Contactors provide switching for starting induction motors.

- Silver cadmium oxide contacts provide long life under demanding duty cycles.
- Low profile design allows for more wiring room.
- Multiple mounting holes and slots for convenient, interchangeable mounting with most competitive devices.

Application: Economy Definite Purpose Contactor
Temperature Range: -4 F to +149 F (-20 C to +65 C)
Frequency: 50 Hz; 60Hz
Switching: DPST

Approvals
Canadian Standards Association: Certified: File No. LR6535
Underwriters Laboratories, Inc: Component Recognized: File No. 14480, Guide No. NLDX2

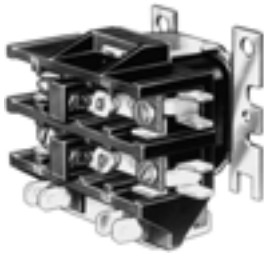
Product Number	Poles	Coil Ratings Voltage	Contact Connections (coil)	Electrical Connections (main)	Contact Electrical Ratings		Dimensions, Approximate	
					AFL	Resistive	(inch)	(mm)
DP2030A1004/U	2	24 Vac	1/4 in. quick-connects	Screw Terminal	30A	40A	3.25 in. high x 3.63 in. wide x 3.8 in. deep	83 mm high x 92 mm wide x 97 mm deep
DP2030B1003/U	2	120 Vac	1/4 in. quick-connects	Screw Terminal	30A	40A	2.2 in. high x 3.31 in. wide x 2.17 in. deep	56 mm high x 84 mm wide x 55 mm deep
DP2030C1002/U	2	208 Vac/ 240 Vac	1/4 in. quick-connects	Screw Terminal	30A	40A	2.2 in. high x 2.5 in. wide x 3.31 in. deep	56 mm high x 59 mm wide x 84 mm deep
DP2040A1003/U	2	24 Vac	1/4 in. quick-connects	Screw Terminal	40A	50A	2.37 in. high x 3.3 in. wide x 2 in. deep	60 mm high x 84 mm wide x 51 mm deep
DP2040B1002/U	2	120 Vac	1/4 in. quick-connects	Screw Terminal	30A	50A	2.37 in. high x 3.3 in. wide x 2 in. deep	60 mm high x 84 mm wide x 51 mm deep
DP2040C1001/U	2	120 Vac	1/4 in. quick-connects	Screw Terminal	30A	50A	2.37 in. high x 3.3 in. wide x 2 in. deep	60 mm high x 84 mm wide x 51 mm deep

Auxiliary Switches

Application: Auxiliary Interlock
Contact Ratings (resistive): 10.0 A
Used With: DP3090; DP3075; DP3060; DP3050; DP3040; DP3030

Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Description	Circuits	Configuration	Maximum (Inrush) Current at 120V/240V/ 480V/600V
DP3AUX-1NC/U	2 13/16 in. x 2 1/2 in. x 7/16 in.	77 mm x 64 mm x 11 mm	1 N.C. Snap-on side mounted auxiliary interlock	1	Normally Open snap-on	60/30/15/12 Amps
DP3AUX-1NO/U	2 13/16 in. x 2 1/2 in. x 7/16 in.	77 mm x 64 mm x 11 mm	1 N.O. Snap-on side mounted auxiliary interlock	1	Normally Closed snap-on	60/30/15/12 Amps
DP3AUX-1NO-1NC/U	2 13/16 in. x 2 1/2 in. x 7/16 in.	77 mm x 64 mm x 11 mm	1 N.O. and 1 N.C. Snap-on side mounted auxiliary interlock	2	Normally Open/Normally Closed snap-on	60/30/15/12 Amps
DP3AUX-2NC/U	2 13/16 in. x 2 1/2 in. x 7/16 in.	77 mm x 64 mm x 11 mm	2 N.C. Snap-on side mounted auxiliary interlock	2	Normally Closed snap-on	60/30/15/12 Amps
DP3AUX-2NO/U	2 13/16 in. x 2 1/2 in. x 7/16 in.	77 mm x 64 mm x 11 mm	2 N.O. Snap-on side mounted auxiliary interlock	2	Normally Open snap-on	60/30/15/12 Amps

R8246 Electric Heat Contactor



Provide conventional on-off control of heating elements and fan in an electric furnace.

- Designed for quiet operation. R8246A and R8229A replace over 50 Honeywell and competitive electric heat primaries, including the Honeywell R8330 Electric Furnace Sequencer.
- Use on furnaces with a line voltage or pilot duty limit.
- Simple ON-OFF switching - readily understood and easily serviced- Eliminates cold drafts on system startup.

Application: Electric Heat Contactor
Temperature Range: -4 F to +149 F (-20 C to +65 C)

	Product Number	Poles	Coil Ratings Voltage	Contact Connections (coil)	Electrical Connections (main)	Contact Electrical Ratings Resistive	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)
*	**R8246A1038/U**	2	24 Vac	No. 10 terminal clamp screws and double male 1/4 inch quick-connects	Male 1/4 in. (6 mm) quick-connects plus terminal clamp screws	48A	2 3/16 in. high x 2 5/16 in. wide x 3 5/16 in. deep	56 mm high x 58 mm wide x 84 mm deep

** TRADELINE models • SUPER TRADELINE models*

Contactors Selection Guide

Contactors Selection Guide

Economy Contactors							
Poles	**Contact Ratings (AFL @ 240, 277, 480, 600 Vac)**	**Input Voltage/Coil Voltage**	**Product Number**	**Main Connections**	**Coil Connections**	**Contact Ratings (Resistive @ 240, 277, 480, 600 Vac)**	**Switching**
1	30A	24 Vac	DP1030A1001/U	CHS	Q	40A	SPST
2	30A	24 Vac	DP2030A1004/U	CHS	Q	40A	DPST
		120 Vac	DP2030B1003U	CHS	Q	40A	DPST
		208 Vac/240 Vac	DP2030C1002/U	CHS	Q	40A	DPST
	40A	24 Vac	DP2040A1003/U	CHS	Q	50A	DPST
		120 Vac	DP2040B1002/U	CHS	Q	50A	DPST
		208 Vac/240Vac	DP2040C1001/U	CHS	Q	50A	DPST

PowerPro Contactors - ARI 780/790 Rated							
Poles	**Contact Ratings (AFL @ 240, 277, 480, 600 Vac)**	**Input Voltage/Coil Voltage**	**Product Number**	**Main Connections**	**Coil Connections**	**Contact Ratings (Resistive @ 240, 277, 480, 600 Vac)**	**Switching**
1 with shunt	25A	24 Vac	DP1025A5006/U	LC	Q	30A	SPST
1	30A	24 Vac	DP1030A5014/U	LC	Q	48A	SPST
	40A	24 Vac	DP1040A5005/U	LC	Q	50A	SPST
2	30A	24 Vac	DP2020A5022/U	LC	Q	25A	DPST
	20A	120 Vac	DP2020B5039/U	LC	Q	25A	DPST
	30A	24 Vac	DP2030A5005/U	LC	Q	40A	DPST
		24 Vac	DP2030A5013/U	LC	Q	40A	DPST
		120 Vac	DP2030B5004/U	LC	Q	40A	DPST
		120 Vac	DP2030B5012/U	LC	Q	40A	DPST
		208 Vac/240 Vac	DP2030C5003/U	LC	Q	40A	DPST
		208 Vac/240 Vac	DP2030C5011/U	LC	Q	40A	DPST
		277 Vac	DP2030D5002/U	LC	Q	40A	DPST
	40	24 Vac	DP2040A5004/U	LC	Q	48A	DPST
		120 Vac	DP2040B5003/U	LC	Q	50A	DPST
		208 Vac/240 Vac	DP2040C5002/U	LC	Q	50A	DPST
3	30A	24V	DP3030A5004/U	LC	Q, CHS	40A	DPST
		120v	DP3030B5003/U	LC	Q, CHS	40A	DPST
		208 Vac/240 Vac	DP3030C5002/U	LC	Q, CHS	40A	DPST
	40A	24Vac	DP3040A5003/U	LC	Q, CHS	50A	DPST
		120Vac	DP3040B5002/U	LC	Q, CHS	50A	DPST
		208 Vac/240 Vac	DP3040C5001/U	LC	Q, CHS	50A	DPST
	50A	24Vac	DP3050A5002/U	LC	Q, CHS	63A	DPST
		120Vac	DP3050B5001/U	LC	Q, CHS	63A	DPST
		208 Vac/240 Vac	DP3050C5010/U	LC	Q, CHS	63A	DPST
	60A	24Vac	DP3060A5001/U	LC	Q, CHS	75A	DPST
		120 Vac	DP3060B5010/U	LC	Q, CHS	75A	DPST
		208 Vac/240 Vac	DP3060C5009/U	LC	Q, CHS	75A	DPST

PowerPro Contactors - ARI 780/790 Rated							
Poles	**Contact Ratings (AFL @ 240, 277, 480, 600 Vac)**	**Input Voltage/Coil Voltage**	**Product Number**	**Main Connections**	**Coil Connections**	**Contact Ratings (Resistive @ 240, 277, 480, 600 Vac)**	**Switching**
3	75A	24Vac	DP3075A5017/U	LC	Q, CHS	94A	DPST
		120 Vac	DP3075B5016/U	LC	Q, CHS	94A	DPST
		208 Vac/240 Vac	DP3075C5015/U	LC	Q, CHS	94A	DPST
	90A	120 Vac	DP3090B5007/U	LC	Q, CHS	120A	DPST
		208 Vac/240 Vac	DP3090C5006/U	LC	Q, CHS	120A	DPST
4	40A	24 Vac	DP4040A5002/U	LC	Q, CHS	50A	DPST
		120 Vac	DP4040B5001/U	LC	Q, CHS	50A	DPST
		208 Vac/240 Vac	DP4040C5010/U	LC	Q, CHS	50A	DPST

Connectors:	CHS - #10-32 Combination Head Screw
	LC - Lug Connector
	Q - Quick Connect
	S - # 6 Screw
	SS - Sems Screw
	TCS - Terminal Clamp Screw
Temp Rating:	-4F to 149F
Approvals:	UL, CSA
ARI -780:	500,000 cycle mechanical life; 200,000 cycle electrical life; 10,000 cycle recycle life

Electric Heat Contactor								
Poles	**Contact Ratings (AFL @ 240, 277, 480, 600 Vac)**	**Input Voltage/ Coil Voltage**	**Product Number**	**Dimensions (in.) H x W x D**	**Main Connections**	**Coil Connections**	**Contact Ratings (Resistive @ 240/ 277, 480, 600 Vac)**	**Special Features**
2	30	24 Vac	R8246A1038	2.2 x 2 3 x 3.3	Q,S	TCS,Q	48A @ 240/277 Vac	First Pole Resistive Only, Second Pole Resistive/Inductive Combined. ARI 780/790 rated.

Connectors:	CHS - #10-32 Combination Head Screw
	LC - Lug Connector
	Q - Quick Connect
	S - # 6 Screw
	SS - Sems Screw
	TCS - Terminal Clamp Screw
Temp Rating:	-4F to 149F
Approvals:	UL, CSA
ARI -780:	500,000 cycle mechanical life; 200,000 cycle electrical life; 10,000 cycle recycle life

Relays

Q633 Plate-Mounted Relay Receptacle

For installing R4222, R8222 and R4228, R8228 relays on junction boxes.

- Use with appropriate relay and AT72D1683 or AT72D1691 SUPER TRADELINE Transformer.
- Includes relay receptacle, cover and eight leadwires.

Approvals
Canadian Standards Association: Recognized
Underwriters Laboratories, Inc: UL Component Recognized

		Dimensions, Approximate	
	Product Number	**inches**	**mm**
*	**Q633A1007/U**	4 in. x 4 in. plate	102 x102 mm plate

** TRADELINE models • SUPER TRADELINE models*

R24 Heat Sequencer

Honeywell R24 Series Heat Sequencers are solid-state positive temperature coefficient (PTC) heaters that mount in any position. Quick-connect terminals speed up installation. In addition to the fact that, the R24 Series Heat Sequencers replace a wide range of models.

- Solid-state PTC Heaters
- Quick-connect terminals
- Shock and vibration resistant
- Mounts in any position
- Contact ratings - to 25 Amps at 120 or 240 Volts, and 12.5 Amps at 480 Volts
- Full-load rating auxiliary contacts
- Standard operating ambience temperature between -40 C and 73.8 C (-40 F and 165 F)
- UL approved, CSA/CUR approval pending

Electrical Connections (main): Solder or screw type 1/4 in. quick connect
Electrical Ratings, Contacts:
Resistive: 25A Resistive and 14A Inductive at 120Vac

Approvals
Underwriters Laboratories, Inc: UL File 237660

Product Number	Input/Control Voltage	Off-Timing Delay (sec)	On-Timing Delay (sec)	Number of On-Timings	Application
R24AA1008/U	24V	40 - 110 sec	1 - 20 sec	1	Electric Heat
R24AA2006/U	24V	65-115: Cool	1-25: Heat	1	Heat Pump - Air Handler
R24AA3004/U	24V	1 - 30 sec	30 - 90 sec	1	Electric Heat
R24BA1006/U	24V	40 - 110 sec (second switch); 40 - 110 sec (first switch)	1 - 20 sec (second switch); 1 - 20 sec (first switch)	1	Electric Heat
R24BA3002/U	24V	1 - 30 sec (second switch); 1 - 30 sec (first switch)	30 - 90 sec (second switch); 30 - 90 sec (first switch)	1	Electric Heat
R24CB4007/U	24V	1 - 110 sec (third switch); 1 - 110 sec (second switch); 1 - 110 sec (first switch)	1 - 110 sec (third switch); 1 - 110 sec (second switch); 1 - 110 sec (first switch)	2	Electric Heat
R24DB4005/U	24V	1 - 110 sec (fourth switch); 1 - 110 sec (third switch); 1 - 110 sec (second switch); 1 - 110 sec (first switch)	1 - 110 sec (fourth switch); 1 - 110 sec (third switch); 1 - 110 sec (second switch); 1 - 110 sec (first switch)	2	Electric Heat
R24ED5007/U	24V	1 - 160 sec (fifth switch); 1 - 160 sec (fourth switch); 1 - 160 sec (third switch); 1 - 160 sec (second switch); 1 - 160 sec (first switch)	1 - 160 sec (fifth switch); 1 - 160 sec (fourth switch); 1 - 160 sec (third switch); 1 - 160 sec (second switch); 1 - 160 sec (first switch)	4	Electric Heat

R4222; R8222 General Purpose and R8228 Heavy Duty Switching Relays

Provide heavy duty switching for refrigeration and air conditioning equipment, appliances, vending machines and similar applications.

- Molded terminal numbers and circuit diagram on top of relay provide easy identification for wiring and checking system operation.
- Untapped coil assures cooler operation.
- Laminated magnet construction for higher efficiency.
- Base designed for easy replacement of competitive relays.
- Double quick-connect coil terminals.
- Plug compatible with Steveco 90-340 and Mars 90340.

Dimensions, Approximate: 1 7/8 in. high x 2 5/32 in. wide x 2 3/8 in. deep (48 mm high x 55 mm wide x 60 mm deep.)
Electrical Connections (main): 1/4 in. quick-connect terminals
Frequency: 50 Hz; 60 Hz
Temperature Rating: -20 F to +150 F (-29 C to +66 C)

Approvals
Canadian Standards Association: Approved
Underwriters Laboratories, Inc: UL Component Recognized

Accessories:
129384A-Case and Cover Assembly

Product Number	Electrical Ratings, Contacts (Full Load)	(Locked Rotor)	(Resistive)	Pilot Duty Ratings
R4222B1082/U	3 A @ 480 Vac; 6 A @ 208 Vac, 240 Vac, 277 Vac; 12 A @ 120 Vac	18 A @ 480 Vac; 35 A @ 208 Vac, 240 Vac, 277 Vac, 60 A @ 120 Vac	10 A @ 480 Vac; 20.8 A @ 120 Vac, 208 Vac, 240 Vac, 277 Vac	Minimum: 3 VA @ 24 Vac, 120 Vac, & 480 Vac; Maximum: 25 VA @ 24 Vac, 125 VA @ 120 Vac, 240 Vac, & 480 Vac; Resistive: 3 A @ 277 Vac (0.75 power factor); Powerpile: (Normally Open Contacts Only) 0.25 A @ 0.25 to 12 Vdc
R4222D1013/U				
R4222D1021/U				
R4222N1002/U				
R8222B1067/U				
R8222D1014/U				
R8222N1011/U				
R8222U1079/U			15 A @ 120 Vac, 208 Vac, 240 Vac, 277 Vac 10 A @ 480 Vac	
R8222V1003/U			10 A @ 480 Vac; 20.8 A @ 120 Vac, 208 Vac, 240 Vac, 277 Vac	
R8228B1012/U	5 A @ 480 Vac; 12 A @ 277 Vac; 18 A @ 208 Vac, 240 Vac; 16/18 A @ 120 Vac	30 A @ 480 Vac; 72 A @ 208 Vac, 240 Vac, 277 Vac; 96/72 A @ 120 Vac	12.5 A @ 480 Vac; 25 A @ 120 Vac; 208 Vac, 240 Vac, 277 Vac	—
R8228D1018/U	3.0 A @ 480 Vac; 5.5 A @120 Vac, 208 Vac, 240 Vac, 277 Vac	8 A @ 480 Vac; 15 A @ 120 Vac, 208 Vac, 240 Vac, 277 Vac		

	Product Number	Coil Ratings Voltage	Switching
*	**R4222B1082/U**	120 V	SPDT
*	**R4222D1013/U**	120 V	DPDT
*	**R4222D1021/U**	208V; 240 V	DPDT
*	**R4222N1002/U**	120 V	DPDT - Pilot Duty
*	**R8222B1067/U**	24 Vac	SPDT
*	**R8222D1014/U**	24 Vac	DPDT
*	**R8222N1011/U**	24 Vac	DPDT - Pilot Duty
*	**R8222U1079/U**	24 V	DPST N.O.(1 P&1P duty)
*	**R8222V1003/U**	24 Vac	DPDT (1 P&1P Duty)
*	**R8228B1012/U**	24 Vac	SPDT
	R8228D1018/U	24 Vac	DPST N.O.

** TRADELINE models • SUPER TRADELINE models*

R4225; R8225 Fan Relay

Provide general purpose and heavy duty switching for refrigeration and air conditioning equipment, appliances, vending machines and similar applications.

- Molded terminal numbers and circuit diagram on top of relay provide easy identification for wiring and checking system operation.
- Untapped coil assures cooler operation.
- Laminated magnet construction for higher efficiency.
- Base designed for easy replacement of competitive relays.
- Double quick-connect coil terminals.
- Plug compatible with Steveco 90-340 and Mars 90340.

Dimensions, Approximate: 2 11/16 in. high x 2 1/2 in. wide x 3 7/16 in. deep (68 mm high x 64 mm wide x 87 mm deep)
Electrical Connections (main): Leadwires
Frequency: 60 Hz
Temperature Rating: 115 F (46 C)

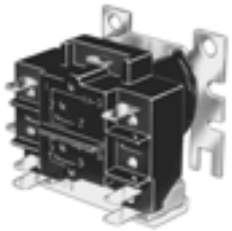
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Listed: File No. E14480, Vol. 1. Sec. 3, Guide No. NLDX

Accessories:
129384A-Case and Cover Assembly

	Product Number	Coil Ratings Voltage	Switching	Electrical Ratings, Contacts (Full Load)	(Locked Rotor)	(Resistive)
*	**R8225A1017/U**	24 Vac	SPDT	N.O. 8.0A, N.C., 7.0A, Aux. 2.0A @ 240 Vac; N.O. 14.0A, N.C. 14.0A, Aux. 3.0A @ 120 Vac	N.O. 48.0 A, N.C. 42.0 A, Aux. 12.0 A @ 240 Vac; N.O. 84.0 A, N.C. 84.0 A, Aux. 18.0 A @ 120 Vac	N.O. 8.0 A, N.C. 7.0 A, Aux. 2.0 A @ 240 Vac; N.O. 16.0 A, N.C. 14.0 A, Aux. 3.0 A @ 120 Vac
	R8225D1003/U	24 Vac	DPST N.O.	N.O. 8.0 A, Aux. 2.0 A @ 240 Vac; N.O. 14.0 A, Aux. 3.0 A @ 120 Vac	N.O. 48.0 A, Aux. 12.0 A @ 240 Vac; N.O. 84.0 A, Aux. 18.0 A @ 120 Vac	N.O. 8.0 A, Aux. 2.0 A @ 240 Vac; N.O. 16.0 A, Aux. 3.0 A @ 120 Vac

** TRADELINE models • SUPER TRADELINE models*

R8229 Electric Heat Relay

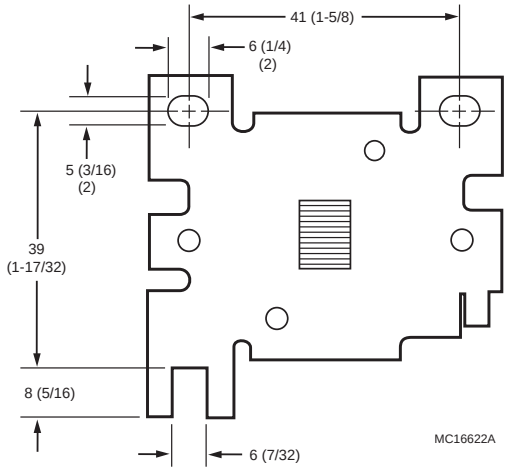


Normally Closed Relays And Contactors For Load Control Systems.

- Close and leave load operating in case of wiring or control problem, or relay malfunction.
- Consume no power while load is powered; require power only to shed load.
- Operate directly from a pilot duty rated relay in the load control system.

Electrical Connections (main): #10 combination head screws
Frequency: 60 Hz
Temperature Rating: -40 F to +165 F (-40 C to +74 C)
Electrical Ratings (Contacts):
Full Load: 2.8 A @ 600Vac; 3.5 A @ 480Vac; 7.0 A @ 120 Vac, 208 Vac, 240 Vac, 277 Vac
Locked Rotor: 14 A @ 600 Vac; 17.5 A @ 480 Vac; 35 A @ 120 Vac, 208 Vac, 240 Vac, 277 Vac
Resistive: 10.0 A @ 600 Vac; 12.5 A @480 Vac; 25 A @ 120 Vac, 208 Vac, 240 Vac, 277 Vac
Approvals
Canadian Standards Association: Recognized
Underwriters Laboratories, Inc: UL Component Recognized

Dimensions in inches (millimeters)



	Product Number	Coil Ratings Voltage	Frequency	Switching	Includes
	R8229A1005/U	24 Vac	60 Hz	DPST	—
•	**R8229A1021/U**	24 Vac	60 Hz	DPST	Extra Mounting Hardware

** TRADELINE models • SUPER TRADELINE models*

R8330 Electric Furnace Sequencer

One control switches a fan and up to three elements on and off in sequence.

- Isolated fan switch has positive interlock to assure fan is on when the element is on, and fan is off when the element is off.
- Replaces any of the ten models in our line and many competitive devices.
- Combination rating on the first element switch allows replacing devices having fan and first element controlled by the same switch without rewiring the furnace.
- Auxiliary switch controls a second R8330 in application with more than three elements.
- Cycles ON within two minutes, OFF within four minutes.
- Ten-second minimum delay between stages (makes sequence and break sequence.)
- Timings meet EEI-NEMA and ARI 280 Standards.

Dimensions, Approximate: 3 1/16 in. high x 4 13/16 in. wide x 2 11/32 in. deep (78 mm high x 122 mm wide x 60 mm deep.)
Electrical Connections (main): terminals
Frequency: 60 Hz
Temperature Rating: -20 F to +150 F (-29 C to +66 C)
Electrical Ratings (Contacts)
Full Load: 4.9 A @ 277 Vac, 3/4 hp; 6.9 A @ 120 Vac, 208 Vac, 240 Vac, 1/3 hp; 7.2 A @ 120 vac
Locked Rotor: 29.4 A @ 277 Vac, 3/4 hp; 41.4 A @ 120 Vac, 208 Vac, 240 Vac, 1/3 hp; 43.2 a @ 120 Vac
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: UL Listed

	Product Number	Coil Ratings Voltage
*	**R8330D1039/U**	24 Vac

** TRADELINE models • SUPER TRADELINE models*

R841 Electric Heating Relay

Use with two-wire, 24 Vac thermostat to control electric heating equipment such as baseboard, ceiling cable and duct heaters.

- Operate with each cycle of the thermostat (4 to 6 cycles per hour).
- Each relay switches up to a 5,000 W load.
- Contacts make and break in about 75 seconds.
- Mount in any position.
- Includes 1/2 in. (13 mm) male conduit bushing.

Dimensions, Approximate: 3 7/8 in. high x 2 13/16 in. wide x 1 1/2 in. deep (98 mm high x 71 mm wide x 38 mm deep)
Electrical Connections (main): Leadwires
Frequency: 50 Hz; 60 Hz
Temperature Rating: -20 F to +150 F (-29 C to +66 C)
Electrical Ratings (Contacts)
Full Load: 7.0 A @ 208 Vac, 240 Vac, 277 Vac; 14 A @ 120 Vac
Locked Rotor: 42 A @ 208 Vac, 240 Vac, 277 Vac; 84 A @ 120 Vac
Resistive: 22 A @ 120 Vac, 208 Vac, 240 Vac; 19 a @ 277 Vac
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: UL Listed

	Product Number	Coil Ratings Voltage	Switching	Includes
	R841C1029/U	240 V	SPST	Enclosure w/conduit bushing.
	R841C1151/U	600 Vac	SPST	Enclosure w/ conduit bushing and an integral transformer.
*	**R841C1169/U**	240 Vac208 V	SPST	Enclosure w/ conduit bushing and an integral transformer.
*	**R841C1227/U**	24 V	SPST	—
*	**R841D1036/U**	24 V	SPST	Enclosure w/conduit bushing.
*	**R841E1068/U**	24 V	SPST	Enclosure w/conduit bushing and integral transformer; dual load.

** TRADELINE models • SUPER TRADELINE models*

Relays Parts and Accessories

ST82 Fan Manager

Use in compressor-run air conditioning, heat pump systems and heating-cooling systems. Delays the indoor blower shutoff after the compressor has shut off.

- Eighty-second delay on break.
- Combination electronic time delay board and R8222 relay saves wiring time.
- Molded terminal numbers and circuit diagram on top of relay and letter-coded terminals on time delay board provide easy identification for wiring and system checkout.
- Laminated magnet construction for high efficiency.
- Reduces stratification and saves energy.

Dimensions, Approximate: 2 7/32 in. high x 2 1/16 in. wide x 2 9/16 in. deep (56 mm high x 52 mm wide x 65 mm deep)
Electrical Connections (main): 1/4 in. quick-connect terminals
Frequency: 50 Hz; 60 Hz
Delay Timing: 80 seconds
Temperature Rating: -20 F to +150 F (-29 C to +66 C)
Electrical Ratings (Contacts)
Full Load: 3 A @ 480 Vac; 6 A @ 208 Vac, 240 Vac, 277 Vac; 12 A @ 120 Vac
Locked Rotor: 18 A @ 480 Vac; 35 A @ 208 Vac, 240 Vac, 277 Vac, 60 A @ 120 Vac
Resistive: 15 A @ 208 Vac, 240 Vac, 277 Vac; 15 A @ 120 Vac; 10 A @ 480 Vac
Approvals
Canadian Standards Association: Certified: File No. LR95329-17
Underwriters Laboratories, Inc: UL Listed: File No. MP466, Vol. 22, Sec. 1, Guide No. MBPR2

	Product Number	Coil Ratings Voltage	Switching
*	**ST82D1004/U**	24 Vac	DPDT

** TRADELINE models • SUPER TRADELINE models*

Relay Accessories

Product Number	Description	
129384A/U	Case and Cover Assembly	

Relay Parts

Product Number	Description	
135887/U	Bail Lock Down Assembly	
135959/U	Relay Receptacle	

Relays Selection Guide

Relays							
Input Voltage/ Coil Voltage	**Switching**	**Product Number**	**Full Load Amp Rating**	**Frequency**	**Dimensions (in.) H x W X D**	**Electrical Connections (main)**	**Special Features**
24 V	DPST N.O.	R8228D1018/U	5.5	A	1 7/8 x 2 5/32 x 2 3/8	Q	—
	DPDT (1 P&1PDuty)	R8222V1003/U	12	A	1 7/8 x 2 5/32 x 2 3/8	Q	—
	DPDT - Pilot Duty	R8222N1011/U		A	1 7/8 x 2 5/32 x 2 3/8	Q	Pilot Duty
	DPDT	R8222D1014/U		A	1 7/8 x 2 5/32 x 2 3/8	Q	—
	DPDT	ST82D1004/U		A	2 7/32 x 2 1/16 x 2 9/16	Q	80 sec shut off delay
	SPDT	R8222B1067/U		A	1 7/8 x 2 5/32 x 2 3/8	Q	—
120 V	DPDT - Pilot Duty	R4222N1002/U		A	1 7/8 x 2 5/32 x 2 3/8	Q	—
	DPDT	R4222D1013/U		A	1 7/8 x 2 5/32 x 2 3/8	Q	—
	SPDT	R4222B1082/U		A	1 7/8 x 2 5/32 x 2 3/8	Q	—
208V/240V	DPDT	R4222D1021/U		A	1 7/8 x 2 5/32 x 2 3/8	Q	—
24V	SPDT	R8225A1017/U	14	B	2 11/16 x 2 1/2 x 3 7/16	L	—
	DPST N.O.	R8225D1003/U		B	2 11/16 x 2 1/2 x 3 7/16	L	—
120 V	SPDT, 1 N.O., 1 N.C.	R4225A1008/U		B	2 11/16 x 2 1/2 x 3 7/16	L	—
24 V	SPDT	R8228B1012/U	18	A	1 7/8 x 2 5/32 x 2 3/8	Q	—

Frequency:	A - 60Hz/50Hz; B - 60Hz, C - 50 Hz	SPST	Single Pole Single Throw
Approvals:	UL, CSA	DPST	Double Pole Single Throw
Temp Rating:	-20 F to +150 F; 115 F max for R8225	DPDT	Double Pole Double Throw
Connectors:	CHS - Combination Head Screw; L - Leadwires; Q - Quick connect; T - Terminals	SPDT	Single Pole Double Throw

Electric Heat Sequencer Selection Guide

Electric Heat Relays							
Input Voltage/ Coil Voltage	**Switching**	**Product Number**	**Full Load Amp Rating**	**Frequency**	**Dimensions (in.) H x W X D**	**Electrical Connections (main)**	**Special Features**
24V	DPST	R8229A1005/U	7	B	2 3/16 x 2 3/32 x 2 1/4	CHS	—
		R8229A1021/U		B	2 3/16 x 2 3/32 x 2 1/4	CHS	Extra Mounting Hardware
24V	SPST	R841D1036/U	14	A	3 7/8 x 2 13/16 x 1 1/2	L	18A resistive @ 120/208/240VAC. Requires Transformer. Canada - replaces R841D1028
208/240V	SPST	R841C1169/U		A	3 7/8 x 2 13/16 x 1 1/2	L	18A resistive @ 120/208/240VAC. Integral Transformer. Canada - replaces R841C1029
240V	SPST	R841E1068/U		A	3 7/8 x 2 13/16 x 1 1/2	L	22A resistive @120/208/240VAC. Dual Load/ integral transformer
347V	SPST	R841C1144/U		A	3 7/8 x 2 13/16 x 1 1/2	L	18A resistive @120/208/240VAC. Integral Transformer. Canada
600V	SPST	R841C1151/U		A	3 7/8 x 2 13/16 x 1 1/2	L	18A resistive @120/208/240VAC. Integral Transformer. Canada

Electric Furnace Sequencer					
Input Voltage/Coil Voltage	**Product Number**	**Full Load Amp Rating**	**Frequency**	**Dimensions (in.) H x W X D**	**Electrical Connections (main)**
24V	R8330D1039/U	7.2	B	3 1/16 x 4 13/16 x 2 11/32	T

Electric Heat Contactor					
Input Voltage/Coil Voltage	**Switching**	**Product Number**	**Full Load Amp Rating**	**Dimensions (in.) H x W X D**	**Electrical Connections (main)**
24V	DPST	R8246A1038/U	30	2-3/16 x 2-1/4 x 3-5/16	Q,S

Frequency:	A - 60Hz/50Hz; B - 60Hz, C - 50 Hz	SPST	Single Pole Single Throw
Approvals:	UL, CSA	DPST	Double Pole Single Throw
Temp Rating:	-20 F to +150 F; 115 F max for R8225	DPDT	Double Pole Double Throw
Connectors:	CHS - Combination Head Screw; L - Leadwires; Q - Quick connect; T - Terminals	SPDT	Single Pole Double Throw

Electric Heat Sequencer Selection Guide

Electric Heat Sequencers												
			Timings - ON					Timings - OFF				
Product Number	Switches	Timings	M1-M2	M3-M4	M5-M6	M7-M8	M9-M10	M1-M2	M3-M4	M5-M6	M7-M8	M9-M10
R24AA1008/U	1	1	1-20	—	—	—	—	40-110	—	—	—	—
R24AA3004/U	1	1	—	—	30-90	—	—	—	—	1-30	—	—
R24BA1006/U•	2	1	1-20	1-20	—	—	—	40-110	40-110	—	—	—
R24BA3002/U•	2	1	—	—	30-90	30-90	—	—	—	1-30	1-30	—
R24CB4007/U•	3	2	1-110	1-110	1-110	—	—	1-110	1-110	1-110	—	—
R24DB4005/U•	4	2	1-110	1-110	1-110	1-110	—	1-110	1-110	1-110	1-110	—
R24ED5007/U•	5	4	1-160	1-160	1-160	1-160	1-160	1-160	1-160	1-160	1-160	1-160

Heat Pump-Air Handler Model					
WR Xref	Product Number	Switches	Timings	Heat	Cool
24A34-15	R24AA2006	1	1	1-25	75-95

Temperature:	-50F to 165F
Terminations:	[Solder or screw type 1/4" quick connect]
Ratings:	Estimate - 25A Resistive and 14A Inductive at 120Vac
SPST:	Single Pole Single Throw
DPST:	Double Pole Single Throw
SPDT:	Single Pole Double Throw
DPDT:	Double Pole Double Throw
Agency:	UL/CSA
Table Notes:	
*M1-M2 and M3-M4 are always first switches to turn ON and last to turn OFF. All other switches are random ON and random OFF	
*R24ED5007 Switch contacts designated F1 - F2 instead of M1 - M2	
*R24BB3428 is Double Pole Double Throw model.	
*R24AA2006 is a Single Pole Double Throw model for Heat Pump Applications	
* • **These contacts switch simultaneously**	
ON Time:	Elapsed time (min. to max.) to make contact after heater is energized
OFF Time:	Elapsed time (min. to max.) to break contact after heater is de energized

Electric Heat Sequencer Cross Reference

Honeywell	White-Rodgers	SUPCO	GEMLINE	A1	T-O-D	Mars
R24AA1008/U	24A34-1	Q101	GS101	TDR10	12S20	33841
R24AA3004/U	24A34-2	Q102	GS102	TDR15	12S20	33842
R24BA1006/U	24A34-3	Q103	GS103	TDR20	12S22	33844
R24BA3002/U	24A34-4	Q104	GS104	TDR25	12S22	33845
R24CB4007/U	24A34-5	Q105	GS105	TDR30	15S21	33832
R24DB4005/U	24A34-6	Q106	GS106		15S22	33833
R24ED5007/U	24A34-14				15S241	33848
R24AA2006/U	24A34-15					

Fan Centers

R8239 Control Center

Include NEMA standard transformer for excellent voltage control. Provide low voltage control of line voltage fan motors and auxiliary circuits in heating, cooling or heating-cooling circuits.

- NEMA standard Type D transformer (included) powers low voltage control systems.
- Provide overload protection for transformer.
- Convenient connections for thermostat, and heating-cooling equipment wiring.
- Mount on standard 4 x 4 junction box.
- Can be mounted in any indoor location without additional enclosure.
- Relay is easily replaced without disturbing wiring.
- Include relay enclosures.

Dimensions, Approximate: 4 1/2 in. high, 4 3/16 in. wide, 3 3/32 in. deep (114 mm high, 106 mm wide, 79 mm deep)
Electrical Ratings (W): 12 W maximum
Frequency: 60 Hz
Coil Ratings (inrush): 20 VA maximum, 17 VA nominal.
Coil Ratings (sealed): 10 VA maximum, 9 VA nominal
Approvals
Canadian Standards Association: Certified
NEMA Standard: NEMA Standard DC20-1992

Underwriters Laboratories, Inc: UL Listed

Product Number	Electrical Ratings			
	(120 Vac, Full Load)	(120 Vac, Locked Rotor)	(240 Vac, Full Load)	(240 Vac, Locked Rotor)
R8239A1052/U	12A	72A	6.9A	41.4A
R8239B1076/U	12A	72A	6.9A	41.4A

	Product Number	Application	Horsepower	Voltage	Power Supply (Vac)	Power Supply (Secondary)	Switching Action	Includes
*	**R8239A1052/U**	For single-or two speed fan.	3/4 HP	120 Vac	40 VA	26.5 V	SPDT	R8222B
•	**R8239B1076/U**	For system with F50 Electronic Air Cleaner humidifier and blower motor.	3/4 HP	208 Vac; 240 Vac; 120 Vac	50 VA	26.5 V	DPDT	R8222D

** TRADELINE models • SUPER TRADELINE models*

R8285 Control Center

Provides low voltage control of line voltage fan motors and auxiliary circuits in heating, cooling, or air conditioning systems.

- Transformer powers low voltage control systems and provides overload protection.
- Low voltage terminal board provides convenient connections for thermostat and heating/cooling equipment wiring.
- Mounts on standard 4 x 4 in. junction box.
- Relay is easily replaced without disturbing wiring.

Dimensions, Approximate: 4 3/16 in. high, 4 1/2 in. wide, 2 13/16 in. deep. (106 mm high, 114 mm wide, 71 mm deep)
Electrical Ratings (W): 11 W maximum
Frequency: 60 Hz
Approvals
Canadian Standards Association: Certified: File No. LR95329-17
Underwriters Laboratories, Inc: UL Component Recognized; File No. E4436, Vol.15, Sec.1, Guide No.XAPX2

Product Number	Electrical Ratings			
	(120 Vac, Full Load)	(120 Vac, Locked Rotor)	(240 Vac, Full Load)	(240 Vac, Locked Rotor)
R8285A1048/U	12A	72A	6A	35A
R8285B1053/U	12A	72A	6A	35A
R8285D5001/U	12A	72A	6A	35A

	Product Number	Application	Horse-power	Voltage	Power Supply (Vac)	Power Supply (Secondary)	Switching Action	Includes
*	**R8285A1048/U**	For single-or two speed fan.	3/4 HP	120 Vac	40 VA	26.5 V	SPDT	R8222B
*	**R8285B1053/U**	For "Total Comfort" applications with electronic air cleaner, humidifier and blower motor.	3/4 HP	208 Vac; 240 Vac; 120 Vac	40 VA	26.5 V	DPDT	R8222D
	R8285D5001/U	For Hydronic Applications; use with SV9600 SmartValve™ System and other systems that require 50 VA capacity.	3/4 HP	120 Vac	50 VA	26.5 V	DPST (One Power Rated, One Pilot Duty)	R8222U

** TRADELINE models • SUPER TRADELINE models*

Fan Center Selection Guide

Fan Centers

Electrical Ratings-VA	Electrical Ratings - Input Voltage	Switching	Product Number	NEMA	Dimensions (in.) H x W X D	Main Connections	Secondary Connections	Frequency	Special Features
40VA	120 Vac	DPDT	R8239B1043/U	Yes	4 1/2 x 4 3/16 x 3 3/32	L	L	A	Super Tradeline
		DPST	R8239D1007/U	Yes	4 1/2 x 4 3/16 x 3 3/32	L	L	A	—
		DPST (1 Power, 1 Pilot)	R8239D1015/U	Yes	4 1/2 x 4 3/16 x 3 3/32	L	L	A	Tradeline
		SPDT	R8239A1052/U	Yes	4 1/2 x 4 3/16 x 3 3/32	L	L	A	Tradeline
		SPDT	R8239A1003/U	Yes	4 1/2 x 4 3/16 x 3 3/32	L	L	A	—
50VA	120 Vac| 240 Vac| 208 Vac	DPDT	R8239B1076/U	Yes	4 1/2 x 4 3/16 x 3 3/32	L	L	A	Super Tradeline
40VA	120 Vac	SPDT	R8285A1048/U	No	4 3/16 x 4 1/2 x 2 13/16	L	L	A	Tradeline
	120 Vac| 240 Vac| 208 Vac	DPDT	R8285B1053/U	No	4 3/16 x 4 1/2 x 2 13/16	L	L	A	Tradeline
50VA	120 Vac	DPDT	R8285D5001/U	No	4 3/16 x 4 1/2 x 2 13/16	L	L	A	—

Frequency:	A - 60Hz/50Hz; B - 60Hz
Approvals:	UL, CSA
Temp Rating:	-20 F to +105 F
Connectors:	L - Leadwires
Mounting:	Standard 4 X 4 in. junction box

SuperTradeline models include extra hardware.

AT120; AT140; AT150A,B; AT175A General Purpose Transformer

AT120A

AT150A

AT120B, AT140B, AT140D, AT150B

AT140A

AT175A

Provide power to 24 Vac circuits in heating/cooling control systems. Intended for use in systems with predictable, uniform loads. Can be used in any application that does not exceed the listed ratings.

- Color-coded leadwires for primary connections and screw terminals for secondary connections, fixed 1/4 inch (6 mm) male quick-connects or color-coded leadwires for both primary and secondary, are standard.
- Meet NEC Class 2 requirements.
- Meet Underwriters Laboratories Inc. Standard UL 1585 and are identified. Class 2 not wet, Class 3 wet.

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 60 Hz

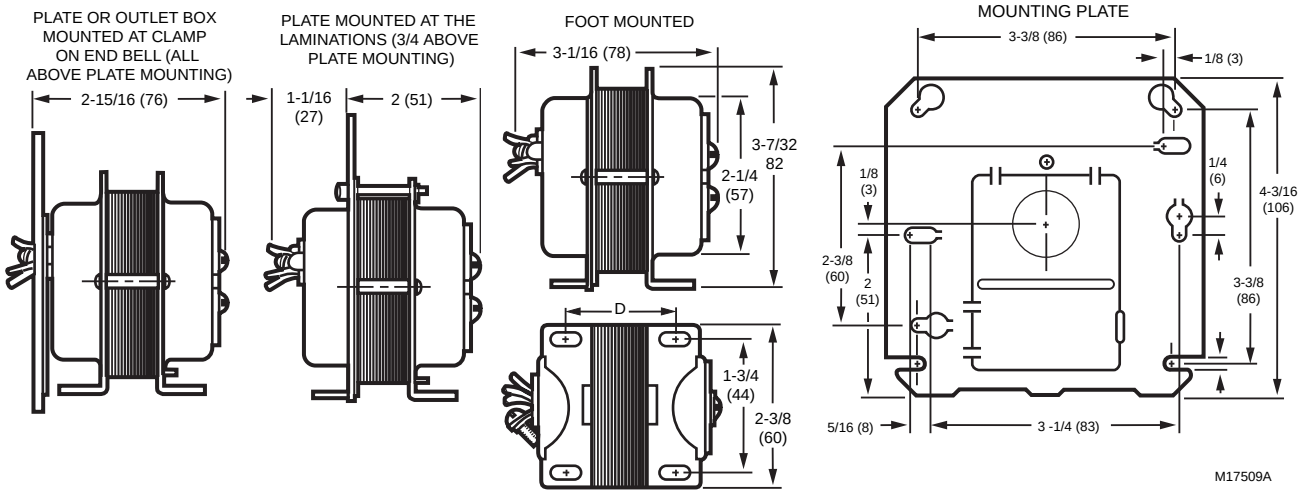
Approvals
Canadian Standards Association: CSA Certified: A & B models.
Underwriters Laboratories, Inc: UL Listed: A,C,F models. File # E14881

	Electrical Connections (main)			
Product Number	**(Primary) (mm)**	**(Primary) (inch)**	**(Secondary) (mm)**	**(Secondary) (inch)**
AT120A1004/U	229 mm leadwires	9 in. leadwires	(2) screw terminals	(2) screw terminals
AT120B1028/U	229 mm leadwires	9 in. leadwires	229 mm leadwires	9 in. leadwires
AT140A1000/U	229 mm leadwires	9 in. leadwires	(2) screw terminals	(2) screw terminals
AT140A1018/U	229 mm leadwires	9 in. leadwires	(2) screw terminals	(2) screw terminals
AT140B1016/U	6.4 mm male quick connects	1/4 in. male quick-connects	6.4 mm male quick-connects	1/4 in. male quick-connects
AT140B1206/U	229 mm leadwires	9 in. leadwires	229 mm leadwires	9 in. leadwires

	Dimensions, Approximate		Electrical Ratings					
Product Number	**(inch)**	**(mm)**	**(Primary Voltage)**	**(Secondary Voltage)**	**(Output)**	**Mounting**	**NEMA Rating**	**Includes**
AT120A1004/U	2 7/8 in. high x 1 7/8 in. wide x 2 15/16 in. deep	73 mm high x 48 mm wide x 75 mm deep	120 Vac, 208 Vac, 240 Vac	27 V.O.C.	24 Vac at 20 VA	Foot mounted, plate mounted on 2x4 in. or 4x4 in. outlet box, clamp mounted using outlet box knockout, or panel mounted	No	—
AT120B1028/U	1 11/16 in. high x 3 3/16 in. wide x 1 3/4 in. deep	43 mm high x 81 mm wide x 75 mm deep	120 Vac	27 V.O.C.	24 Vac at 20 VA	Foot-mounted	No	Metal end bells
AT140A1000/U	3 3/16 in. high x 2 3/8 in. wide x 3 1/8 in. deep	81 mm high x 60 mm wide x 79 mm deep	120 Vac	27 V.O.C.	24 Vac at 40 VA	Foot mounted, plate mounted on 2x4 in. or 4x4 in. outlet box, clamp mounted using outlet box knockout, or panel mounted	No	Metal end bells
AT140A1018/U	3 3/16 in. high x 2 3/8 in. wide x 3 1/8 in. deep	81 mm high x 60 mm wide x 79 mm deep	120 Vac, 208 Vac, 240 Vac	27 V.O.C.	24 Vac at 40 VA	Foot mounted, plate mounted on 2x4 in. or 4x4 in. outlet box, clamp mounted using outlet box knockout, or panel mounted	No	Metal end bells
AT140B1016/U	1 11/16 in. high x 3 1/2 in. wide x 1 3/4 in. deep	43 mm high x 89 mm wide x 75 mm deep	120 Vac	27 V.O.C.	24 Vac at 40 VA	Foot-mounted	No	Plastic end caps
AT140B1206/U	1 11/16 in. high x 3 1/2 in. wide x 1 3/4 in. deep	43 mm high x 89 mm wide x 75 mm deep	120 Vac	27 V.O.C.	24 Vac at 40 VA	Foot-mounted	No	Plastic end caps
AT140B1214/U	1 11/16 in. high x 3 1/2 in. wide x 1 3/4 in. deep	43 mm high x 89 mm wide x 75 mm deep	120 Vac, 208 Vac, 240 Vac	27 V.O.C.	24 Vac at 40 VA	Foot-mounted	No	Plastic end caps
AT140D1012/U	2 5/8 in. high x 2 1/4 in. wide x 1 15/16 in. deep	67 mm high x 57 mm wide x 49 mm deep	120 Vac	27 V.O.C.	24 Vac at 40 VA	integral 4 x 4 in. mounting plate fits 2 x 4 in. or 4 x 4 in. outlet box.	No	Metal end bells

Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Electrical Ratings (Primary Voltage)	Electrical Ratings (Secondary Voltage)	Electrical Ratings (Output)	Mounting	NEMA Rating	Includes
AT150A1007/U	1 11/16 in. high x 3 3/16 in. wide x 1 3/4 in. deep	43 mm high x 81 mm wide x 75 mm deep	120 Vac, 208 Vac, 240 Vac	27.5 V.O.C.	24 Vac at 50 VA	Foot mounted, plate mounted on 2x4 in. or 4x4 in. outlet box, clamp mounted using outlet box knockout, or panel mounted	No	Metal end bells
AT150B1146/U	1 11/16 in. high x 3 1/2 in. wide x 1 3/4 in. deep	43 mm high x 89 mm wide x 75 mm deep	120 Vac, 208 Vac, 240 Vac	—	24 Vac at 50 VA	Foot-mounted	No	—
AT150B1252/U	1 11/16 in. high x 3 1/2 in. wide x 1 3/4 in. deep	43 mm high x 89 mm wide x 75 mm deep	277 Vac	27.5 V.O.C.	24 Vac at 50 VA	Foot-mounted	No	Plastic end caps
AT175A1008/U	3 3/16 in. high x 2 3/8 in. wide x 3 5/8 deep	81 mm high x 60 mm wide x 92 mm deep	120 Vac, 208 Vac, 240 Vac	27.5 V.O.C.	24 Vac at 75 VA	Foot mounted, plate mounted on 2x4 in. or 4x4 in. outlet box, clamp mounted using outlet box knockout, or panel mounted	NEMA type E	Metal end bells

Dimensions in inches (millimeters)



AT140 General Purpose Transformer for Hydronic Heating Controls

Provide power to 24 Vac circuits in heating/cooling control systems. Intended for use in systems with predictable, uniform loads. Can be used in any application that does not exceed the listed ratings.

- Color-coded leadwires for primary connections and screw terminals for secondary connections, fixed 1/4 inch (6 mm) male quick-connects or color-coded leadwires for both primary and secondary, are standard.
- Meet NEC Class 2 requirements.
- Meet Underwriters Laboratories Inc. Standard UL 1585 and are identified. Class 2 not wet, Class 3 wet.

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 60 Hz
Electrical Connections (main):
Primary: 9 in. leadwires **(**229 mm leadwires)
Secondary: (2) screw terminals

Approvals
Canadian Standards Association: CSA Certified: A & B models.
Underwriters Laboratories, Inc: UL Listed: A,C,F models. File # E14881

Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Electrical Ratings (Primary Voltage)	Electrical Ratings (Secondary Voltage)	Electrical Ratings (Output)	Mounting
AT140A1034/U	3 3/16 in. high x 2 3/8 in. wide x 3 1/8 in. deep	81 mm high x 60 mm wide x 79 mm deep	120 Vac	27 V.O.C.	24 Vac at 20 VA	Foot mounted, plate mounted on 2x4 in. or 4x4 in. outlet box, clamp mounted using outlet box knockout, or panel mounted

Transformers

AT150F Circuit Breaker Transformer

Provide power to 24 Vac circuits in heating/cooling control systems. Intended for use in systems with predictable, uniform loads. Can be used in any application that does not exceed the listed ratings.

- Color-coded leadwires for primary connections and screw terminals for secondary connections, fixed 1/4 inch (6 mm) male quick-connects or color-coded leadwires for both primary and secondary, are standard.
- Meet NEC Class 2 requirements.
- Meet Underwriters Laboratories Inc. Standard UL 1585 and are identified. Class 2 not wet, Class 3 wet.

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 60 Hz
Includes: Button for manually resetting the circuit breaker and metal end bells.
Electrical Connections (main):
Primary: 9 in. leadwires **(**229 mm leadwires)
Secondary: 9 in. leadwires **(**229 mm leadwires)

Approvals
Canadian Standards Association: Certified: File No. LR95329-18
Underwriters Laboratories, Inc: UL Listed: File no. E14881, Guide no. XOKV.

	Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Electrical Ratings (Primary Voltage)	Electrical Ratings (Secondary Voltage)	Electrical Ratings (Output)	Mounting
*	**AT150F1022/U**	3 3/16 in. high x 2 3/16 in. wide x 3 5/8 in. deep	81 mm high x 56 mm wide x 93 mm deep	120 Vac, 208 Vac, 240 Vac	27.5 V.O.C.	24 Vac at 50 VA	Includes 1/2 14 NPSM conduit connector and lock nut for mounting on plate or panel (not included) with 7/8 in. knockout, and feet for surface mount.
*	**AT150F1030/U**	3 3/16 in. high x 2 3/16 in. wide x 3 5/8 in. deep	81 mm high x 56 mm wide x 93 mm deep	208 Vac, 277 Vac, 480 Vac	27.5 V.O.C.	24 Vac at 50 VA	Includes 1/2 14 NPSM conduit connector and lock nut for mounting on plate or panel (not included) with 7/8 in. knockout, and feet for surface mount.

** TRADELINE models • SUPER TRADELINE models*

AT175F Circuit Breaker Transformer

Provide power to 24 Vac circuits in heating/cooling control systems. Intended for use in systems with predictable, uniform loads. Can be used in any application that does not exceed the listed ratings.

- Color-coded leadwires for primary connections and screw terminals for secondary connections, fixed 1/4 inch (6 mm) male quick-connects or color-coded leadwires for both primary and secondary, are standard.
- Meet NEC Class 2 requirements.
- Meet Underwriters Laboratories Inc. Standard UL 1585 and are identified. Class 2 not wet, Class 3 wet.

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 60 Hz
Includes: Button for manually resetting the circuit breaker and metal end bells.
Electrical Connections (main):
Primary: 9 in. leadwires **(**229 mm leadwires)
Secondary: 9 in. leadwires **(**229 mm leadwires)

Approvals
Canadian Standards Association: CSA Certified: A & B models.
Underwriters Laboratories, Inc: UL Listed: A,C,F models. File # E14881

	Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Electrical Ratings (Primary Voltage)	Electrical Ratings (Secondary Voltage)	Electrical Ratings (Output)	Mounting
*	**AT175F1023/U**	3 3/16 in. high x 2 3/16 in. wide x 3 15/16 in. deep	81 mm high x 56 mm wide x 102 mm deep	120 Vac, 208 Vac, 240 Vac	27.5 V.O.C.	24 Vac at 75 VA	Includes 1/2 14 NPSM conduit connector and lock nut for mounting on plate or panel (not included) with 7/8 in. knockout, and feet for surface mount.
*	**AT175F1031/U**	3 3/16 in. high x 2 3/16 in. wide x 3 15/16 in. deep	81 mm high x 56 mm wide x 102 mm deep	208 Vac, 277 Vac, 480 Vac	27.5 V.O.C.	24 Vac at 75 VA	Includes 1/2 14 NPSM conduit connector and lock nut for mounting on plate or panel (not included) with 7/8 in. knockout, and feet for surface mount.

** TRADELINE models • SUPER TRADELINE models*

AT20; AT40 NEMA Standard Universal Stripped-Down Transformer

Power a 24V control system; for direct mounting, or horizontal or vertical foot-mounting.

- Channel frame mounting feet and slots allow for the three mounting positions.
- Color-coded leadwires for primary connections.
- Overload protection provided.
- Energy limiting, meet NEMA DC20-1992 Standard.
- Meet NEC Class 2 not wet, Class 3 wet and U.L. 1585 requirements.
- Mount within proper enclosure.

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 50 Hz; 60 Hz
Electrical Connections (main)
Primary: 9 in. color coded primary and secondary leadwires (229 mm color coded primary and secondary leadwires)
Secondary: 9 in. color coded primary and secondary leadwires (229 mm color coded primary and secondary leadwires)

Mounting: Channel Frame Mounting allows for Direct, Horizontal, or Vertical Foot mounting.
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: UL Component Recognized.

	Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Electrical Ratings (Primary Voltage)	Electrical Ratings (Secondary Voltage)	Electrical Ratings (Output)	NEMA Rating
*	**AT20A1123/U**	2 in. high x 2 1/4 in. wide x 1 7/8 in. deep	50.8 mm high x 57 mm wide x 47.6 mm deep	120 Vac	26.5 V.O.C.	24 Vac at 19 VA	NEMA type B
*	**AT40A1121/U**	2 3/32 in. high x 2 5/8 in. wide x 2 3/16 in. deep	53 mm high x 67 mm wide x 56 mm deep	120 Vac	26.5 V.O.C.	24 Vac at 40 VA	NEMA type D
*	**AT40A1139/U**	2 3/32 in. high x 2 5/8 in. wide x 2 3/16 in. deep	53 mm high x 67 mm wide x 56 mm deep	240 Vac	26.5 V.O.C.	24 Vac at 40 VA	NEMA type D

** TRADELINE models • SUPER TRADELINE models*

AT72 NEMA Standard Transformer

24V control circuit step-down transformer designed to power any 24V control system, including thermostats, gas valves and relays.

- Override protection provided.
- Color-coded leadwires for primary connections.
- Energy limiting, meets NEMA Standard DC20-1992.
- Transformer is marked NEMA Type D.
- Meets NEC Class 2 not wet, Class 3 wet and U.L. 1585 requirements.
- Mount within proper enclosure.

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 50 Hz; 60 Hz
NEMA Rating: NEMA type D
Approvals
Canadian Standards Association: Certified
N.E.C. NEC Approved.
Underwriters Laboratories, Inc: UL Component Recognized.

Product Number	Electrical Connections (main) (Primary) (mm)	(Primary) (inch)	(Secondary) (mm)	(Secondary) (inch)
AT72D1006/U	229 mm leadwires	9 in. leadwires	(2) screw terminals	(2) screw terminals
AT72D1188/U	229 mm leadwires	9 in. leadwires	229 mm leadwires	9 in. leadwires
AT72D1683/U	229 mm leadwires	9 in. leadwires	(2) screw terminals	(2) screw terminals
AT72D1691/U	229 mm leadwires	9 in. leadwires	(2) screw terminals	(2) screw terminals

	Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Electrical Ratings (Primary Voltage)	Electrical Ratings (Secondary Voltage)	Electrical Ratings (Output)	Mounting
	AT72D1006/U	3 7/32 in. high x 2 7/32 in. wide x (1 1/16 into plate x 2 in. above plate) deep	81.8 mm high x 56.4 mm wide x (27 mm into box x 50.8 mm above box) deep	120 Vac	26.5 V.O.C.	24 Vac at 40 VA	4 x 4 in. plate-mounted, protruding into junction box
	AT72D1188/U	3 7/32 in. high x 2 7/32 in. wide x 2 15/16 in. deep	81.8 mm high x 56.4 mm wide x 74.6 mm deep	120 Vac	26.5 V.O.C.	24 Vac at 40 VA	4 x 4 in. plate mounted without protruding into junction box.
•	**AT72D1683/U**	3 7/32 in. high x 2 7/32 in. wide x 3 1/16 in. deep	81.8 mm high x 56.4 mm wide x 77.8 mm deep	120 Vac	26.5 V.O.C.	24 Vac at 40 VA	Can be foot mounted, plate mounted on 4 x 4 in., 4 in. octagon, or 2 x 4 in. electrical boxes (transformer all above plate or 3/4 above plate); or clamp mounted via a junction box knockout.
•	**AT72D1691/U**	3 7/32 in. high x 2 7/32 in. wide x 3 1/16 in. deep	81.8 mm high x 56.4 mm wide x 77.8 mm deep	208 Vac, 240 Vac	26.5 V.O.C.	24 Vac at 40 VA	

** TRADELINE models • SUPER TRADELINE models*

Transformers

AT87 NEMA Standard Transformer

Used primarily for powering 24V air conditioning circuits. Can also be used in other applications that do not exceed the listed ratings.

- Meets NEC Class 2 not wet, Class 3 wet and UL 1585 requirements.
- Transformer marked NEMA Type E.
- Overload protection provided.
- Color-coded leadwires for primary connections.

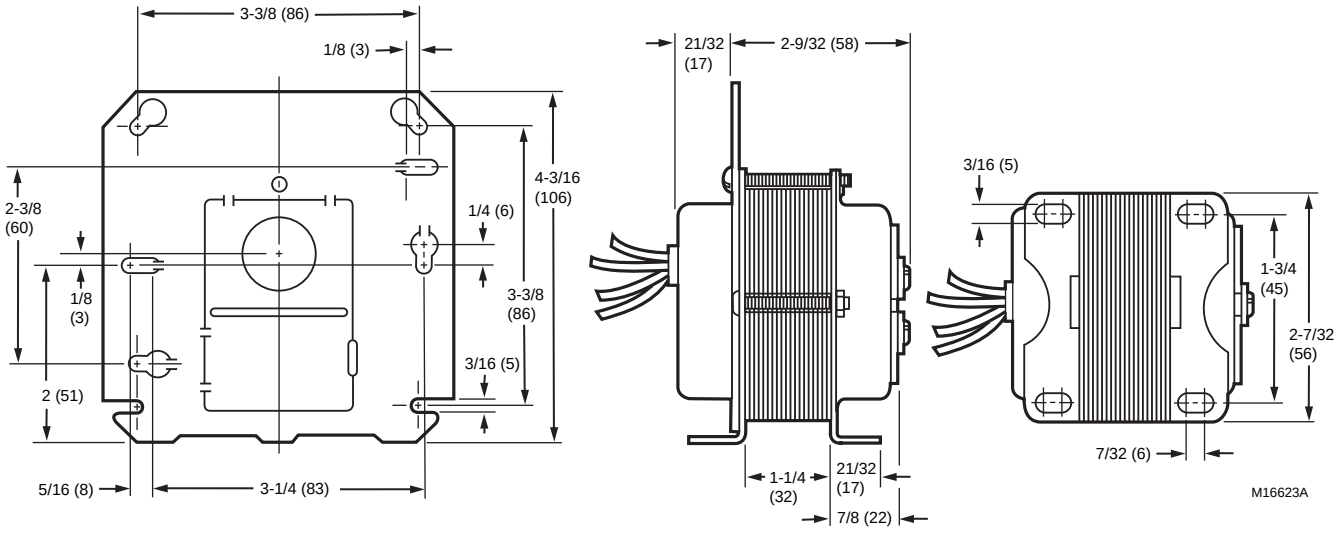
Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 50 Hz; 60 Hz
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: UL Component Recognized.

Product Number	Electrical Connections (main)			
	(Primary) (mm)	(Primary) (inch)	(Secondary) (mm)	(Secondary) (inch)
AT87A1049/U	305 mm leadwires	12 in. leadwires	305 mm leadwires	12 in. leadwires
AT87A1106/U	330 mm leads	13 in. leadwires	(2) screw terminals	(2) screw terminals
AT87A1155/U	305 mm leadwires	12 in. leadwires	305 mm leadwires	12 in. leadwires
AT87A1189/U	305 mm leadwires	12 in. leadwires	305 mm leadwires	12 in. leadwires

	Product Number	Dimensions, Approximate		Electrical Ratings			Mounting	NEMA Rating	Includes
		(inch)	(mm)	(Primary Voltage)	(Secondary Voltage)	(Output)			
	AT87A1049/U	2 15/16 in. deep x 2 7/32 wide	74.6 mm deep x 65.4 mm wide	120 Vac	26.5 V.O.C.	24 Vac at 48 VA	Foot-mounted	NEMA type E	Energy limiting overload protection
•	**AT87A1106/U**	2 15/16 in. deep x 2 7/32 wide	74.6 mm deep x 65.4 mm wide	120 Vac, 208 Vac, 240 Vac	26.5 V.O.C.	24 Vac at 48 VA	Foot mounted or 4x4 in plate.	NEMA type E	Built-in protection. Primary winding burnout.
	AT87A1155/U	2 15/16 in. deep x 2 7/32 wide	74.6 mm deep x 65.4 mm wide	480 Vac	26.5 V.O.C.	24 Vac at 48 VA	Foot-mounted	NEMA type E	Energy limiting overload protection
	AT87A1189/U	2 15/16 in. deep x 2 7/32 wide	74.6 mm deep x 65.4 mm wide	277 Vac	26.5 V.O.C.	24 Vac at 48 VA	Foot-mounted	NEMA type E	Energy limiting overload protection

** TRADELINE models • SUPER TRADELINE models*

Dimensions in inches (millimeters)



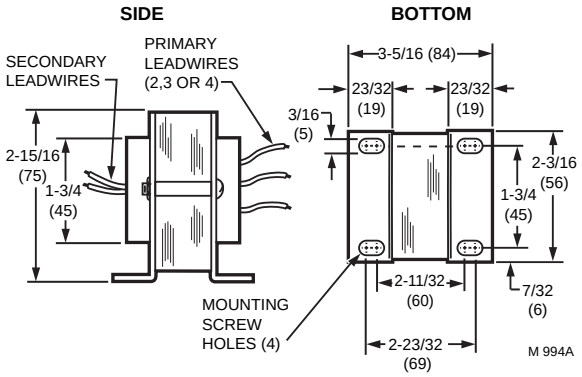
AT88 Transformer

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 50 Hz; 60 Hz
Electrical Connections (main):
Primary: 12 in. leadwires **(**305 mm leadwires)
Secondary: 12 in. leadwires **(**305 mm leadwires)
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: UL Component Recognized.

Powers 24 Vac air conditioning circuits and other applications that do not exceed the listed ratings.

- Meets NEC Class 2 not wet, Class 3 wet and U.L. 1585 requirements.
- Overload protection provided.
- Color-coded leadwires for primary connections.

Dimensions in inches (millimeters)



	Product Number	Electrical Ratings (Primary Voltage)	(Secondary Voltage)	(Output)	Mounting	Includes
	AT88A1005/U	120 Vac	26.5 V.O.C.	24 Vac at 75 VA	Foot-mounted	Internally fused secondary for overload protection.
*	**AT88A1021/U**	208 Vac, 240 Vac	26.5 V.O.C.	24 Vac at 75 VA	Foot-mounted	Internally fused secondary for overload protection.
	AT88A1047/U	480 Vac	26.5 V.O.C.	24 Vac at 75 VA	Foot-mounted	Internally fused secondary for overload protection.

** TRADELINE models • SUPER TRADELINE models*

Transformer Selection Guide

Transformer Selection Guide

Transformers (NEMA Rated)								
Electrical Ratings- VA	**Electrical Ratings - Input Voltage**	**Product Number**	**Mounting**	**Main Connections**	**Secondary Connections**	**Frequency**	**Dimensions (in.) H x W X D**	**Special Features**
19VA	120 Vac	AT20A1123/U	F	L	L	A	2 x 2 1/4 x 1 7/8	
40VA	120 Vac	AT40A1162/U	F	L	L	A	2 3/32 x 2 5/8 x 2 3/16	
	120 Vac	AT72D1006/U	P	L	S	A	3 7/32 x 2 7/32 x (1 1/16 into x 2 in. above plate)	
	120 Vac	AT72D1089/U	F	L	S	A	3 7/32 x 2 7/32 x 3 1/1	
	120 Vac	AT72D1188/U	P	L	L	A	3 7/32 x 2 7/32 x 2 15/1	
	120 Vac	AT72D1683/U	M	L	S	A	3 7/32 x 2 7/32 x 3 1/16	
	120 Vac	AT72D1956/U	M	L	L	A	3 7/32 x 2 7/32 x 3 1/16	Canada
	208 Vac, 240 Vac	AT72D1691/U	M	L	S	A	3 7/32 x 2 7/32 x 3 1/16	
	208 Vac, 240 Vac	AT72D1733/U	M	L	S	A	3 7/32 x 2 7/32 x 3 1/16	Canada
48VA	277 Vac	AT87A1189/U	F	L	L	A	2 15/16 x 2 7/32 x 2 1/4	
	480 Vac	AT87A1155/U	F	L	L	A	2 15/16 x 2 7/32 x 2 1/4	
50VA	120 Vac, 208 Vac, 240 Vac	AT87A1106/U	M	L	S	A	2 15/16 x 2 7/32 x 2 1/4	

Transformers (Not NEMA Rated)								
Electrical Ratings- VA	**Electrical Ratings - Input Voltage**	**Product Number**	**Mounting**	**Main Conne-ctions**	**Secondary Conn-ections**	**Frequency**	**Dimensions (in.) H x W X D**	**Special Features**
20VA	120 Vac	AT120B1028/U	F	L	L	B	1 11/16 x 3 3/16 x 1 3/4	
	120 Vac, 208 Vac, 240 Vac	AT120A1004/U	M	L	S	B	2 7/8 x 1 7/8 x 2 15/16	
40VA	120 Vac	AT140A1000/U	M	L	S	B	3 3/16 x 2 3/8 x 3 1/8	
	120 Vac	AT140B1206/U	F	L	L	B	1 11/16 x 3 1/2 x 1 3/4	
	120 Vac, 208 Vac, 240 Vac	AT140A1018/U	M	L	S	B	3 3/16 x 2 3/8 x 3 1/8	
	120 Vac, 208 Vac, 240 Vac	AT140B1214/U	F	L	L	B	1 11/16 x 3 1/2 x 1 3/4	
	208 Vac, 240 Vac	AT140B1024	F	L,Q	L	B	1 11/16 x 3 1/2 x 1 3/4	
50VA	120 Vac, 208 Vac, 240 Vac	AT150A1007/U	M	L	S	B	1 11/16 x 3 3/16 x 1 3/4	
	120 Vac, 208 Vac, 240 Vac	AT150B1146/U	F	L	L	B	1 11/16 x 3 1/2 x 1 3/4	
	120 Vac, 208 Vac, 240 Vac	AT150F1022/U	M	L	L	B	3 3/16 x 2 3/16 x 3 5/8	Button for resetting circuit breaker & metal end bells
	208 Vac, 277 Vac, 480 Vac	AT150F1030/U	M	L	L	B	3 3/16 x 2 3/16 x 3 5/8	Button for resetting circuit breaker & metal end bells
	277 Vac	AT150B1252/U	F	L, Q	L, Q	A	1 11/16 x 3 1/2 x 1 3/4	
75VA	120Vac	AT175B1055/U	F	L	L	B	2 1/3 x 3 9/16 x 2 1/3	
	120 Vac, 208 Vac, 240 Vac	AT175A1008/U	M	L	S	B	3 3/16 x 2 3/8 x 3 5/8	
	120 Vac, 208 Vac, 240 Vac	AT175F1023/U	M	L	L	B	3 3/16 x 2 3/16 x 3 15/16	Button for resetting circuit breaker & metal end bells
	208 Vac, 277 Vac, 480 Vac	AT175F1031/U	M	L	L	B	3 3/16 x 2 3/16 x 3 15/16	Button for resetting circuit breaker & metal end bells
	120 Vac	AT88A1005/U	F	L	L	A	2 15/16 x 2 3/16 x 3 5/16	
	208 Vac, 240 Vac	AT88A1021/U	F	L	L	A	2 15/16 x 2 3/16 x 3 5/16	
	480 Vac	AT88A1047/U	F	L	L	A	2 15/16 x 2 3/16 x 3 5/16	

Oil Primaries Cross Reference

Ignition Type	Universal*	Lockout Time (Sec.)	Blower Off Delay (Min)	Valve On Delay (Sec)	Alarm Contacts	Manual Trip Lever w/ LED Indicator	Honeywell Product	Beckett	Carlin Product	White-Rodgers Product	R7184U Service Part
Interrupted	**R7284U1004/U**	15	2/4/6	0/15	Yes	Yes	R7184U1004, R7184P1031, R7184P1049, R7184P1056, R7184P1064, R7184P1072	7505P125M	50200-02S, 602000-2S, 6020002S015120, 6020002S030015, 6020002S030015, 6020002S030030, 6020002S030120, 6020002S030300, 6020002S030010		R7184U1004
	R7284U1004/U	15			Yes	Yes	R7184A1026, R7184A1075, R7184A1000	7505A000	40200-02S	669-640,669-670	R7184U1004
	R7284U1004/U	15		15	Yes	Yes	R7184B1024, R7184B1032, R7184B1016	7505B1500			R7184U1004
	R7284U1004/U	15	0.25	15	Yes	Yes	R7184P1080, R7184P1098	7505P1515			R7184U1004
	R7284U1004/U	30	2/4/6	0/15	Yes	No	R7184U1012				R7184U1012
	R7284U1004/U	30				No	R7184A1018, R7184A1034		42230-02S	669-440,669-445, 669-470,669-540	R7184U1012
	R7284U1004/U	45	2/4/6	0/15	Yes	No	R7184U1020				R7184U1020
	R7284U1004/U	45					R7184A1042				R7184U1020
Intermittent	**R7284U1004/U**	15			Yes		R8184G1294, R8184G1302, R8184G4066, R8184G4074, R8184G4033, R8184G4090, R8184G1427, R8184G4058	7505A0000		668-601, 668-670	R7184U1004
	R7284U1004/U	30					R8184G1393, R8184G1302, R8184G4074, R8184G4033			668-501	R7184U1012
	R7284U1004/U	45				Yes	R8184G1286, R8184G1427, R8184G1458, R8184G4009, R8184G4025, R8184G4082, R8184G4108		48245-S	668-401, 668-0415, 668-430, 668-515	R7184U1020
	R7284U1004/U					Yes				668-430	
	R7284U1004/U				Yes	Yes (No LED)					

* The R7284 does not have integrated alarm contacts

Oil Primaries

R7284B,U Interrupted Electronic Oil Primary

The R7284B,P,U,G Electronic Oil Primary is a line voltage, safety rated, interrupted and intermittent ignition oil primary control for residential oil fired burners used in boilers, forced air furnaces and water heaters. The R7284B,P,U,G used with a cad cell flame sensor operates an oil burner, spark igniter, and optional oil valve. The control works with a low voltage and optional high voltage thermostat. The primary controls fuel oil, senses flame, controls ignition spark (either interrupted or intermittent) and notifies through the EnviraCOM™ bus a remote alarm circuit when in lockout.

The R7284 Series of Oil Primary Controls can be used with both hydronic and forced air systems. When used with hydronic systems, line voltage switching Aquastat® Controllers normally provide for the starting and stopping of the combustion sequences. With forced air systems, both mechanical and electronic low voltage thermostats control the starting and stopping of the combustion process.

Dimensions, Approximate: 4 5/32 in. long x 4 11/32 in. wide x 2 1/2 in. high (105.4 mm long x 110.5 mm wide x 63.5 mm high)
Ignition Type: Interrupted
Temperature Range: -40 F to +147 F (-40 C to +64 C)
Mounting Bracket: Junction box on main burner
Approvals
Underwriters Laboratories, Inc: UL and cUL Component Recognized

Product Number	Electrical Rating, Contacts	
	(Full Load)	(Locked Rotor)
R7284B1024/U	7.4 A @ 120 Vac; 3.7 a @ 240 Vac	44.4 A @ 120 Vac; 22.2 A @ 240 Vac
R7284U1004/U	7.4 A @ 120 Vac; 3.7 a @ 240 Vac	44.4 A @ 120 Vac; 22.2 A @ 240 Vac

Product Number	Electrical Connections	Timing, Safety Switch	Description
R7284B1024/U	Burner motor, oil valve, ignition, cad cell, limit, thermostat, alarm	15 sec.	Electronic Oil Primary with 15 seconds lock out timing
R7284U1004/U	Burner motor, oil valve, ignition, cad cell, limit, thermostat, alarm	Settable 15, 30 or 45 sec.	Electronic Oil Primary with selectable 15, 30 or 45 second lock out timing, selectable valve and blower delays, and two line LCD display

R8184G Protectorelay® Oil Burner Control

Provides automatic, nonrecycling control of an intermittent ignition oil burner system.
- Controls oil burner, oil valve (if desired) and the ignition transformer in response to a call for heat.
- Solid state flame sensing circuit.
- LED on terminal strip indicates system lockout.
- Remote lockout indication available on some models.
- Enclosed safety switch with external reset button.
- Manual trip lever opens safety switch for system maintenance.
- Mounts on standard 4 x 4 in. junction box; select models may be mounted directly on burner housing.
- C554A Cadmium Sulfide Flame Detector and 24 Vac thermostat required.

Dimensions, Approximate: 4 3/8 in. high x 4 1/8 in. wide x 2 1/2 in. deep (111 mm high x 104 mm wide x 64 mm deep)
Ignition Type: Intermittent
Temperature Range: -40 F to +130 F (-40 C to +54 C)
Mounting Bracket: For mounting on a standard 4 in. X 4 in. junction box or direct mounting on burner housing.
Approvals
Canadian Standards Association: CSA Certified; File no. LR95329-1
Underwriters Laboratories, Inc: UL Component Recognized; File no. MP268, Vol. 35 Sec. 1,3

Product Number	Electrical Rating, Contacts		Alarm Load Ratings	
	(Full Load)	(Locked Rotor)	(Pilot Duty)	(Resistive)
R8184G	7.4 A @ 120 Vac; 3.7 A @ 240 Vac	44.4 A @ 120 Vac; 22.2 A @ 240 Vac	75 VA @120/240 Vac, 50-60 Hz; 25 VA @ 24V, 50-60 Hz	1.5 A @ 120/ 240V, 50-60Hz; 3 A @ 24 V, 50-60 Hz

	Product Number	Timing, Safety Switch	Comments	Includes
*	**R8184G4009/U**	45 sec.	With LED for lockout indication, and manual trip lever on safety switch to assure burner shutdown during servicing.	—
*	**R8184G4025/U**	45 sec.	With LED for lockout indication, and manual trip lever on safety switch to assure burner shutdown during servicing.	Remote Alarm Power
*	**R8184G4066/U**	15 sec.	With LED for lockout indication, and manual trip lever on safety switch to assure burner shutdown during servicing.	—
*	**R8184G4074/U**	30 sec.	With LED for lockout indication, and manual trip lever on safety switch to assure burner shutdown during servicing.	—
*	**R8184G4082/U**	45 sec.	With LED for lockout indication, and manual trip lever on safety switch to assure burner shutdown during servicing. Includes remote alarm dry contacts.	Alarm

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R8184M Protectorelay® Oil Burner Control

Operates the oil burner and oil valve (if desired) in response to a call for heat from a low voltage control circuit.

- Ignition is on whenever the burner is on (intermittent ignition-also called constant ignition).
- Solid state flame sensing circuit.
- External button to manually reset safety switch after lockout.
- Enclosed safety switch must be manually reset after safety shutdown.
- R8184M includes 40 VA transformer and Y and G terminals for connection of cooling equipment.
- Mounts on standard 4 x 4 in. junction box.
- C554A Cadmium Sulfide Flame Detector and a 24 Vac thermostat required.

Dimensions, Approximate: 4 3/8 in. high x 4 1/8 in. wide x 2 1/2 in. deep (111 mm high x 104 mm wide x 64 mm deep)
Ignition Type: Intermittent
Temperature Range: -40 F to +130 F (-40 C to +54 C)
Approvals
Underwriters Laboratories, Inc: UL Component Recognized; File no. MP268, guide no. MCCZ2

Product Number	Electrical Rating, Contacts (Full Load)	Electrical Rating, Contacts (Locked Rotor)
R8184M1051/U	7.4 A @ 120 Vac; 3.7 a @ 240 Vac	44.4 A @ 120 Vac; 22.2 A @ 240 Vac

	Product Number	Timing, Safety Switch	Mounting Bracket	Description
*	**R8184M1051/U**	45 sec.	Mounts on standard 4 x 4 in. junction box	Protectorelay® Oil Burner Control with 45 seconds lock out timing

** TRADELINE models • SUPER TRADELINE models*

RA116; RA117 Protectorelay® Controls

One-piece, stack-mounted oil burner primary controls that cycle the burner on and shut down the burner on flame loss or system malfunction.

- Combine a Protectorelay® unit for cycling the burner and a Pyrostat® flame detector for sensing temperature changes of flue gases up to 1000 F (556 C).
- Manual reset of safety switch required after ignition failure completely shuts off main burner.
- Include manual trip safety switch to assure burner shutdown during servicing.
- Mount with flange for mounting on curved or flat surfaces.
- Use with line voltage or 24 Vac Control Circuit.

Dimensions, Approximate: 6 in. high x 5 3/16 in. wide x 3 3/16 in. deep (152 mm high x 132 mm wide x 81 mm deep)
Ignition Type: Intermittent

Approvals
Canadian Standards Association: CSA Certified; File no. LR95329-1
Underwriters Laboratories, Inc: UL Listed; File no.MP268, Guide no. MCCZ

	Product Number	Timing, Safety Switch	Mounting Bracket	Description
*	**RA116A1055/U**	75 sec. Nominal	Mount with flange for mounting on curved or flat surfaces.	Protectorelay® Oil Burner Control with 75 seconds lock out timing
*	**RA117A1047/U**	75 sec. Nominal	Mount with flange for mounting on curved or flat surfaces.	Protectorelay® Oil Burner Control with 75 seconds lock out timing

** TRADELINE models • SUPER TRADELINE models*

Oil Primary Control Parts

Product Number	Description
120320/U	Replacement Cell Assembly, 400-1600 Ohm Sensitivity
130367/U	Replacement Cell Assembly, 400-1000 Ohm Sensitivity
32611/U	Grommet (Bulk Mdse)
4074BJS/U	Oil line mounting bracket assembly, including nut and screw

Flame Detectors

C554 Cadmium Sulfide Flame Detector

Photoconductive flame sensing device for sequencing oil burner systems.

- On flame failure, the light sensitive cadmium sulfide cell, in conjunction with flame sensing circuitry, causes the Protectorelay® control to shutdown the main oil burner.
- Glass-to-metal hermetic seal in plug-in cell prevents deterioration by humidity, soot or oil fumes.

Dimensions, Approximate: 1 7/8 in. high x 1 in. long x 1/2 in. wide (47 mm high x 25 mm long x 13 mm wide)
CAD Cells: 130367 High Sensitivity CAD Cell 12 MA minimum sensitivity at 2 ft. candles
Temperature Range: 140 F (60 C)
Approvals
Canadian Standards Association: CSA Component Listed: File no. LR95329-1
Underwriters Laboratories, Inc: UL Listed: File no. MP268, Vol. 39, Sec. 1, Guide MCCZ

Accessories:
4074BJS-Oil line mounting bracket assembly, including nut and screw

Replacement Parts:
120320-Replacement Cell Assembly, 400-1600 Ohm Sensitivity
130367-Replacement Cell Assembly, 400-1000 Ohm Sensitivity

	Product Number	Lead Length (inch)	Lead Length (mm)	Electrical Connections	Mounting Bracket	Includes	Used With
•	**C554A1463/U**	60 in.	1524 mm	leadwires: NEC Class 1; Includes 2 flag 1/4 in. quick connects.	Type R	A, B, E, J and P mounting brackets and fuel line adaptor	R4166, R4184, R8182, R8184, R8185, R8404, R8991, R7997
*	**C554A1794/U**	60 in.	152.4 cm	leadwires: NEC Class 1	Type R	Type “E” mounting bracket and fuel line adaptor	R4166, R4184, R8182, R8184, R8185, R8404, R8991, R7997

** TRADELINE models • SUPER TRADELINE models*

V4046A,B Magnetic Valves

For ON-OFF control of oil flow to domestic oil burner equipment.
- Power interruption closes the valve immediately.
- Mount directly to pipeline or on support bracket.

Body Pattern: Straight through
Dimensions, Approximate: 2 3/4 in. high x 1 5/8 in. wide x 2 5/8 in. deep (70 mm high x 41 mm wide x 67 mm deep)
Current (max amps at rated Vac/Hz): 0.115 amps
Power Consumption: 8 W
Electrical Ratings: 120 Vac
Frequency: 60 Hz
Electrical Connections: Two 36-in. (914 mm) leadwires, 1/2 in. conduit bushing
Connection Type: NPT
Materials (Body): Aluminum
Mounting: Directly in pipe or on support bracket
Pressure Ratings: 150 psi (1034.2 kPa); 300 psi (2068.4 kPa)
Temperature Range: 32 F to 115 F (0 C to 46 C); 125 F max Fluid (54 C max Fluid)
Type of Fuel: #2 fuel oil
Approvals
Canadian Standards Association: File no. LR95329-1
Factory Mutual: Listed: Report 16960
Underwriters Laboratories, Inc: Listed: File no. MH1639, vol. 3, sec. 3, Guide no. YIOZ

Product Number	Pipe Size (inch)	Pipe Size (mm)	Maximum Operating Pressure (psi)	Maximum Operating Pressure (kPa)	Valve Opening Time	Valve Closing Time	Replacement Parts
V4046A1074/U	1/8 in.	3 mm	2068 kPa	300 psi	3 sec to 8 sec	1 sec maximum	116649A Coil Assembly

Magnetic Valve Accessories

Product Number	Description
116671A/U	Replacement Coil Assembly for 120V, 60 Hz V4046

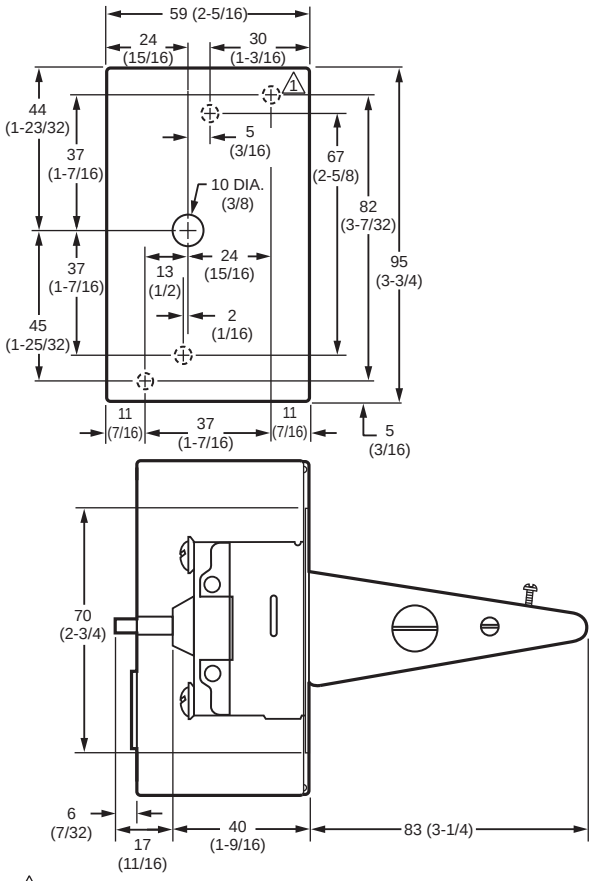
Fan and Limit Controllers

L4029 High Limit Controller

L4029E Reset Limit Control opens a line or low voltage circuit if the air temperature reaches a critical level at controller location. The primary usage of the L4029E is as a fire thermostat in the duct work of air conditioning and ventilating systems. If the circulated air reaches a temperature indicative of fire, the limit control shuts off the fan, preventing the fan from contributing to the spread of fire. It is also suitable for use with any warm air furnace to provide positive lockout of the burner in the event of fan failure.

- Shuts off the fan when air temperature is indicative of fire.
- Internal snap-acting switch actuated by a bimetal strip inserted directly into the air stream responds rapidly to temperature changes.
- Requires manual reset.

Dimensions in inches (millimeters)



1 5 (3/16) DIAMETER MOUNTING HOLES L4029E WITH CASE AND COVER.

MC27077

Maximum Ambient Temperature: Switch: 190 F; Sensing Element: 350 F (Switch: 88 C; Sensing Element: 177 C)

Switching Action: Normally closed SPST switch opens on temperature rise to the set point. Switch must be manually reset to operate.

Approvals

Canadian Standards Association: Certified: File No. LR95329-5

Underwriters Laboratories, Inc: Listed: File No. MP466, Vol. 8, Guide No. MBPR2

Product Number	Electrical Rating Limit		Pilot Duty
	(Full Load)	(Locked Rotor)	
L4029E	5 A @ 240 Vac; 10 A @ 120 Vac; 2 A @ 30 Vac	30 A @ 240 Vac; 60 A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc

	Product Number	Element Insertion Length		High Limit Stop
		(inch)	(mm)	
	L4029E1011/U	3 in.	76 mm	135 F
	L4029E1029/U	3 in.	76 mm	200 F
	L4029E1045/U	3 in.	76 mm	240 F
*	**L4029E1219/U**	3 in.	76 mm	165 F
*	**L4029E1227/U**	3 in.	76 mm	125 F

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Fan and Limit Control Accessories

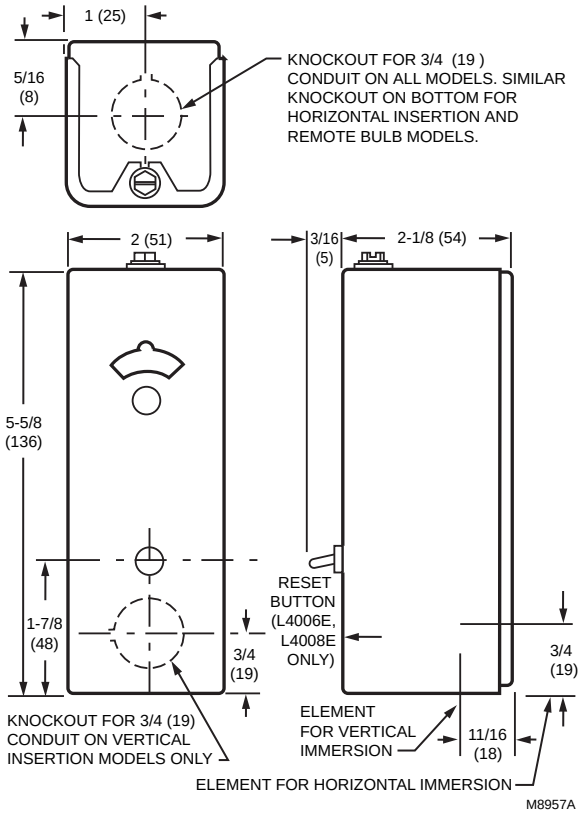
Product Number	Description	Used With
110265A/U	Mounting Flange Assembly for Fan and Limit Control	Limit stop Tool;

L4006; L6006 Aquastat® Controller

Aquastat® Controllers are immersion type devices for limiting or regulating the temperature of liquids in boilers, storage tanks, and other applications where temperature control is required.

- Totally enclosed Micro Switch™ snap-acting switches operate on temperature rise to setpoint.
- Vis ble control point scale and external adjustment screw permit easy setting.
- Horizontal or vertical insertion of the sensing element.
- Direct or well immersion of the sensing element.
- Models available for strap-on mounting.
- Remote bulb model may be used to sense air temperature in ducts and in outside air sensing applications.
- TRADELINE models include heat-conductive compound.
- Select models have wells.

Dimensions in inches (millimeters)



Case Dimensions: 5 5/8 in. high x 2 in. wide x 2 1/8 in. deep (143 mm high x 51 mm wide x 54 mm deep)
Maximum Ambient Temperature: 150 F (66 C)
Bulb Size: 3/8 in. x 2 7/8 in. copper (10 mm x 73 mm copper)
Approvals
American Gas Association IAS: AGA Certified
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Component Recognized: File No. MP466, Vol. 6, Sec.1, Guide No. MBPR2

Product Number	Electrical Ratings		
	(Full Load)	(Locked Rotor)	(Millivolt)
L4006A1009/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A1017/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A1132/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A1678/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A1959/U	1.3A @ 240 Vac; 2.6A @ 120 Vac	7.8A @ 240 Vac; 15.6A @ 120 Vac	—
L4006A1967/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006A2007/U	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006B	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L4006E,H	1.3A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc
L6006A,C	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc

	Product Number	Application	Differential Temperature		Well Spud Size		Capillary Length		Switching Action	Operating Temperature Range		Mounting	Includes
			(F)	(F)	(inch)	(mm)	(inch)	(mm)		(F)	(F)		
	L4006A1009/U	High or Low limit	5 F Fixed	3 C fixed	1/2 in. NPT	13 mm NPT	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
	L4006A1017/U	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	1/2 in. NPT	13 mm NPT	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
	L4006A1132/U	High or Low limit	5 F Fixed	3 C fixed	3/4 in. NPT	19 mm NPT	3 in.	76 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Stop factory-set at 160 F (71 C); 3/4 in. well - 123871A
*	**L4006A1678/U**	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Heat-conductive compound; Stop factory-set at 240 F (116 C)
*	**L4006A1959/U**	High or Low limit	5 F Fixed	3 C fixed	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	40 F to 180 F	4 C to 82 C	Horizontal or Vertical	Heat-conductive compound

** TRADELINE models • SUPER TRADELINE models*

Aquastat Controllers

	Product Number	Application	Differential Temperature (F)		Well Spud Size (inch)		Capillary Length (inch)		Switching Action	Operating Temperature Range (F)		Mounting	Includes
			(F)	(F)	(inch)	(mm)	(inch)	(mm)		(F)	(F)		
*	**L4006A1967/U**	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	1/2 in.	13 mm	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Stop factory-set at 240 F (116 C); 1/2 in. well - 123869A
	L4006A2007/U	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal	—
	L4006B1007/U	Circulator	5 F Fixed	3 C fixed	1/2 in.	13 mm	1 1/2 in.	38 mm	SPST, contacts make on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
*	**L4006B1155/U**	Circulator	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPST, contacts make on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Heat-conductive compound; Stop factory-set at 240 F (116 C)
	L4006B1163/U	Circulator	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPST, contacts make on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	—
*	**L4006E1067/U**	High Limit; Manual Reset	Manual Reset	Manual Reset	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	Well adapter; Stop factory-set at 250 F (121 C); Heat-conductive compound
	L4006E1091/U	High Limit; Manual Reset	Manual Reset	Manual Reset	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	—
	L4006E1109/U	High Limit; Manual Reset	Manual Reset	Manual Reset	—	—	1 1/2 in. to 3 in.	38 mm to 76 mm	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	—
	L4006E1117/U	High Limit; Manual Reset	Manual Reset	Manual Reset	3/4 in. - 14 NPT	19 mm - 14 NPT	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	3/4 in. well - 123870A
	L4006E1125/U	High Limit; Manual Reset	Manual Reset	Manual Reset	—	—	3 in.	76 mm	SPST, contacts break on temperature rise.	100 F to 200 F	38 C to 93 C	Horizontal or Vertical	—
*	**L4006H1004/U**	High Limit; strap-on mounting on well mount.	Manual Reset	Manual Reset	—	—	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Bracket for strap-on mounting; Heat-conductive compound; Stop factory-set at 240 F (116 C)
	L6006A1004/U	Circulator Control and High Limit or Low Limit	5 F	3 C	1/2 in.	13 mm	1 1/2 in.	38 mm	SPDT	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
	L6006A1012/U	Circulator Control and High Limit or Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	1/2 in.	13 mm	1 1/2 in.	38 mm	SPDT	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	1/2 in. well - 123869A
	L6006A1145/U	Circulator Control and High Limit or Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPDT	100 F to 240 F	38 C to 116 C	Horizontal	Heat-conductive compound; Stop factory-set at 240 F (116 C)
	L6006A1244/U	Circulator Control and High Limit or Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	3 in.	76 mm	SPDT	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	—
*	**L6006C1018/U**	Circulator Control and High Limit or Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	—	—	—	SPDT	65 F to 200 F	18 C to 93 C	Horizontal or Vertical or Strap-on-mounting	Stop factory-set at 200 F (93 C)

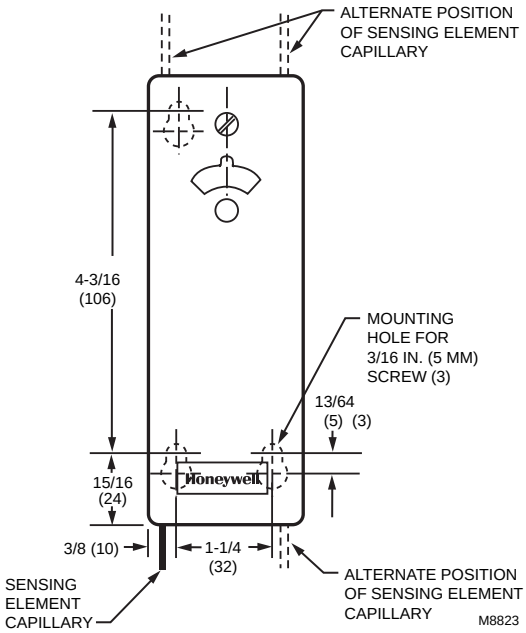
** TRADELINE models • SUPER TRADELINE models*

L4008; L6008 Remote Bulb Controller

Aquastat® Controllers are immersion type devices for limiting or regulating the temperature of liquids in boilers, storage tanks, and other applications where temperature control is required.

- Remote temperature sensing element detects and responds rapidly to temperature changes.
- Totally enclosed Micro Switch™ snap-acting switch.
- Vis ble control point scale and external adjustment screw permit easy setting.
- Horizontal or vertical mounting of the remote element into boiler, tank, or other container.
- Case mounts to a vertical surface.

Dimensions in inches (millimeters)



Case Dimensions: 5 5/8 in. high x 2 in. wide x 2 1/8 in. deep (143 mm high x 51 mm wide x 54 mm deep)
Maximum Ambient Temperature: 150 F (66 C)
Bulb Size: 3/8 in. x 2 7/8 in. copper (10 mm x 73 mm copper)
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Component Recognized: File No. MP466, Vol. 6, Sec.1, Guide No. MBPR2

Product Number	Electrical Ratings		
	(Full Load)	(Locked Rotor)	(Millivolt)
L4008A,B,E L6008A	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac	0.25 A @ 0.25 to 12 Vdc

	Product Number	Application	Differential Temperature (F)	Differential Temperature (F)	Capillary Length (inch)	Switching Action	Operating Temperature Range (F)	Operating Temperature Range (F)	Mounting	Includes
	L4008A1015/U	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	66 in.	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	5 1/2 ft (1.7 m) capillary
	L4008A1130/U	High or Low limit	5 F to 30 F adj.	3 C to 17 C adj.	120 in.	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	Stop factory-set at 200 F (93 C)10 ft (3.04 m) capillary
	L4008B1013/U	Circulator	5 F to 30 F adj.	3 C to 17 C adj.	66 in.	SPST, contacts make on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	5 1/2 ft (1.7 m) capillary
*	**L4008E1156/U**	High Limit; Manual Reset	Manual Reset	Manual Reset	66 in.	SPST, contacts break on temperature rise.	130 F to 270 F	54 C to 132 C	Horizontal or Vertical	5 1/2 ft (1.7 m) capillary; Stop factory-set at 250 F (121 C); Heat-conductive compound
*	**L4008E1305/U**	High Limit; Manual Reset	Manual Reset	Manual Reset	66 in.	SPST, contacts break on temperature rise.	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Stop factory-set at 240 F (116 C)
	L4008E1313/U	High Limit; Manual Reset	Manual Reset	Manual Reset	66 in.	SPST, contacts break on temperature rise.	100 F to 200 F	38 C to 116 C	Horizontal or Vertical	—
*	**L6008A1192/U**	Circulator Control and Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	SPDT	100 F to 240 F	38 C to 116 C	Horizontal or Vertical	Stop factory-set at 240 F (116 C)66 in. capillary
	L6008A1242/U	Circulator Control and Low Limit	5 F to 30 F adj.	3 C to 17 C adj.	—	SPDT	100 F to 200 F	38 C to 93 C	Horizontal or Vertical	66 in. capillary

** TRADELINE models • SUPER TRADELINE models*

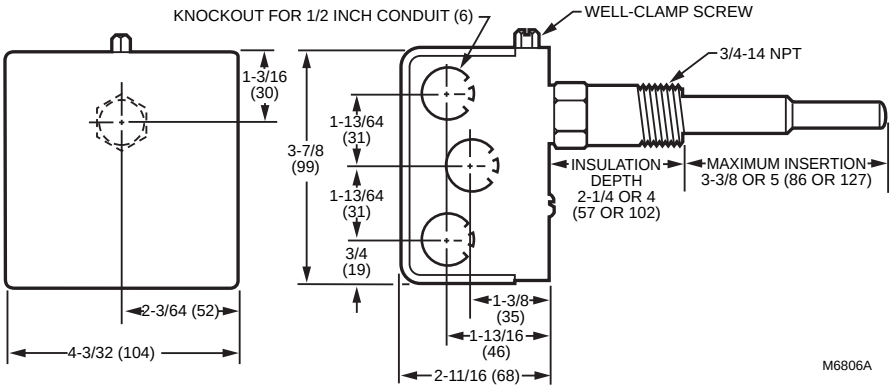
Aquastat Controllers

L4103 Combination Aquastat® and High Limit Controller

The L4103A,B is an immersion-type controller for oil-fired water heaters. The Aquastat® Controller senses water temperature and cycles the burner through the oil primary. The high-limit controller breaks the circuit to the burner on a temperature rise past the factory-set setpoint. The L4103C is an immersion-type controller for gas systems that provides water temperature regulation. The high-limit controller breaks the circuit to the burner on a temperature rise past the factory-set setpoint.

- L4103A,B,C have a sensing element and a high limit sensor with automatic reset.
- Mounts on a horizontal immersion well in water heater wall.
- Adjustable temperature setting scale.
- Fluid-filled element operates SPST, Micro Switch™ snap-acting switch.
- Integral, nonadjustable high limit. L4103C is an immersion controller for gas systems.
- L4103A,B is an immersion controller for oil systems.

Dimensions in inches (millimeters)



Case Dimensions: 4 3/32 in. wide x 3 7/8 in. high x 2 11/16 in. deep (104 mm wide x 99 mm high x 68 mm deep.)

Electrical Ratings

Full Load: 5A @ 240 Vac; 8A @ 120 Vac

Locked Rotor: 30A @ 240 Vac; 48A @ 120 Vac

Operating Temperature Range: 100 F to 240 F stop set at 150 F (Scale marked- Hot-Normal-Warm) (38 C to 116 C stop set at 66 C (sCale marked- Hot-Normal-Warm))

Approvals

Underwriters Laboratories, Inc: UL Component Recognized: File No. MP466, Guide No. MBPR2.

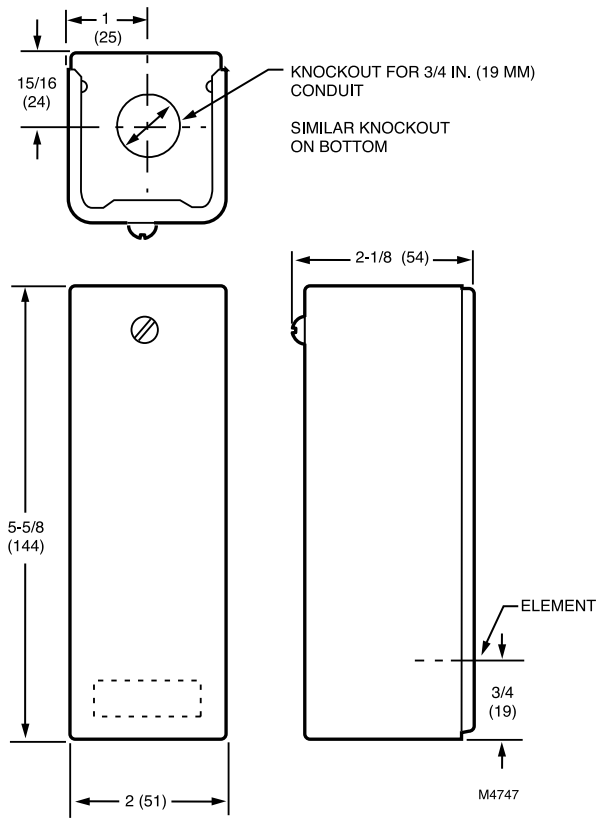
Product Number	Application	Differential Temperature (F)	Differential Temperature (F)	Well Spud Size (inch)	Well Spud Size (mm)	Insulation Depth (inch)	Insulation Depth (mm)	Switching Action	Mounting
L4103A1019/U	High Limit	7 F ± 4 F	3.9 C ± 2 C	3/4 in. NPT	19 mm NPT	4 in.	102 mm	SPST, contacts break on temperature rise.	Mounts on a horizontal immersion well in water heater wall.
L4103A1100/U	High Limit	7 F ± 4 F	3.9 C ± 2 C	3/4 in. NPT	19 mm NPT	2 1/4 in.	57 mm	SPST, contacts break on temperature rise.	Mounts on a horizontal immersion well in water heater wall.

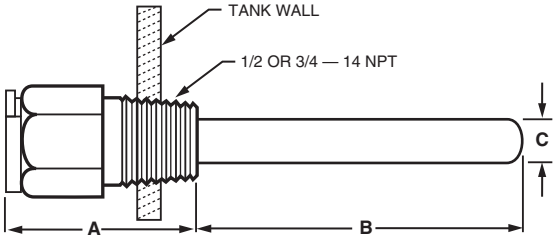
L8100 Aquastat® Controller

L8100A,B, and C are immersion type controllers for regulating and limiting the tank temperature in water heaters. As the water temperature rises past the setpoint, the controller switches off the gas valve.

- Regulates temperature and provides energy cutoff (ECO) action on a temperature rise past the setpoint.
- Includes a second sensing element that senses average water temperature to minimize stacking.
- Fluid-filled element operates Micro Switch™ SPST snap-acting switch.
- ECO switch interrupts the thermocouple circuit or main valve before tank reaches 210 F (99 C) maximum temperature.
- Includes factory-installed immersion well on controller.
- Internal adjustment screw.
- Special switch terminal provides three-wire hookup from Aquastat® controller to gas valve.

Dimensions in inches (millimeters)





	CONTROLLER WELL		REMOTE WELL	
	IN.	MM	IN.	MM
A INSULATION DEPTH	2-1/4	57	1-1/2 OR 2-1/2	38 OR 64
B INSERTION DEPTH	5	127	3	76
C WELL DIAMETER	7/16	11	7/16	11

M4746

Case Dimensions: 5 5/8 in. high x 2 in. wide x 2 1/8 in. deep (136 mm high x 51 mm wide x 54 mm deep)
Temperature Rating (ECO) Energy Cutoff: 190 F
Electrical Ratings
Millivolt: 2A maximum at 24 Vac.
Maximum Ambient Temperature: Maximum Tank: 210 F (Maximum Tank: 99 C)
Operating Temperature Range: 100 F to 180 F (38 C to 82 C)
Differential Temperature: Controller: 5 F, fixed. Energy Cutoff Switch: 20 F, fixed (Controller: 3 C fixed; Energy Cutoff Switch: 11 C fixed.)
Approvals
American Gas Association IAS: Design Certified: Report Number 23-11B
Underwriters Laboratories, Inc: UL Component Recognized: File No. MP466, Guide No. MBPR2

Product Number	Application	Bulb Size (inch)	Bulb Size (mm)	Capillary Length (inch)	Insulation Depth (inch)	Insulation Depth (mm)	Switching Action	Mounting	Includes
L8100B1037/U	High Limit	3/8 in.	10 mm	42 in.	controller well: 2 1/4 in. remote well: 1 1/2 or 2 1/2 in.	controller well: 57 mm, remote well: 38 mm or 64 mm	SPST, contacts break on temperature rise.	Immersion Well	—
L8100B1094/U	High Limit	3/8 in.	10 mm	54 in.	controller well: 2 1/4 in. remote well: 1 1/2 or 2 1/2 in.	controller well: 57 mm, remote well: 38 mm or 64 mm	SPST, contacts break on temperature rise.	Immersion Well	Two zinc plated wells and one well clamp for remote well.
L8100B1128/U	High Limit	3/8 in.	10 mm	39 in.	1 1/2 in.	38 mm	SPST, contacts break on temperature rise.	Immersion Well	—

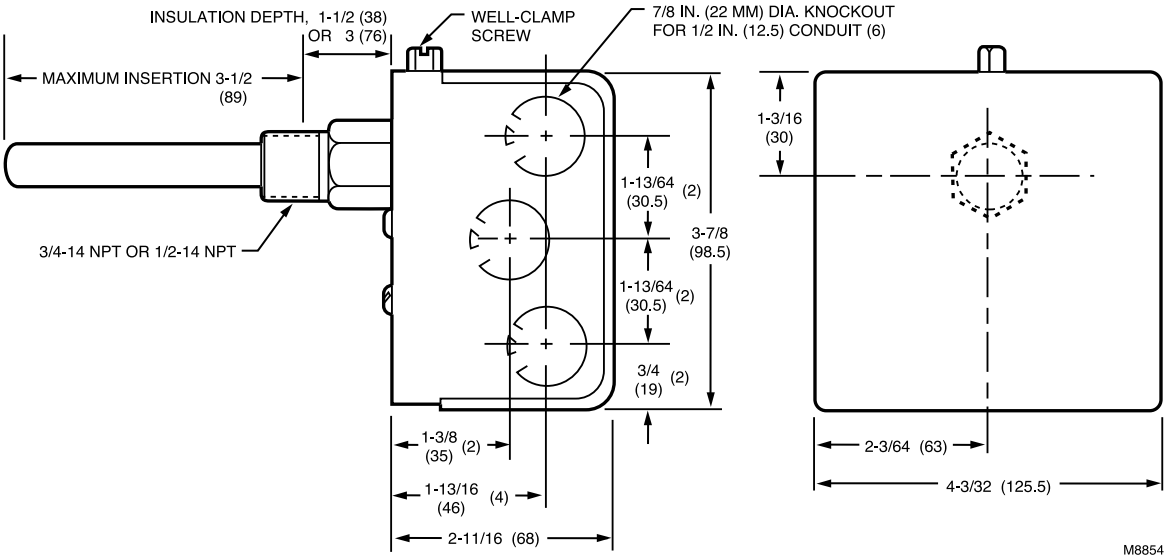
Aquastat Controllers

L4081; L6081 Multiple Aquastat® Controllers

High limit, low limit and/or circulator controllers used to regulate boiler water temperature in gas- or oil-fired hydronic heating systems.

- An immersion type liquid-filled sensing element actuates two snap switches.
- One switch operates as a high limit control.
- The other switch operates as a low limit and/or circulator control, depending on the model.
- Controller may be mounted in any positioning and needs no leveling.
- Separate, easy-to-read, calibrated dial and setpoint adjustments for each switch.
- Differential adjustment on low limit or circulator switch.
- All adjustments accessible inside front cover.
- Push-in terminals for quick connecting.
- Single sensing element for easy installation.
- One SPST and one SPDT snap switches act independently at respective temperature settings.

Dimensions in inches (millimeters)

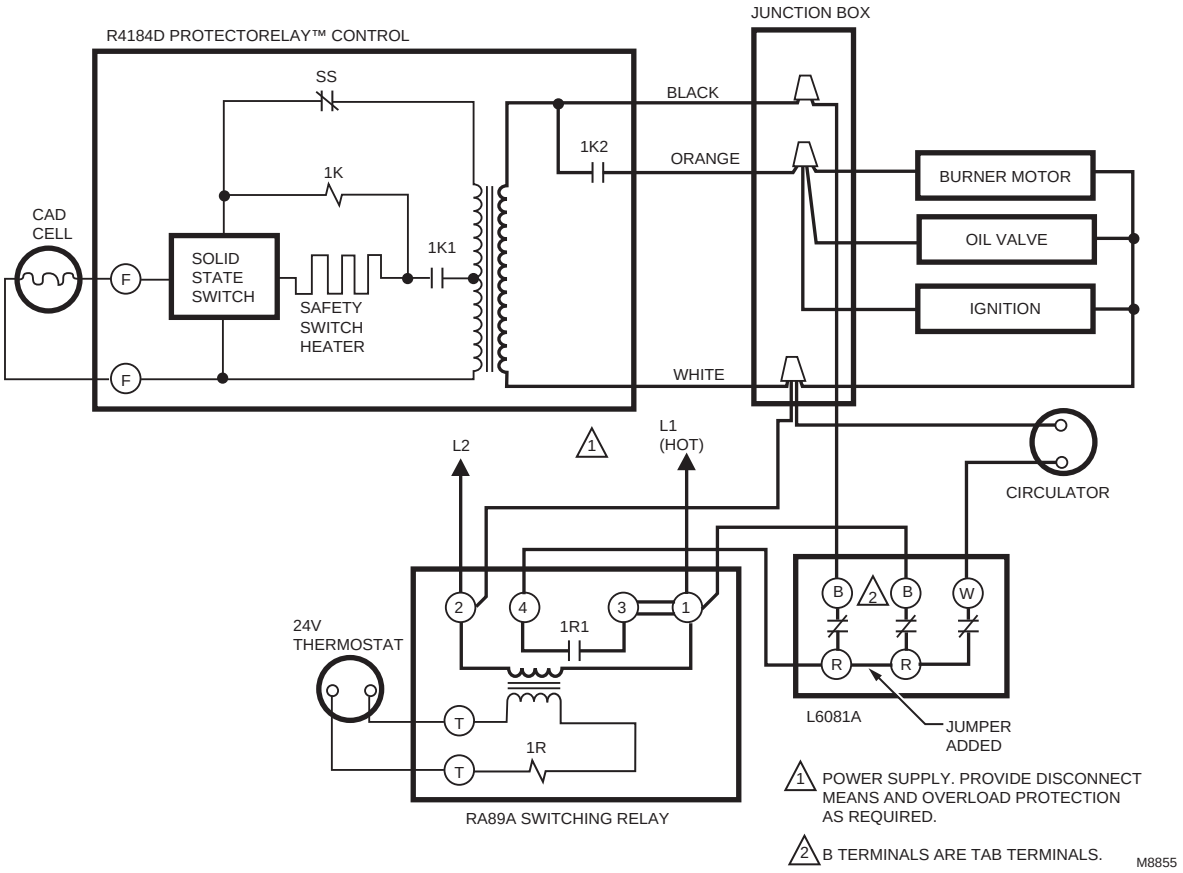


Electrical Ratings (ignition): Transformer Load: 360 VA
Maximum Ambient Temperature: 150 F at switches; 265 F at sensing element (66 C at switches; 129 C at sensing element)
Operating Range, High Limit: 130 F to 240 F (54 C to 116 C)
Operating Range, Low Limit: 110 F to 220 F (43 C to 104 C)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Listed: File No. MP466, Vol. 12, Sec. 4, Guide No. MBPR2

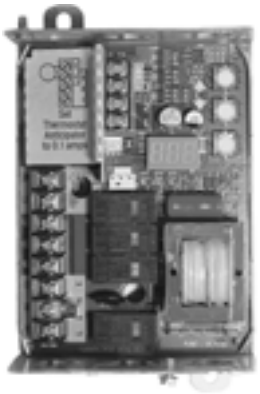
Product Number	Electrical Ratings		
		(AFL)	(AFL)
L4081A,B	0.25 A @ 0.25 to 12 Vdc	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac
L6081A	0.25 A @ 0.25 to 12 Vdc	5.1A @ 240 Vac; 8A @ 120 Vac	30.6A @ 240 Vac; 48A @ 120 Vac

	Product Number	Application	Differential Temperature (F)	Insulation Depth (inch)	Insulation Depth (mm)	Spud Size (inch)	Switching Action	Mounting	
	L4081A1023/U	High and Low limit	High limit: 10 F fixed; low limit: 10-25 F adj.	1 1/2 in.	38 mm		SPST: High & Low Limit	Horizontal	—
	L4081B1047/U	High Limit and Circulator	High limit: 10 F fixed; low limit: 10-25 F adj.	1 1/2 in.	38 mm		SPST: High Limit & Circulator	Horizontal	—
	L4081B1096/U	High Limit and Circulator	10 F fixed	3 in.	76 mm	—	SPST: High Limit & Circulator	Horizontal	—
*	**L6081A1036/U**	High and Low limit	High limit: 10 F fixed; low limit: 10-25 F adj.	1 1/2 in. to 4 in.	38 mm		—	Horizontal	—

** TRADELINE models • SUPER TRADELINE models*



L7224U Oil Electronic Aquastat® Controller



The L7224U Oil Electronic Aquastat® Controller provides electronic temperature sensing in a UL limit-rated controller with a single sensing probe. The L7224U controls the circulator, oil burner and boiler temperature. The L7224U replaces the L8124A, L8124C, L7124U, L7148A, L7248A,C, L7224A,C, and L8148A Controllers. The Aquastat Controller is intended for use in residential-type applications. The L7224U provides status and diagnostic information through an LED display combined with EnviraCOM communication and LED lights to enhance the diagnostic process.

- 2012 DOE Compliance and operation

Dimensions, Approximate: 7 1/8 in. high x 4 1/4 in. wide x 2 5/8 in. deep (181 mm high x 109 mm wide x 67 mm deep)
Maximum Power Consumption: 2000 VA
Voltage: 120 Vac
Frequency: 60 Hz
Maximum Ambient Temperature: 150 F (66 C)
Minimum Ambient Temperature: -30 F (-9 C)
Operating Range, High Limit: 130 F to 240 F (54 C to 116 C)
Operating Range, Low Limit: 110 F to 220 F (43 C to 104 C)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Approvals
Underwriters Laboratories, Inc: Recognized

	Electrical Ratings			
	Burner		Circulator	
	(AFL)	(ALR)	(AFL)	(ALR)
L7224R	7.4 A @ 120 Vac	44.4 A inrush	7.4 A @ 120 Vac	44.4 A inrush

Product Number	Application	Differential Temperature (F)	Mounting	Includes
L7224R1000/U	Oil Aquastat Controller with Outdoor Reset Module	High limit: 5-20 F adj.; low limit: 10-25 F adj.	Well mount, horizontal or vertical position, or flush mounted remote from the well.	W8735S1000
L7224U1002/U	Oil Aquastat Controller	High limit: 5-20 F adj.; low limit: 10-25 F adj.	Well mount, horizontal or vertical position, or flush mounted remote from the well.	—

Aquastat Controllers

L8124 Triple Aquastat® Relay

Immersion-type controllers that combine high limit protection with low limit and circulator control in forced hydronic heating systems, including domestic hot water service.

- Immersion-type controllers that combine high limit protection with low limit and circulator control in forced hydronic heating systems.
- Provide multizone control by using a separate circulator and R845 Relay for each zone.
- Include diaphragm powerhead and Micro Switch® assembly that respond to temperature changes in boiler water.
- Mount directly to boiler.
- Select models include large transformers and extra terminals for supplying power to low voltage zone valves.
- Require 24 Vac thermostat with heat anticipator set at 0.2 A (plus current draw of gas valve on L8124E).
- TRADELINE models include tube of heat conductive compound and range stops.

Voltage: 120 Vac
Maximum Ambient Temperature: 150 F at switches; 265 F at sensing element (66 C at switches, 129 C at sensing element.)
Operating Range, High Limit: 130 F to 240 F adj. (54 C to 116 C adj.)
Operating Range, Low Limit: 110 F to 220 F adj. (43 C to 104 C adj.)
Maximum Operating Pressure: 200 psi on outside of immersion well, 100 psi on capsule if inserted directly. (1378 kPa on outside of immersion well, 690 kPa on capsule if inserted directly.)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O

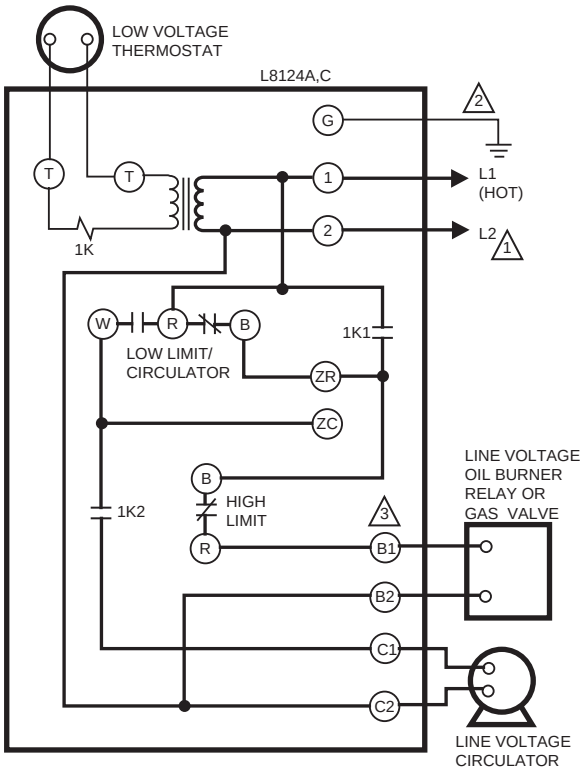
Underwriters Laboratories, Inc: UL Listed (models with well): File No. MP466, Guide No. MBPR; UL Component Recognized (models without well): File No. MP466, Guide No. MBPR2

Burner		Circulator	
(AFL)	(ALR)	(AFL)	(ALR)
3.7 A @ 240 Vac; 7.4 A @ 120 Vac	22 2 A @ 240 Vac; 44.4 A @ 120 Vac	3.7 A @ 240 Vac; 7.4 A @ 120 Vac	22.2 A @ 240 Vac; 44.4 A @ 120 Vac

Replacement Parts:
L7224U1002-120 Vac Oil Electronic Aquastat® Controller with Enviracom communication and troubleshooting Leds

	Product Number	Application	Differential Temperature (F)	Insulation Depth (inch)	Insulation Depth (mm)	Switching Action	Mounting	Includes
	L8124A1007/U	High Limit Protection, Low Limit and Circulation Control	High limit: 10 F fixed; low limit: 10-25 F adj.	1 1/2 in.	38 mm	—	Vertical Mount	3 in. insertion well.
	L8124A1015/U	High Limit Protection, Low Limit and Circulation Control	High limit: 10 F fixed; low limit: 10-25 F adj.	3 in.	76 mm	—	Vertical Mount	3 in. insertion well and ground screw.
	L8124C1003/U	Triple Aquastat Relay with High limit	High limit: 10 F fixed; low limit: 10-25 F adj.	—	—	SPST: High & Low Limit	Horizontal	—
*	**L8124E1016/U**	Triple Aquastat Relay with High limit	High limit: 10 F fixed; low limit: 10-25 F adj.	—	—	SPST: High & Low Limit	Vertical Mount	—
	L8124G1020/U	Triple Aquastat Relay with High limit	High limit: 10 F fixed; low limit: 10-25 F adj.	—	—	SPST: High & Low Limit	Vertical Mount	—
	L8124L1011/U	Triple Aquastat Relay with High limit	High limit: 10 F fixed; low limit: 10-25 F adj.	—	—	SPST: High & Low Limit	Horizontal	—

** TRADELINE models • SUPER TRADELINE models*

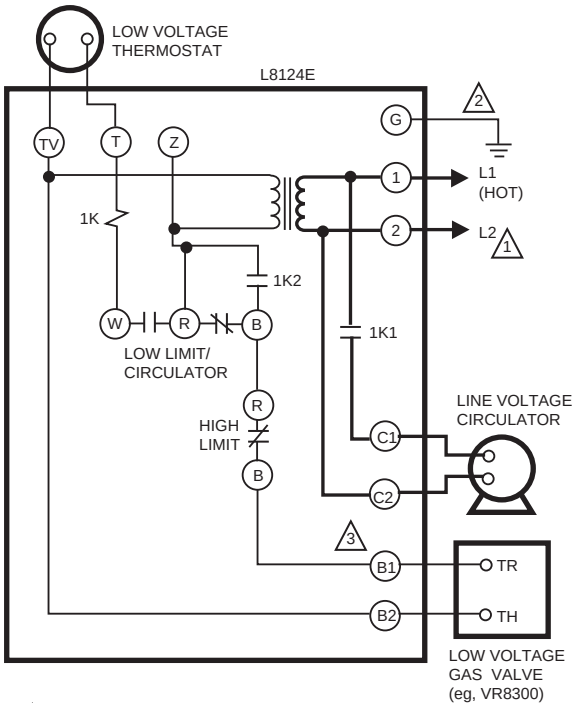


1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

3 B1 IS 1/4 IN. TAB TERMINAL.

M8802



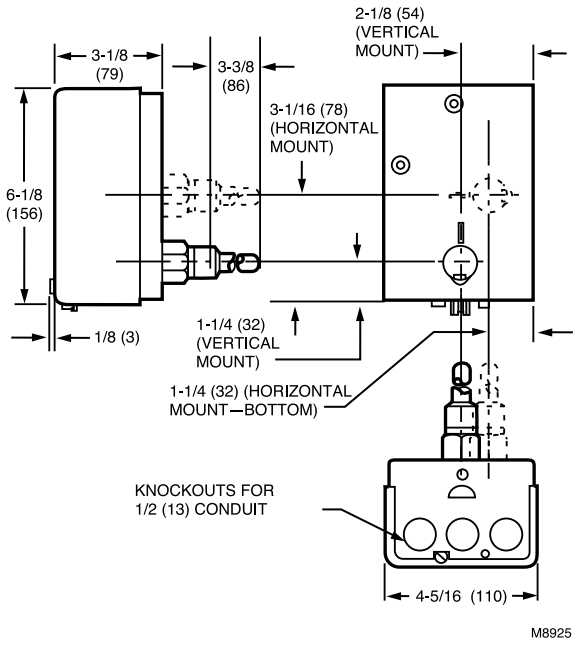
1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

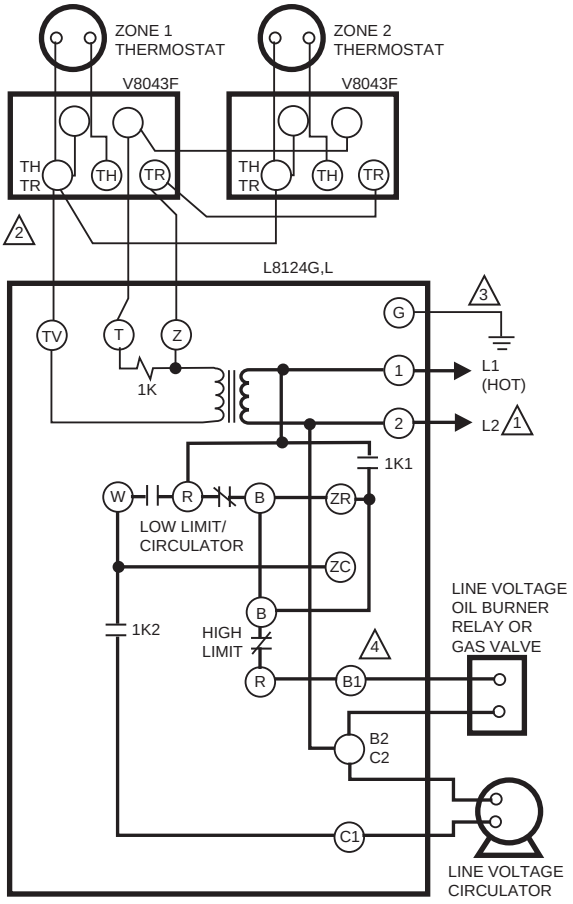
3 B1 IS 1/4 IN. TAB TERMINAL.

M8803

Dimensions in inches (millimeters)



M8925



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 UP TO TWO V8043F ZONE VALVES CAN BE POWERED WITH L8124G,L. ADD ADDITIONAL TRANSFORMER FOR EVERY TWO OR LESS VALVES.

3 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

4 B1 IS 1/4 IN. TAB TERMINAL.

M1795B

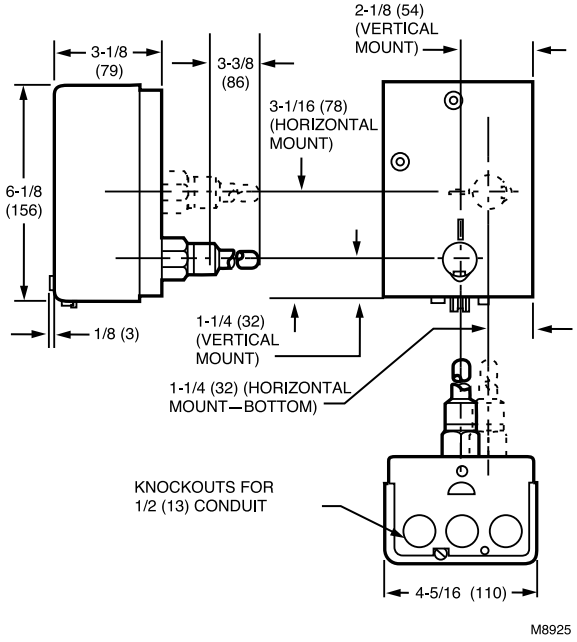
Aquastat Controllers

L8148 Aquastat® Relay

Immersion-type controllers that combine high limit protection with switching relay control of burner and circulator motors.

- High limit opens burner circuit only.
- Include transformer and accessory terminals for adding a remote low limit controller.
- Case available for horizontal or vertical mounting.
- Requires a 24 Vac thermostat with heat anticipator set at 0.2A.
- TRADELINE models include well adapter, tube of heat conductive compound and range stops.

Dimensions in inches (millimeters)



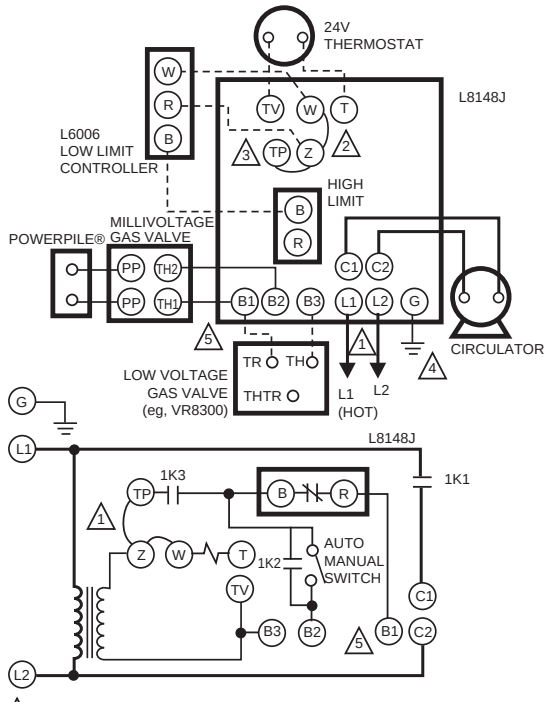
Anticipator Setting: 0.2 A
Voltage: 120 Vac
Frequency: 60 Hz
Electrical Connections: Quick-Connect / Screw

Maximum Ambient Temperature: 150 F with 1.2 A 24 V load; 77 F with 1.4 A 24 V load (66 C with 1.2 A 24 V load; 25 C with 1.4 A 24 V load)
Setpoint Temperature Range: 240 F (116 C)
Operating Range, High Limit: 120 F to 240 F (54 C to 116 C)
Maximum Operating Pressure: Immersion Well: 255 psi (Immersion Well: 1757 kPa)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Capillary Length: 4 1/2 in. (114 mm)
Switching Action: SPST: High Limit & Circulator
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O
Underwriters Laboratories, Inc: UL Listed: File No. MP466, Vol. 13, Sec. 2, Guide No. MBPR2.
Electrical Ratings:
(burner millivolt): 0.25 A @ 1/4 to 12 Vdc
(circulator AFL): 3.7 A @ 240 Vac; 7.4 A @ 120 Vac
(circulator ALR): 22.2 A @ 240 Vac; 44.4 A @ 120 Vac

Product Number	Electrical Ratings			
		(AFL)	(burner AFL)	(burner ALR)
L8148A	—	—	Line Voltage: 7.4 A @ 120 Vac; 3.7 A @ 240 Vac	Line Voltage: 44.4 A @ 120 Vac; 22.7 A @ 240 Vac
L8148E	0 25 A @ 0.25 to 12 Vdc	22.2A @ 240 Vac; 44.4A @ 120 Vac	Low Voltage: 0.8 A max. @ 24 Vac; Line Voltage: 7.4 A @ 120 Vac; 3.7 A @ 240 Vac	Line Voltage: 44.4 A @ 120 Vac; 22.7 A @ 240 Vac
L8148J	—	—	3.7 A @ 240 Vac; 7.4 A @ 120 Vac	22 2 A @ 240 Vac; 44.4 A @ 120 Vac

	Product Number	Application	Differential Temperature (F)	Insulation Depth (inch)	Insulation Depth (mm)	Mounting	Includes
*	**L8148A1017/U**	High Limit	8 F fixed	1 1/2 in. to 3 in. less well	38 mm to 76 mm less well	Horizontal	—
*	**L8148E1265/U**	High Limit	15 F fixed	1 1/2 in. to 3 in. less well	38 mm to 76 mm less well	Vertical Mount	Molex® plug for use with vent damper, includes heat-conductive compound.Molex® plug for use with vent damper, includes heat-conductive compound.
	L8148E1299/U	High Limit	15 F fixed	1 1/2 in. to 3 in. less well	38 mm to 76 mm less well	Vertical Mount	50 VA transformer and heat conductive compound.
*	**L8148J1009/U**	Aquastat Relay	8 F fixed	1 1/2 in. to 3 in. less well.	38 mm to 76 mm less well	Horizontal or Vertical	—

** TRADELINE models • SUPER TRADELINE models*



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

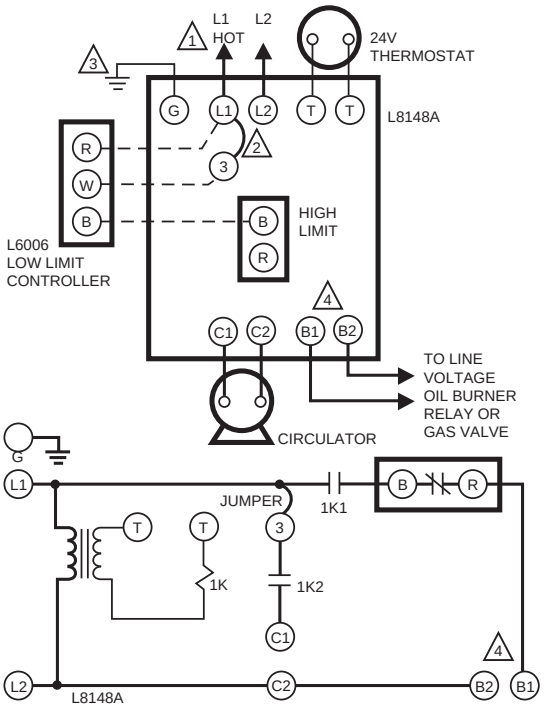
2 REMOVE Z-W JUMPER IF SERIES 60 LOW LIMIT IS USED. WIRE LOW LIMIT CONTROLLER OR ZONE VALVES AS SHOWN. USE WITH 24V (B1-B3) CIRCUIT ONLY.

3 FOR 24V BURNER, WIRE B1-B3 AND USE JUMPER Z-W AND TP-Z. FOR POWERPILE® (MILLIVOLTAGE) GAS VALVES, REMOVE JUMPER TP-Z AND WIRE BURNER B1-B2. JUMPER Z-W REMAINS IN POSITION.

4 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

5 B1 IS 1/4 IN. TAB TERMINAL.

M1793B



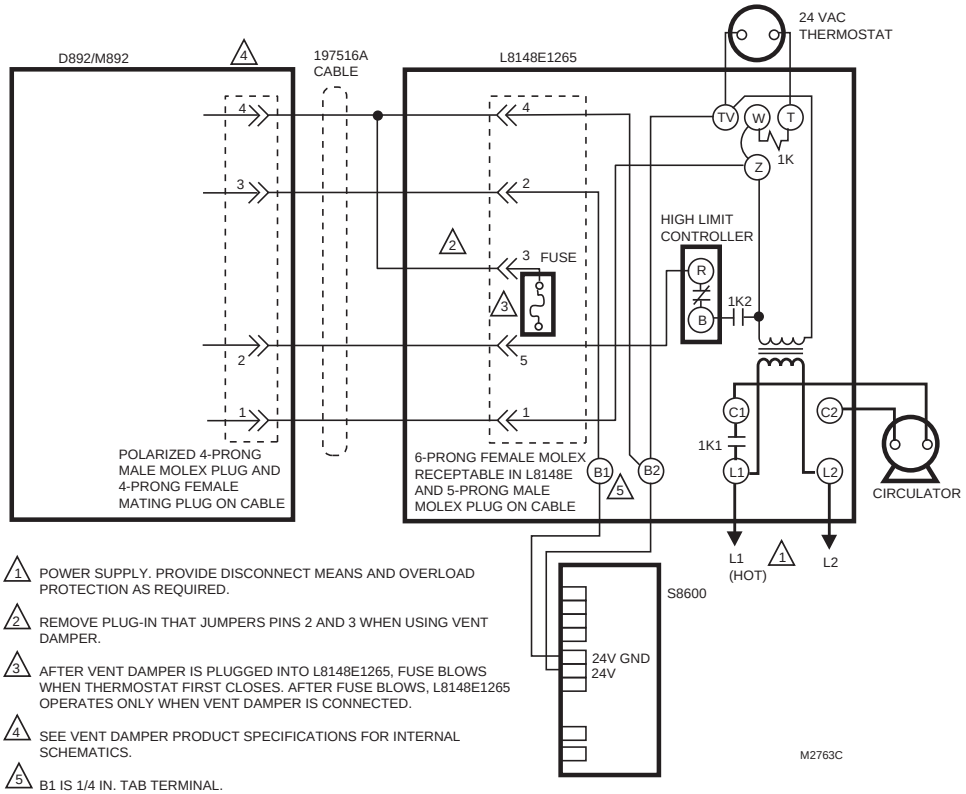
1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 REMOVE JUMPER WHEN ADDING L6006 LOW LIMIT CONTROLLER.

3 CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.

4 B1 IS 1/4 IN. TAB TERMINAL.

M2842A



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 REMOVE PLUG-IN THAT JUMPERS PINS 2 AND 3 WHEN USING VENT DAMPER.

3 AFTER VENT DAMPER IS PLUGGED INTO L8148E1265, FUSE BLOWS WHEN THERMOSTAT FIRST CLOSES. AFTER FUSE BLOWS, L8148E1265 OPERATES ONLY WHEN VENT DAMPER IS CONNECTED.

4 SEE VENT DAMPER PRODUCT SPECIFICATIONS FOR INTERNAL SCHEMATICS.

5 B1 IS 1/4 IN. TAB TERMINAL.

M2763C

Aquastat Controllers

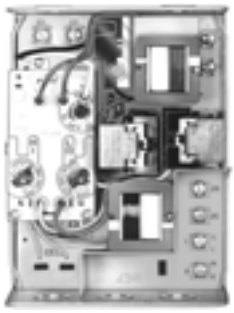
Outdoor Reset and Domestic Hot Water Priority

Outdoor reset saves energy by optimizing a boiler's settings based on the actual outdoor temperature. We offer wired and wireless AquaReset® Outdoor Reset solutions. While both versions offer the same incredible energy savings, the Wireless AquaReset® solution installs in only 30 minutes thanks to RedLINK® wireless communication. Compatible with Outdoor Reset-Ready L7224/ L7248 Aquastat®s, S93 Integrated Boiler Controls, and R7910 SOLA Controls. Domestic Hot Water Priority Kits are used with AquaReset® and available for applications when domestic hot water priority override is needed.

Mounting: Wall Mounted in any orientation
Voltage: 24 Vac
Frequency: 60 Hz
Operating Temperature Range: -30F to 150 F (-34 C to 66 C)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing

Product Number	Dimensions	Description	Includes	Used with
W8735S1000/U	2.410 in. high x 3.385 in. wide x.920 in deep	Wired AquaReset kit saves energy based on outdoor temp. Includes reset module and wired sensor.	C7089U1006 Outdoor Sensor; Outdoor Reset Module	—
W8735S1008/U	2.410 in. high x 3.385 in. wide x.920 in deep	Domestic Hot Water Priority override when used with Honeywell AquaReset Outdoor Reset solutions.	Water Pipe Temperature Sensor; Domestic Hot Water Module	—
W8735Y1000/U	5.56 in. high x 4.56 in. wide x 1.25 in deep	Wireless AquaReset kit saves energy and installs quickly. Includes module and wireless sensor.	2 C7089R1013 Outdoor Sensor	L7224; L7248
W8735ER10000/U	5.56 in. high x 4.56 in. wide x 1.25 in deep	Outdoor reset solution that's easy to install. Requires C7089R1013 wireless outdoor sensor.	C7089R1013 Outdoor Sensor	L7224; L7248 series 2

R8182 Combination Protectorelay® and Hydronic Heating Controllers



Immersion type Aquastat controller and oil burner primary control provides high limit and low limit/circulator control for oil-fired hydronic heating systems.

- Use in intermittent ignition applications.
- Capable of zone control with zone valves.
- Circulator zone control with ZC and ZR terminals on R8182D,E,H,J. 8*Flame failure during the running cycle results in a 45 second attempt to restart.
- If unsuccessful, safety shutoff occurs, requiring manual reset before burner can be restarted.
- R8182D,E,F mount directly on burner; R8182H,J mount on 4 x 4 in. junction box and include 5 ft (1.5 m) armored capillary with remote sensor.
- C554A Cadmium Sulfide Flame Detector and a 24 Vac thermostat required.

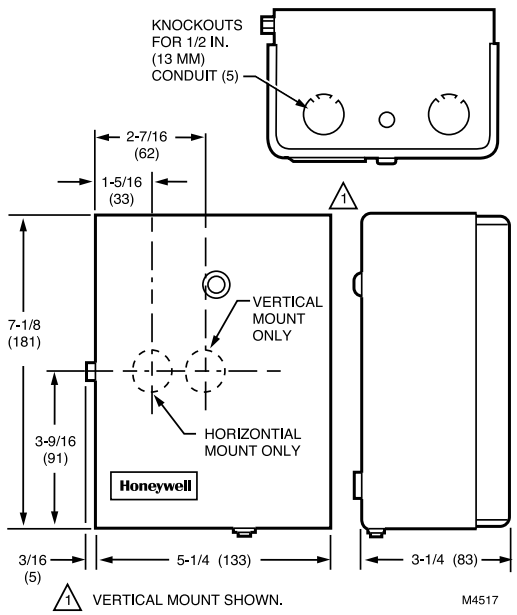
Anticipator Setting: 0.2 A
Electrical Ratings (ignition): 360 VA
Maximum Power Consumption: 9 W
Voltage: 120 Vac
Frequency: 60 Hz
Timing Safety Switch: 45 sec
Maximum Ambient Temperature: 250 F at element (121 C at element)
Operating Range, High Limit: 130 F to 240 F (54 C to 116 C)
Operating Range, Low Limit: 110 F to 220 F (43 C to 104 C)

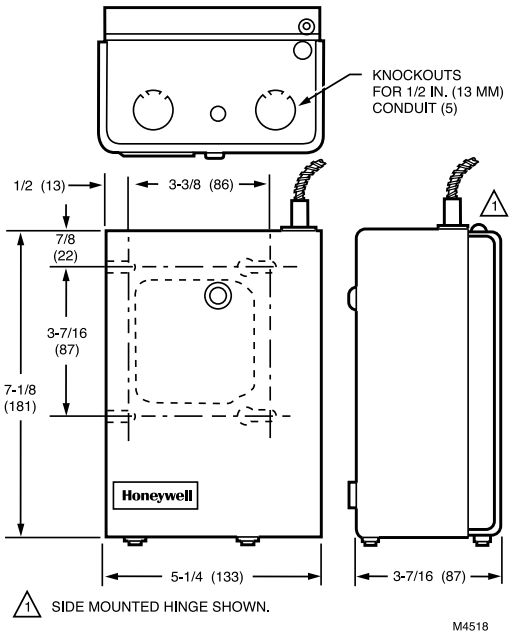
Maximum Operating Pressure: 200 psi on immersion well; 100 psi direct immersion. (1378 kPa on immersion well; 90 kPa direct immersion.)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: UL Listed: File No. listed: MP268, Vol. 3,4 (R8182D,E,F), Vol. 37 (R8182H,J), Sec. 1.

	Product Number	Differential Temperature (F)	Insulation Depth (inch)	Insulation Depth (mm)	Mounting	Electrical Ratings (burner) (AFL)	Electrical Ratings (burner) (ALR)	Includes
*	**R8182D1079/U**	High limit: 10 F fixed; Low limit/circulator: 10 F to 25 F adj.	1 1/2 in.	38 mm	Vertical Mount	4.4 A @ 120 Vac	26.4 A @ 120 Vac	Auxiliary ZC and ZR terminals may be used to provide circulator zone control through an R845A Switching Relay. Heat-conductive compound and vertical case.
*	**R8182D1111/U**	High limit: 10 F fixed; Low limit/circulator: 10 F to 25 F adj.	1 1/2 in.	38 mm	Horizontal	4.4 A @ 120 Vac	26.4 A @ 120 Vac	Auxiliary ZC and ZR terminals may be used to provide circulator zone control through an R845A Switching Relay. Heat-conductive compound and vertical case.
*	**R8182H1070/U**	High limit: 10 F fixed; Low limit/circulator: 10 F to 25 F adj.	1 1/2 in.	38 mm	Junction box mount	4.4 A @ 120 Vac	26.4 A @ 120 Vac	Auxiliary ZC and ZR terminals may be used to provide circulator zone control through an R845A Switching Relay. Heat-conductive compound and horizontal case.

** TRADELINE models • SUPER TRADELINE models*

Dimensions in inches (millimeters





Well Assemblies

Product Number	Description	Materials	Capillary Diameter	Insertion Length	Shell (internal diameter)	Spud Thread Size	Includes	
121371A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. NPT. Includes mounting clamp.	Copper	5/64 in.	3 in.; 1 1/2 in.	3/8 in.	1/2 in. x 14 NPT	121371 Mounting Clamp	
121371AA/U	Well clamp assembly with clamp capillary 21371 (1) screws 804644 and nuts 60156	—	—	—	—	—	121371 Mounting Clamp, Spud Set screw for armored capillary, Plug, and Nut.	
121371B/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 3/4 in. NPT. Includes mounting clamp.	Copper	5/64 in.	3 in.; 1 1/2 in.	3/8 in.	3/4 in. x 14 NPT	121371 Mounting Clamp	
121371E/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 1/2 in. (13 mm) NPT. Includes mounting clamp.	Stainless Steel	5/64 in.	3 in. 1 1/2 in.	3/8 in.	1/2 in. x 14 NPT	121371 Mounting Clamp	
121371L/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 3 in. (76 mm) insulation, 1/2 in. NPT. Includes mounting clamp.	Copper	5/64 in.	3 in. 3 in.	3/8 in.	1/2 in. x 14 NPT	121371 Mounting Clamp	
121371M/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 3/4 in. NPT. Includes mounting clamp.	Copper	5/64 in.	3 in. 3 in.	3/8 in.	3/4 in. x 14 NPT	121371 Mounting Clamp	
123869A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 1/2 in. NPT.	Copper	—	3 in. 1 1/2 in.	3/8 in.	1/2 in. x 14 NPT	—	
123870A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 3/4 in. NPT.	Copper	—	3 in. 1 1/2 in.	3/8 in.	3/4 in. x 14 NPT	—	
123871A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 3 in. (76 mm) insulation, 3/4 in. NPT.	Copper	—	3 in. 3 in.	3/8 in.	3/4 in. x 14 NPT	—	
123872A/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 3 in. (76 mm) insulation, 1/2 in. NPT	Copper	—	3 in. 3 in.	3/8 in.	1/2 in. NPT	—	
124299AA/U	Bulb size: 3/8 in. (10 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 3/4 in. NPT. Includes set screw with spud for armored capillary with plug.	Copper	—	3 in. 1 1/2 in.	3/8 in.	3/4 in. x 14 NPT	Set screw in spud for armored capillary with plug	
138134B/0021/U	Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size:3 in. (76 mm) insertion, 3/4 in. NPT	Zinc plated	—	3 1/2 in. 4 1/2 in.	—	3/4 in. x 14 NPT	—	

AQ250 Electronic Relay Boiler Control Panel for Hydronic Zoning System

The AQ250 family of AQUATROL Boiler Controls provides simplified, energy-efficient control of single temperature, residential hydronic heating systems. The AQ250 easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control for increased energy efficiency with reduced boiler cycling. AQ250 boiler controls can ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Controls up to 2 stages of heat from a single thermostat.
- Use with AQ1000 2-wire communicating thermostats, or most dry contact digital thermostats.
- Zoning Control for up to 4 zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels and up to 64 zones when used with AQ254 Add-A-Temp panels.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Zone synchronization through Zone or Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self-resetting electronic fuse.

Application: Boiler control for zoned hydronic systems
Dimensions, Approximate: 13 in wide x 8 in. high x 3 3/8 in deep (33 cm wide x 20.3 cm high x 8.5 cm deep)
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (DIP Switches)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.
Boiler Heat Post Purge: 30 seconds (sent to DHW tank or Zone of Greatest Demand - selectable)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
DHW Pump/Valve Output Rating: 120 Vac/250 Vac 5A, 1/3HP
DHW Demand Input: External dry contacts connection only
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP
Zone Output Contact Rating: Pumps: 120 Vac/250 Vac, 5A, 1/3 HP Valves: 24 Vac, 0.5 A, 12 VA
ZR-ZC Contact Rating: 120 to 240 Vac, 1/3 HP
Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) ±0.5F (±0.3C) up to 500 ft (150 M) using 18 AWG or larger wire
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 4.9 lbs (2.3 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Product Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Replacement Parts
*	**AQ25042B/U**	Zone pumps or 2-wire valves (line voltage)	4	120 Vac/250 Vac 5A, 1/3HP	AQ15000B boiler control module; AQ12C11 supply/return/mixed loop sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	**AQ25044B/U**	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	AQ15000B boiler control module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ10X38 24 Vac 38 VA transformer

** TRADELINE models • SUPER TRADELINE models*

AQUATROL Zoning System

AQ25A Programmable Relay Control Panel for Hydronic Zoning System

The AQ25A family of AQUATROL Programmable Relay Boiler Controls provides simplified, energy-efficient control of single-temperature, residential hydronic heating systems. The AQ25A easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control for increased energy efficiency with reduced boiler cycling. AQ25A boiler controls can ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Use with AQ1000 2-wire dry contact communicating thermostats and most digital thermostats.
- 0-10 Vdc modulating output for driving a modulating/condensing boiler.
- Displays outdoor temperature on all AQ1000 Series thermostats when used with an AQ12C10 outdoor sensor (included).
- Intuitive programming interface and armchair programming (can be programmed at your desk and taken to the job site "ready-to-install").
- Customizable control settings and schedules allow for greater level of control and comfort.
- Controls up to 2 stages of heat from a single thermostat.
- Central programming of zone set points and setbacks
- Zoning Control for up to 4 zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels, and up to 64 zones when used with AQ254 Add-a-Temperature panels.
- Zone synchronization through Zone of Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test and purge feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self resetting electronic fuse.
- 2 hour power supply (super-capacitor) to retain day and time settings during power outage.
- Non-volatile EPROM memory retains program settings during power outage.

Application: Boiler control for zoned hydronic systems
Dimensions, Approximate: 16 1/2 in wide x 8 in. high x 3 3/8 in deep (42 cm wide x 20.3 cm high x 8.5 cm deep)
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (LCD Display and a 7 button Key Pad) (DIP Switches on zoning modules)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.
Setback Program: 7 day, up to 2 setback periods/day.
Boiler Heat Post Purge: Off, 10 seconds to 30 minutes (factory default is 30 seconds)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
Boiler Differential: 2F to 41F (1C to 23C), or Auto (minimum 2 minutes on time)
DHW Pump/Valve Output Rating: 120 Vac/250 Vac 5A, 1/3HP
DHW Demand Input: External dry contacts connection only
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP
Auxiliary Low Voltage Output Rating: 24 Vac, 0.5A, 12VA
Auxiliary (Demand) Input: External dry contacts connection only
Zone Output Contact Rating: Pumps: 120 Vac/250 Vac, 5A, 1/3 HP Valves: 24 Vac, 0.5 A, 12 VA
Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) ±0.5F (±0.3C) up to 500 ft (150 M) using 18 AWG or larger wire
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 5.7 lbs (2.6 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Product Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Weight		Replacement Parts
					lb	kg	
*	**AQ25A42B/U**	Zone pumps or 2-wire valves (line voltage)	4	120 Vac/250 Vac 5A, 1/3HP	5.7 lbs	2.6 kg	AQ15A00B boiler control module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	**AQ25A44B/U**	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	5.7 lbs	2.6 kg	AQ15A00B boiler control module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer

** TRADELINE models • SUPER TRADELINE models*

AQ251 Electronic Boiler Reset Control Panel for Hydronic Zoning System

The AQ251 family of AQUATROL Boiler Reset Controls provides simplified, energy-efficient outdoor temperature compensated control of single temperature, residential hydronic heating systems. The AQ251 easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control with outdoor reset for increased energy efficiency with reduced boiler cycling. AQ251 boiler controls can ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Use with AQ1000 2-wire communicating thermostats (AQ25142B and AQ25144B) or most digital dry contact thermostats (AQ25110B, AQ25142B, and AQ25144B).
- 0-10 Vdc modulating output for driving a modulating/condensing boiler.
- Displays outdoor temperature on all AQ1000 thermostats when used with an AQ12C10 outdoor sensor (included).
- Intuitive programming interface and armchair programming (can be programmed at your desk and taken to the job site “ready-to-install”)
- Customizable control settings and schedules allow for greater level of control and comfort.
- Central programming of zone set points and setback.
- Controls up to 2 stages of heat from a single thermostat.
- Zoning Control for up to four zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels, and up to 64 zones by using AQ254 Add-a-Temperature expansion panels.
- Outdoor temperature compensation (reset), or Load reset based on indoor temperature feedback.
- Zone synchronization through Zone of Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test and purge feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self resetting electronic fuse.
- 2 hour power supply (super-capacitor) to retain day and time settings during power outage.
- Non-volatile EPROM memory retains program settings during power outage.

Application: Boiler reset control for hydronic zoning system
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (LCD Display and a 7 button Key Pad)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Setback Program: 7 day, up to 2 setback periods/day.
Boiler Design Temperature: 80F to 210F (26C to 99C)
Boiler (Supply) Min. Control Temperature: OFF, 59F to 180F (OFF, 15C to 82C)
Boiler (Supply) Max. Control Temperature: OFF, 120F to 225 F (OFF, 49C to 107 C)
Boiler Heat Post Purge: Off, 10 seconds to 30 minutes (factory default is 30 seconds)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
Boiler Differential: 2F to 41F (1C to 23C), or Auto (minimum 2 minutes on time)
DHW Pump/Valve Output Rating: 120 Vac/250 Vac 5A, 1/3HP
DHW Demand Input: External dry contacts connection only
Outdoor Low Design Control Temperature: -60F to 32F (-51 C to 0 C)
Return Minimum Control Temperature: 80 F to 180 F (27C to 82C)
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP
Auxiliary Low Voltage Output Rating: 24 Vac, 0.5A, 12VA
Auxiliary (Demand) Input: External dry contacts connection only
WWSD (Warm Weather Shut Down) Temperature: Off, 35 F to 100 F (Off, 1 C to 38 C)
Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) ±0.5F (±0.3C) up to 500 ft (150 M) using 18 AWG or larger wire
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Product Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Dimensions, Approximate		Weight		Replacement Parts
					inch	mm	lb	kg	
*	**AQ25110B/U**	None	1 (non-communicating)	120 Vac/250 Vac 5A, 1/3HP	13 in wide x 8 in. high x 3 3/8 in deep	33 cm wide x 20.3 cm high x 8.5 cm deep	4.9 lbs	2.3 kg	AQ15100B boiler reset module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer
*	**AQ25142B/U**	Pumps or 2-wire valves	4	120 Vac/250 Vac 5A, 1/3HP	16 1/2 in wide x 8 in. high x 3 3/8 in deep	42 cm wide x 20.3 cm high x 8.5 cm deep	5.7 lbs	2.6 kg	AQ15100B boiler reset module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	**AQ25144B/U**	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	16 1/2 in wide x 8 in. high x 3 3/8 in deep	42 cm wide x 20.3 cm high x 8.5 cm deep	5.7 lbs	2.6 kg	AQ15100B boiler reset module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer

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AQUATROL Zoning System

AQ252 Universal Injection/Mixing Boiler Reset Control Panel for Hydronic Zoning System

The AQ252 family of AQUATROL Universal Injection/Mixing Boiler Reset Controls provides simplified, energy-efficient outdoor temperature compensated control of single-temperature, residential hydronic heating systems. The AQ252 easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control with outdoor reset for increased energy efficiency with reduced boiler cycling. AQ252 boiler controls can ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Use with AQ1000 2-wire communicating thermostats or most digital dry contact thermostats.
- Controls one boiler loop and one mixed temperature loop.
- Use of variable speed injection pump or motorized mixing valve for mixed temperature loop control.
- 0-10 Vdc modulating output for driving a modulating/condensing boiler or a modulating mixing valve.
- Displays of outdoor temperature on all AQ1000 thermostats when used with an AQ12C10 outdoor sensor (included).
- Intuitive programming interface and armchair programming (can be programmed at your desk and taken to the job site “ready-to-install”)
- Customizable control settings and schedules allow for greater level of control and comfort.
- Central programming of set points and setback.
- Controls up to 2 stages of heat from a single thermostat.
- Zoning Control for up to four zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels, and up to 64 zones by using AQ254 Add-a-Temperature expansion panels.
- Outdoor temperature compensation (reset), or Load reset based on indoor temperature feedback.
- Zone synchronization through Zone of Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test and purge feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self resetting electronic fuse.
- 4 hours power supply (super capacitor) to retain day and time settings during power outage.
- Non-volatile EPROM memory retains program settings during power outage.

Application: Controls one boiler and one mixing (either variable speed injection or floating valve mixing) loop in a hydronic zoning system.
Dimensions, Approximate: 16 1/2 in wide x 8 in. high x 3 3/8 in deep (42 cm wide x 20.3 cm high x 8.5 cm deep)
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (LCD Display and a 7 button Key Pad)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.
Setback Program: 7 day, up to 2 setback periods/day.
Boiler Design Temperature: 80F to 210F (26C to 99C)
Boiler (Supply) Min. Control Temperature: OFF, 59F to 180F (OFF, 15C to 82C)
Boiler (Supply) Max. Control Temperature: OFF, 120F to 225 F (OFF, 49C to 107 C)
Boiler Heat Post Purge: Off, 10 seconds to 30 minutes (factory default is 30 seconds)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
Boiler Differential: 2F to 41F (1C to 23C), or Auto (minimum 2 minutes on time)
DHW Pump/Valve Output Rating: 120 Vac 5A, 1/3HP
DHW Demand Input: External dry contacts connection only
Outdoor Low Design Control Temperature: -60F to 32F (-51 C to 0 C)
Return Minimum Control Temperature: 80 F to 180 F (27C to 82C)
Variable Speed Injection Pump Output: Triac modulated; 120 Vac, 2.1A, 1/6HP
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Secondary Pump Output Rating: 120 Vac 5A, 1/3HP
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP
Auxiliary Low Voltage Output Rating: 24 Vac, 0.5A, 12VA
Auxiliary (Demand) Input: External dry contacts connection only
Mixing Valve Floating Output (Com,O,C): 24Vac rated dry contacts
Mixing Valve Modulating Output: 0-10 Vdc
WWSD (Warm Weather Shut Down) Temperature: Off, 35 F to 100 F (Off, 1 C to 38 C)
Zone Output Contact Rating: Pumps: 120 Vac/250 Vac, 5A, 1/3 HP Valves: 24 Vac, 0.5 A, 12 VA
Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) ±0.5F (±0.3C) up to 500 ft (150 M) using 18 AWG or larger wire
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
Secondary Loop Mixing (Supply) Design Temp Range: 70 F to 210 F (21 C to 99 C)
Secondary Loop Mixing (Supply) Max Control Temp Range: 80 F to 210 F (27 C to 99 C)
Secondary Loop Return Min Control Temp Range: 80 F to 180 F (27 C to 82 C)
Secondary Loop Mixing (Supply) Min Control Temp Range: 3 5 F to 150 F (2 C to 66 C)
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 6.0 lbs (2.7 kg)

Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Product Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Replacement Parts
*	**AQ25242B/U**	Zone pumps or 2-wire valves (line voltage)	4	120 Vac/250 Vac 5A, 1/3HP	AQ15200B universal injection/mixing boiler reset module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	**AQ25244B/U**	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	AQ15200B universal injection/mixing boiler reset module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ12C10 outdoor sensor; AQ10X38 24 Vac 38 VA transformer

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AQ254 Add-a-Temperature Injection/Mixing Expansion Control Panel for Hydronic Zoning System

The AQ254 Add-a-Temperature Expansion Control Panel is used in conjunction with an AQ250, AQ25A, AQ251 or AQ252 Control Panel. It provides one additional loop temperature control capability for the AQ2000 control panel it is connected to and expands the total network capacity by up to 16 zones when used with AQ255 and/or AQ257 zoning panels.

- Acts as an add-on Control panel to the Main (AQ250, AQ25A, AQ251, AQ252) Control panel.
- Allows each of the 16 zones connected to it to be assigned to the system's primary or secondary loop.
- Up to 3 AQ254 panels can be added to a Main (AQ250, AQ25A, AQ251 or AQ252) Control panel.
- Mixed loop temperature is controlled by a variable speed injection pump or motorized mixing valve connected to the AQ254.
- Intuitive programming interface and armchair programming (can be programmed at your desk and taken to the job site “ready-to-install”)
- Customizable mixing control settings allow for greater level of control and comfort.
- Zone synchronization through Zone of Greatest Demand control.
- Integral 38 VA transformer with self resetting electronic fuse.

Application: Expanded zone control and mixed loop temperature control in a hydronic zoning system
Mixed loop target temperature is reset by either outdoor temperature or calculated system load based on indoor temperature feedback
Mixing is target controlled by a variable speed injection pump or motorized mixing valve
Dimensions, Approximate: 9 1/2 in wide x 8 in. high x 3 3/8 in. deep (24 cm wide x 20.3 cm high x 8.5 cm deep)
Power Supply: 120V/60Hz
User Interface (Setting, Programming): (LCD Display and a 3 button Key Pad)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Variable Speed Injection Pump Output: Triac modulated; 120 Vac, 2.1A, 1/6HP
Secondary Pump Output Rating: 120 Vac 5A, 1/3HP
Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP

Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)
Secondary Loop Mixing (Supply) Design Temp Range: 70 F to 210 F (21 C to 99 C)
Secondary Loop Mixing (Supply) Max Control Temp Range: 80 F to 210 F (27 C to 99 C)
Secondary Loop Return Min Control Temp Range: 80 F to 180 F (27 C to 82 C)
Secondary Loop Mixing (Supply) Min Control Temp Range: 35 F to 150 F (2 C to 66 C)
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
R-C Output (on transformer): 38 VA, 24 Vac Class II
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 3.9 lbs (1.8 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Product Number	Mixing Valve Floating Output (Com,O,C)	Replacement Parts
*	**AQ25400B**	24Vac rated dry contacts	AQ15400B Add-A-Temperature expansion control module; AQ12C11 supply/return/mixed loop sensor; AQ10X38 24 Vac 38 VA transformer

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AQUATROL Zoning System

AQ255 and AQ257 Zoning Expansion Panel for Hydronic Zoning System

The AQ255 and AQ257 family of AQUATROL Expansion Zoning panels work with AQ2000 Boiler Control Panels and AQ1000 Communicating Thermostats to control up to 4 space heating zones (or 8, for the AQ25582B Panel). Can be combined with additional expansion zoning panels and an AQ2000 control panel for a total of 16 space heating zones.

- AQ257 for zoning with zone valves with end switches
- Auto test function to test zones at system start up. It allows for operator controlled testing of zones; includes pause/restart capability.
- LED lights for visual diagnostic of zone operation.
- Allows zoning with either “Normally Open” or “Normally Closed” zone valves.
- Adjacent zoning panels can operate different zone equipment - one panel may control 4 pumps while another may control 4 zone valves.
- Easily switch from zone valves to pumps with same zoning module - just flip one DIP switch. Ensure correct voltage is applied to all zone equipment on a panel (120 Vac for pumps, 24 Vac for valves)
- R-C transformer and B-B data bus terminal connections (network communication) for easy expansion.
- Zones can be set to energize a group pump via Aux Out dry contacts on main control panel (AQ250, AQ25A, AQ251, AQ252) or expansion control panel (AQ254).
- Zone synchronization through Zone of Greatest Demand control.
- 38 VA Transformer with self resetting electronic fuse.

Application: Zoning control for hydronic zoning system
Dimensions, Approximate: 9 1/2 in wide x 8 in. high x 3 3/8 in. deep (24 cm wide x 20.3 cm high x 8.5 cm deep)
User Interface (Setting, Programming): (DIP Switches)
Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.

Zone Output Contact Rating: 120 Vac/250 Vac, 5A, 1/3 HP
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Product Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Weight		Replacement Parts
				lb	kg	
*	**AQ25542B/U**	Zone pumps or 2-wire valves (line voltage)	4	2.1 bs	1 kg	AQ15540B 4-zone pump expansion module
*	**AQ25582B/U**	Zone pumps or 2-wire valves (line voltage)	8	2.6 bs	1.3 kg	AQ15540B 4-zone pump expansion module
*	**AQ25742B/U**	2-wire valve (24 Vac)	4	3.9 bs	1.8 kg	AQ10X38 24 Vac 38 VA transformerAQ15540B 4-zone pump expansion module
*	**AQ25744B/U**	Zone valves with end switches (24 Vac)	4	3.9 bs	1.8 kg	AQ15740B 4-zone valve with end switch expansion moduleAQ10X38 24 Vac 38 VA transformer

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AQ2000 Series Replacement Control Modules

Replacement control modules for AQ2000 panels

Application: Replacement boiler control module for AQ250
User Interface (Setting, Programming): (DIP Switches)

Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Boiler Heat Post Purge: Off, 10 seconds to 30 minutes (factory default is 30 seconds)
Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA
Boiler Differential: 2F to 41F (1C to 23C), or Auto (minimum 2 minutes on time)
DHW Demand Input: External dry contacts connection only
Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity
Heat Demand (Thermostat R-W) Input: External dry contacts connection only
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

Product Number	Mixing Valve Floating Output (Com,O,C)	Mixing Valve Modulating Output	User Interface (Setting, Programming)	Dimensions, Approximate		Weight	
				inch	mm	lb	kg
AQ15000B/U	—	—	DIP Switches	3 1/2 in wide x 2 1/2 in high x 4 1/4 in wide	9 cm wide x 94 cm high x 10.09 cm deep	0.5 lb	0.23 kg
AQ15100B/U	—	0-10 Vdc to boiler	LCD Display and a 7 button Key Pad	7 1/8 in wide x 2 1/2 in high x 4 1/4 in deep	18 cm wide x 94 cm high x 10.09 cm deep	1.0 lbs	0.5 kg
AQ15200B/U	24Vac rated dry contacts	0-10 Vdc to boiler or mixing valve	LCD Display and a 7 button Key Pad	7 1/8 in wide x 2 1/2 in high x 4 1/4 in deep	18 cm wide x 94 cm high x 10.09 cm deep	1.0 lbs	0.5 kg
AQ15400B/U	24Vac rated dry contacts	0-10 Vdc to mixing valve	LCD Display and a 3 button Key Pad	3 1/2 in wide x 2 1/2 in high x 4 1/4 in deep	9 cm wide x 94 cm high x 10.09 cm deep	0.7 lb	0.3 kg
AQ15A00B/U	—	0-10 Vdc to boiler	LCD Display and a 7 button Key Pad	7 1/8 in wide x 2 1/2 in high x 4 1/4 in deep	18 cm wide x 94 cm high x 10.09 cm deep	1.0 lbs	0.5 kg

AQ2000 Series Replacement Zoning Modules

Replacement Zoning Modules for AQ2000 panels

Application: Replacement 4 zone pump expansion module for AQ25542
Dimensions, Approximate: 3 1/2 in wide x 2 1/2 in high x 4 1/4 in deep (9 cm wide x 94 cm high x 10.09 cm deep)
User Interface (Setting, Programming): (DIP Switches)

Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals
Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)
Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats
Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.
Zone Output Contact Rating: 120 Vac/250 Vac, 5A, 1/3 HP
B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.
R-C Input (on Control and Zoning Modules): 24 Vac Class II (input on Control and Zoning Modules)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 0.6 lb (0.3 kg)
Approvals
Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

Product Number	Type of Zoning Devices Controlled	Number of Zones Controlled	User Interface (Setting, Programming)
AQ15540B/U	Zone pumps or 2-wire valves (line voltage)	4	DIP Switches
AQ15740B/U	Zone valves with end switches	4	DIP Switches

AQUATROL Zoning System

AQ2000 Series Accessories and Replacement Parts

Product Number	Description	
AQ10X38/U	Replacement transformer module for AQ250, AQ25A, AQ251, AQ252, AQ254, AQ257 and AQ2554V2 series control and zoning panels. It can be used to add an additional 38 VA power per transformer to drive high VA devices.	
AQ11D10/U	Replacement enclosure for AQ25400B, AQ25542B, AQ25742B, AQ25582B, AQ25744B panels, Consists of case, cover, and DIN rail for mounting of transformer, control or zoning modules	
AQ11D15/U	Replacement enclosure for AQ25042B, AQ25044B, AQ25110B panels. Consists of case, cover, and DIN rail for mounting of transformer, control or zoning modules	
AQ11D20/U	Replacement enclosure for AQ25A42B, AQ25A44B, AQ25142B, AQ25144B, AQ25242B, AQ25244B panels. Consists of case, cover, and DIN rail for mounting of transformer, control or zoning modules	
AQ12C10/U	Outdoor Sensor with 10 feet (3 m) of lead wires and a plastic mounting bracket for use with AQ2000 Series Programmable Control Panels.	
AQ12C11/U	Supply/Return/Mixed Loop Pipe Sensor with 10 feet (3 m) of lead wires for use with AQ2000 Series Control Panels	
AQ12C20/U	Slab/Floor Sensor of 10 feet (3 m) lead length. It is sold separately for use with AQ1000 Series Thermostats to control floor temperatures of in-floor radiant heating applications.	

AQ1000TN2 Non-Programmable Communicating Thermostat

The AQ1000TN2 thermostat is used to control the ambient air temperature or floor temperature in hydronic heating applications. It communicates with and is powered by an AQ2000 series zoning module to provide zoning control.

- 2-wire polarity-insensitive non-programmable network communicating thermostat.
- Liquid crystal display with user buttons.
- Outdoor, indoor and floor temperature displays.
- Floor temperature sensing with minimum and maximum limits (when used with optional AQ12C20 Slab/Floor Sensor - sold separately)
- Selectable temporary and permanent backlight.

Application: Hydronic single-stage zoning heat
Network Zoning: Yes
Zones: Single or Multi-zone
Dimensions, Approximate: 2.8 in wide x 4.6 in high x 1.0 in deep (7 cm wide x 12 cm in high x 2.5 cm deep)
Electrical Connections: Wire-clamp screw terminals
Network Bus: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to AQ2000 series zoning modules.
User Interface (Programming): LCD Display
User Interface (System Configuration): DIP Switches
Thermostat Type: 2-wire Communicating Thermostat
Sensor Element: Thermistor
Sensors (Floor): AQ12C20 slab/floor sensor, lead length 10 feet (3 m) (sold separately).

Mounting: Vertical Mount
Color: Premier White®
Temperature Control Mode Selections: "A" for Ambient Air, "F" for Floor, "AF" for Ambient & Floor.
Temperatures Displayed: Indoor, Set Point, Outdoor
Temperature Display Interval: +/- 1.0 F (+/- 0.5 C)
Floor Sensor Temperature Rating: -58F to 230F (-50C to 110C)
Floor Temperature Limit Range (AF Model): 40 F to 100 F (5 C to 38 C)
Outdoor Temperature Display Range: -58 F to 149 F (-50C to 65 C)
Ambient Temperature Range: 32 F to 158 F (0 C to 70 C)
Temperature Range, Storage: -20 F to 130 F (-30 C to 55 C)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 0.2 lb (0.1 kg)

Product Number	Setting Temperature Range (F)	Setting Temperature Range (C)	Differential Temperature (F)	Differential Temperature (C)	Terminal Designations	Type of Control Provided	LCD Icons Displayed (Mode)	Power Method
AQ1000TN2/U	40 F to 100 F	5 C to 38 C	± 1 F	±0.5 C	TH, TH, Sensor, Sensor	Proportional Integral (PI)	Vacation Mode; Set point; Keypad Lock; Comfort/Unoccupied; Heat On	Powered (24 Vdc) by AQ zoning module

AQ1000TP2 Programmable Heat/Cool Thermostat

The AQ1000TP2 thermostat is used to control the ambient air temperature or floor temperature in hydronic heating applications. It communicates with and is powered by an AQ2000 series zoning module to provide zoning control.

- 2-wire polarity-insensitive programmable network communicating thermostat
- Liquid crystal display, with 7 user buttons for programming
- Floor temperature sensing with minimum and maximum limits (when used with optional AQ12C20 Slab/Floor Sensor - sold separately)
- 7-day programmable
- Single-stage Heating and Cooling
- Outdoor, indoor, and floor temperature display
- Selectable temporary and permanent backlit

Application: Hydronic single-stage zoning, heating and cooling
Programmability: 7-day programmable
Network Zoning: Yes
Zones: Single or Multi-zone
Dimensions, Approximate: 3.0 in. wide x 4.9 in. high x 1.0 in. deep (7.8 cm wide x 12.5 cm high 2.5 cm deep)
Electrical Connections: Wire-clamp screw terminals
Network Bus: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to AQ2000 series zoning modules.
User Interface (Programming): LCD Display and 7 user programming buttons
User Interface (System Configuration): DIP Switches
Thermostat Type: 2-wire Communicating Thermostat
Sensor Element: Thermistor
Sensors (Floor): AQ12C20 slab/floor sensor, lead length 10 feet (3 m) (sold separately).

Mounting: Vertical Mount
Color: Premier White®
Temperature Control Mode Selections: "Air" for Ambient Air, "Floor" for Floor, "Air/Floor" for Ambient & Floor limits
Temperatures Displayed: Indoor, Set Point, Outdoor
Temperature Display Interval: (+/- 0.5 C)
Floor Sensor Temperature Rating: -58F to 230F (-50C to 110C)
Floor Temperature Limit Range (AF Model): 40 F to 100 F (5 C to 38 C)
Outdoor Temperature Display Range: -58 F to 149 F (-50C to 65 C)
Ambient Temperature Range: 32 F to 158 F (0 C to 70 C)
Temperature Range, Storage: -20 F to 130 F (-30 C to 55 C)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Weight: 0.3 lb (0.5 kg)

Product Number	Setting Temperature Range		Differential Temperature		Terminal Designations	Type of Control Provided	LCD Icons Displayed (Mode)	Power Method
AQ1000TP2/U	40 F to 100 F	5 C to 38 C	± 1 F	±0.5 C	TH, TH, Sensor, Sensor	Proportional Integral (PI)	Fan On; Vacation Mode; Cool On; Set point; Keypad Lock; Comfort/Unoccupied; Heat On	Powered (24 Vdc) by AQ zoning module

Hydronic Switching Relays

R182 Hydronic Switching Relay

Enclosed intermediate relays for 24 volt thermostat control of line voltage devices.

Application: Enclosed intermediate Dpdt switching relay for 24 volt 2 or 3 wire thermostat control of line voltage devices. 120 volt primary power supply.
Dimensions, Approximate: 5 1/4 in. long x 4 1/4 in. wide x 3 in. deep (133 mm long x 108 mm wide x 77 mm deep)
Electrical Connections (Control Circuit): 2 or 3-wire
Coil Ratings: Voltage: 24 Vac, 50/60 Hz; Current: 0.35A
Contact Electrical Ratings: 120 Vac AFL: 7.4A; 120 Vac ALR: 44.4A; 240 Vac AFL: 3.7A; 240 Vac ALR: 22.2A
Thermostat Compatibility: Low voltage 2 or 3-wire
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

	Product Number	Application	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
*	**R182C1051/U**	Enclosed intermediate Dpdt switching relay for 24 volt 2 or 3 wire thermostat control of line voltage devices. 120 volt primary power supply.	120V, 50/60 Hz	DPDT	Switching relay with internal transformer, two line voltage SPDT relays	Integral transformer, enclosure

** TRADELINE models • SUPER TRADELINE models*

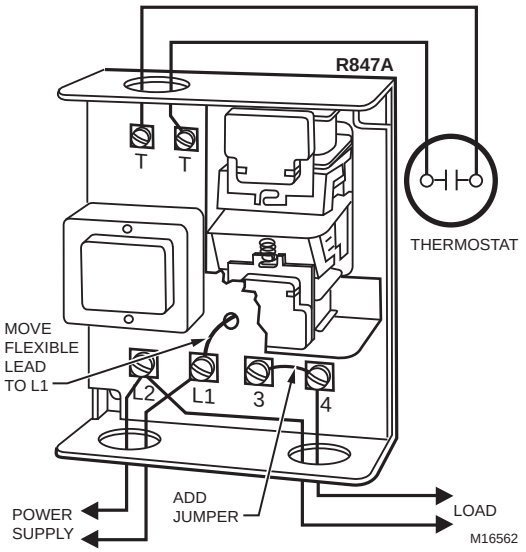
R847 Heavy Duty Relay

Designed for control of relatively heavy duty 120 or 240 Vac electrical loads such as cooling compressors.

- Internal, flexible leads permit SPST or DPST switching.

Application: Enclosed heavy duty Dpst or Spst switching relay for 24 volt 2-wire thermostat control of high-current loads such as cooling compressors. 120 volt primary power supply.
Dimensions, Approximate: 5 1/4 in. high x 4 1/4 in. wide x 2 3/4 in. deep (133 mm high x 108 mm wide x 70 mm deep)
Electrical Connections (main): 2-Wire
Electrical Connections (Control Circuit): 2-Wire
Coil Ratings: Voltage: 24 Vac, 50/60 Hz; Current: 0.4A; Inrush: 21.4 VA; Sealed: 8.4 VA; Maximum Pull-in Voltage: 20
Contact Electrical Ratings: 120 Vac AFL: 22A; 120 Vac ALR: 100A; 240 Vac AFL: 10A; 240 Vac ALR: 50A
Approvals
Canadian Standards Association: Certified: File No. LR1620
Underwriters Laboratories, Inc: Listed: File No. SA481, Guide No. SDF4

R847A wired to break one side of the circuit with SPST switching.



	Product Number	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
*	**R847A1085/U**	120V, 50/60 Hz	DPST or SPST	120V, 50/60 Hz Heavy Duty Switching Relay with integral transform, Dpst or Spst line voltage relays	Integral transformer, enclosure

** TRADELINE models • SUPER TRADELINE models*

R856 Control Center

Provides 24 volt control of line voltage motors, fans, blowers, or pumps up to 1 hp.

- Integral 45 VA transformer to supply low voltage power for the system.
- Low voltage terminal strip for easy thermostat and panel connections.

Application: Enclosed fan center for 24 volt control of a line voltage motor, evaporator fan, or pump up to 1 horse-power. Includes wiring terminal board and 45 VA transformer.
Dimensions, Approximate: 7 1/8 in. high x 4 1/2 in. wide x 3 5/16 in. deep (181 mm high x 114 mm wide x 84 mm deep)
Coil Ratings: Voltage: 24 Vac; Current: 0.22A; Inrush: 11 VA; Sealed: 6 VA
Contact Electrical Ratings: 120 Vac AFL: 14.0A N.O., 10.0A N.C.; 120 Vac ALR: 84.0A N.C., 80.0A N.C.
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: Listed: File No. E4436, Vol. 6 Sec. 9

Product Number	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
R856B1002	120V, 60 Hz	SPST	120V, 60 Hz Fan Relay with Spst switching	External transformer, enclosure

RA89; RA832; R845 Hydronic Switching Relay

Provide intermediate switching of a line voltage device from a low voltage controller.

- Integral transformer provides low voltage power for control circuit.

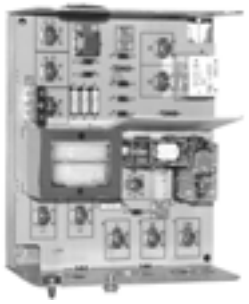
Dimensions, Approximate: 5 1/4 in. high x 4 1/4 in. wide x 2 5/16 in. deep (133 mm high x 108 mm wide x 59 mm deep)
Electrical Connections (Control Circuit): 2-Wire
Electrical Rating: Maximum Input: 5.0 W
Electrical Ratings: Primary Voltage: 120V, 50/60 Hz
Coil Ratings: Voltage: 24 Vac; Current: 0.4A
Thermostat Compatibility: Low voltage (Class 2) 2-wire
Temperature Range: 115 F maximum ambient for 60 Hz. 105 F Max. Ambient for 50 Hz. (46 C maximum ambient for 60 Hz. 41 C maximum ambient for 50 Hz.)
Approvals
Canadian Standards Association: Certified: File No. LR1620
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

	Product Number	Application	Switching Action	Description	Includes
*	**R845A1030/U**	Enclosed intermediate Dpst switching relay for 24 volt 2 wire thermostat control of one line voltage and one line or low voltage devices. 120 volt primary power supply.	DPST; one pole line voltage, the other line or low voltage	Switching relay with internal transformer, provides Dpst switching for hot water zone control systems, or spst control of two separate loads.	Integral transformer, enclosure
*	**RA832A1066/U**	Provide intermediate Dpst switching of a line voltage device from a low voltage controller.	DPST; one pole line voltage, the other low voltage or millivolt	Switching Relay with internal transformer, for switching two line voltage loads having a common power source.	Integral transformer, enclosure
*	**RA832A1074/U**	Provide intermediate Dpst switching of a line voltage device from a low voltage controller.	DPST; one pole line voltage, the other low voltage or millivolt	Switching Relay with internal transformer, for switching two line voltage loads having a common power source.	Integral transformer, enclosure
*	**RA89A1074/U**	Provide intermediate Spst switching of a line voltage device from a low voltage controller.	SPST	Switching Relay with internal transformer, for switching one line voltage load.	Integral transformer, enclosure

** TRADELINE models • SUPER TRADELINE models*

Hydronic Switching Relays

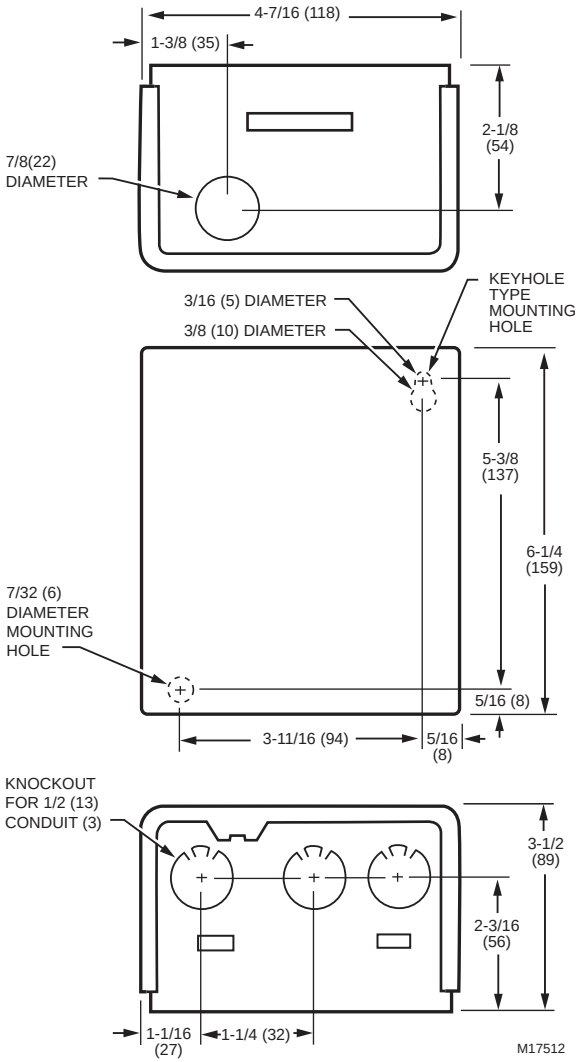
R8845U Universal Switching Relay



The R8845U Universal Switching Relay with 24 V transformer provides intermediate switching of line-and low-voltage devices from a line- or low-voltage controller and is typically applied in Hydronic heating systems.

- Replaceable socketed relays.
- Two troubleshooting LED.
- Push-to-test button.
- Replaceable transformer fuse.
- Low-voltage contact rating for Powerpile applications.
- Long-life DC relay drive control technology.
- Relay for use with external 24 Vac or 24 Vdc supply, with line-voltage control, or with internal 24 V transformer supply.
- One model replaces many competitor models.
- One model may replace many Honeywell models:R182A,B,C,J; R482A,B,C,J; R845; R882A,B,C,J and RA832.

Dimensions in inches (millimeters)



Application: Enclosed Universal switching relay with internal transformer for 24 volt 2 or 3 wire thermostat control of line voltage devices. Two line voltage SPST relays and one low voltage SPST relay with PowerPile rating.
Dimensions, Approximate: 6 1/4 in. high x 4 7/16 in. wide x 3 1/2 in. deep (159 mm high x 118 mm wide x 89 mm deep)
Coil Ratings: Voltage: 24 Vac; Current: 0.4A
Contact Electrical Ratings: 120 Vac AFL: 7.4A AFL, 44.4A ALR on each set of line-voltage contacts. Maximum connected load is 2000 VA.
Electrical Connections (Control Circuit): 2 or 3-wire
Transformer Secondary Rating: 24 Vac, 12 VA max., 9 VA available for external load. Secondary protected by replaceable 1A automotive fuse.
Thermostat Compatibility: Honeywell electromechanical and electronic 2- or 3-wire
Thermostat Heat Anticipator Setting: 0.12A
Temperature Range: (Ambient) -20 F to +120 F ((Ambient) -29 C to +49 C)
Operating Humidity Range (% RH): 0 to 90% RH, non-condensing
Approvals
Canadian Underwriters Laboratories, Inc: Listed: Guide No. XAPX7.
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

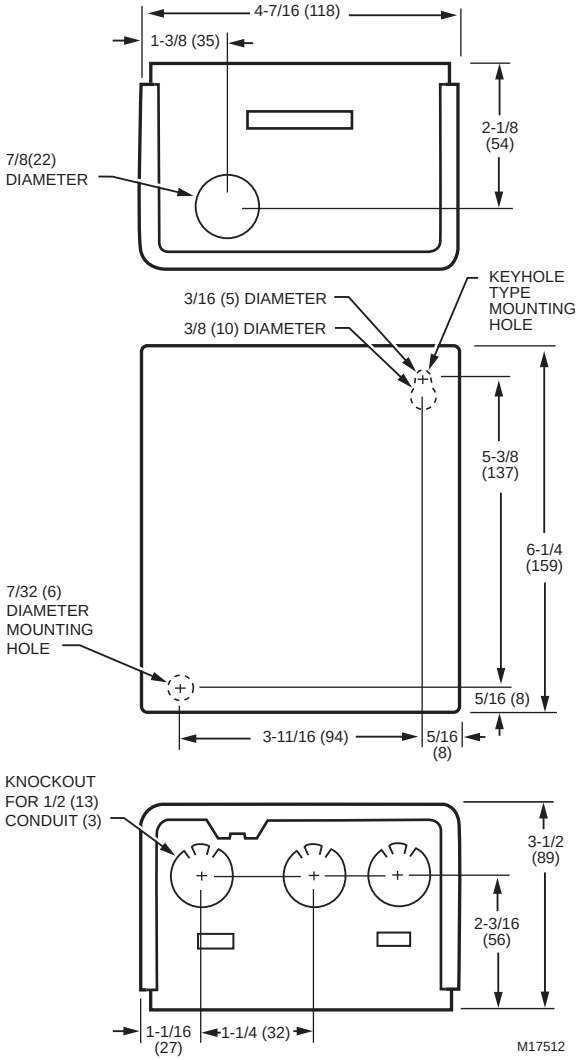
Product Number	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
R8845U1003/U	120V, 60 Hz	Two SPST, plus PowerPile® rated low voltage SPST relay. (If normally closed contacts are needed, use RA889A).	Provides intermediate switching of line and low voltage devices from a line or low voltage controller	Integral transformer, enclosure

RA889A Switching Relay

The RA889A Switching Relay with 24 V controller provides intermediate switching of line- and low-voltage devices from a line- or low-voltage controller and is typically applied in Hydronic heating systems.

- High load switching capability.
- Troubleshooting LED.
- Push-to-test button.
- Replaceable transformer fuse.
- Long-life DC relay drive control technology.
- Relay for use with external 24 Vac or 24 Vdc supply, with line-voltage control, or with internal 24 V transformer supply.
- One model replaces many Honeywell models.
- Secondary of transformer protected by replaceable 1A automotive fuse.

Dimensions in inches (millimeters)



Application: Provide intermediate Spdt and Spst switching of line- and low-voltage devices from a line- or low-voltage controller.
Transformer Secondary Rating: 24 Vac, 12 VA max., 9 VA available for external load. Secondary protected by replaceable 1A automotive fuse.
Thermostat Compatibility: Honeywell electromechanical and electronic 2- or 3-wire
Thermostat Heat Anticipator Setting: 0.12A
Temperature Range: (Ambient) -20 F to +120 F ((Ambient) -29 C to +49 C)
Operating Humidity Range (% RH): 0 to 90% RH, non-condensing
Contact Electrical Ratings: 120 Vac AFL: 15A; 120 Vac ALR: 30A.
Approvals
Canadian Underwriters Laboratories, Inc: Listed: Guide No. XAPX7.
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

Product Number	Electrical Ratings: Primary Voltage	Switching Action	Description	Includes
RA889A1001/U	120V, 60 Hz	SPDT, plus PowerPile® rated low voltage SPST relay	Enclosed switching relay with internal transformer, Spdt line voltage relay, plus Spst low voltage relay with Powerpile rating. 120V/60Hz 15 AFL/30 ALR ratings one line voltage contacts.	Integral transformer, enclosure

Transformers for Hydronic Controls

AT140 General Purpose Transformer for Hydronic Heating Controls

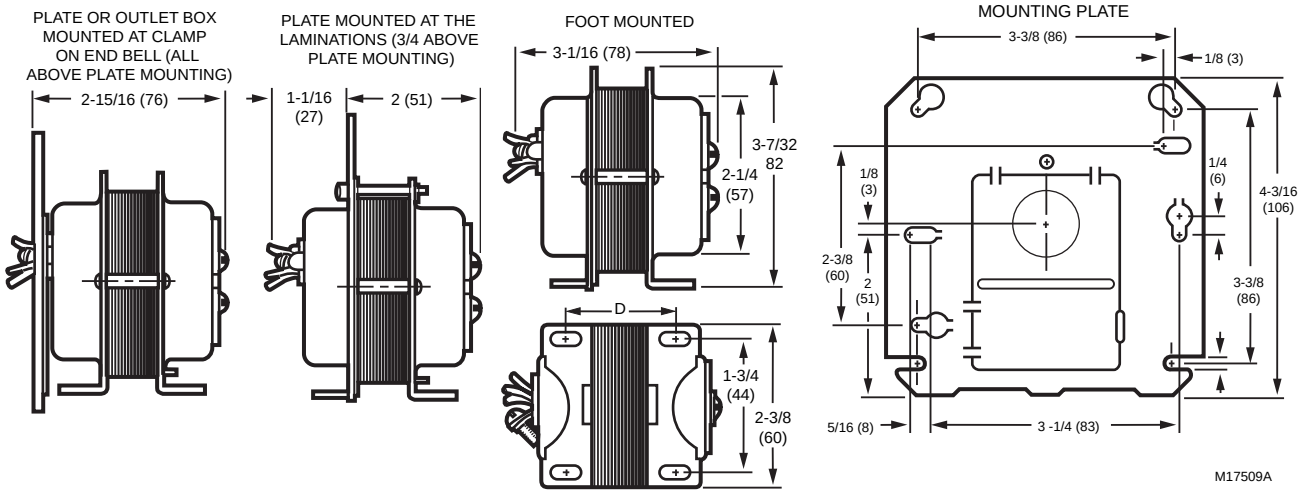
Provide power to 24 Vac circuits in heating/cooling control systems. Intended for use in systems with predictable, uniform loads. Can be used in any application that does not exceed the listed ratings.

- Color-coded lead wires for primary connections and screw terminals for secondary connections, fixed 1/4 inch (6 mm) male quick-connects or color-coded lead wires for both primary and secondary, are standard.
- Meet NEC Class 2 requirements.
- Meet Underwriters Laboratories Inc. Standard UL 1585 and are identified. Class 2 not wet, Class 3 wet.

Temperature Rating: -20 F to +105 F (-29 C to +41 C)
Frequency: 60 Hz
Mounting: Foot mounted, plate mounted on 2x4 in. or 4x4 in. outlet box, clamp mounted using outlet box knockout, or panel mounted
Approvals
Canadian Standards Association: CSA Certified: A & B models.
Underwriters Laboratories, Inc: UL Listed: A,C,F models. File # E14881

	Dimensions, Approximate		Electrical Ratings			Electrical Connections (main)	
Product Number	**inch**	**mm**	**Primary Voltage**	**Secondary Voltage**	**Output**	**Primary (inch)**	**Secondary**
AT140A1034/U	3 3/16 in. high x 2 3/8 in. wide x 3 1/8 in. deep	81 mm high x 60 mm wide x 79 mm deep	120 Vac	27 V.O.C.	24 Vac at 20 VA	9 in. lead wires (229 mm lead wires)	(2) screw terminals

Dimensions in inches (millimeters)



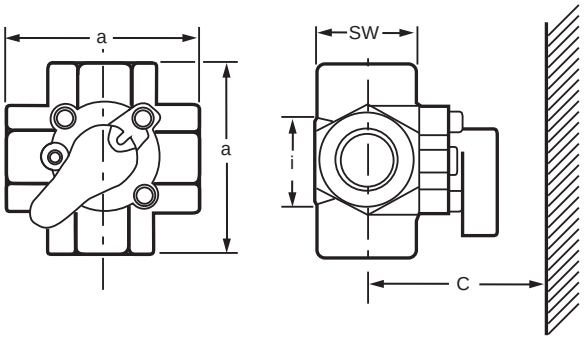
V5442N Rotary Valve

The Corona series of Compact Rotary Valves and Actuators provide integrated mixing of boiler supply, boiler return, loop supply, and loop return water in hydronic heating systems. The V5442 valve can mix both loop supply water and boiler return water simultaneously to control loop supply temperature and boiler shock or flue gas condensation protection. They may be plumbed in either a direct mixing or injection configuration. The effective Cv of the valves is increased when piped in an injection configuration.

NOTE: Valve cannot be used in open systems such as Combo heating where fresh water is present. Valve will corrode.

- Valves can be automated with M6063 actuator.
- 4-way mixing action for closed hydronic heating systems.
- Mixes loop supply with boiler supply and loop return.
- Mixes boiler return with boiler supply and loop return.
- Optimized mixing characteristics for most accurate control.
- Cast iron body; chrome plated plug.
- NPT threads.
- Suitable for manual or automatic control.
- Universal body orients either to the left or right to match piping.
- Functional replacement for Centra ZRK-series of compact 4-way mixing valves.

Dimensions in inches (millimeters)



Size [i]	[a]	[SW]	[C]	[C] with actuator
3/4"	3 3/8" (85 mm)	1 5/8" (41 mm)	13 3/8" (304 mm)	13 3/4" (350 mm)
1"				
1 1/4"	4 1/8" (105 mm)	1 13/16" (46 mm)	13 9/16" (345 mm)	

M23253

Coupling Controller: M6063A
Inlet Size: 1 1/2 in. (DN40)
Differential (close-off) Pressure Rating: 15 psi (1Bar)
Static Pressure Rating: 90 psi (6 Bar)
Median Temperature Range: 36 F to 230 F (2 C to 110 C)
Shipping Temperature Range: -40 F to +140 F (-40 C to +60 C)
Leakage: Less than 1% of Cv.
Comments: Valve cannot be used in open systems such as Combo heating where fresh water is present. Valve will corrode.Use with max. 50% glycol in water solution

Materials
(Body): Cast Iron
(Interior Parts): Chrome-plated cast iron
(Seal): Double O-rings

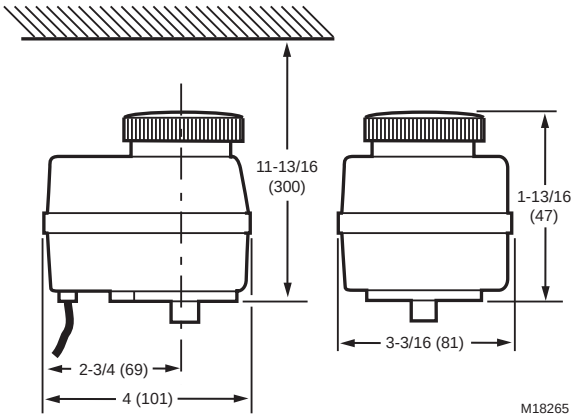
Product Number	Capacity (Cv)	Capacity (Kvs)	Pipe Size DN	Pipe Size inch	Pipe Connection	Median Temperature Range (F)	Median Temperature Range (C)	Used With	Body Pattern
V5442N1015	7.4 Cv	6 kvs	DN20	3/4 in.	NPT (Internal Thread)	36 F to 230 F	2 C to 110 C	Must be used with M6063 actuator.	Rotary
V5442N1023	11.7 Cv	10 kvs	DN25	1 in.	NPT (Internal Thread)	36 F to 230 F	2 C to 110 C	Must be used with M6063 actuator.	Rotary
V5442N1031	18.7 Cv	16 kvs	DN32	1 1/4 in.	NPT (Internal Thread)	36 F to 230 F	2 C to 110 C	Must be used with M6063 actuator.	Rotary

M6063 Rotary Actuator

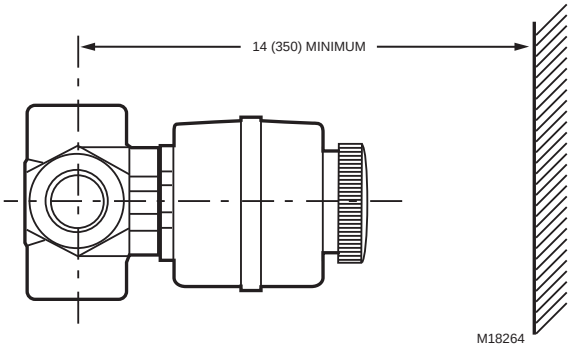
The Corona series of M6063 Actuator and V5442 Compact Rotary Valves provide integrated mixing of boiler supply, boiler return, loop supply, and loop return water in hydronic heating systems. The M6063 actuator enables automatic mixing operation when used with an AQ675A Aquatrol Outdoor Temperature Compensator, or T6984 proportional room thermostat.

- 24 Vac floating input for automatic control.
- Single screw attachment to V5442 valve body.
- Multi-poise mounting.
- Color-coded position indicator.
- Manual valve operator.
- Auxiliary end switch for cascade control outputs.
- Sealed assembly; flylead electrical connections.

Dimensions in inches (millimeters)



Distance for installation



Aux Switch Ratings: 24 Vac, 3A, 24 VA pilot duty, Class 2, normally closed, Gray cable. S1 (black/gray pair) opens at left (CCW) end stop. S2 (brown/pink pair) opens at right (CW) end stop.
Timing: 100 seconds for 90 degrees (full) stroke
Electrical Connections: Color-coded 40 in. (1 meter) cable
Voltage: 24V
Frequency: 50 Hz; 60 Hz
Power Supply Rating: 3 VA, SDPT, or SP3T (tri-state) for proportional control.

Torque Rating: 60 lb-in. Manual declutch (7 Nm Manual declutch)
Cable: Blue=Common; Brown=Clockwise rotation; Black=Counter-clockwise rotation
Enclosure Rating: Double insulated. IP44 according to 60529 Standard (exceeds NEMA 3).
Operating Humidity Range (% RH): Less than 90% RH, non-condensing
Ambient Temperature Range: 32 F to 140 F (0 C to 60 C)
Shipping Temperature Range: -40 F to +140 F (-40 C to +60 C)

Product Number	Controller Compatibility	Control Signal	Comments	Used With
M6063A4007	PI or PID tri-state control signal for proportional control action, such as supplied by AQ675 Outdoor Temperature Compensator, W964F reset controller, or T6984 floating commercial thermostat.	24 Vac Floating	Cross Reference: M6063 functionally replaces Centra VRK10-24 valve actuator when used with V5442 valve body.	V5442 Four-way mixing valve

VC Series Valves

Control central heating and/or cooling systems, fan coil systems, radiators and convectors. Depending on the model selected, it can be controlled by either a low or line voltage SPST or SPDT or floating controller such as a room thermostat, Aquastat control, or flow switch.

- Two-way or three-way valves.
- Minimal actuator power consumption.
- Double insulated actuator.
- Quick-connect or one-meter cable electrical connections available.
- Safe for use with potable water.
- Quick and easy replacement of moving parts.
- Actuator head installation does not require draining the system.
- On/Off models with six second nominal timing (floating/modulating models available with 120 second timing).

Dimensions, Approximate: 3 9/16 in high x 2 3/4 in wide x 3 3/4 in long (111 mm high x 68 mm wide x 89 mm long)
Coupling Controller: Integral
Aux Switch Ratings: 24 Vac, 2.2A pilot duty, Class 2, SPDT
Timing: 120 sec
Control Signal: 24 Vac Floating
Electrical Connections: Color-coded 40 in. (1 meter) cable
Voltage: 24V
Frequency: 50 Hz; 60 Hz

Power Supply Rating: 6 VA, SPDT, or SP3T (tri-state) for proportional control.
Differential (close-off) Pressure Rating: 60 psi (4 Bar)
Static Pressure Rating: 300 psi (20 Bar)
Median Temperature Range: 34 F to 203 F (1 C to 95 C)
Ambient Temperature Range: 32 F to 140 F (0 C to 60 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Materials
(Body): Bronze

Product Number	Controller Compatibility	Capacity (Cv)	Capacity (Kvs)	Flow Characteristic	Pipe Size inch	Pipe Size DN	Pipe Connection	Comments	Body Pattern
VC6831AA1111/U	PI or PID tri-state control signal for proportional control action, such as supplied by AQ675 Outdoor Temperature Compensator, W964F reset controller, or T6984 floating commercial thermostat.	3.2 Cv	2.7 kvs	Linear	1/2 in.	DN15	Sweat	Use with max. 50% glycol in water solution	Two-way
VC6831AM1111/U		4.6 Cv	3.9 kvs	Linear	3/4 in.	DN20	Sweat	Use with max. 50% glycol in water solution	Two-way
VC6831ML6111/U		5.9 Cv	5.1 kvs	Linear	3/4 in.	DN20	Sweat	Use with max. 50% glycol in water solution	Three-way
VC6831MS6111/U		6.6 Cv	5.7 kvs	Linear	1 in.	DN25	Sweat	Use with max. 50% glycol in water solution	Three-way
VC6831ZZ11/U		—	—	Linear	—	—	—	Actuator only	Two-way
VC8715AA1000/U	24V SPST, Series 80	3.5 Cv	3.0 kvs	Linear	1/2 in.	DN15	Sweat	Use with max. 50% glycol in water solution	Two-way
VC8715AM1000/U		5.8 Cv	5.0 kvs	Quick Open	3/4 in.	DN20	Sweat	Use with max. 50% glycol in water solution	Two-way
VC8715AS1000/U		7.0 Cv	6 kvs	Quick Open	1 in.	DN25	Sweat	Use with max. 50% glycol in water solution	Two-way
VC8715ZZ11/U		—	—	Quick Open	—	—	—	Actuator only	Two-way

Motorized Zone Valves

V4043 Line Voltage Zone Valves

Flare Connection

Sweat Connection

NPT Connection

Two way on-off line voltage valves consist of an actuator motor and valve assembly for controlling the flow of hot or chilled water.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Motor may be replaced without removing the valve body or draining the system.
- Suitable for heating and cooling applications.

Application: Hydronic Control
Type: Two position
Body Pattern: Two-way, Straight-through
Frequency: 60 Hz
Power Consumption: 9.6 VA
Nominal Timing (sec, min): De-energized Position: Normally Closed
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.

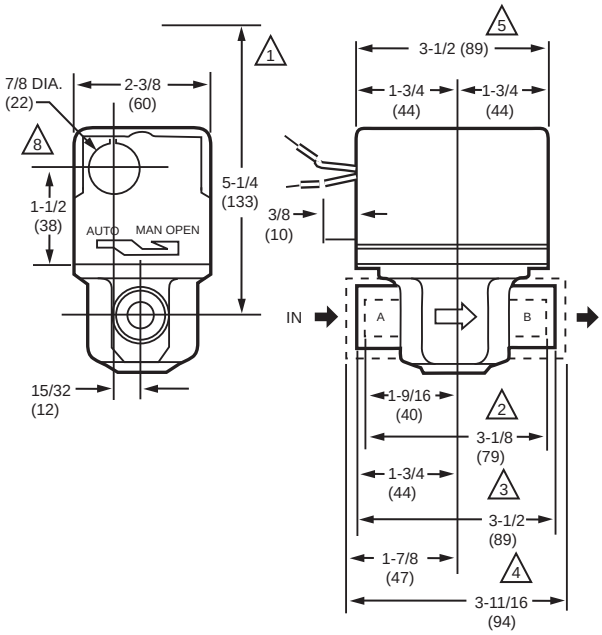
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360LA-120V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360MA-208V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360NA-220V/50 Hz; 240V/60 Hz Replacement motor for V4043, V4044 Zone Valves

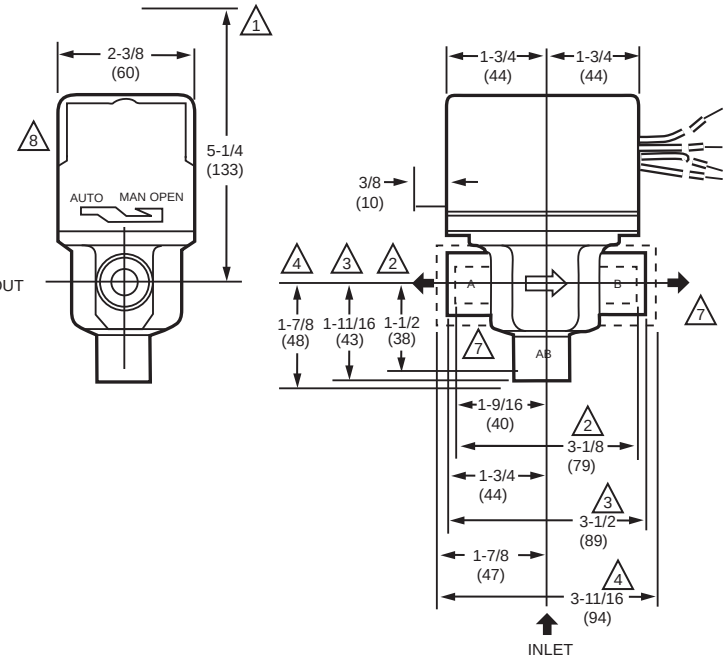
Product Number	Capacity		Pipe Size		Connection Type	Maximum Close-off Pressure		De-energized Position	Valve Action	Voltage	Current Draw (A)	Manual Opener
	(Cv)	(Kv)	inch	DN		(psi)	(kPa)					
V4043A1002/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1010/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1028/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	Normally Closed	Spring return to close	208 Vac	0.04A	Yes
V4043A1044/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	Normally Closed	Spring return to close	240 Vac	0.04A	Yes
V4043A1051/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	Spring return to close	240 Vac	0.04A	Yes
V4043A1184/U	1 Cv	0.9 Kv	1/2 in.	DN15	Sweat	50 psi	345 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1259/U	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	8 psi	55 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1317/U	8 Cv	6.9 Kv	1 in.	DN25	Sweat	8 psi	55 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1689/U	3.5 Cv	3 Kv	1/2 in.	DN15	NPT	20 psi	138 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1697/U	10 Cv	8.6 Kv	1 in.	DN25	NPT	6.5 psi	45 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043A1705/U	3.5 Cv	3 Kv	3/4 in.	DN20	NPT	20 psi	138 kPa	Normally Closed	Spring return to close	120 Vac	0.08A	Yes
V4043B1000/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	Normally Open	Spring return to open	120 Vac	0.08A	No
V4043B1018/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Open	Spring return to open	120 Vac	0.08A	No
V4043B1059/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Open	Spring return to open	240 Vac	0.04A	No

Dimensions in inches (millimeters)

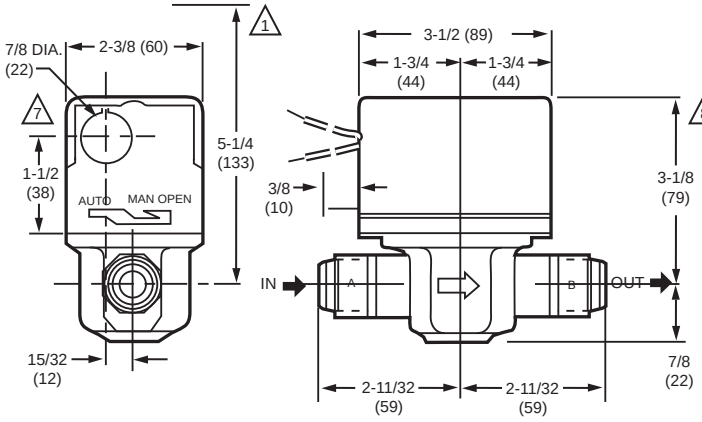
V4043, V8043 SWEAT COPPER CONNECTION MODELS 6



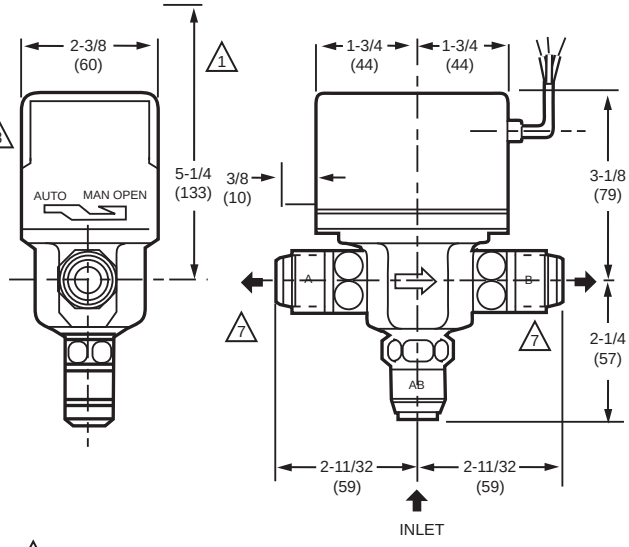
V4044, V8044 SWEAT COPPER CONNECTION MODELS



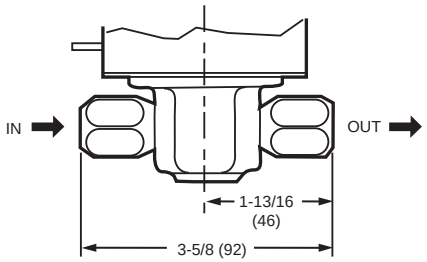
V4043, V8043 FLARE-FITTING MODELS 6



V4044, V8044 FLARE-FITTING MODELS



V8043 INVERTED FLARE MODELS



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1 HEIGHT NEEDED TO REMOVE COVER.

2 DIMENSIONS FOR 1/2 IN. COPPER TUBING.

3 DIMENSIONS FOR 3/4 IN COPPER TUBING.

4 DIMENSIONS FOR 1 IN. COPPER TUBING.

5 4-7/8 IN. (124) MAX ON V8034F WITH TERMINAL BOARD ENCLOSURE.

6 V4034B AND V8043B VALVES THAT ARE NORMALLY OPEN IN THE DE-ENERGIZED POSITION HAVE NO MANUAL LEVER. THE VALVES ALSO HAVE A REVERSED POWERHEAD WHERE THE LEADWIRES EXIT THE POWERHEAD ABOVE THE B (OUTLET) PORT RATHER THAN ABOVE THE A (INLET) PORT.

7 REFER TO MOUNTING INSTRUCTIONS.

8 OPENING FOR 1/2 IN. CONDUIT ON MANUAL LEVER SIDE FOR V4043, V8043; OPENING ON OPPOSITE SIDE FOR V4044, V8044.

Motorized Zone Valves

V4043 Line Voltage Zone Valves for Steam

Two way on-off line voltage valves consist of an actuator motor and valve assembly for controlling the flow of low pressure steam.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Motor may be replaced without removing the valve body or draining the system.
- Suitable for heating applications.

Application: Steam (low pressure) Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to close
Frequency: 60 Hz
Power Consumption: 9.6 VA
Nominal Timing (sec, min): De-energized Position: Normally Closed
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 40 F to 240 F (5 C to 116 C)
Maximum Ambient Temperature: 125 F (52 C)
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): EPDM Rubber Ball
Comments: For low pressure (15 psi) steam application
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360LA-120V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360MA-208V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360NA-220V/50 Hz; 240V/60 Hz Replacement motor for V4043,

Product Number	Capacity		Pipe Size		Connection Type	Maximum Close-off Pressure		De-energized Position	Voltage	Current Draw (A)	Manual Opener
	(Cv)	(Kv)	inch	DN		(psi)	(kPa)				
V4043E1003/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	120 Vac	0.08A	Yes
V4043E1011/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	208 Vac	0.04A	Yes
V4043E1029/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Closed	240 Vac	0.04A	Yes

V4044 Line Voltage Diverting Valves

Flare Connection

Sweat Connection

On-off and diverting line voltage valves consist of an actuator motor and valve assembly for controlling the flow of hot or chilled water.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Motor may be replaced without removing the valve body or draining the system.
- Suitable for heating and cooling applications.

Application: Hydronic Control
Type: Two position
Body Pattern: Three-way, Diverting
Valve Action: Spring Return to port A
Frequency: 60 Hz
Power Consumption: 9.6 VA
De-energized Position: Port A Normally Closed
Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360LA-120V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360MA-208V, 60 Hz Replacement motor for V4043, V4044 Zone Valves
802360NA-220V/50 Hz; 240V/60 Hz Replacement motor for V4043, V4044 Zone Valves
802360QA-277V, 50/60 Hz Replacement motor for V4043, V4044 Zone Valves

Product Number	Capacity (Cv)	Capacity (Kv)	Pipe Size inch	Pipe Size DN	Connection Type	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Voltage	Current Draw (A)	Includes	Manual Opener	Electrical Connections
V4044A1001/u	4 Cv	3.4 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	120 Vac	0.08A	—	Yes	18 in. leads; 457 mm leads
V4044A1019/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	120 Vac	0.08A	—	Yes	18 in. leads; 457 mm leads
V4044A1035/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	208 Vac	0.04A	—	Yes	18 in. leads; 457 mm leads
V4044A1043/U	4 Cv	3.4 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	240 Vac	0.04A	—	Yes	18 in. leads; 457 mm leads
V4044A1050/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	240 Vac	0.04A	—	Yes	18 in. leads; 457 mm leads
V4044A1191/U	7.0 Cv	6 Kv	3/4 in.	DN20	Sweat	10 psi	69 kPa	120 Vac	0.08A	—	Yes	18 in. leads; 457 mm leads
V4044A1258/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	277 Vac	0.04A	—	Yes	24 in. leads 610 mm leads
V4044A1290/U	2.7 Cv and 4 Cv	2.3 Kv and 3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	120 Vac	0.08A	—	Yes	18 in. leads; 457 mm leads
V4044B1009/U	4 Cv	3.4 Kv	1/2 in.	DN15	Flare	20 psi	138 kPa	120 Vac	0.08A	Integral SPDT changeover Aquastat controller	Yes	18 in. leads; 457 mm leads
V4044B1017/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	120 Vac	0.08A		Yes	18 in. leads; 457 mm leads
V4044B1314/U	7.0 Cv	6 Kv	3/4 in.	DN20	Sweat	10 psi	69 kPa	120 Vac	0.08A		Yes	18 in. leads; 457 mm leads

Motorized Zone Valves

V8043 Low Voltage Normally Closed Zone Valves

Flare Connection

NPT Connection

Sweat Connection

Sweat Connection with terminal block

Two-way on-off low voltage valves consist of an actuator and valve assembly for controlling the flow of hot water.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Actuator motor may be replaced without removing the valve body or draining the system.

Application: Hydronic Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to close
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 7.7 VA
De-energized Position: Normally Closed
Fluid Temperature Range: 50 F to 200 F (10 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360JA-24V, 50/60 Hz Replacement motor for V8043, V8044 Zone Valves
802360UA-24V, 50/60 Hz Replacement motor for steam and heating Zone Valves

	Product Number	Capacity (Cv)	Capacity (Kv)	Pipe Size inch	Pipe Size DN	Connection Type	Auxiliary End Switch	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Current Draw (A)	Manual Opener	Electrical Connections
	V8043A1003/U	3.5 Cv	3 Kv	1/2 in.	DN15	Flare	—	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
	V8043A1011/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
	V8043A1029/U	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	—	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
	V8043A1037/U	3.5 Cv	3 Kv	1 in.	DN25	Sweat	—	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
*	**V8043A1193/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Inverted Flare	—	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
	V8043A1227/U	3.5 Cv	3 Kv	1/2 in.	DN15	NPT	—	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
*	**V8043E1004/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
*	**V8043E1012/U**	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
*	**V8043E1020/U**	3.5 Cv	3 Kv	1 in.	DN25	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
	V8043E1061/U	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	N.O. SPST	8 psi	55 kPa	0.32A	Yes	18 in. (457 mm) leads
	V8043E1079/U	8 Cv	6.9 Kv	1 in.	DN25	Sweat	N.O. SPST	8 psi	55 kPa	0.32A	Yes	18 in. (457 mm) leads
*	**V8043E1129/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Inverted Flare	N.O. SPST	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
	V8043E1137/U	10 Cv	8.6 Kv	1 in.	DN25	NPT	N.O. SPST	6.5 psi	45 kPa	0.32A	Yes	18 in. (457 mm) leads
	V8043E1145/U	3.5 Cv	3 Kv	3/4 in.	DN20	NPT	N.O. SPST	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
*	**V8043F1028/U**	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	screw terminal block
*	**V8043F1036/U**	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	screw terminal block
*	**V8043F1051/U**	3.5 Cv	3 Kv	1 in.	DN25	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	screw terminal block
	V8043F1093/U	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	N.O. SPST	8 psi	55 kPa	0.32A	Yes	screw terminal block
	V8043F1101/U	8 Cv	6.9 Kv	1 in.	DN25	Sweat	N.O. SPST	8 psi	55 kPa	0.32A	Yes	screw terminal block

** TRADELINE models • SUPER TRADELINE models*

V8043 Low Voltage Normally Open Valves For Steam

Sweat Connection

NPT Connection

On-off and two way low voltage valves consist of an actuator and valve assembly for controlling the flow of low pressure steam.

- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Actuator motor may be replaced without removing the valve body or draining the system.
- Suitable for use 15 psi low pressure steam application.

Application: Steam (low pressure) Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to open
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 7.7 VA
Nominal Timing (sec, min): De-energized Position: Normally Open
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 50 F to 240 F (10 C to 116 C)
Maximum Ambient Temperature: 125 F (52 C)

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): EPDM Rubber Ball
Comments: For low pressure (15 psi) steam application
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360UA-24V, 50/60 Hz Replacement motor for steam and heating Zone Valves

Product Number	Capacity (Cv)	Capacity (Kv)	Pipe Size inch	Pipe Size DN	Connection Type	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	De-energized Position	Current Draw (A)	Manual Opener
V8043J1003/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Open	0.42A	No
V8043J1029/U	3.5 Cv	3 Kv	1/2 in.	DN15	NPT	20 psi	138 kPa	Normally Open	0.42A	No
V8043J1037/U	3.5 Cv	3 Kv	3/4 in.	DN20	NPT	20 psi	138 kPa	Normally Open	0.42A	No

Motorized Zone Valves

V8043 Low Voltage Normally Open Zone Valves

Sweat Connection

NPT Connection

On-off and two-way low voltage valves consist of an actuator and valve assembly for controlling the flow of hot water.

- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Actuator motor may be replaced without removing the valve body or draining the system.
- No Manual opener

Application
Hydronic Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to open
Voltage: 24 Vac
Power Consumption: 7.7 VA
Nominal Timing (sec, min): De-energized Position: Normally Open
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360JA-24V, 50/60 Hz Replacement motor for V8043, V8044 Zone Valves
802360UA-24V, 50/60 Hz Replacement motor for steam and heating Zone Valves

Product Number	Capacity		Pipe Size		Connection Type	Maximum Close-off Pressure		De-energized Position	Frequency	Current Draw (A)	Manual Opener
	(Cv)	(Kv)	inch	DN		(psi)	(kPa)				
V8043B1019/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	20 psi	138 kPa	Normally Open	60 Hz	0.32A	No
V8043B1027/U	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	20 psi	138 kPa	Normally Open	60 Hz	0.32A	No
V8043B1076/U	3.5 Cv	3 Kv	3/4 in.	DN20	NPT	20 psi	138 kPa	Normally Open	50 Hz; 60 Hz	0.32A	No

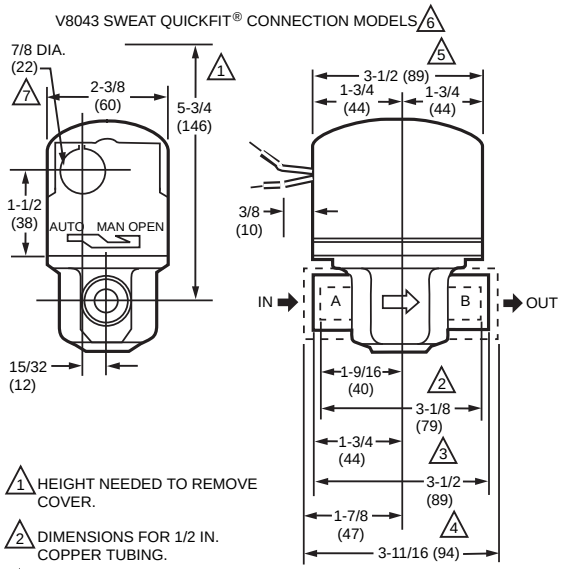
V8043 Low Voltage Series 5000 QuickFit® Zone Valves

Sweat Connection

Two-way on-off low voltage valves consist of an actuator and valve assembly for controlling the flow of hot water.

- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- "Quick Fit" pushbutton powerhead makes it easy to remove for service.
- Series 5000 replacement powerhead is backward compat ble with series 1000 zone valves.
- Innovative motor technology offers silent operation, water hammer resist and longer life.

Dimensions in inches (millimeters)



1 HEIGHT NEEDED TO REMOVE COVER.

2 DIMENSIONS FOR 1/2 IN. COPPER TUBING.

3 DIMENSIONS FOR 3/4 IN COPPER TUBING.

4 DIMENSIONS FOR 1 IN. COPPER TUBING.

5 4-7/8 IN. (124) MAX ON V8034F WITH TERMINAL BOARD ENCLOSURE.

6 V8043B VALVES THAT ARE NORMALLY OPEN IN THE DE-ENERGIZED POSITION HAVE NO MANUAL LEVER. THE VALVES ALSO HAVE A REVERSED POWERHEAD WHERE THE LEADWIRES EXIT THE POWERHEAD ABOVE THE B (OUTLET) PORT RATHER THAN ABOVE THE A (INLET) PORT.

7 OPENING FOR 1/2 IN. CONDUIT ON MANUAL LEVER SIDE FOR V8043

M23257

Application: Hydronic Control
Type: Two position
Body Pattern: Two-way, Straight-through
Valve Action: Spring return to close
Voltage: 24 Vac
Frequency: 60 Hz
Power Consumption: 7.2 VA
De-energized Position: Normally Closed
Fluid Temperature Range: 50 F to 200 F (10 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball

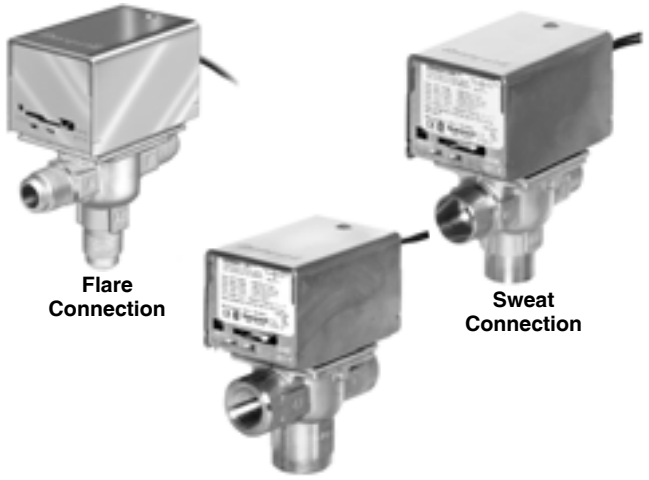
Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.

Approvals
Underwriters Laboratories, Inc: CSA C/US: File 1322

Product Number	Capacity (Cv)	Capacity (Kv)	Pipe Size inch	Pipe Size DN	Connection Type	Auxiliary End Switch	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Current Draw (A)	Manual Opener	Electrical Connections
V8043A5011/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
V8043A5029/U	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	—	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
V8043E5004/U	3.5 Cv	3 Kv	1/2 in.	DN15	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
V8043E5012/U	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
V8043E5020/U	3.5 Cv	3 Kv	1 in.	DN25	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	18 in. (457 mm) leads
V8043E5061/U	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	N.O. SPST	8 psi	55 kPa	0.32A	Yes	18 in. (457 mm) leads
V8043E5079/U	8 Cv	6.9 Kv	1 in.	DN25	Sweat	N.O. SPST	8 psi	55 kPa	0.32A	Yes	18 in. (457 mm) leads
V8043F5036/U	3.5 Cv	3 Kv	3/4 in.	DN20	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	screw terminal block
V8043F5051/U	3.5 Cv	3 Kv	1 in.	DN25	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	Yes	screw terminal block
V8043F5093/U	8 Cv	6.9 Kv	3/4 in.	DN20	Sweat	N.O. SPST	8 psi	55 kPa	0.32A	Yes	screw terminal block

Motorized Zone Valves

V8044 Low Voltage Diverting Valves



Flare Connection

Sweat Connection

NPT Connection

On-off and diverting low voltage valves consist of an actuator and valve assembly for controlling the flow of hot water.

- Manual opener (on all models, except straight-through, normally open valves) for valve operation on power failure; valve returns to automatic position when power is restored.
- All models may be installed without disassembling the valve.
- Compact construction for easy installation.
- Complete powerhead may be removed or replaced without breaking plumbing line connections or draining the system.
- Actuator motor may be replaced without removing the valve body or draining the system.

Application: Hydronic Control
Type: Two position
Body Pattern: Three-way, Diverting
Valve Action: Spring Return
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 7.7 VA
De-energized Position: Port A Normally Closed
Electrical Connections: 18 in. leads (457 mm leads)
Fluid Temperature Range: 40 F to 200 F (5 C to 93 C)
Maximum Ambient Temperature: 125 F (52 C)
Comments: Use this valve in closed loop hydronic systems that do not contain dissolved oxygen in system water, such as fresh water from frequent source of makeup water.
Valve designed for cycling (not constantly powered on) applications.

Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Packing O-Ring): EPDM rubber
(Ball Plug): Buna-N (NBR) Rubber Ball
Approvals
Underwriters Laboratories, Inc: UL Listed: File MH11826

Replacement Parts:
802360JA-24V, 50/60 Hz Replacement motor for V8043, V8044 Zone Valves
802360UA-24V, 50/60 Hz Replacement motor for steam and heating Replacement Parts:

Product Number	Capacity		Pipe Size		Connection Type	Auxiliary End Switch	Maximum Close-off Pressure		Current Draw (A)	Includes	Manual Opener
	(Cv)	(Kv)	inch	DN			(psi)	(kPa)			
V8044A1002/U	4 Cv	3.4 Kv	1/2 in.	DN15	Flare	—	20 psi	138 kPa	0.32A	—	Yes
V8044A1010/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	0.32A	—	Yes
V8044A1044/U	7.0 Cv	6 Kv	3/4 in.	DN20	Sweat	—	10 psi	69 kPa	0.32A	—	Yes
V8044A1051/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	0.32A	Restricted 2.5 Cv bypass port.	Yes
V8044A1135/U	4 Cv	3.4 Kv	1/2 in.	DN15	NPT	—	20 psi	138 kPa	0.32A	—	Yes
V8044A1143/U	4 Cv	3.4 Kv	3/4 in.	DN20	NPT	—	20 psi	138 kPa	0.32A	—	Yes
V8044B1018/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	—	20 psi	138 kPa	0.32A	Integral SPDT changeover Aquastat controller	Yes
V8044E1003/U	4 Cv	3.4 Kv	1/2 in.	DN15	Sweat	N.O. SPST	20 psi	138 kPa	0.32A	—	Yes
V8044E1011/U	7.0 Cv	6 Kv	3/4 in.	DN20	Sweat	N.O. SPST	10 psi	69 kPa	0.32A	—	Yes

Y496 Zone Control Builder Packs

Contain devices necessary for temperature control of a single zone in a hydronic heating system.

- Include thermostat with special heat anticipator designed for best performance when used with the V8043 Zone Valve.
- Require 24 V power source.
- Custom packed with 10 Valves and 10 thermostats per carton.

Valve Dimensions: Valve: 4 in. high, 3-1/2 in. wide, 2 3/8 in. deep (Valve: 101 mm high x 90 mm wide x 60 mm deep)
Pipe Connection: Sweat
Body Pattern: Two-way
Valve Action: Spring return to close
Valve Capacity: 3.5 Cv (3 Kv)
Thermostat Electrical Rating: 24 V, 50/60 Hz
Valve Electrical Rating: 24 Vac, 50/60 Vac
Thermostat Color: Premier White®
Comments: See valve and thermostat for more details.

Approvals
Underwriters Laboratories, Inc: UL Listed: Models V8043A,B,E,J & V8044A,B,E; UL Component Recognized: V8043F

Product Number	Y-Pack Includes
Y496A1074	V8043E1012, T822K1018
Y496A1082	V8043E1004, T822K1018
Y496A1090	V8043E1061, T822K1018
Y496B1024	V8043E1012, T87K1007
Y496B1040	V8043F1036, T87K1007
Y496E1005	V8043A1029, TH5110D1006
Y496E1013	V8043E1004, TH5110D1006
Y496E1021	V8043E1012, TH5110D1006

		Thermostat						Valve				
			Anticipator Adj.		Temperature Range			Pipe Size	Maximum Close-off Pressure		Valve Aux Switch Ratings	
	Product Number	Application	Heating	Cooling	(F)	(C)	Current	inch	(psi)	(kPa)		Includes
*	**Y496A1074/U**	Single Stage Heating Only	0.18 to 1.0 A	—	55 to 95 F	13 to 35 C	—	3/4 in.	20 psi	138 kPa	50 VA pilot duty @ 24 V; 4.4 A running @ 120 V	—
*	**Y496A1082/U**		0.18 to 1.0 A	—	55 to 95 F	13 to 35 C	—	1/2 in.	20 psi	138 kPa		—
*	**Y496A1090/U**		0.18 to 1.0 A	—	55 to 95 F	13 to 35 C	—	3/4 in.	8 psi	55 kPa		—
*	**Y496B1024/U**	Single Stage Heating and Cooling	0.1 to 1.2 A	0.0 to 1.5 A	40 to 90 F	4 to 32 C	—	3/4 in.	20 psi	138 kPa		104456B Wallplate
*	**Y496B1040/U**		0.1 to 1.2 A	0.0 to 1.5 A	40 to 90 F	4 to 32 C	—	3/4 in.	20 psi	138 kPa		104456B Wallplate
*	**Y496E1005/U**		—	—	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C	Cooling: 1.0 A running; Heating: 1.0 A running; Fan: 0.5 A running	3/4 in.	20 psi	138 kPa	—	—
*	**Y496E1013/U**		—	—				1/2 in.	20 psi	138 kPa	50 VA pilot duty @ 24 V; 4.4 A running @ 120 V	—
*	**Y496E1021/U**		—	—				3/4 in.	20 psi	138 kPa		—

** TRADELINE models • SUPER TRADELINE models*

Zone Valve Replacement Parts

Product Number	Description	
272708A/U	Two 1/2 in. inverted flare to 1/2 in. sweat adapters	
272708B/U	Two 1/2 in. inverted flare to 3/4 in. sweat adapters	

Motorized Zone Valves

Zone Valves Replacement Heads

Maximum Ambient Temperature: 125 F (52 C)

Product Number	Description	Electrical Connection Location	Voltage	Frequency	Aux Switch Ratings	Used With Valve Action	Used With Valve	
40003916-021/U	24 Vac, 50/60 Hz Replacement head for V8043A	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close	Two-way	
40003916-023/U	240 Vac, 50 Hz Replacement head for V4043A, 240V, 50Hz	Same side of manual lever	240 Vac	50 Hz	—	Spring return to close	Two-way	
40003916-024/U	120 Vac, 60 Hz Replacement head for V4043A	Same side of manual lever	120 Vac	60 Hz	—	Spring return to close	Two-way	
40003916-025/U	24 Vac, 50/60 Hz Replacement head with End Switch for V8044E	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close “A” port	Diverting	
40003916-026/U	24 Vac, 50/60 Hz Replacement head with End Switch for V8043E	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close	Two-way	
40003916-027/U	24 Vac, 50/60 Hz, N.O. Replacement head for V8043B	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to open	Two-way	
40003916-030/U	240 Vac, 60 Hz, N.O. Replacement actuator for V4043B	Same side of manual lever	240 Vac	60 Hz	—	Spring return to open	Two-way	
40003916-031/U	120 Vac, 60 Hz, N.O. Replacement head for V4043B	Same side of manual lever	120 Vac	60 Hz	—	Spring return to open	Two-way	
40003916-032/U	24 Vac, 50/60 Hz Replacement head for V8044A	On opposite side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-035/U	220/240 Vac, 50/60 Hz	On opposite side of manual lever	240 Vac; 220 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-036/U	120 Vac, 60 Hz Replacement head for V4044	On opposite side of manual lever	120V	60 Hz	—	Spring return to close “A” port	Diverting	
40003916-037/U	24 Vac, 50/60 Hz Replacement head for V8044B, With Aquastat Switch	On opposite side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-040/U	120 Vac, 60 Hz Replacement head for V8044B, With Aquastat Switch	On opposite side of manual lever	120 Vac	60 Hz	—	Spring return to close “A” port	Diverting	
40003916-041/U	120 Vac, 60 Hz Replacement head for V4043E, Steam Valve	Same side of manual lever	120 Vac	60 Hz	—	Spring return to close	Two-way	
40003916-043/U	24 Vac, 50/60 Hz Replacement head with End Switch for V8044E	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close “A” port	Diverting	
40003916-044/U	24 Vac, 50/60 Hz Replacement head for V8044B, with Aquastat	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-045/U	120 Vac, 60 Hz Replacement head for V4044B, with Aquastat	Same side of manual lever	120 Vac	60 Hz	—	Spring return to close “A” port	Diverting	
40003916-046/U	24 Vac, 50/60 Hz Replacement head for V8044A	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close “A” port	Diverting	
40003916-047/U	120 Vac, 60 Hz Replacement head for V4044A, 120V, 60Hz, with 96" leads	Same side of manual lever	120 Vac	60 Hz	—	Spring return to close “A” port	Diverting	
40003916-048/U	24 Vac, 50/60 Hz Replacement head for V8043F, With End Switch	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close	Two-way	

Product Number	Description	Electrical Connection Location	Voltage	Frequency	Aux Switch Ratings	Used With Valve Action	Used With Valve	
40003916-521/U	24 Vac, 50/60 Hz Replacement head for V8043A 5000 series	Same side of manual lever	24 Vac	50 Hz; 60 Hz	—	Spring return to close	Two-way	
40003916-526/U	24 Vac, 50/60 Hz Replacement head with End Switch, for V8043E 5000 series	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close	Two-way	
40003916-548/U	24 Vac, 50/60 Hz Replacement head for V8043F, With End Switch	Same side of manual lever	24 Vac	50 Hz; 60 Hz	4.4 A running @ 120 V; 50 VA pilot duty @ 24 V	Spring return to close	Two-way	

Replacement Parts

Product Number	Description	Includes
40003918-006/U	Adaptor kit for V4043, V8043, 2-way hydronic valves	Adapter plate, ball and shaft assembly, large O-ring and four mounting screws.
40003918-007/U	Adaptor kit for V4044, V8044, 3-way diverting valves	Adapter plate, ball and shaft assembly, large O-ring and four mounting screws.
40003918-008/U	Adaptor kit for V4043E, J, V8043J, low pressure steam valves	Adapter plate, ball and shaft assembly, large O-ring and four mounting screws.

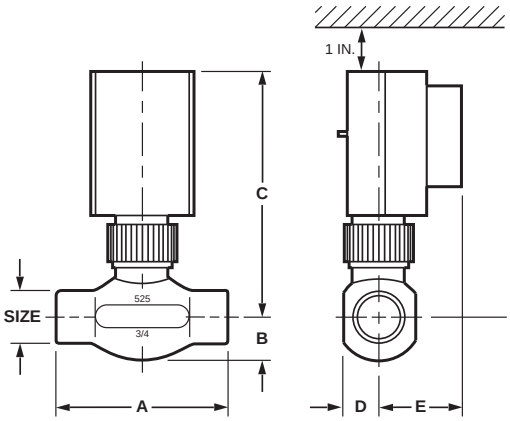
Motorized Zone Valves

MZV Series Motorized Zone valves

Honeywell MZV Series is the first linear zone valve with a built-in balancing plug that permits pre-balancing for each zone.

- Rack and pinion linear design.
- Fast acting, 15 seconds to open, 5 seconds to close.
- Two piece rack design to extend service life.
- Low power consumption, 8 valves, 40 VA transformer.
- External valve position indicator.
- Quiet operation, no water hammer.
- Built-in tamper resistant balancing valve for pre-balancing.
- High torque, constant speed synchronous motor.
- Cooler running, longer life motor.
- Operator can be replaced without draining system.
- Manual opening feature.
- Replaceable valve cartridge.
- Large adjustable flow, 1/2 in. 3/4 in. Cv 5.8; 1 in. 7.0 Cv; 1-1/4 in. Cv 7.0.
- Motor CSA recognized.
- 4 wire operator with auxiliary switch.
- 2 wire without switch, 24 in. leads.
- Compat ble with programmable thermostats.
- Bronze casting; brass/stainless trim.
- USA Patent Nos. 5,529,282; D369,650; 5,941,500; 6,032,924.
- UK Patent No. 2,052,382. 24 VAC, 60 Hz, 0.25 ampere.
- 30 mm collar (valve/actuator interface)

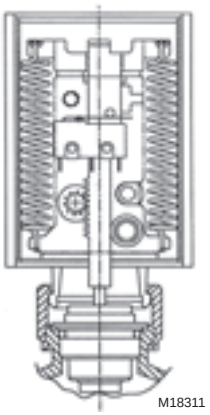
Dimensions in inches (millimeters)



MZV SERIES	VALVE SIZE	DIMENSIONS IN INCHES (MM)				
		A	B	C	D	E
524	1/2 IN.	3-5/16 (84)	1 (25)	4-13/16 (122)	11/16 (17)	1-5/8 (41)
525	3/4 IN.	3-5/16 (84)	13/16 (21)	4-13/16 (122)	11/16 (17)	1-5/8 (41)
526	1 IN.	3-13/16 (97)	1 (25)	4-13/16 (122)	13/16 (21)	1-5/8 (41)
527	1-1/4 IN.	3-13/16 (97)	1 (25)	4-13/16 (122)	13/16 (21)	1-5/8 (41)

M23259B

Patented long life rack and pinion design with built-in balancing valve



M18311

Application: Residential or Commercial Zoning for hot water heating or chilled water air conditioning systems, fan coil units or indirect water heater service.
Body Pattern: Two-way
Voltage: 24 Vac
Frequency: 60 Hz
Maximum Ambient Temperature: 125 F (52 C)

Product Number	Capacity (Cv)	Pipe Size		Connection Type	Auxiliary End Switch	Maximum Close-off Pressure		Maximum Water Pressure		Voltage	Frequency
		DN	inch			(psi)	(kPa)	(psi)	(kPa)		
MZV524-T/U	5.8 Cv	DN15	1/2 in.	NPT	—	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV524E-T/U	5.8 Cv	DN15	1/2 in.	NPT	SPST	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV525/U	5.8 Cv	DN20	3/4 in.	Sweat	—	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV525-T/U	5.8 Cv	DN20	3/4 in.	NPT	—	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV525E/U	5.8 Cv	DN20	3/4 in.	Sweat	SPST	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV525E-T/U	5.8 Cv	DN20	3/4 in.	NPT	SPST	20 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV526/U	7.0 Cv	DN25	1 in.	Sweat	—	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV526-T/U	7.0 Cv	DN25	1 in.	NPT	—	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV526E/U	7.0 Cv	DN25	1 in.	Sweat	SPST	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV526E-T/U	7.0 Cv	DN25	1 in.	NPT	SPST	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV527/U	7.0 Cv	DN32	1 1/4 in.	Sweat	—	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz
MZV527E/U	7.0 Cv	DN32	1 1/4 in.	Sweat	SPST	17.5 psi	—	125 psi	862 kPa	24 Vac	60 Hz

MZV Series Replacement Parts

Product Number	Description	Voltage	Frequency	Auxiliary End Switch	Maximum Close-off Pressure (psi)	Maximum Water Pressure		Maximum Ambient Temperature		
						(psi)	(kPa)	(F)	(C)	
MZV520-RP/U	Replacement operator for MZV 524/525/526/527 with end switch	24 Vac	60 Hz	SPST	—	—	—	240 F	115 C	
MZV521-RP	Replacement operator for MZV 524/525/526/527 without end switch	24 Vac	60 Hz	No	—	—	—	240 F	115 C	
MZV525-RP/U	Replacement valve cartridge for 1/2 in. (MZV524, MZV524E) and 3/4 in. (MZV525, MZV525E) valves	24 Vac	60 Hz	—	20 psi	125 psi	862 kPa	240 F	115 C	
MZV526-RP/U	Replacement valve cartridge for 1 in. (MZV526, MZV526E) and 1 1/4 in. (MZV527, MZV527E) valves	24 Vac	60 Hz	—	17.5 psi	125 psi	862 kPa	240 F	115 C	
SZ07-070/U	Conversion kit, telestat to Powertrack (MZV). Order with MZV520-RP. Includes adapter ring and shaft extension.	—	—	No	—	—	—	—	—	

MT4 Series Smart-T Thermal Electric Actuator

- No mounting tools required. Mounts easily to manifold with valve adapter (included)
- Waterproof housing
- Auxiliary switch models for driving pumps or fans
- Low power consumption
- Normally closed action
- Compact design - installs in tight spaces
- Visual indicator shows valve position
- Silent operation
- Reliable long-term operation

Materials (Body): Plastic
Dimensions, Approximate: 2.24 high x 1.77 long x 1.65 deep

Current Draw: < 0.1A while operating; 0.7A during first 500 milliseconds
Maximum Fluid Temperature: 248 F (120 C)

Product Number	Connection Type	Collar Diameter		Description	Used With
		inch	mm		
MT4-024S-NC-USA	Threaded	1 3/16 in.	30 mm	MT4 Thermal Electric Actuator	RM Series Manifolds

RM Series Manifold Accessories

Materials (Body): Brass/Plastic

Used With: RM Series Manifolds

Product Number	Connection Type	Connection Size	Description
FM100/U	Threaded	—	RM Series Manifold Flow Meter Replacement Top
MA206-019/U	PEX	R32 x 1 in.	R32 x 1 in. PEX Adapter
MA206-020/U	NPT	R32 x 1 in.	R32 x 1 in. NPT Adapter
MA206-022/U	Sweat	R32 x 1 1/4 in.	R32 x 1 1/4 in. Sweat Adapter
MC206-010/U	—	—	RM Series Union Coupling Gasket
MPF203-023/U	Threaded	3/4 in	RM Series Manifold Branch Cap
MTK202/U	Threaded	1 in	RM Series Manifold Union End Fitting with Thermometer

AquaPUMP™ Hydronic Circulating Pumps

PC3F2699

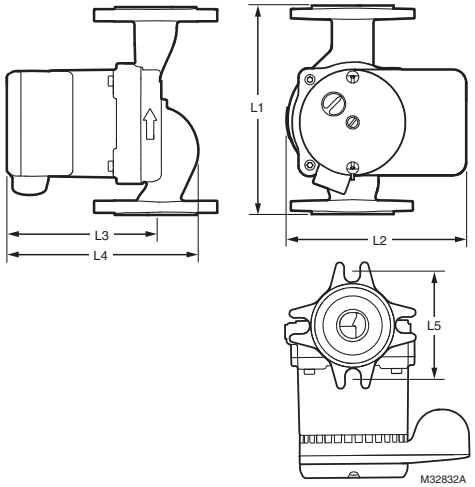
PC3F4344

PC3F1558

The PC3F in-line, wet rotor circulator with universal flange is designed for applications in closed-loop hydronic heating and cooling systems, as well as in solar systems. The pump is non-submersible and for use in dry, frost-free, well-ventilated installations.

- Twist-To-Fit Universal Flange, Rotates 90° to fit most installations with a single product
- Three pump sizes cover every application
- 3-Speed Versatility maximize efficiency and provide sufficient flow rates with a single pump
- Universal Design replaces wide range of competitive models with just one brand

Hydronic Circulating Pump dimensions diagram



Dimensions in inches (millimeters)

Pump Model	L1	L2	L3	L4	L5
PC3F1558IUF00	6-1/2 (165.5)	5-1/2 (140)	4.7 (118)	6.6 (167)	3-5/32 (80.2)
PC3F2699IUF00	6-1/2 (165.5)	6.1 (155)	6.5 (165)	7.8 (197)	3-5/32 (80.2)
PC3F4344IUF00	8-1/2 (216)	6.1 (155)	6.9 (174)	8.9 (227)	3-7/16 (87.3)

Maximum Noise Rating: Driving (dB(A) @ 1m)-- 43
Maximum Water Pressure (psi): 145 psi
Voltage: 115V at 60 Hz
Ambient Temperature Range: 32 F to 104 F (0 C to 40 C)
Fluid Temperature: 230 F (110 C) Maximum
With optional check valve installed - 200 F (95 C) Maximum
Materials: Housing--Cast Iron; Bearings and Shaft--Ceramic

Product Number	Maximum Flow Rate (gpm)	Pressure Head	Dimensions	Weight (lb)
PC3F1558IUF00/U	15 gpm	19	6-1/2 in. A to B ports End to End	7.8 ib
PC3F2699IUF00/U	25 gpm	31	6-1/2 in. A to B ports End to End	9.5 ib
PC3F4344IUF00/U	45 gpm	17	8-1/2 in. A to B ports End to End	12.3 ib

AquaPUMP Accessories

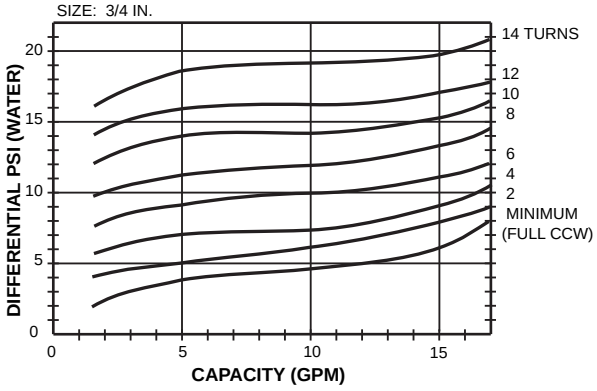
Product Number	Fluid Temperature (F)	Fluid Temperature (C)	Size	Description	
PCG100/U	230 F Maximum	110 C Maximum	1 in.	1 inch Circulating Pump Flange Gasket	
PCG125/U	230 F Maximum	110 C Maximum	1-1/4 in.	1-1/4 inch Circulating Pump Flange Gasket	
PCG150/U	230 F Maximum	110 C Maximum	1-1/2 in.	1-1/2 inch Circulating Pump Flange Gasket	
PCV100/U	200 F Maximum	93 C Maximum	1 in.	1 inch Circulating Pump Check Valve	
PCV125/U	200 F Maximum	93 C Maximum	1-1/4 in.	1-1/4 inch Circulating Pump Check Valve	
PCV150/U	200 F Maximum	93 C Maximum	1-1/2 in.	1-1/2 inch Circulating Pump Check Valve	

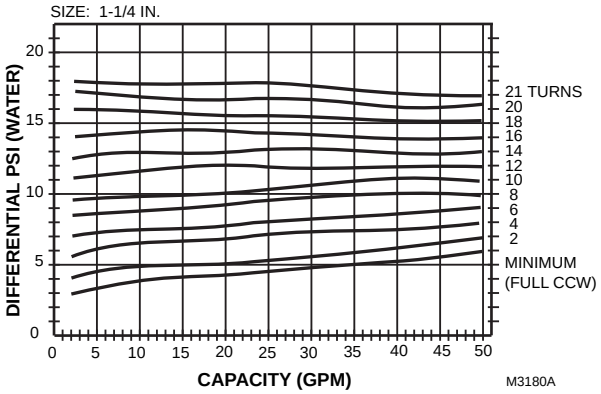
D146 Differential Pressure Regulators

Used to eliminate excessive pump head pressure when most radiator valves are closed due to reduced demand.

- Install between supply and return sides of a hydronic system to stabilize pressure differential and reduce the effects of demand changes.
- Control maintains a constant differential between the two sides by opening a bypass whenever the difference between supply and return reaches the setpoint.
- Provides silent, trouble-free service.
- Easy installation; requires no electrical hookup.
- Easy adjustment of pressure by turning regulating cap.
- Built-in differential pressure indicator.
- Brass valve body with thermoplastic and stainless steel parts.
- Diaphragm of EPDM.

D146 Capacities





Maximum Inlet Pressure Rating (psi): 85 Psi
Outlet Pressure Adjustment Range (psi): 0-17 psi
Pipe Connection: Angle type, female threaded NPT

Temperature Range: 230 F (110 C)
Materials: Brass (body), Stainless steel and engineered thermoplastics. EPDM diaphragm.

Product Number	Pipe Size		Capacity	Dimensions, Approximate		Description	Includes
	inch	DN		inch	mm		
D146M1032	3/4 in.	DN20	18 gpm; 120,000 Btu/hr	6 1/4 in. high x 3 3/8 in. wide	160 mm high x 86 mm wide	Differential Pressure Regulator, 3/4 in.	Built-in differential pressure indicator
D146M1040	1 1/4 in.	DN32	50 gpm; 395,000 Btu/hr	8 1/2 in. high x 4 1/4 in. wide	213 mm high x 109 mm wide	Differential Pressure Regulator, 1 1/4 in.	Built-in differential pressure indicator

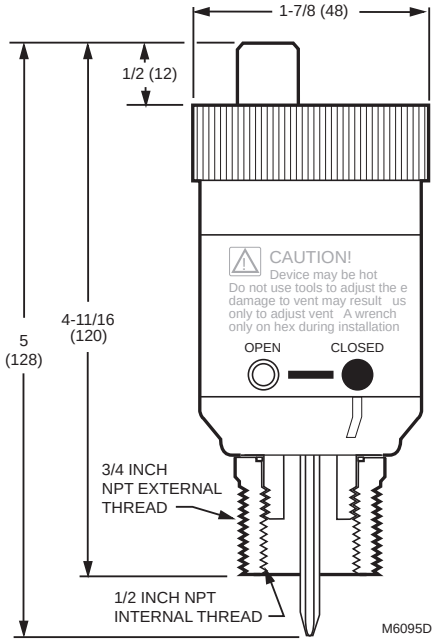
Air Vents and Eliminators

EA79 Industrial Air Vents

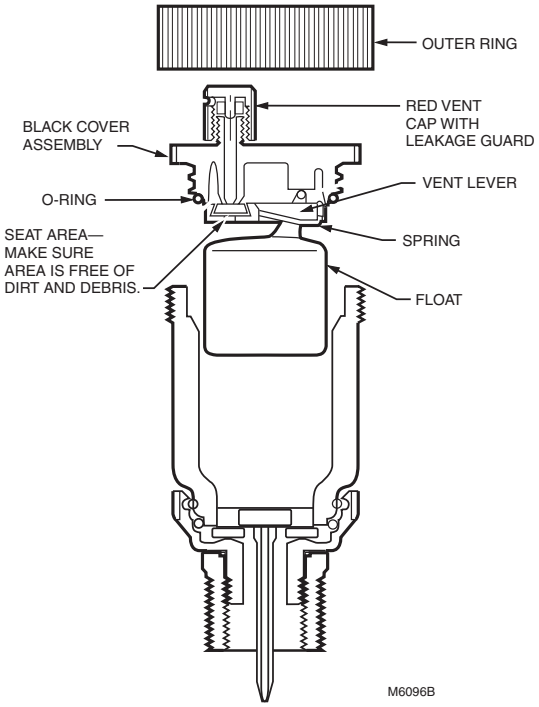
The Honeywell EA79 Industrial Air Vent purges air from high pressure mains and equipment in hot or cold closed water systems.

- Built-in shutoff valve for servicing without system shutdown.
- Built-in vacuum breaker.
- Removable float/valve assembly for easy servicing.
- Safety drain connection and vent cap with leakage guard.
- Brass shell construction.
- Internal parts made of corrosion-resistant and chemical-resistant materials for use with water systems containing propylene glycol, mineral oils, or petroleum-based oils. Replaces Hoffman # 79 or Dole # 75 Vents.
- Maintains quiet and efficient operation.

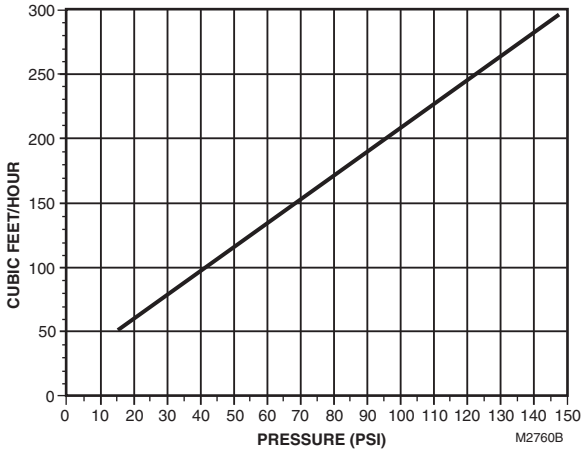
Dimensions in inches (millimeters)



EA79 construction



EA79 capabilities



Application: Hydronics
Corrosion Resistant: Internal parts made of corrosion-resistant and chemical-resistant materials for use with hydronic systems that may contain concentrations of propylene or ethylene glycol.
Maximum Operating Temperature: 250 F (120C)
Maximum Operating Pressure: 150 psi (1034 kPa)

Accessories:
Q122A1001-Safe waste connector (M20 thread connection)

Replacement Parts:
P79B1003-Replacement O-ring, cover and internals for EA79A1004

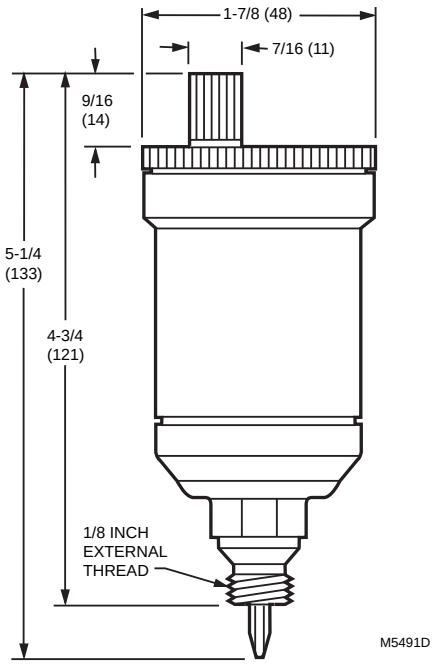
Product Number	Connection Type	Connection Size	Description
EA79A1004	3/4 in. male NPT pipe thread with 1/2 in. female NPT pipe thread	3/4 in.	Industrial automatic air vent

EA122A Automatic Air Vent for Non-Heating System Applications

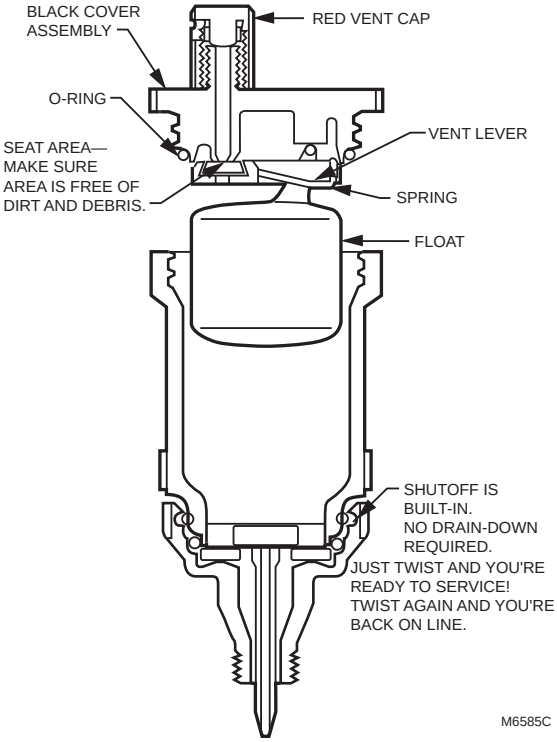
The Honeywell EA122A Automatic Air Vent purges air from high pressure mains and equipment in hot or cold potable water systems.

- Includes removable float/valve assembly for easy servicing.
- Not for use in steam systems.
- Body, cover and float assembly made of thermoplastics.
- Internal parts made of corrosion-resistant and chemical-resistant materials for use with water systems containing light concentrations of propylene glycol, mineral oils, or petroleum-based oils.
- Oil resistant seal.
- EPDM seat disc and O-ring.

Dimensions in inches (millimeters)



EA122A construction



Application: Potable water installations
Dimensions (approximate): 5 1/4 in. long x 1 7/8 in. diameter (133 mm long x 48 mm diameter)
Corrosion Resistant: Internal parts made of corrosion-resistant and chemical-resistant materials for use with hydronic systems that may contain concentrations of propylene or ethylene glycol.
Maximum Operating Temperature: 212 F (100 C)
Maximum Operating Pressure: 90 psi (620 kPa)

Accessories:
Q122A1001-Safe waste connector (M20 thread connection)

Replacement Parts:
900761-Red Vent cap for Air Vent
P122B1010-Cover assembly including cover, float assembly and vent cap

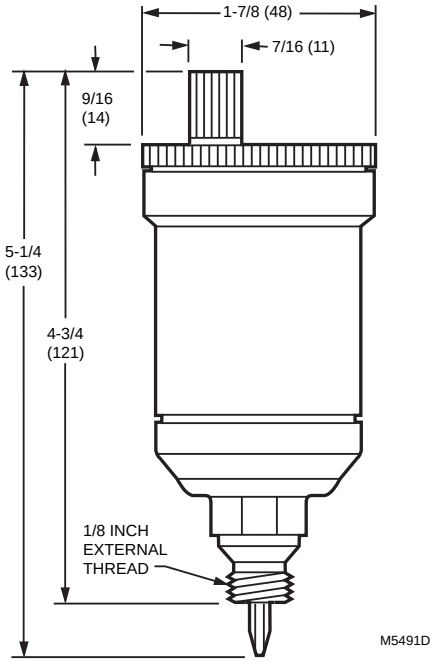
Product Number	Connection Type	Connection Size	Description
EA122A1028	Male NPT	1/8 in.	Automatic air vent with built-in shut off valve; includes EPDM seat disc and O-ring.
EA122B117/U	Male NPT	1/8 in.	Automatic Air vent without build-in shutoff valve or leakage guard; includes EPDM seat disc and O-ring.

EA122A Automatic Air Vent for Heating System Applications

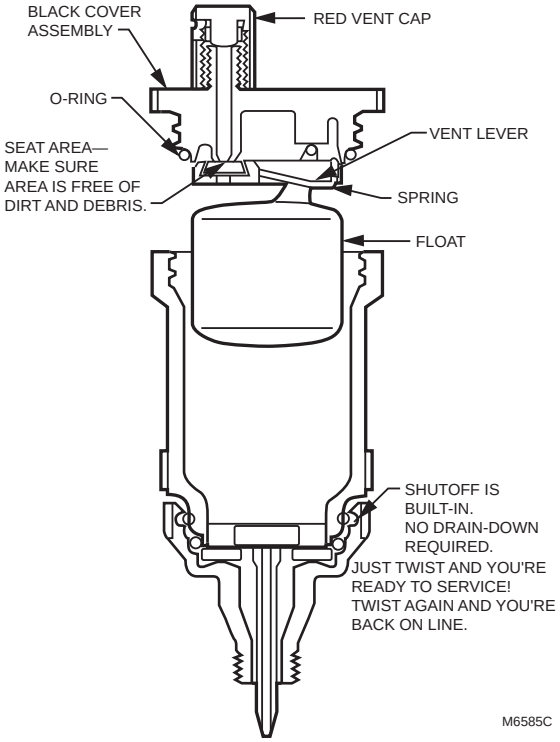
The Honeywell EA122A Automatic Air Vent purges air from high pressure mains and equipment in hot or cold closed water systems.

- Includes removable float/valve assembly for easy servicing.
- Not for use in steam systems.
- Body, cover and float assembly made of thermoplastics.
- Internal parts made of corrosion-resistant and chemical-resistant materials for use with water systems containing light concentrations of propylene glycol, mineral oils, or petroleum-based oils.
- Oil resistant seal.
- NBR seat disc and O-ring.

Dimensions in inches (millimeters)



EA122A construction



Application: Hydronic heating and cooling
Corrosion Resistant: Internal parts made of corrosion-resistant and chemical-resistant materials for use with hydronic systems that may contain concentrations of propylene or ethylene glycol.
Maximum Operating Temperature: 212 F (100 C)
Maximum Operating Pressure: 90 psi (620 kPa)

Accessories:
Q122A1001-Safe waste connector (M20 thread connection)

Replacement Parts:
P122B1002-Cover assembly including cover, float assembly and vent cap

Product Number	Connection Type	Connection Size	Description
EA122A1002	Male NPT	1/8 in.	Automatic air vent with built-in shutoff valve and leakage guard, oil resistant

Air Vent Accessories and Replacement Parts

Product Number	Description	Used With
P122B1002	Cover assembly including cover, float assembly and vent cap	EA122A1002;
P122B1010	Cover assembly including cover, float assembly and vent cap	EA122A1028;
P79B1003	Replacement O-ring, cover and internals for EA79A1004	EA79A1004;
Q122A1001/U	Safe waste connector (M20 thread connection)	EA79; EA122A;

GoldTop™–Universal Air Vent for Residential and Commercial Heating and Cooling Systems.

Installers, wholesalers and OEMs can now stock one vent for all their venting needs between 1 and 150 psi systems and obtain the highest venting performance. Honeywell has reinvented the vent! Air vents have been removing air from heating and cooling systems for decades. Some were better than others. Many stopped venting after initial filling. No one has, up to now, been able to design a low cost vent that performs at both low and high pressures. It was always one or the other. Honeywell's revolutionary patented fulcrum design offers a venting rate of 3-4 times that of other products. It works when others stop venting at higher pressures. The GoldTop offers convenient, one-fits-all concept and is competitively priced.

- Patent No. 5,988,201.

Application: Residential or commercial heating and cooling systems
Dimensions, Approximate: 1 27/32 in. diameter x 3 1/4 in. long (24 mm diameter x 83 mm long)
Materials (Body): Brass

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 150 psi (1034 kPa)

Product Number	Connection Type	Connection Size	Weight		Description
			lb	kg	
FV180/U	Male NPT	1/8 in.	0.4 b	0.18 kg	1/8 in. NPT Goldtop Universal Air Vent for heating and cooling systems
FV180A/U	Male NPT	1/4 in.	0.4 b	0.18 kg	1/4 in. NPT Goldtop Universal Air Vent for heating and cooling systems
FV183/U	Male NPT	3/4 in.	0.4 b	0.18 kg	3/4 in. NPT Goldtop Universal Air Vent for heating and cooling systems

Hygrovent–Automatic Vent for Hot Water or Steam

The Honeywell Hygrovent is an automatic air vent for hot water and steam systems. Install in baseboards, radiators, convectors and high points in piping systems to remove air. The nickel-plated valve has a quick venting design and a positive shut-off ball check.

Application: Hot water or steam
Dimensions, Approximate: 1 27/32 in. diameter x 3 1/4 in. long (24 mm diameter x 83 mm long)
Materials (Body): Nickel Plated
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: Water: 125 psi; Steam: 10 psi

Product Number	Connection Type	Connection Size	Weight		Description
			lb	kg	
HV190/U	Male NPT	1/8 in.	0.6 lb	0.3 kg	1/8 in. NPT Automatic Air Vent for hot water or steam

Air Vents and Eliminators

MaxiVent™–Air Vent for heating and cooling systems

The Maxivent features a low profile, fit anywhere solid brass body and cover, and a high temperature polypropylene float.

Application: Residential or commercial heating and cooling systems
Dimensions, Approximate: 2 in. high x 1 5/32 in. diameter (51 mm high x 29 mm diameter)
Materials (Body): Brass
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 150 psi (1034 kPa)

Product Number	Connection Type	Connection Size	Weight		Description
			lb	kg	
FV147/U	Male NPT	1/8 in.	0.12 b	0.06 kg	1/8 in. NPT Air Vent for heating and cooling systems
FV147A/U	Male NPT	1/4 in.	0.12 b	0.06 kg	1/4 in. NPT Air Vent for heating and cooling systems

AP400 Air Purger

Air Purgers provide efficient separation of air and water in hydronic heating systems. Heavy duty cast bronze construction with tappings for expansion tank and automatic air vent mountings. Removes entrapped air with internal baffle design through continuous recirculation of heating system water with use of air vent. Improves system efficiency, reduces noise and helps extend component life.

- Heavy Duty cast iron construction
- 1 inch, 1 1/4 and 1 1/2 inch models (inlet and outlet)
- 1/2 inch bottom tapping for expansion tank mount
- 1/8 inch top tapping for air vent mount
- Directional flow arrow for correct installation

Application: Closed heating systems
Dimensions (approximate): 6 in. long x 3-3/4 in. high x 2-3/8 in. wide (152 mm long x 95 mm high x 60 mm wide)
Materials (Body): Cast Iron

Maximum Operating Temperature: 275 F (135 C)
Maximum Operating Pressure: 125 psi (862 kPa)

Product Number	Connection Type	Pipe Size	Connection Size	Weight		Description
				lb	kg	
AP400/U	Female NPT	1 in.	Bottom: 1/2 in.; Top: 1/8 in.	4.2 lb	1.9 kg	1 in. NPT Air Purger for closed heating systems
AP401/U	Female NPT	1 1/4 in.	Bottom: 1/2 in.; Top: 1/8 in.	3.8 lb	1.7 kg	1 1/4 in. NPT Air Purger for closed heating systems
AP402/U	Female NPT	1 1/2 in.	Bottom: 1/2 in.; Top: 1/8 in.	8.6 lb	3.9 kg	1 1/2 in. NPT Air Purger for closed heating systems

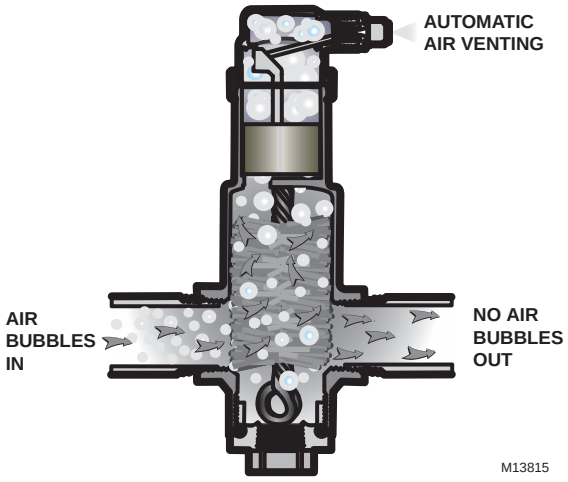
SuperVent® Air Eliminator—Eliminates Air from Hydronic Heating Systems without Bleeding

Conventional automatic air vents installed in Hydronic heating systems can leak and cause inefficient system operation. To effectively eliminate air from the system without bleeding, air bubbles ned to be vented. The NEW Honeywell SuperVent purges air through a no clog vent assembly that controls dirt and debris to minimize air vent fouling.

- No clog vent.
- Dirt and Debris resistant.
- 360 degree adjustable collar ring for installation flexibility.
- Stainless steel concentrator which eliminates gurgling noise.
- Bronze body for rigid construction.
- Threaded connections.

Application: Residential or Commercial closed loop hydronic heating or chilled water systems
Materials (Body): Bronze
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 125 psi (862 kPa)

How it works



Product Number	Pipe Size	Maximum Diameter		Dimensions, Approximate		Connection Type	Connection Size	Capacity	Weight	
		inch	mm	inch	mm			(Cv)	lb	kg
PV075/U	3/4 in.	1 13/16 in.	46 mm	6 29/32 in. high x 2 11/16 in. wide	176 mm high x 68 mm wide	Female NPT	1/2 in. bottom inlet	13 Cv	2 lb	0.9 kg
PV075S/U	3/4 in.	1 13/16 in.	46 mm	6 29/32 in. long x 3 3/16 in. wide	176 mm high x 81 mm long	Sweat	1/2 in. bottom inlet	13 Cv	2 lb	0.9 kg
PV100/U	1 in.	2 3/32 in.	53 mm	6 1/2 in. high x 3 3/32 in. wide	192 mm high x 79 mm long	Female NPT	1/2 in. bottom inlet	22 Cv	2.75 lb	1.2 kg
PV100S/U	1 in.	2 3/32 in.	53 mm	6 1/2 in. high x 3 11/16 in. wide	192 mm long x 94 mm wide	Sweat	1/2 in. bottom inlet	22 Cv	2.75 lb	1.2 kg
PV125/U	1 1/4 in.	2 1/2 in.	64 mm	7 27/32 in. high x 3 11/16 in. wide	199 mm high x 94 mm wide	Female NPT	1/2 in. bottom inlet	38 Cv	3.5 lb	1.6 kg
PV125B/U	1/4 in.	2 1/2 in.	64 mm	7 27/32 in. high x 3 11/16 in. wide	199 mm high x 94 mm wide	BSPP	1/2 in.	38 Cv	3.5 lb	—
PV125S/U	1 1/4 in.	2 1/2 in.	64 mm	7 27/32 in. high x 4 13/32 in. wide	199 mm high x 112 mm wide	Sweat	1/2 in. bottom inlet	38 Cv	3.5 lb	1.6 kg
PV150/U	1 1/2 in.	3 3/32 in.	79 mm	9 5/32 in. high x 4 5/16 in. long	233 mm high x 110 mm long	Female NPT	1/2 in. bottom inlet	50 Cv	5.2 lb	2.4 kg
PV200/U	2 in.	4 in.	102 mm	10 9/32 in. high x 5 3/16 in. long	261 mm high x 132 mm long	Female NPT	1/2 in. bottom inlet	95 Cv	8 lb	3.6 kg

SuperVent® Air Eliminator Universal Models - Eliminate Air from Hydronic Heating Systems without Bleeding

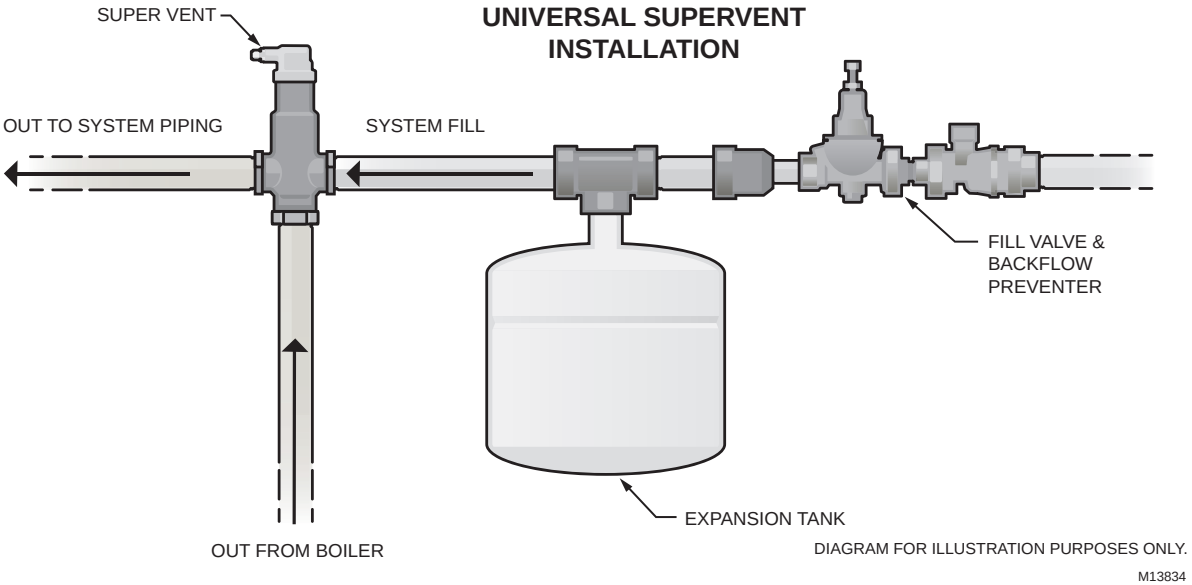
Conventional automatic air vents installed in Hydronic heating systems can leak and cause inefficient system operation. To effectively eliminate air from the system without bleeding, air bubbles ned to be vented. The NEW Honeywell SuperVent purges air through a no clog vent assembly that controls dirt and debris to minimize air vent fouling.

- No clog vent.
- Dirt and Debris resistant.
- 360 degree adjustable collar ring for installation flexibility.
- Stainless steel concentrator which eliminates gurgling noise.
- Bronze body for rigid construction.
- Threaded connections.

Application: Residential or Commercial closed loop hydronic heating or chilled water systems
Connection Type: Female NPT
Materials (Body): Bronze
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 125 psi (862 kPa)

Product Number	Pipe Size	Connection Size	Capacity (Cv)	Maximum Diameter inch	Maximum Diameter mm	Dimensions, Approximate inch	Dimensions, Approximate mm	Weight lb	Weight kg
PVU075/U	3/4 in.	3/4 in. bottom inlet	3.6 Cv	1 13/16 in.	46 mm	7 9/32 in. long x 2 11/16 in. wide	185 mm long x 68 mm wide	2.1 lb	0.9 kg
PVU100/U	1 in.	1 in. bottom inlet	6.2 CV	2 3/32 in.	53 mm	7 27/32 in. high x 4 13/32 in. wide	199 mm high x 112 mm wide	2.8 lb	1.3 kg
PVU125/U	1 1/4 in.	1 1/4 in. bottom inlet	10.5 Cv	2 1/2 in.	64 mm	8 1/4 in. high x 3 11/16 in. wide	212 mm high x 94 mm long	3.6 lb	1.6 kg
PVU150/U	1 1/2 in.	1 1/2 in. bottom inlet	14.3 Cv	3 3/32 in.	79 mm	9 13/32 in. high x 4 5/16 in. wide	239 mm high x 110 mm long	5.2 lb	2.4 kg

Typical Installation



SuperVent® Vent Top for Heating and Cooling Systems

The Supervent has high venting capacity and incorporates a check valve. Use with SuperVent PV Series products.

Application: Residential or commercial heating and cooling systems
Materials (Body): Brass
Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 150 psi (1034 kPa)

Product Number	Connection Type	Pipe Size	Connection Size	Maximum Diameter		Dimensions, Approximate		Weight	
				inch	mm	inch	mm	lb	kg
SV173/U	NPT	3/8 in.	3/8 in.	2 in.	51 mm	3 in. high x 2 in. diameter	76 mm high x 51 mm diameter	0.43 b	0.19 kg
SV175/U	NPT	1/2 in.	1/2 in.	2 in.	51 mm	3 in. high x 2 in. diameter	76 mm high x 51 mm diameter	0.43 b	0.19 kg

SuperVent Replacement Parts

Product Number	Description
PV-001RP/U	Replacement Air Vent Assembly for PowerVent (pre 2004) size 3/4 in., 1 in., 1 1/4 in., 1 1/2 in. and 2 in.
PV-020RP/U	PV SuperVent Vent Top Replacement (New Style 90 Degree)

Backflow Preventers

Backflow Preventers with Dual Check for Domestic water

Backflow Preventers-Dual Check for Domestic water

- Dual Check Valves may be installed in either a vertical or horizontal position and should be installed immediately down stream of the water meter.

Dimensions, Approximate: 4 3/8 in. long x 2 1/8 in. wide (111 mm long x 54 mm wide)
Connection Type: NPT
Maximum Ambient Temperature: 180 F (82 C)
Maximum Operating Pressure: 150 psi (1034 kPa)
Approvals
Canadian Standards Association: Certified
Other: ASSE Certified

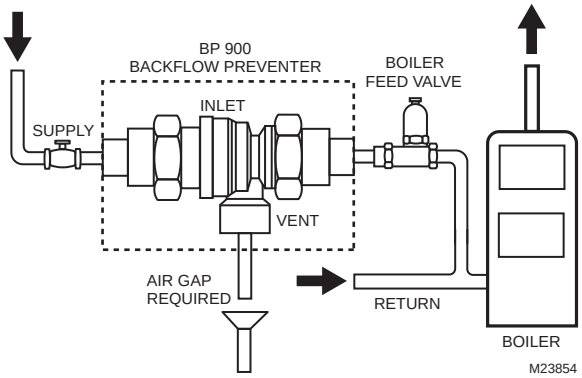
Product Number	Connection Size		Description	Weight	
	inch	DN		lb	kg
BP700/U	3/4 in.	DN20	Dual check 3/4 in. NPT	1.0 lb	0.45 kg
BP701/U	1 in.	DN25	Dual Check 1 in. NPT	1.4 lb	0.64 kg

Backflow Preventers with Intermediate Atmospheric Vent for Heating Systems

The BP900 is a double check backflow preventer with an intermediate vacuum breaker designed to prevent the backflow of contaminated water into the potable water supply. Designed for the use on small supply lines, it protects against both backflow and back siphonage for continuous pressure applications.

- It is ideal for boiler feed lines, livestock drinking fountains, trailer park water hook-ups, laboratory equipment and numerous other applications.
- Suitable for either hot or cold water service, the BP900 is designed for non-continuous backflow temperatures up to 250 F and working supply pressures up to 175 psi.

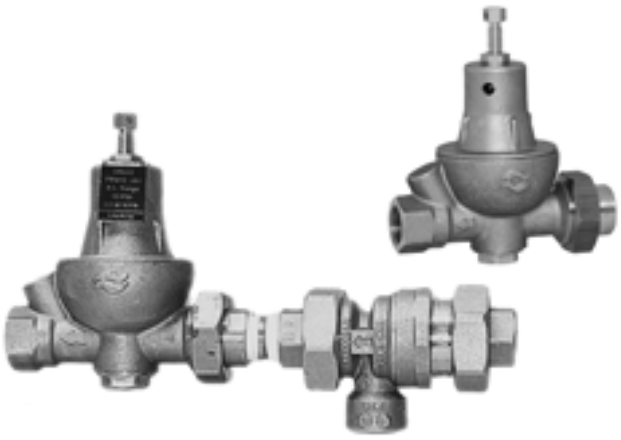
Typical Installation



Dimensions, Approximate: 4 7/8 in. long x 2 1/2 in. wide (124 mm long x 63 mm wide)
Connection Type: NPT
Maximum Ambient Temperature: 250 F (121 C)
Maximum Operating Pressure: 175 psi (1207 kPa)
Approvals
Canadian Standards Association: Certified
Other: ASSE Certified

Product Number	Connection Size		Description	Weight	
	inch	DN		lb	kg
BP900/U	1/2 in.	DN15	Double check intermediate vacuum breaker - 1/2 in. NPT	1.2 lb	0.54 kg
BP901/U	3/4 in.	DN20	Double check intermediate vacuum breaker - 3/4 in. NPT	1.2 lb	0.54 kg

FM Boiler Fill Valves



Pressure regulating valve for automatic control of boiler feed water and other pressure reducing applications. Especially constructed for expansion tank mounting.

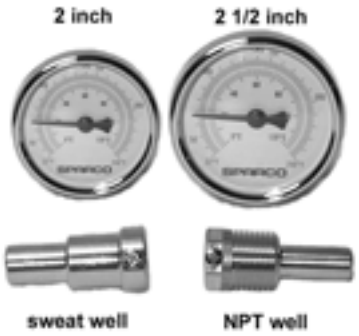
- Fast fill feature.
- Built in check valve.

Application: Fast fill pressure regulating boiler feed valve with check valve.
Connection Type: NPT
Inlet Connection Size: 1/2 in.
Pipe Size: 1/2 in.
Materials (Body): Brass
Maximum Ambient Temperature: 212 F (100 C)

Product Number	Inlet Connection Type	Maximum Operating Pressure (psi)	Maximum Operating Pressure (kPa)	Regulating Pressure Range (psi)	FAST Fill	Dimensions, Approximate (inch)	Weight (lb)	Description
FM450/U	Sweat or Threaded	150 psi	1034 kPa	4 psi to 60 psi	yes	4 1/8 in. high x 5 5/16 in. long	1.8 lb	1/2 in. sweat union pressure reducing valve, includes union nut and both sweat and NPT tailpiece
FM911/U	Sweat or Threaded	150 psi	1034 kPa	4 psi to 60 psi	yes	—	4 lb	1/2 in. NPT Backflow preventer and boiler fill valve assembly, includes union nut and both sweat and NPT tailpiece

Thermometers and Gauges

Sweat and Threaded Thermometers with Thermowells



Thermometer with Sweat or Threaded Connection.

- Brass thermowell is included to allow the thermometer to be removed without draining the system.
- 2 inch or 2 1/2 inch Dial.

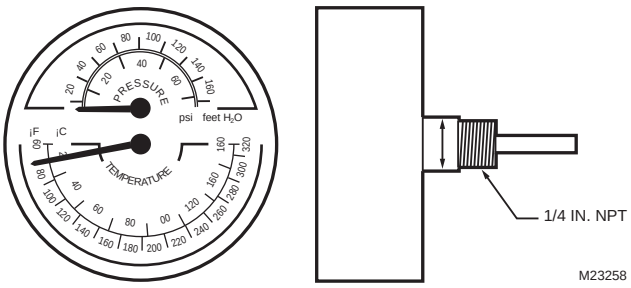
Materials: Case: steel; Well: brass
Temperature Range: 32 F to 250 F (0 C to 121 C)
Connection Size: 1/2 in.

Product Number	Connection Type	Dial Size		Length		Weight	
		inch	mm	inch	mm	lb	kg
GS200/U	Sweat	2 in.	51 mm	1 1/4 in.	51 mm	0.21 b	0.095 kg
GS250/U	Sweat	2 1/2 in.	63.5 mm	1 1/4 in.	51 mm	0.25 b	0.114 kg
GT161/U	NPT	2 in.	51 mm	1 1/2 in.	51 mm	0.21 b	0.095 kg
GT162/U	NPT	2 1/2 in.	63.5 mm	1 1/2 in.	51 mm	0.25 b	0.114 kg

Tridicators

Pressure/temperature gauge with relief set point indicator for boilers and shut off valve.

Dimensions Diagram



Temperature Range: 60 F to 320 F (15 C to 160 C)
Connection Size: 1/4 in.
Maximum Operating Pressure: 75 psi

Product Number	Connection Type	Dial Size		Length		Weight		Comments
		inch	mm	inch	mm	lb	kg	
TD-090/U	NPT	3 1/8 in.	79.4 mm	1 21/32 in.	23 mm	0.3 b	0.14 kg	Pressure/temperature gauge with relief set point indicator
TD-165/U	NPT	3 1/8 in.	79.4 mm	2 in.	42.1 mm	0.3 b	0.14 kg	Pressure/temperature gauge with relief set point indicator
TDV-040/U	NPT	3 1/8 in.	79.38 mm	29/32 in	23.02 mm	0.4 b	0.18 kg	Pressure/temperature gauge with relief set point indicator and shut off valve

TX Series Expansion Tanks- Domestic Hot Water

The Honeywell Thermal Expansion Absorber is a welded, pressurized expansion tank with a butyl diaphragm to control excess pressure in potable hot water systems. The Thermal Expansion Tank controls pressure build-up in the system, eliminates relief valve spillage, protects fixtures and extends water heater life.

- Heavy duty butyl rubber diaphragm (FDA approved) isolates water from air.
- Polypropylene liner, 100% non-metallic, non-corrosive water reservoir.
- Full size range: 2-211 gals., for all water heating volumes (ASME available).
- Prevents water hammer.
- Maintenance free.
- Protects water heater from harmful pressure cycling.
- Allows storage of expanded water with no increase in system pressures.

Maximum Operating Temperature: 200 F (93 C)
Maximum Operating Pressure: 150 psi (1034 kPa)
Precharge: 40 psi
Materials:
Shell: Steel
Connection: Brass
Liner: Polypylene
Diaphragm: Butyl

Product Number	Connection Size (inch)	Connection Type	Diameter		Height		Volume		Maximum Acceptance Volume		Weight	
			inch	mm	inch	mm	gal	L	gal	L	lb	kg
TX-12/U	3/4 in.	Male NPT	11 in.	279 mm	12 5/8 in.	321 mm	4.4 gal	16.7 L	3.2 gal	12.1 L	5 lb	2.27 kg
TX-25V/U	3/4 in.	Female NPT	15 3/8 in.	390.5 mm	19 1/4 in.	489 mm	10.3 gal	39 L	10.3 gal	39 L	23 lb	10.43 kg
TX-30V/U	3/4 in.	Female NPT	15 3/8 in.	390.5 mm	23 7/8 in.	606 mm	14.0 gal	53.1 L	11.3 gal	42.8 L	25 lb	11.34 kg
TX-42V/U	3/4 in.	Female NPT	15 3/8 in.	390.5 mm	31 5/8 in.	803 mm	20.0 gal	75.7 L	11.4 gal	43.2 L	33 lb	14.97 kg
TX-5/U	3/4 in.	Male NPT	8 in.	203.2 mm	12 5/8 in.	321 mm	2.0 gal	7.6 L	0.9 gal	3.41 L	5 lb	2.27 kg

Service Check Valves

Service Check Valves for air vents and expansion tanks allow easy field service without draining system.

CAUTION: Reduce system temperature to ambient and pressure to 0 psi before servicing component. Failure to do so may result in injuries.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)

Product Number	Connection Size (inch)	Connection Type
SCV-0125/U	1/8 in.	Inlet FNPT, Outlet MNPT
SCV-050/U	1/2 in.	Inlet FNPT, Outlet MNPT

Residential Expansion Tanks

TK300 Series Expansion Tanks- Heating

Honeywell Expansion Tanks are designed to absorb hot water expansion in closed heating systems. They are equipped with butyl diaphragms to separate the air from the system water (glycol). The tanks are a welded, not clamped design. Pre-pressurized at 12 psi, the tank keeps fluids circulating and maintains minimum system pressure. Honeywell tanks resist waterlogging, loss of pressure through relief valve spills, loss of BTUs and reduce circulator running time. Use the super efficient Honeywell PowerVent or air vents to remove air and micro-bubbles from the system for maximum performance.

- Butyl/EPDM diaphragm- 9 times better than natural rubber
- Deep-drawn steel tank
- Controls system pressure
- Air-tight cushion-factory pre-charged to 12 psig and 100% tested

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)

Materials: steel shell, heavy duty butyl diaphragm
Connection Type: Male NPT
Comments: Heating

Product Number	Connection Size (inch)	Diameter		Height		Volume		Maximum Acceptance Volume		Weight	
		inch	mm	inch	mm	gal	L	gal	L	lb	kg
TK300-15/U	1/2 in.	8 in.	203.2 mm	12 5/8 in.	321 mm	2.0 gal	7.6 L	1 gal	3.8 L	5 b	2.3 kg
TK300-30/U	1/2 in.	11 in.	279 mm	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	9 b	4.1 kg
TK300-60/U	1/2 in.	11 in.	279 mm	23 in.	584 mm	7.6 gal	28.8 L	2.5 gal	9.5 L	14 lb	6.4 kg
TK300-90/U	1/2 in.	15 3/8 in.	390.5 mm	21 in.	533 mm	14.0 gal	53.1 L	11.5 gal	40.1 L	23 lb	10.4 kg

Expansion Tank Sizing based on BTU's

Boiler	Type of Radiation			
Net Output in 1000's of BTU/Hr	Finned Tube Baseboard or Radiant Panel	Convectors or Unit Heaters	Radiators Cast Iron	Baseboard Cast Iron
MBH	Use Model	Use Model	Use Model	Use Model
25	**TK300-15**	**TK300-15**	**TK300-15**	**TK300-15**
50	**TK300-15**	**TK300-15**	**TK300-30**	**TK300-30**
75	**TK300-30**	**TK300-30**	**TK300-30**	**TK300-60**
100	**TK300-30**	**TK300-30**	**TK300-60**	**TK300-60**
125	**TK300-30**	**TK300-60**	**TK300-60**	**TK300-90**
150	**TK300-30**	**TK300-60**	**TK300-90**	**TK300-90**
175	**TK300-60**	**TK300-60**	**XPS-030V**	**XPS-030V**
200	**TK300-60**	**TK300-60**	**XPS-030V**	**XPS-030V**
250	**TK300-60**	**TK300-90**	**XPS-030V**	**XPS-040V**
300	**TK300-90**	**XPS-030V**	**XPS-030V**	**XPS-040V**
350	**XPS-030V**	**XPS-030V**	**XPS-040V**	**XPS-060V**
400	**XPS-030V**	**XPS-040V**	**XPS-040V**	**XPS-060V**

Boiler Trim Kit with SuperVent

Honeywell TK Series Combo Boiler Trim kits are a quick and convenient way to purchase the key "boiler trim" used by installers when performing a boiler change out. All Combo Trim Kits with SuperVent include expansion tank and SuperVent high performance air eliminator; selected models also include FM911 combination boiler fill valve / backflow preventer and/or service check valves for in-line servicing of the expansion tank.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)
Diameter: 11 in. (279 mm)

Product Number	Connection Size (inch)	Connection Type	Height		Volume		Maximum Acceptance Volume		Weight		Includes
			inch	mm	gal	L	gal	L	lb	kg	
TK30PV100FM	SuperVent: 1 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16 lb	7.3 kg	TK300-30, PV100, SCV-050, FM911
TK30PV100FMNC/U	SuperVent: 1 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16 lb	7.3 kg	TK300-30, PV100, FM911
TK30PV100SFM/U	SuperVent: 1 in. Tank: 1/2 in.	SuperVent: Sweat Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16 lb	7.3 kg	TK300-30, PV100S, SCV-050, FM911
TK30PV125FM/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16.8 lb	7.6 kg	TK300-30, PV125, SCV-050, FM911
TK30PV125SFM/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Sweat Tank: Male NPT	15 1/2 in.	394 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	16.8 lb	7.6 kg	TK300-30, PV125S, SCV-050, FM911
TK60PV100SFMNC/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	23 in.	584 mm	4.4 gal	16.7 L	2.5 gal	9.5 L	15.3 lb	6.9 kg	TK300-60, PV100S, FM911
TK60PV125FMNC/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Female NPT Tank: Male NPT	23 in.	584 mm	7.6 gal	28.8 L	2.5 gal	9.5 L	17.5 lb	7.95 kg	TK300-60, PV125, FM911
TK60PV125SFMNC/U	SuperVent: 1 1/4 in. Tank: 1/2 in.	SuperVent: Sweat Tank: Male NPT	23 in.	584 mm	7.6 gal	28.8 L	2.5 gal	9.5 L	17.5 lb	7.95 kg	TK300-60, PV125S, FM911

Boiler Trim Kit with Air Purger

Honeywell TK Series Boiler Trim kits are a quick and convenient way to purchase the key "boiler trim" used by installers when performing a boiler change out. All Trim Kits with Purgers include expansion tank, air purger and air vent; selected models also include FM911 combination boiler fill valve / backflow preventer and/or service check valves for in-line servicing of the expansion tank and air vent.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)
Diameter: 11 in. (279 mm)
Height: 15 1/2 in. (394 mm)

Product Number	Connection Size (inch)	Connection Type	Volume		Maximum Acceptance Volume		Weight		Includes
			gal	L	gal	L	lb	kg	
TK300-30A-1/U	Tank: 1/2 in.; Air Purger: 1 in.	Tank: Male NPT; Air Purger: Female NPT	4.4 gal	16.7 L	2.5 gal	9.5 L	13 lb	5.9 kg	TK300-30, AP400, FV180, SCV-0125, SCV-050
TK300-30A-1FM/U	Tank: 1/2 in.; Air Purger: 1 in.	Tank: Male NPT; Air Purger: Female NPT	4.4 gal	16.7 L	2.5 gal	9.5 L	16.6 b	7.5 kg	TK300-30, AP400, FV180, SCV-0125, SCV-050, FM911
TK300-30A-2/U	Tank: 1/2 in. Air Purger: 1 1/4 in.	Tank: Male NPT; Air Purger: Female NPT	4.4 gal	16.7 L	2.5 gal	9.5 L	13 lb	5.9 kg	TK300-30, AP401, FV180, SCV-0125, SCV-050
TK300-30A-2FM/U	Tank: 1/2 in. Air Purger: 1 1/4 in.	Tank: Male NPT; Air Purger: Female NPT	4.4 gal	16.7 L	2.5 gal	9.5 L	16.6 b	7.5 kg	TK300-30, AP401, FV180, SCV-0125, SCV-050, FM911

Thermostatic Radiator Valves and Actuators

V135 Thermostatic Mixing or Diverting Valves

Thermostatic Mixing or Diverting Valves for use in hydronic heating systems as a three-way mixing or diverting valve; controls loop temperature in radiant heating systems.

- Includes plastic handle for manual operation.
- Knurled ring on T100R control head for easy attachment to V135.

Application: Thermostatic mixing/diverting valve for use in hydronic heating systems. Controls loop temperature in radiant heating systems.
Capacity: Standard
Materials (Body): Bronze
Differential Pressure Rating: 17 psi maximum
Pressure Ratings (Steam): 232 psi maximum (1601 kPa)
Temperature Rating: 248 F Maximum (120 C Maximum)
Collar Diameter: 1 3/16 in. (30 mm)

Product Number	Dimensions, Approximate		Pipe Size		Body Pattern	Capacity (Cv)	Connection Type	Used With
	inch	mm	inch	DN				
V135A1006	2 9/16 in. x 5 1/8 in.	64 mm x 128 mm	3/4 in.	DN20	Three-way	3.7 Cv	Sweat	T100R
V135A1014	2 15/16 in. x 5 13/16 in.	74 mm x 148 mm	1 in.	DN25	Three-way	5.8 Cv	Sweat	T100R
V135A1022	3 3/4 in. x 7 1/8 in.	95 mm x 180 mm	1 1/4 in.	DN32	Three-way	5.8 Cv	NPT	T100R
V135A1048	3 3/4 in. x 7 3/8 in.	95 mm x 188 mm	1 1/2 in.	DN40	Three-way	11.7 Cv	NPT	T100R
V135A1063	3 3/8 in. x 6 3/8 in.	86 mm x 162 mm	1 1/4 in.	DN32	Three-way	5.8 Cv	Sweat	T100R

T100R Thermostatic Mixing or Diverting Valve Actuator

For use in hydronic heating systems with V135 Valves in a three-way mixing or diverting application. Controls loop temperature in radiant heating systems.

- T100R Thermostatic Actuator includes strap-on-pipe sensor.
- Knurled ring on T100R control head for easy attachment to V135.

Application: Three-way mixing and diverting applications in hydronic heating systems requiring remote sensing
Used With Valve: V135
Collar Diameter: 1 3/16 in. (30 mm)

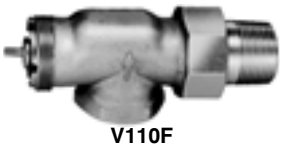
Product Number	Application Type	Capillary Length		Temperature Range		Sensor	Setpoint
		(ft)	(m)	(F)	(C)	Integral or Remote	
T100R1004	Thermostatic Radiator Controller for use with V135 valve body for diverting or mixing applications.	6 ft. 8 in.	2 m	50 F to 122 F	10 C to 50 C	Remote	Remote
T100R1012	Thermostatic Radiator Controller for use with V135 valve body for diverting or mixing applications.	6 ft. 8 in.	2 m	86 F to 158 F	30 C to 70 C	Remote	Remote

V135 Thermostatic Mixing or Diverting Valves Replacement Cartridges

Product Number	Application	Pipe Size (inch)	Description	Used With
V135A-12VE	Accessory or Replacement Part	3/4 in.; 1/2 in.	Replacement cartridge for V135A 1/2 in. and 3/4 in. models	V135
V135A-1VE	Accessory or Replacement Part	1 1/4 in.; 1 in.	Replacement cartridge for V135A 1 in. and 1 1/4 in. models	V135

V110 High Capacity Thermostatic Radiator Valves

V110D



V110F

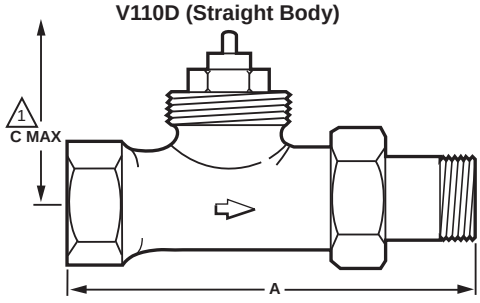
V110E

High Capacity Thermostatic Radiator Valves with T104 Thermostatic Actuators provide precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through free-standing radiators, convectors and other heating units with high capacity requirements.

- Designed with the higher capacity normally required by North American heating systems.
- Valve seat disc, which is made of resilient material (EPDM), ensures tight shutoff on steam or hot water systems.
- Nickel-plated bronze casted body with working parts in cartridge insert for ease of service.
- All working parts are replaceable using service tool (MT100C1011) while valve remains in service, in-line, under pressure.
- Valves normally open without control mounted.
- Valves may be used with T104 Thermostatic Actuators.
- Meet ASHRAE Standard 102-1989.

Dimensions in inches (millimeters)

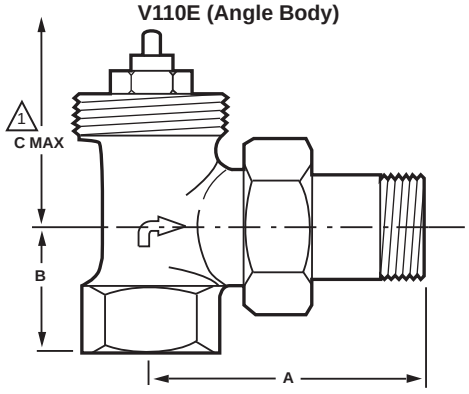
V110D (Straight Body)



PIPE SIZE	A IN. (MM)	1 C MAX IN. (MM)
1/2 INCH	3-3/4 (95)	4-3/4 (121)
3/4 INCH	4-1/8 (105)	4-3/4 (121)
1 INCH	4-15/16 (125)	4-3/4 (121)
1-1/4 INCH	5-7/8 (149)	5 (127)

1 C MAX DIMENSION IS WITH T104 CONTROL INSTALLED. M18959A

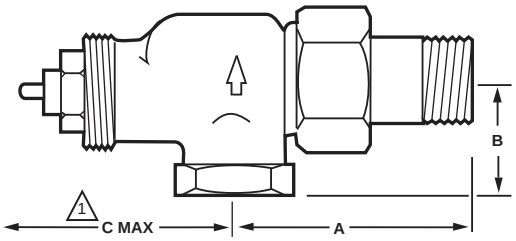
V110E (Angle Body)



PIPE SIZE	A IN. (MM)	B IN. (MM)	1 C MAX IN. (MM)
1/2 INCH	2-9/16 (65)	1 (25)	4-3/4 (121)
3/4 INCH	2-5/8 (67)	1-1/8 (29)	4-3/4 (121)
1 INCH	3 (76)	1-5/16 (33)	4-3/4 (121)
1-1/4 INCH	3-5/8 (90)	1-11/16 (43)	5 (127)

1 C MAX DIMENSION IS WITH T104 CONTROL INSTALLED. M18960A

V110F (Horizontal Angle Body)



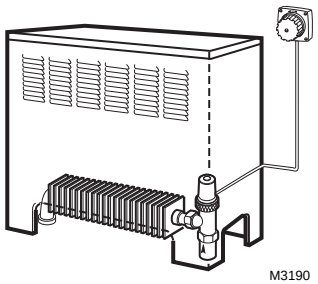
PIPE SIZE	A IN. (MM)	B IN. (MM)	1 C MAX IN. (MM)
1/2 INCH	2-1/4 (57)	1 (25)	5-1/8 (130)
3/4 INCH	2-9/16 (65)	1-1/8 (29)	5-1/4 (133)
1 INCH	2-15/16 (74)	1-3/16 (30)	5-1/4 (133)
1-1/4 INCH	3-1/2 (89)	2-3/16 (56)	5-1/4 (133)

1 C MAX DIMENSION IS WITH T104 CONTROL INSTALLED. M18961A

Capacity: high
Materials (Body): Nickel Plated Bronze
Differential Pressure Rating: 17 psi maximum
Pressure Ratings (Hot Water): 150 psi maximum (1034 kPa maximum)
Pressure Ratings (Steam): 15 psi maximum (103 kPa)
Temperature Rating: 248 F Maximum (120 C Maximum)
Cartridge Change Tool: Yes - Use MT110C1011
Actuator Connection: M40 x 1.5

Thermostatic Radiator Valves and Actuators

Typical Installations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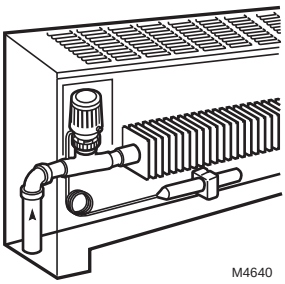
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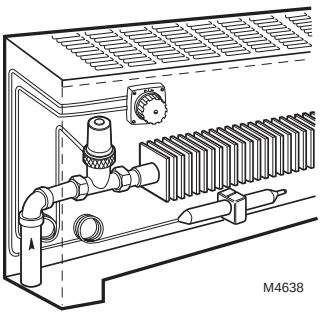
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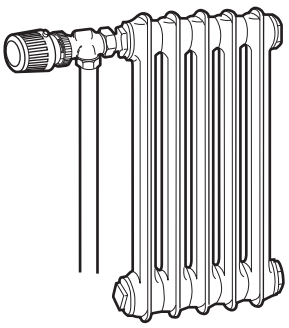
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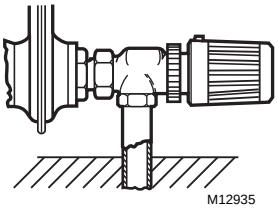

M12935

Product Number	Application	Pipe Size		Body Pattern	Capacity		Connection Type	Used With
		inch	DN		(Cv)	(Btu/hr-steam)		
V110D1000/U	Precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through high capacity heating units.	1/2 in.	DN15	Straight	4.6 Cv	127,000 Btu/hr	Threaded	T104
V110D1008/U		3/4 in.	DN20	Straight	5.8 Cv	162,000 Btu/hr	Threaded	T104
V110D1016/U		1 in.	DN25	Straight	7.0 Cv	193,000 Btu/hr	Threaded	T104
V110D1024/U		1 1/4 in.	DN32	Straight	8 Cv	193,000 Btu/hr	Threaded	T104
V110D5001/U		1/2 in.	DN15	Straight	4.6 Cv	127,000 Btu/hr	Sweat	T104
V110D5009/U		3/4 in.	DN20	Straight	5.8 Cv	162,000 Btu/hr	Sweat	T104
V110D5017/U		1 in.	DN25	Straight	7.0 Cv	193,000 Btu/hr	Sweat	T104
V110E1004/U	Precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through high capacity heating units when used with T104 Thermostatic Actuators	1/2 in.	DN15	Angle	4.6 Cv	127,000 Btu/hr	Threaded	T104
V110E1012/U		3/4 in.	DN20	Angle	5.8 Cv	162,000 Btu/hr	Threaded	T104
V110E1020/U		1 in.	DN25	Angle	7.0 Cv	193,000 Btu/hr	Threaded	T104
V110E1028/U		1 1/4 in.	DN32	Angle	8 Cv	193,000 Btu/hr	Threaded	T104
V110E5005/U		1/2 in.	DN15	Angle	4.6 Cv	127,000 Btu/hr	Sweat	T104
V110E5013/U		3/4 in.	DN20	Angle	5.8 Cv	162,000 Btu/hr	Sweat	T104
V110F1002/U		1/2 in.	DN15	Horizontal Angle	4.6 Cv	127,000 Btu/hr	Threaded	T104
V110F1010/U		3/4 in.	DN20	Horizontal Angle	5.8 Cv	162,000 Btu/hr	Threaded	T104
V110F1018/U		1 in.	DN25	Horizontal Angle	7.0 Cv	193,000 Btu/hr	Threaded	T104
V110F1026/U		1 1/4 in.	DN32	Horizontal Angle	8 Cv	193,000 Btu/hr	Threaded	T104
V110F5003/U		1/2 in.	DN15	Horizontal Angle	4.6 Cv	127,000 Btu/hr	Sweat	T104
V110F5011/U		3/4 in.	DN20	Horizontal Angle	5.8 Cv	162,000 Btu/hr	Sweat	T104

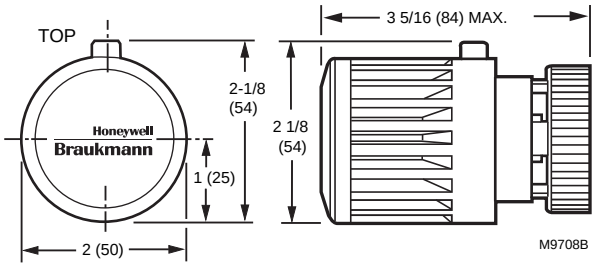
T104 High Capacity Thermostatic Radiator Valve Actuators

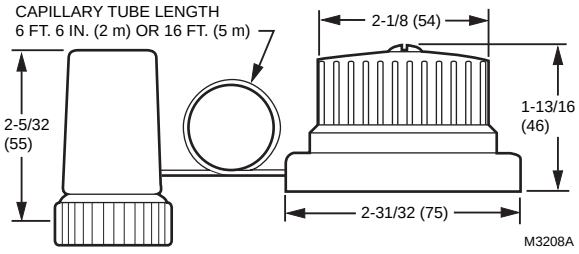
T104A T104B T104C T104F T104V

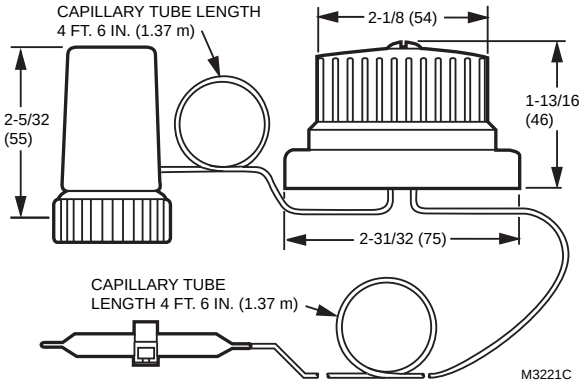
Provide precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through free-standing radiators, convectors and other heating units with high capacity requirements.

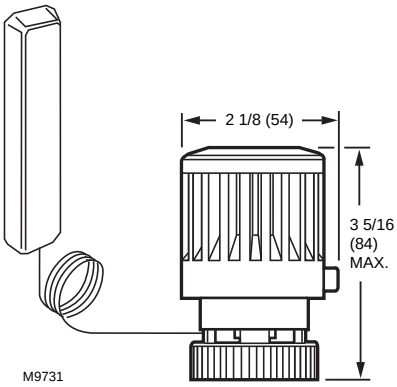
- Continually monitor and adjust room temperature for consistent comfort and relief from under-heating and overheating.
- Designed with the higher capacity normally required by North American heating systems.
- Valve seat disc, which is made of resilient material (EPDM), ensures tight shutoff on steam or hot water systems.
- Nickel-plated bronze casted body with working parts in cartridge insert for ease of service.
- Controls include sensor, setpoint dial and valve actuator; components may be integral or connected by capillary tubes.
- Require no electrical connections.
- Meet ASHRAE Standard 102-1989.
- 40 mm collar diameter.

Dimensions in inches (millimeters)

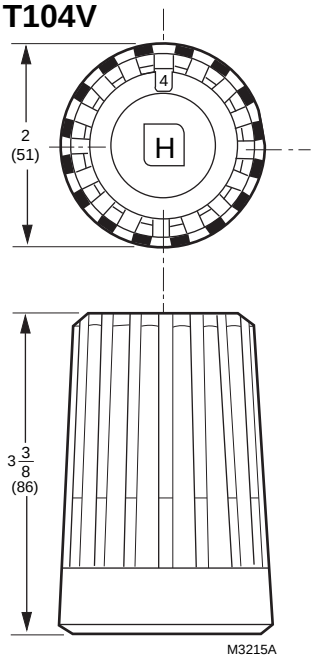








T104V



Thermostatic Radiator Valves and Actuators

Application: High Capacity Thermostatic Radiator Actuator
Used With Valve: V110

Collar Diameter: 40 mm

Product Number	Application Type	Capillary Length		Temperature Range		Sensor	Setpoint	Comments
		(ft)	(m)	(F)	(C)	Integral or Remote		
T104A1040	Self-contained controller with sensor, setpoint dial and valve actuator in one unit. Adjustable limits. Mount horizontal. Not for use inside enclosures or in locations with restricted airflow around sensor. For V110 valves.	—	—	43 F to 79 F	6 C to 26 C	Integral	Integral	Adjustable Limits
T104B1038	Controller with combined remote setpoint and sensor mounted on a wall. Setpoint/sensor connect with a capillary tube to an actuator, which mounts on the valve body. For V110 valves.	6 ft. 8 in.	2 m	48 F to 79 F	9 C to 26 C	Remote	Remote	—
T104B1046	Controller with combined remote setpoint and sensor mounted on a wall. Setpoint/sensor connect with a capillary tube to an actuator, which mounts on the valve body. For V110 valves.	16 ft	4.9 m	48 F to 79 F	9 C to 26 C	Remote	Remote	—
T104C1036	Controller with remote setpoint and sensor normally mounted with setpoint dial mounted on outside cabinet or enclosure; sensor mounted beneath heating coils in cold air return. Double capillaries. For V110 valves.	Two 4 1/2 ft	Two 1.4 m	48 F to 79 F	9 C to 26 C	Remote	Remote	—
T104F1512	Thermostatic radiator valve controller for use with V110 series valves. With remote temperature sensing and integral set point. Adjustable limits.	6 ft. 8 in.	2 m	43 F to 79 F	6 C to 26 C	Remote	Remote	Adjustable Limits
T104V1422	Self-contained controller with sensor, setpoint dial and valve actuator in one unit. Locks to valve body. Rugged design. Adjustable setpoint under locking cap. Factory set at 68 F (20 C). Mounts horizontal. Not for use in enclosures. For V110 valves.	—	—	43 F to 79 F	6 C to 26 C	Integral	Integral	Vandal Proof

T104 Thermostatic Radiator Valves Parts and Accessories

Product Number	Description	Used With
P110V1003	Replacement Locking Ring for T104V1422 only (package of 5)	T104V1422;
G111B1053	Bulb guard to protect remote temperature sensors on T104C and T104F controls only	T104C; T104F

V2000 Series Valve Bodies Cross Reference to V100 Series

Use T100 Actuators With New V2000 Series Valve Bodies

V2000 Series (Current)	V100 Series (Obsolete)	Product Description
V2040DSL15	**V100D 1056**	1/2 in. TRV Straight Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040DSL20	**V100D 1064**	3/4 in. TRV Straight Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040DSL25	**V100D 1072**	1in. TRV Straight Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2043DSL15	**V100D 5057**	1/2 in. TRV Straight Body, Female NPT Inlet, Sweat Tailpiece Outlet
V2043DSL20	**V100D 5065**	3/4 in. TRV Straight Body, Female NPT Inlet, Sweat Tailpiece Outlet
V2040ESL15	**V100E 1055**	1/2 in. TRV Vertical Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040ESL20	**V100E 1063**	3/4 in. TRV Vertical Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040ESL25	**V100E 1071**	1 in. TRV Vertical Body, Female NPT Inlet, Male NPT Tailpiece Outlet
V2043ESL15	**V100E 5056**	1/2 in. TRV Vertical Body, Female NPT Inlet, Sweat Tailpiece Outlet
V2043ESL20	**V100E 5064**	3/4 in. TRV Vertical Body, Female NPT Inlet, Sweat Tailpiece Outlet
V2040ASL15	**V100F 1054**	1/2 in. TRV Horizontal, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040ASL20	**V100F 1062**	3/4 in. TRV Horizontal, Female NPT Inlet, Male NPT Tailpiece Outlet
V2040ASL25	**V100F 1070**	1” TRV Horizontal, Female NPT Inlet, Male NPT Tailpiece Outlet
V200LDSL15	**V100G 5054**	1/2 in. TRV Straight Body, Sweat Inlet, Sweat Outlet No Tailpiece
V200LDSL20	**V100G 5062**	3/4 in. TRV Straight Body, Sweat Inlet, Sweat Outlet No Tailpiece
V2042HSL10	**V100P 1046**	1/8 in. TRV (1/2 in. Body With 1/8 in. Adapter) Male NPT Inlet, Female NPT Outlet. One Pipe Steam
V2043HSL10	**Y100P 1001**	1/8 in. TRV (1/2 in. Body With 1/8 in. Adapter) Male NPT Inlet, Female NPT Outlet. One Pipe Steam Includes SA123A1003
VS1200SL01		Replacement Cartridge New V2000 Series

V200; V2000 Series Standard Capacity Thermostatic Radiator Valve Body

V200LD

V2040D

V2040A, V2040E

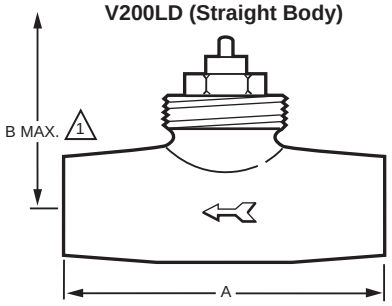
V2040E

One-Pipe Steam Thermostatic Radiator Valves - Allow automatic temperature control in one-pipe steam or hot water systems for free standing radiators, convectors and other heating units with standard capacity requirements. Provide comfort and energy savings.

- Continually monitors and adjusts room temperature for consistent comfort and relief from under-heating and overheating.
- Adjustable balancing cartridge design made from resilient material (EPDM), ensures tight shut-off on steam and hot water systems.
- Nickel plated brass casted body.
- Replaceable cartridge for easy service with service tool.
- Controls include valve body, steam air vent.
- Used with T100 set point and capillary actuators.
- No electrical connection required for non-electric actuators.
- Normally open without control mounted.

Dimensions in inches (millimeters)

V200LD (Straight Body)

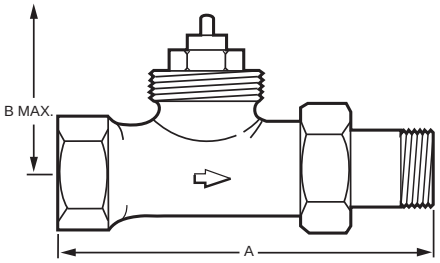


PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)
1/2 INCH	2-5/8 (66)	4-1/16 (104)
3/4 INCH	2-15/16 (74)	4-1/16 (104)

1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

M12933C

V2040D (Straight Body)

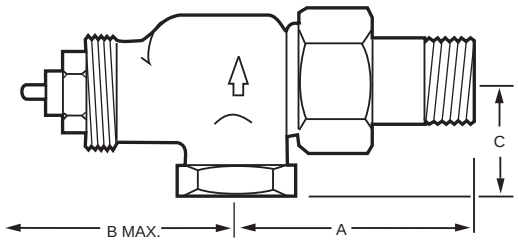


PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)
1/2 INCH	3-3/4 (95)	4-1/6 (104)
3/4 INCH	4-3/16 (106)	4-1/6 (104)
1 INCH	4-1/2 (114)	4-1/2 (114)

1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

M12930D

V2040A (Horizontal Angle Body)

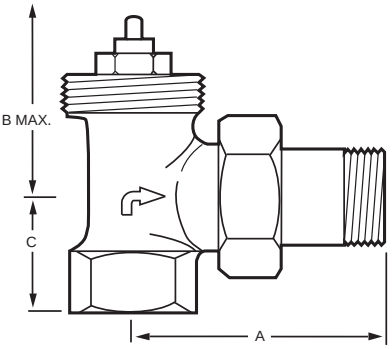


PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)	C IN. (MM)
1/2 INCH	2-1/8 (54)	4-1/2 (115)	1-1/8 (29)
3/4 INCH	2-1/2 (64)	5-3/16 (132)	1-3/16 (31)
1 INCH	2-15/16 (74)	5-3/16 (132)	1-7/16 (37)

1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

M12932C

V2040E (Angle Body)



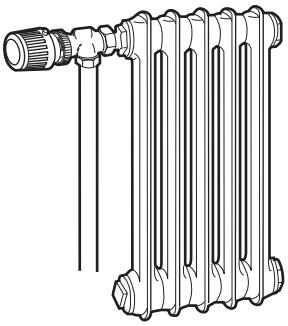
PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)	C IN. (MM)
1/2 INCH	2-5/16 (58)	3-13/16 (97)	1 (25)
3/4 INCH	2-5/8 (66)	3-13/16 (97)	1-1/8 (29)
1 INCH	2-15/16 (74)	4-5/16 (110)	1-5/16 (34)

1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

M12931D

Thermostatic Radiator Valves and Actuators

Typical Installations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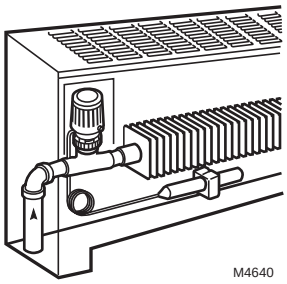
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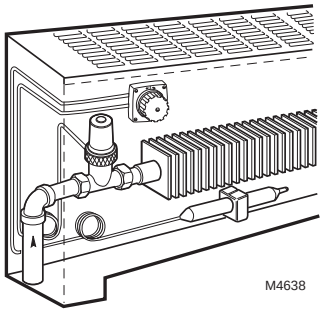
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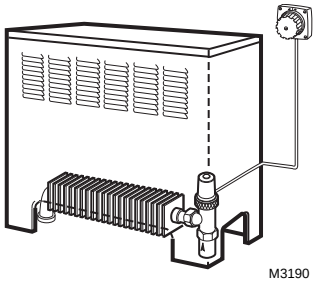

M3190

Capacity: Standard
Materials (Body): Nickel Plated Bronze
Differential Pressure Rating:
With T100 or T200: 15 psi (103 kPa)
For low noise: 3 psi (20 kPa)

Pressure Ratings (Hot Water): 150 psi maximum (1034 kPa)
Pressure Ratings (Steam): 15 psi maximum (103 kPa)
Temperature Rating: 248 F Maximum (120 C)
Cartridge Change Tool: Yes - Use VA8200A001
Inlet Connection Type: NPT
Actuator Connection: M30 x 1.5

Product Number	Application	Pipe Size		Body Pattern	Capacity		Inlet Connection Size (inch)	Connection Type	Used With
		inch	DN		(Cv)	(Btu/hr-steam)			
V200LDSL15	For baseboards and other installations with copper tubing.	1/2 in.	DN15	Straight	2.5 Cv	59,100 Btu/hr	1/2 in.	Sweat both ends, no union	T100
V200LDSL20		3/4 in.	DN20	Straight	2.7 Cv	63,800 Btu/hr	3/4 in.	Sweat both ends, no union	T100
V2040ASL15	Replaces most manual valves with minimum piping changes.	1/2 in.	DN15	Horizontal Angle	2.5 Cv	59,100 Btu/hr	1/2 in.	Threaded	T100A, M and V controls to conform to horizontal mounting requirements
V2040ASL20		3/4 in.	DN20	Horizontal Angle	2.7 Cv	63,800 Btu/hr	3/4 in.	Threaded	T100A, M and V controls to conform to horizontal mounting requirements
V2040ASL25		1 in.	DN25	Horizontal Angle	2.7 Cv	70,500 Btu/hr	1 in.	Threaded	T100A, M and V controls to conform to horizontal mounting requirements
V2040DSL15	Especially suited for base boards and straight runs where manual valves were not originally installed.	1/2 in.	DN15	Straight	2.5 Cv	59,100 Btu/hr	1/2 in.	Threaded	—
V2040DSL20		3/4 in.	DN20	Straight	2.7 Cv	63,800 Btu/hr	3/4 in.	Threaded	—
V2040DSL25		1 in.	DN25	Straight	2.7 Cv	70,500 Btu/hr	1 in.	Threaded	—
V2040ESL15	Use where installation space is limited	1/2 in.	DN15	Angle	2.5 Cv	59,100 Btu/hr	1/2 in.	NPT	T100BT100CT100F
V2040ESL20		3/4 in.	DN20	Angle	2.7 Cv	63,800 Btu/hr	3/4 in.	NPT	T100BT100CT100F
V2040ESL25		1 in.	DN25	Angle	2.7 Cv	70,500 Btu/hr	1 in.	Threaded	T100BT100CT100F
V2043DSL15	For baseboards and other installations with copper tubing.	1/2 in.	DN15	Straight	2.5 Cv	59,100 Btu/hr	1/2 in.	Sweat both ends, no union	T100
V2043DSL20	Especially suited for base boards and straight runs where manual valves were not originally installed.	3/4 in.	DN20	Straight	2.7 Cv	63,800 Btu/hr	3/4 in.	Sweat	—

T100 Standard Capacity Thermostatic Radiator Actuators

T100B

T100F

T100C

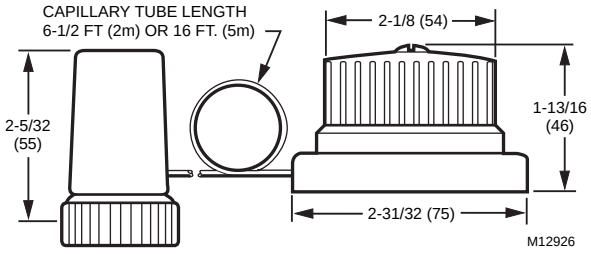
T1002W

Allow automatic temperature control in two-pipe steam or hot water systems for free standing radiators, convectors, and other heating units with standard capacity requirements. Provide comfort and energy savings at affordable prices.

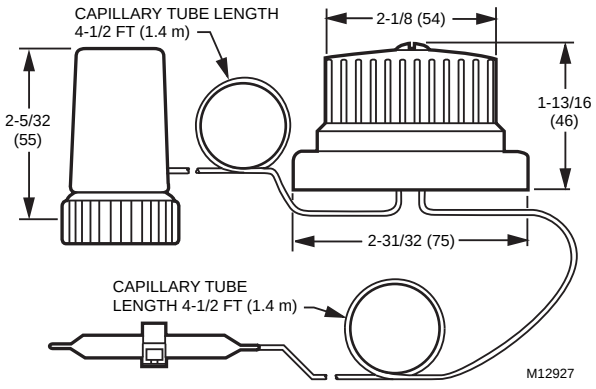
- Continually monitor and adjust room temperature for consistent comfort and relief from under-heating and overheating.
- Valve seat disc, which is made of resilient material (EPDM), ensures tight shutoff on steam or hot water systems.
- Nickel-plated brass casted body with working parts in cartridge insert for ease of service.
- Controls include sensor, setpoint dial and valve actuator; components may be integral or connected by capillary tubes.
- Require no electrical connections.
- All working parts are replaceable using service tool (MT100C1016) while valve remains in service, in-line, under pressure.
- Valves normally open without control mounted.
- 30 mm collar diameter

Dimensions in inches (millimeters)

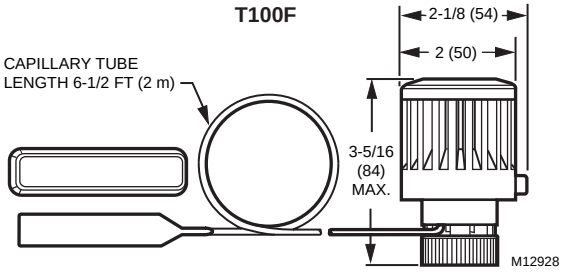
T100B



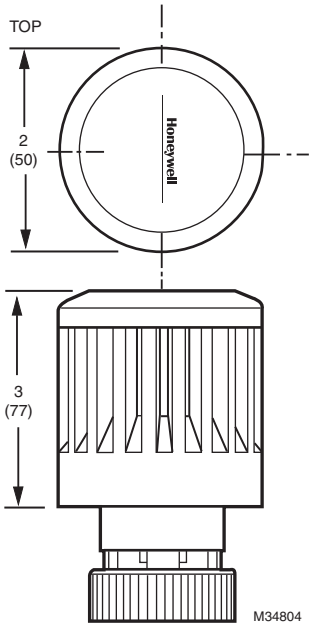
T100C



T100F

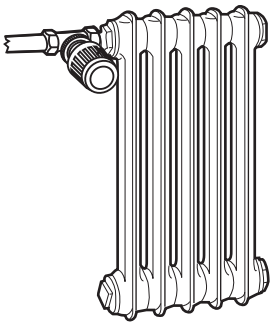


T1002W



Thermostatic Radiator Valves and Actuators

Typical Installation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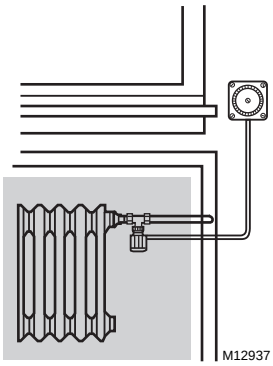
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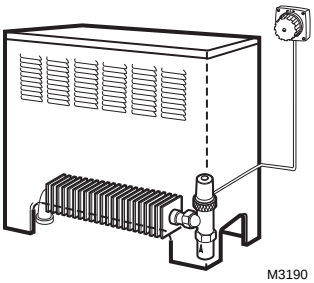
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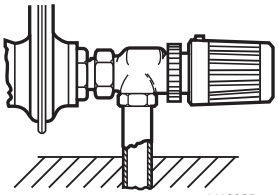
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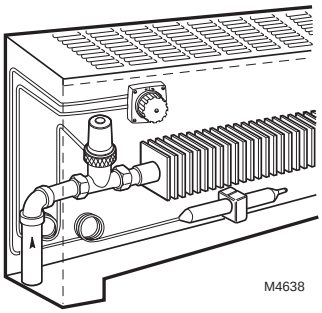

M4638

Application: Standard Capacity Thermostatic Radiator Actuator
Used With Valve: V100, V2000

Collar Diameter: 30 mm

Product Number	Application Type	Capillary Length (ft)	Capillary Length (m)	Temperature Range (F)	Temperature Range (C)	Sensor	Setpoint	Replaces	Comments
						Integral or Remote			
T1002W0NA	A self-contained control with sensor, setpoint dial and valve actuator in one unit. Mounts horizontal. Not for use inside enclosures or where airflow around sensor is restricted. Adjustable limits.	—	—	43 F to 79 F	6 C to 26 C	Integral	Integral	American Steam - 02-100-00. Taco - 5202. Danfoss RA2000 - 013G8200. Ammark - 72. TM Macon - TM B22000. NT Macon - NTB B24000. (in combination with V2000)	Adjustable Limits
T100B1035	A control with combined remote setpoint and sensor mounted on wall. Connected by a capillary tube to an actuator, which is mounted on the valve body.	6 1/2 ft	2 m	48 F to 79 F	9 C to 26 C	Remote	Remote	American Steam - 02-300-00. Taco - 5206. Danfoss RA2000 - 013G8262. Ammark - 76. TM Macon - TML B42000. NT Macon - NTL B45000. (in combination with V2000)	—
T100B1043	A control with combined remote setpoint and sensor mounted on wall. Connected by a capillary tube to an actuator, which is mounted on the valve body.	16 ft	5 m	48 F to 79 F	9 C to 26 C	Remote	Remote	Taco - 5207. Danfoss RA2000 - 013G8265. Ammark - 76L. (in combination with V2000)	—
T100C1026	A control with remote setpoint and sensor mounted with setpoint dial on outside of heating cabinet; sensor mounted beneath heating coils in cold air return. Dual capillary.	Two 4 1/2 ft	Two 1.4 m	48 F to 79 F	9 C to 26 C	Remote	Remote	American Steam - 02-320-00. Taco - 5211. Danfoss RA2000 - 013G8233. Ammark - 74. TM Macon - TMLZ B52000. NT Macon - NTL B55000. (in combination with V2000)	—
T100F1395	A control with remote temperature sensing and integral set point. Adjustable limits.	6 ft. 8 in.	2 m	43 F to 79 F	6 C to 26 C	Integral	Integral	American Steam - 02-120-00. Taco - 5203. Danfoss RA2000 - 013G8202. Ammark - 73. TM Macon - TMZ B32000. NT Macon - NTZ B35000. (in combination with V2000)	Adjustable Limits

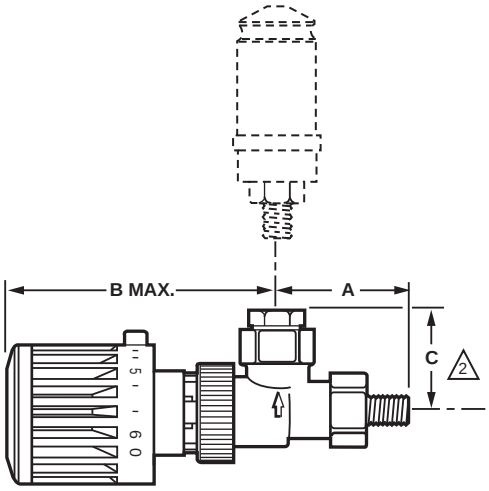
V2042H; V2043H One-pipe Steam Thermostatic Radiator Valve

One-Pipe Steam Thermostatic Radiator Valves - Allow automatic temperature control in one-pipe steam or hot water systems for free standing radiators, convectors and other heating units with standard capacity requirements. Provide comfort and energy savings.

- Continually monitors and adjusts room temperature for consistent comfort and relief from under-heating and overheating.
- Adjustable balancing cartridge design made from resilient material (EPDM), ensures tight shut-off on steam and hot water systems.
- Nickel plated brass casted body.
- Replaceable cartridge for easy service with service tool.
- Controls include valve body, steam air vent.
- Used with T100 set point and capillary actuators.
- No electrical connection required for non-electric actuators.
- Normally open without control mounted.

Dimensions in inches (millimeters)

V2042H (Body)/V2043H (Body with Vent)



PIPE SIZE	A IN. (MM)	1 B MAX IN. (MM)	2 C IN. (MM)
3/8 INCH	1-11/16 (43)	3-13/16 (97)	1-3/16 (31)

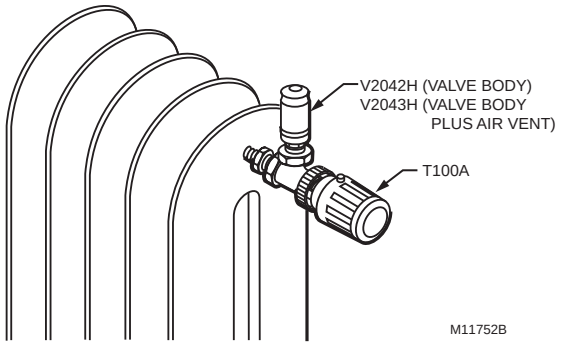
1 B MAX DIMENSION IS WITH T100A CONTROL INSTALLED.

2 C DIMENSION IS WITHOUT THE STEAM/AIR VENT INSTALLED.

M17016B

Application: Capacity: Standard
Materials (Body): Nickel Plated Bronze
Differential Pressure Rating:
With T100 or T200: 15 psi 103 kPa)
For low noise: 3 psi (20 kPa)
Pressure Ratings (Steam): 15 psi maximum (103 kPa)
Temperature Rating: 248 F Maximum (120 C)

Typical Installations



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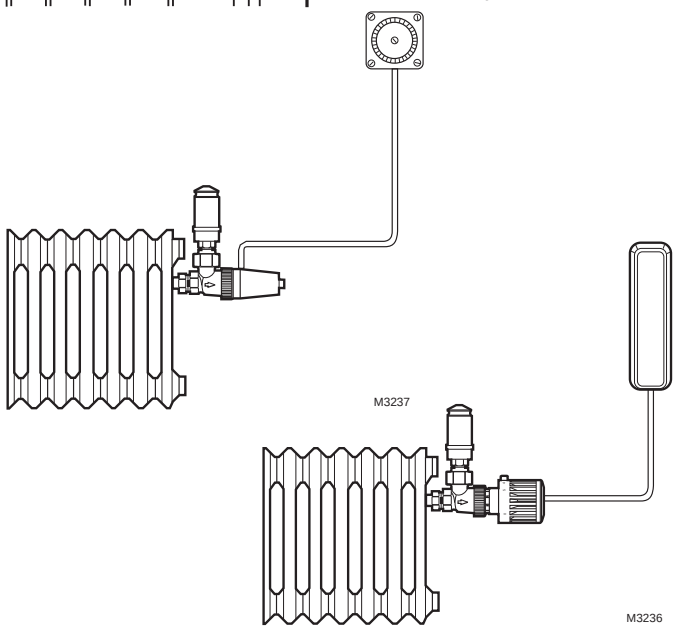


M3237

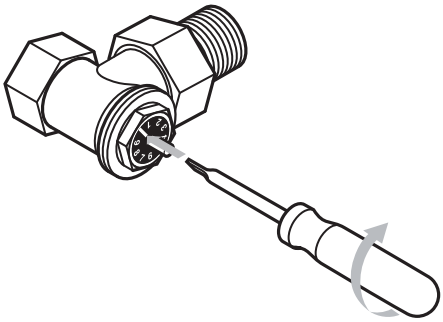
M3236

Product Number	Application	Pipe Size (inch)	Body Pattern	Connection Type	Includes	Used With
V2042HSL10	Angle pattern valve body for one pipe steam systems	1/8 in.	Angle	Threaded	—	T100
V2043HSL10	Thermostatic Radiator Valve Pack. Includes V2042HSL10 body plus steam/air vent. Use for one pipe steam applications.	1/8 in.	Angle	NPT	V2042HSL10 plus steam/air vent	—

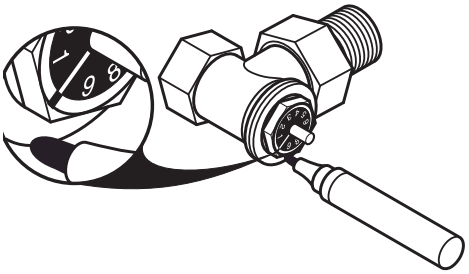
V2000 Series Thermostatic Radiator Valve Accessories

Materials (Body): Bronze

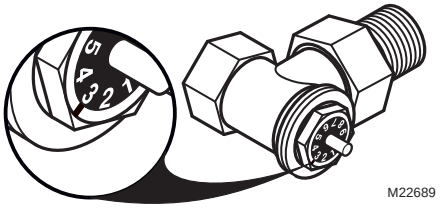
V2000 Series Cartridge Balancing Procedure Step 1



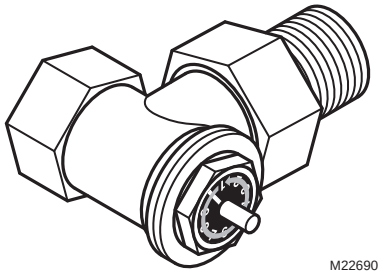
V2000 Series Cartridge Balancing Procedure Step 2



V2000 Series Cartridge Balancing Procedure Step 3



V2000 Series Cartridge Balancing Procedure Step 4



Product Number	Application	Description	Used With
VS1200SL01	Accessory or Replacement Part	Replacement cartridge for NEW V2000 (adjustable cartridge)	T100

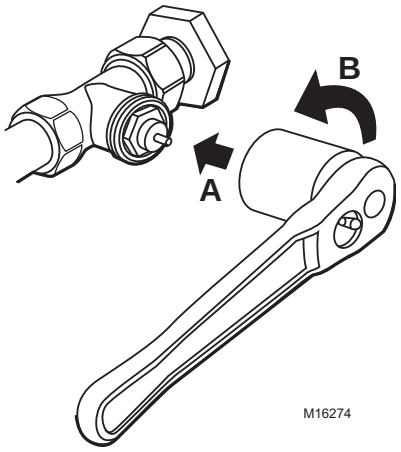
MT100; MT110 Cartridge Changing Tool

The MT110 Valve Cartridge Changing Tool enables the user to remove, and clean or replace the valve cartridge while the valve remains pressurized. Boiler shutdown is not required.

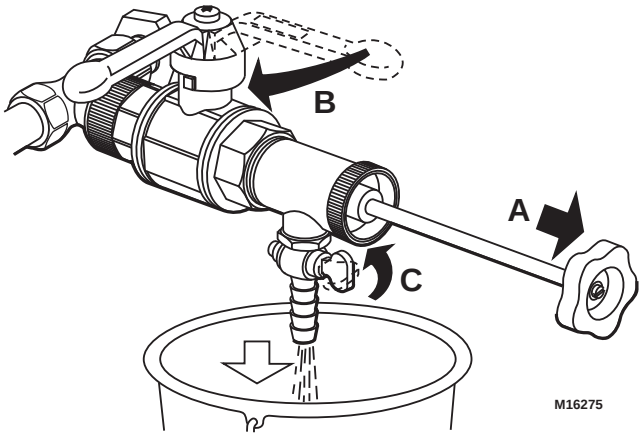
- MT110 for V110 Series valves.

Application: Actuator Removal Tool
Used With Valve: V100

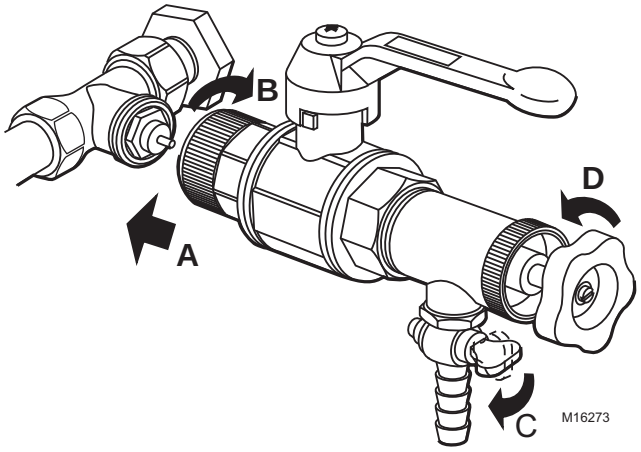
Remove control and loosen valve cartridge slightly.



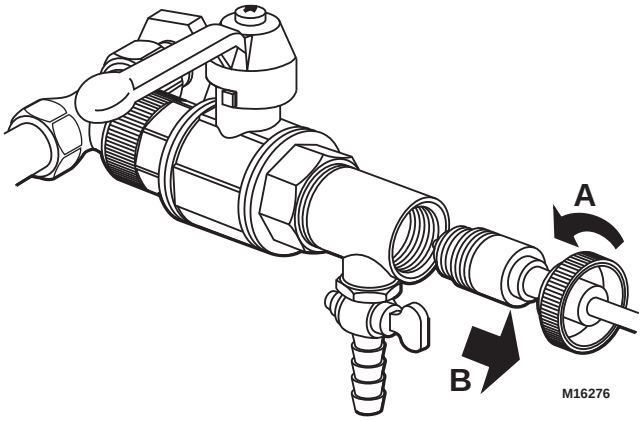
Open shut-off on drain cock, removing excess water and steam from chamber.



Tighten Cartridge Changer to valve body and close off drain cock.



Unscrew end cap and remove cartridge from chamber. Clean or replace cartridge.



Product Number	Application Type	Description	Comments	Used With
MT110C1011/U	Cartridge changing tool, in service, in line, under pressure for V110 series valve.	Cartridge Changing Tool for in-line service of V110 valves	—	V100
MT110D1019/U	Socket to remove or replace cartridges on V110D, E, F series valves; use in combination with MT110C1011 for pre-loosening and final tightening of cartridge. Fits 3/8 in. socket driver.	Cartridge Changing tool	For CA110C Cartridge	—

Thermostatic Valve Accessories

Product Number	Description	Used With
CA100B1008	Replacement cartridge for old style V100 (metal cartridge body)	V100 Series
CA110C107/U	Replacement Cartridge for V110	V110 Series

Commercial Expansion Tanks

Expansion Tank Sizing based on BTU's

Boiler	Type of Radiation			
Net Output in 1000's of BTU/Hr	Finned Tube Baseboard or Radiant Panel	Convectors or Unit Heaters	Radiators Cast Iron	Baseboard Cast Iron
MBH	Use Model	Use Model	Use Model	Use Model
25	TK300-15	TK300-15	TK300-15	TK300-15
50	TK300-15	TK300-15	TK300-30	TK300-30
75	TK300-30	TK300-30	TK300-30	TK300-60
100	TK300-30	TK300-30	TK300-60	TK300-60
125	TK300-30	TK300-60	TK300-60	TK300-90
150	TK300-30	TK300-60	TK300-90	TK300-90
175	TK300-60	TK300-60	XPS-030V	XPS-030V
200	TK300-60	TK300-60	XPS-030V	XPS-030V
250	TK300-60	TK300-90	XPS-030V	XPS-040V
300	TK300-90	XPS-030V	XPS-030V	XPS-040V
350	XPS-030V	XPS-030V	XPS-040V	XPS-060V
400	XPS-030V	XPS-040V	XPS-040V	XPS-060V

TAXV Series Expansion Tank- Commercial Usage

TAX Series (commercial) Expansion Tanks are designed to absorb hot water expansion in closed heating systems. TAX tanks are used in large installations. They are equipped with butyl diaphragms to separate the air from the system water (glycol). The tanks are a welded, not clamped, design. Pre-pressurized at 12 psi, the tank keeps fluids circulating and maintains minimum system pressure. Honeywell tanks resist waterlogging, loss of pressure through relief valve spills, and loss of BTUs.

- ASME construction: Horizontal TAX Series tanks.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 125 psi (862 kPa)
Precharge: 12 psi
Materials: steel shell, heavy duty butyl diaphragm
Comments: ASME Construction

Product Number	Connection Size (inch)	Diameter		Height		Volume		Maximum Acceptance Volume		Weight	
		inch	mm	inch	mm	gal	L	gal	L	lb	kg
TAXV-015/U	1/2 in.	12 in.	304.8 mm	19 1/4 in.	489 mm	7.8 gal	29.6 L	2.5 gal	9.5 L	48 lb	21.8 kg
TAXV-020/U	1/2 in.	12 in.	304.8 mm	26 in.	660 mm	10.9 gal	40.2 L	2.5 gal	9.5 L	61 lb	27.7 kg
TAXV-040/U	1/2 in.	16 1/4 in.	412.7 mm	29 1/2 in.	749 mm	21.7 gal	82.2 L	11.3 gal	42.8 L	116 b	52.7 kg
TAXV-060/U	1/2 in.	16 1/4 in.	412.7 mm	45 1/8 in.	1146 mm	33.6 gal	127.3 L	11.3 gal	42.8 L	145 b	65.9 kg
TAXV-080/U	1/2 in.	16 1/4 in.	412.7 mm	56 in.	1422 mm	44.4 gal	168.3 L	22.6 gal	85.6 L	70 lb	89.1 kg
TAXV-100/U	1/2 in.	16 1/4 in.	412.7 mm	68 1/4 in.	1734 mm	55.7 gal	211 L	22.6 gal	85.6 L	231 b	105 kg
TAXV-120/U	1 in.	24 in.	609.6 mm	44 1/4 in.	1124 mm	68 gal	257.7 L	34 gal	128.9 L	233 b	105.9 kg
TAXV-144/U	1 in.	24 in.	609.6 mm	49 1/8 in.	1247.8 mm	77.0 gal	291.8 L	34 gal	128.9 L	256 b	116.4 kg
TAXV-180/U	1 in.	24 in.	609.6 mm	56 1/2 in.	1435 mm	90 gal	341.1 L	34 gal	128.9 L	286 b	130 kg
TAXV-200/U	1 in.	24 in.	609.6 mm	63 in.	1600 mm	110 gal	416.9 L	34 gal	128.9 L	326 b	148.2 kg
TAXV-240/U	1 in.	30 in.	762 mm	49 1/8 in.	1368.4 mm	132.0 gal	500.3 L	46 gal	174.3 L	456 b	207.3 kg
TAXV-260/U	1 in.	30 in.	762 mm	49 1/8 in.	1247.8 mm	158.0 gal	500.3 L	56 gal	174.3 L	435 b	207.3 kg
TAXV-280/U	1 in.	30 in.	762 mm	49 1/8 in.	1247.8 mm	211.0 gal	500.3 L	84 gal	174.3 L	435 b	207.3 kg

XPS Series Honeywell Expansion Tanks

XPS Series (commercial) Expansion Tanks are designed to absorb hot water expansion in closed heating systems in larger installations. They are equipped with butyl diaphragms to separate clamped design. Pre-pressurized at 12 psi, the tank keeps fluids circulating and maintains minimum system pressure. Honeywell tanks resist waterlogging, loss of pressure through relief valves spills, loss BTUs for improved system performance.

- For ASME construction consult factory.

Maximum Operating Temperature: 240 F (115 C)
Maximum Operating Pressure: 100 psi (689 kPA)
Connection Type: Female NPT
Materials: steel shell, heavy duty butyl diaphragm
Comments: Heating

Product Number	Connection Size (inch)	Diameter		Height		Volume		Maximum Acceptance Volume		Weight	
		inch	mm	inch	mm	gal	L	gal	L	lb	kg
XPS-030V/U	1 in.	15 3/8 in.	390.5 mm	23 7/8 in.	606 mm	14.0 gal	53.1 L	11.3 gal	42.8 L	25 lb	11.4 kg
XPS-040V/U	1 in.	15 3/8 in.	390.5 mm	31 5/8 in.	803 mm	20.0 gal	75.8 L	11.3 gal	42.8 L	33 lb	15 kg
XPS-060V	1 in.	15 3/8 in.	390.5 mm	46 1/2 in.	584 mm	32 gal	121.3 L	11.3 gal	42.8 L	43 lb	19.5 kg
XPS-090V/U	1 1/4 in.	22 in.	558.8 mm	36 in.	914 mm	44 gal	166.8 L	34 gal	128.9 L	69 lb	31.4 kg
XPS-110V/U	1 1/4 in.	22 in.	558.8 mm	46 3/4 in.	876.3 mm	62 gal	235 L	34 gal	128.9 L	92 lb	41.8 kg
XPS-160V/U	1 1/4 in.	26 in.	660.4 mm	47 1/4 in.	1200 mm	86.0 gal	325.9 L	46 gal	174.3 L	123 lb	55.9 kg

AM-1 Series Thermostatic Mixing Valve

NPT

Union Standard and C

Am-"R" Heating only

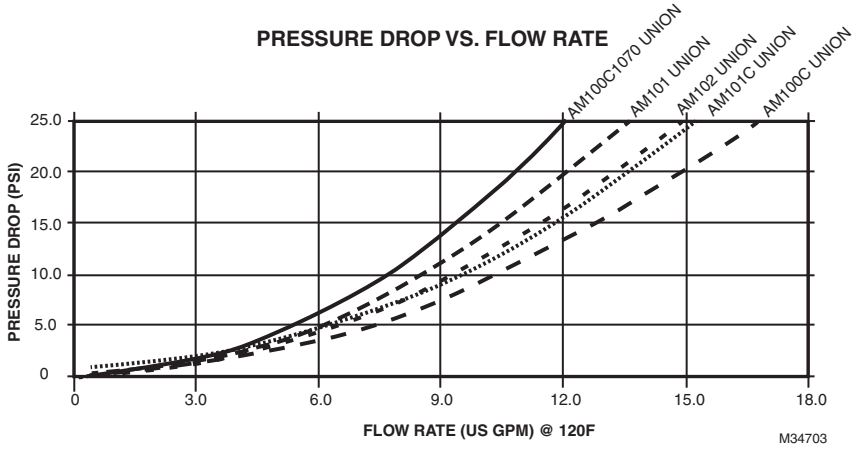
Sweat

The Honeywell AM-1 series accurately adjusts, maintains and limits the hot water temperature to a desired setting selected by the user. In domestic water applications it offers scalding protection and bacteria growth control. By installing a Honeywell AM-1 mixing valve and raising water heater storage temperature setting and limiting mixed outlet water temperature to safe temperature more usable hot water is available. In heating applications it provides comfort and protects the equipment.

- Dual purpose mixing or diverting valves
- Constant water temperature under changing operating conditions
- Reliable performance at minimum flow of 0.5 gpm
- Proportional valve (simultaneous control of hot and cold water)
- Temperature limit at any point
- Flow reduction in seconds if cold water supply is interrupted
- Nickel-plated brass construction, EPDM O-rings
- High performance thermoplastic proportioning shuttle
- Straight through design (hot and cold at the same level)
- Max. pressure 150 psi (1034 kPa)
- Max temperature 212 F (100 C)
- Designed for easy maintenance and element replacement.
- Teflon® coating of internal valve components to prevent mineral build-up and extend life.
- Tamper resistent design
- Valve trapping not required
- AM-1 Union STD & C and AM1070 Models include check valves on both hot and cold ports
- ASSE, CSA and IAPMO listed
- U.S. Patent No. 6,079,625
- Lead free part numbers end in LF

Application: Domestic water; Nursing homes; Public facilities; Automatic faucets; Radiant floor heating; Space heating; Combo systems; Solar hot water; Greenhouses; Industrial applications; Photo processing

Pressure Drop Chart



Product Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	ASSE	Description	Comments
AM100-1/U	1/2 in.	DN15	NPT	3.2 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. NPT Mixing Valves	—
AM100-1LF/U	1/2 in.	DN15	NPT	3.2 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM100-UCPVC-1/U	1/2 in.	DN15	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. CPVC Union Mixing Valves	—
AM100-UCPVC-1LF/U	1/2 in.	DN15	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. CPVC Union Mixing Valves	Low lead Content <.25% by weighted average
AM100-UPEX-1/U	1/2 in.	DN15	Union PEX	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. Union PEX Mixing Valves	—

Mixing Valves

Product Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	ASSE	Description	Comments
AM100-UPEX-1LF/U	1/2 in.	DN15	Union PEX	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. Union PEX Mixing Valves	Low lead Content <.25% by weighted average
AM100-US-1/U	1/2 in.	DN15	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. Sweat Union Mixing Valves	—
AM100-US-1LF/U	1/2 in.	DN15	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM100-UT-1/U	1/2 in.	DN15	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. NPT Union Mixing Valves	—
AM100-UT-1LF/U	1/2 in.	DN15	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1/2 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C-1LF/U	1/2 in.	DN15	NPT	3.2 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM100C-UCPVC-1LF	1/2 in.	DN15	Union CPVC	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. CPVC Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C-UPEX-1LF/U	1/2 in.	DN15	Union PEX	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C-US-1LF/U	1/2 in.	DN15	Union Sweat	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C-UT-1LF/U	1/2 in.	DN15	Union NPT	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1/2 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM100C1070-UPEX1LF/U	1/2 in.	DN15	Union PEX	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1/2 in. Union PEX	Low lead Content <.25% by weighted average
AM100C1070-US-1LF/U	1/2 in.	DN15	Union Sweat	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1/2 in. Union Sweat	Low lead Content <.25% by weighted average
AM100C1070-UT-1LF/U	1/2 in.	DN15	Union NPT	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1/2 in. Union Threaded	Low lead Content <.25% by weighted average
AM100C1070UCPVC1LF/U	1/2 in.	DN15	Union CPVC	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1/2 in. Union CPVC	Low lead Content <.25% by weighted average
AM100R-UPEX-1/U	1/2 in.	DN15	Union PEX	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1/2 in. Union PEX Mixing Valves HEATING ONLY	Heating Only
AM100R-US-1/U	1/2 in.	DN15	Union Sweat	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1/2 in. Sweat Union Mixing Valves HEATING ONLY	Heating Only
AM100R-UT-1/U	1/2 in.	DN15	Union NPT	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1/2 in. NPT Union Mixing Valves	Heating Only
AM101-1/U	3/4 in.	DN20	NPT	3.8 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. NPT Mixing Valves	—
AM101-1LF/U	3/4 in.	DN20	NPT	3.8 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM101-UCPVC-1/U	3/4 in.	DN20	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. CPVC Union Mixing Valves	—
AM101-UCPVC-1 CP/U	3/4 in.	DN20	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. CPVC Union Mixing Valves Contractor Pack	—
AM101-UCPVC-1LF/U	3/4 in.	DN20	Union CPVC	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. CPVC Union Mixing Valves	Low lead Content <.25% by weighted average
AM101-UPEX-1LF/U	3/4 in.	DN20	Union PEX	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM101-US-1LF/U	3/4 in.	DN20	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM101-UT-1/U	3/4 in.	DN20	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. NPT Union Mixing Valves	—
AM101-UT-1LF/U	3/4 in.	DN20	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	3/4 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM101C-1LF/U	3/4 in.	DN20	NPT	3.8 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM101C-UCPVC-1LF/U	3/4 in.	DN20	Union CPVC	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. CPVC Union Mixing Valves	Low lead Content <.25% by weighted average
AM101C-UPEX-1LF/U	3/4 in.	DN20	Union PEX	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. Union PEX Mixing Valves	Low lead Content <.25% by weighted average
AM101C-US-1LF/U	3/4 in.	DN20	Union Sweat	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM101C-UT-1LF/U	3/4 in.	DN20	Union NPT	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	3/4 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average

Product Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	ASSE	Description	Comments
AM101C1070-UPEX1LF	3/4 in.	DN20	Union PEX	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 3/4 in. Union PEX	Low lead Content <.25% by weighted average
AM101C1070-US-1LF	3/4 in.	DN20	Union Sweat	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 3/4 in. Union Sweat	Low lead Content <.25% by weighted average
AM101C1070-UT-1LF	3/4 in.	DN20	Union NPT	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 3/4 in. Union Threaded	Low lead Content <.25% by weighted average
AM101C1070UCPVC1LF	3/4 in.	DN20	Union CPVC	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 3/4 in. Union CPVC	Low lead Content <.25% by weighted average
AM101R-UPEX-1/U	3/4 in.	DN20	Union PEX	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	3/4 in. Union PEX Mixing Valves HEATING OLY	Heating Only
AM101R-US-1/U	3/4 in.	DN20	Union Sweat	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	3/4 in. Sweat Union Mixing Valves HEATING OLY	Heating Only
AM101R-UT-1/U	3/4 in.	DN20	Union NPT	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	3/4 in. NPT Union Mixing Valves HEATING ONLY	Heating Only
AM102-1/U	1 in.	DN25	NPT	4.3 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. NPT Mixing Valves	—
AM102-1LF/U	1 in.	DN25	NPT	4.3 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM102-US-1/U	1 in.	DN25	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. Sweat Union Mixing Valves	—
AM102-US-1LF/U	1 in.	DN25	Union Sweat	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM102-UT-1/U	1 in.	DN25	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. NPT Union Mixing Valves	—
AM102-UT-1LF/U	1 in.	DN25	Union NPT	3.9 Cv	70 F to 145 F	21 C to 63 C	1017	1 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM102C-1LF/U	1 in.	DN25	NPT	4.3 Cv	70 F to 120 F	21 C to 49 C	1017	1 in. NPT Mixing Valves	Low lead Content <.25% by weighted average
AM102C-US-1LF/U	1 in.	DN25	Union Sweat	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1 in. Sweat Union Mixing Valves	Low lead Content <.25% by weighted average
AM102C-UT-1LF/U	1 in.	DN25	Union NPT	3.9 Cv	70 F to 120 F	21 C to 49 C	1017	1 in. NPT Union Mixing Valves	Low lead Content <.25% by weighted average
AM102C1070-US-1LF	1 in.	DN25	Union Sweat	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1" Union Sweat	Low lead Content <.25% by weighted average
AM102C1070-UT-1LF	1 in.	DN25	Union NPT	1.8 Cv	70 F to 120 F	21 C to 49 C	1070	AM-1 1070 Series 1" Union Threaded	Low lead Content <.25% by weighted average
AM102R-US-1/U	1 in.	DN25	Union Sweat	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1 in. Sweat Union Mixing Valves HEATING ONLY	Heating Only
AM102R-UT-1/U	1 in.	DN25	Union NPT	3.9 Cv	70 F to 180 F	21 C to 82 C	No Approval	1 in. NPT Union Mixing Valves HEATING ONLY	Heating Only

Mixing Valve Accessories

Product Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Operating Temperature Range (F)	Operating Temperature Range (C)	Description	Comments
AM08-024LF/U	1/2 in.	DN15	Union NPT	—	—	1/2 in. NPT Union kit. Includes three 1/2 in. NPT Tailpieces. Low lead Content <.25% by weighted average	
AM08-038/U	1/2 in.	DN15	Union Sweat	—	—	1/2 in. AM-1 Sweat Union, Single tailpiece, Nut, Gasket	—
AM08-039/U	3/4 in.	DN20	Union Sweat	—	—	3/4 in. Aquamix Sweat Union, Single tailpiece, Nut, Gasket	—
AM08-040/U	1 in.	DN25	Union Sweat	—	—	1 in. Aquamix Sweat Union, Single tailpiece, Nut, Gasket, Retainer	—
AM08-041/U	1/2 in.	DN15	Union NPT	—	—	1/2 in. Aquamix NPT Union, Single tailpiece, Nut, Gasket	—
AM08-042/U	3/4 in.	DN20	Union NPT	—	—	3/4 in. Aquamix NPT Union, Single tailpiece, Nut, Gasket, Retainer	—
AM08-043/U	1 in.	DN25	Union NPT	—	—	1 in. Aquamix NPT Union, Single tailpiece, Nut, Gasket, Retainer	—
AM09-061/U	3/4 in.	DN15	Sweat	—	—	3/4 in. Sweat Tailpiece	—
AM206-041/U	1/2 in.	DN20	PEX	—	—	1/2 in. PEX union kit. Includes tailpiece, union nut and gasket	—
AM206-042/U	3/4 in.	DN20	PEX	—	—	3/4 in. PEX union kit. Includes tailpiece, union nut and gasket	—
CVT-050/U	1/2 in.	DN15	NPT	—	—	1/2 in. female NPT x 1/2 in. male NPT Check Adapter. For AM-1 NPT valves	
CVT-075/U	3/4 in.	DN20	NPT	—	—	3/4 in. female NPT x 3/4 in. Check Adapter. For AM-1 NPT valves	
TS205-064/U	Use with All Mixing Valves		Adhesive strip	110 F to 140 F	43 C to 60 C	Thermal Temperature Indicator Strip for Mixing Valve Setup and Outlet Temperature Monitoring. Included in all AM-1 Series STD and C models and AMX Series. Available as separate item	
TS206-080/U	Use with All Mixing Valves		Adhesive strip	105 F to 180 F	41 C to 82 C	Thermal Temperature Indicator Strip for Mixing Valve Setup and Outlet Temperature Monitoring. Included in all AM-1 Series R models. Available as separate item	

New Style AM-1 Series Valves Replacement Parts

Product Number	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	Description	
AM-1-020RP/U	—	60 F to 100 F (B Range); 80 F to 120 F (C Range)	15 C to 38 C (C Range); 27 C to 49 C (B Range)	AM-1 Series B or C Range Element, Spring, Diffuser, and plug assembly	
AM-1-025RP		70 F to 145 F	21 C to 63 C	Thermal element, spring, and plug assembly. Rebuild kit for AM-1 Standard series and AMX300 series valves	
AM-1-030RP/U	—	70 F to 120 F	21 C to 49 C	AM-1 1070 Series Element, Spring, Diffuser, and plug assembly; AM-1 1070 Series element, spring diffuser and plug assembly; Standard and R range	
AMCU-001RP/U	8 Cv	—	—	AM-1 Union model check valve kit. Contains one AMCU100 and O-ring for original AM1 and all AMX100 mixing valves. Contains one AMCU200 and two O-rings for newer AM-1 valves where the check valve fits flush with valve body.	
AMCU100/U	8 Cv	—	—	AM-1 Union check valve for original AM-1 valves where the check valve does not fit flush with valve body. Also for all AMX100 mixing valves. Contains one O-ring	
AMU200-RP/U		70 F to 160 F	21 F to 71 C	Gasket kit for 1/2 in., 3/4 in. and 1 in. AM and AM-1 Series valves; 3 gaskets per kit; Gasket Kit for AM-1 and AM series valves	

Old Style AM Series Valves (manufactured before 2001) Replacement Parts

AM-1 Series replacement thermal elements
- Includes replacement thermal element, spool, spring and diffuser assembly

Application: old style AM series valve

Product Number	Operating Temperature Range (F)	Operating Temperature Range (C)	Description
AM100-001RP/U	70 F to 100 F; 90 F to 120 F	21 C to 38 C; 32 C to 49 C	C element, spring, plug assembly (Does not fit AM-1 Series)
AM100-002RP/U	80 F to 180 F; 110 F to 145 F	27 C to 82 C; 43 C to 63 C	Standard element, spring, plug assembly (Does not fit AM-1 Series)

AMX Series DirectConnect™ Thermostatic Mixing Valves

Sweat or NPT

PEX

Patented DirectConnect™ design reduces installation time. Orientation of cold and hot ports eliminates need for elbows and tees on typical water heater installations. Added safety designed to prevent scalding. Increased user comfort for more available hot water. Designed to be directly installed on water heater hot outlet port.

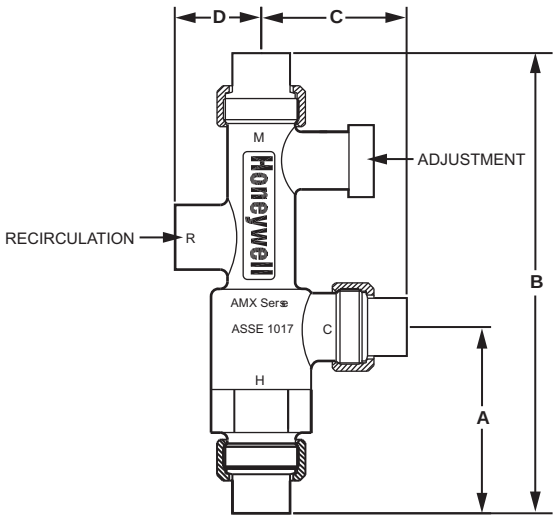
- Designed to be directly installed on water heater hot outlet port.
- Constant water temperature under different operating conditions
- Proportional valve (control of hot and cold water)
- Flow reduction in seconds if cold water supply is interrupted
- Temperature adjustable using 3/16 allen wrench (supplied)
- Union nuts/tail pieces included
- Heat trapping not required
- Recirculation port option for fast response
- Integral check valve on cold port
- Brass/stainless construction
- Teflon coated wear surfaces for extended service
- ASSE 1017 certified, CSA & IAPMO listed
- U.S. Patent pending
- Lead free part numbers end in LF

Application: Heat Pump Systems; Domestic water; Nursing homes; Public facilities; Automatic faucets; Radiant floor heating; Space heating; Combo systems; Solar hot water; Greenhouses; Industrial applications; Photo processing

Operating Temperature Range: 90 F to 130 F (32 C to 54 C)
ASSE: 1017

Product Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	Description	Comments
AMX100-UCPVC-1LF/U	1/2 in.	DN15	Union CPVC, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1/2 in. Union CPVC	Low lead Content <.25% by weighted average
AMX100-UPEX-1LF/U	1/2 in.	DN15	Union PEX, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1/2 in. Union Sweat	Low lead Content <.25% by weighted average
AMX100-US-1LF/U	1/2 in.	DN15	Union Sweat, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1/2 in. Union Sweat	Low lead Content <.25% by weighted average
AMX100-UT-1LF/U	1/2 in.	DN15	Union NPT, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1/2 in. Union Threaded	Low lead Content <.25% by weighted average
AMX101-UCPVC-1LF/U	3/4 in.	DN20	Union CPVC, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 3/4 in. Union CPVC	Low lead Content <.25% by weighted average
AMX101-UPEX-1LF/U	3/4 in.	DN20	Union PEX, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 3/4 in. Union Sweat	Low lead Content <.25% by weighted average
AMX101-US-1LF/U	3/4 in.	DN20	Union Sweat, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 3/4 in. Union Sweat	Low lead Content <.25% by weighted average
AMX101-UT-1LF/U	3/4 in.	DN20	Union NPT, 3/4 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 3/4 in. Union Threaded	Low lead Content <.25% by weighted average
AMX102-US-1LF/U	1 in.	DN25	Union Sweat, 1 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1" Union Sweat	Low lead Content <.25% by weighted average
AMX102-UT-1LF/U	1 in.	DN25	Union NPT, 1 in. Bottom	4 Cv	90 F to 130 F	32 C to 54 C	AMX Series DirectConnect 1" Union Threaded	Low lead Content <.25% by weighted average

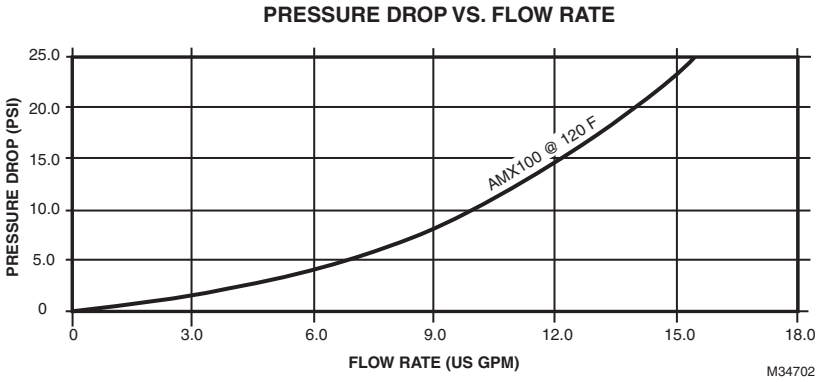
Dimensions in inches (millimeters)



PRODUCT NUMBER	DIMENSIONS (INCHES)			
	A	B	C	D
AMX100-UCPVC-1-LF	3-1/2	8-7/16	2-11/16	1-1/2
AMX100-UPEX-1-LF	3-1/2	8-5/8	2-15/16	1-1/2
AMX100-US-1-LF	3-1/2	8-3/16	2-1/2	1-1/2
AMX100-UT-1-LF	3-1/2	8-1/2	2-13/16	1-1/2
AMX101-UCPVC-1-LF	4-3/16	9	2-1/2	1-1/2
AMX101-UPEX-1-LF	4-3/16	9-3/16	2-11/16	1-1/2
AMX101-US-1-LF	4-3/16	9	2-1/2	1-1/2
AMX101-UT-1-LF	4-3/16	9-11/16	3-1/2	1-1/2
AMX102-US-1-LF	4-1/2	10	3-1/2	1-1/2
AMX102-UT-1-LF	4-1/2	10.3	3-13/16	1-1/2

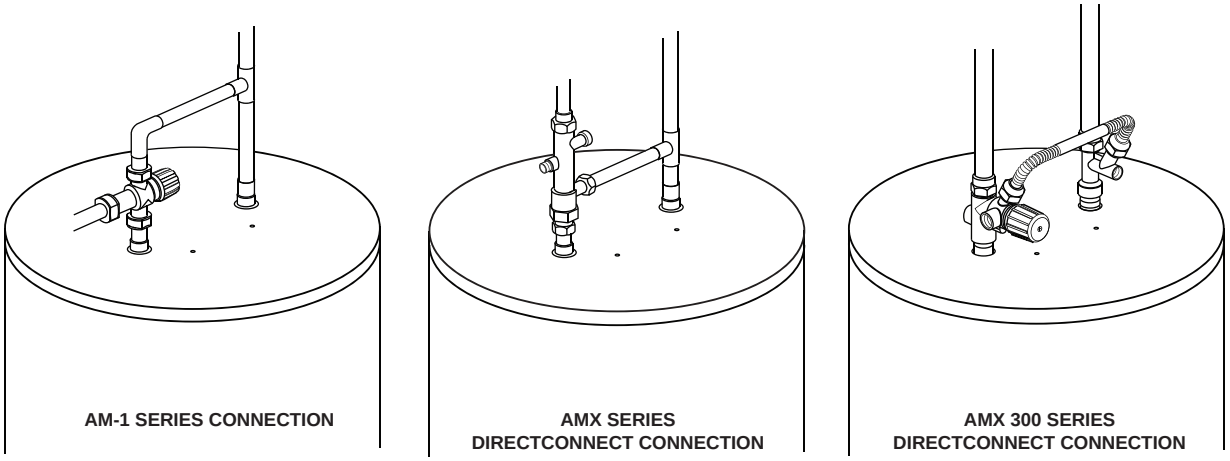
M27478B

Pressure Drop Chart



M34702

Thermostatic Replacement Mixing Valve Installation



M31168

AMX300 Series DirectConnect™ Thermostatic Mixing Valve and Kits

AMX300 kits reduce installation time to an minimum while still providing Honeywell's industry leading mixing valve technology

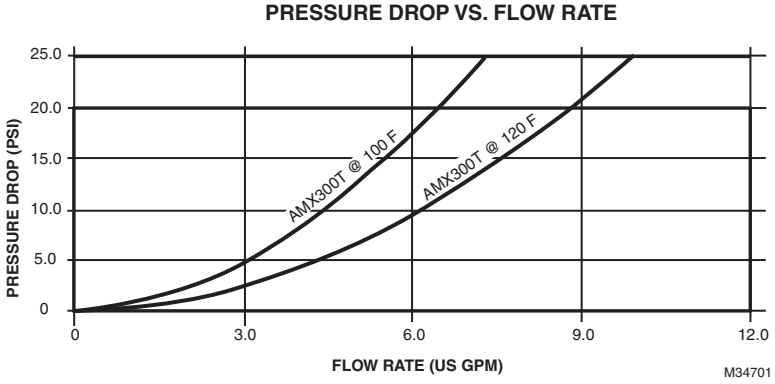
- Excellent temperature stability and control
- Effectively minimizes scalding risk to building occupants
- Kit includes mixing valve, cold water tee fitting and flexible stainless steel connector
- Mixing valve and cold water tee both connect directly to water heater; flexible stainless steel connector joins the cold water tee directly to the cold inlet port of the mixing valve
- Fits virtually all water heaters up to 1 in. (all necessary adapters included)
- Increased user comfort for more available hot water.
- Constant water temperature under different operating conditions
- Proportional valve (control of hot and cold water)
- Flow reduction in seconds if cold water supply is interrupted
- Temperature adjustable with easy “Push-Twist-Release” locking hand wheel design
- Recirculation port option for fast delivery of heated water to furthest fixtures
- Alternate hot port for bypass of hot water directly from tank to non-mixed temperature applications (dishwashers, clothes washers, etc.)
- Brass/stainless construction
- Teflon coated wear surfaces for extended service
- IAPMO listed (cUPCus)
- Complies with ASSE 1017 when used with check valve on supply (not included)
- Lead free part numbers end in LF

Application: Domestic Hot Water
Mixed Water Supply Temperature Range: 100 F to 145 F (38 C to 63 C)
Operating Temperature Range:
33 F to 80 F (cold water inlet); 100 F to 212 F (hot water inlet)
(0.5 C to 27 C (cold water inlet)); (38 C to 100 C) (hot water inlet))

Minimum Flow Rate: 0.25 gpm; Recirculation Port: 1/2 in. NPT; Alternate Hot Port: 1/2 in. NPT (0.95 lpm; Recirculation Port: 1/2 in. NPT; Alternate Hot Port: 1/2 in. NPT)
Maximum Working Pressure: 150 psi

Product Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Description	Comments
AMX300/U	3/4 in.	DN20	Cold Inlet - 7/8 in.-14 SAE J513, 45 degree flare fitting; Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.1 Cv	3/4 in. mixing valve (Replacement valve tor AMX300T and AMX302T DirectConnect mixing valve kits.)	—
AMX300LF/U	3/4 in.	DN20	Cold Inlet - 7/8 in.-14 SAE J513, 45 degree flare fitting; Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.1 Cv	3/4 in. mixing valve (Replacement valve tor AMX300T and AMX302T DirectConnect mixing valve kits.)	Low lead Content <.25% by weighted average
AMX300T/U	3/4 in.	DN15	Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.1 Cv	DirectConnect water heater kit with 3/4 in. mixing valve, 3/4 in. cold water tee, and 8-in. SS flex connector	—
AMX300TLF/U	3/4 in.	DN15	Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.3 Cv	DirectConnect water heater kit with 3/4 in. mixing valve, 3/4 in. cold water tee, and 8-in. SS flex connector	Low lead Content <.25% by weighted average
AMX302T/U	3/4 in.	DN25	Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.1 Cv	DirectConnect water heater kit with 3/4-in. mixing valve, 3/4-in. cold water tee, and 11-in. SS flex connector	—
AMX302TLF/U	3/4 in.	DN25	Mixed Outlet - Male NPT; Hot Inlet - Female NPT	2.3 Cv	DirectConnect water heater kit with 3/4-in. mixing valve, 3/4-in. cold water tee, and 11-in. SS flex connector	Low lead Content <.25% by weighted average

Pressure Drop Chart



AMX Series DirectConnect Replacement Parts

Operating Temperature Range: 90 F to 130 F (32 C to 54 C)

Product Number	Pipe Size (inch)	Pipe Size (DN)	Connection Type	Description	
AMCU100			—	AM-1 Union check valve for original AM-1 valves where the check valve does not fit flush with valve body. Contains one O-ring. Also for all AMX100 mixing valves.	
AMX-001RP/U	—	—	—	AMX element, spring, plug assembly. For AMX100 series valves.	
AM-1-025RP/U	—	—	—	Thermal element, spring, and plug assembly. Rebuild kit for AM-1 “Standard” (70 -145F; 21-49C) series and AMX300 series valves	
AMX300/U	3/4 in.	DN20	Cold Inlet - 7/8 in.-14 SAE J513, 45 degree flare fitting; Mixed Outlet - Male NPT; Hot Inlet - Female NPT	3/4 in. mixing valve Replacement valve tor AMX300T and AMX302T DirectConnect mixing valve kits. Capacity 2.1 Cv	
AMX300LF/U	3/4 in.	DN20	Cold Inlet - 7/8 in.-14 SAE J513, 45 degree flare fitting; Mixed Outlet - Male NPT; Hot Inlet - Female NPT	3/4 in. mixing valve Replacement valve tor AMX300T and AMX302T DirectConnect mixing valve kits. Low lead Content <.25% by weighted average Capacity 2.1 Cv	
AMX300-008/U	—	—	NPT	Replacement 8" flex connector for AMX300T	
AMX300-011/U	—	—	NPT	Replacement 11" flex connector for AMX300T	
AMX300-34T/U	3/4 in.	DN20	NPT	Replacement cold water Tee for AMX300T and AMX302T	

MX Series Large Flow Proportional Mixing or Diverting Valve. Protects People and Equipment, Saves Energy

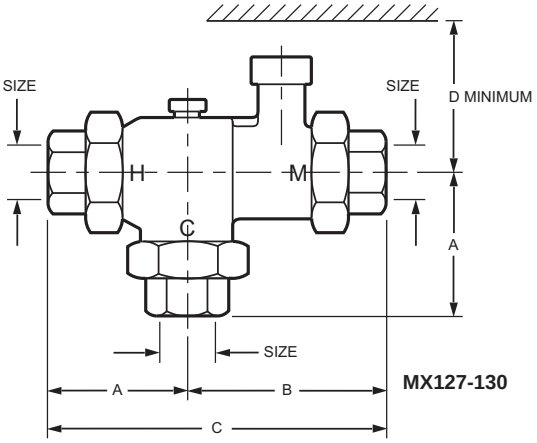
Threaded Valves

Flanged Valves

The MX Series is a state-of-the-art mixing valve with Teflon wear surfaces to prevent calcium buildup. Valve controls hot and cold supply based on control setting. If cold water is shut off, the valve will reduce the mixed flow rate in seconds (speed/residual flow rate varies by size). Accurate control of temperature provides energy savings, increased comfort and safety for the user.

- Dual purpose mixing or diverting valve.
- Constant water temperature under different operating conditions.
- Proportional valve (control of hot and cold water).
- Flow reduction in seconds if cold water supply is interrupted.
- Maintains temperature with extremely low minimum flows.
- Temperature adjustable, tamper evident.
- Install in any position, heat trapping not required.
- Recirculation connection for fast response.
- Bronze/stainless construction.
- Wear surfaces Teflon coated to prevent deposit build-up.
- Union/tailpiece connections included.
- Tapped flange connections 2-1/2 in. and 3 in.
- Allen wrench for temperature adjustment included.
- ASSE 1017 and CSA listed (Union Models)

Threaded Valves dimensions in inches (millimeters)

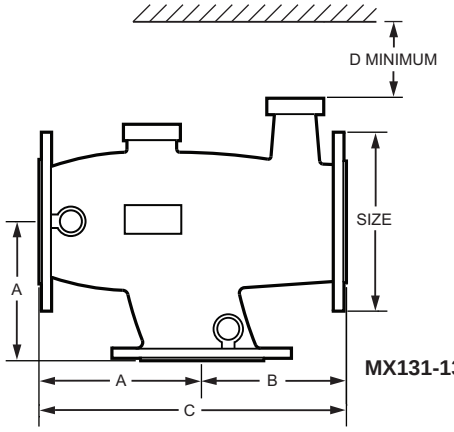


MX127-130

Product Number	Size NPT	Recir Port Size	Dimensions (Inches)			
			A	B	C	D
MX127	1"	1/2 (13)	2-51/64 (71)	3-45/64 (94)	6-1/2 (165)	6 (152)
MX128	1-1/4"	1/2 (13)	3-19/64 (84)	4-13/32 (112)	7-45/64 (196)	6-29/32 (175)
MX129	1-1/2"	1/2 (13)	3-19/32 (91)	5 (127)	8-19/32 (218)	7 (178)
MX130	2"	1/2 (13)	4-13/64 (107)	5-51/64 (147)	10 (254)	7-19/64 (211)
MX127C	1"	1/2 (13)	2-51/64 (71)	3-45/64 (94)	6-1/2 (165)	6 (152)
MX128C	1-1/4"	1/2 (13)	3-19/64 (84)	4-13/32 (112)	7-45/64 (196)	6-29/32 (175)
MX129C	1-1/2"	1/2 (13)	3-19/32 (91)	5 (127)	8-19/32 (218)	7 (178)
MX130C	2"	1/2 (13)	4-13/64 (107)	5-51/64 (147)	10 (254)	7-19/64 (211)

M23243B

Flanged Valves dimensions in inches (millimeters)



MX131-132

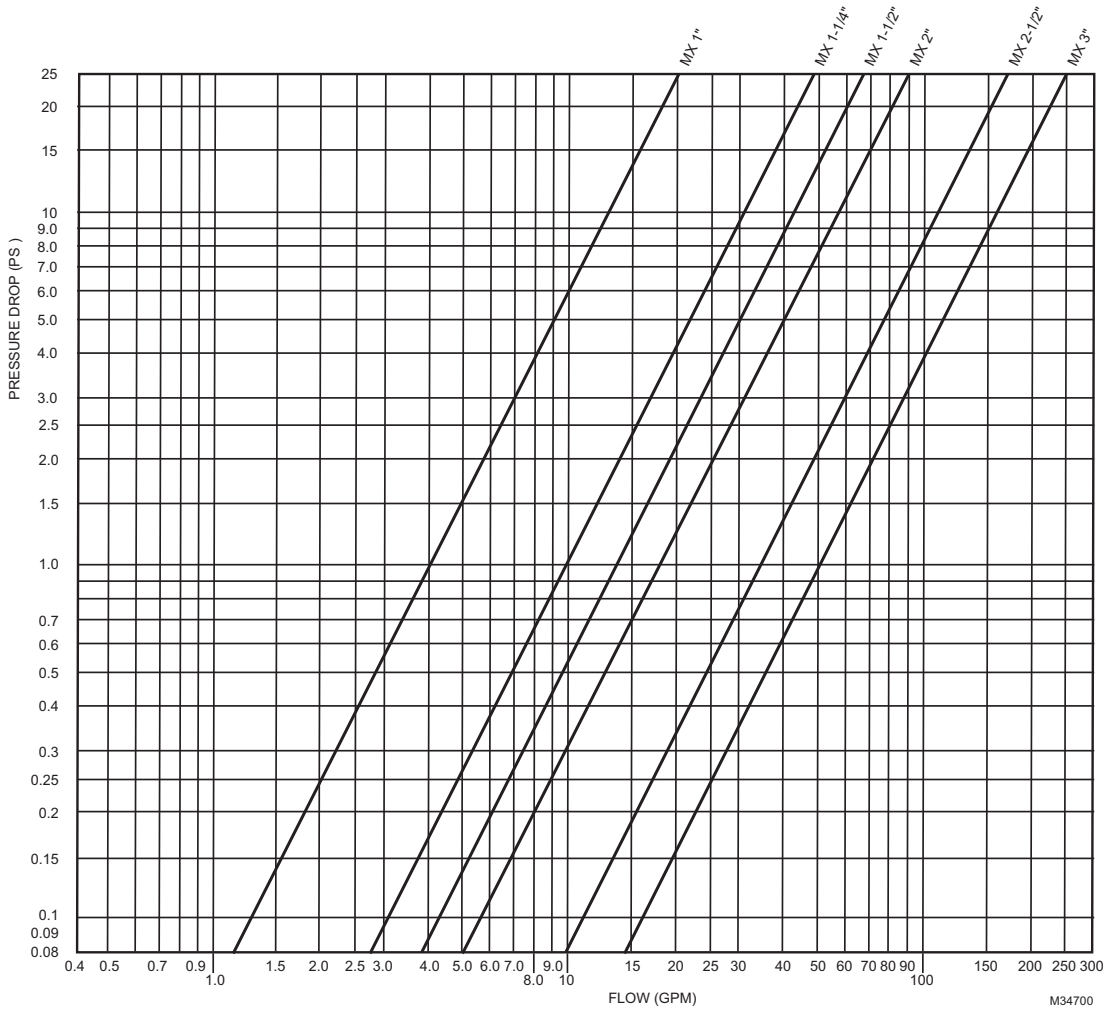
Product Number	Size NPT	Recir Port Size	Dimensions Inches (mm)			
			A	B	C	D
MX131	2-1/2" Flange	1 (25)	5-45/64 (145)	5-45/64 (145)	11-13/32 (290)	4 (102)
MX132	3" Flange	1-1/4 (32)	6-7/64 (155)	6-7/64 (155)	12-13/64 (310)	4 (102)

M27479

Application: Any application requiring accurate control of hot water temperature based on the mixing of hot and cold water, such as: domestic water for homes, apartment, hotels, schools, nursing homes, offices, public facilities, space heating, radiant floor heating,
Weight: 3.6 lb

Product Number	Pipe Size (inch)	Pipe Size DN	Connection Type	Capacity (Cv)	Operating Temperature Range (F)	Operating Temperature Range (C)	ASSE	Description
MX127/U	1 in.	DN25	NPT	4 Cv	113 F to 149 F	45 C to 65 C	1017	1 in. NPT MX Mixing Valves
MX127C/U	1 in.	DN25	NPT	4 Cv	86 F to 113 F	30 C to 45 C	1017	1 in. NPT MX Mixing Valves
MX128/U	1 1/4 in.	DN32	NPT	9.3 Cv	113 F to 149 F	45 C to 65 C	1017	1 1/4 in. MX NPT Mixing Valves
MX128C/U	1 1/4 in.	DN32	NPT	9.3 Cv	86 F to 113 F	30 C to 45 C	1017	1 1/4 in. NPT MX Mixing Valves
MX129/U	1 1/2 in.	DN40	NPT	13.5 Cv	113 F to 149 F	45 C to 65 C	1017	1 1/2 in. NPT MX Mixing Valves
MX129C/U	1 1/2 in.	DN40	NPT	13.5 Cv	86 F to 113 F	30 C to 45 C	1017	1 1/2 in. NPT MX Mixing Valves
MX130/U	2 in.	DN50	NPT	18 Cv	113 F to 149 F	45 C to 65 C	1017	2 in. NPT MX Mixing Valves
MX130C/U	2 in.	DN50	NPT	18 Cv	86 F to 113 F	30 C to 45 C	1017	2 in. NPT MX Mixing Valves
MX131/U	2 1/2 in.	DN65	Flanged	34 Cv	113 F to 149 F	45 C to 65 C	—	2 1/2 in. Flanged MX Mixing Valves
MX132/U	3 in.	DN80	Flanged	50 Cv	86 F to 113 F	30 C to 45 C	—	3 in. Flanged MX Mixing Valves

Pressure Drop Chart



MX Series Valves Replacement Parts

Product Number	Pipe Size (inch)	Pipe Size DN	Description
MX050-RP/U	1/2 in.	DN15	1/2 in. Recirculation adapter kit MX127 mixing valves. Includes 1/2 in. MNPT union nut and gasket
MX100-RP/U	1 in.	DN25	Replacement gasket kit for MX127 mixing valves. Includes 3, 1-in. gaskets
MX125-RP/U	1 1/4 in.	DN32	Replacement gasket kit for MX128 mixing valves. Includes 3, 1-1/4-in. gaskets
MX150-RP/U	1 1/2 in.	DN40	Replacement gasket kit for MX129 mixing valves. Includes 3, 1-1/2-in. gaskets
MX200-RP/U	2 in.	DN50	Replacement gasket kit for MX130 mixing valves. Includes 3, 2-in. gaskets
MX250-RP/U	2 1/2 in.	DN65	Replacement gasket kit for MX131 mixing valves. Includes 3, 2-1/2-in. gaskets
MX300-RP/U	3 in.	DN80	Replacement gasket kit for MX132 mixing valves. Includes 3, 3-in. gaskets

Pressure Regulating Valves

D05T Pressure Regulating Valve–Compact Design

Compact Design pressure regulating valves for new residential and light commercial construction, drip irrigation and other applications requiring sensitive and accurate regulation.

- Flow capacity and accuracy make D05T suitable for a variety of applications
- Bronze body construction with stainless steel and engineered thermoplastic internal parts
- One piece non-corroding unitized cartridge
- Fully balanced regulator mechanism with fabric reinforced diaphragm
- Includes balanced seat for accurate pressure output under varying inlet pressures up to 400psi
- Inlet and outlet internally and externally threaded (NPT) for union connection
- Built-in strainer and thermal by-pass
- ASSE 1003 and IAPMO listed

Calibrated Adjustment Dial: No
Gauge Tap: 1/4 in. NPT
Reducing Ratio: 10:1 maximum
Maximum Inlet Pressure Rating (psi): 400 psi
Outlet Pressure Adjustment Range (psi): 22-90 psi
Pipe Connection: Female NPT threaded inlet and outlet. Externally threaded for unions.

Temperature Range: 180 F (82 C)
Materials: Bronze (body), Fabric reinforced diaphragm, Stainless steel and engineered thermoplastics.
Approvals
Canadian Standards Association: Certified (B356)
ASSE: Certified (1003)
IAPMO: Listed

Product Number	Pipe Size (inch)	Pipe Size DN	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Union Fittings	Description
D05T1011/U	3/4 in.	DN20	6 5/8 in. high x 3 1/2 in. wide	168 mm high x 89 mm long	Union body, no tailpieces	Compact 3/4 in. Pressure Reducing Valve
D05T1029/U	3/4 in.	DN20	6 5/8 in. high x 5 3/16 in. long	168 mm high x 132 mm long	Double-union sweat	Compact 3/4 in. Pressure Reducing Valve
D05T1045/U	1 in.	DN25	4 1/2 in high x 4 in. long	114 mm high x 142 mm wide	Union body, no tailpieces	Compact 1 in. Pressure Reducing Valve
D05T1052/U	1 in.	DN25	8 5/8 in. high x 6 1/2 in. long	218 mm high x 166 mm long	Double-union sweat	Compact 1 in. Pressure Reducing Valve
D05T1060/U	3/4 in.	DN20	6 5/8 in. high x 5 3/16 in. long	168 mm high x 132 mm long	Double-union threaded	Compact 3/4 in. Pressure Reducing Valve
D05T1078/U	1 in.	DN25	6 5/8 in. high x 5 3/16 in. long	168 mm high x 132 mm long	Double-union threaded	Compact 3/4 in. Pressure Reducing Valve
D05T1086/U	3/4 in.	DN20	6 5/8 in. high x 5 3/16 in. long	168 mm high x 132 mm long	Single-union sweat	Compact 3/4 in. Pressure Reducing Valve
D05T1094/U	3/4 in.	DN20	6 5/8 in. high x 4 5/16 in. wide	168 mm high x 110 mm long	Single-union threaded	Compact 3/4 in. Pressure Reducing Valve
D05T1102/U	1 in.	DN25	8 5/8 in. high x 5 in. long	218 mm high x 127 mm long	Single-union sweat	Compact 1 in. Pressure Reducing Valve
D05T1110/U	1 in.	DN25	8 5/8 in. high x 5 in. long	218 mm high x 127 mm long	Single-union threaded	Compact 1 in. Pressure Reducing Valve

DS05 “DialSet” Pressure Regulating Valves

Valves for new residential and light commercial construction, drip irrigation, and other applications requiring highly sensitive and accurate regulation. Easy DialSet® Adjustment (no gauge required).

- Dial is calibrated in 10 psi increments to allow quick and accurate adjustment of outlet pressure.
- Flow capacity and accuracy make the DS05 suitable for potable water service and most irrigation applications.
- High pressure (400 psi) inlet rating.
- Non-corroding unitized cartridge contains all working parts and is easily replaceable.
- Bronze body with stainless steel and engineered thermoplastic internal parts.
- Balanced single seat for accurate pressure output under varying inlet pressures.
- Inlet and outlet are internally threaded female NPT, and externally threaded for use with union assemblies.
- Built-in strainer and thermal bypass.
- One model can be used in low, standard or high pressure applications.

Calibrated Adjustment Dial: Yes
Gauge Tap: none
Reducing Ratio: 10:1 maximum
Maximum Inlet Pressure Rating (psi): 400 psi
Pipe Connection: Female NPT threaded inlet and outlet. Externally threaded for unions.
Temperature Range: 180 F (82 C)

Materials: Bronze (body), Fabric reinforced diaphragm, Stainless steel and engineered thermoplastics.

Approvals
Canadian Standards Association: Certified (B356)
ASSE: Certified (1003)
IAPMO: Listed

Product Number	Pipe Size inch	Pipe Size DN	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Outlet Pressure Adjustment Range (psi)	Union Fittings	Description
DS05C1006/U	1/2 in.	DN15	5 1/4 in. high x 3 3/8 in. long	133 mm high x 86 mm long	22-90 psi	Union body, no tailpieces	1/2 in. “Dialset” Female NPT Pressure Reducing Valve, non-union body
DS05C1014/U	1/2 in.	DN15	5 1/4 in. high x 3 7/8 in. long	133 mm high x 98 mm wide	22-90 psi	Single-union sweat	1/2 in. “Dialset” Female NPT Pressure Reducing Valve, Single union, sweat tailpiece
DS05C1022/U	1/2 in.	DN15	5 1/4 in. high x 4 1/16 in. long	133 mm high x 103 mm wide	22-90 psi	Single-union threaded	1/2 in. “Dialset” Female NPT Pressure Reducing Valve, Single union, internally threaded tailpiece
DS05C1030/U	3/4 in.	DN20	5 1/4 in. high x 3 3/8 in. long	133 mm high x 86 mm long	22-90 psi	Union body, no tailpieces	3/4 in. “Dialset” Female NPT Pressure Reducing Valve, non-union body
DS05C1048/U	3/4 in.	DN20	5 1/4 in. high x 4 5/16 in. long	133 mm high x 110 mm wide	22-90 psi	Single-union sweat	3/4 in. “Dialset” Female NPT Pressure Reducing Valve, Single union, sweat tailpiece
DS05C1055/U	3/4 in.	DN20	5 1/4 in. high x 4 5/16 in. long	133 mm high x 110 mm wide	22-90 psi	Single-union threaded	3/4 in. “Dialset” Female NPT Pressure Reducing Valve, Single union, internally threaded tailpiece
DS05C1063/U	1 in.	DN25	5 1/4 in. high x 3 15/16 in. long	133 mm high x 100 mm wide	22-90 psi	Union body, no tailpieces	1 in. “Dialset” Female NPT Pressure Reducing Valve, non-union body
DS05C1071/U	1 in.	DN25	5 1/4 in. high x 5 1/4 in. long	133 mm high x 133 mm long	22-90 psi	Single-union sweat	1 in. “Dialset” Female NPT Pressure Reducing Valve, Single union, sweat tailpiece
DS05C1089/U	1 in.	DN25	5 1/4 in. high x 5 in. long	133 mm high x 127 mm long	22-90 psi	Single-union threaded	1 in. “Dialset” Female NPT Pressure Reducing Valve, Single union, internally threaded tailpiece
DS05D1005/U	1/2 in.	DN15	5 1/4 in. high x 5 9/16 in. long	133 mm high x 141 mm long	22-90 psi	Double-union sweat	1/2 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, sweat tailpieces
DS05D1013/U	1/2 in.	DN15	5 1/4 in. high x 5 15/16 in. long	133 mm high x 125 mm long	22-90 psi	Double-union threaded	1/2 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpieces
DS05D1021/U	3/4 in.	DN20	5 1/4 in. high x 6 1/16 in. long	133mm high x 154 mm long	22-90 psi	Double-union sweat	3/4 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, sweat tailpieces
DS05D1039/U	3/4 in.	DN20	5 1/4 in. high x 5 3/16 in. long	133 mm high x 132 mm long	22-90 psi	Double-union threaded	3/4 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpieces
DS05D1047/U	1 in.	DN25	5 1/4 in. high x 6 1/2 in. long	133 mm high x 166 mm long	22-90 psi	Double-union sweat	1 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, sweat tailpieces
DS05D1054/U	1 in.	DN25	5 1/3 in. high x 5 3/16 in. long	133 mm high x 132 mm long	22-90 psi	Double-union threaded	1 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpieces
DS05D1062/U	1 1/4 in.	DN32	8 5/8 in. high x 7 11/16 in. long	218 mm high x 195 mm long	22-150 psi	Double-union sweat	1 1/4 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, sweat tailpieces
DS05D1070/U	1 1/4 in.	DN32	8 5/8 in. high x 7 5/16 in. long	218 mm high x 186 mm long	22-150 psi	Double-union threaded	1 1/4 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpieces
DS05G1085/U	1 1/4 in.	DN32	8 5/8 in. high x 6 in. long	218 mm high x 152 mm long	22-150 psi	Single-union threaded	Threaded 1 1/4 in. Pressure regulator Valve with single union, threaded tailpiece and gauge tap
DS05G1093/U	1 1/4 in.	DN32	8 5/8 in. high x 6 3/16 in. long	218 mm high x 157 mm long	22-150 psi	Single-union sweat	Threaded 1 1/4 in. Pressure regulator Valve with single union, sweat tailpiece and gauge tap
DS05G1127/U	1 1/4 in.	DN32	8 5/8 in. high x 4 11/16 in. long	218 mm high x 119 mm long	22-150 psi	Union body, no tailpieces	1 1/4 in. “Dialset” Female NPT Pressure Reducing Valve, non-union body

Pressure Regulating Valves

DS06 “DialSet” Pressure Regulating Valves

High quality pressure regulating valve that maintains a constant outlet pressure over a wide range of inlet supply pressures. Includes calibrated outlet pressure set dial that allows outlet pressure adjustments without the use of a gauge in most applications. Easy DialSet® Adjustment (no gauge required)

- Ideally suited for potable water and irrigation applications requiring accurate regulation.
- Wide outlet pressure range, high inlet pressure, and compact design allow flexibility in installation and application.
- Non-corroding unitized cartridge contains all working parts and is easily replaceable.
- Includes built-in strainer and thermal bypass.
- Balanced seat construction provides superior pressure regulation.
- Gauge tapped.

Calibrated Adjustment Dial: Yes
Gauge Tap: 1/4 in. NPT (two, one on each side of body)
Reducing Ratio: 10:1 maximum
Maximum Inlet Pressure Rating (psi): 400 psi
Outlet Pressure Adjustment Range (psi): 22-130 psi
Pipe Connection: Female NPT threaded inlet and outlet. Externally threaded for unions
Temperature Range: 180 F (82 C)

Materials: Bronze (body), Fabric reinforced diaphragm, Stainless steel and engineered thermoplastics

Approvals
Canadian Standards Association: Certified (B356)
ASSE: Certified (1003)
IAPMO: Listed

Product Number	Pipe Size (inch)	Pipe Size DN	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Union Fittings	Description
DS06D1003/U	1 1/2 in.	DN40	11 13/16 in. high x 9 3/8 in. long	299 mm high x 238 mm long	Double-union sweat	1 1/2 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, sweat tailpieces
DS06D1011/U	1 1/2 in.	DN40	11 13/16 in. high x 9 3/16 in. long	299 mm high x 233 mm long	Double-union threaded	1 1/2 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpieces
DS06D1029/U	2 in.	DN50	11 13/16 in. high x 10 3/16 in. long	299 mm high x 257 mm long	Double-union sweat	2 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, sweat tailpieces
DS06D1037/U	2 in.	DN50	11 13/16 in. high x 9 5/16 in. long	299 mm high x 237 mm long	Double-union threaded	2 in. “Dialset” Female NPT Pressure Reducing Valve, Double-union, internally threaded tailpieces
DS06G1000/U	1 1/2 in.	DN40	11 13/16 in. high x 7 13/16 in. long	299 mm high x 198 mm long	Single-union threaded	Threaded 1 1/2 in. Pressure regulator Valve
DS06G1018/U	1 1/2 in.	DN40	11 13/16 in. high x 7 7/8 in. long	299 mm high x 201 mm long	Single-union sweat	Sweat 1 1/2 in. Pressure regulator Valve
DS06G1026/U	2 in.	DN50	11 13/16 in. high x 7 7/8 in. long	299 mm high x 200 mm long	Single-union threaded	Threaded 2 in. Pressure regulator Valve
DS06G1034/U	2 in.	DN50	11 13/16 in. high x 8 5/16 in. long	299 mm high x 211 mm long	Single-union sweat	Sweat 2 in. Pressure regulator Valve
DS06G1042/U	1 1/2 in.	DN40	11 13/16 in. high x 6 3/8 in. long	299 mm high x 162 mm long	Union body, no tailpieces	1 1/2 in. “Dialset” Female NPT Pressure Reducing Valve, non-union body
DS06G1059/U	2 in.	DN50	11 13/16 in. high x 6 3/8 in. long	299 mm high x 162 mm long	Union body, no tailpieces	2 in. “Dialset” Female NPT Pressure Reducing Valve, non-union body

D05/DS05 Pressure Regulating Valves–Accessories

Product Number	Description	Used With
272843	Union gaskets for 1 1/4 in. D05/DS05 valves (package of 2)	D05; DS05
K06U1069/U	Union kit for D05 for 1/2-in. NPT valves. Includes union nut, threaded tail piece, and gasket	D05; DS05
K06U1077/U	Union kit for D05 for 3/4-in. NPT valves. Includes union nut, threaded tail piece, and gasket	D05; DS05
K06U1085/U	Union kit for D05 for 1-in. NPT valves. Includes union nut, threaded tail piece, and gasket	D05; DS05
K06U1093/U	Union kit for D05 for 1/2-in. sweat valves. Includes union nut, sweat tail piece, and gasket	D05; DS05
K06U1101/U	Union kit for D05 for 3/4-in. sweat valves. Includes union nut, sweat tail piece, and gasket	D05; DS05
K06U1119/U	Union kit for D05 for 1-in. sweat valves. Includes union nut, sweat tail piece, and gasket	D05; DS05
K06U1135/U	Union kit for D05 for 1-1/4-in. NPT valves. Includes union nut, threaded tail piece, and gasket	D05; DS05
K06U1143/U	Union kit for D05 for 1-1/4-in. sweat valves. Includes union nut, sweat tail piece, and gasket	D05; DS05

D05/DS05 Pressure Regulating Valves–Repair Parts

Product Number	Description	Used With
203223/U	Bonnet kit for 1/2 in. and 3/4 in. D05 valves. Consists of bonnet and threaded insert	D05
272838	Bonnet kit for 1/2 in. and 3/4 in. DS05 valves	DS05
272839	Bonnet kit for 1 in. and 1 1/4 in. DS05 valves	DS05
K05A1009	Repair Kit for old style D05A,G; DS05G series 1/2 in. and 3/4 in. valves. Includes cartridge, screen and O-rings	D05; DS05
K05A1017	Repair Kit for old style D05A,G; DS05G 1 in. and 1-1/4 in. valves. Includes cartridge, screen and O-rings	D05; DS05
K05A1025	Repair kit for new D05T, DC05C,D,G 1/2 in., 3/4 in., and 1-in. valves. Includes cartridge, screen and O-ring	DS05; D05T
K05B1007	Repair Kit for new D05T; DS05C,D,G 1/2-in. and 3/4-in. valves. Includes screen and O-rings	DS05; D05T
K05B1015/U	Repair Kit for new D05T and DS05C,D,G 1-in. valves. Includes screen and O-rings	DS05; D05T
K06A1003/U	Cartridge kit for D05G and DS05G 1/2 and 3/4 in. valves. Includes cartridge, screen and O-rings	D05; DS05
K06A1011	Cartridge kit for D05G and DS05G 1 and 1-1/4 in. valves. Includes cartridge, screen and O-rings	D05; DS05
K06A1019/U	Cartridge kit for D05G and DS05G 1/2 and 3/4 in. valves. Includes screen, plug and O-rings	D05; DS05
K06B1002	Cartridge kit for D05G and DS05G 1 and 1-1/4 in. valves. Includes screen, plug and O-rings	D05; DS05
K06B1018	Cartridge kit for D05G and DS05G 1 and 1-1/4 in. valves. Includes screen, plug and O-rings	D05; DS05
K06C1036/U	Spring kit for D05G and DS05G 1 and 1-1/4 in. valves. 21-85 psi. Includes spring and adjustment knob (grey)	D05; DS05
K06C1044	Spring kit for D05G and DS05G 1 and 1-1/4 in. valves. 85-170 psi. Includes spring and adjustment knob (red)	D05; DS05
K06D1001/U	Cartridge kit for D05G and DS05G 1/2 and 3/4 in. valves. Includes cartridge and O-rings	D05; DS05
K06D1009/U	Cartridge kit for D05G and DS05G 1 and 1-1/4 in. valves. Includes cartridge and O-rings	D05; DS05

Pressure Regulating Valves

D06/DS06 Pressure Regulating Valves–Accessories

Product Number	Description	Used With
272858/U	Union Gasket for 1 1/2 in. D06 and DS06G valves	DS06G; D06
272859/U	Union gaskets for 2-in. D06 and DS06 valves	D06; DS06
K06U1037/U	Union kit for D06 for 1-1/2-in. NPT valves. Includes one each union nut, NPT internally threaded tailpiece, and gasket	D06; DS06
K06U1045/U	Union kit for D06 for 2-in. NPT valves. Includes one each union nut, NPT internally threaded tailpiece, and gasket	D06; DS06
K06U5034/U	Union kit for D06 for 1-1/2-in. sweat valves. Includes one each union nut, sweat tail piece, and gasket	D06; DS06
K06U5042/U	Union kit for D06 for 2-in. sweat valves. Includes one each union nut, sweat tail piece, and gasket	D06; DS06

D06/DS06 Pressure Regulating Valves–Repair Parts

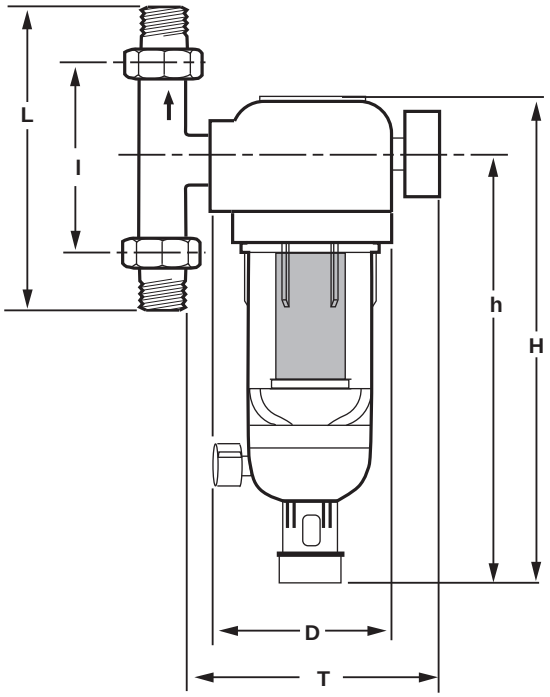
Product Number	Description	Used With
0900153/U	Bonnet Kit For 1 and 1 1/4 in D06 only	D06
0900154	Bonnet Assembly 1 1/2 in. and 2 in.	—
0900368/U	Bonnet Assembly for 1/2 in. and 3/4 in. D06 Valves	D06
272867	Bonnet kit for 1-1/2 in. and 2 in. DS06 valves	DS06
K06B1030	Cartridge kit for D06G and DS06G 1-1/2-in. and 2-in. valves. Includes strainer, support and 2 O-rings	D06; DS06
K06C1060	Spring kit for D06G and DS06G 1-1/2 and 2 in. valves. 21-85 psi. Includes spring and adjustment knob (grey)	D06; DS06
K06D1017	Cartridge kit for D06G and DS06G 1-1/2 and 2 in. valves. Includes cartridge and O-rings	D06; DS06
K06D1044	Cartridge kit for D06G,T,U and DS06G 1-1/2-in. and 2in. valves. Includes cartridge, screen and O-rings	D06; DS06

F74C Reversing Rinsing Filter

F74C Reverse Rinsing Filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of foreign bodies, such as rust particle and grains of sand. Both horizontal and vertical installations are possible.

- Whole House Protection
- Filtered water supplied even during reverse rinsing. Patented reverse rinsing system.
- Fast and thorough cleaning of the filter with a small amount of water.
- Bayonet connection enables simple retro-fitting of reverse rinsing actuator.
- Large filter surface.
- Shock resistant, clear synthetic material filter bowl enables easy inspection of filter contamination.
- Filter insert fully interchangeable.
- Simple operation.
- Tested for reliability.

Dimensions in inches (millimeters)



DIMENSION	IN INCHES (MM)	
	F74C1015	F74C1023
H	12 13/16 (324)	12 13/16 (324)
h	11 3/16 (285)	11 3/16 (285)
L	6 3/8 (162)	7 1/4 (184)
I	3 9/16 (90)	3 15/16 (100)
D	4 1/8 (105)	4 1/8 (105)
T	5 5/16 (150)	5 5/16 (150)

M18087B

Materials (Body): Plastic with Brass Fittings
Connection Type: Sweat and threaded
Sump: Clear Plastic
Temperature Rating: 86 F Maximum (30 C Maximum)
Weight: 6 lb (2.7 kg)

Product Number	Pipe Size (inch)	Pipe Size DN	Capacity (Cv)	Screen Size	Pressure Ratings (psi)	Includes
F74C1015	3/4 in.	DN20	6.4 Cv	100 micron screen	230 psi maximum	gauge and wrench
F74C1023	1 in.	DN25	7.0 Cv	100 micron screen	230 psi maximum	gauge and wrench

Water Filters

F76 Water Filters

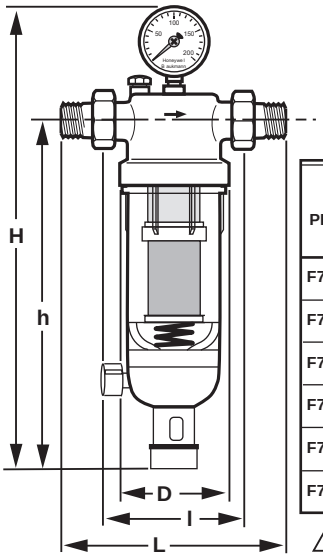
High flow capacity water filter used to remove sediment and debris from residential or commercial water systems.

- Whole House Protection
- Ideally suited for sediment removal applications that would quickly plug and restrict the flow of normal filters.
- Used as a prefilter, the F76 protects elements of the water system, including specialized treatment devices or other common fixtures and appliances.
- The flow filtering capacity and ease of cleaning make the F76S ideal for the most demanding applications.
- Built-in secondary filter provides an uninterrupted supply of filtered water during backwashing.

Materials (Body): Brass
Connection Type: NPT External Threaded and Sweat
Sump: Clear Plastic

Temperature Rating: 104 F Maximum (40 C Maximum)
Weight: 6.4 lb (2.9 kg)

Dimensions in inches (millimeters)



PRODUCT NUMBER AND SIZE		DIMENSIONS IN INCHES (MM)					
		L	l	D	H	h	1 WEIGHT
F76S1007	1/2 IN.	6-11/16 (170)	4-5/16 (110)	3-13/16 (97)	17-11/16 (449)	13-13/16 (350)	6.4 (2.9)
F76S1015	3/4 IN.	7 (178)	4-5/16 (110)	3-13/16 (97)	17-11/16 (449)	13-13/16 (350)	6.4 (2.9)
F76S1023	1 IN.	8-1/4 (209)	5-1/8 (130)	3-13/16 (97)	17-7/8 (453)	13-13/16 (350)	6.8 (3.1)
F76S1031	1-1/4 IN.	8-3/4 (222)	5-1/8 (130)	3-13/16 (97)	17-7/8 (453)	13-13/16 (350)	7.3 (3.3)
F76S1049	1-1/2 IN.	9-11/16 (246)	5-15/16 (150)	4-3/4 (119)	20-15/16 (532)	16-7/16 (417)	8.8 (4.0)
F76F1056	2 IN.	10-1/2 (267)	5-15/16 (150)	4-3/4 (119)	20-15/16 (532)	16-7/16 (417)	10.6 (4.8)

1 WEIGHT IN POUNDS (KILOGRAMS)

M18084A

Product Number	Pipe Size (inch)	Pipe Size DN	Capacity (Cv)	Screen Size	Pressure Ratings (psi)	Includes
F76S1007	1/2 in.	DN15	5.6 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1015	3/4 in.	DN20	8.4 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1023	1 in.	DN25	11.4 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1031	1 1/4 in.	DN32	12.4 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1049	1 1/2 in.	DN40	24.4 Cv	100 micron screen	230 psi maximum	gauge and service wrench
F76S1056	2 in.	DN50	25.5 Cv	100 micron screen	230 psi maximum	gauge and service wrench

FF06 Rinseable Fine Filter

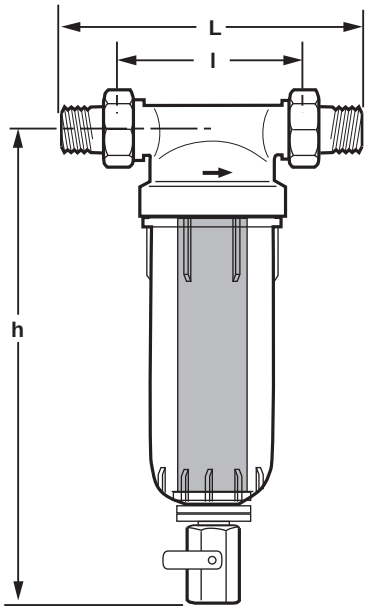
The FF06 Rinseable Fine Filter ensures a continuous supply of filtered water. The fine filter stops the flow of particulates, such as rust particles and grains of sand. Sediment collected at the bottom of the bowl can simply be removed by flushing with the turn of a knob. This compact filter was designed to fit where the space is limited.

- Easy installation.
- Same installed dimensions as F74C for easy future upgrade to a backwashable filter.
- Continuous supply of filtered water, even during rinse cycle.
- Shock resistant clear synthetic material filter bowl enables easy inspection for filter contamination.
- Stainless steel filter element.
- Filter bowl and sleeve are easily exchanged.
- Shipped with threaded and sweat union connections and service wrench.

Materials (Body): Dezincification-resistant (DZR) forged Brass
Connection Type: NPT External Threaded and Sweat
Sump: Clear Plastic

Temperature Rating: 104 F Maximum (40 C Maximum)
Weight: 2.2 lb (1.0 kg)

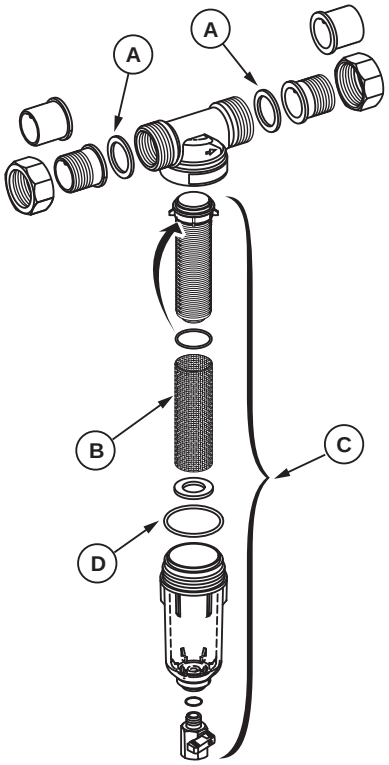
Dimensions in inches (millimeters)



DIMENSION	IN INCHES (MM)	
	FF06A1013	FF06A1021
L	6 1/4 (158)	7 1/16 (179)
l	3 9/16 (90)	3 15/16 (100)
h	7 1/16 (180)	7 1/16 (180)

M18086C

FF06 Exploded View



	PART NUMBER	DESCRIPTION
A	0901444	GASKET 3/4 IN. (10 PCS)
	0901445	GASKET 1 IN. (10 PCS)
B and D	AS 06 1A	FILTER MESH AND SUMP O RING (5 PCS)
C	KF 06 1A	CLEAR FILTER BOWL, COMPLETE WITH FILTER MESH AND CARRIER

M17536B

Product Number	Pipe Size (inch)	Pipe Size DN	Capacity (Cv)	Screen Size	Pressure Ratings (psi)	Includes
FF06A1013	3/4 in.	DN20	7.3 Cv	100 micron screen	230 psi maximum	service wrench
FF06A1021	1 in.	DN25	8.4 Cv	100 micron screen	230 psi maximum	service wrench

Backwash Controls

Water Sediment Filter Parts and Accessories

Product Number	Description	Used With
0900747	Sump O-ring for F76S Water Filter 1 1/2 in.	F76S
0900748	Sump O-ring for F76S water filter 1/2 in. to 1 in.	F76S
0901444	Union gasket for 1/2 in. or 3/4 in. connections	F76S; FF06; F74C
0901445	Union gasket for 1 in. connections	F76S; FF06; F74C
0901446	Union gasket for 1-1/4 in. connections	F76S
0901447	Union gasket for 1-1/2 in. connections	F76S
0901448/U	Union gasket for 2 in. connections	F76S
AF11S-1A	100 Micron Screen kit for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
AF11S-1B/U	20 Micron Screen kit for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
AF11S-1C	50 Micron Screen kit for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
AF11S-1D	200 Micron Screen kit for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
AF11S-11/2A	100 Micron Screen kit for F76S Water Filter 1 1/2 in. to 2 in.	F76S
AF11S-11/2B	20 Micron Screen kit for F76S Water Filter 1 1/2 in. to 2 in.	F76S
AF11S-11/2C	50 Micron Screen kit for F76S Water Filter 1 1/2 in. to 2 in.	F76S
AF11S-11/2D	200 Micron Screen kit for F76S Water Filter 1 1/2 in. to 2 in.	F76S
AF74-1A	Insert Filter 100 Micron Screen	F74C
AS06-1A	Filter mesh and sump O-ring (5 pcs)	FF06
FT09RS-1A	Bronze Sump for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
KF11S-1A	Clear Plastic Sump (bowl) for F76S Water Filter 1/2 in. to 1-1/4 in.	F76S
KH11S-1A	Ball Valve for F76S water filter 1/2 in. to 2 in.	F76S
KF11S-11/2A	Clear Plastic Sump (bowl) for F76S Water Filter 1 1/2 in. to 2 in.	F76S

MV876 Automatic Backwash Control

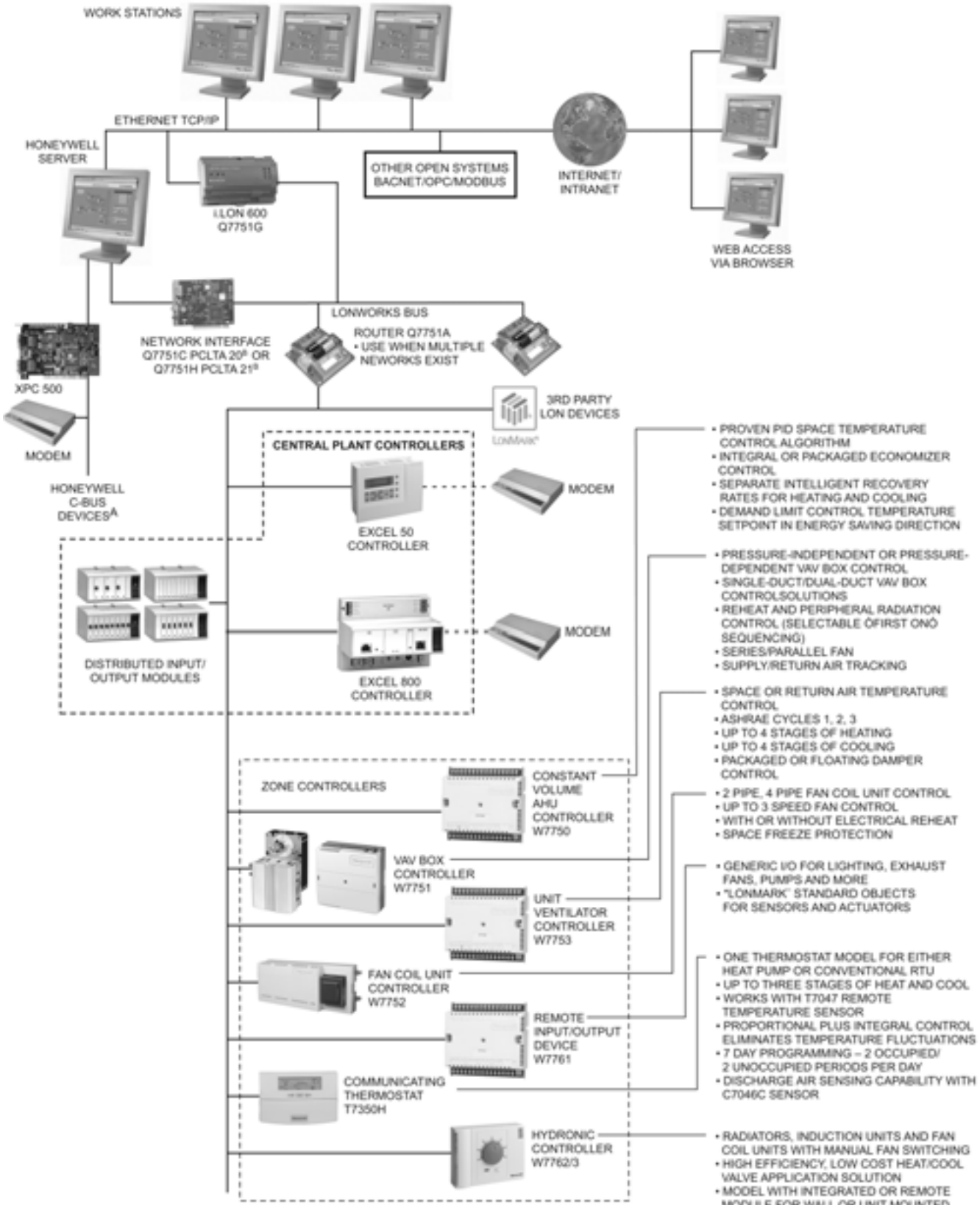
The MV876B Automatic-Backwash Control is available as an accessory. This control is fitted to the drain valve and is programmed by the user to automatically perform the backwash function according to the desired interval.

- Bayonet fitting simplifies upgrade to automatic backwash.
- 16 field-selectable backwash intervals (from every four minutes to once every three months) eliminate need for external timer.
- Connections for external control on the MV876 provide for use in automated systems and differential pressure control.
- MV876 can be manually activated to initiate backwash.
- Battery (AA) backup to insure completion of backwash cycle in spite of power loss.

Dimensions, Approximate: 6 in. high, 2-3/4 in wide, 6-5/16 in. deep (152 mm high, 70mm wide, 160 mm deep)
Electrical Ratings: 24 Vac, 10 W

Product Number	Backwash Intervals	Display	Electrical Connections	Cycle Time (sec)	Battery Back-up	Description
MV876B1018	16 Adjustable intervals from 4 min to 3 months	Digital	Remote Activation	20 sec	Yes, 4xAA	Automatic backwash control, fits 1/2 in. to 2 in. F76S models and F74C models

EXCEL 5000 SYSTEM ARCHITECTURE



A PLANT CONTROLLERS MAY BE CONFIGURED TO COMMUNICATE ON THE LONWORKS BUS FOR OPEN SYSTEM JOBS OR THE HONEYWELL C-BUS.
B THE SYSTEM ONLY REQUIRES THE i.LON 600 OR THE PCLTA FOR EACH APPLICATION, NOT BOTH.

Excel 5000 System

Controller Tools

The Excel CARE and Live CARE software packages are graphic tools to easily and quickly create and simulate application programs that run controllers in EXCEL 5000® Systems. Users can perform these functions without extensive knowledge of a programming language. Users systematically select control system graphic elements such as lighting and Heating, Ventilating, and Air Conditioning (HVAC) equipment and create control sequences in a Microsoft® Windows® environment. CARE software validates as the designer works, thus keeping the process free of errors. Work is completed quickly and efficiently. As part of the design process, CARE automatically creates comprehensive documentation and materials listings.

NOTE: All CARE products require a signed SOFTWARE LICENSE AGREEMENT prior to purchase. Ordering CARE via this website does not guarantee that you are approved for the purchase. Honeywell reserves the right to refuse shipment, if appropriate.

- Point-and-click programming
- Schematic drawing
- Control strategy
- Switching logic
- Time function
- Mathematical editor
- Standard library.
- Documentation
- Control program simulation
- Applicable to EXCEL 5000 System controllers
- Password security

Application: Tool
Application Size: Small to Large
Building Management Interface: EBI; SymmetrE; XBS
Network Communications: C-Bus; LonWorks Bus
Compatible with: Excel 5000 System Controllers

Product Number	Description	Commissioning Software	Output Type	Used With	Includes
CARE-80-LNS	CARE: Graphic Programming Tool	CARE	Graphical Interface	Excel 5000 System Controllers	USB Drive with full installation of CARE 8 with voucher number
PROTPLUG-UP	CARE: Graphic Programming Tool Upgrade	CARE	Graphical Interface	Excel 5000 System Controllers	USB Drive with CARE 8 upgrade

SymmetrE

The Honeywell SymmetrE™ building management system redefines what to expect from monitoring and control of your heating, ventilation and air conditioning equipment. The scalable, open SymmetrE™ system brings your building's occupant needs, operational issues and budget pressures into perfect balance. You get an unparalleled solution that helps simplify facility management, boost productivity and reduce costs. NOTE: All CARE products require a signed SymmetrE™ LICENSE AGREEMENT prior to purchase. Ordering SymmetrE™ via this website does not guarantee that you are approved for the purchase. Honeywell reserves the right to refuse shipment, if appropriate.

The Honeywell SymmetrE™ PC workstation redefines what to expect from monitoring and controlling your building management system. The scalable, open SymmetrE™ software brings your building's occupant needs, operational issues and budget pressures into perfect balance. You get an unparalleled solution that helps simplify facility management, boost productivity and reduce costs.

NOTE: All SymmetrE™ products require a signed SymmetrE™ LICENSE AGREEMENT prior to purchase. Ordering SymmetrE™ via this website does not guarantee that you are approved for the purchase. Honeywell reserves the right to refuse shipment, if appropriate.

SymmetrE™ is a highly configurable PC workstation providing an efficient and reliable way of ensuring the comfort of people and the effective operation of buildings and facilities. Used with the Excel 5000 Building Management System it provides a complete solution to access information and the control needs of one or more buildings.

SymmetrE™ integrates using Open System Standards and Internet and Intranet applications. This allows you to choose the best field solutions for your building and to integrate information into SymmetrE™ seamlessly for further processing, reporting and distribution. SymmetrE™ provides operators, supervisors, and managers with a sophisticated web-style operator interface to enable personnel to easily monitor and control buildings at one or more sites.

The SymmetrE™ Server runs on the multi-user, multi tasking, industry standard, Windows 2000 Professional and Windows XP Professional platforms. The SymmetrE™ Server runs application software that communicates to field controllers and updates a real time database. The SymmetrE™ Server can also act as the file server for displays and historical data collection and archiving.

- Total solution for Heating, Ventilation & Air conditioning Building Management Systems.
- Integration with a diverse range of devices, Internet and Intranet sources allowing intelligent management of key facility information.
- Uses Industry standard hardware and Windows® 2000 Professional and Windows XP® Professional Operating Systems
- Supports the leading open standards: BACnet®, LONMARK®, ODBC, OPC®, AdvanceDDE and Modbus®.
- Easy-to-use web-style interface reduces operator training costs and puts the user in control of every situation.
- Designed and developed to International Standard ISO® 9001:2000 for quality assurance.

Application: Workstation Software
Building Management Interface: SymmetrE

SymmetrE R410 - Workstations

Product Number	Description
SYM-IF-XL5DIRDIAL/U	EXCEL 5000 Dial-up
SYM-NW-OPCSERV/U	OPC Server
SYM-IF-OPCCL/U	OPC Client Interface

SymmetrE R410 - Software/Media

Product Number	Description
SYM-BASE01/U	SymmetrE R410 Base Package 1
SYM-BASE02/U	SymmetrE R410 Base Package 2
SYM-BASE03/U	SymmetrE R410 Base Package 3
SYM-ZZDVD410/U	SymmetrE R410 Software on DVD

SymmetrE R410 - Upgrades

Product Number	Description
SYM-UPGDR1/U	SYM Upgrade Unit - Release Minus 1
SYM-UPGDR2/U	SYM Upgrade Unit - Release Minus 2
SYM-UPGDR3/U	SYM Upgrade Unit - Release Minus 3
SYM-UPGDRX/U	SYM Upgrade Unit - Release Minus X

SymmetrE R410 - Options

Product Number	Description
SYM-DBP00250/U	250 Point Adder to Database Size
SYM-OPEASYMB/U	Easy Mobile Services
SYM-IF-BACNET/U	BACnet Client (R200 and later)
SYM-IF-MODBUS/U	Modbus Interface
SYM-OP-ALMPAG/U	Alarm Pager
SYM-OP-BACSERV/U	BACnet Server (R200 and later)
SYM-OP-DTXL/U	OPC Data Transfer - Local
SYM-OP-LNS/U	LNS Server
SYM-OP-LNSUPG/U	LNS Database Upgrade for systems with existing LNS Database

SymmetrE R310 Workstation

Product Number	Description
SYM-DB2-5-EXP/U	Expansion Pack - 250 to 500 point DB
SYM-DB5-10-EXP/U	Expansion pack - 500 to 1000 Point DB
SYM-DB10-20-EXP/U	Expansion pack - 1000 to 2000 Point DB
SYM-DB20-35-EXP/U	Expansion pack - 2000 to 3500 Point DB
SYM-DB35-50-EXP/U	Expansion pack - 3500 to 5000 Point DB
SYM-DB50-75-EXP/U	Expansion pack - 5000 to 7500 Point DB
SYM-DB75-10K-EXP/U	Expansion Pack - 7500 to 10,000 point DB
SYM-DB10K-15K-EXP/U	Expansion Pack - 10,000 to 15,000 point DB
SYM-DB15K-20K-EXP/U	Expansion Pack - 15,000 to 20,000 point DB
SYM-IF-ADVDDECL/U	Advance DDE Interface
SYM-IF-BAC/U	BACnet Client (R200 and later)
SYM-IF-OPCCL/U	OPC Client Interface
SYM-IF-XL5DIRDIAL/U	EXCEL 5000 Dial-up
SYM-NW-OPCSERV/U	OPC Server

SymmetrE R310 - Options

Product Number	Description
SYM-IF-BACNET/U	BACnet Client (R200 and later)
SYM-IF-MODBUS/U	Modbus Interface
SYM-OP-ALMPAG/U	Alarm Pager
SYM-OP-BACSERV/U	BACnet Server (R200 and later)
SYM-OP-DTXL/U	OPC Data Transfer - Local
SYM-OP-LNS/U	LNS Server
SYM-OP-LNSUPG/U	LNS Database Upgrade for systems with existing LNS Database
SYM-STB-UP-STN/U	Upgrade Browser client to full station client, R310 ONLY

Excel 5000 System

Excel 800 Controller

With more power and fewer pieces to buy, the new Excel 800 Controller is the plant controller you can count on for years to come. Along with easy programming and extensive memory, it offers all the flexibility you've come to depend on from the Honeywell Excel 5000 product line. Best of all, you won't have to learn any new programming, because your old Excel 500 application programs work perfectly with the Excel 800 controller.

- Double the memory
- Reduced training needs, use your current Excel 500 application programs
- Hot-swappable replacement of defective I/O modules
- Easy-Access Terminals
- Simplified Installation

Building Management Interface: EBI; SymmetrE; ACSELON
Voltage: 24 Vac/dc, ± 20%
Frequency: 50 Hz; 60 Hz
Commissioning Software: CARE 8

Operating Humidity Range (% RH): 5 to 93% RH, non-condensing
Shipping Temperature Range: -4 F to +158 F (-20 C to +70 C)
Approvals
Underwriters Laboratories, Inc: UL 916

CPU Modules

Network Communications: C-Bus; LonWorks Bus

Power Consumption: Max 5 VA (max. 4 W)

Product Number	Application	Description	Output Type	Comments	Approvals: Underwriters Laboratories, Inc
XCL8010A	Freely Programmable; Boiler; Discharge Air; Cooling Tower; Chiller; Hydronic; Built-up AHU	Excel 800 Control System	Analog/Modulating; Pulse Width Modulation; Floating; Staged On/Off	CPU Module	UL 916
XCL8010AU	Freely Programmable; Boiler; Discharge Air; Cooling Tower; Chiller; Hydronic; Built-up AHU	Excel 800 Control System	Analog/Modulating; Pulse Width Modulation; Floating; Staged On/Off	CPU Module	UL916 and UL864

Input Output Modules

Network Communications: Panel Bus

Used With: Excel 800 Controller

Product Number	Application	Description	I/O Count	Approvals: Underwriters Laboratories, Inc
XF821A	Input Module	Analog Input Module	8 analog input module (Panel)	UL916
XF821AU	Input Module	Analog Input Module	8 analog input module (Panel)	UL916 and UL864
XF822A	Output Module	Analog Output Module	8 AO with override (Panel)	UL916
XF822AU	Output Module	Analog Output Module	8 AO with override (Panel)	UL916 and UL864
XF823A	Input Module	Digital Input Module	12 binary input module (Panel)	UL916
XF823AU	Input Module	Digital Input Module	12 binary input module (Panel)	UL916 and UL864
XF824A	Output Module	Digital Output Module	6 relay output module (Panel)	UL916
XF824AU	Output Module	Digital Output Module	6 relay output module (Panel)	UL916 and UL864

Excel Distributed I/O

With more power and fewer pieces to buy, the new Excel 800 Controller is the plant controller you can count on for years to come. Along with easy programming and extensive memory, it offers all the flexibility you've come to depend on from the Honeywell Excel 5000 product line. Best of all, you won't have to learn any new programming, because your old Excel 500 application programs work perfectly with the Excel 800 controller.

- Double the memory
- Reduced training needs, use your current Excel 500 application programs
- Hot-swappable replacement of defective I/O modules
- Easy-Access Terminals
- Simplified Installation

Application: Distributed I/O
Building Management Interface: EBI; SymmetrE; ACSELON
Commissioning Software: CARE 8
Used With: Excel 800 Controller

Product Number	Description	Network Communications	I/O Count	Comments	Approvals: Underwriters Laboratories, Inc
XFL821A	Distr buted I/O - Analog input module	LonWorks Bus	8 analog input module (LON)	—	UL916
XFL821AU	Distr buted I/O - Analog input module	LonWorks Bus	8 analog input module (LON)	—	UL916 and UL864
XFL822A	Distr buted I/O - Analog output module	LonWorks Bus	8 analog output module (LON)	—	UL916
XFL822AU	Distr buted I/O - Analog output module	LonWorks Bus	8 analog output module (LON)	—	UL916 and UL864
XFL823A	Distr buted I/O - Digital input module	LonWorks Bus	12 binary input module (LON)	Includes 12 LEDs	UL916
XFL823AU	Distr buted I/O - Digital input module	LonWorks Bus	12 binary input module (LON)	Includes 12 LEDs	UL916 and UL864
XFL824A	Distr buted I/O - Digital output module	LonWorks Bus	6 relay output module (LON)	—	UL916
XFL824AU	Distr buted I/O - Digital output module	LonWorks Bus	6 relay output module (LON)	—	UL916 and UL864
XFLR822A	Analog output manual override module	LonWorks Bus	8 AO with override (LON)	The manual override module works even if the CPU is not working.	UL916
XFLR822AU	Analog output manual override module	LonWorks Bus	8 AO with override (LON)	The manual override module works even if the CPU is not working.	UL916 and UL864
XFLR824A	Digital output manual override module	LonWorks Bus	6 relays with override (LON)	The manual override module works even if the CPU is not working.	UL916
XFLR824AU	Digital output manual override module	LonWorks Bus	6 relays with override (LON)	The manual override module works even if the CPU is not working.	UL916 and UL864
XFR822A	Analog output manual override module	Panel Bus	8 AO with override (Panel)	The manual override module works even if the CPU is not working.	UL916
XFR822AU	Analog output manual override module	Panel Bus	8 AO with override (Panel)	The manual override module works even if the CPU is not working.	UL916 and UL864
XFR824A	Digital output manual override module	Panel Bus	6 relays with override (Panel)	The manual override module works even if the CPU is not working.	UL916
XFR824AU	Digital output manual override module	Panel Bus	6 relays with override (Panel)	The manual override module works even if the CPU is not working.	UL916 and UL864
XFR825A	Actuator output module	Panel Bus	Actuator output module (Panel)	—	UL916
XFR825AU	Actuator output module	Panel Bus	Actuator output module (Panel)	—	UL916 and UL864
XFU830A	Mixed I/O Module	Panel Bus	8 analog input module (Panel); 8AI's, 12DI's, 8AO's, 6RO's	—	UL916

Excel 5000 System

Excel 100 Controller

The Excel 100 Controllers are direct-digital control, microprocessor-based, programmable controllers that manage building functions.

- Stand-alone or networked operation for flexible use or expansion.
- CARE generated application programs for comprehensive control strategies.
- Analog or digital inputs and outputs for flexible point use.
- Multiple operator interface options for local or easy on-site changes.
- Point trending for timely information.
- Alarm handling facility to locally display the problem and remote dial out to act on it.
- Battery-backed RAM data to keep controller programming in place during power outage.
- Bus-Wide MMI provides local viewing/modification of point information of all controllers attached to the Communication Bus.

Dimensions, Approximate: 9.25 in. high x 7.56 in. wide x 2.83 in. deep (235 mm high x 192 mm wide x 72 mm deep)
Application: Programmable Controller
Building Management Interface: EBI; SymmetrE; ACSELON
Commissioning Software: CARE
Voltage: 24 Vac/Vdc
Frequency: 50 Hz; 60 Hz
Power Consumption: 25 VA Max.

Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Shipping Temperature Range: -4 F to +140 F (-20 C to +60 C)
Approvals
CE: Approved
Federal Communications Commission: Meets FCC Part 15, Subpart J for Class A equipment
Underwriters Laboratories, Inc: Form UL916

Product Number	Description	Network Communications	I/O Count	Output Type	Comments
XL100CU	Freely Programmable DDC controller	C-Bus	12 UO; 12 UI; 12 DI	0-10 Vdc, 20mA	—

Excel 50 Controllers

A compact, programmable controller that manages small building control applications. Available with or without operator interface. Provides perfect solution for managing small building control applications and HVAC equipment control applications.

- Direct communication to C-bus & LonWorks bus and/or modems.
- DIN rail or panel door mounting.
- Available with or without operator interface.
- Stand-alone or networked operation.
- CARE-generated application programs; ability to reuse available CARE applications.
- Flash-EPROM for efficient downloads.
- Wiring simplicity: accessible and removable screw terminal blocks.
- Capacitor-backed RAM; no battery required.

Dimensions, Approximate: 5.90 in. high x 7.79 in. wide x 3.19 in. deep (150 mm high x 198 mm wide x 81 mm deep)
Application: Built-up AHU, Chiller, Cooling Tower, Boiler, Freely Programmable
Building Management Interface: EBI; SymmetrE; ACSELON
Commissioning Software: CARE
Voltage: 24 Vac ± 20%
Frequency: 50 Hz; 60 Hz
Power Consumption: 72 VA, if fully equipped

Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 93% RH, non-condensing
Shipping Temperature Range: -4 F to +158 F (-20 C to +70 C)
Approvals
CE: Approved
Federal Communications Commission: Meets FCC Part 15, Subpart J for Class A equipment
Underwriters Laboratories, Inc: Form UL916

Product Number	Description	Network Communications	I/O Count	Output Type	Comments	Includes
XL50A-UMMIPCCBLON	Freely Programmable DDC controller, with operator interface	C-Bus; LonWorks Bus	4 DI, 8 UI, 4 UO, 6 DOs	Analog/Modulating; Pulse Width Modulation; Floating; Staged On/Off	Includes Operator Interface	C-Bus/LonWorks Bus communication card
XL50A-UPCCBLON	Freely Programmable DDC controller	C-Bus; LonWorks Bus	4 DI, 8 UI, 4 UO, 6 DOs	Analog/Modulating; Pulse Width Modulation; Floating; Staged On/Off	Does not have Operator Interface	C-Bus/LonWorks Bus communication card

Excel Smart I/O

Excel Smart I/O modules feature a variety of software-configurable digital and analog inputs and outputs and are suitable for installation at strategic locations throughout your buildings. The modules convert physical input signals from sensors into network variables and the network variables into physical output signals for operating actuators.

- Flexible, software-configurable inputs/outputs.
- Flash memory for downloading applications.
- 2-wire FTT-10A LonWorks bus interface.
- Easily-accessible service button and a service LED.
- DIN rail mounting and wall-mounting supported.

Dimensions, Approximate: 5 in. wide x 3 in. length x 4.33 in. high (126 mm wide x 76 mm length x 110 mm high)
Application: Configurable I/O
Building Management Interface: EBI; SymmetrE; ACSELON
Commissioning Software: CARE
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz

Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Shipping Temperature Range: -22 F to +158 F (-30 C to +70 C)
Approvals
CE: CE and EN 50081-1, LonMark Application Layer Guidelines Version 3.2

Product Number	Description	Network Communications	I/O Count	Includes
XFC3A06001	Smart I/O module. Lonmark certified. Fixed terminals	LonWorks Bus	4 UI; 2 AO; 4 DI	—
XFC3D06001	Smart I/O module with Removable terminals, Lonmark Certified	LonWorks Bus	4 UI: 2 AO: 4 DI	Six 3-position manual overrides and 10 colored status LEDs

Compact I/O

The Honeywell Compact I/O are LON modules with a certain number of digital inputs, analog inputs, digital outputs, analog outputs, and hubs used to record or control network variable points (SNVT's) on a LonWorks bus.

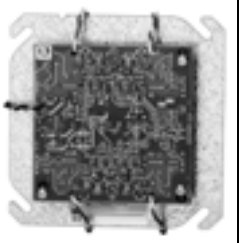
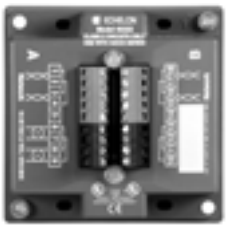
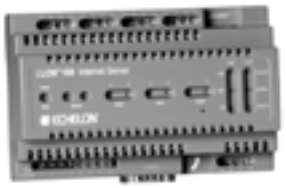
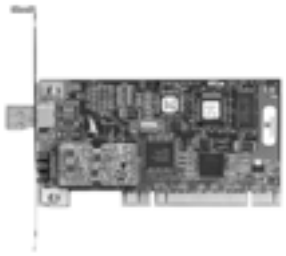
- Configured via LNS Plug-in.
- Easy Installation saves time and money.
- Easy to expand.
- Compact Design.

Dimensions, Approximate: 1.4 in. wide x 2.8 in. high x 2.6 in. deep (35 mm wide x 71 mm high x 66 mm deep)
Application: Input/Output Module
Commissioning Software: LNS Plug-in
Network Communications: LonWorks Bus
Voltage: 20 - 28 V AC/DC
Operating Temperature Range: 23 F to 131 F (-5 C to 55 C)
Shipping Temperature Range: -4 F to +158 F (-20 C to 170 C)
Compatible with: Compact I/O Family
Approvals
CE: Approved
Underwriters Laboratories, Inc: UL 916

Product Number	Description	I/O Count	Power Consumption
XIO-10DI/U	Digital Input Module with 10 Inputs	10 DI	63 mA (AC)/21 mA (DC).
XIO-10HUB/U	I/O Module Expander Hub	—	—
XIO-4AO/U	Analog Output Module with 4 Outputs	4 AO	150 mA (AC)/70 mA (DC).
XIO-4DI/U	Digital Input Module with 4 Inputs	4 DI	63 mA (AC)/21 mA (DC).
XIO-4DO/U	Digital Output Module with 4 Outputs	4 DOs	205 mA (AC)/67 mA (DC).
XIO-4PT1000/U	Analog Input Module with 4 PT1000 Sensor Specific Inputs	4 PT1000 Sensor Specific Inputs	67 mA (AC)/24 mA (DC).
XIO-8AI/U	Analog Input Module with 8 Inputs	8 AI	57 mA (AC)/30 mA (DC).

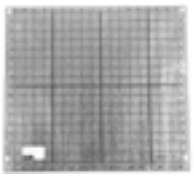
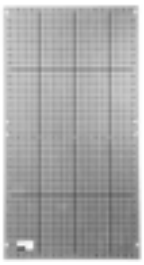
Excel 5000 System

LonWorks Bus Accessories

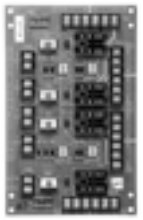
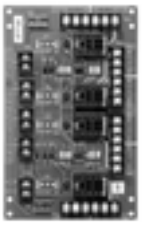
Product Number	Description	Used With	
Q7740A1008/U	Two way repeater with connections for two network segments	LonMark Controllers	
Q7740B1006/U	Four way repeater with connections for four network segments	LonMark Controllers	
Q7750A2003	Excel 10 Zone Manager	LonMark Controllers	
Q7751A2010/U	Excel 10 router used for connection with four network segments, FT-10/FT-10	LonMark Controllers	
Q7751A2028/U	Excel 10 router used for connection with four network segments, TP-1250/FT-10	LonMark Controllers	
Q7751E1005/U	I.LON 10-TP/FT - 10 CHANNEL	LonMark Controllers	
Q7751F1011/U	I.LON 100 - TP/FT - 10 NO MODEM Firmware version e3	LonMark Controllers	
Q7751F1029/U	I.LON 100 - TP/FT - 10 With MODEM Firmware version e3	LonMark Controllers	
Q7751G2009/U	I.LON 600 FT - 10	LonMark Controllers	
Q7751G2017/U	I.LON 600 XF1250	LonMark Controllers	
Q7751H2007/U	PCLTA-21/TP-1250	—	
Q7751H2015/U	PCLTA-21/FT-10	—	
Q7751J2002/U	MPR-50 Multi-Port Router	—	

Product Number	Description	Used With	
Q7752B2009/U	Serial LonTalk Adapter, FTT-10A	LonMark Controllers	
Q7752C2007/U	U10 - USB Network Interface with Cable	—	

Excel 5000® Accessories

Product Number	Description	Used With	
14005680-089596/U	XL5000 f ber optic interface for C-Bus	—	
14500087-004/U	Dpdt relay with 12 Vdc coil, switches 120 Vac or 28 Vdc @ 3 amps, used with 14507222 Relay for XL100 Controller	14507222	
14506747-001/U	sub-panel for half sized cabinet	Panels	
14506747-002/U	sub-panel for full sized cabinet	Panels	
14507063-002/U	Power Supply Cable To Connect Power To Excel Controller	Excel 5000 System Controllers	
14507063-003/U	Power Supply Cable (Tinned Ends) To Connect Power Module To Excel Controller	Excel 5000 System Controllers	

Excel 5000 System

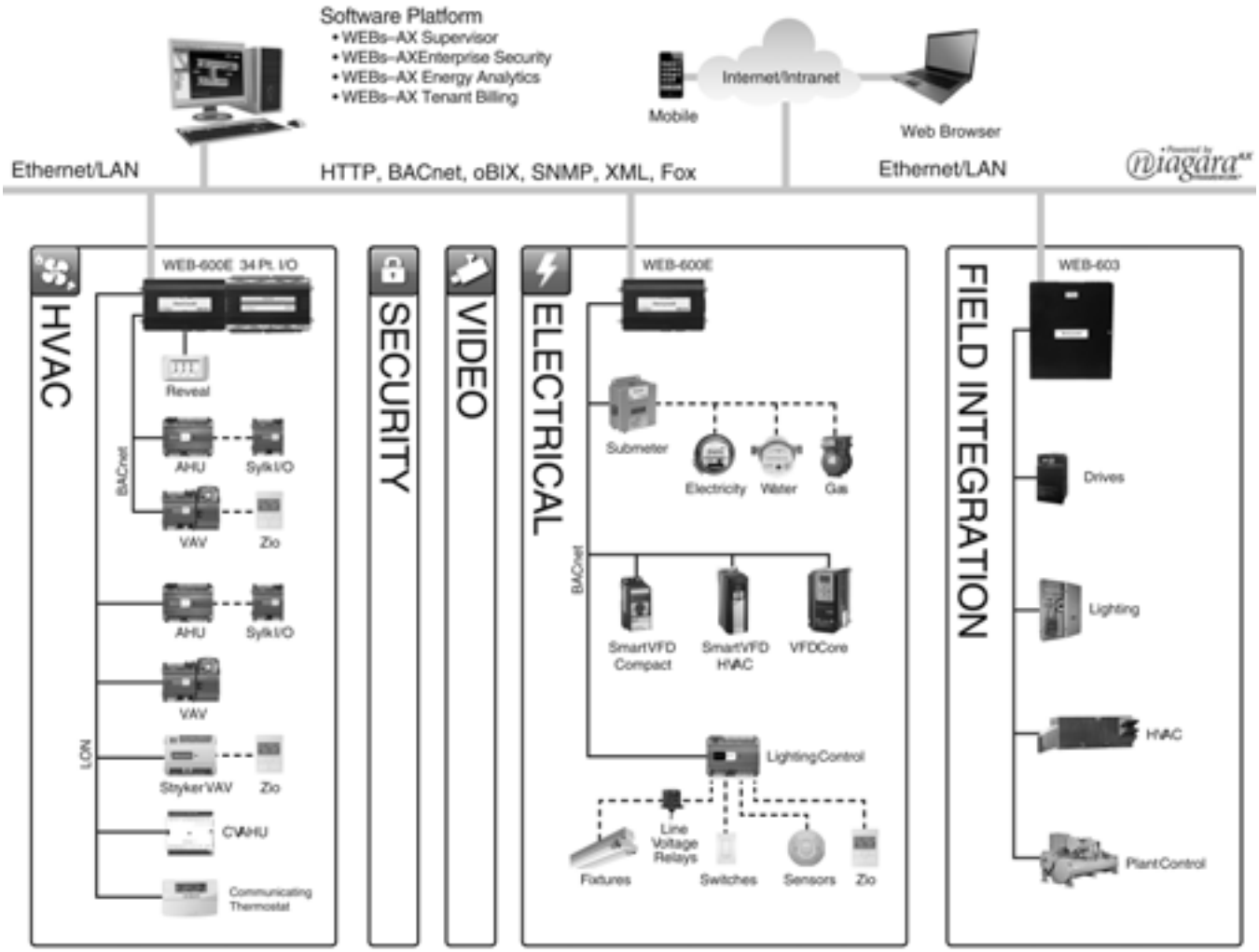
Product Number	Description	Used With	
14507222-001/U	Relay Module, Four Relays. Includes Hand-Off-Auto Switches and LEDs	Excel 500/600 Controller; Excel 100B	
14507222-002/U	Relay Module, Four Relays. Includes LEDs	14507222	
14507287-001/U	Power Module, 120 Vac Input, 50 VA Controller Transformer with Convertible Outlet and Breaker	Excel 5000 System Controllers	
14507287-002/U	Power Module, 120 Vac Input, 50 VA Controller Transformer Plus 100 VA Accessory Transformer With Convertible Outlet and Breaker	Excel 5000 System Controllers	
14507287-003/U	Power Module, 120 Vac Input, 50 VA Controller Transformer Plus 100 VA Accessory Transformer and 24 Vdc Accessory Transformer With Convertible Output and Breaker	Excel 5000 System Controllers	
14507287-004/U	Power Module, 220/240 Vac Input, 50 VA Controller Transformer, with Convertible Outlet and Breaker	Excel 5000 System Controllers	
14507287-005/U	Power Module, 220/240 Vac Input, 50 VA Controller Transformer Plus 100 VA Accessory Transformer with Convertible Outlet and Breaker	Excel 5000 System Controllers	
14507287-006/U	Power Module, 220/240 Vac Input, 50 VA Controller Transformer Plus 100 VA Accessory Transformer and 24 Vdc Accessory Transformer with Convert ble Outlet and Breaker	Excel 5000 System Controllers	
14507287-007/U	50 VA Excel 5000 access power module for Excel 5000 applications	Excel 5000 System Controllers	

Product Number	Description	Used With	
14507324-001/U	High speed, c-bus network repeater, panel mount (without cover) to extend bus length.	Excel 5000 System Controllers	
14507324-002/U	High speed, c-bus network repeater, field mount (with cover) to extend bus length.	Excel 5000 System Controllers	
14507547-001/U	C-bus to DB-25 connector cable, to connect internal RS-485 adapter board to C-bus.	Excel 5000 System Controllers	
14507549-001/U	External RS-485 adaptor module to directly connect a PC to a C-bus	C-Bus	
14507551-001/U	Cable assembly, com port to adapter module, 30 in.	14507549	
14507551-002/U	Cable assembly, com port to adapter module, 10 ft	14507549	
14507552-001/U	Cable assembly, power to adapter module, used with C-Bus and XBS, 11 inches long	14507549	
14507552-002/U	Cable assembly, power to adapter module, used with C-Bus and XBS, 15 inches long	14507549	
206317A/U	Excel 10 termination module, FTT-10	Excel 10 Controllers	
207912/U	Track mounting for a W7751A, B	Excel 10	
32000180-004/U	Replacement cable for use with Q7752B2009	Q7752B2009	
32002516-001/U	Cable to connect Serial LonTalk adapter to Audio-type bus connection on LonMark Controller	LonMark Controllers	

Excel 5000 System

Product Number	Description	Used With	
32002517-001/U	Cable to connect serial LonTalk adaptor to a modem.	Excel 10 Controllers	
EXCELon	EXCELon LonWork Network Management Tool. Software License Required.	Excel 5000 System Controllers	
XAL10/U	Labels (Package Of 10)	Excel 800 Controller	
XD50B-FC	Excel 50 Communication card for both C and Lon Bus	Excel 50 Controllers	
XD50B-FCL	Excel 50 Communication Card for LON and C-Bus	Excel 50 Controllers	
XI882-ACC	Excel Touch Accessory Kit	XI882	
XL-ONLINE-CD/U	Excel Online, Commissioning tool for EXCEL 5000 Controllers	Excel 5000 System Controllers	
XL50ACC2	Communications boards for XL50 Communications Modules	Excel 50 Controllers	
XL50ACC3	Panel Mounting Kit for XL50	Excel 50 Controllers	
XS50	XL50 Terminal Block Set	Excel 50 Controllers	
XS812	Test Connector	Excel 800 Distr buted I/O	
XS812RO/U	Test Connector for relay outputs	Excel 800 Distr buted I/O	
XS814	Auxiliary terminal block (10)	Excel 800 Distr buted I/O	
XS815	Cross Connector 6 Relays (20)	Excel 800 Distr buted I/O	
XS816	Bus Bridge (10)	Excel 800 Distr buted I/O	
XS817/U	Cross Connector 3 Relays (40)	Excel 800 Distr buted I/O	
XS821-22/U	Terminal socket analog modules	Excel 800 Distr buted I/O	
XS823/U	Terminal socket binary input	Excel 800 Distr buted I/O	
XS824-25/U	Terminal socket relay output	Excel 800 Distr buted I/O	
XSU821-22/U	Screw Terminal socket analog modules	Excel 800 Distr buted I/O	
XSU823/U	Screw Terminal socket binary input	Excel 800 Distr buted I/O	
XSU824-25/U	Screw Terminal socket relay output	Excel 800 Distr buted I/O	
XW882	Cable from XI582 to XL800-RS232(RJ45)	Excel 800 Distr buted I/O	
XW884	Adapter cable, XI582 (RJ45) to old XL500	Excel 800 Distr buted I/O	
XW885	Cable from PC to XL800-RS232(RJ45)	Excel 800 Distr buted I/O	

WEBs–AX™ System Integration



HVAC OPTIONS:

PROGRAMMABLE ZONE CONTROLLERS

PUB6438S PUL6438S PUB1012S PUL1012S PUB4024S PUL4024S	CONSTANT VOLUME AHU CONTROLLER
PUB1012S PUL1012S PVB6438NS PVL6438NS PVB4024NS PVL4024NS	VAV BOX CONTROLLER
PVB0000AS PVL0000AS PVL4022AS PVB4022AS PVB6436AS PVL6436AS	VAV BOX CONTROLLER W/ACTUATOR

ZONE CONTROLLERS

T7350H	COMMUNICATING THERMOSTAT
W7750	CONSTANT VOLUME AHU CONTROLLER
W7751	VAV BOX CONTROLLER
W7752	FAN COIL UNIT CONTROLLER
W7753	UNIT VENTILATOR CONTROLLER
W7761	REMOTE INPUT/OUTPUT DEVICE
W7762 W7763	HYDRONIC CONTROLLER

CENTRAL PLANT CONTROLLERS

	EXCEL 50 CONTROLLER
	EXCEL 800 CONTROLLER
	DISTRIBUTED INPUT/OUTPUT MODULES

M34718

WEBs–AX™ System Options

HVAC

Product	Part Number	Operating System [a]	Device Limit	Open License Available	Description
Small Building Supervisor	WEB S AX 3 O/U	Windows 32/64 Bit	3	Yes	WEBs AX Supervisor software 32bit or 64bit Windows Open License. Includes Niagara Historical Database, Workplace AX, and OBIX client server driver to connect to Niagara based devices. Max of 3 Connected WEBs Controllers
Medium Building Supervisor	WEB S AX 100 O/U	Windows 32/64 Bit	100	Yes	WEBs AX Open License Supervisor software for 32bit or 64bit Windows. Includes Niagara Historical Database, Workplace AX, OBIX client server driver for connecting to Niagara based controllers only. 100 Max device Limit.
Large Building Supervisor	WEB S AX UNL O/U	Windows 32/64 Bit	No Limit	Yes	WEBs AX Open License Supervisor software for 32bit or 64bit Windows. Includes Niagara Historical Database, Workplace AX, OBIX client server driver for connecting to Niagara based controllers only. No device limit
Supervisor Upgrade	WEB S AX 100 UP/U	Windows 32/64 Bit	N/A	N/A	Upgrade Small building Windows supervisor from a max of 3 WEBs Controllers to a max of 100 WEBs Controllers.
	WEB S AX UNL UP/U	Windows 32/64 Bit	N/A	N/A	Upgrade Medium Building Windows Supervisor from a max of 100 WEBs AX Controllers to an unlimited number of WEBs Controllers.
Small Building Supervisor	W S AX LNX3 O/U	Linux	3	Yes	WEBs AX Open License Supervisor software for 32bit or 64bit Linux. Includes Niagara Historical Database, Workplace AX, OBIX client server driver for connecting to Niagara based controllers only. 3 Device Max
Medium Building Supervisor	W S AX LNX100 O/U	Linux	100	Yes	WEBs AX Open License Supervisor software for 32bit or 64bit Linux. Includes Niagara Historical Database, Workplace AX, OBIX client server driver for connecting to Niagara based controllers only. 100 Device Limit
Large Building Supervisor	W S AX LNXUNL O/U	Linux	No Limit	Yes	WEBs AX Open License Supervisor software for 32bit or 64bit Windows. Includes Niagara Historical Database, Workplace AX, OBIX client server driver for connecting to Niagara based controllers only. No device limit
Supervisor Upgrade	W S AX LNX100 UP/U	Linux	N/A	N/A	WEBs AX Supervisor software for 32 bit or 64 bit Linux. Includes Niagara Historical Database, Workplace AX, OBIX client server driver for connecting to Niagara based controllers only. No device limit.
	WEB S AX LNXUNL UP/U	Linux	N/A	N/A	Upgrade Small Building Linux Supervisor from a max of 3 WEBs Controllers to a max of 100 WEBs Controllers.

[a] Windows 32-Bit operating system: Windows XP Pro, Windows 7, Windows 2003 or 2008 server VMware Server Version 2
Windows 64-Bit operating system Win64 version of Windows XP Professional or Win64 version of Windows 7 VMware Server Version 2,
Linux operating system Red Hat Enterprise Linux 5

Applications

ENERGY

Product	Part Number	Device Limit	Description
Tenant Billing	WEB TBS AX/U	10 Tenants	WEBs Tenant Billing Service (TBS), includes license for 10 tenants. Must be installed on WEBStation AX
	WEB TBS AX 10/U	10 Tenants	Adds 10 tenants to a TBS License
	WEB TBS AX 25/U	25 Tenants	Adds 25 tenants to a TBS License
	WEB TBS AX 50/U	50 Tenants	Adds 50 tenants to a TBS License
	WEB TBS AX 100/U	100 Tenants	Adds 100 tenants to a TBS License
Energy Analytics	WES STA AX/U	1 Controller	Allows multiple points within 1 controller to be retrieved and used within energy analytics
	WES PNT AX/U	1 Point	Allows 1 point to be retrieved and used within energy analytics

Driver

WEB Station

Driver	Connectivity	Open Protocol
Assure ID*	Ethernet	
BACnet		Yes
DB2		Yes
File (CSV)		Yes
HTTPS (SSL)		Yes
LON		Yes
MODBUS		Yes
MSSQL		Yes
MySQL		Yes
Niagara (Fox)		
OBIX (XML)		Yes
OPC		Yes
OpenADR		Yes
Oracle		Yes
SNMP		Yes
Video		

*Available as an option for Enterprise Security

WEB Controller

Driver	Connectivity	Open Protocol
AmericanAuto	Serial	
AndoverAC 256	Serial	
Andover (INF)	Serial	
BACnet	Ethernet/Serial	Yes
Carrier (CCN)	Serial	
Flex Serial	Serial	
GPRS	Wireless	Yes
Honeywell (C bus)	Serial	
HTTPS (SSL)	Ethernet	Yes
LON	Ethernet/FTT 10 Twisted Pair	Yes
McQuay (OPL)	Serial	
MODBUS	Ethernet/Serial	Yes
OPC	Ethernet	Yes
OpenADR	Ethernet	Yes
Security Comm.*	Serial	Yes
SMS	Ethernet	Yes
SNMP	Ethernet	Yes
Video	Ethernet	
Z Wave	Wireless	Yes

*Available as an option for Security Controllers

NOTE: A list of available drivers is posted on the Honeywell Buildings Forum (http://buildingsforum.honeywell.com)

Controllers

	Platform	Memory	I/O	Open License	Communication Ports	Description
	WEB 201	64/128 MB 64 MB Flash	Din 16/34	O	2 10/100 MB Ethernet ports, NDIO port and 2 communication card option slots, 2 serial (RS232, RS485)	The WEB 201 standard features include Niagara station and Web User Interface Standard drivers include oBIX client/server and Niagara Network (Fox) client/server .
	WEB 600	128/256 MB 128 MB Flash	Din 16/34	O	2 10/100 MB Ethernet ports, NDIO port and 2 communication card option slots, 1 USB, 2 serial (RS232, RS485)	The WEB 600 standard features include Niagara station and Web User Interface. Standard drivers include oBIX client/server and Niagara Network (Fox) client/server Requires AX release 3.2 or higher.
	WEB 600E	128 MB 128 MB Flash	Din 16/34	O	2 10/100 MB Ethernet ports NDIO Port 2 serial (RS 232, RS 485) 2 Communication card option slots	The WEB 600E standard features include WEBs AX station and Web User Interface and SRAM Module. Standard drivers include oBIX Client / Server and Niagara Network (Fox) Client / Server. The WEB 600E is designed for Battery less operation and DIN rail mounting. Requires release 3.6.47 or higher
	WEB 603	128 MB 128 MB Flash	6 Universal Inputs, 4 Form C Relay Outputs	O	2 10/100 MB Ethernet ports 2 serial (RS 232, RS 485) 1 LonWorks port FTT 10A 1 Option slot	The WEB 603 standard features include Web User Interface and Niagara Connectivity, and oBIX Client/Server driver. Includes steel wall mountable enclosure with 120V power supply. Can host either a WEB R2 station 2.301.535 or higher or a WEBs AX station release 3.6.47 or higher.
	WEB 645	128 MB 128 MB Flash	—	O	2 10/100 MB Ethernet ports, 2 RJ 45 Connectors for RS 232 port 4 Screw Terminal RS 485 ports 1 Communication Card Option Slot	The WEB 645 standard features include Niagara Station, Web User Interface and WEBs Connectivity, and oBIX Client/Server driver. Includes steel wall mountable enclosure with 120V power supply. Can host either a WEB R2 station 2.301.535 or higher or a WEBs AX station release 3.6.47 or higher.
	WEB RB 603	128 MB 128 MB Flash	6 Universal Inputs, 4 Form C Relay Outputs	O	2 10/100 MB Ethernet ports 2 serial (RS 232, RS 485) 1 LonWorks port FTT 10A 1 Option slot	Direct fit replacement circuit board for a WEB 403 controller, with matching connector sockets for unplug replug installation with existing controller wiring. The WEB RB 603 standard features include Web User Interface and Niagara Connectivity, and oBIX Client/Server driver. The unit can host either a WEB R2 station 2.301.535 or higher or a WEBs AX station release 3.6.47 or higher.
	WEB RB 645	128 MB 128 MB Flash	—	O	2 10/100 MB Ethernet ports, 2 RJ 45 Connectors for RS 232 port 4 Screw Terminal RS 485 ports 1 Communication Card Option Slot	Direct fit replacement circuit board for a WEB 545 controller, with matching connector sockets for unplug replug installation with existing controller wiring. The WEB 645 standard features include Niagara Station, Web User Interface and WEBs Connectivity, and oBIX Client/Server driver. The unit can host either a WEB R2 station 2.301.535 or higher or a WEBs AX station release 3.6.47 or higher..
	WEB 700	1 GB 1 GB Flash	Ext. 16	O	2 Gigabit Ethernet ports, 2 standard communication card slots, 2 serial (RS232, RS485)	The WEB 700 standard features include Niagara station and Web User Interface. Standard drivers include oBIX client/server and Niagara Network (Fox) client/server. Requires AX Release 3.5 or higher
	SEC H 201	128 MB RAM/ 64 MB Flash	6 Supervised Inputs, 4 Form C Relay Outputs, and 3 Digital Inputs	•	Connections for 2 Card Readers, includes 2 10/100 MB Ethernet ports, (1) RS 485 serial port, (1) RS 232 serial port, and 2 communication card option slots	Includes WEBs Security Appliance, Web UI and the following standard drivers: oBIX client/server, Niagara Network (Fox) client/server and BACNet IP Server, and BACNet IP Server. Supports up to 16 card readers, 5,000 personnel records and 10,000 transactional history records and security/BAS from single controller
	SEC H 600	128 MB RAM/ 64 MB Flash	6 Supervised Inputs, 4 Form C Relay Outputs, and 3 Digital Inputs	•	Connections for 2 Card Readers, 2 10/100 MB Ethernet ports, (1) RS 485 serial port, (1) RS 232 serial port, and 2 communication card option slots	Includes WEBs Security Appliance, Web UI and the following standard drivers: oBIX client/server, Niagara Network (Fox) client/server and BACNet IP Server, and BACNet IP Server. Supports up to 32 card readers, 20,000 personnel records and 50,000 transactional history records and security/BAS from single controller

O Open licensed controller is optional
• Controller comes standard with open license

SECURITY

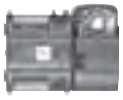
Product	Part Number	Operating System	Device Limit	Open License Available	Description
Security Small Building Supervisor	SEC H ENT 6/U	Windows 32/64 Bit	6	No	WEBs AX Security SBS, includes enterprise security application with 32 reader license, both MySQL and MS SQL Server database drivers and oBIX client/server driver for connecting to Niagara based controllers only. 6 Controller and 64 Reader Limit.
Security Medium Building Supervisor	SEC H ENT 100/U	Windows 32/64 Bit	100	No	Security Supervisor with MySQL and MS SQL Includes enterprise security application with 32 reader license, WEBs AX Security Supervisor, both MySQL and MS SQL Server database drivers and oBIX client/server driver for connecting to Niagara based controllers only. Max of 100 Security Controllers.
Security Large Building Supervisor	SEC H ENT 250/U	Windows 32/64 Bit	250	No	Security Large System Supervisor with MySQL and MS SQL. Includes enterprise security application with 32 reader license, WEBs AX Security, and both MySQL and MS SQL Server database drivers. 250 Controller Limit. Includes OBIX client/server driver for connecting to Niagara based controllers only.
Supervisor Upgrade	SEC H U 100/U	Windows 32/64 Bit	N/A	N/A	Security ENT upgrade. Upgrade an existing SEC H ENT 6 SBS Security Supervisor to a SEC H ENT 100 Security Supervisor. Supervisor requires additional reader licenses to expand system capacity.
	SEC H U 250/U	Windows 32/64 Bit	N/A	N/A	Security ENT upgrade. Upgrade an existing SEC H ENT 100 Security AX Supervisor to a SEC H ENT 250 Large System Security Supervisor. Supervisor requires additional reader licenses to expand system capacity.

Accessories

Product Options	Part Number	Serial/ Wireless/ Twisted Pair	Description
Reveal small display (color & grayscale)	LCD CT043A100/U	Serial	Color LCD Touchscreen
	LCD GT043A100/U	Serial	Grayscale LCD Touchscreen
I/O modules din mount (16/34 points), remote (16)	IO 16 H/U	Serial	Includes 8 Universal Inputs, 4 Form A Relay Outputs, and 4 0 10 VDC Analog Outputs. 16 Point I/O Module
	IO 34 H/U	Serial	Includes 16 Universal Inputs, 10 Form A Relay Outputs, and 8 0 10 VDC Analog Outputs. This IO 34 also contains an on board 24V AC/DC power supply
	IO 16 REM H/U	Serial	Includes 8 Universal Inputs, 4 Form A Relay Outputs, and 4 0 10 VDC Analog Outputs.
	SEC H RIO/U	Serial	Security Remote I/O
	SEC H R2R/U	Serial	Security Remote Reader
Option Cards	NPB 2X RS485/U	Serial	RS 485 Card
	NPB GPRS H/U	Wireless	GPRS Modem Card
	NPB GPRS W H/U	Wireless	GPRS Modem Kit
	NPB LON/U	Twisted Pair	LON Card
	NPB MDM/U	Twisted Pair	Modem Card
	NPB RS232/U	Serial	RS 232 Card
	NPB ZWAVE/U	Wireless	Z wave Card
	NPB SED 001/U	Wireless	Sedona Card
	NPB SRAM/U	N/A	SRAM Battery less Card
	NPB WIFI/U	Wireless	Wifi Card
	TB VWG APP 1014/U	Wireless	Wireless Zigbee Card

WEBs–AX™ System HVAC Controllers Options

Programmable Field Controllers

	Controller Model[b]	Communication Protocol[a]	Equipment Type	UI	DI	AO	DO	Velocity Pressure Sensor (Microbridge)	Series 60 Floating Actuator
	PUB6438S PUB6438S ILC	BACnet MS/TP	Unitary	6	4	3	8	NO	NO
	PUL6438S PUL6438S ILC	LonWorks	Unitary	6	4	3	8	NO	NO
	PVB6438NS PVB6438NS ILC	BACnet MS/TP	VAV	6	4	3	8	YES	NO
	PVL6438NS PVL6438NS ILC	LonWorks	VAV	6	4	3	8	YES	NO
	PVB6436AS PVB6436AS ILC	BACnet MS/TP	VAV	6	4	3	6	YES	YES
	PVL6436AS PVL6436AS ILC	LonWorks	VAV	6	4	3	6	YES	YES
	PUL1012S PUL1012S ILC	LonWorks	Unitary	1[c]	0	1	2	NO	NO
	PUB1012S PUB1012S ILC	BACnet MS/TP							
	PUL4024S PUL4024S ILC	LonWorks	Unitary	4[c]	0	2	4	NO	NO
	PUB4024S PUB4024S ILC	BACnet MS/TP							
	PVL4024NS PVL4024NS ILC	LonWorks	VAV	4[c]	0	2	4	YES	NO
	PVB4024NS PVB4024NS ILC	BACnet MS/TP							
	PVL0000AS PVL0000AS ILC	LonWorks	VAV	0	0	0	0	YES	YES
	PVB0000AS PVB0000AS ILC	BACnet MS/TP							
	PVL4022AS PVL4022AS ILC	LonWorks	VAV	4[c]	0	2	2	YES	YES
	PVB4022AS PVB4022AS ILC	BACnet MS/TP							

UI - Universal Input, DI - Digital Input, AO - Analog Output, and DO - Digital Output

[a] BACnet models BTL listed

[b] Spyder Individually Licensed Controller (ILC) is a fully programmable controller for any Niagara^{AX} Framework® platform providing the greatest flexibility for expansion on any Niagara^{AX} platform.

[c] One Universal Input (UI-1*) is user selectable as a fast digital pulse meter

Advanced Configurable Field Controllers

	Model	Communication Protocol	Equipment Type	UI	DI	AO	DO	Velocity Pressure Sensor (Microbridge)	Series 60 Floating Actuator
	CVL4024NS VAV1	LonWorks	VAV	4	0	2	4	YES	NO
	CVL4022AS VAV1	LonWorks	VAV	4	0	2	2	YES	YES

Configurable Field Controllers

	Model	Application	Inputs						Outputs			
			Wall Module	Resistive	Voltage	Dry Contact Digital	Bypass Button	Integrated Actuator	Relay	Triac	Analog	LED
	W7750A	CVAHU	•	1		2	•		6			1
	W7750B	CVAHU	•	4	2	4	•			8		1
	W7750C	CVAHU	•	4	2	4	•			5	3	1
	W7753	Unit Ventilator	•	2	2	4	•			8		
	W7761	Remote Input/Output		2	2	4				8		
	W7751H	VAV	•	1	1		•	•		4		1
	W7751B/D/F	VAV	•	2	1	3	•			8		1
	W7752	FCU	•			1	•		3			1
	W7762/3	Hydronic Controller	•						1	4		
	T7350H	Communicating Thermostat							8			

• Comes standard

WEBs-AX System

WEB-201 Controller

The Honeywell WEB-201 controller is a compact, embedded controller/server platform. Its combine integrated control, supervision, data logging, alarming, scheduling and network management features in a small, compact platform. The WEB-201 controller is a member of the Honeywell WEBs-AX suite of JAVA based controller/server products.

- Runs stand-alone control, energy management, and multi-protocol integration.
- Web User Interface serves rich presentation and live data to a browser.
- Standard and optional communications boards.
- Can be expanded with optional IO-16-H and IO-34-H I/O modules.
- Small compact design is easy to install and supports multiple power options.

Dimensions, Approximate: 6 3/8 in. wide x 4 7/64 in. high x 2.5 in. deep (16.2 cm wide x 10.5 cm high x 6.4 cm deep)
Application: Controller
Application Size: Approximately 15 - 20 nodes
Building Management Interface: WEBs-AX
Operating System: QNX RTOS; IBM J9 JVM Java Virtual Machine; NiagaraAX
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: 32 F to 140 F (0 C to 60 C)
Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment
CE: Approved
Federal Communications Commission: FCC part 15 Class A
Underwriters Laboratories, Inc: UL 916, cUL listed

Product Number	Description	Used With	Includes
WEB-201/U	WEB-201 Controller	WEBs-AX Platform	WEB User Interface, Niagara Connectivity (Fox), oBix Client/ Server driver
WEB-201-O/U	WEB-201 Controller with Open License	WEBs-AX Platform	WEB User Interface, Niagara Connectivity (Fox), oBix Client/ Server driver

WEB-600 Controller

The WEB-600 is ideal for smaller facilities, remote sites, and for distributing control and monitoring throughout large facilities. Optional I/O modules can be plugged in for applications where local control is required. The WEB-600 controller also supports a wide range of field busses for connection to remote I/O and standalone controllers. In small facility applications, the WEB-600 controller is all you need for a complete system.

The WEB-600 controller serves data and rich graphical displays to a standard web browser via an Ethernet LAN or remotely over the Internet, or dial-up modem. In larger facilities, multi-building applications and large scale control system integrations, WEBStation-AX software can be used to aggregate information (real-time data, history, alarms, etc.) from large numbers of WEBsAX controllers into a single unified application. The WEBStation-AX Supervisor can manage global control functions, support data passing over multiple networks, connect to enterprise level software applications, and host multiple, simultaneous client workstations connected over the local network, the Internet, or dial-up modem.

- Supports open and legacy protocols.
- Web User Interface (standard) serves rich presentation and live data to a browser.
- Run stand-alone control, energy management, and multi-protocol integration.
- Standard and optional communications boards.
- Can be expanded with optional 16 and 34 point I/O Modules.
- Small compact design is easy to install and supports multiple power options.
- Embedded IBM® Power PC Platform.

Dimensions, Approximate: 6 3/8 in. wide x 4 7/64 in. high x 2.5 in. deep (16.2 cm wide x 10.5 cm high x 6.4 cm deep)
Application: Controller
Building Management Interface: WEBs-AX
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: 32 F to 140 F (0 C to 60 C)
Used With: WEBs-AX Platform
Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment
CE: Approved
Federal Communications Commission: FCC part 15 Class A
Underwriters Laboratories, Inc: UL 916, cUL listed

Product Number	Description	Includes
WEB-600/U	WEB-600 Controller	WEB User Interface, Niagara Connectivity (Fox), oBix Client/Server driver
WEB-600-US/U	WEB-600 Controller (Manufactured in USA)	WEB User Interface, Niagara Connectivity (Fox), oBix Client/Server driver
WEB-600-O/U	WEB-600 Controller with Open License	WEB User Interface, Niagara Connectivity (Fox), oBix Client/Server driver
WEB-600-O-US/U	WEB-600 Controller with Open License (Manufactured in USA)	WEBs-AX station and Web User Interface. Standard drivers include oBIX Client/ Server and Niagara Network (Fox) Client/Server.

WEB-600E Controller

The WEB-600E is ideal for smaller facilities, remote sites, and for distributing control and monitoring throughout large facilities. Optional input/output modules can be plugged in for applications where local control is required. The WEB-600E also supports a wide range of field busses for connection to remote I/O and standalone controllers. In small facility applications, the WEB-600E is all you need for a complete system.

The WEB-600E serves data and rich graphical displays to a standard web browser via an Ethernet LAN or remotely over the Internet, or dial-up modem. In larger facilities, multibuilding applications and large-scale control system integrations, WEBs-AX Supervisor™ software can be used to aggregate information (real-time data, history, alarms, etc.) from large numbers of WEBs into a single unified application. The WEBs-AX Supervisor can manage global control functions, support data passing over multiple networks, connect to enterprise level software applications, and host multiple, simultaneous client workstations connected over the local network, the Internet, or dial-up modem.

- Embedded PowerPC Platform@ 524MHz
- Supports open and legacy protocols
- QNX Real-time Operating System
- Web User interface (standard) serves rich graphical browser presentations
- Run stand-alone control, energy management, and integration applications within the WEB-600E series controllers
- Supports two optional communications boards
- Optional 16 and 34 point I/O Modules
- Data Recovery Services prevents data loss during power interruptions
- Optional battery is available for extended runtime

Dimensions, Approximate: 6 3/8 in. wide x 4 7/64 in. high x 2.5 in. deep (16.2 cm wide x 10.5 cm high x 6.4 cm deep)
Application: Controller
Building Management Interface: WEBs-AX
Operating Temperature Range: 32 F to 140 F (0 C to 60 C)
Operating Temperature Range: 32 F to 50 F (0 C to 50 C) w/optional battery kit
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: 32 F to 140 F (0 C to 60 C)
Used With: WEBs-AX Platform

Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment
CE: Approved
Federal Communications Commission: FCC part 15 Class A
Underwriters Laboratories, Inc: UL 916, cUL listed

Product Number	Description	Includes
WEB-600E/U	The WEB-600E is designed for Battery less operation and DIN rail mounting.	WEBs-AX station and Web User Interface. Standard drivers include oBIX Client /Server and Niagara Network (Fox) Client/Server.
WEB-600E-US/U	The WEB-600E is designed for Battery less operation and DIN rail mounting. (Manufactured in USA)	WEBs-AX station and Web User Interface. Standard drivers include oBIX Client /Server and Niagara Network (Fox) Client/Server.
WEB-600E-O/U	The WEB-600E with Open License	WEBs-AX station and Web User Interface. Standard drivers include oBIX Client /Server and Niagara Network (Fox) Client/Server.
WEB-600E-US-O/U	The WEB-600E with Open License. (Manufactured in USA)	WEBs-AX station and Web User Interface. Standard drivers include oBIX Client /Server and Niagara Network (Fox) Client/Server.

WEBs-AX System

WEB-201/WEB-600/WEB-600E Accessories

IO-16-H

NPB-PWR-H

IO-34-H

Building Management Interface: WEBs-AX
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Used With: WEB-201; WEB-600
Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment

Product Number	Application	Description	I/O Count	Operating Temperature Range		Power Input	Includes	Approvals:	
				(F)	(C)			Underwriters Laboratories, Inc	CE
ENC-H-001/U	Enclosure	WEBs Small Enclosure	—	—	—	120 Vac	24 Vac Power Supply	—	—
ENC-H-002/U	Enclosure	WEBs Large Enclosure	—	—	—	120 Vac	24 Vac Power Supply	—	—
ENC-H-BPK-1/U	Enclosure	WEBs Small Enclosure Backplate (8 in. X 11 in.)	—	—	—	—	—	—	—
ENC-H-BPK-2/U	Enclosure	WEBs Large Enclosure Backplate (11 in. X 11 in.)	—	—	—	—	—	—	—
IO-16-H/U	Input/Output Expansion Module	16 Point Input/Output Expansion Module	8 UI, 4 DO (Relay), 4 AO	32 F to 122 F	0 C to 50 C	—	—	UL 916, cUL listed	Approved
IO-16-H-US/U	Input/Output Expansion Module	16 Point Input / Output Expansion Module (Manufactured in USA)	8 UI, 4 DO (Relay), 4 AO	32 F to 122 F	0 C to 50 C	—	—	UL 916, cUL listed	Approved
IO-16-REM-H/U	Input/Output Expansion Module	16 Point Input / Output Expansion Module	8 UI, 4 DO (Relay), 4 AO	32 F to 122 F	0 C to 50 C	—	—	UL 916, cUL listed	Approved
IO-34-H/U	Input/Output Expansion Module	34 Point Input/Output Expansion Module	16 UI, 10 DO (Relay), 8 AO	32 F to 122 F	0 C to 50 C	—	Internally dedicated 24 Volt Power Supply	UL 916, cUL listed	Approved
IO-34-H-US/U	Input/Output Expansion Module	34 Point Input/Output Expansion Module (Manufactured in USA)	16 UI, 10 DO (Relay), 8 AO	32 F to 122 F	0 C to 50 C	—	Internally dedicated 24 Volt Power Supply	UL 916, cUL listed	Approved
NPB-GPRS-H/U	Modem Option Card	WEBs Cellular Modem without SIM Card	—	—	—	—	—	—	—
NPB-GPRS-W-H/U	Modem Option Card	WEBs Cellular Modem with Wyless SIM Card	—	—	—	—	—	—	—
NPB-MDM/U	Optional Communications Card	56kbps Modem with one RJ-11 connector for WEB-201/600	—	32 F to 122 F	0 C to 50 C	—	—	UL 916, cUL listed	Approved
NPB-PWR-H/U	Power Module	24 Volt DIN mounted power module	—	32 F to 122 F	0 C to 50 C	—	—	UL 916, cUL listed	Approved
NPB-PWR-UN-H/U	Power Module	90 - 263 V AC 50/60 Hz Auto sensing Power Supply Module, DIN Rail Mountable	—	32 F to 122 F	0 C to 50 C	—	—	UL 916, cUL listed	Approved
NPB-WPM-US/U	Power Adaptor	Wall Power Adaptor - US Plug type	—	32 F to 122 F	0 C to 50 C	—	—	UL 916, cUL listed	Approved

WEB-201/WEB-600/WEB-600E Drivers

Building Management Interface: WEBs

Product Number	Application	Description	Used With
NPM-128/U	Software-Driver	WEB-201 Memory Expansion License from 64 to 128 MB	WEB-201 Platform
NPM-256MB/U	Software-Driver	WEB-600 Memory Expansion License from 128 to 256 MB	WEB-600 Platform

WEB-603 Controller

Honeywell's WEB-603 is an embedded controller/server platform designed for remote monitoring and control applications. The unit combines integrated control, supervision, data logging, alarming, scheduling and network management functions, integrated IO with Internet connectivity and web serving capabilities in a small, compact platform. The WEB-603 makes it possible to control and manage external devices over the Internet and present real time information to users in web-based graphical views. In addition to supporting WEBs-AX Framework applications, the WEB-603 can optionally support Niagara R2 applications. This option provides the ideal platform for projects currently utilizing WEBs-R2 technology where a cost effective migration to the flagship WEBs-AX Framework is desired. The WEBs-AX platform can be installed and optionally configured to support a facility utilizing a WEBs-R2 Framework application today. At a later date, the facility can migrate to a WEBs-AX Framework application, thus spreading the cost of the migration across multiple phases.

The WEB-603 is ideal for smaller facilities, remote sites, and for distributing control and monitoring throughout large facilities. It is also ideal for managing and controlling today's energy applications. On-board universal inputs and Form C relay outputs are available for applications where local control is required. The WEB-603 includes one LonWorks® FTT-10A port and one RS-485 port providing support for a wide range of field buss connections to remote I/O and stand-alone controllers. In small facility applications, the WEB-603 is all you need for a complete system. The WEB-603 serves data and rich graphical displays to a standard web browser via an Ethernet LAN or remotely over the Internet. In larger facilities, multi-building applications and large-scale control system integrations, WEBs-AX Supervisor™ software can be used to aggregate information (real-time data, history, alarms, etc.) from large numbers of WEB-603 controllers into a single unified application.

- Embedded PowerPC Platform@ 524MHz
- One LON FTT10A port for LON device integration
- Direct, on-board I/O with six universal inputs, and 4 Form C relay outputs
- One RS-485 port for connection to open and proprietary protocol devices
- One RS-232 port for Integration or technical support
- Web UI services to support many simultaneous users over the intranet or Internet via a standard web browser
- One option slot supporting NPB-XXX option modules

Dimensions, Approximate: 11 in. wide X 14 in. high X 2.5 in. deep (27.94 cm wide X 35.56 cm high X 6.35 cm deep)
Application: Controller
Building Management Interface: WEBs-AX
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: 32 F to 158 F (0 C to 70 C)

Used With: WEBs-AX Platform
Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment
CE: Approved
Federal Communications Commission: FCC part 15 Class B
Underwriters Laboratories, Inc: UL 916, cUL listed

Product Number	Description	Includes
WEB-603-AX/U	WEB 603 Controller	Base Unit including two Ethernet ports, one RS-232 port, one RS-485 port, one LonWorks® FTT-10A port, six universal inputs, four Form C relay outputs, and closed NiCS. Web User Interface and Niagara Connectivity included. oBIX Client/Server driver included.
WEB-603-AX-O/U	WEB 603 Controller with Open License	Base Unit including two Ethernet ports, one RS-232 port, one RS-485 port, one LonWorks® FTT-10A port, six universal inputs, four Form C relay outputs, and open NiCS. Web User Interface and Niagara Connectivity included. oBIX Client/Server driver included.
WEB-603I-AX/U	WEB 603 International Controller	International version of Base Unit including two Ethernet ports, one RS-232 port, one RS-485 port, one LonWorks® FTT-10A port, six universal inputs, four Form C relay outputs, and closed NiCS. Web User Interface and Niagara Connectivity included. oBIX Client/Server driver included.
WEB-603I-AX-O/U	WEB 603 International Controller with Open License	International version of Base Unit including two Ethernet ports, one RS-232 port, one RS-485 port, one LonWorks® FTT-10A port, six universal inputs, four Form C relay outputs, and open NiCS. Web User Interface and Niagara Connectivity included. oBIX Client/Server driver included.
WEB-R2-6XX/U	R2 License for 603 or 645 Controller	Capability to utilize a WEBs R2 based application.

WEBs-AX System

WEB - 645 Controller

Honeywell's WEB-645 is an embedded controller/server platform designed for remote monitoring and control applications. The unit combines integrated control, supervision, data logging, alarming, scheduling, device communication and network management functions, with Internet connectivity and web serving capabilities in a small, compact platform. The WEB 645 makes it possible to control and manage external devices over the Internet and present real time information to users in web-based graphical views. In addition to supporting WEBs AX Framework applications, the WEB-645 can optionally support WEBs-R2 applications. This option provides the ideal platform for projects currently utilizing WEBs-R2 technology where a cost effective migration to WEBs-AX solution is desired. The WEBs-AX platform can be installed and optionally configured to support a facility utilizing a WEBs-R2 application today. At a later date, the facility can migrate to a WEBs-AX, powered by NiagaraAX Framework application, thus spreading the cost of the migration across multiple phases.

The WEB-645 is ideal for smaller facilities, remote sites, and for distributing control and monitoring throughout large facilities. It is also ideal for managing and controlling today's energy applications. The WEB-645 includes one LonWorks® FTT-10A port, four RS-485 ports and two RS-232 ports providing support for a wide range of field buss connections to remote I/O and stand-alone controllers. In small facility applications, the WEB-645 is all you need for a complete system. The WEB-645 serves data and rich graphical displays to a standard web browser via an Ethernet LAN or remotely over the Internet. In larger facilities, multi-building applications and large-scale control system integrations, AX Supervisor™ software can be used to aggregate information (real-time data, history, alarms, etc.) from large numbers of WEB-645 controllers into a single unified application.

- Embedded PowerPC Platform@ 524MHz
- One LON FTT10A port for LON device integration
- Four RS-485 ports for connection to open and proprietary protocol devices
- Two RS-232 ports (electrically isolated) for Integration or technical support
- Web UI services to support many simultaneous users using an optional internal modem over the intranet or Internet via a standard web browser
- One WEBs-AX option slot supporting NPB-XXX option modules

Dimensions, Approximate: 11 in. wide X 14 in. high X 2.5 in. deep (27.94 cm wide X 35.56 cm high X 6.35 cm deep)
Application: Controller
Building Management Interface: WEBs-AX
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: 32 F to 158 F (0 C to 70 C)

Used With: WEBs-AX Platform
Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment
CE: Approved
Federal Communications Commission: FCC part 15 Class B
Underwriters Laboratories, Inc: UL 916, cUL listed

Product Number	Description	Includes
WEB-645-AX/U	WEB 645 Controller	Base Unit including two Ethernet ports, two RS-232 ports, four RS-485 ports, one LonWorks® FTT-10A port, and closed NiCS. Web User Interface and WEBs Connectivity included. oBIX Client/Server driver included.
WEB-645-AX-O/U	WEB 645 Controller with Open License	Base Unit including two Ethernet ports, two RS-232 ports, four RS-485 ports, one LonWorks® FTT-10A port, and open NiCS. Web User Interface and WEBs Connectivity included. oBIX Client/Server driver included.
WEB-645I-AX/U	WEB 645 International Controller	International version of the Base Unit including two Ethernet ports, two RS-232 ports, four RS-485 ports, one LonWorks® FTT-10A port, and closed NiCS. Web User Interface and WEBs Connectivity included. oBIX Client/Server driver included.
WEB-645I-AX-O/U	WEB 645 International Controller with Open License	International version of the Base Unit including two Ethernet ports, two RS-232 ports, four RS-485 ports, one LonWorks® FTT-10A port, and open NiCS. Web User Interface and WEBs Connectivity included. oBIX Client/Server driver included.
WEB-R2-6XX/U	R2 License for 603 or 645 Controller	Capability to utilize a WEBs R2 based application.

WEB-603/WEB-645 Drivers

Product Number	Application	Description	Used With
NPM-256MB/U	Software-Driver	Upgrade RAM memory to 256 MB DDR.	WEB--603; WEB-645

WEB-403 and WEB-545 Replacement Boards

Honeywell's WEB-RB-603 and WEB-RB-645 are embedded replacement controller/server platforms designed for remote monitoring and control applications. These specially designed units provide direct replacement/upgrade capabilities for the older WEB-403 and WEB-545 controllers respectively. The embedded controllers combine integrated control, supervision, data logging, alarming, scheduling and network management functions, integrated IO with Internet connectivity and web serving capabilities in a small, compact platform. The WEB-RB 603 and WEB-RB-645 make it possible to control and manage external devices over the Internet and present real time information to users in web-based graphical views.

In addition to supporting WEB-AX powered by NiagaraAX Framework applications, the WEB-RB-603 and WEB-RB-645 can optionally support WEB R2 applications. This option provides the ideal platform for projects currently utilizing WEB R2 technology where a cost effective migration to WEB-AX solution is desired. The WEB-AX compatible platform can be installed and optionally configured to support a facility utilizing a WEB R2 Framework application today. At a later date, the facility can migrate to a NiagaraAX Framework application, thus spreading the cost of the migration across multiple phases.

The WEB-RB-603 and WEB-RB-645 are designed to provide installers an optimized approach to upgrading older Niagara R2 based installations or NiagaraAX installations which currently utilize the WEB-403 or WEB-545 controllers. The WEB-RB-603 or WEB-RB-645 is an exact format replacement circuit board with all connectors and mounting holes in the same locations as the original WEB-403 and WEB-545 products. This design facilitates an easy removal and replacement process requiring minimal time to achieve.

WEB-RB-603 Communications
- Two 10/100 Mb Ethernet port – RJ-45 connection
- One RJ-45 connector for RS-232 port
- One screw terminal RS-485 port (up to 78,600 baud for MSTP)
- One LonWorks port – FTT-10A with Weidmuller connector
- One option slot

WEB-RB-645 Communications
- Two 10/100 Mb Ethernet port – RJ-45 connection
- Two RJ-45 connectors for RS-232 port
- Four screw terminal RS-485 ports (up to 78,600 baud for MSTP)
- One LonWorks port – FTT-10A with Weidmuller connector
- One option slot

Application: Controller
Building Management Interface: WEBs-AX
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: 32 F to 158 F (0 C to 70 C)
Used With: WEBs-AX Platform

Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment
Federal Communications Commission: FCC part 15 Class B
Underwriters Laboratories, Inc: UL 916, cUL listed

Product Number	Description	Includes
WEB-RB-603/U	WEB 645 Controller	Base Unit including two Ethernet ports, two RS-232 ports, four RS-485 ports, one LonWorks® FTT-10A port, and closed NiCS. Web User Interface and WEBs Connectivity included. oBIX Client/Server driver included.
WEB-RB-645/U	WEB 645 Controller with Open License	Base Unit including two Ethernet ports, two RS-232 ports, four RS-485 ports, one LonWorks® FTT-10A port, and open NiCS. Web User Interface and WEBs Connectivity included. oBIX Client/Server driver included.
WEB-R2-RB-6XX/U	R2 License for Replacement Board	WEBs R2 application option which allows the installer to utilize an R2 based station on either the WEBRB-603 or WEB-RB-645 platforms. Includes WEBs R2 station license and individual drivers transferred from original license.

WEBs-AX Software Controller

Building Management Interface: WEBs-AX

Product Number	Application	Description	Used With
SJ-2M-UPG-AX/U	Software-Driver	Upgrade for WEBs-AX SoftJACE. Increases Niagara point count from 10M to 30M.	WEBs-AX Soft Controller
W-SJ-1M-AX/U	Controller	WEBs-AX SoftJACE software for Windows XP	WEBs-AX Platform

WEBs-AX System

WEBs-AX Platform - Displays

Reveal™ is an easy-to-operate and robust operator unit for the entire range of WEBs-AX and ComfortPoint (CP) supervisory Controllers.

Reveal's touch-panel operation screens allow for easy and self-explanatory operation by finger-tip.

User-configurable fast-access lists can contain selected data points, time programs, and parameters, thus permitting plant oriented and customer-oriented operation.

Reveal uses Honeywell's patent pending EZ-Nav™ technology to provide real-time status information on an easy-to-use, wall-mounted touch-screen LCD. Reveal has a 480 x 272, High Definition, 24-bit Full Color backlit LCD display. It is also available in a 16-level Extended Temperature gray-scale display. Both displays have a viewing area of 8 in^2 (51.6 cm^2).

Reveal has customizable user screens, multi-language capability, and permission-based access control. With these features it provides site personnel the ability to quickly and conveniently access setpoint changes, local alarm data, and other system information.

This device can be configured through the WEBs or ComfortPoint (CP) workbench/supervisor using a software driver.

- Multi Language capable
- Password protection
- Upgrade of installed systems
- System-wide information access
- Multiple Displays for a single Controller
- Protocol independent
- Maintenance free
- Network security

Dimensions, Approximate: 6 9/16 in. long x 3 11/16 in. wide x 1 7/16 in. deep (167 mm long x 93 mm wide x 36 mm deep)
Application: Display
Building Management Interface: WEBs
Operating System: Windows CE
Commissioning Software: WEBs AX
Voltage: 24 Vac

Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: -4 F to +140 F (-20 C to +60 C)
Approvals
Canadian Standards Association: Certified
CE: CE Mark
Federal Communications Commission: FCC part 15 Class B requirements

Product Number	Description	Network Communications	Output Type	Operating Temperature Range (F)	Operating Temperature Range (C)	Used With
LCD-CT043A100/U	Reveal Color Touchscreen	1 RS 485	Graphical Interface	14 F to 122 F	-10 C to +50 C	WEB-NXS; WEB-600; WEB-201; WEB-5R-AX; WEB-403; WEB-545; WEB NX Controller
LCD-GT043A100/U	Reveal Grayscale Touchscreen	1 RS 485	Graphical Interface	-4 F to 158 F	-20 C to 70 C	WEB-NXS; WEB-600; WEB-201; WEB-5R-AX; WEB-403; WEB-545; WEB NX Controller

WEBs-AX Platform - Drivers for Controllers

Application: Software-Driver
Building Management Interface: WEBs-AX
Used With: WEBs-AX Controllers

Product Number	Description
DR-AAMPHP-AX/U	American Automatrix PHP Driver over RS-232 or RS-485
DR-AAMPUP-AX/U	American Automatrix PUP Driver over RS-232 or RS-485
DR-AC256-AX/U	AC256 Driver
DR-AINF-AX/U	Anfover Infinity Driver for WEBs-AX controllers
DR-BAC-CLI-AX/U	BACnet IP Client Driver over Ethernet
DR-BAC-EXP-AX/U	BACnet server option (export=true) to add to client
DR-BAC-SRV-AX/U	BACNet Server includes BACNet IP Client
DR-CBUS-AX/U	C-Bus Driver for Niagara AX
DR-FLX-AX/U	Flex Driver over RS-232 or RS-485
DR-GLOBAL-AX/U	Enables control of IR controlled AV equipment via an RS-323 connection to a Global Cache FC module
DR-HELVAR-AX/U	Helvar Lighting Control Driver
DR-HORTS-AX/U	Driver for European Hortsmann meters
DR-JOSAM-AX/U	Josam Grease Trap Sensor Driver
DR-LANGOVN-AX/U	Lang Oven over RS-232 or RS-485
DR-LON-IP-AX/U	LON over IP Driver
DR-LONDRIV-AX/U	LONworks FTT10 Driver
DR-MBUS232-AX/U	M-Bus RS-232 Driver
DR-MDB-AX/U	Driver for Modbus RTU or ASCII over RS-485 or RS232

Product Number	Description
DR-MDB-S-AX/U	Data server to Modbus Master devices over RS485
DR-MDB-TCP-AX/U	Driver for Modbus TCP (25 node limit recommended)
DR-MDB-TS-AX/U	Data server to Modbus Master devices over TCP
DR-MSTP-AX/U	MSTP BACnet communications via RS-485 port
DR-SIMADR-AX/U	AX controller driver for OPENADR client connectivity to DRAS server
DR-SIMADR-1/U	AX controller driver for one additional Openadr client connectivity to DRAS server. DR-SIMADR-AX must be already present on host
DR-SMSALRM-AX/U	Enables SMS alarms to be sent to any mobile phone via a GSM/GPRS modem connected to the RS-232
DR-SNMP-AX/U	Driver for importing data from SNMP compliant devices. Also exports WEBs alarms to SNMP devices.
DR-VDROOT-AX/U	VeederRoot Driver
DR-ZWAVE-AX/U	Z-WAVE software driver allows serial communication to Z-WAVE option card or third party Z-WAVE controller. Requires AX Release 3.5 or higher.
WEB-AX-EMB/U	Embedded WEBPro-AX tool
WEB-U-AX/U	Revision Upgrade for WEBs-AX Controller

WEBs-AX Platform - Software

Application Size: Software
Building Management Interface: WEBs-AX

Used With: WEBs-AX Platform

Product Number	Description
W-ALARM-CONSL/U	WEBs-AX Alarm Console software for Windows XP
WEB-S-AX-W/U	AX Workbench
WEBS-DVD/U	WEBs-AX Software Master DVD

WEBs-AX Platform - Supervisor Software

Application Size: Software
Building Management Interface: WEBs-AX

Used With: WEBs-AX Platform

Product Number	Description
WEB-S-AX-3-O/U	WEBs-AX Supervisor software 32bit or 64bit Windows Open License. Includes Niagara Historical Database, Workplace AX, and oBIX client-server driver to connect to Niagara based devices. Max of 3 Connected WEBs Controllers
WEB-S-AX-100-O/U	WEBs-AX Open License Supervisor software for 32bit or 64bit Windows. Includes Niagara Historical Database, Workplace AX, oBIX client-server driver for connecting to Niagara based controllers only. 100 Max device Limit.
WEB-S-AX-UNL-O/U	WEBs-AX Open License Supervisor software for 32bit or 64bit Windows. Includes Niagara Historical Database, Workplace AX, oBIX client-server driver for connecting to Niagara based controllers only. No device limit.
WEB-S-AX-100-UP/U	Upgrade Small building Windows supervisor from a max of 3 WEBs Controllers to a max of 100 WEBs Controllers.
WEB-S-AX-UNL-UP/U	Upgrade Medium Building Windows Supervisor from a max of 100 WEBs-AX Controllers to an unlimited number of WEBs Controllers.
W-S-AX-LNX3-O/U	WEBs-AX Open License Supervisor software for 32bit or 64bit Linux. Includes Niagara Historical Database, Workplace AX, OBIX client-server driver for connecting to Niagara based controllers only. 3 Device Max
W-S-AX-LNX100-O/U	WEBs-AX Open License Supervisor software for 32bit or 64bit Linux. Includes Niagara Historical Database, Workplace AX, OBIX client-server driver for connecting to Niagara based controllers only. 100 Device Limit
W-S-AX-LNXUNL-O/U	WEBs-AX Supervisor software for 32-bit or 64-bit Linux. Includes Niagara Historical Database, Workplace AX, OBIX client-server driver for connecting to Niagara based controllers only. No device limit.
W-S-AX-LNX100-UP/U	Upgrade Small Building Linux Supervisor from a max of 3 WEBs Controllers to a max of 100 WEBs Controllers
W-S-AX-LNXUNL-UP/U	Upgrade Medium building Linux supervisor from a max of 100 WEBs Controllers to unlimited connectivity (as many WEBs Controllers as the PC can handle)

WEBs-AX System

WEBs-AX Platform - Drivers for Supervisors

Application: Software-Driver
Used With: WEBs-AX Supervisors
Building Management Interface: WEBs-AX

Product Number	Description
DR-NS-BAC-500/U	Additional 500 point block for WEBStation-AX BACnet driver
DR-NS-BACNET/U	BACnet Client/Server Driver
DR-NS-BAC-CLI/U	BACnet IP Client Driver for the AX Supervisor; Includes license for 500 BACnet points
DR-NS-BAC-SRV/U	BACnet IP Server for the AX Supervisor
DR-NS-BAC-SRV-UP/U	Adds BACnet export functions to a BACnet IP Client Driver for the AX Supervisor
DR-NS-BAC-CL-UP/U	Adds BACnet IP client functions to a BACnet IP Server for the AX Supervisor; Includes license for 500 BACnet points
DR-NS-BAC-OWS/U	Adds BACnet Operator Workstation (OWS) to the AX Supervisor. Requires the BACnet IP Client Driver
DR-NS-BAC-AWS/U	Adds BACnet Advanced Workstation (AWS) to the AX Supervisor. Requires the BACnet IP Client Driver
DR-NS-BAC-AWS-UP/U	Upgrade from an Operator Workstation (OWS) to an Advanced Workstation (AWS)
DR-NS-MDB-500/U	Additional 500 point block for WEBStation-AX MDB TCP Driver
DR-NS-MDB-AX/U	AX Supervisor Modbus TCP Driver
DR-NS-OBIX-AX/U	AX Supervisor oBix Driver
DR-NS-OBIX500/U	Additional 500 point block for AX Supervisor oBix Driver
DR-NS-OPC-500/U	Additional 500 point block for WEBStation-AX OPC Client Driver
DR-NS-OPC-AX/U	AX Supervisor OPC Driver
DR-NS-SIMADR-AX/U	AX controller driver for Openadr client connectivity to DRAS server
DR-NS-SIMADR-1/U	AX controller driver for one additional Openadr client connectivity to DRAS server. DR-SIMADR-AX must be already present on host
DR-NS-SNMP-500/U	Additional 500 point block for WEBStation-AX SNMP Driver
DR-NS-SNMP-AX/U	AX Supervisor SNMP Driver
S-DB-CSV/U	File Network Device Driver for importing CSV files
S-DB-DB2/U	WEBStation-AX driver for DB2 database
S-DB-MYSQL/U	WEBStation-AX driver for Microsoft MySQL database
S-DB-ORCL/U	WEBStation-AX driver for Oracle database
S-DB-SQL/U	WEBStation-AX driver for Microsoft SQL database
SUP-U-AX/U	Revision Upgrade for WEBStation-AX Supervisor
WES-PNT-AX/U	WEBs Energy Analytics Point License. Licenses one point for monitoring on a WEBs-AX Supervisor
WES-STA-AX/U	WEBs Energy Analytics Station License. Licenses one controller station connection to Energy Analytics with unlimited points.

WEBs-AX Platform - Accessories

Application Size: Accessory-Parts
Building Management Interface: WEBs-AX

Product Number	Description	Used With
H-GPRS-CBL-EXT/U	GPRS Modem Extension Cable	WEB-201; WEB-600
H-GPRS-SIM-W/U	Wysless SIM card for GPRS Modem	WEB-201; WEB-600
NPB-BATTERY/U	Replacement Battery Assembly for WEB-201 and WEB-600 Controllers	WEB-201; WEB-600

WEBs Platform - Accessories

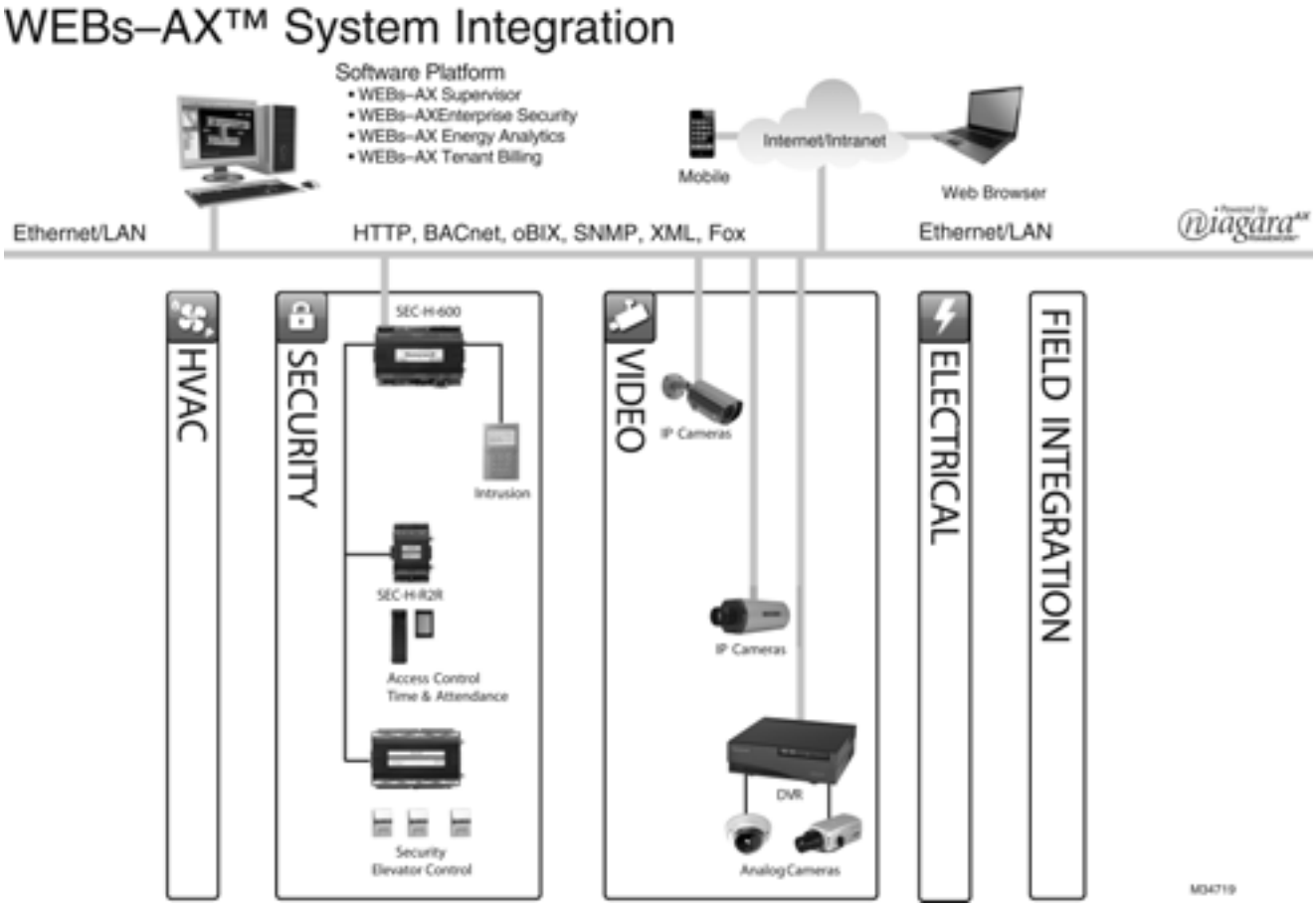
Building Management Interface: WEBs

Product Number	Application	Description	Used With
50000276-014/U	Battery	Replacement Battery For WEB 4 Series and WEB 5 Series Controller	WEB-403; WEB-545
H10027/U	Accessory-Parts	WEB5 RS-485 3-position Connector Plug	WEB-201; WEB-600; WEB-403; WEB-545
H10139/U	Accessory-Parts	6 Position Input/output Connector	WEB-201; WEB-600; WEB-403; WEB-545
H10140/U	Accessory-Parts	Weidmuller 3-position Straight Connector	WEB-201; WEB-600; WEB-403; WEB-545
H10181/U	Accessory-Parts	10 Foot Silver Satin Cable (Male RJ-45 both ends)	WEB-201; WEB-600; WEB-403; WEB-545
H10598/U	Accessory-Parts	2 Position Connector for IO-34-H and WEB IO-34	WEB-201; WEB-600; WEB-403; WEB-545
H10599/U	Accessory-Parts	12 Position Connector for IO-34-H and WEB-IO-34	WEB-201; WEB-600; WEB-403; WEB-545
H10600/U	Accessory-Parts	15 Position Connector for IO-34-H And WEB IO-34	WEB-201; WEB-600; WEB-403; WEB-545

Honeywell Security Portfolio

Flexibility is the key to Honeywell WEBs-AX™ Security, which is built on the Niagara^{AX} Framework®. Whether you need single site or enterprise access control, intrusion detection, video surveillance or a combination of all, WEBs-AX Security has the solution for you.

WEBs-AX Security can work as a standalone system or integrate easily with other WEBs-AX products as well as third-party devices for information-sharing on the enterprise level.



WEBs-AX Security Solution Options

— WEBs-AX Enterprise Security—A comprehensive security and access control system for one or more facilities and integration with existing building systems including HVAC, lighting, video, and energy analysis. Ideal for single medium to large facilities or multi-site facilities.
— WEBs-AX Standalone Security—An out-of-the-box, Web-enabled solution for access control, intrusion detection, and video surveillance. Ideal for small to medium sized facilities.
— WEBs-AX Compact Security—A cost effective solution for integrating access control, security, video surveillance, and building automation systems. A cost-effective solution for small to medium sized facilities.
— WEBs-AX Integrated Video—Video drivers that provide an open video framework designed to integrate with diverse manufacturer IP and analog devices and protocols.
— Energy Analytics—An enterprise energy monitoring application designed to help manage energy in one or more facilities. Energy Analytics is a software solution that provides easy to understand, easy to configure reports that identify where, when, and how energy is used and provides cost analysis scenarios to allow the facility manager to make informed buying decisions.

WEBs-AX Security Solutions

Facility	Doors	Open System Integration Capable	Solution	Selection Information
Single Facility	< 32	No	Standalone Security	See Security Controllers on page 294
Single Facility	< 16	Yes	Compact Security	See Security Controller with Compact Drivers on page 294
Single Facility	32+	Yes	Enterprise Security	See Security Controllers (page 294); Security with Compact Drivers (page 294) and Enterprise Security (page 295)
Multiple Facility	Unlimited	Yes	Enterprise Security	

WEBs-AX Security System

WEBs-AX Security Controllers Selection

Features and Options		SEC-H-600	SEC-H-201
Controllers		**SEC-H-600**	**SEC-H-201**
	Card Readers	32*	16
	Digital Input/Output Points	120/120*	64/64
	Remote Reader Modules (R2R)	15*	7
	Remote I/O Modules (RIO)	15*	8
	Intrusion Keypads	6	2
	Personnel	20,000	5,000
	Access Rights	250	100
	Access Zones	50	10
	Intrusion Zones	25	5
	On-line Historical Records	50,000	10,000
	Simultaneous System Users	10	5
Video Drivers	DR-JAC-DED-AX/U	**Dedicated Micros DVR & 4 Cameras	N/A
	DR-JAC-AXS-4/U	**4 Axis IP Cameras	N/A
	DR-JAC-MLS-4/U	**4 Mileston NVR Cameras	N/A
	DR-JAC-RPD-4/U	**Connect 4 cameras via Rapid Eye DVR	N/A
Integration Options	Video (Cameras)	16	N/A

* A total of 15 modules can be connected to the SEC-H-600 in any combination. Points and reader counts depend on mix of reader modules up to a maximum of 120 I/O regardless of number of modules.
** Any combination of Video Drivers can be added to enable a maximum of 16 cameras per controller.

WEBs-AX Compact Security Selection

Features and Options		DR-SEC-LON (LON Focus)	DR-SEC-BAC (BACnet Focus)	DR-SEC-LON-FTT	DR-SEC-BAC-MSTP	DR-SEC-BAC-TCP	DR-SEC-MDB-RTU	DR-SEC-MDB-TCP
Controller		**SEC-H-600**						
Security Capabilities	Card Readers	16*						
	Digital Inputs/Output Points	120/120*						
	Remote Reader Modules (R2R)	15**						
	Remote I/O Modules (RIO)	15**						
	Intrusion Keypads	2						
	Personnel	20,000						
	Access Zones	50						
	Intrusion Zones	25						
	On-line Historical Records	50,000						
	Point Histories	No Limit	No Limit	300	300	300	300	300
	Simultaneous System Users	10						
Video Drivers	DR-JAC-DED-AX/U	Dedicated Micros DVR & 4 Cameras						
	DR-JAC-AXS-4/U	4 Axis IP Cameras						
	DR-JAC-MLS-4/U	4 Milestone NVR Cameras						
	DR-JAC-RPD-4/U	Connect 4 cameras via Rapid Eye DVR						
Open Device/ Points Supported	LonWorks Devices/Points	60 / 2000	5 / 100	60 / 2000				
	BACnet Devices/Points (IP or MSTP)	5 / 100	60 / 2000		60 / 2000			
	BACnet IP Devices/Points					60 / 2000		
	Modbus TCP Devices/Points	5 / 100	5 / 100					60 / 2000
	Modbus RTU Devices/Points	5 / 100	5 / 100				60 / 2000	
	SNMP (over Ethernet) Devices/Points	5 / 100	5 / 100					
Integration Capabilities	Video (Cameras)	16 Cameras						
	HVAC	.						
	Lighting	.						
	Other Open Systems	.						

* A total of 16 modules can be connected to the SEC-H-600 in any combination. Points and reader counts depend on mix of reader modules.
** A total of 15 modules can be connected to the SEC-H-600 in any combination. Points and reader counts depend on mix of reader modules.

WEBs-AX™ Enterprise Security Software

WEBs-AX Enterprise Security is a comprehensive access control and security management solution, built on a truly open, IP based platform. Developed using the NiagaraAX Framework, WEBs-AX Enterprise Security provides unparalleled interoperability within traditional security environments and extends seamlessly to create a unified, intelligent building by integrating with today's diverse facility systems including environmental controls, lighting, energy management, and video

Enterprise Security provides scalability ranging from single door solutions to multi-building/multi-campus deployments. Entirely accessible from any standard web browser, the solution provides flexible access into the system any time, anywhere, while liberating end users from dedicated client workstations in the traditional client /server model. WEBs-AX Enterprise Security is open – open architecture, open framework, open distribution, and open protocol support.

- Truly open solution-connectivity via oBIX, BACnet, SNMP, Modbus, Lon, and other optional non-proprietary protocols
- Web based security application – easily managed via a standard browser anytime, anywhere
- Supports database connectivity to MS SQL Server 2003 and MySQL
- Distributed architecture for increased reliability and control at remote locations
- Centrally managed card holder and credential database
- Quick click access to video playback related to individual alarm events
- UL-294 and CE listed systems
- Advanced occupancy restriction rules through access zone functionality
- Alarm Escalation
- Scheduled unlock on first validation
- Elevator control
- Live credential enrollment from any card reader
- Intrusion detection
- Configurable Operator Access Levels
- Simultaneous support for multiple credential formats

System Capacities

Personnel	Card Readers	Access Rights	Schedules	Access Zones	On-Line History Records	Simultaneous System Users	Area Controllers	Integrated Cameras
1,000,000	10,000	25,000	25,000	25,000	25,000,000	25	500	No Limit

Product Number	Description
WEBs-AX Enterprise Security Server Software	
SEC-H-ENT-6/U	WEBs-AX Security SBS, includes enterprise security application with 32 reader license, both MySQL and MS SQL Server database drivers and OBIX client/server driver for connecting to Niagara based controllers only. 6 Controller and 64 Reader Limit.
SEC-H-ENT-100/U	Security Supervisor with MySQL and MS SQL Includes enterprise security application with 32 reader license, WEBs-AX Security Supervisor, both MySQL and MS SQL Server database drivers and OBIX client/server driver for connecting to Niagara based controllers only. Max of 100 Security Controllers.
SEC-H-ENT-250/U	Security Large System Supervisor with MySQL and MS SQL. Includes enterprise security application with 32 reader license, WEBs-AX Security, and both MySQL and MS SQL Server database drivers. 250 Controller Limit. Includes OBIX client/server driver for connecting to Niagara based controllers only.
SEC-H-U-100/U	Security ENT upgrade. Upgrade an existing SEC-H-ENT-6 SBS Security Supervisor to a SEC-H-ENT-100 Security Supervisor. Supervisor requires additional reader licenses to expand system capacity.
SEC-H-U-250/U	Security ENT upgrade. Upgrade an existing SEC-H-ENT-100 Security AX Supervisor to a SEC-H-ENT-250 Large System Security Supervisor. Supervisor requires additional reader licenses to expand system capacity.
SEC-H-REV-6/U	New release software upgrade for Enterprise Security Small Building Supervisor. Price includes all applications and drivers licensed for the Supervisor. Upgrades the Supervisor to the current release.
SEC-H-REV-100/U	New release software upgrade for Enterprise Security Supervisor. Price includes all applications and drivers licensed for the Supervisor. Upgrades the Supervisor to the current release.
SEC-H-REV-250/U	New release software upgrade for Enterprise Security Large System Supervisor. Price includes all applications and drivers licensed for the Supervisor. Upgrades the Supervisor to the current release.
SEC-H-ENT-6-MA/U	Annual software maintenance agreement when purchased with any Security Small Building Supervisor. Includes new and interim releases for one year from date of purchase.
SEC-H-ENT-100-MA/U	Annual software maintenance agreement when purchased with any Enterprise Security Supervisor. Includes new and interim releases for one year from date of purchase.
SEC-H-ENT-250-MA/U	Annual software maintenance agreement when purchased with any Large Scale Enterprise Security Supervisor. Includes new and interim releases for one year from date of purchase.

WEBs-AX Security System

WEBs-AX™ Security Controllers

The WEBs-AX Security Controller provides an out of the box, web-enabled solution for access control and intrusion detection with integrated reporting and alarm management. Users can assign access rights, schedules, credentials, and perform system set up and maintenance via a web browser from anywhere in the world. The easy to use security control application and user interface are embedded in the WEBs-AX Security Controller requiring no additional software to set up or operate the system. The embedded application can provide complete access control and intrusion detection functionality in a stand alone mode or it can be easily integrated into the WEBs-AX automation system to control lighting, HVAC equipment, and other building management strategies in response to access events and system alarms. WEBs-AX Security Controllers may also be joined to an Enterprise Security server to provide central database management for larger applications requiring more than one controller.

- Integrated management of access control, alarm monitoring, and credential database
- Pre-defined custom reports on-screen or exported
- Web-based security application - easily managed via a web browser anytime, anywhere
- Web User Interface serves rich presentations and live data to a browser
- No thick client software required
- Custom graphic floor plans and equipment displays
- User-definable Wiegand card formats
- Robust, modular solution for smaller facilities
- Seamlessly integrates to Video Monitoring, HVAC, Lighting, and Energy Management in the WEBs-AX Automation System or other open systems
- Connectivity to any BAS system via BACnet®, LONWORKS®, Modbus®, and oBIX
- IT connectivity includes XML, oBIX, SNMP
- Built on the NiagaraAX Framework - the industry's leading facility management software platform
- On-board I/O for 2 standard Access Controlled doors, 2 Alarm Inputs, and 2 Relay outputs
- SEC-H-201: Expandable to 16 readers and 64 input and 64 output points. Up to10,000 personnel credentials.
- SEC-H-600: Expandable to 32 readers and up to 120 input and 120 output points depending on mix of up to 15 remote modules. Video integration with up to 16 cameras. Up to 20,000 personnel credentials. Integrates directly with Lon or BACnet remote devices using Compact Security Drivers (see controller drivers section for details).

System Capacity	SEC-H-600/U	SEC-H-201/U
Personnel	20,000	5,000
SEC-H-R2R Modules (2 Wiegand Readers, 4 supervised digital inputs, 2 relay outputs, 2 digital inputs)	15[1]	7
SEC-H-RIO Modules (8 digital outputs, 8 supervised digital inputs, 2 digital inputs)	15[1]	8
IO-REM-16-H (8 universal inputs, 4 relay outputs, 4 analog outputs)	15[1]	N/A
Access Rights	250	100
Schedules	100	25
Access Zones	50	10
Intrusion Zones	25	5
Intrusion Keypads	6	2
On-line Historical Records	50,000	10,000
Simultaneous System Users*	10	5
Video (Cameras)	16	N/A

1. SEC-H-600 controller may connect to 15 SEC-H-R2R or SEC-H-RIO or IO-REM-16-H modules total in any combination.

Controller Modules and Option Cards

WEBs-AX™ Security Modules

Expand the capacity of your WEBs-AX Security Controller with the SEC-H-RIO, remote input/output module, and the SEC-H-R2R remote reader modules.

Product Number	Wiegand Card Reader Interface	Supervised Digital Inputs	Relay Outputs	Digital Inputs	
SEC-H-R2R/U	2	4	2	2	

WEBs-AX™ IO Modules

Monitor and control building automation points with the IO-16-REM-H. These modules may not be connected to the SEC-H-201 controller.

Product Number	Universal Inputs	Analog Outputs	Relay Outputs	
IO-16-REM-H/U	8	4	4	

WEBs-AX™ Option Cards

Use these option cards to interface to other open systems on the SEC-H-600 when using the Compact Security Drivers. The NPB-2X-RS485 option card is required on the SEC-H-201 and SEC-H-600 controllers to interface with the Intrusion Keypad.

Product Number	Description
NPB-LON/U	78 Kbps FTT 10 A LON Adapter. Uses one of the two communication slots in the SEC-H-600
NPB-2X-RS485/U	Dual Port RS485 Option Card. Uses one of the two communication slots in the SEC-H-201 or SEC-H-600.
NPB-RS232/U	Single Port RS232 Option Card. Uses one of the two communication slots in the SEC-H-600.

WEBs-AX Security System

Compact Security Solution Drivers

WEBs Compact Security Solution provides a cost effective solution for integrating access control, security, video surveillance, and building automation on the SEC-H-600 platform. A Lon or BACnet Focused Driver Option Pack determines the mix of controlled devices that can be integrated onto the platform. The embedded WEBs-AX security control application allows thin-client configuration of the access control and security functions. WEBs-AX Workbench software is required for configuration of the HVAC devices. Note that card reader and personnel record capacities are reduced when using the Compact Security Drivers. Option cards to interface with BACnet, Lon, Modbus, and SNMP are ordered separately.

Compact Security Solution System Capacities

	DR-SEC-BAC/U
LON Devices/Points (TP/FT-10)	5 Devices/100 Points
BACnet Devices/Points (IP or MSTP)	60 Devices/2000 Points
Modbus TCP or RTU	5 Devices/100 Points
SNMP (over Ethernet)	5 Devices/100 Points
Remote I/O modules (SEC-H-RIO)	15[1]
Remote Reader Modules (SEC-H-R2R)	15[1]
Digital Input/Output Points	120 inputs/ 120 outputs[2]
Card Readers	16[2]
Intrusion Keypads (SEC-H-INT-KP)	4
Personnel Records	10,000
History Records	50,000

1. Maximum of 15 modules (SEC-H-RIO and SEC-H-R2R) per SEC-H-600.
2. Up to 16 readers or 120 I/O points, depending on module combination.

Video Integration Drivers

WEBs-AX Integrated Video is an open video framework solution designed to integrate diverse manufacturer devices and protocols into a unified, smart facility management system. Built on the NiagaraAX Framework®, WEBs-AX Video integrates with IP and analog based systems to create complete interoperability between video, security, lighting, energy management, and building automation for any facility.

- Bi-directional alarming interface between NiagaraAX stations and video products.
- NiagaraAX alarms can initiate events in video subsystem.
- Video system events such as video motion detection and camera loss alarms can be processed as standard Niagara alarms.
- Automatically redirect camera and start video recording based on events or alarms.
- Create video system alarm record and associate recorded video for instant look-up.
- Initiate control logic sequences such as lighting control, building lockdown, etc.
- Ability to view live video through NiagaraAX graphical user experience.
- Supports pan, tilt, zoom, iris, and focus camera control.
- Query video subsystem for stored video and playback by time and date.
- Integrated video playback with Niagara alarm console.
- Customizable user experience through extensive video widget library (PX pages).

WEBs-AX™ Platforms Supported for Video Integration Drivers (Requires Niagara^{AX} Build 3.4 or later)

Product Number	Product	Restrictions
W-SJ-1M-AX/U	WEBs SoftJACE	No Set Limit
SEC-H-600/U	WEBs Expanded Security Controller	Maximum of 16 cameras
WEB-600-O/U	WEB 600 Controller with Open License	Maximum of 16 cameras, requires NPM-256 memory option.
WEB-600-US/U	WEB 600 Controller (Manufactured in USA)	Maximum of 16 cameras, requires NPM-256 memory option.
WEB-600-O-US/U	WEB 600 Controller with Open License (Manufactured in USA)	Maximum of 16 cameras, requires NPM-256 memory option.

Part#	Description
DR-SUP-RPD-AX/U	Base driver for RapidEye video DVR for WEBs-AX Supervisor. Includes license for 16 cameras.
DR-SUP-RPD-4/U	Additional 4 camera block for WEBs-AX Supervisor RapidEye video driver.
DR-JAC-RPD-4/U	RapidEye camera driver. Includes license for 4 cameras on SEC-H-600 or WEB-600
DR-SUP-DED-AX/U	Base Driver for Dedicated Micros DVR for WEBs Supervisor, WEBs SoftJACE, or Enterprise Security. Includes support for up to 16 cameras.
DR-SUP-DED-4/U	Additional 4 camera license for Dedicated Micros DVR on WEBs Supervisor, WEBs SoftJACE, or Enterprise Security.
DR-JAC-DED-AX/U	Driver for Dedicated Micros DVR and 4 cameras on SEC-H-600 or WEB-600.
DR-SUP-AXS-AX/U*	Base Driver for Axis IP Cameras for WEBs Supervisor, WEBs SoftJACE, or Enterprise Security. Supports for up to 16 cameras.
DR-SUP-AXS-4/U*	Additional 4 camera license for Axis IP cameras on WEBs Supervisor, WEBs SoftJACE, or Enterprise Security.
DR-JAC-AXS-4/U*	Driver for 4 Axis IP Cameras on SEC-H-600 or WEB-600.
DR-SUP-MLS-4/U	WEB Supervisor Video Driver for 4 additional Axis cameras
DR-SUP-MLS-AX/U	WEB Supervisor BASE Video Driver for Axis Cameras
DR-JAC-MLS-4/U	WEB Video Driver for 4 Axis cameras
DR-SEC-BAC/U	BACnet focused Driver Pack
DR-SEC-LON/U	LON focused Driver Pack
DR-SEC-LON-FTT/U	Lonworks Driver to extend the standard SEC-H-600 to building automation applications which supports 60 Lonworks devices, 2000 points, 300 histories, and limits the Security Jace to 16 readers. Driver includes 78 Kbps FTT 10 A LON® adapter (LON® Card).
DR-SEC-BAC-MSTP/U	BACnet MS/TP Driver. Requires a separately purchased NPB-2X-RS485 RS-485 option card
DR-SEC-BAC-TCP/U	BACnet TCP Driver to extend the standard SEC-H-600 to building automation applications which supports 60 BACnet devices, 2000 points, 300 histories, and limits the Security Jace to 16 readers.
DR-SEC-MDB-RTU/U	Modbus RTU Driver to extend the standard SEC-H-600 to building automation applications which supports 60 Modbus devices, 2000 points, 300 histories, and limits the Security Jace to 16 readers.
DR-SEC-MDB-TCP/U	Modbus TCP Driver to extend the standard SEC-H-600 to building automation applications which supports 60 Modbus devices, 2000 points, 300 histories, and limits the Security Jace to 16 readers.

NOTE: Axis IP Camera drivers do not support video playback, they are used for live viewing only. To integrate recording of IP cameras, use a supported DVR with IP interface.

WEBs-AX Security System

Readers and Keypads

OmniProx™ Proximity Card Readers

Honeywell's OmniProx™ family is a complete line of 125 kHz HID compatible proximity readers that delivers outstanding and consistent performance in a small package with attractive styling and colors to fit any décor.

All OmniProx™ readers (except the OP90) include three bezels: black, charcoal gray and ivory and are constructed with rugged polycarbonate materials potted for both indoor and outdoor applications.

For locations that require a proximity reader able to withstand the vandal-prone environments, such as: universities, schools, elevators and prisons, the OP90 vandal resistant reader comes standard in a zinc die-cast metal housing.

Product Number	Read Range (PVC Card)	Read Range (Key Fob)	Dimensions	Max. Operating Current @ 5 VDC	Operating Voltage	
OP10HONE	2.25"	1.25"	3.15" H x 1.57" W	50 mA	5.0 -16 VDC	
OP30HONE	2.25"	1.25"	5.71" H x 1.69" W	100 mA	5.0 -16 VDC	
OP40HONE	2.25"	1.25"	4.33" H x 2.95" W	100 mA	5.0 -16 VDC	
OP90HONE	1.25"	Not recommended	4.5" H x 3.15" W	100 mA	5.0 -16 VDC	

Readers with PIN Keypads

OmniClass™ Reader/Keypad

OmniClass™ OM56BHONA reader/keypad is built upon the convenience and reliability of prox technology and reads both 125 kHz Prox and 13.56 MHz Smart cards. Keypad is backlit for easy visibility in low-light conditions. LED bar at top of reader makes ADA compliant with built-in audible beeper.

ProxPro® Reader/Keypad

The ProxPro® Hu5355AGK00 proximity card reader's weatherproof design and architecturally attractive enclosure allows easy mounting indoors or out. Reads 125kHz Prox cards. The ProxPro Reader is ideal for applications requiring a larger read range. LED and beeper indicate access card reads.

Product Number	Max Read Range	Description	Max. Operating Current @ 12 VDC	Operating Voltage
OM56BHONA	4 inches		253 mA	10 -16 VDC
OM16BHONC	3-1/2 inches	Omniclass Mullion Mount Reader with Honeywell Logo. Read Range 3.5 Inches, OmniClass/iCLASS HID Prox.		
OM41BHONC	4-1/4 inches	Omniclass Wall Mount Reader with Honeywell Logo. Read Range 4.25 Inches, OmniClass/iCLASS HID Prox. Black		
HU5355AGK00	7 inches		120 mA	10-28.5 VDC

Intrusion Keypad/Display

Smartkey Intrusion Keypad and Display.

The SEC-H-INT-KP Smartkey Intrusion Keypad and Display is used for arming and disarming areas protected by intrusion monitoring such as motion detection, glass break detection, door and window status switches and other monitoring devices.

Multiple users and zones may be controlled with a single keypad by assigning unique PIN numbers to system operators. The display warns the user if a zone is in alarm prior to arming to avoid unwanted alarms.

Requires an NPB-2X-RS485 Option card to interface with SEC-H-600 and SEC-H-201 Security Controllers.

Product Number	Max per SEC-H-600	Max per SEC-H-201	Dimensions	Max. Operating Current @ 12 VDC	Operating Voltage
SEC-H-INT-KP/U	6	2	5.12” H x 3.23” W	150 mA	12 -15 VDC

Credentials

125 kHz HID compatible Proximity Credentials

Product Number	Description	
PVC-H-4	HID PVC Prox Card (34-Bit). HID PVC proximity card sequentially numbered where encoded number equals printed number. Allows a video photo ID to be printed directly on the card surface. This card can be used with all PVC printers. Dimensions: 2.125 IN. H x 3.375 IN. W (5.398cm H x 8.573cm W) Minimum order quantity of 25. Must be ordered in increments of 25.	
PVC-H-4-26	HID PVC Prox Card (26-Bit)	
PVC-H-4-SPEC	Programmable 34 BIT PVC HID PVC Prox Card [Special Order]	
PVC-H-5-26	HID PVC Prox Card (26-Bit) with Magnetic Stripe (Not Encoded)	
PX-4-H	HID proximity card (34-bit) with Honeywell logo and a slot hole punch on the short side. Dimensions: 2.125 IN. H x 3.375 IN. W x 0. 070 IN. T (5.398cm H x 8.573cm W x 0.178cm T). Minimum order quantity of 25. Must be ordered in increments of 25.	
PX-4-H-PW	HID Prox Card, Plain White (34-Bit) Plain white with no logo.	
PX-26-H	HID Card with Hot Stamp (26-Bit) and Logo	
PX-26-H-PW	HID Prox Card, Plain White (26-Bit) Plain white with no logo.	
PX-KEY-H	HID Proximity Card Key Fob (34-Bit). HID proximity key fob (34-bit) designed to be carried on a user’s key ring. Read ranges may be reduced by 50% when using the fob versus a card. Dimensions: 1.87 IN. H x 0.925 IN. W x 0.395 IN. T (4.75 cm H x 2.350 cm W x 1 cm). Minimum order quantity of 10. Must be ordered in multiples of 10.	
OKH2N34	OmniClass 16K PVC Card plus HID Prox (34-Bit)	
OKP2N34	OmniClass 16K PVC Card (34-Bit)	

WEBs-AX Security System

Request to Exit Devices

PIR Overhead Motion Sensors

Mount IS310BL and IS310WH PIR (passive infra-red) motion sensors over access controlled doors to inhibit alarms when exiting and/or to unlock the door. Hands-free automatic operation makes these units the ideal request to exit devices for access control systems.

Product Number	Description	
IS310BL	Request-to-Exit Sensor, Standard Version - Black. Adjustable relay time (0.5 - 64 seconds), Adjustable "tamper proof" shutters, to enable precise target area detection, Two "Form C" outputs, Swivel optics – allow for offset mounting.	
IS310WH	Request-to-Exit Sensor, Standard Version - White. Adjustable relay time (0.5 - 64 seconds), Adjustable "tamper proof" shutters, to enable precise target area detection, Two "Form C" outputs, Swivel optics – allow for offset mounting.	

Door Locks

The NS5100 Electric Strike work with many types of doors and applications.

Product Number	Description	
NS5100	1300 b Electric Strike, non-handed. Fail-secure/fail-safe field reversible. Maximum current draw is 0.38A @ 12VDC or 0.19A @ 24VDC. Strike includes three face plates for use with hollow metal, wood, or aluminum frames. Adjustable keeper and small back box fit almost any application. Retrofit existing doors or lock replacements with included neoprene filler. Back box: 3.375 IN. H x 1 IN. W x 1.345 IN. D. Keeper pocket: 1.4375 IN. H x 0.5 IN. D x 0.6875 IN. –0.8125 IN. W (adjustable).	

Enclosures and Power Supplies

WEBs-AX™ Security Enclosures

Custom enclosures are available for secure mounting of the WEBs-AX Security controller and the Remote Reader and Input/Output modules. Three sizes are available to allow for various combinations of controllers and remote modules and all are equipped with a key lock and tamper switch. The medium and large enclosures may be ordered with a factory mounted universal voltage power supply (NPB-PWR-UN-H) covered by a protective metal shield. Knockouts are provided on top, bottom and sides for external connections. The enclosure interiors have a generous amount of space for cable management. These enclosures are required to maintain the UL access control and FCC listing. The Security controller MUST be mounted in a WEBs-AX Security enclosure with integral supply to properly charge the on-board NiMH batteries and maintain the controller listings.

Product Number	Description
SEC-ENC-H-1/U	Security panel medium enclosure with integral NPB-PWR-UN-H universal power supply. 17” W x 15” H x 4” D with DIN rail, tamper switch, key lock, and capacity for 2 user provided SLA backup batteries. Can enclose one Security Controller, or 2 reader modules or one Remote I/O module.
SEC-ENC-H-1NP/U	Security panel medium enclosure. 17” W x 15” H x 4” D with DIN rail, tamper switch, key lock, and capacity for 2 user provided SLA backup batteries. Can enclose 2 reader modules or one Remote I/O module plus one additional reader module in place of the integral power supply not included with this part.
SEC-ENC-H-2/U	Security panel large enclosure with integral NPB-PWR-UN-H universal power supply. 17” W x 22” H x 4” D with DIN rails, tamper switch, key lock, and capacity for 2 user provided SLA backup batteries. Can enclose one Security Controller and up to four Reader Modules, or two I/O modules, or two Reader Modules and one I/O Module.
SEC-ENC-H-2NP/U	Security panel large enclosure. 17” W x 22” H x 4” D with DIN rails, tamper switch, key lock, and capacity for 2 user provided SLA backup batteries. Can enclose up to seven Reader modules or three I/O modules plus one additional Reader module in place of the integral power supply not included with this part. Other combinations of Reader and I/O modules are poss ble.
SEC-ENC-H-3/U	WEBs-AX Security Small enclosure 6 in. W x 9 in. H x 4 in. D with DIN rail, tamper switch and key lock. Encloses one Reader module.
NPB-PWR-UN-H/U	90 - 263 V AC 50/60 Hz Auto sensing Power Supply Module, DIN Rail Mountable 15 VDC Output.

Auxiliary Power Supplies by Honeywell Power Products

These access control power supplies/chargers will convert 115VAC/60Hz into power limited field-selectable continuous power output. These power supplies are UL listed for access control (UL294), fire alarm (UL1481) and burglar alarm installations (UL603), and conform to NEC requirements. LED diagnostics speed troubleshooting and fused disconnects make servicing easier. Relay outputs provided for remote monitoring of AC Power fail and Battery fail. All supplies are field configurable for 12 or 24 VDC output. Dimensions: 13 in. H x 13.5 in. W x 3.25 in. D (33 cm H x 34.3 cm W x 8.3 cm D).

Product Number	Output Current	Protected Outputs
HP300ULX	2.5 A	1
HP300ULPD4CB	2.5 A	4
HP400ULX	4.0 A	1
HP400ULPD4CB	4.0	4
HP600ULX	6.0	1
HP600ULPD16CB	6.0	16

Backup Battery

Sealed Lead-Acid 7 AH backup battery. Use these batteries to provide backup power for the WEBs-AX Security controller and auxiliary power supplies

Product Number	Description
712BNP	12V 7AH Battery

Access and Video Systems

DVRs and Licensing

The Rapid Eye™ Hybrid HD DVRs are designed for effective remote access, even over limited bandwidth. The fast and responsive network connection allows instant access to critical site information as you need it. Rapid Eye can record, search and transmit video, audio and data transactions while simultaneously providing users with both live monitoring and post-event playback operation. Rapid Eye Hybrid HD is fully integrated with Honeywell WEBs-AX Security products, access control and intrusion. From standalone remote systems to fully integrated enterprise solutions, Rapid Eye is effective in a wide range of security installations.

Product Number	Description
HRE16A48D1T0	Rapid Eye Hybrid Active Alert 16 channel, 480 CIF, up to 8 channels of analytics, 1 TB video, 250 GB analytics. Includes single workstation license of HRM10ADMIN and HRM10VIEW. (Local user interface is not available on this model Rapid Eye) (MUST be sol
HRE16R12D1T0	Rapid Eye Hybrid HD, Digital Video Recorder and Transmission Unit 16?Channels, 120 CIF, DVD-RW, 6 USB ports, 1.0 TB Internal Storage, Includes single workstation license of HRM10ADMIN and HRM10VIEW.,
HRE16R48D1T0	Rapid Eye Hybrid HD, Digital Video Recorder and Transmission Unit 16?Channels, 480 CIF, DVD-RW, 6 USB ports, 1.0 TB Internal Storage, Includes single workstation license of HRM10ADMIN and HRM10VIEW.,
HRE4R12D1T0	Rapid Eye LT Digital Video Recorder and Transmission System with Internal DVD-RW 4Looping Video Inputs, 1 Bi-Directional Audio Input/Output, Modified H.261/263 (DCT) with proprietary dual threshold processing, Records up to 120 ips, 1 BNC Composite Monitor
HRE8R12D1T0	Rapid Eye LT Digital Video Recorder and Transmission System with Internal DVD-RW 8 Looping Video Inputs, 1 Bi-Directional Audio Input/Output, Modified H.261/263 (DCT) with proprietary dual threshold processing, Records up to 120 ips, 1 BNC Composite Monitor
HAABR	Active Alert Base license for Rapid Eye (single channel add on license)
HAACR	Active Alert People Counting license for Rapid Eye (single channel add on license. Does not include car counting)
HAAPR	Active Alert Premium license for Rapid Eye (single channel add on license)
HAASR	Active Alert Standard license for Rapid Eye (single channel add on license)
HASIR	Active Alert Smart Impressions license for Rapid Eye (single channel add on license.)

Cameras

Honeywell provides a comprehensive line of cameras that offers the flexibility and versatility required by the most demanding customer. Choose either IP or Analog cameras which are offered in Dome, Box or Fixed configurations for indoor or outdoor environments.

Product Number	Description	
HCD544	TDN, Super Hi Res, Color is Black and White, Body Cam - 1/3in CCD DSP, 540 TVL, 0.3 Lux Color/ 0.1 Lux BW DSS Off/0.001 Lux DSS On, 24VAC Linelock/12VDC, RS485, Moveable IR Cut Filter Digital Noise Reduction, Digital Slow Shutter, Motion/Detection/Privacy	
HCD5MIH	H.264 Indoor / Outdoor 720p Resolution True Day/Night, 1/4in. Progressive scan, CMOS, 24VAC or PoE IEEE 802.3af Class 1,. HBC5WT Wall/Ceiling Mount or HHC12 Environmental housing options, and lens options (sold separately)	
HD3CHS	HD3, Super Hi Res, Color, 3in Mini Dome Cam - (WHITE) Polycarbonate, 540TVL, Surface Mount, 1/3in CCD, 2.8-10.5mm Varifocal Auto-Iris Lens, 0.6 Lux @ F1.2, 3D Axis Gimbal, Clear Dome with Liner, 12VDC/24VAC	
HD3MDIH	H.264 Indoor Mini Dome 720p Resolution True Day/Night, 1/4in Progressive scan, CMOS, 24VAC or PoE IEEE 802.3af Class 1,	

Product Number	Description	
HD3MDIP	True Day/Night Dome Network Camera, 540 TVL, 3.3-12 mm VFAI, 12 VDC/24 VAC or PoE IEEE 802.3af,	
HD4DIRS	Rugged Mini-Dome Camera with Infrared	
HD4MDIH	H.264 Rugged Indoor/Outdoor 720p Resolution True Day/Night, 3.3-12 mm VFAI lens with removable IR cut filter, 1/4in Progressive scan, CMOS, 24VAC or PoE IEEE 802.3af Class 1	
HD4MDIP	True Day/Night Vandal Dome Network Camera, 540 TVL, 3.3-12 mm VFAI, 12 VDC/24 VAC or PoE IEEE 802.3af,	
HD4US	HD4 TDN Ultra Wide Dynamic, Super Hi Res, DPS, Color Mini Dome Cam 690 TVL, Vandal Resistant, 0.4 lux @ F1.5 for true color representation in daytime and black and white at night, 3-D axis gimbal bracket,	
HD50P	Super Hi Res, Color Mini Dome Cam, 600 HTVL, 1/3in CCD Sensor, 3.8 mm Fixed lens, SBLC (Super Back Light Compensation) Vandal Resistant, 12 VDC	
HD51P	Super Hi Res, Color Mini Dome Cam, 600 TVL, 1/3in CCD Sensor, 3.8-9.5 mm VFAI lens, OSD (On Screen Display), Privacy Zone / Mirror Function, Built-in Breather Vent to prevent condensation, Motion Detection, SBLC (Super Back Light Compensation), Digital No	
HD61	IR Std Res, S/W D/N, Mini Dome Cam - 20 LED, Surface Mount, 1/3in Sony Super HAD CCD, 380 TVL, 4-9mm Manual Auto-Iris lens, 12 VDC	
HD73P	Super Hi Res, TDN Mini Dome Cam, 600 TVL, 1/3 Inch CCD Sensor, 3.8 - 9.5 mm VFAI, TDN (True Day/Night -moveable IR Cut Filter) Intelligent IR Technology (Built in LEDs), Privacy Zone / Mirror Function, Motion Detection, SBLC (Super Back Light Compensation	

Product Number	Description	
HDVANDASW	ACUIX ES, In-ceiling mount with Smoke Lower Dome and White Trim Ring. Hi-Resolution Color Camera (>470TVL) and 18X Zoom. OSD, 24 privacy zones, Video over coax, 2 contact inputs	
HDVANSBC	ACUIX ES, Surface mount with Clear Lower Dome. Hi-Resolution Color Camera (>470TVL) and 18X Zoom. OSD, 24 privacy zones, Video over coax and over UTP, 8 contact inputs, can be converted to Pendant mount with HDCM1	
HDXANDDSW	ACUIX IP, In-ceiling mount with Smoked Lower Dome and White Trim Ring. Hi-Resolution Color Camera with Electronic Image Stabilization (>470TVL) and 18X Zoom. Video and Data over TC/IP.	
HDXANPDSW	ACUIX, IP WHITE Indoor Pendant with Smoked Lower Dome and White Trim Ring. Hi-Resolution Color Camera (>470TVL) and 18X Zoom. Video over coax and data over 2-conductor cable OR Video over coax and data by VCL up-the-coax protocol OR Video over UTP and dat	
HDXFNRACW	ACUIX, Outdoor Rugged Pendant with Clear Lower Dome and White Trim Ring. Hi-Resolution Wide Dynamic and True Day/Night Camera (>530TVL) and 26X Zoom. Includes 24Vac Heater and Blower. Video over coax and data over 2-conductor cable OR Video over coax and	
HDXFNRDCW	ACUIX IP, Outdoor Rugged Pendant with Clear Lower Dome and White Trim Ring. Hi-Resolution Wide Dynamic and True Day/Night Camera (>530TVL) and 26X Zoom. Includes 24Vac Heater and Blower. Video and Data over TC/IP. Includes 24Vac Heater and Blower.	
HDXFNWDCW	ACUIX IP, Outdoor Pendant with Clear Lower Dome and White Trim Ring. Hi-Resolution True Day/ Night Camera (>530TVL) and 26X Zoom. Includes 24Vac Heater and Blower. Video and Data over TC/IP. Includes 24Vac Heater and Blower. Does not include Dome mount	
HDXGNWACW	ACUIX, Outdoor Pendant with Clear Lower Dome and White Trim Ring. Hi-Resolution Wide-Dynamic Range and True Day/Night Camera with Electronic Image Stabilization (>540TVL) and 35X Zoom. Includes 24Vac Heater and Blower. Video over coax and data over 2-conductor cable	
HDXGNWDCW	ACUIX IP, Outdoor Pendant with Clear Lower Dome and White Trim Ring. Hi-Resolution Wide-Dynamic Range and True Day/Night Camera with Electronic Image Stabilization (>540TVL) and 35X Zoom. Includes 24Vac Heater and Blower. Video and Data over TC/IP.	
HDXJNDASW	ACUIX, In-ceiling mount with Smoked Lower Dome and White Trim Ring. Hi-Resolution Wide Dynamic and True Day/Night Camera (>530TVL) and 18X Zoom.Video over coax and data over 2-conductor cable OR Video over coax and data by VCL up-the-coax protocol OR V	
HDXJNDDSW	ACUIX IP, In-ceiling mount with Smoked Lower Dome and White Trim Ring. Hi-Resolution Wide Dynamic and True Day/Night Camera (>530TVL) and 18X Zoom.Video and Data over TC/IP.	
HDXJNPASW	ACUIX, WHITE Indoor Pendant with Smoked Lower Dome and White Trim Ring. Hi-Resolution Wide Dynamic and True Day/Night Camera (>530TVL) and 18X Zoom. Video over coax and data over 2-conductor cable OR Video over coax and data by VCL up-the-coax protocol OR	
HDXJNPDSW	ACUIX IP, WHITE Indoor Pendant with Smoked Lower Dome and White Trim Ring. Hi-Resolution Wide Dynamic and True Day/Night Camera (>530TVL) and 18X Zoom. Video and Data over TC/IP.	

Lenses

Honeywell's housings and mounts are the perfect accessories to complete your camera installation, and have been designed to withstand the most demanding indoor and outdoor environments. Today's lens market is rapidly changing from part-time observation (day or night) to round-the-clock surveillance. Honeywell offers a real solution to day and night surveillance applications with its line-up lenses. With Honeywell lens technology, you now have the ability to upgrade or integrate video security systems affordably.

Product Number	Description	
HLD29V8DNL	Day/Night Vari-focal Lens 1/3in 2.9~8mm F/0.95 Aspherical Vari-Focal DC Auto-Iris, CS-Mount	
HLD3V8MPD	3-8 mm High Definition Megapixel Lens	
HLD5V50DNL	Day/Night Vari-focal Lens 1/3in 5~50mm F/1.6 Aspherical Vari-Focal DC Auto Iris, CS-Mount	
HLM45V13MPD	4.5-13.2mm High Definition Megapixel Lens	

Mounts and Video Accessories

Product Number	Description	
HBC5WT	Wall/Ceiling Camera Mount, 5in, White	
HD3-MK1	HD3 Wall/Pendant Mount Kit, gray - for use with HD3CHS	
HDCD8TP	Code Distr bution Unit, RS-485, 2 In and 8 Out TP, can also convert RS-232 to RS-485 and act as a code merger to control the same dome(s) from a RS-232 and RS-485 source. North America	
HDCM1	ACUIX and ACUIX ES Ceiling Mount (Indoor)	
HDH5D	Housing, in ceiling,HD5 bracket, ACUIX fixed	
HDH5PV2	Housing, white pendant	
HDH6BV2	Housing, pendant, stick mount, double knuckle, ACUIX fixed	
HDH6D	Housing, in ceiling, stick mount, double knuckle fixed	
HDH6MT	Stick mount/no housing, double knuckle, ACUIX fixed	
HDPR-PK	Pendant Mount Kit for HD51, HD70 and HD73 only	
HDPRM2	ACUIX - Flat Roof and Parapet Mount (Outdoor)	
HDVWM1	ACUIX ES Indoor wall mount bracket	
HDXCMA1	ACUIX Corner Mount Adapter (Indoor)	
HDXWM2	ACUIX - V2 Wall Mount (Indoor/Outdoor)- New design ACUIX housing only	
HDXWM2B	ACUIX Indoor and Outdoor Wall Mount, Black matte finish	
HJC4000	PTZ and DVR controller, cables and 10.8 to 13.2 VDC, 1A power supply, NTSC	
HJK7000	Programmable joystick keyboard with color touch screen includes 100-240 VAC power supply, RJ45 to DB9F (RS232), RJ45 to DB9M (RS422), RJ45 network cable, RJ11 4x6 r bbon cable.	
HREHD1T0	Rapid Eye Hard Drive in Frame, 1TB, BLANK	
HRMSLIDE	Rapid Eye Slide Kit, Rack mountable Slide Kit for 16 channel units only.	
HRPSARE2EARS	Rapid Eye Rack mount ears	

Power Supplies

Compared to individual plug-in transformers, a multi-camera power supply reduces the overall cost of the installation and does not tie up multiple power outlets. Centralized power distribution also facilitates easy camera synchronization.

Product Number	Description	
HDSP1	Surge Suppression Module for Power 24VAC, Video, and RS-485 Data	
HPT12DC1000	Single Output DC Plug-In Transformer, 12VDC @ 1000mA, Built in thermal protection and UL recognized, Class 2. Output is a 2.1 mm coax plug which is center positive.	
HPT12DC500	Single Output DC Plug-In Transformer, 12VDC @ 500mA, Built in thermal protection and UL recognized, Class 2. Output is a 2.1 mm coax plug which is center positive.	
HPT2420	Single Output AC Plug-In Transformer, 24VAC @ 20VA, Built in thermal protection and UL recognized, Class 2.	
HPT2440	Single Output AC Plug-In Transformer, 24VAC @ 40VA, Built in thermal protection and UL recognized, Class 2.	
HPTV2401WPS	Single Output Power Supply with Surge Suppression for Video and Power. 8A @ 24VAC, NEMA 4 Enclosure	
HPTV2401WPZ	Single Output Power Supply with Surge Suppression for Video, Data and Power. 8A @ 24VAC, NEMA 4 Enclosure	
HPTV2404UL	4 Output Power Supply, 24VAC @ 2.5A each, 4A total, Built in thermal protection, Individually Fused each with LED Indicators. UL Listed	
HPTV2408UL	8 Output Power Supply, 24VAC @ 2.5A each, 4A total, Built in thermal protection, Individually Fused each with LED Indicators. UL Listed	
HPTV2416UL	16 Output Power Supply, 24VAC @ 2.5A each, 8A total, Built in thermal protection, Individually Fused each with LED Indicators. UL Listed	
HPTV3DC04	4 Output Switching Power Supply/Charger, Coverts 115 VAC 60Hz into 6 VDC, 12 VDC @ 3.0 A, or 24 VDC @ 2.5 A, Thermally limited Design, AC and DC Diagnostic LED Indicators.	

WEBs R2 System

WEB R2 Platform Drivers

Product Number	Application	Building Management Interface	Description	Used With
WC2003B1055/U	Controller	WEBs R2	Option to upgrade existing WEB-403 to provide unrestricted connected device limit.	WEB 403 R2
WEB-5-UP-UI/U	Software-Driver	WEBs R2	WEB User Interface for WEB-545 Controller	WEB-545 R2

WEBs R2 Platform - Drivers for Controllers

Product Number	Application	Building Management Interface	Description	Used With
32005192-004/U	Software-Driver	WEBs R2	DDE Driver for WEB controller	WEBs R2 Platform
32005192-006/U	Software-Driver	WEBs R2	Driver for Modbus TCP	WEBs R2 Platform
32005192-007/U	Software-Driver	WEBs R2	Driver for Modbus Server (WEB NP only).	WEBs R2 Platform
32005192-016/U	Software-Driver	WEBs R2	Driver for MSTP BACnet communications via RS-485 port - supports max of 31 BACnet MSTP devices. Note: 27 max. device limit on WEB 403.	WEBs R2 Platform
DRV-A256/U	Software-Driver	WEBs R2	Driver for Andover AC-8 and AC-256	WEBs R2 Platform
DRV-AINF/U	Software-Driver	WEBs R2	Driver for Andover Infinity	WEBs R2 Platform
DRV-APUP/U	Software-Driver	WEBs R2	Driver for American Automatrix	WEBs R2 Platform
DRV-CSD/U	Software-Driver	WEBs R2	Configurable Serial Driver	WEBs R2 Platform
DRV-MCQ/U	Software-Driver	WEBs R2	Driver for McQuay Open Protocol	WEBs R2 Platform
DRV-NOVUS/U	Software-Driver	WEBs R2	Driver for Novus Door Access System	WEBs R2 Platform
DRV-NOVUS-DOOR/U	Software-Driver	WEBs R2	Support for each additional Novus Door	WEBs R2 Platform
DRV-SNMP/U	Software-Driver	WEBs R2	SNMP device driver	WEBs R2 Platform
DRV-SOL/U	Software-Driver	WEBs R2	Driver for Solidyne building controller	WEBs R2 Platform
DRV-TCS/U	Software-Driver	WEBs R2	Driver for TCS-Basys	WEBs R2 Platform
DRV-TLC/U	Software-Driver	WEBs R2	Driver for GE TLC Lighting Panel	WEBs R2 Platform
WEB-U/U	Software-Driver	WEBs R2	Revision Upgrade for WEBs-R2 Controller	WEBs R2 Platform
ZW2002A1009/U	Software-Driver	WEBs R2	Modbus Driver for WEB controller	WEBs R2 Platform

WEBs R2 Platform - Software

Product Number	Application	Building Management Interface	Description
ZW2001A1001/U	Software	WEBs R2	Additional copies of WEBPro Software - per copy

WEBs R2 Platform - Supervisor Software

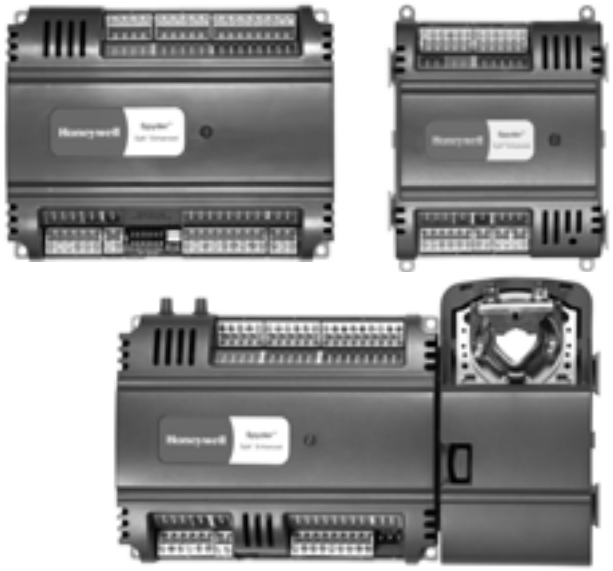
Product Number	Application	Building Management Interface	Description
ZW2000A1003/U	Software	WEBs R2	WEBStation Software WS-1 and first copy of WEBPro Software: for a single JACE
ZW2000B1002/U	Software-Driver	WEBs R2	WEBStation Software; additional node
ZW2000C1001/U	Software	WEBs R2	WEBStation Software and 20 pack of node software keys.
ZW2000D1000/U	Software	WEBs R2	WEBStation Software and 50 pack of node software keys.
ZW2000E1009/U	Software	WEBs R2	WEBStation Software and 100 pack of node software keys.
ZW2000F1008/U	Software	WEBs R2	Master WEBStation Software for monitoring multiple WEB Supervisors.
ZW2000G1007/U	Software-Driver	WEBs R2	N additional Mast WEBStation Software licenses
ZW2003A1007/U	Software-Driver	WEBs R2	BACnet Supervisor, 500 additional point license block.
ZW2003A1023/U	Software	WEBs R2	BACnet Supervisor base software. Includes license for 500 BACnet points.

WEBs R2 Platform - Drivers for Supervisors

Product Number	Application	Building Management Interface	Description	Used With
32005192-012/U	Software-Driver	WEBs R2	License for an additional client for the WEBs R2 Alarm Service.	WEBs R2 Platform
32005192-015/U	Software-Driver	WEBs R2	Proteus Alarm Service for Eagle Maintenance Management Software. Runs on any WEBs R2 Supervisor.	WEBs R2 Platform
32005192-017/U	Software-Driver	WEBs R2	SQL Driver for Web Supervisor, OPC Supervisor or BACnet Supervisor. Does not include MS SQL Server Software.	WEBs R2 Platform
32005192-021/U	Software-Driver	WEBs R2	Tenant Billing Service. Runs on any Web Supervisor.	WEBs R2 Platform
WS-MTCP-500/U	Software-Driver	WEBs R2	Modbus 500 Point Addition	WEBs R2 Platform
WS-OPC-500/U	Software-Driver	WEBs R2	OPC 500 Point Addition	WEBs R2 Platform
WS-ORCL/U	Software-Driver	WEBs R2	Oracle Driver	WEBs R2 Platform
WS-OSD/U	Software-Driver	WEBs R2	Open System Driver	WEBs R2 Platform
WS-SNMP-500/U	Software-Driver	WEBs R2	SNMP 500 Point Addition	WEBs R2 Platform

Spyder Controllers

Spyder Programmable Controllers



The Spyder Family of controllers are for use in VAV (Variable Air Volume) and Unitary HVAC control applications. Each controller communicates via either LONWORKS® or BACnet MS/TP network communications. Each controller provides flexible, universal inputs (UI) for external sensors, digital inputs (DI), and a combination of analog outputs (AO) and digital Triac outputs (DO). The Sylk Bus is included in each controller which enables connection to other Sylk enabled devices. These controllers provide many options and advanced system features that allow state-of-the-art commercial building control. Each controller is programmable and configurable using the NIAGARA AX FRAMEWORK® software.

Dimensions, Approximate: 5.45 in. high x 6.85 in. wide x 2.26 in. deep (138.4 mm high x 174 mm wide x 57.4 mm deep)
Application Size: Small to Large
Commissioning Software: WEBs AX
Voltage: 24 Vac with a valid range of 20 to 30 Vac
Frequency: 50 Hz; 60 Hz
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Setpoint Temperature Range: Programmable
Operating Temperature Range: -40 F to 150 F (-40 C to 65.5 C)
Shipping Temperature Range: -40 F to 150 F (-40 C to 65.5 C)
Compatible with: WEBs AX

Comments: Onboard 20 VDC power supply
Approvals
Canadian Standards Association: Certified
CE: Approved
Federal Communications Commission: FCC Part 15, Subpart B, Class B
Underwriters Laboratories, Inc: UL 916

Accessories:
TR70-Zio LCD Wall Module (Temperature)
TR70-H-Zio LCD Wall Module (Temperature & Humidity)

Product Number	Description	Network Communications	I/O Count	Power Consumption	Output Type	Includes
PUB1012S-ILC/U	Spyder ILC Programmable Unitary Controller	BACnet MS/TP	1 UI, 0 DI, 1 AO, 2 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUB1012S/U	Spyder Programmable Unitary Controller	BACnet MS/TP	1 UI, 0 DI, 1 AO, 2 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUB4024S-ILC/U	Spyder ILC Programmable Unitary Controller	BACnet MS/TP	4 UI, 0 DI, 2 AO, 4 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUB4024S/U	Spyder Programmable Unitary Controller	BACnet MS/TP	4 UI, 0 DI, 2 AO, 4 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUB6438S-ILC-US/U	Spyder ILC Programmable Unitary Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUB6438S-ILC/U	Spyder ILC Programmable Unitary Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUB6438S/U	Spyder Programmable Unitary Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUB6438SR	Spyder Programmable Unitary Controller	BACnet	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Relay DO's, Staged On/Off	—
PUB6438SR-ILC	Spyder ILC Programmable Unitary Controller	BACnet	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Relay DO's, Staged On/Off	—
PUL1012S-ILC/U	Spyder ILC Programmable Unitary Controller	LonWorks	1 UI, 0 DI, 1 AO, 2 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUL1012S/U	Spyder Programmable Unitary Controller	LonWorks	1 UI, 0 DI, 1 AO, 2 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUL4024S-ILC/U	Spyder ILC Programmable Unitary Controller	LonWorks	4 UI, 0 DI, 2 AO, 4 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUL4024S/U	Spyder Programmable Unitary Controller	LonWorks	4 UI, 0 DI, 2 AO, 4 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUL6438S-ILC/U	Spyder ILC Programmable Unitary Controller	LonWorks	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—

Product Number	Description	Network Communications	I/O Count	Power Consumption	Output Type	Includes
PUL6438S/U	Spyder Programmable Unitary Controller	LonWorks	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	—
PUL6438SR	Spyder Programmable Unitary Controller	LonWorks	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Relay DO's, Staged On/Off	—
PUL6438SR-ILC	Spyder ILC Programmable Unitary Controller	LonWorks	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Relay DO's, Staged On/Off	—
PVB6436AS-ILC-US/U	Spyder ILC Programmable VAV Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 6 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVB6436AS-ILC/U	Spyder ILC Programmable VAV Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 6 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVB6436AS/U	Spyder Programmable VAV Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 6 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVB6438NS-ILC-US/U	Spyder ILC Programmable VAV Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	Onboard Pressure Sensor
PVB6438NS-ILC/U	Spyder ILC Programmable VAV Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	Onboard Pressure Sensor
PVB6438NS/U	Spyder Programmable VAV Controller	BACnet MS/TP	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	Onboard Pressure Sensor
PVL0000AS-ILC/U	Spyder ILC Programmable VAV Controller	LonWorks	0 UI, 0 DI, 0 AO, 0 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVL0000AS/U	Spyder Programmable VAV Controller	LonWorks	0 UI, 0 DI, 0 AO, 0 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVL4022AS-ILC/U	Spyder ILC Programmable VAV Controller	LonWorks	4 UI, 0 DI, 2 AO, 2 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVL4022AS/U	Spyder Programmable VAV Controller	LonWorks	4 UI, 0 DI, 2 AO, 2 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVL4024NS-ILC/U	Spyder ILC Programmable VAV Controller	LonWorks	4 UI, 0 DI, 2 AO, 4 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	Onboard Pressure Sensor
PVL4024NS/U	Spyder Programmable VAV Controller	LonWorks	4 UI, 0 DI, 2 AO, 4 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	Onboard Pressure Sensor
PVL6436AS-ILC-US/U	Spyder ILC Programmable VAV Controller	LonWorks	6 UI, 4 DI, 3 AO, 6 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVL6436AS-ILC/U	Spyder ILC Programmable VAV Controller	LonWorks	6 UI, 4 DI, 3 AO, 6 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVL6436AS/U	Spyder Programmable VAV Controller	LonWorks	6 UI, 4 DI, 3 AO, 6 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	Integrated Actuator and Pressure Sensor
PVL6438NS-ILC-US/U	Spyder ILC Programmable VAV Controller	LonWorks	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	Onboard Pressure Sensor
PVL6438NS-ILC/U	Spyder ILC Programmable VAV Controller	LonWorks	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	Onboard Pressure Sensor
PVL6438NS/U	Spyder Programmable VAV Controller	LonWorks	6 UI, 4 DI, 3 AO, 8 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	Onboard Pressure Sensor

Spyder Accessories

Accessories for Spyder Controllers

Dimensions, Approximate: 7.20 in. high x 7.48 in. wide x 2.30 in. deep (183 mm high x 190 mm wide x 58 mm deep)

Product Number	Description	Used With
WB10707/U	Spyder Micro Wiring Box (must be ordered in multiple of 10)	Spyder Micro

Stryker Controllers

Stryker Configurable Controllers

The CVL4022AS-VAV1 and CVL4024NS-VAV1 controllers are part of the Stryker family. The controllers are Free Topology Transceiver (FTT) LONMARK®-certified devices designed to control HVAC equipment. These controllers provide many options and advanced system features that allow state-of-the-art commercial building control. Each controller is configurable using the NIAGARA FRAMEWORK® software.

The Stryker controllers require the Stryker Feature to be licensed in the WEBpro workbench tool and the WEBS AX JACE Controller for programming and downloading any brand of the Niagara Workbench or JACE controller.

Dimensions, Approximate: 6.27 in. high x 8.27 in. wide x 2.26 in. deep (159 mm high x 211 mm wide x 57 deep)
Application: Variable Air Volume
Application Size: Small to Large
Building Management Interface: WEBs AX
Commissioning Software: WEBs AX
Voltage: 24 Vac with a valid range of 20 to 30 Vac
Frequency: 50 Hz; 60 Hz
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Setpoint Temperature Range: Programmable
Shipping Temperature Range: -40 F to 150 F (-40 C to 65.5 C)
Compatible with: WEBs AX

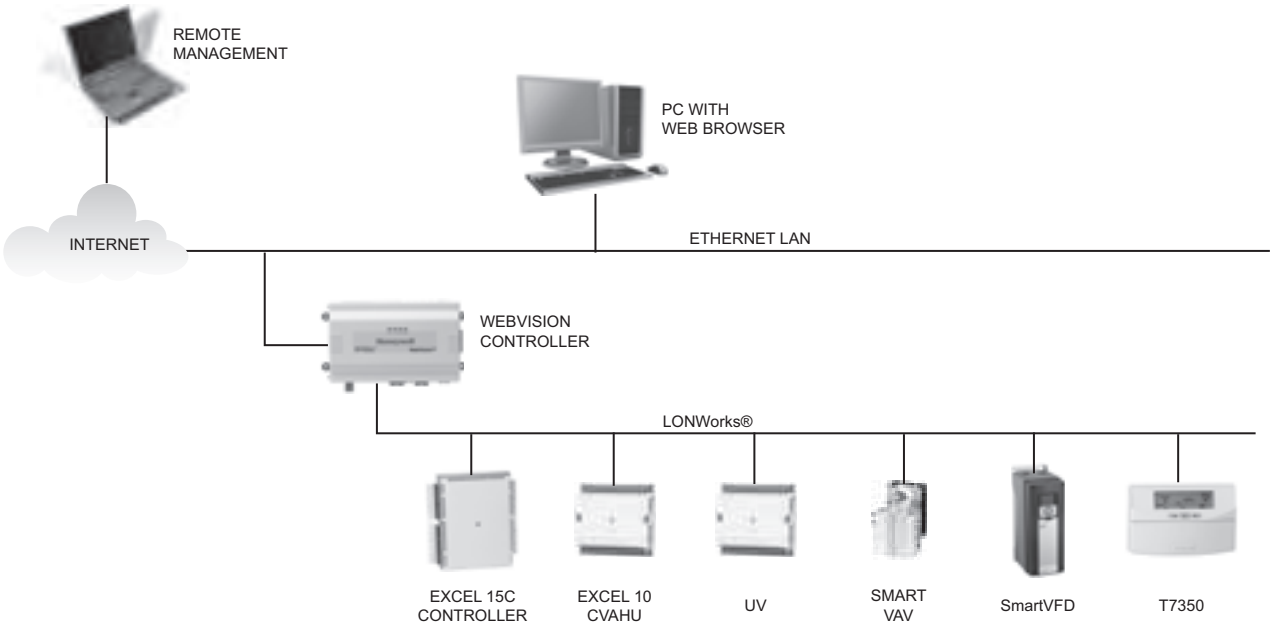
The controllers are for use in VAV (Variable Air Volume) control applications. Each controller contains a host micro controller to run the main HVAC application and a second micro controller for LONWORKS® network communications. Each controller provides flexible, universal inputs for external sensors, digital inputs, and a combination of analog outputs and digital Triac outputs.

- Uses the Echelon® LONWORKS® network protocol.
- Free Topology Transceiver (FTT) high-speed 78 kilobit communications network.
- Capable of stand-alone operation, but can also use LONWORKS® Bus network communications.
- Sylk™ bus for use with Sylk-enabled sensors.
- 120 controllers per Q7751A,B Router when configured as a repeater.
- Field configurable for control, input, and output functions using the NIAGARA FRAMEWORK® software.
- Built-in Zone Control functions include a remote wall module interface and a scheduler.
- Pressure-independent or pressure-dependent single Variable Air Volume (VAV) control.
- Microbridge air flow sensor with dual integral restrictor design.
- Easy user access to air flow sensor inputs.
- Actuator (CVL4022AS-VAV1 only) mounts directly onto VAV box damper shaft and has up to 44 lb-in. (5 Nm) torque, 90-degree stroke, and 90 second timing at 60 Hz.
- All wiring connections are made to removable terminal blocks to simplify controller installation and replacement.
- Both controller housing and actuator are UL plenum rated.

Comments: Onboard 20 VDC power supply
Approvals
Canadian Standards Association: Certified
CE: Approved
Federal Communications Commission: FCC Part 15, Subpart B, Class B
Underwriters Laboratories, Inc: UL 916

Accessories:
TR70-Zio LCD Wall Module (Temperature)
TR70-H-Zio LCD Wall Module (Temperature & Humidity)

Product Number	Description	Network Communications	I/O Count	Power Consumption	Output Type	Operating Temperature Range (F)	Operating Temperature Range (C)	Includes
CVL4022AS-VAV1/U	Stryker Configurable VAV with Actuator	LonWorks	4 UI, 0 DI, 2 AO, 2 DO	9 VA	Pulse Width Modulation, Floating, Staged On/Off	32 F to 122 F	0 C to 50 C	Integrated Actuator and Pressure Sensor
CVL4024NS-VAV1/U	Stryker Configurable VAV without Actuator	LonWorks	4 UI, 0 DI, 2 AO, 4 DO	5 VA	Pulse Width Modulation, Floating, Staged On/Off	32 F to 122 F	0 C to 50 C	Onboard Pressure Sensor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CONTROLLER
EXCEL 10
CVAHU
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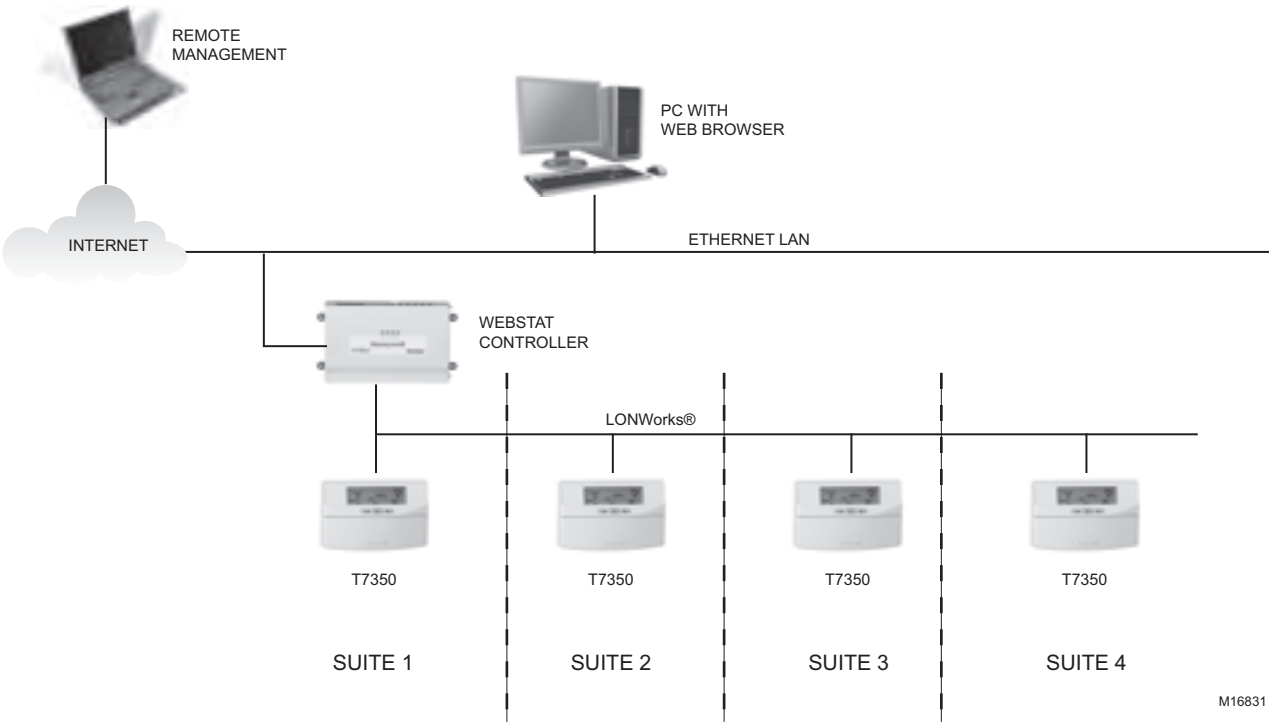
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Building Automation Appliances

WebStat Controller

WebStat allows you to step up from standalone thermostat control to the automated T7350 communicating thermostat platform without incurring any excessive direct digital control (DDC) cost or complexity. Automation features include web control, alarming, trending, scheduling, network accessibility, and floor plans. Operational savings are enabled by remote monitoring, alarming, floor plan visuals and thermostat assignment privileges for tenants, facility managers and contractors. WebStat keeps control simple by allowing Internet accessibility and flexibility for assigning user privileges.

- Remote Monitoring
- Remote Programming
- Up to 20 T7350H Thermostats
- Plug-and-Play Setup
- Universal Programming, Commissioning and Graphics Tool
- Alarm Email Notification
- Trending
- Thermostat Self-Discovery
- Wiring Diagram Generation Tool

Dimensions, Approximate: 6 3/8 in. wide x 4 7/64 in. high x 2.5 in. deep (16.2 cm wide x 10.5 cm high x 6.4 cm deep)
Application: Controller
Application Size: Up to 20 T7350H Thermostats with free software upgrade
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: 32 F to 140 F (0 C to 60 C)
Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment
CE: Approved
Federal Communications Commission: FCC part 15 Class A
Underwriters Laboratories, Inc: UL 916, cUL listed

Product Number	Description	Network Communications	Commissioning Software	Used With	Compatible with:	Includes
W7350A1000/U	WebStat Controller	LonWorks	WebStat	LonWorks bus	T7350H Communicating Thermostats	Lon Card and Power Supply

WebVision Controller

WebVision is a low cost building manager with remote monitoring and programming that allows complete HVAC system management from a single interface. It is a step-up from WebStat to extend the scope beyond automated T7350 communicating thermostats to support HVAC zone and unitary controllers. It also adds several new features such as Demand Limit Control (DLC) for energy savings. Without incurring any excessive direct digital control (DDC) cost or complexity, WebVision offers operational savings by Internet accessibility, remote monitoring, alarming, and device assignment privileges for tenants, facility managers and contractors.

- Web-based monitoring, control, commissioning and programming of up to 120 LON devices
- Easy installation (plug-and-play setup) of embedded software
- Single universal tool for device configuration and customization of graphics
- Alarms, Schedules and Trends to completely manage building automation system
- Demand Limit Control (DLC) and VAV Balancing
- Different user profiles - Contractor, Facility Manager and Tenant to give customized access

Dimensions, Approximate: 6 3/8 in. wide x 4 7/64 in. high x 2.5 in. deep (16.2 cm wide x 10.5 cm high x 6.4 cm deep)
Application: Building Automation Appliance; Controller
Application Size: Up to 120 LON devices, including EXCEL 10s, EXCEL 15C, T7350, and VFDs
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: 32 F to 140 F (0 C to 60 C)
Approvals
Canadian Standards Association: CSA C22.2 No. 205-M1983 Signal Equipment
CE: Approved
Federal Communications Commission: FCC part 15 Class A
Underwriters Laboratories, Inc: UL 916, cUL listed

Product Number	Description	Network Communications	Commissioning Software	Used With	Compatible with:	Includes
WWS-VL1A1000/U	WebVision Controller	LonWorks	WebVision	LonWorks bus	Excel 10s; Excel 15C; T7350H Communicating Thermostats;	Pre-installed LON card and Power Supply

Lighting Stryker Configurable Lighting Controllers

Lighting Stryker incorporates line voltage switching with low-voltage control and integration to building automation systems. System can be set up as a standalone lighting control network or integrated to HVAC, security, video and other building automation systems. Easily integrates with a Honeywell Building Automation interface for remote monitoring and control of lighting systems.

Application: Pre-programmed low voltage lighting control device designed to accept inputs from occupancy/vacancy sensors, switches, photocells and BACnet® network, switches drive 0-10 volt dimming and BACnet/WEBs AX network to drive line voltage relays and 0-10 volt dimming for energy efficient lighting systems. Configurable through TR75 Zio.
Application Size: Small to Large
Building Management Interface: WEBs AX, TR75 Zio
Comments: Onboard 20 VDC power supply
Compatible With: BACnet, WEBs AX, Standalone
Network Communications: BACnet
Voltage: 24 Vac with a valid range of 20 to 30 Vac
Power Consumption: 5 VA
Frequency: 50 Hz; 60 Hz

⚠ WARNING

Do not connect Line Voltage to this device
This is a low voltage device designed to send and receive low voltage signals to relays and 0-10V dimming inputs for lighting control.

⚠ WARNING

Always keep LINE and LOW voltage physically separated

Dimensions, approximate: 5.45 in. high x 6.85 in. wide x 2.26 in. deep (138.4 mm high x 174 mm wide x 57.4 mm deep)
Operating Temperature Range: -40 F to 150 F (-40 C to 65.5 C)
Shipping and Storage Temperature Range: -40 F to 150 F (-40 C to 65.5 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing

Approvals
Underwriters Laboratories Inc. UL 916
Canadian Standards Association: Certified
Federal Communications Commission: FCC Part 15, Subpart B, Class B
CE: Approved

Product Number	Description	Includes	Output Type	Commissioning Software
CLB6438S	Lighting Stryker Programmable Lighting Control - BACnet	—	Pulse Width Modulation, Floating, Staged On/Off	Through TR75
YCLB6438S-1	Lighting Stryker Programmable Lighting Control - BACnet with TR75 Configuration/Scene Selection Device	TR75 Zio Plus Configuration/Scene Selection Device	Pulse Width Modulation, Floating, Staged On/Off	Built-In Through TR75

Lighting Controls

Lighting Sensors and Switches

Lighting sensors and switches use presence detection and photocells to ensure lights are not left burning in vacated areas and that lights are off in areas where there is already plenty of natural light. Sensors can be installed as a standalone solution or as part of an integrated lighting control system using the Honeywell Lighting Stryker.

Application: Low Voltage Sensors for Integrated Lighting Control Systems

Product Number	Voltage	Description	Includes
LOSCDT1000RWH	24V	Wired Occupancy Sensor - Dual Technology Self-Adaptive 24V With Relay	Relay
ECDIRWH	24V	Integrated Wired Daylight Sensor - 24V	—
PP120H	120V	Power Pack (for occupancy/vacancy sensors) 120V	—
PP277H	277V	Power Pack (for occupancy/vacancy sensors) 277V	—

Standalone Wireless Sensor Options

Product Number	Application	Voltage	Comments	Description
CLMRF28SDVWH	Wireless, Standalone Sensors	120V - 277V	No Neutral Wire required	Wireless Wall Box Light Switch 120-277V - No Neutral Wire Required
CLMRF26ANSWH	Wireless, Standalone Sensors	120V	—	Wireless Wall Box Light Switch 120V
CLMRF26ANS277WH	Wireless, Standalone Sensors	277V	—	Wireless Wall Box Light Switch 277V
CLLRF2OCR2BPWH	Wireless, Standalone Sensors	—	—	Wireless PIR Ceiling Mount Occupancy/ Vacancy Sensor
CLLRF2VCR2BPWH	Wireless, Standalone Sensors	—	CA Title 24 Compliant	Wireless Ceiling Mount Vacancy Sensor CA Title 24 Compliant
CLLRF2DCRBWH	Wireless, Standalone Daylight Sensors	—	—	Wireless Ceiling Mount Daylight Sensor
CLRMJCCO124B	Wireless, Standalone Sensor Power pack	24V	—	Wireless Power Pack Contact Closure Output Low Voltage 24V Input
CLRMJ16RCCO1DVB	Wireless, Standalone Sensor Power pack	120V - 277V	—	Wireless Power Pack General Purpose Switch 120V/277V

Standalone Wall Box Occupancy/Vacancy Sensor

Product Number	Application	Voltage	Comment	Description
CLMSOPS6MDVWH	Line Voltage Standalone Sensors	120V and 277V	Dual Voltage for 3A fan	Wall Box Switch with PIR Occupancy/Vacancy Sensor 120V/277V Dual Voltage for 3A Fan
CLMSVPS6MDVWH	Line Voltage Standalone Sensors	120V and 277V	Dual Voltage for 3A fan; CA Title 24 Compliant	Wall Box Switch with Vacancy Sensor 120V/277V Dual Voltage for 3A Fan - CA Title 24 Compliant
CLMSOP600MWH	Line Voltage Standalone Sensors	120V - 277V	—	Wall Box PIR Occupancy/Vacancy Sensor/Switch 120 - 277V and Dimmer
CLMSVP600MWH	Line Voltage Standalone Sensors	120V - 277V	CA Title 24 Compliant	Wall Box PIR Occupancy/Vacancy Sensor/Switch 120 - 277V and Dimmer CA Title 24 Compliant
CW1WH	Wallplate	—	—	1-Gang Wallplate

Industrial LED-Strip Fixture

- High-intensity LEDs
- Choice of multiple color temperatures for a variety of applications
- 2ft or 4ft versions available
- Direct replacement for T8 or T12 fluorescent strip luminaires
- Solid-state, modular construction with zero mercury
- Designed with polarized end caps for safe, easy installation
- Direct light distr bution to enhance efficiency, comfort and safety
- International certification including UL, PSE, CE, VDE & CCC
- 50,000 hour lamp life
- 5-year limited warranty
- ± 30-degree directional allocation of light, providing greater coverage
- Energy savings, long life and reduced maintenance cost
- External LED drivers for safety, heat dissipation and longer life

The Honeywell Strip LED Lighting Luminaire is a robust LED lighting fixture for surface mounting. The casing is formed from 1mm Zintec steel, making the battens lightweight and easy to fit. Available in varying lengths.

Beam Angle: Adjustable 120 ±30
Input Voltage: 120V - 277V
Lumen Maintenance: 98% @ 5,000 hrs
Lamp Life (hours): 50,000 hrs (Rated - 30% Depreciation @ 50,000 hrs)
Color Rendering Index: >80
Tube Diameter: 1.172 in
Base: Medium Bi-Pin (G13)

Power Factor: > 0.97
Comments: Industrial Strips
Operating Temperature Range: -4 F to 113 F (-20 C to 45 C)
Materials: Housing – steel, Lamp tube – glass/plastic
Warranty: 5 Years
Approvals
Underwriters Laboratories, Inc: cULus Listed

Product Number	Length		Lamps	Color Temperature (K)	Lumen Output (lm)	Nominal Watts
	ft	mm				
HLED1005	2 ft	609.6 mm	2 lamps	3500K	1251 lm	20W
HLED1006	2 ft	609.6 mm	2 lamps	4100K	1278 lm	20W
HLED1007	2 ft	609.6 mm	2 lamps	5000K	1302 lm	20W
HLED1009	4 ft	1219.2 mm	1 lamp	3500K	>1100 lm	18W
HLED1010	4 ft	1219.2 mm	1 lamp	4100K	>1100 lm	18W
HLED1011	4 ft	1219.2 mm	1 lamp	5000K	>1100 lm	18W
HLED1014	4 ft	1219.2 mm	2 lamps	3500K	2247 lm	36W
HLED1015	4 ft	1219.2 mm	2 lamps	4100K	2362 lm	36W
HLED1016	4 ft	1219.2 mm	2 lamps	5000K	2481 lm	36W

Industrial LED-Surface Wrap Fixture

Honeywell Surface Wrap LED Lighting Luminaire protects and diffuses the LED lamps for lighting of general areas. The Surface Wrap Luminaire resists dust and insects and the diffuser is manufactured in flame retardant acrylic. The 1.0 mm bright steel casing is electrostatic powder coated ensuring environmental durability.

- Diffused lighting
- 2ft or 4ft versions available
- Choice of multiple color temperatures for a variety of applications
- Direct replacement for T8 or T12 fluorescent wrap luminaires
- Solid-state, modular construction with zero mercury
- Designed with polarized end caps for safe, easy installation
- Direct light distr bution to enhance efficiency, comfort and safety
- 50,000 hour lamp life
- 5-year limited warranty
- ±30-degree directional allocation of light, providing greater coverage
- Energy savings, long life and reduced maintenance cost
- External LED drivers for safety, heat dissipation and longer life

Beam Angle: Adjustable 120 ±30
Input Voltage: 120V - 277V
Lumen Maintenance: 98% @ 5,000 hrs
Lamp Life (hours): 50,000 hrs (Rated - 30% Depreciation @ 50,000 hrs)
Color Rendering Index: >80
Tube Diameter: 1.172 in
Power Factor: > 0.97

Comments: Surface Wraps
Operating Temperature Range: -4 F to 113 F (-20 C to 45 C)
Materials: Housing – steel, Lamp tube – glass/plastic
Warranty: 5 Years
Approvals
Underwriters Laboratories, Inc : cULus Listed

Product Number	Length		Lamps	Color Temperature (K)	Lumen Output (lm)	Nominal Watts
	ft	mm				
HLED1061	4 ft	1219.2 mm	2 lamps	3500K	2241 lm	36W
HLED1062	4 ft	1219.2 mm	2 lamps	4100K	2247 lm	36W
HLED1063	4 ft	1219.2 mm	2 lamps	5000K	2320 lm	36W

LED Lighting

Industrial LED-Vapor Tight Fixture

Designed for areas where protection from dust and water is essential, the Vapor Tight Honeywell LED Lighting Luminaire is rated to IP67. This lighting is typically used in garages and parking lots, commercial catering, food factory environments, and many other industrial areas. Manufactured in high-strength polycarbonate with a white finish, with a reeded polycarbonate standard diffuser.

- IP67 rated dust proof and waterproof
- Choice of multiple color temperatures for a variety of applications
- Direct replacement for T8 or T12 fluorescent vapor tight or wet location luminaires
- Solid-state, modular construction with zero mercury
- Designed with polarized end caps for safe, easy installation
- Direct light distribution to enhance efficiency, comfort and safety
- 50,000 hour lamp life
- 5-year limited warranty
- ±30 degree directional allocation of light, providing greater coverage
- Energy savings, long life and reduced maintenance cost

Beam Angle: Adjustable 120° ±30°
Input Voltage: 120V - 277V
Lumen Maintenance: 98% @ 5,000 hrs
Lamp Life (hours): 50,000 hrs (Rated - 30% Depreciation @ 50,000 hrs)
Color Rendering Index: >80
Tube Diameter: 1.172 in
Power Factor: > 0.97

Operating Temperature Range: -4 F to 113 F (-20 C to 45 C)
Materials: Housing – plastic, Lamp tray – steel, Lamp tube – glass/ plastic
Warranty: 5 Years

Approvals
Underwriters Laboratories, Inc : cULus Listed

Product Number	Length		Lamps	Color Temperature (K)	Lumen Output (lm)	Nominal Watts	Includes
	ft	mm					
HLED1032	4 ft	1219.2 mm	1 Lamp	3500K	>1100 lm	18W	—
HLED1032OCC	4 ft	1219.2 mm	1 Lamp	3500K	>1100 lm	18W	Occupancy sensor
HLED1032SS	4 ft	1219.2 mm	1 Lamp	3500K	>1100 lm	18W	Stainless Steel Clips
HLED1033	4 ft	1219.2 mm	1 Lamp	4100K	>1100 lm	18W	—
HLED1033OCC	4 ft	1219.2 mm	1 Lamp	4100K	>1100 lm	18W	Occupancy sensor
HLED1033SS	4 ft	1219.2 mm	1 Lamp	4100K	>1100 lm	18W	Stainless Steel Clips
HLED1034	4 ft	1219.2 mm	1 Lamp	5000K	>1100 lm	18W	—
HLED1034OCC	4 ft	1219.2 mm	1 Lamp	5000K	>1100 lm	18W	Occupancy sensor
HLED1034SS	4 ft	1219.2 mm	1 Lamp	5000K	>1100 lm	18W	Stainless Steel Clips
HLED1036	4 ft	1219.2 mm	2 Lamps	3500K	2174 lm	36W	—
HLED1036OCC	4 ft	1219.2 mm	2 Lamps	3500K	2174 lm	36W	Occupancy sensor
HLED1036SS	4 ft	1219.2 mm	2 Lamps	3500K	2174 lm	36W	Stainless Steel Clips
HLED1037	4 ft	1219.2 mm	2 Lamps	4100K	2188 lm	36W	—
HLED1037OCC	4 ft	1219.2 mm	2 Lamps	4100K	2188 lm	36W	Occupancy sensor
HLED1037SS	4 ft	1219.2 mm	2 Lamps	4100K	2188 lm	36W	Stainless Steel Clips
HLED1038	4 ft	1219.2 mm	2 Lamps	5000K	2217 lm	36W	—
HLED1038OCC	4 ft	1219.2 mm	2 Lamps	5000K	2217 lm	36W	Occupancy sensor
HLED1038SS	4 ft	1219.2 mm	2 Lamps	5000K	2217 lm	36W	Stainless Steel Clips

Honeywell Durafit LED - Retrofit Kits

- High-Intensity, Dimmable LEDs (0 - 10 V or Lutron EcoSystem®)
- A choice of color temperatures – 3000K (warm white), 3500K (soft white), 4000K (white), 5000K (daylight) – for a variety of applications
- 10W, 18W and 23W power ratings
- 2 ft & 4 ft lengths available in 1-, 2-, 3- and 4-lamp retrofit kits
- Direct replacement for T8 or T12 fluorescent lamps when used with Honeywell or Lutron EcoSystem® external LED drivers
- Choice of 0-10V or Lutron EcoSystem® dimming
- Solid-state, modular construction with zero mercury
- Designed with polarized end caps for safe, easy installation
- Direct light distr bution to enhance efficiency, comfort and safety
- International certification including UL, PSE, CE, VDE & CCC
- 50,000 hour lamp life
- 5-year limited warranty
- Energy savings, long life and reduced maintenance cost
- External drivers for advanced features including 0-10V and Lutron EcoSystem® dimming & improved thermal management

Honeywell Durafit LED Retrofit Kits are designed to convert a standard 2- or 4-foot fluorescent lighting fixture into a more efficient, longer-lasting LED lighting fixture.

Saving energy of up to 50% is just one of the many benefits of Honeywell Durafit LED Retrofit kits. They also cut replacement and maintenance costs through their long service life. The mercury-free design helps protect the environment and reduce disposal costs.

Input Voltage: 120V - 277V
Lumen Maintenance: 98% @ 5,000 hrs
Lamp Life (hours): 50,000 hrs (Rated - 30% Depreciation @ 50,000 hrs)
Color Rendering Index: >80
Tube Diameter: T9 - 1.125 in
Base: Medium Bi-Pin (G13)
Power Factor: > 0.97

Operating Temperature Range: -4 F to 113 F (-20 C to 45 C)
Materials: Lamp Tube – UV Stabilized Polycarbonate/Aluminum
Warranty: 5 Years
Used With: Honeywell LED Driver 0-10V Dimming
Approvals
Underwriters Laboratories, Inc : cULus Listed

Product Number	Length ft	Length mm	Lamps	Color Temperature (K)	Nominal Watts	Used With
HLEDRL121830H30	2 ft	609.6 mm	1 Lamp	3000K	10W	Honeywell LED Driver 0-10V Dimming 300mA
HLEDRL121835H30	2 ft	609.6 mm	1 Lamp	3500K	10W	Honeywell LED Driver 0-10V Dimming 300mA
HLEDRL121850H30	2 ft	609.6 mm	1 Lamp	5000K	10W	Honeywell LED Driver 0-10V Dimming 300mA
HLEDRL121840H30	2 ft	609.6 mm	1 Lamp	4000K	10W	Honeywell LED Driver 0-10V Dimming 300mA
HLEDRL122830H30	2 ft	609.6 mm	2 Lamps	3000K	20W	Honeywell LED Driver 0-10V Dimming 300mA
HLEDRL122835H30	2 ft	609.6 mm	2 Lamps	3500K	20W	Honeywell LED Driver 0-10V Dimming 300mA
HLEDRL122840H30	2 ft	609.6 mm	2 Lamps	4000K	20W	Honeywell LED Driver 0-10V Dimming 300mA
HLEDRL122850H30	2 ft	609.6 mm	2 Lamps	5000K	20W	Honeywell LED Driver 0-10V Dimming 300mA
HLEDRL141830H54	4 ft	1219.2 mm	1 Lamp	3000K	18W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL141830H72	4 ft	1219.2 mm	1 Lamp	3000K	25W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL141835H54	4 ft	1219.2 mm	1 Lamp	3500K	18W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL141835H72	4 ft	1219.2 mm	1 Lamp	3500K	25W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL141840H54	4 ft	1219.2 mm	1 Lamp	4000K	18W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL141840H72	4 ft	1219.2 mm	1 Lamp	4000K	25W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL141850H54	4 ft	1219.2 mm	1 Lamp	5000K	18W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL141850H72	4 ft	1219.2 mm	1 Lamp	5000K	25W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL142830H54	4 ft	1219.2 mm	2 Lamps	3000K	36W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL142830H72	4 ft	1219.2 mm	2 Lamps	3000K	50W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL142835H54	4 ft	1219.2 mm	2 Lamps	3500K	36W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL142835H72	4 ft	1219.2 mm	2 Lamps	3500K	50W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL142840H54	4 ft	1219.2 mm	2 Lamps	4000K	36W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL142840H72	4 ft	1219.2 mm	2 Lamps	4000K	50W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL142850H54	4 ft	1219.2 mm	2 Lamps	5000K	36W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL142850H72	4 ft	1219.2 mm	2 Lamps	5000K	50W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL143830H54	4 ft	1219.2 mm	3 Lamps	3000K	54W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL143830H72	4 ft	1219.2 mm	3 Lamps	3000K	75W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL143835H54	4 ft	1219.2 mm	3 Lamps	3500K	54W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL143835H72	4 ft	1219.2 mm	3 Lamps	3500K	75W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL143840H54	4 ft	1219.2 mm	3 Lamps	4000K	54W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL143840H72	4 ft	1219.2 mm	3 Lamps	4000K	75W	Honeywell LED Driver 0-10V Dimming 720mA

LED Lighting

Product Number	Length		Lamps	Color Temperature (K)	Nominal Watts	Used With
	ft	mm				
HLEDRL143850H54	4 ft	1219.2 mm	3 Lamps	5000K	54W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL143850H72	4 ft	1219.2 mm	3 Lamps	5000K	75W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL144830H54	4 ft	1219.2 mm	4 Lamps	3000K	72W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL144830H72	4 ft	1219.2 mm	4 Lamps	3000K	100W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL144835H54	4 ft	1219.2 mm	4 Lamps	3500K	72W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL144835H72	4 ft	1219.2 mm	4 Lamps	3500K	100W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL144840H54	4 ft	1219.2 mm	4 Lamps	4000K	72W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL144840H72	4 ft	1219.2 mm	4 Lamps	4000K	100W	Honeywell LED Driver 0-10V Dimming 720mA
HLEDRL144850H54	4 ft	1219.2 mm	4 Lamps	5000K	72W	Honeywell LED Driver 0-10V Dimming 540mA
HLEDRL144850H72	4 ft	1219.2 mm	4 Lamps	5000K	100W	Honeywell LED Driver 0-10V Dimming 720mA

Honeywell Durafit LED with Lutron 3D Ecosystem Driver

Input Voltage: 120V - 277V
Lumen Maintenance: 98% @ 5,000 hrs
Lamp Life (hours): 50,000 hrs (Rated - 30% Depreciation @ 50,000 hrs)
Color Rendering Index: >80
Tube Diameter: T9 - 1.125 in
Base: Medium Bi-Pin (G13)
Power Factor: > 0.97
Operating Temperature Range: -4 F to 113 F (-20 C to 45 C)
Materials: Lamp Tube – UV Stabilized Polycarbonate/Aluminum
Warranty: 5 Years
Used With: Lutron 3D EcoSystem LED Driver
Approvals
Underwriters Laboratories, Inc : cULus Listed

Product Number	Length		Lamps	Color Temperature (K)	Nominal Watts
	ft	mm			
HLEDRL121830L3D	2 ft	609.6 mm	1 Lamp	3000K	10W
HLEDRL121835L3D	2 ft	609.6 mm	1 Lamp	3500K	10W
HLEDRL121840L3D	2 ft	609.6 mm	1 Lamp	4000K	10W
HLEDRL121850L3D	2 ft	609.6 mm	1 Lamp	5000K	10W
HLEDRL122830L3D	2 ft	609.6 mm	2 Lamps	3000K	20W
HLEDRL122835L3D	2 ft	609.6 mm	2 Lamps	3500K	20W
HLEDRL122840L3D	2 ft	609.6 mm	2 Lamps	4000K	20W
HLEDRL122850L3D	2 ft	609.6 mm	2 Lamps	5000K	20W
HLEDRL123830L3D	2 ft	609.6 mm	3 Lamps	3000K	30W
HLEDRL123835L3D	2 ft	609.6 mm	3 Lamps	3500K	30W
HLEDRL123840L3D	2 ft	609.6 mm	3 Lamps	4000K	30W
HLEDRL123850L3D	2 ft	609.6 mm	3 Lamps	5000K	30W
HLEDRL124830L3D	2 ft	609.6 mm	4 Lamps	3000K	40W
HLEDRL124835L3D	2 ft	609.6 mm	4 Lamps	3500K	40W
HLEDRL124840L3D	2 ft	609.6 mm	4 Lamps	4000K	40W
HLEDRL124850L3D	2 ft	609.6 mm	4 Lamps	5000K	40W
HLEDRL141830L3D	4 ft	1219.2 mm	1 Lamp	3000K	18W
HLEDRL141835L3D	4 ft	1219.2 mm	1 Lamp	3500K	18W
HLEDRL141840L3D	4 ft	1219.2 mm	1 Lamp	4000K	18W
HLEDRL141850L3D	4 ft	1219.2 mm	1 Lamp	5000K	18W
HLEDRL142830L3D	4 ft	1219.2 mm	2 Lamps	3000K	36W
HLEDRL142835L3D	4 ft	1219.2 mm	2 Lamps	3500K	36W
HLEDRL142840L3D	4 ft	1219.2 mm	2 Lamps	4000K	36W
HLEDRL142850L3D	4 ft	1219.2 mm	2 Lamps	5000K	36W
HLEDRL143830L3D	4 ft	1219.2 mm	3 Lamps	3000K	54W
HLEDRL143835L3D	4 ft	1219.2 mm	3 Lamps	3500K	54W
HLEDRL143840L3D	4 ft	1219.2 mm	3 Lamps	4000K	54W
HLEDRL143850L3D	4 ft	1219.2 mm	3 Lamps	5000K	54W
HLEDRL144830L3D	4 ft	1219.2 mm	4 Lamps	3000K	72W
HLEDRL144835L3D	4 ft	1219.2 mm	4 Lamps	3500K	72W
HLEDRL144840L3D	4 ft	1219.2 mm	4 Lamps	4000K	72W
HLEDRL144850L3D	4 ft	1219.2 mm	4 Lamps	5000K	72W

Honeywell Select LED Recessed Panel Fixtures

Honeywell Select LED Recessed Panel fixtures are a long-lasting, energy efficient replacement for fluorescent fixtures in drop-in ceilings. Available in 1'x4', 2'x2' and 2'x4' models with 0-10V or Lutron EcoSystem® dimming. Glo Series features full-even light distribution across the lens of the fixture. Linea Series features clean lines and a high-end, architectural design.

- High-Intensity, Dimmable LEDs
- Direct-lit LED Technology
- Diffused for even, consistent “glowing” light output
- A choice of color temperatures – 3000K (warm white), 3500K (soft white), 4000K (white), 5000K (daylight) – for a variety of applications
- 21W, 37W and 47W power ratings
- Direct replacement for 2'x2', 1'x4' and 2'x4' recessed panel light fixtures
- Choice of 0-10V or Lutron EcoSystem® dimming
- Solid-state, modular construction with zero mercury
- Available with battery back up
- Even light distribution to enhance efficiency, comfort and safety
- International certification including UL, PSE, CE, VDE & CCC
- 50,000 hour life
- 5-year limited warranty
- Energy savings, long life and reduced maintenance cost
- External drivers for advanced features including 0-10V and Lutron EcoSystem® dimming & improved thermal management

Input Voltage: 120V - 277V
Lumen Maintenance: 98% @ 5,000 hrs
Lamp Life (hours): 50,000 hrs (Rated - 30% Depreciation @ 50,000 hrs)
Color Rendering Index: >80
Tube Diameter: T9 - 1.125 in
Power Factor: > 0.97
Operating Temperature Range: -4 F to 113 F (-20 C to 45 C)

Materials: Housing - Steel, Lens - Frosted Polycarbonate/Aluminum
Warranty: 5 Years
Used With: Honeywell 0-10v Dimming

Approvals
Underwriters Laboratories, Inc : cULus Listed

Product Number	Description	Length		Color Temperature (K)	Nominal Watts	Includes
		ft	mm			
HLEDRPS1-1430H	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	3000K	21W	—
HLEDRPS1-1430HE	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	3000K	21W	Emergency Driver
HLEDRPS1-1435H	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	3500K	21W	—
HLEDRPS1-1435HE	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	3500K	21W	Emergency Driver
HLEDRPS1-1440H	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	4000K	21W	—
HLEDRPS1-1440HE	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	4000K	21W	Emergency Driver
HLEDRPS1-1450H	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	5000K	21W	—
HLEDRPS1-1450HE	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	5000K	21W	Emergency Driver
HLEDRPL1-2230H	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3000K	37W	—
HLEDRPL1-2230HE	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3000K	37W	Emergency Driver
HLEDRPS1-2230H	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3000K	37W	—
HLEDRPS1-2230HE	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3000K	37W	Emergency Driver
HLEDRPL1-2235H	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3500K	37W	—
HLEDRPL1-2235HE	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3500K	37W	Emergency Driver
HLEDRPS1-2235H	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3500K	37W	—
HLEDRPS1-2235HE	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3500K	37W	Emergency Driver
HLEDRPL1-2240H	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	4000K	37W	—
HLEDRPL1-2240HE	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	4000K	37W	Emergency Driver
HLEDRPS1-2240H	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	4000K	37W	—
HLEDRPS1-2240HE	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	4000K	37W	Emergency Driver
HLEDRPL1-2250H	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	5000K	37W	—
HLEDRPL1-2250HE	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	5000K	37W	Emergency Driver
HLEDRPS1-2250H	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	5000K	37W	—
HLEDRPS1-2250HE	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	5000K	37W	Emergency Driver
HLEDRPL1-2430H	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3000K	47W	—
HLEDRPL1-2430HE	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3000K	47W	Emergency Driver
HLEDRPS1-2430H	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3000K	47W	—
HLEDRPS1-2430HE	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3000K	47W	Emergency Driver
HLEDRPL1-2435H	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3500K	47W	—
HLEDRPL1-2435HE	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3500K	47W	Emergency Driver
HLEDRPS1-2435H	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3500K	47W	—
HLEDRPS1-2435HE	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3500K	47W	Emergency Driver
HLEDRPL1-2440H	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	4000K	47W	—
HLEDRPL1-2440HE	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	4000K	47W	Emergency Driver

Product Number	Description	Length		Color Temperature (K)	Nominal Watts	Includes
		ft	mm			
HLEDRPS1-2440H	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	4000K	47W	—
HLEDRPS1-2440HE	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	4000K	47W	Emergency Driver
HLEDRPL1-2450H	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	5000K	47W	—
HLEDRPL1-2450HE	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	5000K	47W	Emergency Driver
HLEDRPS1-2450H	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	5000K	47W	—
HLEDRPS1-2450HE	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	5000K	47W	Emergency Driver

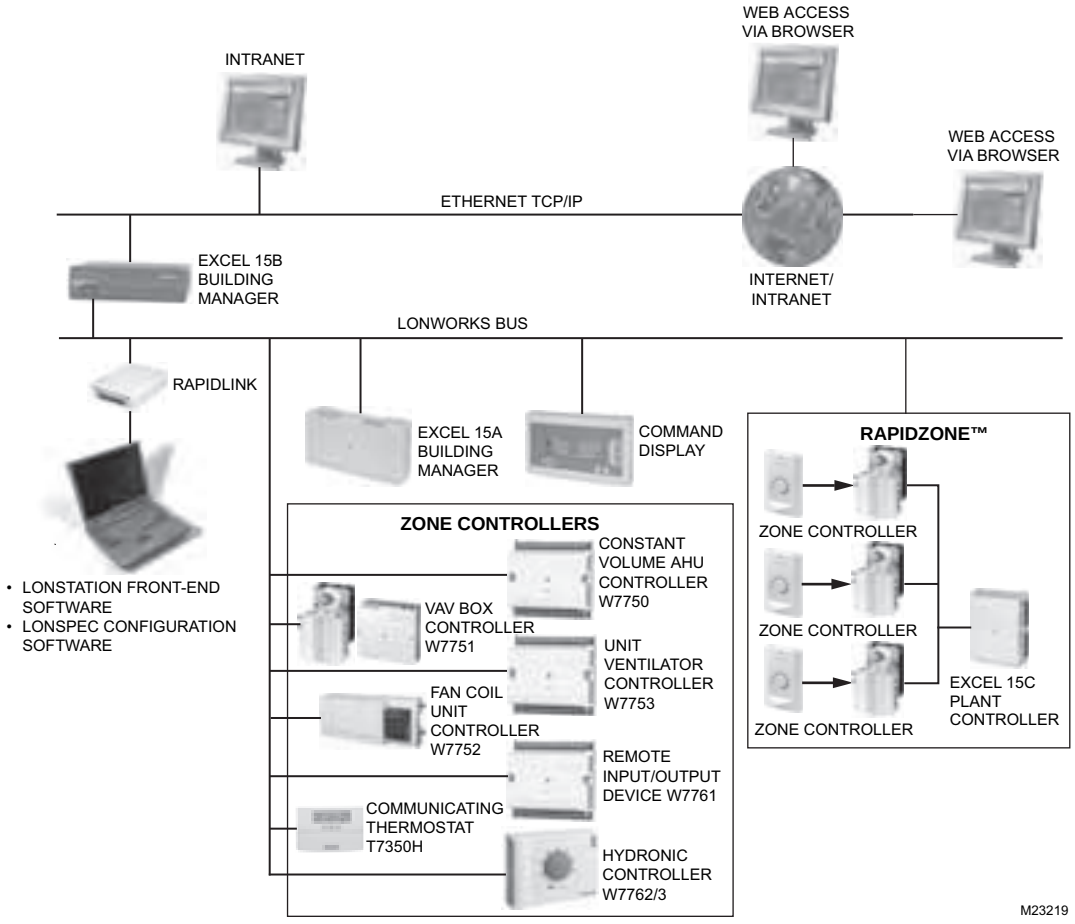
Honeywell Select LED Recessed Panel Fixtures with Lutron 3D EcoSystem LED Driver

Input Voltage: 120V - 277V
Lumen Maintenance: 98% @ 5,000 hrs
Lamp Life (hours): 50,000 hrs (Rated - 30% Depreciation @ 50,000 hrs)
Color Rendering Index: >80
Tube Diameter: T9 - 1.125 in
Power Factor: > 0.97
Operating Temperature Range: -4 F to 113 F (-20 C to 45 C)

Materials: Housing - Steel, Lens - Frosted Polycarbonate/Aluminum
Warranty: 5 Years
Used With: Lutron 3D EcoSystem LED Driver
Approvals
Underwriters Laboratories, Inc : cUL us Listed

Product Number	Description	Length		Color Temperature (K)	Nominal Watts	Includes
		ft	mm			
HLEDRPS1-1430L	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	3000K	21W	—
HLEDRPS1-1430LE	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	3000K	21W	Emergency Driver
HLEDRPS1-1435L	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	3500K	21W	—
HLEDRPS1-1435LE	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	3500K	21W	Emergency Driver
HLEDRPS1-1440L	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	4000K	21W	—
HLEDRPS1-1440LE	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	4000K	21W	Emergency Driver
HLEDRPS1-1450L	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	5000K	21W	—
HLEDRPS1-1450LE	Honeywell Select LED Glo Series	1 ft x 4 ft	304.8 mm x 1219.2 mm	5000K	21W	Emergency Driver
HLEDRPL1-2230L	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3000K	37W	—
HLEDRPL1-2230LE	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3000K	37W	Emergency Driver
HLEDRPS1-2230L	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3000K	37W	—
HLEDRPS1-2230LE	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3000K	37W	Emergency Driver
HLEDRPL1-2235L	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3500K	37W	—
HLEDRPL1-2235LE	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3500K	37W	Emergency Driver
HLEDRPS1-2235L	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3500K	37W	—
HLEDRPS1-2235LE	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	3500K	37W	Emergency Driver
HLEDRPL1-2240L	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	4000K	37W	—
HLEDRPL1-2240LE	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	4000K	37W	Emergency Driver
HLEDRPS1-2240L	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	4000K	37W	—
HLEDRPS1-2240LE	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	4000K	37W	Emergency Driver
HLEDRPL1-2250L	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	5000K	37W	—
HLEDRPL1-2250LE	Honeywell Select LED Linea Series	2 ft x 2 ft	609.6 mm x 609.6 mm	5000K	37W	Emergency Driver
HLEDRPS1-2250L	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	5000K	37W	—
HLEDRPS1-2250LE	Honeywell Select LED Glo Series	2 ft x 2 ft	609.6 mm x 609.6 mm	5000K	37W	Emergency Driver
HLEDRPL1-2430L	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3000K	47W	—
HLEDRPL1-2430LE	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3000K	47W	Emergency Driver
HLEDRPS1-2430L	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3000K	47W	—
HLEDRPS1-2430LE	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3000K	47W	Emergency Driver
HLEDRPL1-2435L	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3500K	47W	—
HLEDRPL1-2435LE	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3500K	47W	Emergency Driver
HLEDRPS1-2435L	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3500K	47W	—
HLEDRPS1-2435LE	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	3500K	47W	Emergency Driver
HLEDRPL1-2440L	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	4000K	47W	—
HLEDRPL1-2440LE	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	4000K	47W	Emergency Driver
HLEDRPS1-2440L	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	4000K	47W	—
HLEDRPS1-2440LE	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	4000K	47W	Emergency Driver
HLEDRPL1-2450L	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	5000K	47W	—
HLEDRPL1-2450LE	Honeywell Select LED Linea Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	5000K	47W	Emergency Driver
HLEDRPS1-2450L	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	5000K	47W	—
HLEDRPS1-2450LE	Honeywell Select LED Glo Series	2 ft x 4 ft	609.6 mm x 1219.2 mm	5000K	47W	Emergency Driver

LIGHT COMMERCIAL BUILDING SYSTEMS ARCHITECTURE



LonSpec Configuration Software

Excel LONSPEC is a windows based software application for the configuration, commissioning, check out, and monitoring of the Light Commercial Building Solution (LCBS). The LCBS includes the Excel 15A Building Manager, Excel 15C Plant Controller, Excel 10 Constant Volume Air Handling Unit (CVAHU), Excel 10 Variable Volume Air Handling Unit (VAV), Remote Input/Output (RIO) device, and Unit Vent (UV), Excel 15 Command Display (CD), the T7300F/ Q7300H Series 2000 Commercial Thermostats with Communicating Subbases, and T7350H Communication Thermostat, Q7790A

Wireless LonWorks® Receiver with T7790C Wireless Wall Module and Honeywell Variable Frequency Drive.

- Easy-to-use drag-and-drop setup of LONWORKS® Networks and devices.
- Excel 10 application-specific controllers come pre-configured to the most common settings, yet allow quick modifications of parameters for your application.
- Easy and intuitive configuration of entire control loops.
- No line-by-line programming needed.
- Automatic and customizable data sharing between controllers on a network.
- On-line operation with monitoring and diagnostic and manual functions.
- Convenient right-click floating menus for quick access to LonSpec functions.
- On-line help includes a Quick Start tutorial for system startup.
- Quickly replicates multiple copies of controllers for repetitive applications.
- Remote access allows monitoring and diagnosis of system problems without the inconvenience and expense of service calls.
- Automatic discovery of nodes on a network reduces engineering time.

Application: Software
Building Management Interface: LonWorks Bus
Network Communications: LonWorks Bus

Product Number	Description	System Requirements	Used With	Comments
ZL7760A1020/U	LonSpec - Software 5.1.0	128 MB RAM, 100 MB disk drive, 500 MHz microprocessor, Microsoft Windows 2000 or XP	T7350H Thermostat, Excel 10 family of controllers, Excel 15 family of controllers	Excel LonSpec

LonStation Software

LONSTATION. Software is a Windows® based application/PC workstation used for monitoring and managing the Light Commercial Building Solution (LCBS) controllers.

- Easy-to-use drag and drop setup of LonWorks networks and devices.
- Configuration, monitoring and binding of LCBS devices.
- Familiar Windows platform user interface Training available through the Honeywell Authorized Trainer Program.

Application: Software
Building Management Interface: LonStation
Network Communications: LonWorks Bus

Product Number	Description	Commissioning Software	Comments
ZL7762A1026/U	LonStation - Software 5.1.0	LonSpec	Excel LonStation

RapidZone Software

The RapidZone Solution configures constant volume single zone HVAC equipment and a series of dampers to maintain the desired temperature for up to 18 separate zones per roof top unit (RTU). Each project can have up to 50 RTU subsystems. Each zone is capable of having an adjustable setpoint, a programmable time-of-day schedule for each day of the week, and an independent unoccupied override input. The system satisfies the space temperature setpoints by first reading the space temperature deviation from setpoint for each zone, then energizing heating or cooling in the HVAC unit and controlling the position of a supply damper ducted to each zone. Individual zone dampers modulate open and closed based on the zone temperature versus setpoint and the temperature of the RTU discharge air (heating or cooling).

- The fastest way to a commercial zoning system.
- Configure and commission an average multiple Rooftop unit job in less then 60 minutes.
- Ease of use allows a Controls ëNovice' to successfully configure a commercial zoning system.
- Produces customized wiring diagrams that clearly define the wiring of every controller input and output.
- This reduces installation mistakes in the field and improves ease of future trouble-shooting.
- Flexibility to configure up to 10 different Rooftop systems with up to 18 zones per Rooftop unit, and up to 40 single-zone controllers.
- Roll over help text aids users in the configuration process.
- Ability to replicate similar Rooftop systems and/or Zones simplifies configuration process.
- Gives a complete materials checklist after the configuration process is completed.

Application Size: Software
Building Management Interface: RapidZone
Network Communications: LonWorks Bus

Product Number	Description	System Requirements
ZL7751A1029/U	RapidZone 3.0	16 MB RAM, 40 MB disk drive, 90MHz Pentium microprocessor, Microsoft Windows 2000 or XP

Q7770 RapidLink

The Excel 10 Q7770A RapidLink device is a complete network interface unit for a FTT LonWorks® Bus network. RapidLink is equipped with an on-board modem that eliminates the requirement for an on-site modem for remote connections. The Q7770A uses 9 to 24 Vac or Vdc, 9 Vdc power supply using removable screw terminals or a 9 Vdc barrel connector to perform network operations. A connector cable attaches the Q7770A to the LonWorks-Bus port on Excel 10 controllers or wall modules.

- High performance communications protocol provides for faster communication of data to your LonWorks network.
- Fixed 115,200 bits per second (bps) serial bit rate with auto-baud detection.
- Uses LonTalk® LonWorks® network protocol.
- 9 to 24 Vac or Vdc power input using removable screw terminals or a 9 Vdc barrel connector.
- Color-coded, removable screw terminals for network and power wiring.

Building Management Interface: LonWorks Bus
Network Communications: LonWorks Bus

Product Number	Description	Application	Commissioning Software	Operating Temperature Range (F)	Operating Temperature Range (C)	Comments
Q7770A1001/U	RapidLink Dial Up Network Adapter	Interface	—	32 F to 100 F	0 C to 38 C	Transceiver Type: Transformer isolated, differential Manchester transceiver Display Two service LEDs indicate service request information for each segment; Status LED indicates when network traffic is occurring;
50000591-001/U	RapidLink Accessory Kit (U.S.)	Accessory or Replacement Part	LCBS	—	—	—

W7760A Excel 15 Controller

The Excel 15 W7760A Building Manager is a LonMark® compliant device that can be used to monitor and control HVAC equipment and other miscellaneous loads in a distributed network. The optional lithium battery (not included, purchased locally) allows continuous power so trend logs and alarms can be maintained for up to four continuous years. The W7760A Building Manager communicates via the 78 kilobaud Echelon® LonWorks® Network, using a free topology transceiver (FTT).

- Programmable control of mechanical equipment and auxiliary points.
- Configurable inputs/outputs are expandable with up to three Excel 10 Remote Input/Output (RIO) devices.
- 6 General Purpose Configurable (PID) Control Loops.
- 6 General Purpose Configurable (Non-Linear) Control Loops.
- 8 Start/Stop Control Loops (max of 6 events per day).
- Easy Programming the LonSpec Software. Two piece construction for easy installation.
- Easy access to all I/O points for checkout while operations.
- LonTalk® Network communication protocol.
- LonWorks® Free Topology Transceiver (FFT).
- Adaptive Intelligent Recovery.
- Set-Point reset.
- Remote Equipment Monitoring and Control.
- 8 schedules of five different occupancy states (when used with a W7760A Building Manager).
- Demand Limit Control (from a W7760 Building Manager).

Dimensions, Approximate: 6 5/32 in. high x 10 19/32 in. wide x 3 7/32 in. deep (156 mm high x 259 mm wide x 82 mm deep)
Application: Heat Pump Systems; Boiler; Chiller; Packaged RTU; Built-up AHU
Application Size: 20 Nodes
Building Management Interface: LonStation
Network Communications: LonWorks Bus
Commissioning Software: RapidZone; LonSpec
Frequency: 50 Hz; 60 Hz

Power Consumption: 20 VA (with no DOs), 100 VA (with DOs)
Operating Temperature Range: 32 F to 113 F (0 C to 45 C)
Shipping Temperature Range: -4 F to +158 F (-20 C to +50 C)
Approvals
Federal Communications Commission: Listed Part 15 Subpart J. Class A EC Conforms to European Standards
Underwriters Laboratories, Inc: UL and cUL listed UL916 as a Class 2 device

Product Number	Description	I/O Count	Output Type	Used With	Comments
W7760A2011/U	Excel 15 building manager	4 DI, 8 AI, 8 DO, 2 AO	Analog/Modulating, Staged On/Off, Floating, Pulse Width Modulation	S7760A Command Display; LonWorks bus	Can also be used to provide timekeeping abilities to the Excel 15C

W7760C Excel 15 Controller

The Excel 15 W7760C Plant Controller is used to monitor and control HVAC equipment and other miscellaneous loads in a distributed network. The W7760C Plant Controller communicates via the 78 kilobaud LonWorks Network, using a free topology transceiver (FTT).

- Programmable control of mechanical equipment and auxiliary points.
- Configurable inputs/outputs are expandable with up to three Excel 10 Remote Input/Output (RIO) devices.
- Eight digital inputs, eight analog inputs.
- Eight optically isolated digital outputs, six 0-20 mA analog outputs.
- Easy programming with LonSpec software.
- Two-piece construction
- Easy access to all I/O point for check-out while operational.
- LonTalk Network communication protocol.
- LonWorks Free Topology Transceiver (FTT).

Dimensions, Approximate: 7 1/2 in. high x 5 1/4 in. wide x 1 15/16 in. deep (191 mm high x 133 mm wide x 49 mm deep)
Application: Heat Pump Systems; Boiler; Chiller; Packaged RTU; Built-up AHU
Building Management Interface: LonStation
Network Communications: LonWorks Bus
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz

Power Consumption: 18 VA max, with no DOs
Operating Temperature Range: -40 F to +150 F (-40 C to +65 C)
Shipping Temperature Range: -4 F to +122 F (-20 C to +50 C)
Approvals
Federal Communications Commission: Listed: Part 15 Subpart J, Class A: European Community Mark: Conforms to European Consortium standards
Underwriters Laboratories, Inc: UL/cUL Listed: UL916 (E14480)

Product Number	Description	Commissioning Software	I/O Count	Output Type	Used With	Comments
W7760C2017/U	Excel 15C Plant Manager	RapidZone; LonSpec	8 AI, 6 AO, 8 DI, 8 DO	Analog/Modulating, Pulse Width Modulation, Staged On/Off	S7760A Command Display; LonWorks bus	Designed to be used with the Light Commercial building solution. Requires a W7760A be connected to the LonWorks bus in order to have scheduling information

S7760 Excel 15 Command Display

The S7760A Command Display provides local display of system variables and alarms in a LonWorks® network. The S7760A Command Display also allows the user to modify setpoints, schedules and basic system parameters and acknowledge alarms.

Multi-level password protection prevents unauthorized access. Easy navigation between building and room views allow users to easily perform the most common tasks.

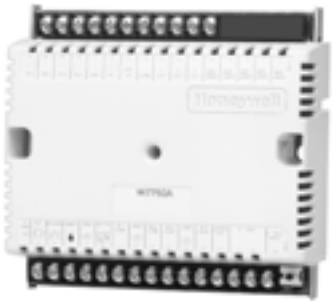
- Attractive wall-mount packaging.
- Backlit LCD display; 8 lines high by 40 characters wide.
- Two-piece construction for easy installation.
- 10-key keypad for menu-item selection.
- Audible beep when keys are pressed.
- Several layers of display screens provide different views: Buildings, Rooms, Schedules and Setpoints.
- Local display allows setpoint and schedule changes and alarm acknowledgment. Password protected with View Only, Bypass, Setpoint and Schedule levels.
- Cost-effective interface to local HVAC system.
- Low-cost LonWorks' communications wiring using a Free Topology Transceiver (FTT).

Dimensions, Approximate:
7 3/4 in. wide x 4 3/4 in. high x 1 9/16 deep; Subbase 3 3/8 in. wide x 3 3/8 in. deep (187 mm wide x 121 mm high x 40 mm deep; Subbase 86 mm wide x 86 mm high)
Application Size: Small (<20 I/O Points)
Building Management Interface: LonSpec; RapidZone
Voltage: 20-30 Vac
Frequency: 50 Hz; 60 Hz

Operating Temperature Range: 32 F to 120 F (0 C to 45 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Approvals
CE: CE mark; EN50081-1; EN50082-1
Federal Communications Commission: Meets FCC part 15 Class B requirements; Listed Part 15 Subpart J. Class A EC Conforms to European Standards
Approvals, Underwriters Laboratories Inc. UL and cUL listed UL916 as a Class 2 device

Product Number	Application	Description	Network Communications	Used With
S7760A2031/U	LonWorks network	Excel 15 Command Display	LonWorks Bus	Command Display; Excel 15 Controllers; Excel 10 Controllers

W7750 Constant Volume Air Handling Unit



The W7750A, B, C are LonMark® compliant Constant Volume Air Handling Unit Controllers used to control single zone and heat pump air handlers.

- High side triac switching (B and C only).
- Freezestat protection for HVAC equipment (B and C only).
- Analog outputs (C only).
- Factory configured via EEPROM with critical user parameter default values.
- Uses LonTalk® network (E-Bus) communications protocol.
- High-speed 78 kilobit communications network.
- Conforms with Echelon® LonMark® HVAC Interoperability standard for Roof Top Unit controllers (profile number 8030).
- Free Topology Transceiver (FTT) network technology is insensitive to polarity, simplifying installation.
- Capable of stand-alone operation and has enhanced features available when using the E-Bus network communications.
- Designed for both staged heating/cooling control and modulating heating/cooling control.
- Uses either Series 60 Floating Control or PWM (W7750B only) providing modulating control for heating/cooling equipment.
- Supports two types of economizer control: modulating control and enable/disable control.
- Provides Proportional Integral Derivative (PID) temperature control.
- Uses an adaptive algorithm (patent pending) that continuously adjusts the discharge air setpoint as needed (W7750B only).
- Motion sensor interface for enhanced energy savings.
- Window sensor input for additional energy savings.

Dimensions, Approximate: 5 5/8 in. high x 6 in. wide x 2 1/8 in. deep (143 mm high x 152 mm wide x 54 mm deep)
Application: Heat Pump Systems; Packaged RTU
Application Size: 3 Heat/3 Cool
Network Communications: LonWorks Bus
Commissioning Software: LNS Plug-in; RapidZone; LonSpec; CARE
Contact Ratings: 7.5 A inrush @ 24 Vac; 1.5 A Run @ 24 Vac
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Operating Temperature Range: -40 F to +150 F (-40 C to +66 C)

Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Setpoint Temperature Range: 45 F to 99 F (7 C to 37 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Used With: See Application Selection Guide (63-7046)
Approvals
CE: CE Mark
Federal Communications Commission: Meets FCC part 15 Class B requirements EC Conforms to EN50081-1 (CISPR 22 Class B) and EN50082-1
Underwriters Laboratories, Inc: UL 916 (E7741) and cUL (E87741)

Product Number	Description	I/O Count	Power Consumption	Output Type
W7750A2005/U	Constant Volume AHU Controller	6 DOs (relay), 3 AI, 3 DI	6 VA	Staged On/Off, Floating, Pulse Width Modulation
W7750B2011/U	Constant Volume AHU Controller	6 AI, 5 DI, 8 DOs (triac)	12 VA	Staged On/Off, Floating, Pulse Width Modulation
W7750C2001/U	Constant Volume AHU Controller	3 AO, 6 AI, 5 DI, 5 DOs (triac)	12 VA	Staged On/Off, Floating, Pulse Width Modulation

W7751 Variable Air Volume Controllers

W7751B

W7751E

W7751H, J

W7751D, F

The W7751B,D and F are VAV II Controllers in the Excel 10 family product line. These VAV controllers provide pressure independent or pressure dependent air flow control and series and parallel (induction) fan control using single and dual duct applications. VAV systems generally provide cool air only to the zones. The W7751 controllers provide additional outputs that control VAV box reheat coils. The heaters can be staged electric or modulating hot water. Supply and exhaust pressurization control are provided on a zone basis. W7751H and J Smart VAV Actuator are factory-integrated VAV Box Controllers with a 90 second ML6161B Direct-Coupled Actuator in the Excel 10 family product line.

- Uses Echelon® LonWorks® protocol.
- W7751B,D,F use Free Topology Transceiver (FTT) networks and are compliant with VAV device object type number 8010 functional LonMark® profile.
- Energy saving setpoint reset for electrical demand limit control.
- Actuator included with W7751H mounts directly onto VAV box damper shaft and has up to 35 lb. in. torque, 90 degrees stroke, and 90 sec.
- Timing at 60 Hz.
- High speed 78 kilobit communications network.
- Capable of standalone operation, but uses E-Bus network communications.
- Easy user-access to the network communications jack.
- Uses enhanced microbridge-type airflow sensor with dual integral restrictor design.
- Easy user-access to airflow sensor inputs.
- Provides Proportional Integral Derivative (PID) temperature control.
- Designed for pressure independent Variable Air Volume (VAV) control.
- Floating hot water and three-stage electric or modulating hot water heat.
- Provides nonlinear floating algorithm for velocity control loops.
- Individual zone pressurization for supply and exhaust control.
- Factory configured via EEPROM with critical user parameters default values.
- Motion sensor interface for enhanced energy savings.
- Supports Terminal Regulated Air Volume (TRAV) concept.
- Pressurize and depressurize, night purge, and morning warm-up sequences supported.
- Wall module options for sensor, setpoint and bypass.
- Software selectable limits on remote setpoint adjustments.
- Three

Application: VAV Terminal Box
Network Communications: LonWorks Bus
Voltage: 24 Vac with a valid range of 20 to 30 Vac
Frequency: 50 Hz; 60 Hz
Output Type: Pulse Width Modulation, Floating, Staged On/Off
Operating Temperature Range: 32 F to 125 F (0 C to 51.66 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Setpoint Temperature Range: 45 to 99 F (7 to 37 C)

Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Compatible with: See Application Selection Guide (63-7045)
Approvals
Canadian Standards Association: Listed: File number LR95329-3
CE: UL916
Federal Communications Commission: Meets FCC part 15 Class A requirements
Underwriters Laboratories, Inc: File number E87741

Product Number	Description	Building Management Interface	Commissioning Software	Power Consumption	Comments	Includes
W7751B2010/U	Excel 10 VAV II Controller Printed Wiring Board	—	LNS Plug-in; RapidZone; LonSpec; CARE	10 VA	Mountable on Snaptrack	—
W7751D2016/U	Excel 10 VAV II Controller	—	LNS Plug-in; RapidZone; LonSpec; CARE	10 VA	Internally wired subbase, UUKL approval for use on fire systems	—
W7751F2011/U	Excel 10 VAV II Controller	—	LNS Plug-in; RapidZone; LonSpec; CARE	10 VA	Externally wired subbbase, UUKL approval for use on fire systems	—
W7751H2025/U	Excel 10 Smart VAV Actuator	—	LNS Plug-in; RapidZone; LonSpec; CARE	6 VA	UUKL approval for use on fire systems	ML6161 Actuator mounted directly on the VAV box
W7751J2004/U	Excel 10 Smart VAV Actuator	—	LNS Plug-in; RapidZone; LonSpec; CARE	6 VA maximum	Does not have pressure sensor, supports pressure dependent only	ML6161 Actuator mounted directly on the VAV box

W7752 Fan Coil Unit Controllers

The W7752 Fan Coil Unit Controllers provide room temperature control for two and four pipe fan coil units with optional electric heating coils and can control single, two or three speed fans. Timing and inter-lock features make the W7752 suitable for systems using electric heat and compressors.

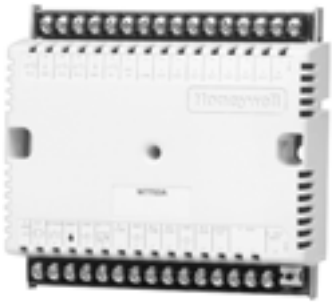
- LonMark® Fan Coil Unit HVAC profile #8020.
- Stand-alone operation or on high-speed 78 kilobit Echelon® Bus (E-Bus) network direct connection of thermal actuators, fan switch, electric heat.
- Factory-configured default parameters.
- Wide range of supported valves and actuators.
- Interlocks and time delays to protect equipment.
- Slim design fits into narrow fan coil units.
- Terminations all on one side allow controller to be positioned at back of fan coil unit.
- Integral 115 Vac or 230 Vac transformer.

Dimensions, Approximate:
4 1/8 in. high x 10 1/8 in. wide x 2 1/2 in. deep
(101 mm high x 257 mm wide x 60 mm deep)
Application: Fan Coil Unit
Application Size: 3 Heat/3 Cool; 2-pipe; 4-pipe
Network Communications: LonWorks Bus
Commissioning Software: LNS Plug-in; RapidZone; LonSpec; CARE
Voltage: 115 Vac (+10%, -15%)
Frequency: 50 Hz; 60 Hz
Power Consumption: 30 VA maximum

Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Setpoint Temperature Range: 32 F to 104 F (0 C to 40 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +70 C)
Used With: See Application Selection Guide (63-7043)
Approvals
CE: CE mark; EN50081-1; EN50082-1
Federal Communications Commission: Meets FCC part 15 Class B requirements

Product Number	Description	I/O Count	Output Type	Comments	Includes
W7752D2007	Fan Coil Unit Controllers	3 AI, 1 DI, 1 DO (3 speed fan control), 2 AO (H/C triacs), 1 DO	Staged On/Off, Floating, Pulse Width Modulation	115 Vac power with electric heat relay	250 Vac 10A electric reheat relay and 3 fan speed relays
W7752G2000	Fan Coil Unit Controllers	3 AI, 1 DI, 1 DO (3 speed fan control), 2 AO (H/C triacs), 1 DO	Staged On/Off, Floating, Pulse Width Modulation	115 Vac power without electric heat relay	3 fan speed relays

W7753 Unit Vent Controllers



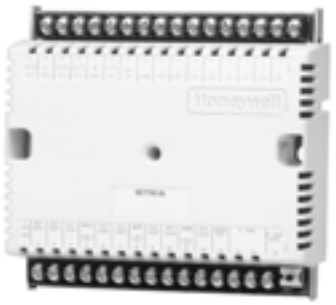
W7753A is a direct digital controller for unit ventilators with staged, floating, or pulse width modulation output using pre programmed heating, cooling, economizer, and ASHRAE cycles I, II, or III algorithms.

- Uses standard Echelon® LonMark Unit Ventilator functional profile for openness and interoperability with Lon Mark devices.
- Applications include unit ventilators with up to two stages heat/cool; floating heat/cool/economizer, pulse width modulating (PWM) heat/cool/economizer; ASHRAE Cycles I, II, III.
- Two unused digital outputs can be used as free points controlled by the network for lighting, exhaust fan.
- Can be used for indoor air quality control using an external sensor/control and economizer minimum position reset.
- Provides optional energy-saving setpoints for heating/cooling in unoccupied/occupied and standby modes.
- Optional control sequence shutdown via window/door open digital input.
- On-board network jacks for quick commissioning and troubleshooting using the E-Vision configuration tool.
- On-board status LED.
- Free topology transceiver (FTT) for flexible installation.
- UL94-5V flame-retardant construction.

Dimensions, Approximate: 5 5/8 in. high x 6 in. wide x 2 1/8 in. deep (143 mm high x 152 mm wide x 54 mm deep)
Application: Unit Ventilator
Application Size: 2 Heat/2 Cool
Network Communications: LonWorks Bus
Commissioning Software: LNS Plug-in; RapidZone; LonSpec; CARE
Frequency: 50 Hz; 60 Hz
Power Consumption: 6 VA
Setpoint Temperature Range: 55 F to 85 F (13 C to 29 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Approvals
Federal Communications Commission: FCC part 15 Class B requirements
Underwriters Laboratories, Inc: UL 916

Product Number	Description	I/O Count	Output Type	Used With	Comments
W7753A2002/U	Unit Ventilator Controller	8 DOs (triac), 2 AI (resistive), 2 AI (voltage), 4 DI	Staged On/Off, Floating, Pulse Width Modulation	See Application Selection Guide (63-7044)	One T7770 wall module input

W7761 Remote Input/Output Device



The W7761 extends the distribution of input and output devices across an Echelon network.

- Each input/output is individually controlled from the Zone Manager.
- Uses Echelon LonTalk® communication protocol.
- Free topology transceiver (FTT) for flexible installation.
- On-board network jacks.
- On-board status LED.
- Flame retardant construction (UL94-V5 rated).

Dimensions, Approximate: 5 5/8 in. high x 6 in. wide x 2 1/8 in. deep (143 mm high x 152 mm wide x 54 mm deep)
Application: Remote I/O
Application Size: 2 Heat/2 Cool
Network Communications: LonWorks Bus
Voltage: 24 Vac with a valid range of 20 to 30 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 6 VA maximum
Operating Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Approvals
Canadian Standards Association: CSA, TUV for Safety Compliance
CE: CE Mark
Federal Communications Commission: Listed under FCC Part 15 Level B for EMI compliance
Underwriters Laboratories, Inc: Listed 1784

Product Number	Description	Commissioning Software	I/O Count	Output Type	Comments
W7761A2010/U	Excel 10 Remote IOD	LNS Plug-in; RapidZone; LonSpec; CARE	2 AI (voltage), 4 AI (resistive), 4 DI, 8 DOs (triac)	Staged On/Off, Floating, Pulse Width Modulation	UUKL approval for use on fire systems

W7762; W7763 Hydronic Controller

W7762

W7763

The W7763 Hydronic controllers cover a wide range of control applications including radiators, induction units, fan coil units with manual fan switching, and simple VAV. They are suitable for unit mounting or wall mounting. Controllers operate standalone or as a part of a LonWorks bus network. Has connections for humidity sensor and chilled water temperature sensor. Includes temperature setpoint knob, internal sensor, and bypass button.

- High efficiency, low cost Heat/Cool valve application solution.
- Model with integrated or remote wall module LonWorks Open protocol: flex bility now and for the future.
- LonMark profile #8020.
- Direct connection of thermal actuators.
- Wide range of supported valves and actuators.

Dimensions, Approximate: 3 5/32 in. high x 4 11/32 in. wide x 1 21/32 in. deep (80 mm high x 110 mm wide x 42 mm deep)
Application: Hydronic Controller
Application Size: 3 Heat/3 Cool; 2-pipe; 4-pipe
Network Communications: LonWorks Bus
Voltage: 24 Vac ± 20%
Frequency: 50 Hz; 60 Hz
Power Consumption: 0.5 VA maximum (no load)

Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Setpoint Temperature Range: 32 F to 158 F (0 C to 70 C)
Shipping Temperature Range: -4 F to +158 F (-20 C to +70 C)
Approvals
Canadian Standards Association: Listed: File No. LR95329-3
Underwriters Laboratories, Inc: Component Recognized: File No. SA481

Product Number	Description	Commissioning Software	Output Type	Comments	Includes
W7762B1027	Excel 10 Hydronic Controller	LNS Plug-in; RapidZone; LonSpec; CARE	Multi-stage Electric; Pulse Width Modulation; Floating; Staged On/Off	2 inputs and 2 control outputs	—
W7763C1016	Excel 10 Hydronic Controller	LNS Plug-in; RapidZone; LonSpec; CARE	Floating, Pulse Width Modulation, Staged On/Off, Multi-stage Electric	3 Inputs, 2 Control Outputs	An integral setpoint knob, sensor, bypass button, and LED
W7763C1032	Excel 10 Hydronic Controller	LNS Plug-in; CARE	Floating, Pulse Width Modulation, Staged On/Off, Multi-stage Electric	Relative Setpoint Adjustment	An integral setpoint knob, sensor, bypass button, and LED

Y7751-W7751F VAV Unit Controller and ML6161B Actuator

The W7751F2003 VAV II Controller is from the Excel 10 family product line. VAV controllers provide pressure independent or pressure dependent air flow control and series and parallel (induction) fan control using single and dual applications. The W7751F controllers provide additional outputs that control VAV box reheat coils. The ML6161B2024 is used to control dampers in VAV terminal units and for mounting on ball valves.

- Uses Echelon LonWorks Protocol.
- High Speed 78 kilobit communications network.
- Easy user-access to the network communications jack.
- Easy user-access to the airflow sensor inputs.
- Provides Proportional Integral Derivative (PID) temperature control.
- Designed for pressure independent Variable Air Volume (VAV) control.
- Floating hot water and three-stage electric or modulating hot water heat.
- Provides nonlinear floating algorithm for velocity control loops.
- Factory configured via EEPROM with critical user parameters default values.
- ML6161B2024 is a Direct Couple, General Purpose, Non-Spring Return Actuator.
- Rated at 35 lb-in. torque with a 90 degree stroke.

Building Management Interface: EBI; SymmetrE; ACSELON

Product Number	Application	Description	Network Communications	Commissioning Software	Includes
Y7751F2001/U	VAV Controller with FFT base with enclosure and outward facing terminal strips	Package containing a W7751F VAV Controller and a ML6161 Actuator	LonWorks Bus	LNS Plug-in; RapidZone; LonSpec; CARE	One W7751F 2003 and one ML6161B 2024

Q667 Switching Subbase

Provide manual switching for T7067 Thermostat/Transmitters.
- Mount directly on wall or on vertical 2 x 4 in. outlet box
- T7067 mounts on subbase with mounting screws which also complete electrical connections between thermostat/transmitter and subbase
- When fan switch is set to AUTO, the fan is intermittent in HEAT and continuous in system AUTO or COOL

Dimensions, Approximate: 4 3/4 in. high x 3 15/16 in. wide x 15/16 in. deep (121 mm high x 100 mm wide x 24 mm deep)
Power Consumption: 1A at 24 Vac Full Load
Description: Switching Subbase used with T7067

Product Number	Application	Switch Positions		Comments	Used With
		System	Fan		
Q667A1005/U	Heat Pump Systems, Split Systems	HEAT-OFF-COOL-AUTO	AUTO/ON	Number of stages of heating and cooling depends on the chosen Logic Panel	T7067
Q667B1004/U	Heat Pump Systems, Split Systems	HEAT-OFF-COOL-AUTO	AUTO/ON	Number of stages of heating and cooling depends on the chosen Logic Panel	T7067
Q667B1020/U	Heat Pump Systems, Split Systems	HEAT-OFF-COOL-AUTO	AUTO/ON	Provides intermittent fan operation in cooling when used with W974B	T7067
Q667C1003/U	Single Stage Subbase	COOL/AUTO/HEAT/EM.HT.	AUTO/OFF; OFF position shuts off entire system	—	T7067

T7067 Thermostat and Transmitter

T7067A Thermostat and T7067B Transmitter control space temperature when used with W973 Logic Panel.
- Separate heat and cool adjustable set point levers provide adjustable deadband from 3 F to 30 F (2 C to 17 C)
- Separate 1-16 Vdc voltage ramps provide independent heating and cooling signals to W973 Single Zone Logic Panel
- Two light-emitting diodes (LEDs) under T7067 cover for system checkout
- C7046A Discharge Air Sensor provides temperature anticipation
- One T7067 can control up to 6 W973 panels in parallel
- Mount on standard 2 x 4 in. vertical outlet box or on a non-conductive flat surface
- All models include wiring plate and locking cover

Application Size: Depends on Logic Panel (W973)
Dimensions, Approximate: 4 5/8 in. high x 2 13/16 in. wide x 1 1/4 in. deep (118 mm high x 71 mm wide x 32 mm deep)
Output Type: Voltage Ramp
Voltage: 20 Vdc from W973 panel
Setpoint Temperature Range: 55 F to 85 F (13 C to 29 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)

Approvals
ASHRAE Guidelines: Meets ASHRAE 90-75
Department of Defense Guidelines: Meets

Accessories:
S963D1001-2 Potentiometers that simulate the ramp signals of a T7067 Thermostat

Product Number	Control System	Compatible with	Description	Comments
T7067A1008/U	W973 single zone	Q667 subbase, W973 Logic Panel	Solid State Thermostat designed to be used with the W973 logic panel to control the operation of single zone packaged air conditioning equipment	Integral temperature sensor without thermometer; Number of stages of heating and cooling depends on the chosen Logic Panel
T7067B1006/U	W973 single zone	Q667 subbase, W973 Logic Panel	Transmitter designed for use with a T7047C1025 or T7022A1010 remote temperature sensor	Must order T7047C,G remote temperature sensor or T7022A remote duct temperature sensor separately

T7080 Electronic Dual Setpoint Thermostat

Used in W7080 control system to provide modulating space temperature control.

- Separate heat and cool adjustable set point levers provide adjustable deadband from 3 F to 30 F (2 C to 17 C)
- Single 2 to 22 Vdc voltage ramp provides heating/cooling signal to W7080 Load Analyzer
- Outputs constant 12 Vdc when sensed temperature is within deadband range
- Ramp output decreases on call for heat: increases on call for cooling
- C7100B or C7046B Air Temperature Sensors are used to provide heating/cooling anticipation (one required for each zone thermostat) and can also be optionally used as remote return air temperature sensors with the T7080B transmitter
- Operates on 24 Vdc supplied by W7080A Load Analyzer
- Mounts on standard 2 x 4 in. outlet box or on nonconductive flat surface

Application Size: 3 Heat / 3 Cool
Dimensions, Approximate: 4 5/8 in. high x 2 13/16 in. wide x 1 1/4 in. deep (118 mm high x 71 mm wide x 32 mm deep)
Voltage: 24 Vdc
Setpoint Temperature Range: 55 F to 85 F (13 C to 29 C)

Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Approvals
ASHRAE Guidelines: Meets ASHRAE 90-75
Department of Defense Guidelines: Meets

Product Number	Application	Output Type
T7080A1019/U	Split System; Furnace; Packaged RTU	Voltage Ramp
T7080B1017/U	Split System; Heat Pump Systems; Furnace; Packaged RTU	Voltage Ramp

W7080 Load Analyzer

Controls heating, cooling and space demand oriented economizer operation in the Honeywell Electronic Dual Set point Multizone control system.

- Controls 3 stages of on/off heating, modulated heating, modulated economizer, 3 stages of on/off cooling and modulated cooling
- Responds to highest heating and cooling demand signal from up to 12 T7080 Zone Thermostat/Transmitters
- Analyzer is short-circuit protected source of 24 Vdc power for zone thermostat/transmitter, sensor and W7081A Limit Controller Package
- Switches all stages off when power is interrupted; switches stages on when power is restored
- Compressor turn-on time delays must be incorporated for each compressor
- No adjustment or calibrations required
- Night setback and cooling shutdown for individual or all zones by addition of time-clock
- Mounts with 4 No. 8 Screws (not provided) through holes in base

Application Size: 3 Heat / 3 Cool
Dimensions, Approximate: 6 1/4 in. high x 4 1/8 in. wide x 2 5/16 in. deep (159 mm high x 105 mm wide x 59 mm deep)
Contact Ratings: NO 240 VA inrush @ 24 Vac, 60 VA running @ 24 Vac; NC 75 VA inrush @ 24 Vac, 30 VA running @ 24 Vac
Electrical Connections: 1/4 in. quick-connect male terminals
Voltage: 24 Vdc
Frequency: 50 Hz; 60 Hz

Operating Temperature Range: -40 F to +150 F (-40 C to +65 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Approvals
ASHRAE Guidelines: Meets ASHRAE 90-75
Canadian Standards Association: Component Recognized
Department of Defense Guidelines: Meets
Underwriters Laboratories, Inc: Component Recognized

Product Number	Application	Control System	Compatible with	Description	Comments
W7080A1016/U	Split System; Furnace; Packaged RTU	W7080 control system	T7080 Thermostat	Load Analyzer, 3 Heat/ 3 Cool	Load analyzer provides control of On/Off and modulated cooling and modulated economizer functions

W7081 Limit Controller

Used with W7080A Load Analyzer to provide cold deck low limit, hot deck high limit, and economizer/mixed air low limit functions.

- Limits the maximum and minimum temperatures of the hot and cold deck and of the mixed air by supplying modified demand signals to the W7080A Load Analyzer and to the economizer
- The positive limits stabilize deck temperatures under light load conditions providing greater comfort and reducing energy usage
- Has jumper selectable set points for each of its 3 functions
- Compact to fit easily in HVAC system control panel
- Mounts with 4 No. 8 screws (not provided) through holes in base

Application Size: Small (<20 I/O Points)
Dimensions, Approximate: 6 1/4 in. high x 4 1/8 in. wide x 2 5/16 in. deep (159 mm high x 105 mm wide x 59 mm deep)
Electrical Connections: 1/4 in. quick-connect male terminals
Power Consumption: 0.29 VA maximum
Operating Temperature Range: -40 F to +150 F (-40 C to +65 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Approvals
ASHRAE Guidelines: Meets ASHRAE 90-75
Canadian Standards Association: Component Recognized
Department of Defense Guidelines: Meets
Underwriters Laboratories, Inc: Component Recognized

Product Number	Application	Control System	Compatible with:	Description
W7081A1015/U	Split System; Heat Pump Systems; Furnace; Packaged RTU	W7080 control system	W7080 Load analyzer	Limit Controller

W7100A,C Discharge Air Temperature Controller

Maintain an average discharge air temperature in variable air volume (VAV) systems, or other systems requiring discharge air control of multistage cooling or heating. Reduce kilowatt demand and consumption by maintaining the minimum amount of heating or cooling capacity required to hold the discharge air set point. Utilize economizer for free cooling when available.

- W7100 Controller maintains an average discharge air temperature in variable air volume (VAV) cooling systems by modulating an economizer and sequencing stages of mechanical cooling
- The W7100 can be applied to electric makeup air and other systems requiring discharge air control of multistage heating or cooling
- Staging capacity of the W7100A,C can be extended six stages using a W7101A Satellite Sequencer
- When power is interrupted, the system cycles to all stages off
- When power is restored, the economizer will first be modulated open (if enthalpy is suitable), then stages of mechanical cooling will be sequenced on
- If enthalpy is not suitable for economizer operation, the first stage of cooling or heating is energized within five minutes
- Reset signal from either space sensor or outdoor air sensor

Dimensions, Approximate: 8 5/8 in. high x 6 1/2 in. wide x 3 in. deep (219 mm high x 161 mm wide x 76 mm deep)
Contact Ratings:
NO 240 VA inrush @ 24 Vac, 60 VA running @ 24 Vac
NC 75 VA inrush @ 24 Vac, 30 VA running @ 24 Vac
NO 750 VA inrush @ 120/240 Vac, 75 VA running @ 120/240 Vac
NC 240 VA inrush @ 40 Vac, 30 VA running @ 24 Vac
Electrical Connections: 1/4 in. quick-connect male terminals
Voltage: 20 to 30 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 12 VA at 24 Vac, 50/60 Hz (max).
Operating Temperature Range: 40 F to 90 F (4 C to 32 C)
Setpoint Temperature Range: 40 F to 90 F (4 C to 32 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)

Accessories:
S963B1037-Manual Potentiometer (480 ohm)
S963B1078-Manual Potentiometer (500 ohm)
S963B1128-Manual Potentiometer (135 ohm)

Product Number	Application	Application Size	Control System	Output Type	Description	Comments
W7100A1053/U	Discharge Air	0 Heat / 6 Cool	W7100 family	Staged On/Off	20 to 30 Vac Discharge air temperature controller	Additional stages of heating and cooling can be achieved by adding a W7101 Satellite Sequencer
W7100C1018/U	Discharge Air	2 Heat / 4 Cool	W7100 family	Staged On/Off	20 to 30 Vac Discharge air temperature controller	Additional stages of heating and cooling can be achieved by adding a W7101 Satellite Sequencer

W7100G Discharge Water Temperature Controller

Controls discharge water temperature in reciprocating chiller and cooling tower applications.

- The W7100G maintains average discharge water temperature by staging on and off compressors, unloaders of water tower fans as required
- Provides up to six stages of cooling
- Use W7101A for expanding up to 10 cooling stages
- Advanced proportional plus integral microprocessor control algorithm minimizes droop
- Soft start to minimize compressor cycling during system start up
- Adjustable minimum on/off timing and time delay between stages of either 30 or 60 seconds
- Reset of discharge water temperature based on either outdoor air or space sensor signal
- Use C7170 Sensor for sensing water temperature
- LEDs indicate which stages of cooling are energized
- Use S963B Potentiometer for remote set point capability

Dimensions, Approximate: 8 5/8 in. high x 6 1/2 in. wide x 3 in. deep (219 mm high x 161 mm wide x 76 mm deep)
Contact Ratings:
NO 240 VA inrush @ 24 Vac, 60 VA running @ 24 Vac
NC 75 VA inrush @ 24 Vac, 30 VA running @ 24 Vac
NO 750 VA inrush @ 120/240 Vac, 75 VA running @ 120/240 Vac
NC 240 VA inrush @ 40 Vac, 30 VA running @ 24 Vac
Electrical Connections: 1/4 in. quick-connect male terminals
Voltage: 20 to 30 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 12 VA at 24 Vac, 50/60 Hz (max).
Operating Temperature Range: -40 F to +150 F (-40 C to +65 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)

Accessories:
S963B1037-Manual Potentiometer (480 ohm)
S963B1078-Manual Potentiometer (500 ohm)
S963B1128-Manual Potentiometer (135 ohm)

Product Number	Application	Application Size	Control System	Output Type	Compatible with:	Description	Comments
W7100G1001/U	Chiller	0 Heat / 6 Cool	W7100 family	Staged On/Off	W7101 Satellite Expansion Module	20 to 30 Vac Discharge Air or Water Temperature Controller	4 additional stages of cooling can be added with W7101A

W9076 Digital Temperature Indicator

The W9076 digital temperature indicator provides continuous led (light-emitting diode) digital display of temperature in commercial building applications. Display permits user selection of fahrenheit or celsius readings in the range of -40 F to 199 F (-40 C to 93 C). Several locations can be monitored on the display through suitable switching of additional remote sensors.

- Fahrenheit or Celsius display is field selectable.
- Solid state sensor provides fast response, accurate temperature readings.
- The 3-1/2 digit LED display has 0.3 inch numerals.
- Front mounting permits fast, easy installation.

Application: Monitors temperature in space or ducts, and fluid in hot or cold water pipes
Dimensions, Approximate: 4 9/16 in. high x 1 15/16 wide x 2 3/4 in. deep (116 mm high x 49 mm wide x 70 mm deep)
Contact Ratings: 49 mm dia, 70mm long
Voltage: 24 Vac, +25%, -15%. For each volt above 26 Vac, derate ambient temperature by 5 F (2.8 C)
Frequency: 50 Hz; 60 Hz
Operating Temperature Range: -40 F to +199 F (-40 C to +93 C)

Accessories:
107324A-Capillary Holder Assembly for duct insertion, 8 3/8 in. long
121371A-Copper. Bu b size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. NPT. Includes mounting clamp.
131524A-Capillary Holder Assembly., 8 3/8 in. long, duct insertion
230038A-Replacement Faceplate Lens for use with W9076

Replacement Parts:
107324A-Capillary Holder Assembly for duct insertion, 8 3/8 in. long
121371A-Copper. Bu b size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. NPT. Includes mounting clamp.
121371E-Stainless steel. Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm). Well size: 3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 1/2 in. (13 mm) NPT. Includes mounting clamp.
131524A-Capillary Holder Assembly., 8 3/8 in. long, duct insertion

Product Number	Description	Comments	Includes	Used With
W9076A1000/U	Digital Temperature indicator that provides a continuous LED display for temperature (includes sensor)	Solid state sensor usable up to 300 ft (91 m)	194950E Sensor	T7047C1090 Case (for wall mounting the remote sensor), 121371A Immersion Well, 131524A/107324A/311266D Holders for duct mounting sensor, 107408 Heat-inductive compound

Legacy Building Systems

W973 Logic Panel

Control heating, cooling and economizer operation in commercial air conditioning and heat pump equipment.

- Proven, reliable temperature control
- Many flexible versions to meet your application needs
- Panels can be used with staged gas, oil, or electric heat; modulating gas, hot water, or steam heat; and direct expansion or modulating chilled water cooling
- Control up to 3 on-off heat or cool stages or up to 10 on-off heat and/or cool stages using W975 Satellite Sequencers
- Modulating dc current signal controls economizer heating or cooling valve motors
- T7067 Dual Set Point Thermostat/Transmitter located in controlled space provides heating and cooling input signal based on space demand
- C7046A sensor located in discharge air duct provides heating/cooling anticipation and economizer modulating low limit signal
- System cycles all stages off on power interruption
- When power is restored, system sequences required stages on with timed inter-stage delay

Dimensions, Approximate: 6 1/4 in. high x 4 1/8 in. wide x 2 5/16 in. deep (159 mm high x 105 mm wide x 59 mm deep)
Contact Ratings: NO 240 VA inrush @ 24 Vac, 60 VA running @ 24 Vac; NC 75 VA inrush @ 24 Vac, 30 VA running @ 24 Vac
Electrical Connections: 1/4 in. quick-connect male terminals
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Power Consumption: 8 VA
Operating Temperature Range: -40 F to +150 F (-40 C to +66 C)

Shipping Temperature Range: -30 F to +150 F (-34 C to +65 C)
Compatible With: T7067 Thermostat with Q667 subbase
Approvals
Canadian Standards Association: File No. LR95329-3
Underwriters Laboratories, Inc: Component Recognized: File No. SA481

Accessories:
4074EAC-Resistor Kit. Required for use when using M7364, M7164,M7184,M7186,M7685,M7185 motors with W973

Product Number	Application	Application Size	Control System	Output Type	Comments
W973A1017/U	Split System; Heat Pump Systems; Furnace; Packaged RTU	2 Heat / 2 Cool	W973 single zone	Staged On/Off	—
W973B1016/U	Split System; Heat Pump Systems; Furnace; Packaged RTU	3 Heat / 3 Cool	W973 single zone	Staged On/Off	Provides modulating heating output and modulating cooling output
W973E1005/U	Split System; Heat Pump Systems; Furnace; Packaged RTU	0 Heat / 4 Cool	W973 single zone	Staged On/Off	—
W973J1017/U	Split System; Heat Pump Systems; Furnace; Packaged RTU	4 Heat / 4 Cool	W973 single zone	Staged On/Off	—

Environmental Control Systems Accessories

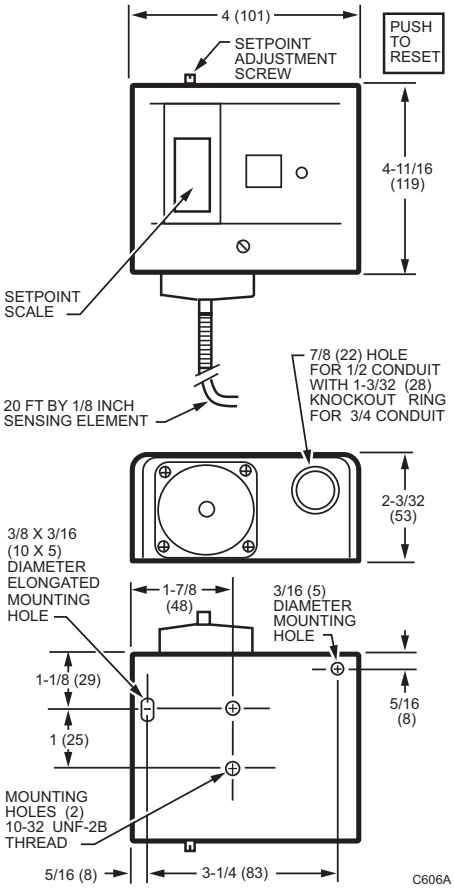
Product Number	Description	Used With	
230038A/U	Replacement Faceplate Lens for use with W9076	W9076	
S963B1003/U	Manual Potentiometer (360 ohm)	T7022; T7023	
S963B1037/U	Manual Potentiometer (480 ohm)	—	
S963B1078/U	Manual Potentiometer (500 ohm)	—	
S963B1086/U	Manual Potentiometer (1000 ohm)	—	
S963B1128/U	Manual Potentiometer (135 ohm)	—	
S963B1136/U	Manual Potentiometer (270 ohm)	—	
S963B1177/U	Manual Potentiometer (480 ohm)	—	
S963D1001/U	2 Potentiometers that simulate the ramp signals of a T7067 Thermostat	—	

L480; L482 Refrigeration Controller

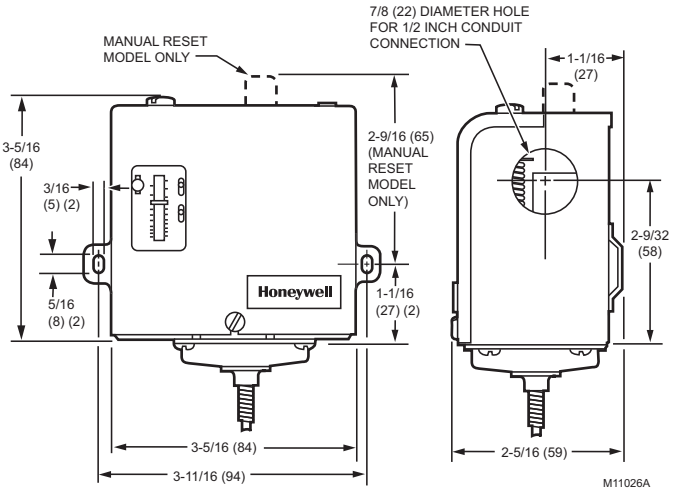
Used to limit or control temperature in air conditioning systems or refrigerated enclosures.

- Applications include freezer cabinets, display cases, beverage coolers, milk cooling tanks and air conditioners
- Can act as a frost alarm operator in storehouses or orchards where frost would damage crops or equipment
- Dual temperature scaleplate provided for both Fahrenheit and Celsius readings

L482 Dimensions in inches (millimeters)



L482 Dimensions in inches (millimeters)



Type: Averaging element
Voltage: 120 Vac; 240 Vac
Frequency: 50 Hz; 60 Hz
Sensor Element: Coldest point on the capillary
Capillary Length: 20 ft (6.1 m)
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: File: SA481, Guide: SDFY

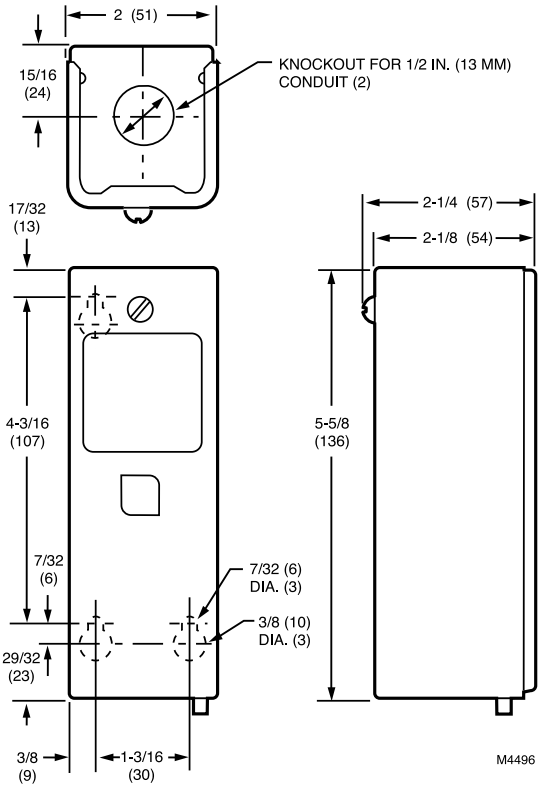
Product Number	Application	Differential Temperature (F)	Differential Temperature (C)	Maximum Operating Temperature (F)	Maximum Operating Temperature (C)	Setting Temperature Range (F)	Switching	Contact Ratings (120 Vac)	Contact Ratings (240 Vac)	Comments
L480B1239/U	Acts as frost alarm in storehouses, orchards, or other locations where frost could damage crops or equipment	10 F	5.6 C	125 F	52 C	20 F to 60 F	1 SPDT	10.2 AFL, 61.2 ALR	6.5 AFL, 39.0 ALR	—
L480G1044/U	For temperature or limit control of air conditioning systems and refrigeration units	15 F	8 C	125 F	52 C	20 F to 60 F	1 SPST	10.2 AFL, 61.2 ALR	6.5 AFL, 39.0 ALR	Manual reset
L482A1004/U	Provides temperature or limit control of air conditioning systems by operating electric motors for dampers, valves, compressors, or fans	5 F	2.8 C	140 F	60 C	15 F to 55 F	2 SPST, one N.O., one N.C.	Aux: 6.0 AFL, 36.0 ALR Main: 8.0 AFL, 48.0 ALR	Aux: 3.0 AFL, 18.0 ALR Main: 5.1 AFL, 30.6 ALR	Manual reset

T4031A; T6031A Refrigeration Temperature Controller

Provide limit or temperature control in refrigerated areas where remote mounting of sensing element is required.

- Liquid-filled copper elements provide rapid sensing to control the compressor system
- Control temperature in a duct, tank, freezer or cooler
- Controller element can be directly immersed in the controlled medium
- Adjustable control setpoint
- Ambient temperature compensation provides good temperature control
- Refer to T775 Electronic Remote Temperature Controller where more exact control is required and/or remote controller location is preferred

Dimensions in inches (millimeters)



Type: Remote bu b
Dimensions, Approximate: 5 5/8 in. high x 2 in. wide x 2 1/4 in. deep (143 mm high x 51 mm wide x 57 mm deep)
Maximum Operating Temperature: 125 F (52 C)
Voltage: 120 Vac; 240 Vac
Switching: 1 SPDT
Sensor Element: Copper bulb
Bulb Size: 3/8 in. diameter x 3 in. long (10 mm diameter x 76 mm long)
Contact Ratings (120 Vac): 8.0 AFL, 48.0 ALR
Contact Ratings (240 Vac): 5.1 AFL, 30.6 ALR
Approvals
Canadian Standards Association: Certified: File No. LR95329-1
Underwriters Laboratories, Inc: File: SA481, Guide: SDFY

	Product Number	Application	Capillary Length		Differential Temperature		Setting Temperature Range		Comments
			(ft)	(m)	(F)	(C)	(F)	(C)	
	T4031A1073/U	Provides control of cooled or refrigerated space	8 ft	2.44 m	3.5 F	—	-30 F to +50 F	—	—
	T6031A1011/U	Provides control of cooled or refrigerated space	5 ft	1.5 m	3.5 F to 16 F	—	15 F to 90 F	—	—
•	**T6031A1029/U**	Provides control of cooled or refrigerated space	8 ft	2.4 m	3.5 F to 16 F	—	-30 F to +90 F	—	—
	T6031A1052/U	Provides control of cooled or refrigerated space	5 ft	1.5 m	3.5 F to 16 F	—	-30 F to +90 F	—	—
	T6031A1060/U	Provides control of cooled or refrigerated space	20 ft	6.1 m	3.5 F to 16 F	—	-30 F to +90 F	—	—
	T6031A1086/U	Provides control of cooled or refrigerated space	8 ft	2.4 m	—	1.9 C to 8.9 C	—	-35 C to +30 C	Celsius model
	T6031A1136/U	Provides control of cooled or refrigerated space	8 ft	2.4 m	3.5 F to 16 F	—	-30 F to +90 F	—	—

** TRADELINE models • SUPER TRADELINE models*

S437; S637 Sail Switch

The S637 Sail Switches respond to the air velocity in heating or warm air ducts, such as used in farm crop dryers. The switch completes a 24V or line voltage burner control circuit only when the blower or fan has produced a predetermined air velocity.

- Micro Switch SPDT snap switch is operated by a metal sail inserted in an air stream
- Has a set of normally closed contacts which can be used to energize a signal or warning circuit when the velocity drops off
- Sail can trimmed to one-half the original size to double the velocity required to close the snap switch contacts
- Switch differential can be manually adjusted by turning a knurled knob on the snap switch
- A conduit knockout is located on each end of the case for wiring convenience

Dimensions, Approximate: 2 15/16 in. high x 3 3/4 in. wide x 2 in. deep (59 mm high x 95 mm wide x 51 mm deep)
Contact Ratings (AFL): 7.5 A @ 12 Vdc; 15.0 A @ 6 Vdc; 2.0 A @ 24 Vac; 5.1 A @ 240 Vac; 8.0 A @ 120 Vac
Contact Ratings (ALR): 30.6 A @ 240 Vac; 48.0 A @ 120 Vac

Maximum Ambient Temperature: 150 F (66 C)
Approvals
Canadian Standards Association: CSA: Guide: MFHZ
Underwriters Laboratories, Inc: UL: File: MP2618

Product Number	Switching	Operating Velocity (fpm)	Operating Velocity (m/s)	Sail Dimensions (inch)	Sail Dimensions (mm)	Insertion Length (inch)	Insertion Length (mm)
S437A1009/U	1 SPST	1900 fpm-2250 fpm	9.7 m/s-11.4 m/s	1 in. x 3 in.	25 mm x 76 mm	3 1/2 in.	89 mm
S437A1025/U	1 SPST	1900 fpm-2250 fpm	9.7 m/s-11.4 m/s	1 1/2 in. x 4 in.	38 mm x 102 mm	3 1/2 in.	89 mm
S637A1004/U	1 SPDT	1900 fpm-2250 fpm	9.7 m/s-11.4 m/s	1 in. x 3 in.	25 mm x 76 mm	3 1/2 in.	89 mm

Manual Switch Accessories

Product Number	Application Type	Description
113578A/U	Mounting Strap	Mounting Strap with screws for one toggle switch applications
113700/U	—	Toggle Switch (3 positions) ON-OFF-ON, switches 15 A at 125 Vac

Temperature Controllers

T4031C; T6031C,D,F Ambistat Controller

Ambient temperature compensated, high-limit controllers for HVAC, agriculture and industrial applications.

- Suitable for line-voltage, low voltage, or millivolt (Powerpile) control of bulk milk tanks, beverage dispensing machines, ice cube machines, dishwashers, crop drying, tobacco curing, and similar applications
- Enclosed snap action switches available with SPST or SPDT action
- Models available that make or break on temperature rise
- Screwdriver adjustment for temperature setting; external knob option
- Immersion well not included

Type: Remote bulb
Application: Line-voltage, low-voltage or millivolt (Powerpile) control of bulk milk tanks, beverage dispensing machines, ice cube machines, dishwashers, crop drying, tobacco curing and similar applications.
Dimensions, Approximate: 5 5/8 in. high x 2 in. wide x 2 1/8 in. deep (143 mm high x 51 mm wide x 54 mm deep)
Output Type: Relay

Voltage: 120 Vac or 240 Vac
Frequency: 50 Hz; 60 Hz
Number of Sensor Inputs: 1
Approvals
Canadian Standards Association: Listed
Underwriters Laboratories, Inc: Component Recognized

	Product Number	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Maximum Operating Temperature (F)	Maximum Operating Temperature (C)	Bulb Size (inch)	Bulb Size (mm)	Capillary Length (ft)	Capillary Length (m)	Output	Sensor Element	Differential Temperature (F)	Differential Temperature (C)	Contact Ratings (120 Vac)	Contact Ratings (240 Vac)	Comments
	T4031C1012/U	40 F to 180 F	4 C to 82 C	205 F	96 C	2 7/8 in. long x 3/8 in. diameter	73 mm long x 10 mm diameter	5 1/2 ft	1.7 m	1 SPST	Copper	5 F	2.8 C	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	Break on temperature rise
*	**T6031C1009/U**	40 F to 180 F	4 C to 82 C	205 F	96 C	3/8 in. diameter x 2 7/8 in. long	10 mm diameter x 73 mm long	5 1/2 ft	1.7 m	1 SPDT	Copper bulb	2 F	1.1 C	120 VA pilot duty	120 VA pilot duty	Includes 107324A Duct Bulb holder
	T6031C1058/U	100 F to 240 F	38 C to 116 C	265 F	130 C	3/8 in. diameter x 2 7/8 in. long	10 mm diameter x 73 mm long	5 ft	1.5 m	1 SPDT	Stainless steel bulb	2 F	1.1 C	120 VA pilot duty	120 VA pilot duty	—
	T6031D1015/U	40 to 180 F	4 C to 82 C	—	—	3/8 in. diameter x 2 7/8 in. long	10 mm diameter x 73 mm long	5 1/2 ft	1.7 m	1 SPDT	Copper bulb	5 F	2.8 C	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	—
	T6031D1031/U	0 F to 70 F	-18 C to +21 C	170 F	77 C	3/8 in. diameter x 2 7/8 in. long	10 mm diameter x 73 mm long	5 1/2 ft	1.7 m	1 SPDT	Copper bulb	5 F	2.8 C	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	—
	T6031D1049/U	30 F to 270 F	-1 C to +132 C	305 F	152 C	3/8 in. diameter x 2 7/8 in. long	10 mm diameter x 73 mm long	5 1/2 ft	1.7 m	1 SPDT	Copper bulb	7 F	3.9 C	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	—
	T6031F1010/U	55 F to 90 F	13 C to 32 C	150 F	66 C	5/16 in. diameter x 11 11/16 in. long	8 mm diameter x 297 mm long	5 1/2 ft	1.7 m	1 SPDT	Copper bulb	1.5 F	0.8 C	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	Does not include enclosure

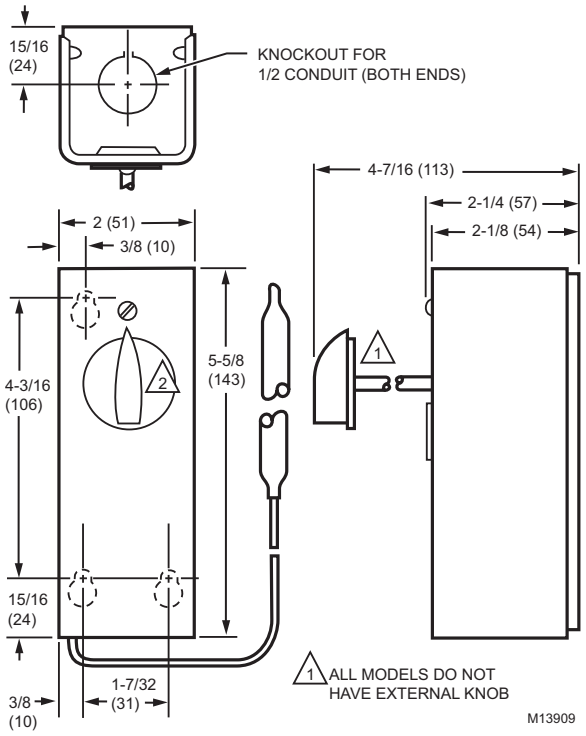
** TRADELINE models • SUPER TRADELINE models*

T6031E Unit Thermostat

Ambient temperature compensated, high-limit controllers for HVAC, agriculture and industrial applications.

- Suitable for line-voltage, low voltage, or millivolt (Powerpile) control of bulk milk tanks, beverage dispensing machines, ice cube machines, dishwashers, crop drying, tobacco curing, and similar applications
- Enclosed snap action switches available with SPST or SPDT action
- Models available that make or break on temperature rise
- Screwdriver adjustment for temperature setting; external knob option
- Immersion well not included

Dimensions in inches (millimeters)



Type: Remote bulb
Application: Remote bulb temperature control
Bulb Size: 5/16 in. diameter x 11 11/16 in. long (8 mm diameter x 297 mm long)
Sensor Element: Copper bulb
Color: Gray
Contact Ratings (120 Vac): 3.2 AFL, 19.2 ALR
Contact Ratings (240 Vac): 1.6 AFL, 9.6 ALR
Voltage: 120 Vac or 240 Vac
Frequency: 50 Hz; 60 Hz
Maximum Operating Temperature: 150 F (66 C)
Approvals
Canadian Standards Association: Listed
Underwriters Laboratories, Inc: Component Listed

Product Number	Setpoint Temperature Range		Differential Temperature		Capillary Length		Output	Output Type	Number of Sensor Inputs
	(F)	(C)	(F)	(C)	(ft)	(m)			
T6031E1004/U	55 F to 90 F	13 C to 32 C	1.5 F	0.8 C	5 1/2 ft	1.7 m	1 SPDT	relay	1

Temperature Controllers

T4054 Return Air Controller

Provides SPDT heavy-duty, line-voltage temperature control in ventilation, heating or cooling systems.

- Use in a variety of farm, industrial or commercial applications
- Wall or duct mount in any position
- Fast response, tin-plated element not affected by adverse environment
- Rugged case
- Mounts on flat surface with three screws
- T6064 provides fast response with hydraulic temperature sensing elements mounted on the unit

Type: Filled element
Application: Provides control in heating systems
Dimensions, Approximate: 7 5/8 in. high x 2 5/8 in. wide x 2 in. deep (194 mm high x 67 mm wide x 51 mm deep)
Accuracy: ±6 F (±3.3 C)
Sensor Element: Fast response capillary
Color: Gray
Contact Ratings (120 Vac): 16.0 AFL, 96.0 ALR
Contact Ratings (240 Vac): 8.0 AFL, 48.0 ALR
Voltage: 120 Vac or 240 Vac
Frequency: 50 Hz; 60 Hz
Maximum Operating Temperature: 125 F (52 C)
Differential Temperature: 3.5 F (1.9 C)
Contact Ratings (120 Vac): 16.0 AFL, 80.0 ALR
Contact Ratings (120 Vac): 8.0 AFL, 48.0 ALR
Approvals
Canadian Standards Association: CSA Listed: Report -1
Underwriters Laboratories, Inc: Listed: E4436, vol. 5, sec. 12, Guide XAPX

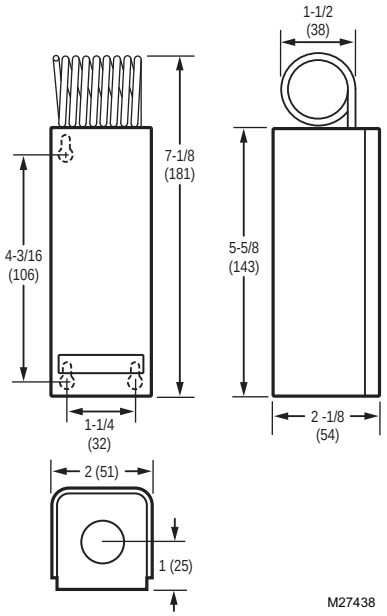
Product Number	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Output	Output Type	Number of Sensor Inputs	Comments
T4054A1000/U	36 F to 100 F	2 C to 38 C	1 SPST	relay	1	Make R to B on temperature fall
T4054B1016/U	36 F to 100 F	2 C to 38 C	1 SPST	relay	1	Make R to W on temperature rise

T6054 Utility Line Voltage Thermostat

Provides SPDT heavy-duty, line-voltage temperature control in ventilation, heating or cooling systems.

- Use in a variety of farm, industrial or commercial applications
- Wall or duct mount in any position
- Fast response, tin-plated element not affected by adverse environment
- Rugged case
- Mounts on flat surface with three screws

Dimensions in inches (millimeters)



Type: Filled element
Application: Provides control in ventilation, heating, cooling or heating-cooling systems
Accuracy: ±10 F (±5.6 C)
Sensor Element: Copper filled element
Color: Gray
Contact Ratings (120 Vac): 7.4 AFL, 44.4 ALR
Contact Ratings (240 Vac): 3.7 AFL, 22.2 ALR
Voltage: 120 Vac or 240 Vac
Frequency: 50 Hz; 60 Hz

Approvals
Canadian Standards Association: CSA Listed: Report -1
Underwriters Laboratories, Inc: Listed: E4436, vol. 5, sec. 12, Guide XAPX

	Product Number	Maximum Operating Temperature		Setpoint Temperature Range		Differential Temperature		Output	Output Type	Number of Sensor Inputs	Includes
		(F)	(C)	(F)	(C)	(F)	(C)				
*	**T6054A1005/U**	125 F	52 C	-30 F to +110 F	-34 C to +43 C	3.5 F	1.9 C	1 SPDT	relay	1	Case

** TRADELINE models • SUPER TRADELINE models*

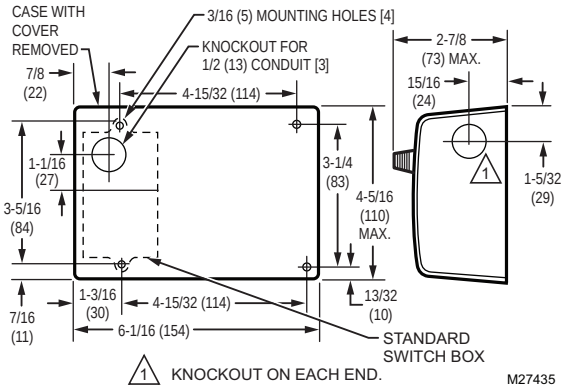
Temperature Controllers

T631A, B, C Farm Controllers

Provide line voltage control of heating, cooling and ventilating systems in farm buildings or storage areas.

- Use in barns, poultry houses, hog barns, pump houses, milk houses and crop storage houses
- Treated to resist corrosion
- Slots in front and bottom of case provide maximum air circulation over the coiled sensing element
- SPDT snap switches permanently sealed against corrosion
- Easy mounting using screws through holes in back of case

Dimensions in inches (millimeters)



Type: Agricultural Temperature Controller
Application: Provide line voltage control of heating, cooling and ventilating systems in farm buildings or storage areas
Sensor Element: Coiled Copper Tube
Color: Red finish
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O
Underwriters Laboratories, Inc: File No. E4436 Vol.1 Sec. UL Guide XAPX

Product Number	Contact Ratings		
	(24 Vac)	(120 Vac)	(240 Vac)
T631A,B,C	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631A1113	—	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR
T631B1054	—	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR
T631C1012	—	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR
T631C1103	—	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR

	Product Number	Maximum Operating Temperature		Setpoint Temperature Range		Differential Temperature		Interstage Differential Temperature		Voltage	Output	Comments
		(F)	(C)	(F)	(C)	(F)	(C)	(F)	(C)			
	T631A1006/U	120 F	49 C	35 F to 100 F	—	2 F	1.1 C	—	—	24 Vac or 120/240 Vac	1 SPDT	—
	T631A1022/U	150 F	67 C	70 F to 140 F	—	2 F	1.1 C	—	—	24 Vac or 120/240 Vac	1 SPDT	—
	T631A1030/U	125 F	52 C	0 F to 70 F	—	3 F	1.7 C	—	—	24 Vac or 120/240 Vac	1 SPDT	—
	T631A1063/U	125 F	52 C	-10 F to +100 F	—	3 F	1.7 C	—	—	24 Vac or 120/240 Vac	1 SPDT	—
	T631A1113/U	120 F	50 C	35 F to 100 F	—	3.5 F	1.9 C	—	—	120 Vac or 240 Vac	1 SPDT (1 hp at 0.7 kW)	—
	T631A1154/U	120 F	50 C	—	0 C to 40 C	2 F	1.1 C	—	—	24 Vac or 120/240 Vac	1 SPDT	Celsius model
	T631B1005/U	120 F	50 C	35 F to 100 F	—	2 F	1.1 C	3.5 F	1.9 C	120 Vac or 240 Vac	2 SPDT	—
	T631B1054/U	120 F	50 C	35 F to 100 F	—	2 F	1.1 C	0 F to 7 F adjustable	0 C to 4 C adjustable	120 Vac or 240 Vac	2 SPDT (1 hp at 0.7 kW)	—
	T631C1012/U	125 F	52 C	20 F to 90 F	—	3 F	1.7 C	—	—	120 Vac or 240 Vac	1 SPDT (1 hp at 0.7 kW)	—
	T631C1020/U	150 F	67 C	70 F to 140 F	—	2 F	1.1 C	—	—	24 Vac or 120/240 Vac	1 SPDT	—
	T631C1038/U	125 F	52 C	—	-10 C to +30 C	3 F	1.7 C	—	—	24 Vac or 120/240 Vac	1 SPDT	Celsius model
	T631C1046/U	150 F	67 C	—	20 C to 60 C	2 F	1.1 C	—	—	24 Vac or 120/240 Vac	1 SPDT	Celsius model
	T631C1053/U	120 F	49 C	35 F to 100 F	—	2 F	1.1 C	—	—	120 Vac or 240 Vac	1 SPDT	—
*	**T631C1103/U**	125 F	52 C	-30 F to +100 F	—	5 F	2.8 C	—	—	24 Vac or 120/240 Vac	1 SPDT (1 hp at 0.7 kW)	—

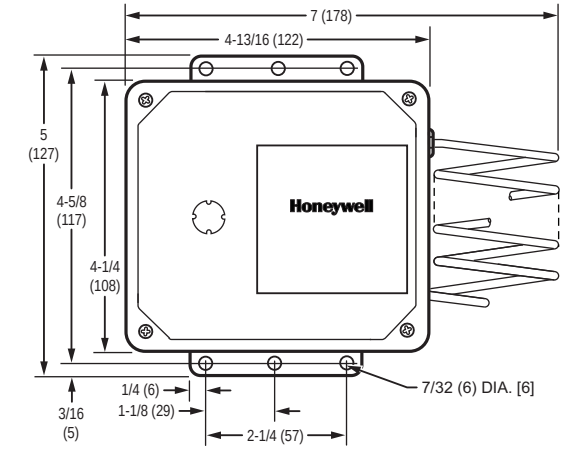
** TRADELINE models • SUPER TRADELINE models*

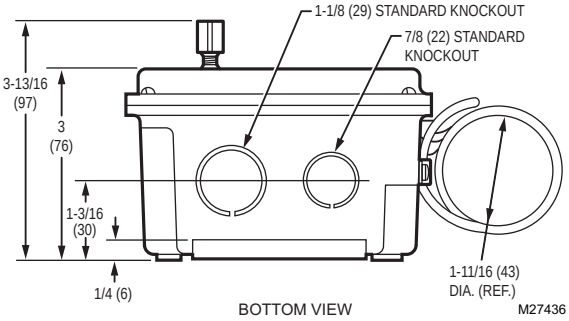
T631F,G NEMA IV Controllers

Provide line voltage control of heating, cooling and ventilating systems in farm buildings, storage areas and industrial environments; watertight, dust-proof enclosure.

- Use in barns, brooder houses, poultry houses, hog barns, pump houses, milk houses, crop storage houses and industrial environments. NEMA 4X enclosure protects thermostat and wiring connections from oil, water, dust, and corrosion
- Clear plastic cover reveals setpoint, discourages tampering
- Sensing element externally mounted for fast response and tin plated to resist corrosion
- Reliable snap switches sealed against contamination
- Insulated case has internal grounding screw for safety
- Meet National Electrical Code Article 547-4 requirements
- Easy mounting with screws through holes in flanges on case

Dimensions in inches (millimeters)





Type: Agricultural Temperature Controller
Application: Provide line voltage control of heating, cooling and ventilating systems in farm buildings or storage areas
Sensor Element: Coiled, Tin-plated Copper Tube
Color: Gray finish
Frequency: 50 Hz; 60 Hz
Maximum Operating Temperature: 145 F
Setpoint Temperature Range: 35 F to 100 F
Differential Temperature: 2 F (1.1 C)
Interstage Differential Temperature: 0 F to 7 F adjustable (0 C to 4 C adjustable)

Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O
Underwriters Laboratories, Inc: File No. E4436 Vol.1 Sec. UL Guide XAPX

Commercial Components

Product Number	Voltage	Output	Contact Ratings (24 Vac)	Contact Ratings (120 Vac)	Contact Ratings (240 Vac)	Comments
T631F1068/U	24 Vac or 120/240 Vac	1 SPDT	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR	Internal Setpoint Adjustment
T631F1084/U	24 Vac or 120/240 Vac	1 SPDT	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR	External Setpoint Adjustment
T631F1092/U	120 Vac or 240 Vac	1 SPDT (1 hp)	—	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR	External Setpoint Adjustment
T631G1059/U	120 Vac or 240 Vac	2 SPDT (1 hp)	—	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR	External Setpoint Adjustment

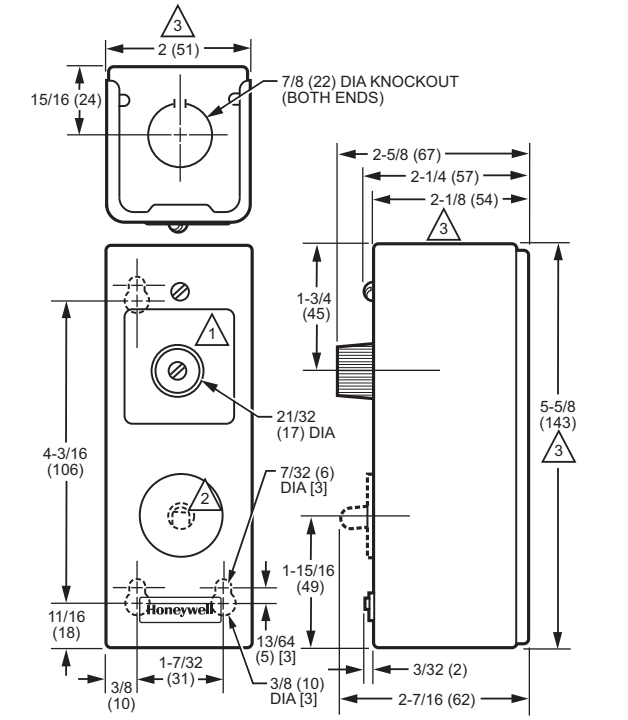
Temperature Controllers

T675A,B; T678A Remote Bulb Controllers

Remote bulb thermostats regulate temperature of air or liquids in ducts, pipes, tanks and boilers.

- Suitable for applications requiring temperature control of air or liquids where controller must be placed outside the sensing area
- Typical uses include control of dampers and valves in heating, cooling and heating-cooling systems
- Fast response models (available for use in return air duct) operate approximately four times faster than standard models
- Controller can be mounted in any position
- Ambient temperature compensation provides good temperature control
- Refer to T775 Electronic Remote Temperature Controller where more exact control is required and/or remote controller location is preferred
- T678 models have a maximum connected load of 2000 VA

Dimensions in inches (millimeters)



1 T675B DOES NOT HAVE AN ADJUSTMENT KNOB.

2 T675B HAS A MANUAL RESET BUTTON (INDICATED BY DASHED LINES).

3 TRADELINE MODELS T675A, T678A ONLY – NOREL COVER INCREASES THESE DIMENSIONS BY APPROXIMATELY 1/8 IN. (3).

M23928

Type: Remote bu b
Application: Regulates temperature of air or liquids in ducts, pipes, tanks and boilers
Voltage: 120 Vac or 240/277 Vac
Frequency: 50 Hz; 60 Hz
Output Type: Relay
Number of Sensor Inputs: 1

Approvals
Canadian Standards Association: CSA Listed: Report -1
Underwriters Laboratories, Inc: UL Listed: E4436, Vol. 4, Sec. 11, Guide XAPX

	Contact Ratings		
	(120 Vac)	**(240 Vac)**	**(277 Vac)**
T675A with Adjustable Differential Temperature	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	4.2 AFL, 25.2 ALR
T675A with Fixed Differential Temperature	125 VA	125 VA	125 VA
T675B	125 VA	125 VA	125 VA
T678A	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	4.2 AFL, 25.2 ALR

	Product Number	Maximum Operating Temperature		Setpoint Temperature Range		Differential Temperature		Interstage Differential Temperature		Bulb Size		Capillary Length		Output	Sensor Element	Comments
		(F)	(C)	(F)	(C)	(F)	(C)	(F)	(C)	(inch)	(mm)	(ft)	(m)			
	T675A1045/U	125 F	52 C	0 F to 100 F	-18 C to +38 C	3 F to 10 F	1.7 C to 5.6 C	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	20 ft	6.1 m	1 SPDT	Stainless steel bulb	Stainless Steel Bulb
	T675A1102/U	280 F	138 C	160 F to 260 F	71 C to 127 C	3 F to 10 F	1.7 C to 5.6 C	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	20 ft	6.1 m	1 SPDT	Copper bulb	—
	T675A1136/U	125 F	52 C	0 F to 100 F	-18 C to +38 C	1 F fixed	0.6 C fixed	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	20 ft	6.1 m	1 SPDT	Copper bulb	—
	T675A1243/U	125 F	52 C	167 F to 257 F	75 C to 125 C	3 F to 10 F	1.7 C to 5.6 C	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	5 ft	1.5 m	1 SPDT	Copper bulb	Celsius model
	T675A1425/U	200 F	93 C	55 F to 175 F	13 C to 79 C	3.6 F to 12 F	2 C to 6.7 C	—	—	1/2 in. x 3 9/16 in.	13 mm x 90 mm	20 ft	6.1 m	1 SPDT	Copper bulb	—
	T675A1458/U	200 F	93 C	55 F to 175 F	13 C to 79 C	1 F fixed	0.6 C fixed	—	—	1/2 in. x 3 9/16 in.	13 mm x 90 mm	5 ft	1.5 m	1 SPDT	Copper bulb	—
*	**T675A1508/U**	125 F	52 C	0 F to 100 F	-18 C to +38 C	3 F to 10 F	1.7 C to 5.6 C	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	5 ft	1.5 m	1 SPDT	Copper bulb	Includes 107324A Duct Bulb Holder
*	**T675A1516/U**	125 F	52 C	0 F to 100 F	-18 C to +38 C	1 F fixed	0.6 C fixed	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	5 ft	1.5 m	1 SPDT	Copper bulb	Includes 107324A Duct Bulb Holder
	T675A1524/U	200 F	93 C	55 F to 175 F	13 C to 79 C	1 F fixed	0.6 C fixed	—	—	1/2 in. x 3 9/16 in.	13 mm x 90 mm	20 ft	6.1 m	1 SPDT	Copper bulb	—
*	**T675A1532/U**	280 F	138 C	160 F to 260 F	71 C to 127 C	3 F to 10 F	1.7 C to 5.6 C	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	5 ft	1.5 m	1 SPDT	Copper bulb	Includes 107324A Duct Bulb Holder
*	**T675A1540/U**	200 F	93 C	55 F to 175 F	13 C to 79 C	3.6 F to 12 F	2 C to 6.7 C	—	—	1/2 in. x 3 9/16 in.	13 mm x 90 mm	5 ft	1.5 m	1 SPDT	Copper bulb	Includes 107324A Duct Bulb Holder
*	**T675A1565/U**	125 F	52 C	0 F to 100 F	-18 C to +38 C	3 F to 10 F	1.7 C to 5.6 C	—	—	1/2 in. x 4 3/16 in.	13 mm x 90 mm	20 ft	6.1 m	1 SPDT	Copper bulb	Includes 107324A Duct Bulb Holder
*	**T675A1706/U**	125 F	52 C	0 F to 100 F	-18 C to +38 C	3 F to 10 F	1.7 C to 5.6 C	—	—	coil 1 1/2 in. diameter x 5 in.	coil 38.1 mm x 127 mm	5 ft	1.5 m	1 SPDT	Fast response capillary	Fast response model, includes 131524A Duct Bulb Holder
	T675A1771/U	200 F	93 C	55 F to 175 F	13 C to 79 C	1 F fixed	0.6 C fixed	—	—	coil 1 1/2 in. diameter x 5 in.	coil 38.1 mm x 127 mm	5 ft	1.5 m	1 SPDT	Fast response capillary	Fast response model, includes 13154A Duct Bulb Holder
	T675B1002/U	125 F	52 C	30 F to 50 F	-1 C to +10 C	Manual Reset	Manual Reset	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	10 ft	3 m	1 SPDT	Copper bulb	—
	T675B1010/U	125 F	52 C	30 F to 50 F	-1 C to +10 C	Manual Reset	Manual Reset	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	20 ft	6.1 m	1 SPDT	Copper bulb	—
	T675B1028/U	125 F	52 C	-20 F to +50 F	-29 C to +10 C	Manual Reset	Manual Reset	—	—	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	10 ft	3 m	1 SPDT	Copper bulb	—
	T678A1015/U	125 F	52 C	0 F to 100 F	-18 C to +38 C	3 F fixed	1.7 C fixed	3 F to 10 F adjustable	1.7 C to 5.6 C adjustable	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	20 ft	6.1 m	2 SPDT switch contacts	Copper bulb	maximum connected load = 2000VA
	T678A1163/U	125 F	52 C	5 F to 95 F	-15 C to +35 C	3 F fixed	1.7 C fixed	3 F to 10 F adjustable	1.7 C to 5.6 C adjustable	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	20 ft	6.1 m	2 SPDT switch contacts	Copper bulb	maximum connected load = 2000VA; Celsius model
	T678A1361/U	200 F	93 C	55 F to 175 F	13 C to 79 C	3.6 F fixed	2.0 C fixed	3.6 F to 12 F adjustable	2.0 C to 6.7 C adjustable	1/2 in. x 3 9/16 in.	13 mm x 90 mm	20 ft	6.1 m	2 SPDT switch contacts	Copper bulb	maximum connected load = 2000VA
*	**T678A1437/U**	125 F	52 C	0 F to 100 F	-18 C to +38 C	3 F fixed	1.7 C fixed	3 F to 10 F adjustable	1.7 C to 5.6 C adjustable	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	5 ft	1.5 m	2 SPDT switch contacts	Copper bulb	maximum connected load = 2000VA

** TRADELINE models • SUPER TRADELINE models*

Temperature Controllers

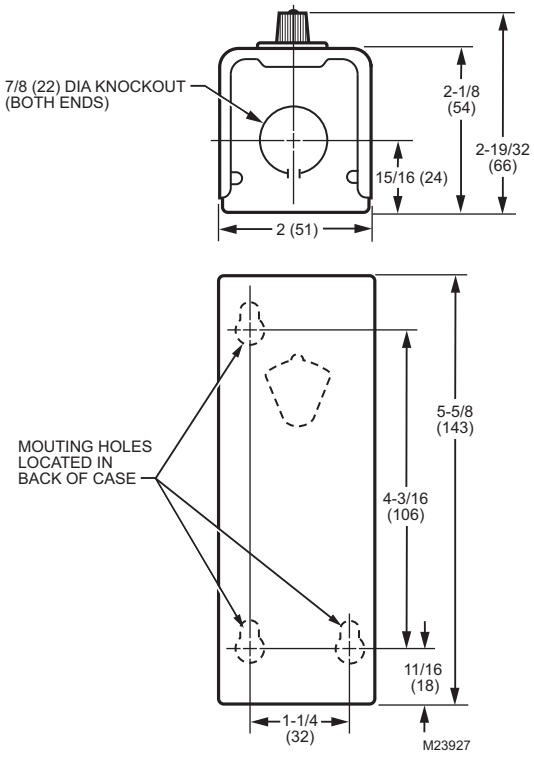
	Product Number	Maximum Operating Temperature		Setpoint Temperature Range		Differential Temperature		Interstage Differential Temperature		Bulb Size		Capillary Length		Output	Sensor Element	Comments
		(F)	(C)	(F)	(C)	(F)	(C)	(F)	(C)	(inch)	(mm)	(ft)	(m)			
*	**T678A1445/U**	200 F	93 C	55 F to 175 F	13 C to 79 C	3.6 F fixed	2.0 C fixed	3.6 F to 12 F adjustable	2.0 C to 6.7 C adjustable	1/2 in. x 3 9/16 in.	13 mm x 90 mm	5 ft	1.5 m	2 SPDT switch contacts	Copper bulb	maximum connected load = 2000VA
*	**T678A1478/U**	125 F	52 C	0 F to 100 F	-18 C to +38 C	3 F fixed	1.7 C fixed	3 F to 10 F adjustable	1.7 C to 5.6 C adjustable	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	5 ft	1.5 m	2 SPDT switch contacts	Fast response capillary	maximum connected load = 2000VA; Fast response model
*	**T678A1494/U**	200 F	93 C	55 F to 175 F	13 C to 79 C	3.6 F fixed	2.0 C fixed	3.6 F to 12 F adjustable	2.0 C to 6.7 C adjustable	1/2 in. x 3 9/16 in.	13 mm x 90 mm	5 ft	1.5 m	2 SPDT switch contacts	Fast response capillary	maximum connected load = 2000VA; Fast response model
	T678A1627/U	125 F	52 C	0 F to 100 F	-18 C to +38 C	3.6 F fixed	2.0 C fixed	3.6 F to 12 F adjustable	2.0 C to 6.7 C adjustable	1/2 in. x 4 3/16 in.	13 mm dia. x 106 mm long	10 ft	3 m	2 SPDT switch contacts	Averaging capillary	maximum connected load = 2000VA
*	**T678A1692/U**	200 F	93 C	—	15 C to 75 C	3.6 F	2.0 C	3.6 F to 12 F	2.0 C to 6.7 C	1/2 in. x 4 in.	13 mm diameter x 102 mm long	5 ft	1.5 m	2 SPDT switch contacts	Copper bulb	maximum connected load = 2000VA; Celsius model

** TRADELINE models • SUPER TRADELINE models*

T675F Crop-Trol Controller

Used to control an oil burning, portable crop dryer.
- Suitable for line-voltage, low-voltage or millivolt (Powerpile) switching
- Mounts directly on dryer with sensing bulb in discharge air duct
- Knob extends through case for manual control point adjustment
- Differential setting wheel, located under cover, adjusts difference between cut-in and cut-out temperatures

Dimensions in inches (millimeters)



Type: Remote bulb
Application: Crop-trol, provides control of portable crop drying equipment
Bulb Size: 3/8 in. x 3 in. (10 mm x 76 mm)
Sensor Element: Copper bulb
Contact Ratings (120 Vac): 8.0 AFL, 48.0 ALR
Contact Ratings (240 Vac): 5.1 AFL, 30.6 ALR
Contact Ratings (277 Vac): 4.2 AFL, 25.2 ALR
Voltage: 120 Vac or 240/277 Vac
Frequency: 50 Hz; 60 Hz
Maximum Operating Temperature: 245 F (118 C)
Setpoint Temperature Range: 80 F to 220 F (27 C to 104 C)
Differential Temperature: 5 F to 30 F (2.8 C to 17 C)
Approvals
Underwriters Laboratories, Inc: Component Listed

Product Number	Description	Capillary Length (m)	Capillary Length (ft)	Output	Output Type	Number of Sensor Inputs
T675F1032/U	Remote bulb Commercial Temperature Controller, 80 F to 220 F, 10 ft. capillary, Copper bulb sensing element	3 m	10 ft	1 SPDT	relay	1

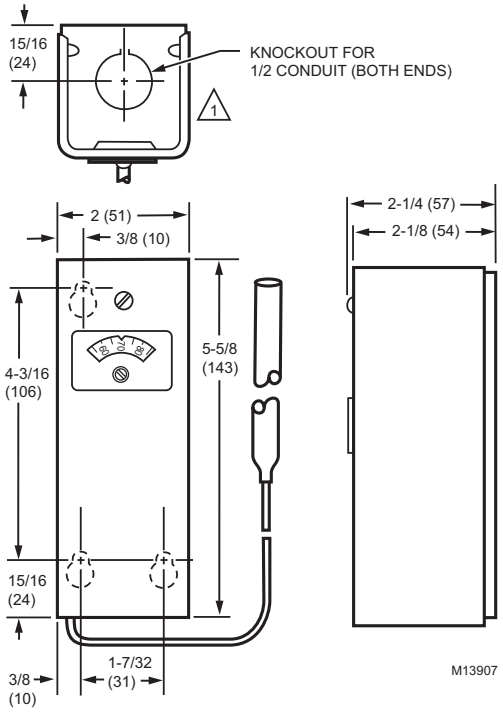
Temperature Controllers

T678C,E,F Changeover Temperature Controller

Remote bulb thermostats regulate temperature of air or liquids in ducts, pipes, tanks and boilers.

- Suitable for applications requiring temperature control of air or liquids where controller must be placed outside the sensing area
- Typical uses include control of dampers and valves in heating, cooling and heating-cooling systems
- Fast response models (available for use in return air duct) operate approximately four times faster than standard models
- Controller can be mounted in any position. Ambient temperature compensation provides good temperature control
- Refer to T775 Electronic Remote Temperature Controller where more exact control is required and/or remote controller location is preferred
- T678 models have a maximum connected load of 2000 VA

Dimensions in inches (millimeters)



Type: Remote bu b
Application: Changeover temperature control
Sensor Element: Copper bulb
Contact Ratings (120 Vac): 8.0 AFL, 48.0 ALR
Contact Ratings (240 Vac): 5.1 AFL, 30.6 ALR
Voltage: 120 Vac or 240 Vac
Frequency: 50 Hz; 60 Hz
Number of Sensor Inputs: 1
Output: 2 SPDT switch contacts
Output Type: Relay
Contact Ratings (120 Vac):
T678C, T678F: 8.0 AFL, 48.0 ALR
T678E: Control: 2.6 AFL, 15.6 ALR; Hi Limit: 7.4 AFL, 44.4 ALR
Contact Ratings (240 Vac):
T678C, T678F: 5.1 AFL, 30.6 ALR
T678E: Control: 1.3 AFL, 7.8 ALR; Hi Limit: 5.1 AFL, 30.6 ALR

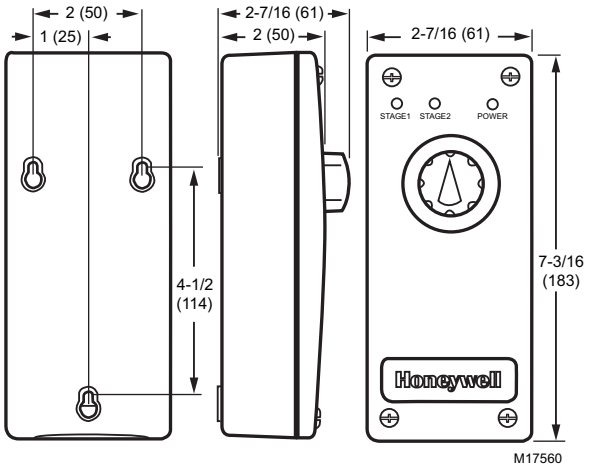
Product Number	Maximum Operating Temperature (F)	Maximum Operating Temperature (C)	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Differential Temperature (F)	Differential Temperature (C)	Bulb Size (inch)	Bulb Size (mm)	Capillary Length (ft)	Capillary Length (m)	Interstage Differential Temperature (F)	Interstage Differential Temperature (C)	Comments
T678C1005/U	205 F	96 C	55 F to 85 F	13 C to 29 C	5 F	2.8 C	3/8 in. x 3 in.	10 mm x 76 mm	5 1/2 ft	1.7 m	—	—	—
T678E1003/U	210 F	99 C	40 F to 180 F	4 C to 82 C	2 F	1.1 C	1/8 in. x 42 in.	3 mm x 1064 m	17 ft	5.2 m	7 F	3.9 C	Does not include enclosure
T678F1002/U	130 F	54 C	55 F to 85 F	13 C to 29 C	2 F	1.1 C	5/16 in. x 11 11/16 in.	8 mm x 297 mm	5 1/2 ft	1.7 m	—	—	—

T7079 Solid State Remote Temperature Controller

The T7079 Electronic Remote Sensor Temperature Controller is capable of providing on-off temperature control for ducts, tanks, heating and refrigeration units, greenhouses, animal confinement buildings and other applications where electronic accuracy in addition to remote sensing is desired.

- Switch selection of heat or cool mode
- Temperature sensing up to 400 feet
- Does not require field calibration
- 10K NTC temperature sensor
- Wide setpoint temperature range
- LED annunciation for both power on and relay state
- Dual setpoint scale (F and C)
- Isolation transformer for 24 Vac input
- Single- or Dual-stage output
- Dual-stage output models can be configured as two-heat, two-cool, or one-heat/one-cool

Dimensions in inches (millimeters)



Application: Heat or Cool
Accuracy: ±2 F (±3.6 C)
Sensor Element: 10k @ 25 C NTC sensing element

Maximum distance to sensor: 400 ft (122 m)
Contact Ratings (24 Vac): 8.0A resistive
Contact Ratings (120 Vac): 9.8 AFL, 58.8 ALR, 125 VA Pilot Duty
Contact Ratings (240 Vac): 4.9 AFL, 29.4 ALR, 125 VA Pilot Duty
Frequency: 50 Hz; 60 Hz
Operating Temperature Range: -40 F to +140 F (-40 C to +60 C)
Throttling Range: 1 F to 30 F (-17 C to +1 C)
Number of Sensor Inputs: 1
Sensors Included: 10K ohm NTC Sensor (32004800-001)
Approvals
Underwriters Laboratories, Inc: Component Listed

Accessories:
107324A-Capillary Holder Assembly for duct insertion, 8 3/8 in. long
121371A-Copper. Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm); Well size: 3 in. (76 mm) insertion, 1 1/2 in. NPT; Includes mounting clamp
121371E-Stainless steel. Bulb size: 3/8 in. x 3 in. (10 mm x 76 mm); Well size: 3 in. (76 mm) insertion, 1 1/2 in. (38 mm) insulation, 1/2 in. (13 mm) NPT; Includes mounting clamp.
32004800-001-10K sensor for use with T7079
T7047C1090-Wall Mounted Remote Bulb Enclosure for T775 or T7079 remote sensing bulb.

Product Number	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Voltage	Description	Output Type
T7079A1004/U	-25 F to +105 F	-32 C to +40 C	24 Vac	Heat or Cool Controller	1 SPDT
T7079A1012/U	100 F to 240 F	38 C to 116 C	24 Vac	Heat or Cool Controller	1 SPDT
T7079A1046/U	-25 F to +105 F	-32 C to +40 C	120 Vac or 230 V	Heat or Cool Controller	1 SPDT
T7079A1053/U	100 F to 240 F	38 C to 116 C	120 Vac or 230 V	Heat or Cool Controller	1 SPDT
T7079B1028/U	-25 F to +105 F	-32 C to +40 C	24 Vac	1 Heat and 1 Cool or 2 Heat and 2 Cool Controller	2 SPDT
T7079B1036/U	100 F to 240 F	38 C to 116 C	24 Vac	1 Heat and 1 Cool or 2 Heat and 2 Cool Controller	2 SPDT
T7079B1044/U	-25 F to +105 F	-32 C to +40 C	120 Vac or 230 V	1 Heat and 1 Cool or 2 Heat and 2 Cool Controller	2 SPDT
T7079B1051/U	100 F to 240 F	38 C to 116 C	120 Vac or 230 V	1 Heat and 1 Cool or 2 Heat and 2 Cool Controller	2 SPDT

Temperature Controllers

T775 Series 2000 Stand-Alone Controllers

The T775 electronic remote temperature controllers are the next generation of commercial and agricultural controls capable of remote sensing of temperature and providing switched and/or proportional outputs to various types of loads.Save time on installations with the easy-to-use graphical Interface, large display, and the intuitive programming

- Use the time clock scheduler or digital input to control the setback and disable output options to help save energy
- Protect equipment from freezing or overheating on models with the modulating high or low limit control option
- Get pinpoint control on modulating outputs by setting the integral and derivative times (PI or PID)
- Configure models with reset in a few easy steps
- Control floating actuators with floating outputs on select models
- Eliminate the need for a separate time delay device and protect equipment with the minimum off time option
- Sensor 50021579-001 included with non-NEMA 4X models
- Sensor T775-SENS-WR included with NEMA-4X models

Type: Standard-NEMA 1
Application: On/off or analog controller for applications where electronic accuracy and remote sensing of temperature is required.
Bulb Size: 1/4 in. diameter x 2 in. long (6.35 mm diameter x 50.8 mm)
Accuracy: ±1 F at 77 F (±1 C at 25 C)
Sensor Element: 1097 ohms PTC at 77 F (25 C)
Maximum distance to sensor: Up to 1,000 ft (up to 304 m)

Relay Contact Ratings
(24 Vac): 10.0A resistive
(120 Vac): 1/2 hp; 9.8 AFL, 58.8 ALR, 125 VA Pilot Duty
(240 Vac): 1/2 hp; 4.9 AFL, 29.4 ALR, 125 VA Pilot Duty
Voltage: 24 Vac or 120/240 Vac
Frequency: 50 Hz; 60 Hz
Operating Ambient Temperature Range:
-40 F to 125 F @ 50 Hz; -40 F to 140 F @ 60 Hz
(-40 C to 52 C @ 50 Hz; -40 C to 60 C @ 60 Hz)

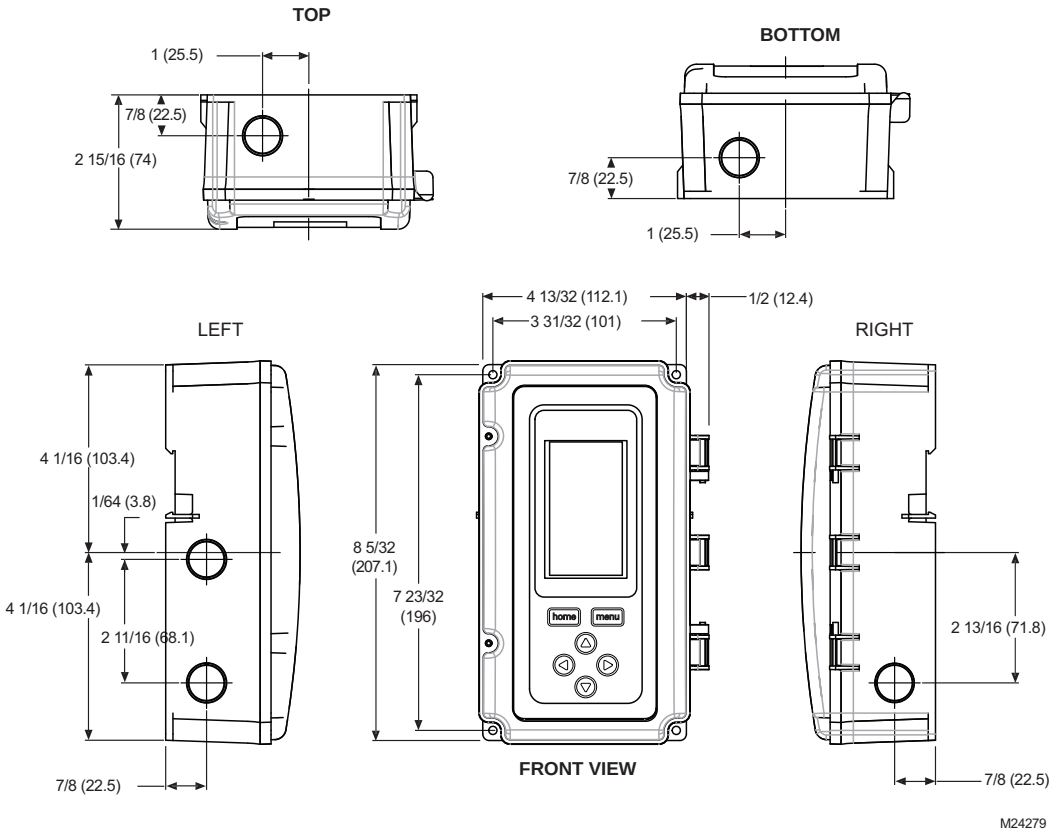
Setpoint Temperature Range: -40 F to 248 F (-40 C to 120 C)
Throttling Range: 1 F to 150 F (0.5 C to 66 C)
Differential Temperature: 1 F to 150 F (0.5 C to 66 C)

Approvals
C-Tick: Approved
Underwriters Laboratories, Inc: Approved
CE: Approved
Canadian Underwriters Laboratories, Inc: Approved

Accessories:
107324A-Capillary Holder Assembly for duct insertion, 8 3/8 in. long
C7031D2003-5 inch immersion sensor with well
C7031J2009-1097 ohm Electronic Temperature Sensor
C7100D1001-12 inch Duct Averaging Temperature Sensor
C7130B1009-Wall mount Room Sensor
C7130B1009-Wall mount Room Sensor

Product Number	Relay Output	Sensor Inputs	Floating Output	Description	Analog Output Type	Output Reset	Replaces	Number of Sensor Inputs	Sensors Included
T775A2009/U	1 SPDT	1	—	Standard	—	—	T775A1001	1	50021579-001 (1)
T775B2016/U	2 SPDT	2	1	Standard-NEMA 4X	—	—	—	2	T775-SENS-WR (1)
T775B2024/U	4 SPDT	2	2	Standard-NEMA 4X	—	—	T775D1008;T775C1009	2	T775-SENS-WR (1)
T775B2032/U	2 SPDT	2	1	Standard	—	—	T775B1000; T775A1019	2	50021579-001 (1)
T775B2040/U	4 SPDT	2	2	Standard	—	—	T775B1042; T775B1026; T775B1018; T775A1035; T775A1027	2	50021579-001 (1)
T775M2006/U	None	2	—	Modulating	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	—	—	50021579-001 (1)
T775M2014/U	4 SPDT	2	—	Modulating-NEMA 4X	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	T775G1039; T775G1021; T775G1013; T775G1005	—	T775-SENS-WR (1)
T775M2022/U	2 SPDT	2	—	Modulating-NEMA 4X	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	—	—	T775-SENS-WR (1)
T775M2030/U	4 SPDT	2	—	Modulating	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	T775F1089; T775F1055; T775F1022; T775E1114	—	50021579-001 (1)
T775M2048/U	2 SPDT	2	—	Modulating	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	—	T775E1098; T775E1064; T775E1056; T775E1023; T775E1015	—	50021579-001 (1)
T775R2001/U	4 SPDT	2	2	Reset Option	—	Yes	—	—	50021579-001 (2)
T775R2019/U	4 SPDT	2	—	Reset Option	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	Yes	—	—	50021579-001 (2)
T775R2027/U	2 SPDT	2	—	Reset Option	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	Yes	T775J1068; T775J1050; T775J1043	—	50021579-001 (2)
T775R2035/U	2 SPDT	2	1	Reset Option	—	Yes	T775J1076; T775J1001	—	50021579-001 (2)
T775R2043/U	—	2	—	Reset Option	2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90	Yes	T775J1035; T775J1027; T775J1019	—	50021579-001 (2)

Dimensions in inches (millimeters)



Temperature Controllers

T775 Series 2000 Special Stand-Alone Controllers

The T775 electronic remote temperature controllers are the next generation of commercial and agricultural controls capable of remote sensing of temperature, humidity, pressure, etc., and providing switched and/or proportional outputs to various types of loads.

- Universal model (T775U) can control pressure, humidity, or any variable analog input
- Special boiler model (T775P) for boiler control
- Special Staged Sequencing Model (T775L) for sequence staging of relays with one or two setpoints
- Special Expansion Model (T775S) for staging up to 12 relays with two setpoints (each T775S provides 4 relays)
- Save time on installations with the easy-to-use graphical Interface, large display, and the intuitive programming
- Use the time clock scheduler or digital input to control the setback and disable output options to help save energy
- Provide very fast or very fast response times on modulating outputs by adjusting the integral and derivative times (PI or PID)
- Configure models with reset in a few easy steps
- Eliminate the need for a separate time delay device and protect equipment with the minimum off time option
- Use the T775L and T775P to stage up to 12 relays (with optional T775S) from two independent heat or cool setpoints
- Support for digital output alarm on the T775P configurable based on minimum, maximum, or differential temperature

Type: Stage Sequencer with Reset Option-NEMA 1
Application: Staging controller for applications where electronic accuracy and remote sensing of temperature is required.
Bulb Size (T775L, T775P): 1/4 in. diameter x 2 in. long (6.35 mm diameter x 50.8 mm)
Accuracy: ±1 F at 77 F (±1 C at 25 C)
Sensor Element: 1097 ohms PTC at 77 F (25 C)
Maximum distance to sensor: Up to 1,000 ft (up to 304 m)
Relay Contact Ratings
(24 Vac): 10.0A resistive
(120 Vac): 1/2 hp; 9.8 AFL, 58.8 ALR, 125 VA Pilot Duty
(240 Vac): 1/2 hp; 4.9 AFL, 29.4 ALR, 125 VA Pilot Duty
Voltage: 24 Vac or 120/240 Vac
Analog Output Type: 2-10 Vdc; 0-10 Vdc; 4-20 mA; Electronic Series 90
Frequency: 50 Hz; 60 Hz
Operating Ambient Temperature Range:
-40 F to 125 F @ 50 Hz; -40 F to 140 F @ 60 Hz
(-40 C to 52 C @ 50 Hz; -40 C to 60 C @ 60 Hz)
Setpoint Temperature Range: -40 F to 248 F (-40 C to 120 C)
Throttling Range: 1 F to 150 F (0.5 C to 66 C)
Differential Temperature: 1 F to 150 F (0.5 C to 66 C)
Approvals
C-Tick: Approved
Underwriters Laboratories, Inc: Approved
CE: Approved
Canadian Underwriters Laboratories, Inc: Approved
Other: IP65: Approved

Accessories:
107324A-Capillary Holder Assembly for duct insertion, 8 3/8 in. long
H7655A1001-Humidity Transmitter, 5% RH accuracy, wall mount, without temp output
H7655B1009-Humidity Transmitter, 5% RH accuracy, duct mount, with optional 20K ohm temp output
P7640A1000-Differential Pressure Transmitter, 0-1.0, 0-0.5, 0-0.25, or 0-0.1 in. w.c., uni- or bi-directional, panel mount, with display
P7640A1018-Differential Pressure Transmitter, 0-1.0, 0-0.5, 0-0.25, or 0-0.1 in. w.c., uni- or bi-directional, panel mount, without display
P7640A1026-Differential Pressure Transmitter, 0-10, 0-5, 0-2.5, 0-1.0 in. w.c., uni- or bi-directional, panel mount, with display
P7640A1034-Differential Pressure Transmitter, 0-10, 0-5, 0-2.5, 0-1.0 in. w.c., uni- or bi-directional, panel mount, without display
P7640B1008-Differential Pressure Transmitter, 0-1.0, 0-0.5, 0-0.25, or 0-0.1 in. w.c., uni- or bi-directional, duct mount, with display
P7640B1016-Differential Pressure Transmitter, 0-1.0, 0-0.5, 0-0.25, or 0-0.1 in. w.c., uni- or bi-directional, duct mount, without display
P7640B1024-Differential Pressure Transmitter, 0-10, 0-5, 0-2.5, 0-1.0 in. w.c., uni- or bi-directional, duct mount, with display
P7640B1032-Differential Pressure Transmitter, 0-10, 0-5, 0-2.5, 0-1.0 in. w.c., uni- or bi-directional, duct mount, without display

Product Number	Relay Output	Sensor Inputs	Description	Expandable	Digital Output	Output Reset	Replaces	Sensors Included	Stages Loop Control
T775L2007/U	4 SPDT	2	Stage sequencer with reset option	Add 1 or 2 T775Ss (4 relays ea)		Yes	—	50021579-001 (1)	Yes
T775P2003/U	4 SPDT	3	Special boiler with reset option	Add 1 or 2 T775Ss (4 relays ea)	1	Yes	—	50021579-001 (3)	Yes
T775S2008/U	4 SPDT	—	Relay Expansion Module	—		—	—	None	—
T775U2006/U	2 SPDT	2 (Sensor B used for reset only)	Universal - humidity, pressure, etc.	—		Yes	H775E1002; H775D1003; H775C1004; H775B1005; H775A1063; H775A1048; H775A1022; H775A1006	None	—
T775U2016/U	2 SPDT	2	Universal-Control to sensor A (universal input) and Sensor B (temp) independently	—		Yes	—	None	—

T915 Proportional Temperature Controller

Proportional (135 ohm) remote bulb controllers for ducts, tanks, boilers, pipes and other heat exchangers.

- Provide proportioning control of three-wire, low-voltage valve or damper motors
- Used to regulate temperatures of either air or liquids
- All models ambient compensated
- Ambient temperature compensation provides good temperature control
- Refer to T775 Electronic Remote Temperature Controller where more exact control is required and/or remote controller location is preferred
- Temperature setting scale markings in both Fahrenheit and Celsius
- Steel case has a clear plastic cover to make setting readily visible
- Surface mount using two screws through back of case

Type: Remote bulb
Application: Used with Series 90 Modutrol Motors for proportional control of valves and dampers
Dimensions, Approximate: 5 1/2 in. high x 4 1/2 in. wide x 2 3/4 in. deep (140 mm high x 114 mm wide x 70 mm deep)

Bulb Size: 1/2 in. diameter x 4 in. long (13 mm diameter x 102 mm long)
Color: Gray
Output Type: Analog
Number of Sensor Inputs: 1

	Setpoint Temperature Range		Maximum Operating Temperature		Throttling Range		Capillary Length			
Product Number	**(F)**	**(C)**	**(F)**	**(C)**	**(F)**	**(C)**	**(ft)**	**(m)**	**Analog Output**	**Sensor Element**
T915C1407/U	15 F to 90 F	-10 C to +32 C	200 F	93 C	7 F to 38 F	3.9 C to 21.1 C	20 ft	6.1 m	One 135 Ohm Potentiometer	Copper bulb, fade-out fill
T915C1928/U	80 F to 210 F	27 C to 99 C	230 F	110 C	6 F to 32 F	3.3 C to 17.8 C	5 ft	1.5 m	One 135 Ohm Potentiometer	Copper bulb, high temperature fill
T915C1936/U	80 F to 210 F	27 C to 99 C	230 F	110 C	6 F to 32 F	3.3 C to 17.8 C	20 ft	6.1 m	One 135 Ohm Potentiometer	Copper bulb, high temperature fill

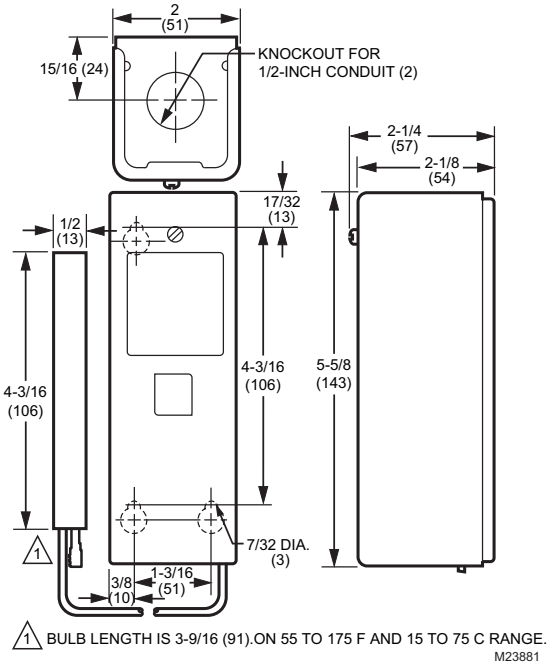
Temperature Controllers

T991A Proportional Temperature Controller

Proportional (135 ohm) remote bulb controllers for modulating control of water or air temperature in ducts, tanks and similar applications.

- Fast response models (for duct mounting) have coiled sensing element giving at least four times faster response than standard models
- Ambient temperature compensated for the case and tubing
- Sensing element capillary tubing allows remote mounting of sensing element
- Setpoint may be read and adjusted through cover
- Throttling dial inside case adjusts proportional throttling range

Dimensions in inches (millimeters)



1 BULB LENGTH IS 3-9/16 (91).ON 55 TO 175 F AND 15 TO 75 C RANGE.

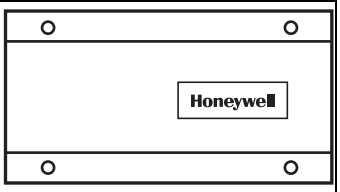
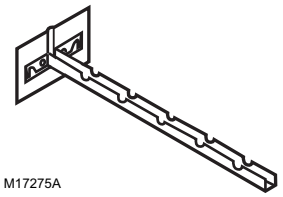
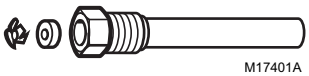
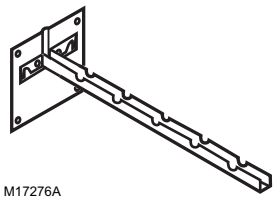
M23881

Type: Modulating Remote bulb
Application: Provide modulating control of water or air temperature in ducts or tanks
Color: Gray
Voltage: 24 Vac to 30 Vac
Frequency: 50 Hz; 60 Hz
Output Type: Analog
Number of Sensor Inputs: 1

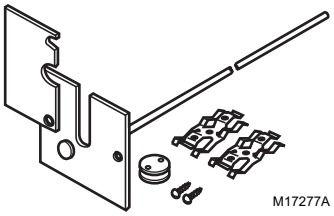
Product Number	Setpoint Temperature Range		Maximum Operating Temperature		Throttling Range		Bulb Size		Capillary Length		Analog Output	Sensor Element	Includes
	(F)	(C)	(F)	(C)	(F)	(C)	(inch)	(mm)	(ft)	(m)			
T991A1004/U	0 F to 100 F	-18 C to +38 C	125 F	52 C	3 F to 30 F	1.7 C to 16.7 C	1/2 in. diameter x 4 3/16 in. long	13 mm diameter x 107 mm long	5 ft	1.5 m	One 135 Ohm Potentiometer	Copper bulb	—
T991A1012/U	0 F to 100 F	-18 C to +38 C	125 F	52 C	3 F to 30 F	1.7 C to 16.7 C	1/2 in. diameter x 4 3/16 in. long	13 mm diameter x 107 mm long	20 ft	6.1 m	One 135 Ohm Potentiometer	Copper bulb	—
T991A1061/U	160 F to 260 F	71 C to 127 C	280 F	138 C	3 F to 30 F	1.7 C to 16.7 C	1/2 in. diameter x 4 3/16 in. long	13 mm diameter x 107 mm long	5 ft	1.5 m	One 135 Ohm Potentiometer	Copper bulb	—
T991A1079/U	160 F to 260 F	71 C to 127 C	280 F	138 C	3 F to 30 F	1.7 C to 16.7 C	1/2 in. diameter x 4 3/16 in. long	13 mm diameter x 107 mm long	20 ft	6.1 m	One 135 Ohm Potentiometer	Copper bulb	—
T991A1095/U	5 F to 95 F	-15 C to +35 C	125 F	52 C	3 F to 30 F	1.7 C to 16.7 C	1/2 in. diameter x 4 3/16 in. long	13 mm diameter x 107 mm long	5 ft	1.5 m	One 135 Ohm Potentiometer	Copper bulb	Celsius scale
T991A1186/U	55 F to 175 F	13 C to 79 C	200 F	93 C	3 F to 30 F	1.7 C to 16.7 C	1/2 in. diameter x 4 3/16 in. long	13 mm diameter x 107 mm long	5 ft	1.5m	One 135 Ohm Potentiometer	Copper bulb	—
T991A1194/U	55 F to 175 F	13 C to 79 C	200 F	93 C	3 5 F to 36 F	1 9 C to 20 C	1/2 in. diameter x 3 9/16 in. long	13 mm diameter x 90 mm long	20 ft	6.1m	One 135 Ohm Potentiometer	Copper bulb	—
T991A1210/U	59 F to 167F	15 C to 75 C	200 F	93 C	3 F to 10 F	1.7 C to 16.7 C	1/2 in. diameter x 4 3/16 in. long	13 mm diameter x 107 mm long	5 ft	1.5m	One 135 Ohm Potentiometer	Copper bulb	Celsius Scale
T991A1244/U	55 F to 175 F	13 C to 79 C	200 F	93 C	3 5 F to 36 F	1 9 C to 20 C	1/2 in. diameter x 3 9/16 in. long	13 mm diameter x 90 mm long	5 ft	1.5m	One 135 Ohm Potentiometer	Copper bulb	107324A Duct Bulb holder
T991A1269/U	55 F to 175 F	13 C to 79 C	200 F	93 C	3 5 F to 36 F	1 9 C to 20 C	1/2 in. diameter x 3 9/16 in. long	13 mm diameter x 90 mm long	20 ft	6.1m	One 280 Ohm Potentiometer	Copper bulb	—
T991A1343/U	55 F to 175 F	13 C to 79 C	200 F	93 C	3 5 F to 36 F	1 9 C to 20 C	1/2 in. diameter x 3 9/16 in. long	13 mm diameter x 90 mm long	5 ft	1.5m	One 280 Ohm Potentiometer	Copper bulb	107324A Duct Bulb holder

Product Number	Setpoint Temperature Range		Maximum Operating Temperature		Throttling Range		Bulb Size		Capillary Length		Analog Output	Sensor Element	Includes
	(F)	(C)	(F)	(C)	(F)	(C)	(inch)	(mm)	(ft)	(m)			
T991A1350/U	55 F to 175 F	13 C to 79 C	200 F	93 C	3 5 F to 36 F	1 9 C to 20 C	7/64 in. diameter x 24 ft. long	2 8 mm diameter x 7 3 m long	24 ft	7.3 m	One 135 Ohm Potentiometer	Copper averaging element	—
T991A1426/U	0 F to 100 F	-18 C to +38 C	125 F	52 C	3 F to 10 F	1.7 C to 16.7 C	1/2 in. diameter x 4 3/16 in. long	13 mm diameter x 107 mm long	5 ft	1.5 m	One 135 Ohm Potentiometer	Copper bulb	107324A Duct Bulb holder
T991A1715/U	0 F to 100 F	-18 C to +38 C	125 F	52 C	3 F to 10 F	1.7 C to 16.7 C	1/8 in. diameter x 76 3/8 in. long	3 mm diameter x 1 9 m long	5 ft	1.5 m	One 135 Ohm Potentiometer	Copper fast response element	131524A duct coil holder
T991A1756/U	55 F to 175 F	13 C to 79 C	200 F	93 C	3 5 F to 36 F	1 9 C to 20 C	1/8 in. diameter x 76 3/8 in. long	3 mm diameter x 1 9 m long	5 ft	1.5 m	One 135 Ohm Potentiometer	Copper fast response element	131524A duct coil holder
T991A1764/U	0 F to 100 F	-18 C to +38 C	125 F	52 C	3 F to 30 F	1.7 C to 16.7 C	7/64 in. diameter x 24 ft. long	2 8 mm diameter x 7 3 m long	24 ft	7.3 m	One 135 Ohm Potentiometer	Copper averaging element	—
T991A2069/U	0 F to 100 F	-18 C to +38 C	125 F	52 C	3 F to 30 F	1.7 C to 16.7 C	1/8 in. diameter x 76 3/8 in. long	3 mm diameter x 1 9 m long	20 ft	6.1 m	One 135 Ohm Potentiometer	Copper fast response element	131524A duct coil holder

Remote Bulb Controller Accessories

Product Number	Description	
107323A/U	Remote Bu b Shield Assembly, 3/8 in. diameter bulbs, < 5 in. long	 M17284A **107323A**
107324A/U	Capillary Holder Assembly for duct insertion, 8 3/8 in. long	 M17275A 107324A
107408/U	Heat Conductive Compound, 4 ounces	
112620AA/U	Well Assembly., 3 3/4 in. (95 mm) insertion, 3/8 in. (10 mm) diameter, copper	 M17401A
112620BB/U	Well Assembly., 5 1/2 in. (140 mm) insertion, 3/8 in. (10 mm) diameter, copper	
112622AA/U	Well Assembly., 4 in. (102 mm) insertion, 1/2 in. (13 mm) diameter, copper	
112624AA/U	Well Assembly., 4 3/4 in. (121 mm) insertion, 1/2 in. (13 mm) diameter, stainless steel	
112628AA/U	Well Assembly., 4 3/4 in. (121 mm) insertion, 1/2 in. (13 mm) diameter, stainless steel	
112630AA/U	Well Assembly., 4 1/4 in. (108 mm) insertion, 1/2 in. (13 mm) diameter, copper	
112632AA/U	Well Assembly., 4 1/4 in. (108 mm) insertion, 1/2 in. (13 mm) diameter, stainless steel	
112634AA/U	Well Assembly., 4 1/4 in. (108 mm) insertion, 1/2 in. (13 mm) diameter, copper	
131524A/U	Capillary Holder Assembly., 8 3/8 in. long, duct insertion	 M17276A 131524A
193987GA/U	Encapsulated platinum sensing element used with the T7075 and T775. 2 5/8 in long, 3/8 in diameter, 6 in. leads.	

Temperature Controllers

Product Number	Description	
198212CA/U	Encapsulated platinum sensing element used with the T7075 and T775. Water resistant, 60 in. leads.	
203401B/U	Encapsulated platinum PT3000 sensing element used with the T7075 and T775. Water tight, 20 in. leads, requires 1/2 in. diameter well.	
311266D/U	Bulb Holder Assembly., T4031, use with copper elements only	 M17277A **311266D**
7617M/U	Compression Fitting, brass 1/2 in. NPT plug	
Q615A1004/U	Splash proof enclosure	

Remote Bulb Controller Parts

Product Number	Description
112719/U	Packing Ring, Remote Bulb Well
203531A/U	Panel Mount Kit for T775A,B,E,F, or J Electronic Temperature Controller with tamper resistant window
34886A/U	Sun shield for remote bulb controllers,T475, T991B, T678B, T675A
7617ABY/U	Compression Fitting, brass 1/2 in. NPT plug
801737A/U	140 ohms Potentiometer and Bracket Assembly for use with T991A

Remote Temperature Controller Accessories

Product Number	Description	Used With
32004800-001/U	10K sensor for use with T7079	T7079
801534/0638/U	Calibration wrench for T991, T631, T675, T678, T6031, T475, T4031, T4054, T6054, T6064	—

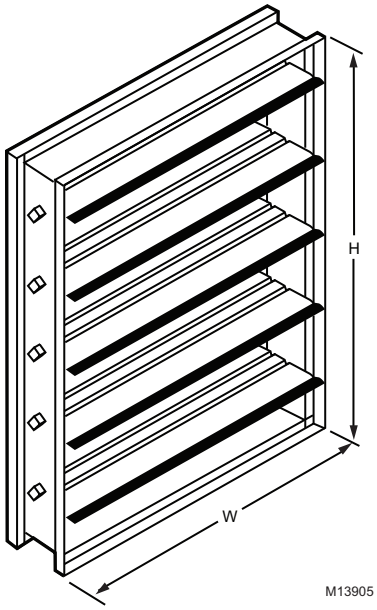
D1 Series Ultra-low Leakage Design Airfoil Control Damper

The D1 series is an extremely low leakage damper with rugged steel airfoil blades designed to meet the highest standards established. It is intended for application in medium to high pressure and velocity ratings.

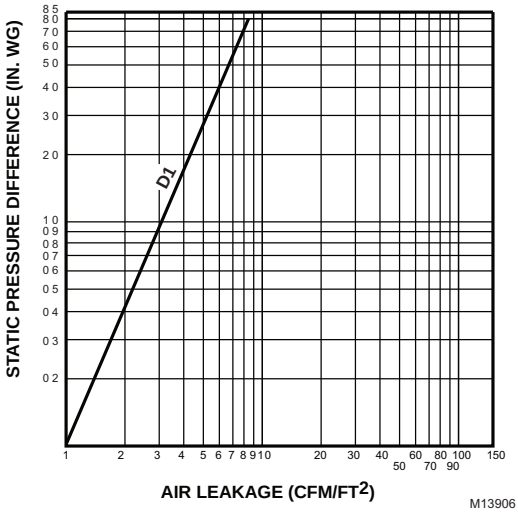
Size Range[1]: Minimum Size: One Blade: 6 in. wide by 6 in. high
Two Blade: 6 in. wide by 10 in. high
Maximum Size: Single Section: 60 in. wide by 74 in. high
Multiple Section: unlimited
Temperature Rating: 180 F (82 C) maximum[2]
Standard Construction[3]: Blade: 14 gauge galvanized steel, airfoil shaped
Action: Parallel or Opposed
Frame[3]: 16 gauge galvanized steel Hat-channel
Bearings[3]: Synthetic (Acetal)
Linkage[3]: Steel Side linkage out of airstream (concealed in frame)
Axles[3]: 1/2 in. diameter plated steel
Jamb Seals[3]: 304 Stainless Steel
Blade Edge Seals[3]: Silicone

[1] Width and height dimensions furnished 1/4 in. undersized - standard
[2] Temperature rating with standard options
[3] See Options table for customized options

Dimensions Diagram



Leakage Rate

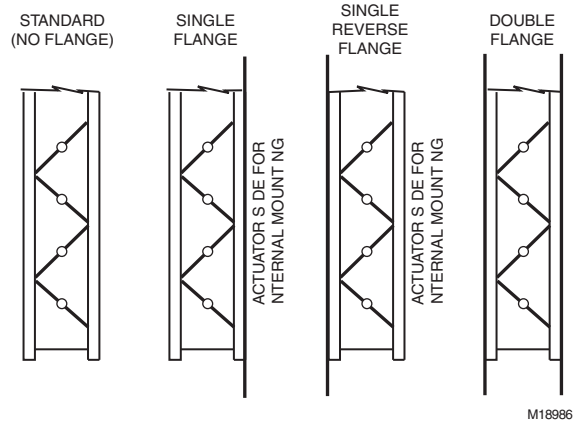


Performance Data

D1 Pressure and Velocity Limits.

Damper Size in inches.	Maximum System Pressure	Maximum System Velocity
12 x 12	8.0 in. wg	4000 fpm
24 x 24	8.0 in. wg	4000 fpm
36 x 36	6.3 in. wg	3500 fpm
48 x 48	4.7 in. wg	3000 fpm
60 x 60	2.0 in. wg	2500 fpm

Flange Options



Commercial Rectangular Dampers

D2 and D3 Series Rectangular Volume Control Dampers

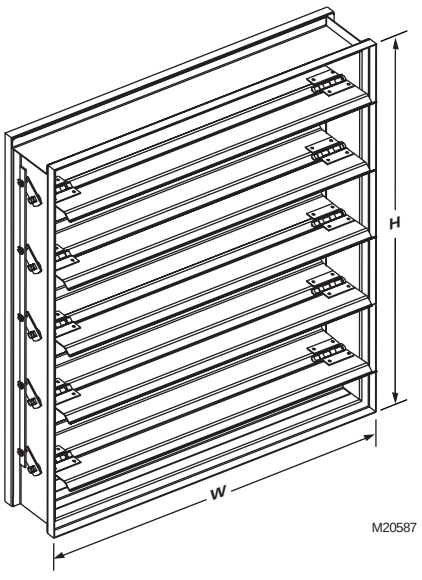
D2 series is an ultra-low leakage control damper which includes blade and jamb seals. The D3 series is a general purpose damper intended for applications where low leakage performance is not necessary.

Honeywell International, Inc. certifies that the models D2, and D3 shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Programs. The AMCA Certified Ratings Seal applies to air performance ratings only. March 2008.

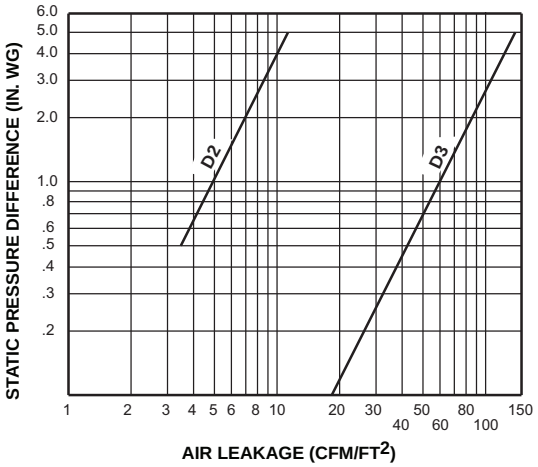
Size Range[1]: Minimum Size: One Blade: 6 in. wide by 6 in. high
Two Blade: 6 in. wide by 10 in. high
Maximum Size: Single Section: 48 in. wide by 72 in. high
Multiple Section: unlimited
Temperature Rating: 180 F (82 C) maximum
Standard Construction[2]: Blade: 16 gauge galvanized steel 3-V
Action: Parallel or Opposed
Frame[2]: 16 gauge galvanized steel Hat-channel
Bearings[2]: Synthetic (Acetal)
Linkage: Side linkage out of airstream (concealed in frame)
Axles: 1/2 in. square plated steel
Jamb Seals[3]: Compression-type Stainless Steel
Blade Edge Seals[2,3]: Extruded Vinyl

[1] Width and height dimensions furnished 1/4 in. undersized - standard
[2] See Options table for customized options
[3] D2 Dampers only

Dimensions Diagram



Leakage Rate



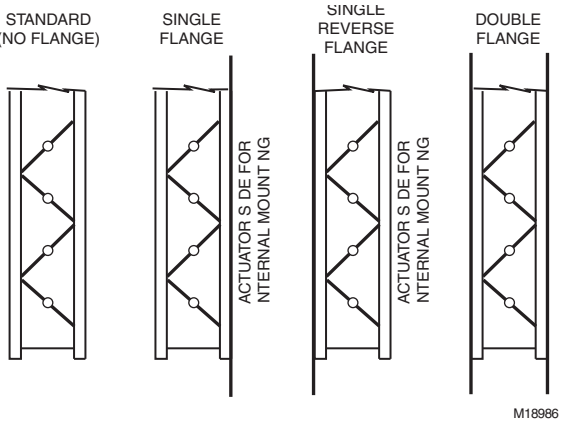
Performance Data

D2, D3 Pressure and Velocity Limits.

Damper Size in inches.	Maximum System Pressure	Maximum System Velocity
12 x 12	5.0 in. wg	3000 fpm
24 x 24	5.0 in. wg	3000 fpm
36 x 36	4.0 in. wg	2500 fpm
48 x 48	2.5 in. wg	2000 fpm

NOTE: D2 and D3 will withstand higher pressures and velocities. Displayed ratings are conservative to prevent misapplication. Consult Honeywell if you have an application outside these limitations.

Flange Options



Standard Models

D2	Class II Leakage, 3 V blade with seals	**Product Type**
D3	Class III Leakage, 3 V blade without seals	
P	Parallel	**Blade Action**
O	Opposed	
A	16 gauge galvanized frame with galvanized linkages and axles	**Frame**
A	Acetal Bearings /No Seal	**Axle Bearings and Seals Materials (When you select D3 you are only selecting the bearing type)**
B	Acetal Bearings/Vinyl Seal	
C	Bronze Bearings/No Seal	
D	Bronze Bearings/Vinyl Seal	
(006-072)	Standard Rectangular Damper Width	**Width (in 2 inch increments through 46 in. then 4 in. increments through 72 in.)**
(006-072)	Standard Rectangular Damper Height	**Height (in 2 inch increments through 46 in. then 4 in. increments through 72 in.)**
N	Nominal Sizing	**Sizing**
A	No flange	**Flange**
A	External LH Standard without jackshaft (may include jackshaft for larger sizes)	**Actuator Mounting**
B	Internal LH Standard without jackshaft (may include jackshaft for larger sizes)	
C	External RH Standard without jackshaft (may include jackshaft for larger sizes)	

D2	**P**	**B***	**A**	**XXX**	**XXX**	**N**	**A**	**A**	Example

* Contact Customer Care for additional options and models.

Options

	Material		Frame Gauge			Blade Seals		Jamb Seals	Bearings			Axles		Linkage Materials		Flange				Sizing	
S = Standard O = Optional	Galv	S/S	16	14	12	Vinyl	Silicone	S/S	Synthetic	Bronze	S/S	Steel	S/S	Steel	S/S	None	Single	Double	Reverse	Nominal	Actual
D1 Ultra-low Leakage Airfoil Volume Control Damper	S	O	S	O	O	N/A	S	S	S	O	O	S	O	S	O	S	O	O	O	S	O

	Material			Frame Gauge			Blade Seals		Jamb Seals	Bearings			Axles		Linkage Materials		Flange				Sizing	
S = Standard O = Optional	Galv	S/S	Al	16	14	12	Vinyl	Silicone	S/S	Synthetic	Bronze	S/S	Steel	S/S	Steel	S/S	None	Single	Double	Reverse	Nominal	Actual
D2 Ultra-low Leakage Volume Control Damper	S	O	O	S	O	O	S	O	S	S	O	O	S	O	S	O	S	O	O	O	S	O
D3 Standard Volume Control Damper	S	O	O	S	O	O	N/A	N/A	N/A	S	O	O	S	O	S	O	S	O	O	O	S	O

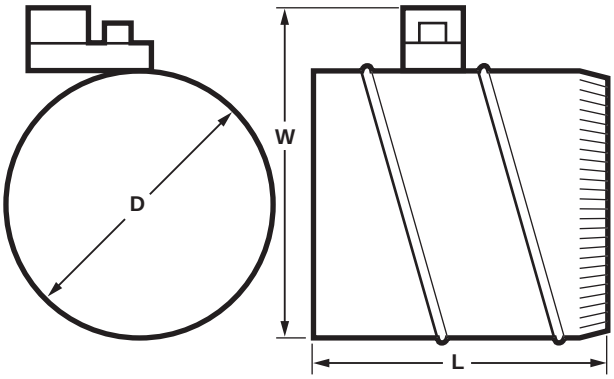
Commercial Round Dampers

D690 Low-Leakage, Single-Blade, Round Dampers

The D690 Round Damper is used in conventional air handling systems to control airflow in a round duct. The damper is designed for ease of use with Honeywell Direct Coupled Actuators.

- Neoprene seal for tight closing and low leakage
- Oilite bearings for long life
- 90 degree damper travel for a variety of applications

Dimensions in inches (millimeters)



DAMPER DIAMETER (D)		WIDTH (W)		LENGTH (L)	
in.	mm	in.	mm	in.	mm
6	152	9-1/2	241	12	305
8	203	11-1/2	292	12	305
10	254	13-1/2	343	12	305
12	305	15-1/2	394	13	330
14	356	17-1/2	445	15	381
16	406	19-1/2	495	17	432

M17412

Application: heating, cooling, ventilating
Type of Blade: Single-blade, round
Temperature Range: 32 F to 130 F (0 C to 54 C)
Used With: Zelix (MSXX03, MSXX05) MN6105, MN6110, MN7505, MN7510; ML6161; ML7161; W7751 VAV Controller

	Product Number	Integral Actuator	Maximum Approach Velocity (ft/ min)	Input Signal	Description
*	**D690A1002/U**	None	2500 ft/min	none	6 inch, Single Blade Round Damper
*	**D690A1010/U**	None	2500 ft/min	none	8 inch, Single Blade Round Damper
*	**D690A1028/U**	None	2500 ft/min	none	10 inch, Single Blade Round Damper
*	**D690A1036/U**	None	2500 ft/min	none	12 inch, Single Blade Round Damper
*	**D690A1044/U**	None	2500 ft/min	none	14 inch, Single Blade Round Damper
*	**D690A1051/U**	None	2500 ft/min	none	16 inch, Single Blade Round Damper

***** *TRADELINE models • SUPER TRADELINE models*

DM7600 Zone Damper

The DM7600 Commercial Zone Damper is used in zoning systems to control airflow in a round duct. A Honeywell ML6161 or ML7161 Direct Coupled Actuator is factory mounted to the damper to simplify field installation.

- Neoprene seal for tight closing and low leakage
- Oilite bearings for long life
- 90 degree damper travel for a variety of applications
- Magnetic coupling requires no limit switches or mechanical stops

Application: heating, cooling, ventilating
Type of Blade: Single-blade, round
Temperature Range: 32 F to 130 F (0 C to 54 C)
Timing (sec, min.): 90 sec
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz

Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Integral Actuator	Maximum Approach Velocity (ft/ min)	Input Signal
DM7600A1005/U	6 in. diameter	152 mm diameter	2 to 10 Vdc or 4 to 20 mA, ML7161A2008	2500 ft/min	2 to 10 Vdc or 4 to 20 mA
DM7600A1013/U	8 in. diameter	203 mm diameter	2 to 10 Vdc or 4 to 20 mA, ML7161A2008	2500 ft/min	2 to 10 Vdc or 4 to 20 mA
DM7600A1021/U	10 in. diameter	254 mm diameter	2 to 10 Vdc or 4 to 20 mA, ML7161A2008	2500 ft/min	2 to 10 Vdc or 4 to 20 mA
DM7600A1039/U	12 in. diameter	305 mm diameter	2 to 10 Vdc or 4 to 20 mA, ML7161A2008	2500 ft/min	2 to 10 Vdc or 4 to 20 mA
DM7600A1047/U	14 in. diameter	356 mm diameter	2 to 10 Vdc or 4 to 20 mA, ML7161A2008	2500 ft/min	2 to 10 Vdc or 4 to 20 mA
DM7600A1054/U	16 in. diameter	406 mm diameter	2 to 10 Vdc or 4 to 20 mA, ML7161A2008	2500 ft/min	2 to 10 Vdc or 4 to 20 mA
DM7600B1004/U	6 in. diameter	152 mm diameter	SPDT Floating, ML6161A2009	2500 ft/min	SPDT Floating
DM7600B1012/U	8 in. diameter	203 mm diameter	SPDT Floating, ML6161A2009	2500 ft/min	SPDT Floating
DM7600B1020/U	10 in. diameter	254 mm diameter	SPDT Floating, ML6161A2009	2500 ft/min	SPDT Floating
DM7600B1038/U	12 in. diameter	305 mm diameter	SPDT Floating, ML6161A2009	2500 ft/min	SPDT Floating
DM7600B1046/U	14 in. diameter	356 mm diameter	SPDT Floating, ML6161A2009	2500 ft/min	SPDT Floating
DM7600B1053/U	16 in. diameter	406 mm diameter	SPDT Floating, ML6161A2009	2500 ft/min	SPDT Floating

ML6161; ML7161
Non-Spring Return Direct Coupled Damper Actuators, 35 lb-in

ML6161A,B

ML6161C,D

ML7161

Used to control dampers in HVAC applications and for mounting on ball valves; suitable for use with modulating (2-10 Vdc) thermostats or building automation controls.

- Control for air damper applications with up to 10 sq.ft. assuming 3.5 in-lb per sq.ft. of damper area, velocity independent
- Superior A/C synchronous submotor for consistent timing and actuator longevity
- Eliminate need for limit switches or mechanical stops by providing magnetic coupling
- All models include manual declutch lever, and bag assembly with two minimum position setscrews
- Mount directly on 3/8 inch or 1/2 inch square or round damper shaft
- Selectable 45, 60, and 90 stroke in either clockwise or counterclockwise direction

Actuator Type: Damper
Rotational Stroke: 90 degrees
Fail Safe Mode: Non-Spring Return
Torque Rating: 35 lb-in. (4 Nm)
External Auxiliary Switches Available: Yes, 201052B
Number of Internal Auxiliary Switch: 0
Electrical Connections: Screw terminals
Environmental Rating: NEMA1
Frequency: 50 Hz; 60 Hz
Manual operation: Declutch mechanism
Mounting: Direct Coupled
Maximum Noise Rating, Driving (dBA @ 1m): 45
Rotation to Open: By wiring
Rotational Stroke Adjustment: Mechanically limited at 45 or 60 degrees in cw or ccw directions

Compatible Damper Shafts: 3/8 to 1/2 in. square or round (10 to 13 mm square/round)
Shaft Adapter Type: Aluminum Hub, two set screws
Supply Voltage: 24 Vac ±20%
Materials: Steel plate and Plenum rated plastic
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: 20 F to 125 F (-18 C to +50 C)
Storage Temperature Range: 20 F to 130 F (-18 C to +54 C)
Weight: 1.5 lb (0.68 kg)
Includes: 4074ENY Bag Assembly

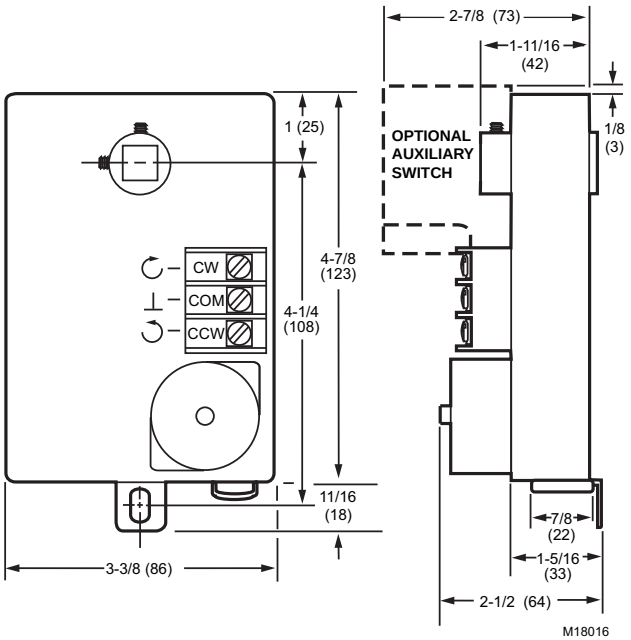
Approvals
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

	Product Number	Control Signal	Feedback	Timing (seconds)		Power Consumption, Driving	Supply Voltage	Input Impedance	Comments
				Maximum Driving @ 60 Hz	Nominal Driving @ 60 Hz				
*	**ML6161A2009/U**	On/Off; SPDT; Floating	With accessory	—	90 sec	1.8 VA	24 Vac ±20%	—	—
—	**ML6161A2017/U**	On/Off; SPDT; Floating	With accessory	—	420 sec	1.8 VA	24 Vac ±20%	—	—
*	**ML6161A2025/U**	On/Off; SPDT; Floating	With accessory	—	180 sec	1.8 VA	24 Vac ±20%	—	—
*	**ML6161B2024/U**	On/Off; SPDT; Floating	—	—	90 sec	1.8 VA	24 Vac ±20%	—	—
*	**ML6161B2032/U**	On/Off; SPDT; Floating	—	—	420 sec	1.8 VA	24 Vac ±20%	—	—
*	**ML6161B2073/U**	On/Off; SPDT; Floating	—	—	180 sec	1.8 VA	24 Vac ±20%	—	—
	ML6161C2007/U	On/Off; SPDT; Floating	With accessory	—	90 sec	1.8 VA	24 Vac ±20%	—	Includes two 5/8 x 7/8 in. double knock-out conduit openings
	ML6161D2006/U	On/Off; SPDT; Floating	—	—	90 sec	1.8 VA	24 Vac ±20%	—	Includes two 5/8 x 7/8 in. double knock-out conduit openings
	ML7161A2008/U	4-20 mA; 2-10 Vdc	—	—	90 sec	5.4 VA	24 Vac ±20%	45K ohm (2-10 Vdc signal), 536 ohm (4-20 mA signal)	—

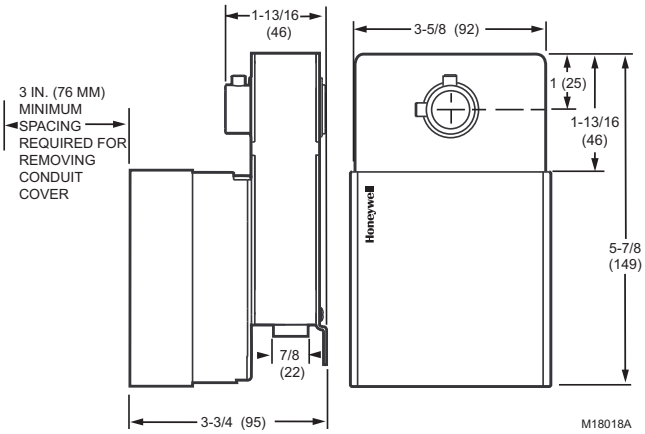
** TRADELINE models • SUPER TRADELINE models*

Dimension and Wiring Diagrams—ML6161; ML7161; ML6174; ML7174

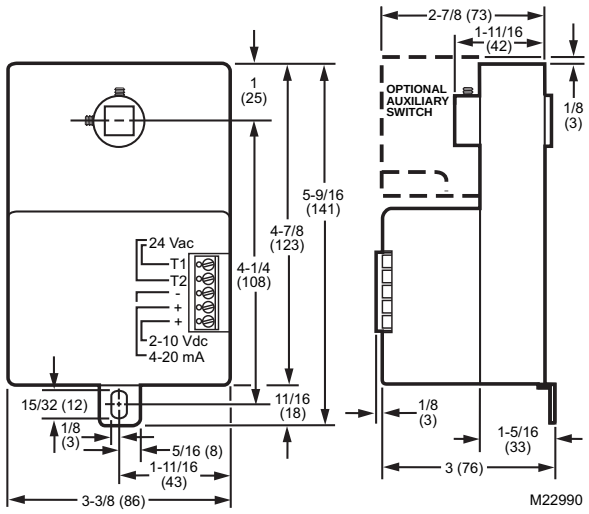
ML6161A, B or ML6174A, B Dimensions in inches (millimeters)



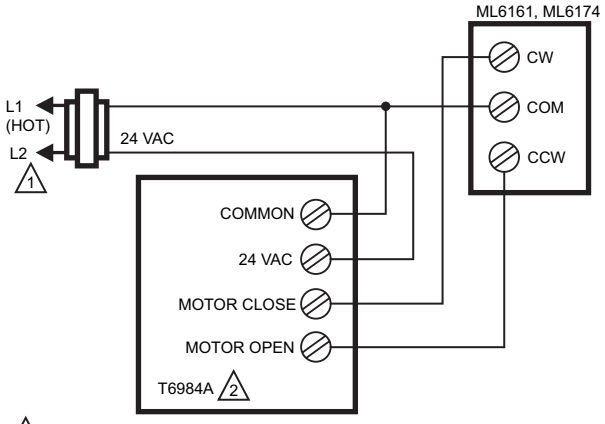
ML6161A, B or ML6174A, B Dimensions in inches (millimeters)



ML6161A, B or ML6174A, B Dimensions in inches (millimeters)



Typical Wiring of ML6161 or ML6174 using Electronic Floating T6984 Thermostat

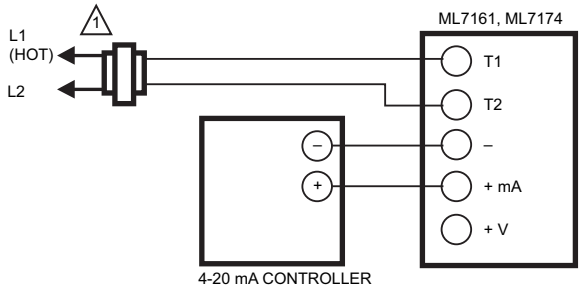


1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION, AS REQUIRED.

2 T6984A SHOWN WIRED FOR COOLING ONLY. TO WIRE FOR HEATING ONLY, REVERSE OPEN AND CLOSE CONTACTS.

M18023

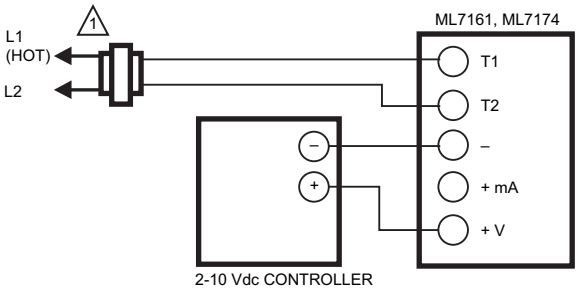
ML7161 or ML7174 used with 4-20 mA control



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

M18071

ML7161 or ML7174 used with 2-10 Vdc control



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

M18072

Commercial Components

ML6174; ML7174, Non-Spring Return Direct Coupled Damper Actuators, 70 lb-in

ML6161A,B ML6161C,D ML7161

Used to control dampers in HVAC applications and for mounting on ball valves; suitable for use with modulating (2-10 Vdc) thermostats or building automation controls.

- Control for air damper applications with up to 20 sq.ft. assuming 3.5 in-lb per sq.ft. of damper area, velocity independent
- Magnetic coupling eliminates the need for mechanical stops or limit switch adjustments by limiting stall torque to 130 lb-in. maximum
- Mount directly on 3/8 to 1/2 in. round and square damper shafts
- All models include manual declutch lever for ease of mounting, and bag assembly with two minimum position setscrews
- 90 second timing models are suitable for use with pressure independent VAV systems
- Selectable 45, 60, and 90 degree stroke in either clockwise or counterclockwise direction

Actuator Type: Damper
Rotational Stroke: 90 degrees
Fail Safe Mode: Non-Spring Return
Torque Rating: 70 lb-in. (8 Nm)
External Auxiliary Switches Available: Yes, 201052B
Number of Internal Auxiliary Switch: 0
Electrical Connections: Screw terminals
Environmental Rating: NEMA1
Frequency: 50 Hz; 60 Hz
Manual operation: Declutch mechanism
Mounting: Direct Coupled
Maximum Noise Rating, Driving (dBA @ 1m): 45
Rotation to Open: By wiring
Rotational Stroke Adjustment: Mechanically limited at 45 or 60 degrees in cw or ccw directions

Compatible Damper Shafts: 3/8 to 1/2 in. square or round (10 to 13 mm square/round)
Shaft Adapter Type: Aluminum Hub, two set screws
Supply Voltage: 24 Vac ±20%
Materials: Steel plate and Plenum rated plastic
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: 20 F to 125 F (-18 C to +50 C)
Storage Temperature Range: 20 F to 130 F (-18 C to +54 C)
Weight: 1.5 lb (0.68 kg)
Includes: 4074ENY Bag Assembly

Approvals
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

	Product Number	Control Signal	Feedback	Timing (seconds) Nominal Driving @ 60 Hz	Power Consumption, Driving	Input Impedance	Comments
*	**ML6174A2002/U**	On/Off; SPDT; Floating	With accessory	90 sec	2.4 VA	—	—
*	**ML6174A2010/U**	On/Off; SPDT; Floating	With accessory	180 sec	2.4 VA	—	—
*	**ML6174B2019/U**	On/Off; SPDT; Floating	—	90 sec	2.4 VA	—	—
	ML6174B2035	On/Off; SPDT; Floating	—	420 sec	2.4 VA	—	—
	ML6174D2009/U	On/Off; SPDT; Floating	—	90 sec	2.4 VA	—	Includes two 5/8 x 7/8 in. double knock-out conduit openings
	ML7174A2001/U	4-20 mA; 2-10 Vdc	—	90 sec	5.4 VA	45K ohm (2-10 Vdc signal), 536 ohm (4-20 mA signal)	—

** TRADELINE models • SUPER TRADELINE models*

N05 Series: MN6105; MN7505
Non-Spring Return Direct Coupled Actuator, 44 lb-in

The MN7505W is a 44 lb-in (5Nm), non-spring return, direct-coupled, low voltage actuator that accepts adjustable modulating (0/2-10 Vdc) or on/off (SPDT) control for: air dampers, air handling units, ventilation flaps, louvers, and ball valves. This model includes a 3 foot whip.

- Declutch for manual adjustment
- Adjustable mechanical end limits
- Removable access cover for direct wiring
- Mountable in any orientation
- Function selection switch for selecting modulating or floating/2-position control
- Models available with three-foot, 18 AWG color-coded cable.

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Non-Spring Return
Torque Rating: 44 lb-in. (5 Nm)
Dimensions, Approximate: 5.23 in high x 2.60 in wide x 2.44 in deep (134 mm high x 66 mm wide x 62 mm deep)
External Auxiliary Switches Available: No
Environmental Rating: NEMA2
Ingress Protection Rating: IP54
Frequency: 50 Hz; 60 Hz
Manual operation: Declutch mechanism
Mounting: Direct Coupled
Maximum Noise Rating, Driving (dBA @ 1m): 35
Rotation to Open: By switch
Rotational Stroke Adjustment: Dual Integral Adj. Stops (3 degree increments)

Compatible Damper Shafts: 1/4 to 1/2 in. square or 3/8 to 5/8 in. round (6 to 13 mm square or 8 to 16 mm round)
Shaft Adapter Type: U-bolt clamp
Supply Voltage: 24 Vac +20%, -15%, 24 Vdc
Materials: Plenum rated plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -5 F to +140 F (-20 C to +60 C)
Storage Temperature Range: -22 F to +176 F (-30 C to +80 C)
Weight: 1.5 lb (0.68 kg)
Includes: Mounting bracket, screws, shaft adapter, water-tight strain-relief cable fittings
Comments: Integral 1/2 in. NPSM conduit connection

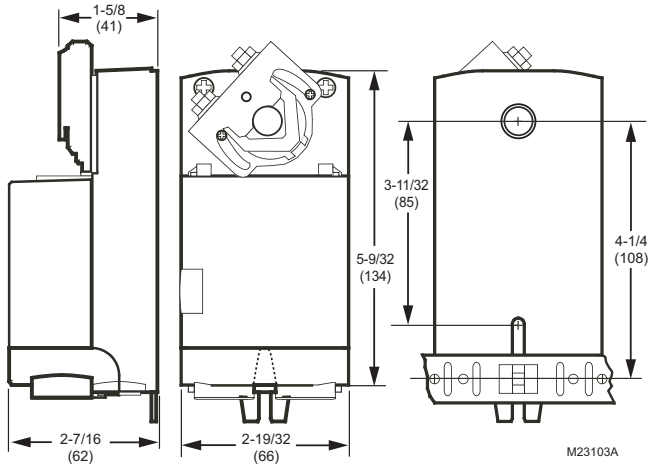
Approvals
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

	Product Number	Control Signal	Feedback	Timing (seconds) Nominal Driving @ 60 Hz	Switch Ratings	Power Consumption, Driving	Cable Entry	Electrical Connections	Electrical Connection Length (inch)	Electrical Connection Length (m)	Number of Internal Auxiliary Switch
*	**MN6105A1011/U**	On/Off; SPDT; Floating	—	95 sec	—	5 VA	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
*	**MN6105A1201/U**		—	95 sec	30 Vdc max., 3 A Class II	5 VA	—		—	—	2
*	**MN6105W1011/U**		—	95 sec	—	5 VA	Threaded conduit connector	18 AWG color-coded cable	36 in.	0.9 m	0
*	**MN7505A2001/U**	(0)2-10 Vdc (4-20 mA w/ 500 ohm resistor); On/Off; SPDT; Floating	(0)2-10 Vdc (max. output: ±1.0 mA)	95 sec	—	5 VA	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
*	**MN7505A2209/U**		(0)2-10 Vdc (max. output: ±1.0 mA)	95 sec	30 Vdc max., 3 A Class II	5 VA	—		—	—	2
*	**MN7505W2001/U**		(0)2-10 Vdc (max. output: ±1.0 mA)	95 sec	—	5 VA	Threaded conduit connector	18 AWG color-coded cable	36 in.	0.9 m	0

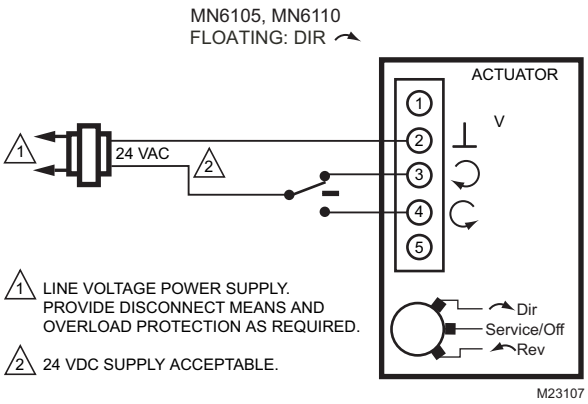
** TRADELINE models • SUPER TRADELINE models*

Dimension and Wiring Diagrams—MN6105; MN7505; MN6110; MN7510

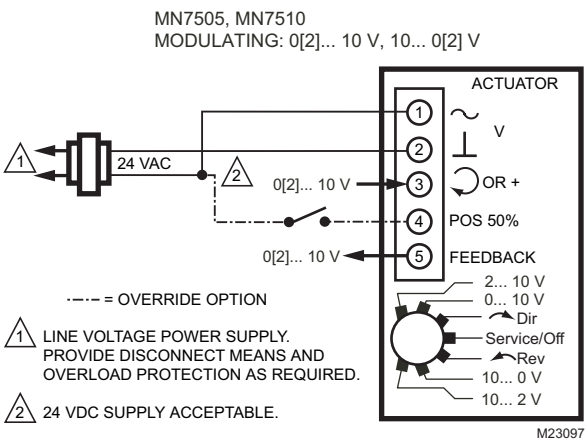
Dimensions in inches (millimeters)



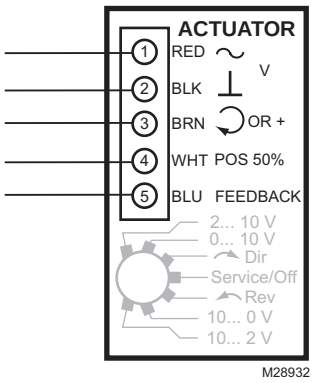
Wiring for Floating Control



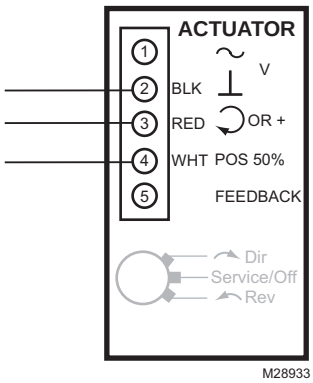
Wiring for Voltage Control



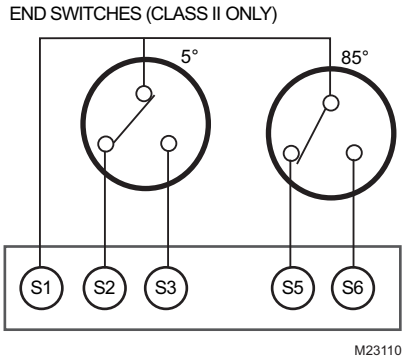
MN7505W2001 Floating Modulating Two-Position.



MN6105W1011 Two-position Floating.



Wiring for Auxiliary Switches



N10 Series: MN6110; MN7510
Non-Spring Return Direct Coupled Actuator, 88 lb-in

The MN7510 is a 88 lb-in (10Nm), non-spring return, direct-coupled, low voltage actuator that accepts adjustable modulating (0/2-10 Vdc) or on/off (SPDT) control for: air dampers, air handling units, ventilation flaps, louvers, and ball valves.

- Declutch for manual adjustment
- Adjustable mechanical end limits
- Removable access cover for direct wiring
- Mountable in any orientation
- Function selection switch for selecting modulating or floating/2-position control

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Non-Spring Return
Torque Rating: 88 lb-in. (10 Nm)
Dimensions, Approximate: 5.23 in high x 2.60 in wide x 2.44 in deep (134 mm high x 66 mm wide x 62 mm deep.)
External Auxiliary Switches Available: No
Electrical Connections: Enclosed screw terminal strip (22 to 14 AWG)
Environmental Rating: NEMA2
Ingress Protection Rating: IP54
Frequency: 50 Hz; 60 Hz
Manual operation: Declutch mechanism
Mounting: Direct Coupled
Maximum Noise Rating, Driving (dBA @ 1m): 35
Rotation to Open: By switch
Rotational Stroke Adjustment: Dual Integral Adj. Stops (3 degree increments)

Compatible Damper Shafts: 1/4 to 1/2 in. square or 3/8 to 5/8 in. round (6 to 13 mm square or 8 to 16 mm round)
Shaft Adapter Type: U-bolt clamp
Supply Voltage: 24 Vac +20%, -15%, 24 Vdc
Materials: Plenum rated plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -5 F to +140 F (-20 C to +60 C)
Storage Temperature Range: -22 F to +176 F (-30 C to +80 C)
Weight: 1.5 lb (0.68 kg)
Includes: Mounting bracket, screws, shaft adapter, water-tight strain-relief cable fittings
Comments: Integral 1/2 in. NPSM conduit connection.
Approvals
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

	Product Number	Control Signal	Feedback	Timing (seconds) Nominal Driving @ 60 Hz	Switch Ratings	Power Consumption, Driving	Number of Internal Auxiliary Switch
*	**MN6110A1003/U**	On/Off; SPDT; Floating	—	95 sec	—	5 VA	0
*	**MN6110A1201/U**	On/Off; SPDT; Floating	—	95 sec	30 Vdc max., 3 A Class II	5 VA	2
*	**MN7510A2001/U**	(0)2-10 Vdc (4-20 mA w/500 ohm resistor); On/Off; SPDT; Floating	(0)2-10 Vdc (max. output: ±1.0 mA)	95 sec	—	5 VA	0
*	**MN7510A2209/U**	(0)2-10 Vdc (4-20 mA w/500 ohm resistor); On/Off; SPDT; Floating	(0)2-10 Vdc (max. output: ±1.0 mA)	95 sec	30 Vdc max., 3 A Class II	5 VA	2

** TRADELINE models • SUPER TRADELINE models*

Direct Coupled Damper Actuators—Non-Spring Return

N20 Series: MN6120; MN7220
Non-Spring Return Direct Coupled Actuator, 175 lb-in

The MN7220 is a 175 lb-in (20Nm), non-spring return, direct-coupled, low voltage actuator that accepts adjustable modulating (0/2-10 Vdc) control for: air dampers, air handling units, ventilation flaps, louvers, and ball valves.

- Control for air damper applications with up to 50 sq ft assuming 3.5 in- b per sq ft of damper area, velocity independent
- Patented self-centering shaft adapter
- Access cover to facilitate connectivity
- Declutch for manual adjustment
- Mechanical end limits
- Field-installable auxiliary switches
- Rotation direction selectable by switch
- Mountable in any orientation (no IP54 if upside down)
- Mechanical position indicator
- CE approved. UL approved

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Non-Spring Return
Torque Rating: 175 lb-in. (20 Nm)
Dimensions, Approximate: 8.78 in high x 3.62 in wide x 3.15 in deep (223 mm high x 92 mm wide x 80 mm deep)
External Auxiliary Switches Available: Yes, SW2-US
Electrical Connections: Enclosed screw terminal strip (22 to 14 AWG)
Environmental Rating: NEMA2; IP54
Frequency: 50 Hz; 60 Hz
Manual operation: Declutch mechanism
Mounting: Direct Coupled
Maximum Noise Rating, Driving (dBA @ 1m): 40
Rotation to Open: By switch
Rotational Stroke Adjustment: Dual Integral Adj. Stops (3 degree increments)

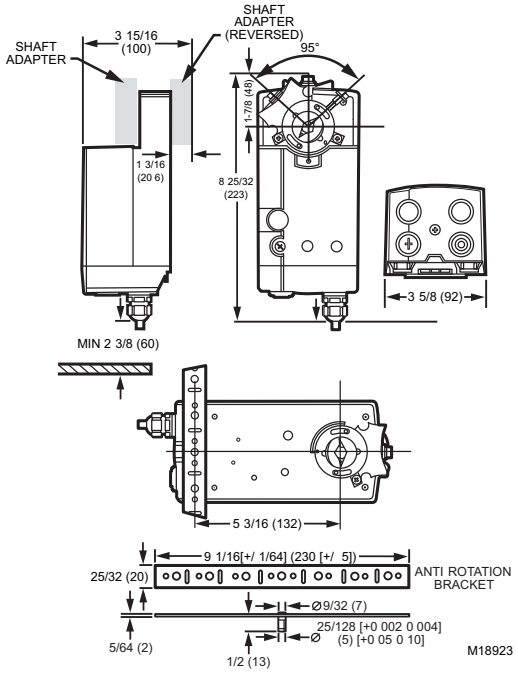
Compatible Damper Shafts: 3/8 to 1.06 in. round or 3/8 to 11/16 in. square (10 to 27 mm round or 10 to 18 mm square)
Shaft Adapter Type: Self-centering clamping
Supply Voltage: 24 Vac ±15%
Materials: Plenum rated plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -5 F to +140 F (-20 C to +60 C)
Storage Temperature Range: -40 F to +175 F (-40 C to +80 C)
Weight: 3.2 lb (1.45 kg)
Includes: Mounting bracket, self-centering shaft adapter
Comments: Integral 1/2 in. NPSM conduit connection
Approvals
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

	Product Number	Control Signal	Feedback	Timing (seconds) Nominal Driving @ 60 Hz	Switch Ratings	Power Consumption, Driving	Input Impedance	Number of Internal Auxiliary Switch
*	**MN6120A1002**	On/Off; SPDT; Floating	—	95 sec	—	6 VA, 6 W	—	0
*	**MN6120A1200**	On/Off; SPDT; Floating	—	95 sec	250 Vac, 5 A res (3 A ind)	6 VA, 6 W	—	2
*	**MN7220A2007**	(0)2-10 Vdc (4-20 mA w/500 ohm resistor)	—	95 sec	—	6 VA, 6 W	100K ohm (voltage), 500 ohm (current)	0
*	**MN7220A2205**	(0)2-10 Vdc (4-20 mA w/500 ohm resistor)	(0)2-10 Vdc (max. output: ±1.0 mA)	95 sec	250 Vac, 5 A res (3 A ind)	6 VA, 6 W	100K ohm (voltage), 500 ohm (current)	2

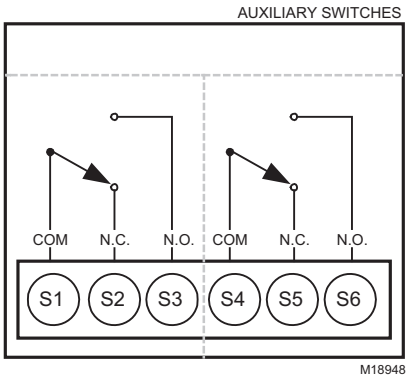
** TRADELINE models • SUPER TRADELINE models*

Dimensions and Wiring Diagrams—MN6120; MN7220; MN6134; MN7234

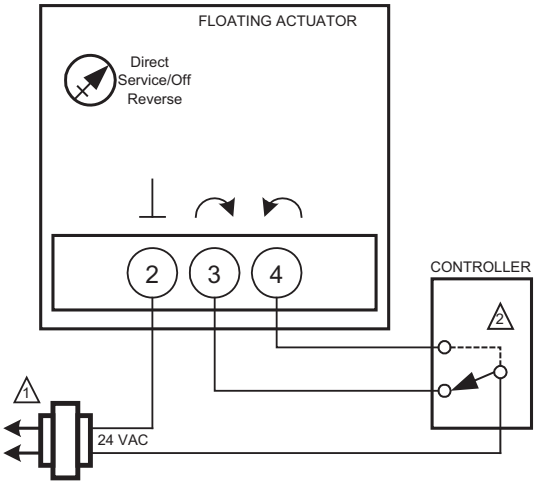
Dimensions in inches (millimeters)



Wiring for Auxiliary Switches



Used for On/Off Control

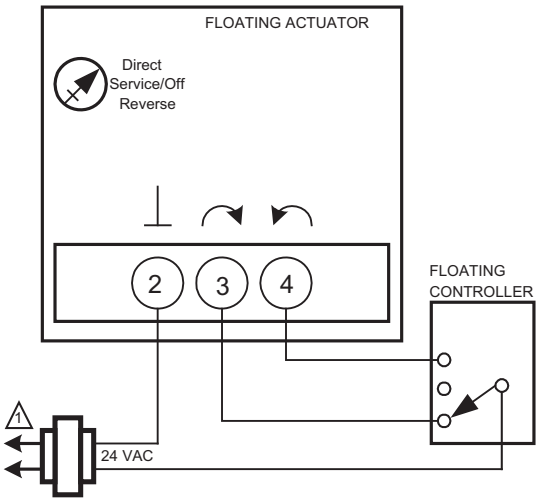


1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 CONNECTION REQUIRED FOR SPST CONTROL.

M18945A

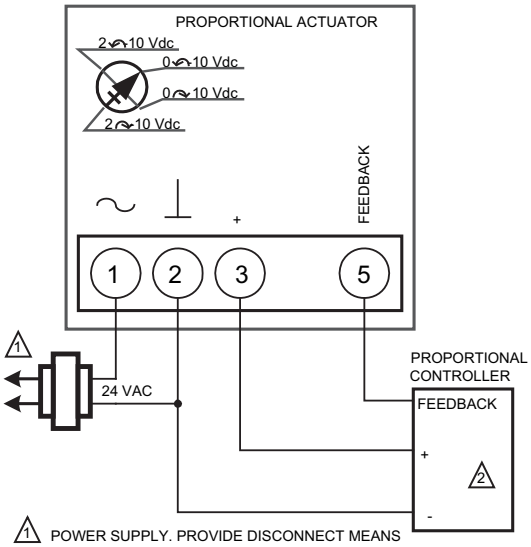
Wiring for Floating Control



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

M18946A

Wiring for Modulating Control



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 0(2)-10 VDC OF 0(4)-20 mA CONTROL SIGNAL ACCEPTABLE. SET CONTROL SIGNAL DIP SWITCH TO "OFF" FOR VOLTAGE. SET TO "ON" FOR CURRENT.

M18947A

Commercial Components

Direct Coupled Damper Actuators—Non-Spring Return

N34 Series: MN6134; MN7234
Non-Spring Return Direct Coupled Actuator, 300 lb-in

The MN7234 is a 300 lb-in (34Nm), non-spring return, direct-coupled, low voltage actuator that accepts adjustable modulating (0/2-10 Vdc) control for: air dampers, air handling units, ventilation flaps, louvers, and ball valves.

- Control for air damper applications with up to 85 sq ft assuming 3.5 in- b per sq ft of damper area, velocity independent
- Patented self-centering shaft adapter
- Access cover to facilitate connectivity
- Declutch for manual adjustment
- Mechanical end limits
- Field-installable auxiliary switches
- Rotation direction selectable by switch
- Mountable in any orientation (no IP54 if upside down)
- Mechanical position indicator
- CE approved. UL approved

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Non-Spring Return
Torque Rating: 300 lb-in. (34 Nm)
Dimensions, Approximate: 8.78 in high x 3.62 in wide x 3.15 in deep (223 mm high x 92 mm wide x 80 mm deep)
External Auxiliary Switches Available: Yes, SW2-US
Number of Internal Auxiliary Switch: 0
Electrical Connections: Enclosed screw terminal strip (22 to 14 AWG)
Environmental Rating: NEMA2
Frequency: 50 Hz; 60 Hz
Manual operation: Declutch mechanism
Mounting: Direct Coupled
Maximum Noise Rating, Driving (dBA @ 1m): 40
Rotation to Open: By switch

Compatible Damper Shafts: 3/8 to 1.06 in. round or 3/8 to 11/16 in. square (10 to 27 mm round or 10 to 18 mm square)
Shaft Adapter Type: Self-centering clamping
Supply Voltage: 24 Vac ±15%, 24 Vdc
Materials: Plenum rated plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -5 F to +140 F (-20 C to +60 C)
Storage Temperature Range: -40 F to +175 F (-40 C to +80 C)
Weight: 3.2 lb (1.45 kg)
Includes: Mounting bracket, self-centering shaft adapter
Comments: Integral 1/2 in. NPSM conduit connection
Approvals
CE
89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

	Product Number	Control Signal	Feedback	Timing (seconds) Nominal Driving @ 60 Hz	Power Consumption, Driving	Input Impedance
*	**MN6134A1003**	On/Off; SPDT; Floating	—	95 sec	9 VA, 9 W	—
*	**MN7234A2008**	(0)2-10 Vdc (4-20 mA w/500 ohm resistor)	(0)2-10 Vdc (max. output: ±1.0 mA)	95 sec	8 VA, 6 W	100K ohm (voltage), 500 ohm (current)

** TRADELINE models • SUPER TRADELINE models*

Zelix™ S03 Series: MS3103; MS4103; MS7403; MS7503; MS8103 Spring Return Direct Coupled Actuator, 27 lb-in

The MS8103 is a 27 lb-in (3Nm), spring return direct-coupled, line voltage actuator that accepts two-position (SPST) control for: air dampers, air handlers, ventilation flaps, louvers, and ball valves.

- Brushless DC submotor with electronic stall protection on all models
- Self-centering shaft adaptor (shaft coupling) for wide range of shaft sizes
- Models available for use with two-position, SPST, line- (Series 40) or low- (Series 80) voltage controls
- Models available for use with floating or switched SPDT (Series 60) controls
- Models avail able for use with proportional current or voltage (Series 70) controls
- Models available with combined floating and modulating control in a single device
- Models available with an internal end switch
- Models available with three-foot, 18 AWG color-coded cable
- Access cover to facilitate connectivity
- Durable plastic housing with built-in mechanical end limits
- Spring return direction field selectable
- Shaft position indicator and scale
- UL (cUL) listed and CE compliant
- All models are plenum rated per UL873

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 27 lb-in. (3 Nm)
Spring Return Torque: 27 lb-in (3 Nm)
Spring Return Direction: By orientation
Dimensions, Approximate: 6 81/54 high x 3 55/84 wide x 3 5/32 deep (177 mm high x 98 mm wide x 80 deep)
External Auxiliary Switches Available: No
Electrical Connections: Enclosed screw terminal strip (22 to 14 AWG)
Environmental Rating: NEMA2
Ingress Protection Rating: IP54
Feedback: Sylk-enabled
Frequency: 50 Hz; 60 Hz
Mounting: Direct Coupled
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no aud ble noise)
Maximum Noise Rating, Driving (dBA @ 1m): 40
Rotation to Open: By switch

Rotational Stroke Adjustment: Mechanically limited 5 degree increments
Compatible Damper Shafts: 3/8 to 5/8 in. round or 1/4 to 1/2 in. square (9 to 16 mm round or 6 to 13 mm square)
Shaft Adapter Type: Self-centering clamping
Supply Voltage: 24 Vac/dc
Materials: Plenum rated plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: .-40 F to +149F (.-40 C to +65 C)
Temperature Ratings (Shipping): .-40 F to +150F (.-40 C to +65 C)
Storage Temperature Range: .-40 F to +150F (.-40 C to +65 C)
Weight: 3.5 lb (1.6 kg)
Includes: Mounting bracket, self-centering shaft adapter

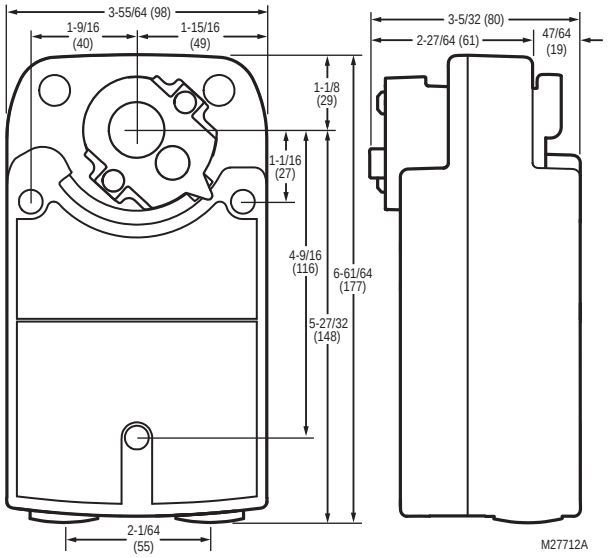
Approvals
CE: EMC 2004/108/EC; Certification Low Voltage Directive 2006/95/EC; IEC 60730-1 and Part 2-14
C-Tick: N314
Underwriters Laboratories, Inc: UL 873
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

Product Number	Control Signal	Feed-back	Timing (seconds)		Type of Internal Auxiliary Switch	Switch Ratings	Power Consump-tion, Driving	Supply Voltage	Input Impe-dance	Number of Internal Auxiliary Switch	Ambient Temperature Range	
			Nominal Driving @ 60 Hz	Maximum Spring Return							(F)	(C)
MS3103J1030/U	Sylk-enabled	Sylk-enabled	90 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	—	0	.-40 F to +149F	.-40 C to +65 C
MS4103A1030/U	Two position; SPST	—	45 sec	25 sec	—	—	6/9 VA	100 to 250 Vac	—	0	.-22 F to +149F	.-30 C to +65 C
MS4103A1130/U	Two position; SPST	—	45 sec	25 sec	adjustable 0-95 degrees	250 Vac, 8 A res (5 A ind)	6/9 VA	100 to 250 Vac	—	1	.-22 F to +149F	.-30 C to +65 C
MS7403A2030/U	3 kOhm2-10 Vdc (4-20 mA w/500 ohm resistor); On/Off; SPDT; Floating; Three position	2-10 Vdc	90 sec	25 sec	Min. Pos.	—	6/3 VA	24 Vac/ dc	Min. 95 kOhm	0	.-40 F to +149F	.-40 C to +65 C
MS7503A2030/U	(0)2-10 Vdc (4-20 mA w/500 ohm resistor); On/Off; SPDT; Floating	(0)2-10 Vdc	90 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	Min. 95 kOhm	0	.-40 F to +149F	.-40 C to +65 C
MS7503A2130/U	(0)2-10 Vdc (4-20 mA w/500 ohm resistor); On/Off; SPDT; Floating	(0)2-10 Vdc	90 sec	25 sec	adjustable 0-95 degrees	250 Vac, 8 A res (5 A ind)	6/3 VA	24 Vac/ dc	Min. 95 kOhm	1	.-40 F to +149F	.-40 C to +65 C
MS8103A1030/U	Two position; SPST	—	45 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	—	0	.-22 F to +149F	.-30 C to +65 C
MS8103A1130/U	Two position; SPST	—	45 sec	25 sec	adjustable 0-95 degrees	250 Vac, 8 A res (5 A ind)	6/3 VA	24 Vac/ dc	—	1	.-22 F to +149F	.-30 C to +65 C

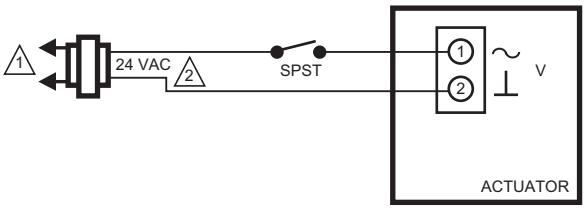
Direct Coupled Damper Actuator—Spring Return

Dimension and Wiring Diagrams—MS3103; MS3105; MS4103; MS4105; MS7403; MS7405; MS7503; MS7505; MS8103; MS8105

Dimensions in inches (millimeters)



Wiring for low-voltage two-position control

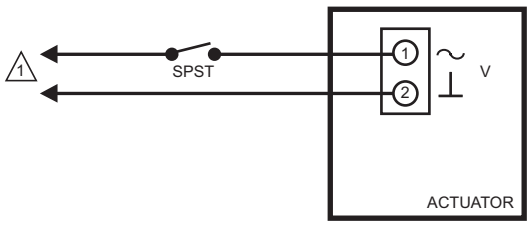


1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

M29512

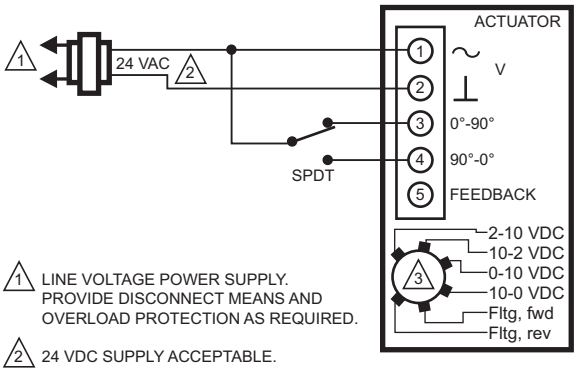
Wiring for line-voltage two-position control



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

M29513

Wiring for SPDT on/off Control



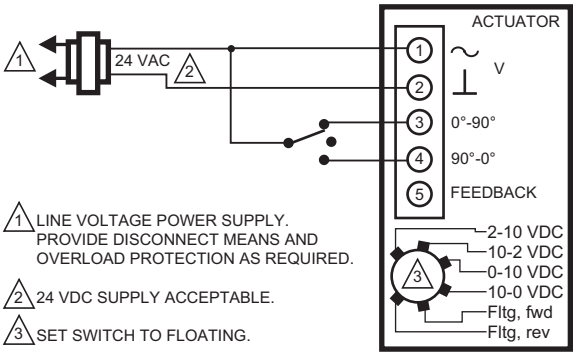
1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO FLOATING.

M29514

Wiring for floating control



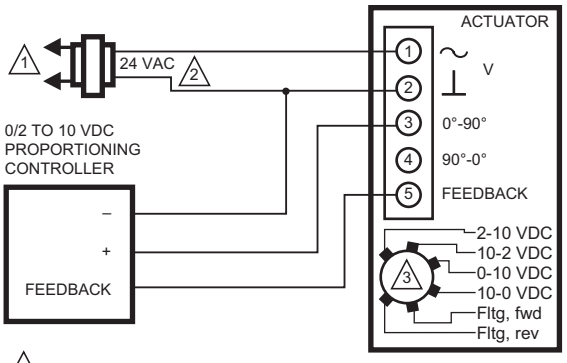
1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO FLOATING.

M29515

Wiring for (0)2-10 Vdc proportioning controllers



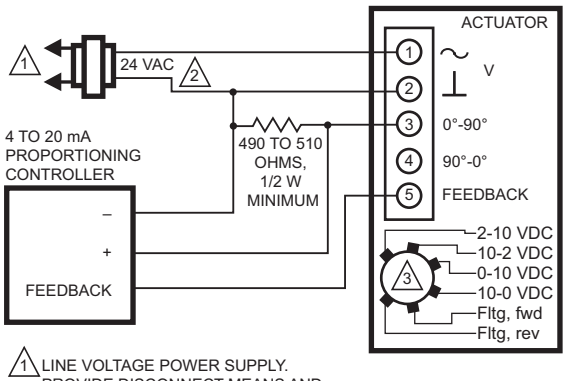
1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

M29516

Wiring for 4-10 mA proportioning controllers



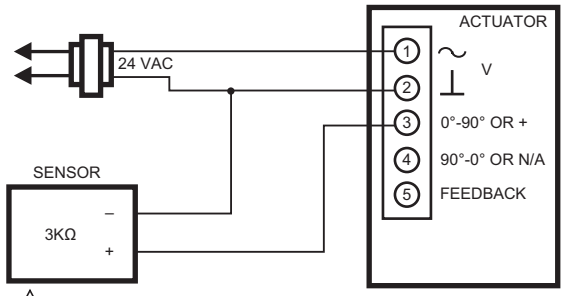
1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

M29508

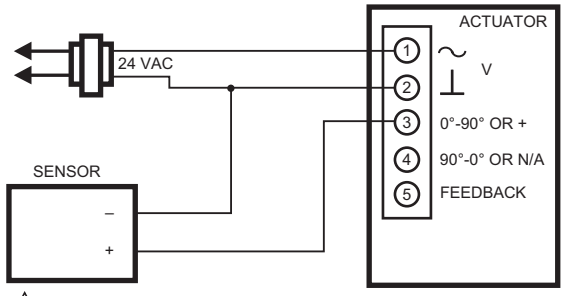
Wiring for 3 kOhm Economizer controllers



1 EXTERNAL MINIMUM POSITION POT CAN BE APPLIED TO TERMINAL 4 90°-0°.

M29510

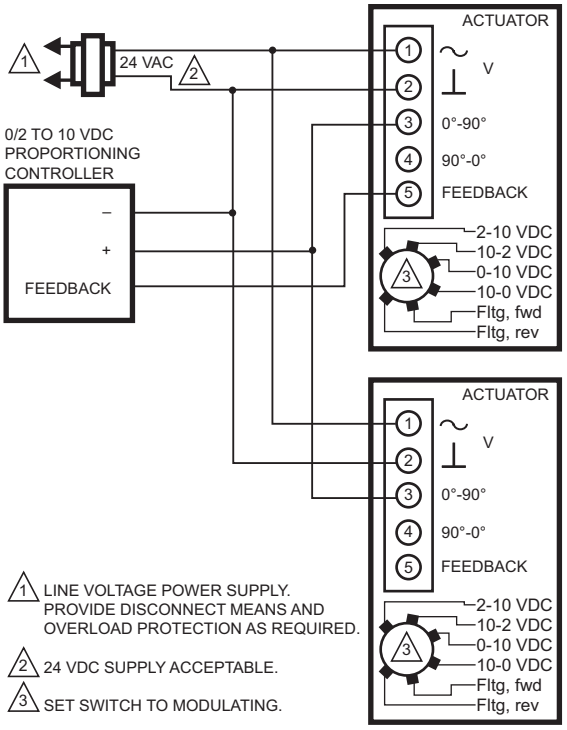
Wiring for 3 position Economizer controllers



1 EXTERNAL MINIMUM POSITION POT CAN BE APPLIED TO TERMINAL 4 90°-0°.

M29511

Wiring for (0)2-10 Vdc proportioning controllers operating multiple actuators



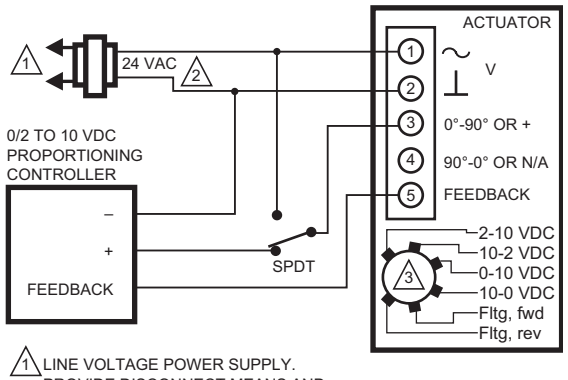
1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

M29509

Override to full open



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

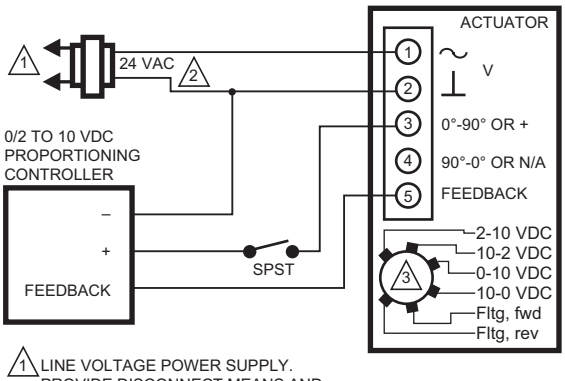
2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

M27827

Direct Coupled Damper Actuator—Spring Return

Override to full closed



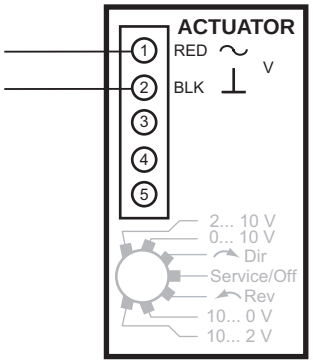
1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

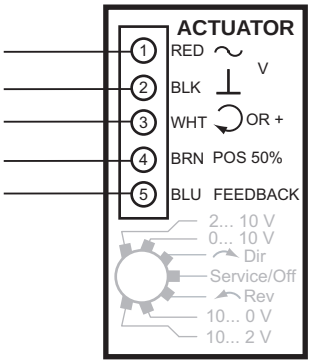
M27828

Cable wiring for low voltage, two-position control, MS8105W series



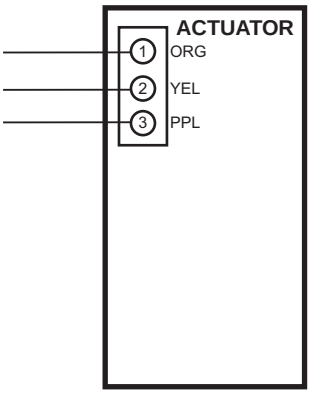
M28935

Cable writing for floating and modulating (0/2-10 Vdc) control, MS7505W series.



M28934

Switch only models.



M28973

Zelix™ S05 Series: MS3105; MS4105; MS7405; MS7505; MS8105 Spring Return Direct Coupled Actuator, 44 lb-in

The MS8105 is a 44 lb-in (5Nm), spring return direct-coupled, line voltage actuator that accepts two-position (SPST) control for: air dampers, air handlers, ventilation flaps, louvers, and ball valves.

- Brushless DC submotor with electronic stall protection on all models
- Self-centering shaft adaptor (shaft coupling) for wide range of shaft sizes
- Models available for use with two-position, SPST, line- (Series 40) or low- (Series 80) voltage controls
- Models available for use with floating or switched SPDT (Series 60) controls
- Models avail able for use with proportional current or voltage (Series 70) controls
- Models available with combined floating and modulating control in a single device
- Models available with an internal end switch
- Models available with three-foot, 18 AWG color-coded cable
- Access cover to facilitate connectivity
- Durable plastic housing with built-in mechanical end limits
- Spring return direction field selectable
- Shaft position indicator and scale
- UL (cUL) listed and CE compliant
- All models are plenum rated per UL873
- Integral 1/2 in. NPSM conduit connection on some models

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 44 lb-in. (5 Nm)
Spring Return Torque: 44 lb-in. (5 Nm)
Spring Return Direction: By orientation
Dimensions, Approximate: 6 81/54 high x 3 55/84 wide x 3 5/32 deep (177 mm high x 98 mm wide x 80 deep)
External Auxiliary Switches Available: No
Environmental Rating: NEMA2
Ingress Protection Rating: IP54
Feedback: Sylk-enabled
Frequency: 50 Hz; 60 Hz
Mounting: Direct Coupled
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no aud ble noise)
Maximum Noise Rating, Driving (dBA @ 1m): 40
Rotation to Open: By switch
Rotational Stroke Adjustment: Mechanically limited 5 degree increments

Compatible Damper Shafts: 3/8 to 5/8 in. round or 1/4 to 1/2 in. square (9 to 16 mm round or 6 to 13 mm square)
Shaft Adapter Type: Self-centering clamping
Supply Voltage: 24 Vac/dc
Materials: Plenum rated plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Temperature Ratings (Shipping): -40 F to +150F (-40 C to +65 C)
Ambient Temperature Range:
MS3105, MS7405, MS7505: -40 F to +149F (-40 C to +65 C)
MS4105, MS8105: -22 F to +149F (-30 C to +65 C)
Storage Temperature Range: .-40 F to +150F (.-40 C to +65 C)
Weight: 3.5 lb (1.6 kg)
Includes: Mounting bracket, self-centering shaft adapter
Approvals
CE: EMC 2004/108/EC; Certification Low Voltage Directive 2006/95/EC; IEC 60730-1 and Part 2-14
C-Tick: N314
Underwriters Laboratories, Inc: UL 873
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

Direct Coupled Damper Actuator—Spring Return

Product Number	Control Signal	Feed-back	Timing (seconds)		Type of Internal Auxiliary Switch	Switch Ratings	Power Consumption		Input Impe-dance	Cable Entry	Electrical Connec-tions	Electrical Connection Length		Number of Internal Auxiliary Switch
			Nominal Driving @ 60 Hz	Maximum Spring Return			Driving	Holding				(inch)	(m)	
MS3105J3030/U	Sylk-enabled	Sylk-enabled	90 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	—	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
MS3105J3130/U		Sylk-enabled	90 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	—	—		—	—	1
MS4105A1030/U	Two position; SPST	—	45 sec	25 sec	—	—	6/9 VA	100 to 250 Vac	—	—		—	—	0
MS4105A1130/U		—	45 sec	25 sec	adjustable 0-95 degrees	250 Vac, 8 A res (5 A ind)	6/9 VA	100 to 250 Vac	—	—		—	—	1
MS7405A2030/U	3 kOhm2-10 Vdc (4-20 mA w/500 ohm resistor); On/Off; SPDT; Floating; Three position	2-10 Vdc	90 sec	25 sec	Min. Pos.	—	6/3 VA	24 Vac/ dc	Min. 95 kOhm	—		—	—	0
MS7505A2030/U	(0)2-10 Vdc (4-20 mA w/500 ohm resistor); On/Off; SPDT; Floating	(0)2-10 Vdc	90 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	Min. 95 kOhm	—		—	—	0
MS7505A2130/U		(0)2-10 Vdc	90 sec	25 sec	adjustable 0-95 degrees	250 Vac, 8 A res (5 A ind)	6/3 VA	24 Vac/ dc	Min. 95 kOhm	—		—	—	1
MS7505W2030/U		(0)2-10 Vdc	90 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	Min. 95 kOhm	Threaded conduit connecto r	18 AWG color-coded cable	36 in.	0 9 m	0
MS7505W2130/U		(0)2-10 Vdc	90 sec	25 sec	adjustable 0-95 degrees	250 Vac, 8 A res (5 A ind)	6/3 VA	24 Vac/ dc	Min. 95 kOhm	Threaded conduit connecto r		36 in.	0 9 m	1
MS8105A1030/U	Two position; SPST	—	45 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	—	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
MS8105A1130/U		—	45 sec	25 sec	adjustable 0-95 degrees	250 Vac, 8 A res (5 A ind)	6/3 VA	24 Vac/ dc	—	—		—	—	1
MS8105W1030/U		—	45 sec	25 sec	—	—	6/3 VA	24 Vac/ dc	—	Threaded conduit connecto r	18 AWG color-coded cable	36 in.	0 9 m	0
MS8105W1130/U		—	45 sec	25 sec	adjustable 0-95 degrees	250 Vac, 8 A res (5 A ind)	6/3 VA	24 Vac/ dc	—	Threaded conduit connecto r		36 in.	0 9 m	1

S10 Series: MS4110; MS7510; MS8110
Spring Return Direct Coupled Actuator, 88 lb-in

MS4110, MS7510, and MS8110 Spring Return Direct Coupled Actuators (DCA) are used within heating, ventilating, and air-conditioning (HVAC) systems. They can drive a variety of quarter-turn, final control elements requiring spring return fail-safe operation.

- Brushless DC submotor with electronic stall protection for floating/modulating models.
- Brush DC submotor with electronic stall protection for 2-position models.
- Self-centering shaft adapter (shaft coupling) for wide range of shaft sizes.
- Models available for use with two-position, single pole single throw (spst), line- (Series 40) or low- (Series 80) voltage controls.
- Models available for use with floating or switched single-pole, double-throw (spdt) (Series 60) controls.
- Models available for use with proportional current or voltage (Series 70) controls.
- Models available with combined floating/modulating control in a single device.
- Models available with adjustable zero and span.
- Models available with line-voltage internal end switches.
- Models available with three-foot, 18 AWG color-coded cable.
- Access cover to facilitate connectivity.
- Metal housing with built-in mechanical end limits.
- Spring return direction field-selectable.
- Shaft position indicator and scale.
- Manual winding capability with locking function.
- UL (cUL) listed and CE compliant.
- All Models are plenum-rated per UL873.

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 88 lb-in. (10 Nm)
Spring Return Torque: 88 lb-in. (10 Nm)
Spring Return Direction: By orientation
Dimensions, Approximate: 9.72 in high x 3.94 in wide x 2.95 in deep (247 mm high x 100 mm wide x 75 mm deep)
External Auxiliary Switches Available: Yes, SW2-US
Environmental Rating: NEMA2
Frequency: ;50 Hz; 60 Hz
Manual operation: Manual crank
Mounting: Direct Coupled
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no aud ble noise)
Maximum Noise Rating, Driving (dBA @ 1m): 40
Rotational Stroke Adjustment: Mechanically limited 5 degree increments

Compatible Damper Shafts: 3/8 to 1.06 in. round or 3/8 to 11/16 in. square (10 to 27 mm round or 10 to 18 mm square)
Shaft Adapter Type: Self-centering clamping
Materials: Aluminum housing, Plenum rated plastic access cover
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Storage Temperature Range: -40 F to +158 F (-40 C to +70 C)
Weight: 7.4 lb (3.36 kg)
Includes: Mounting bracket, self-centering shaft adapter, 3mm crank
Comments: Integral 1/2 in. NPSM conduit connection

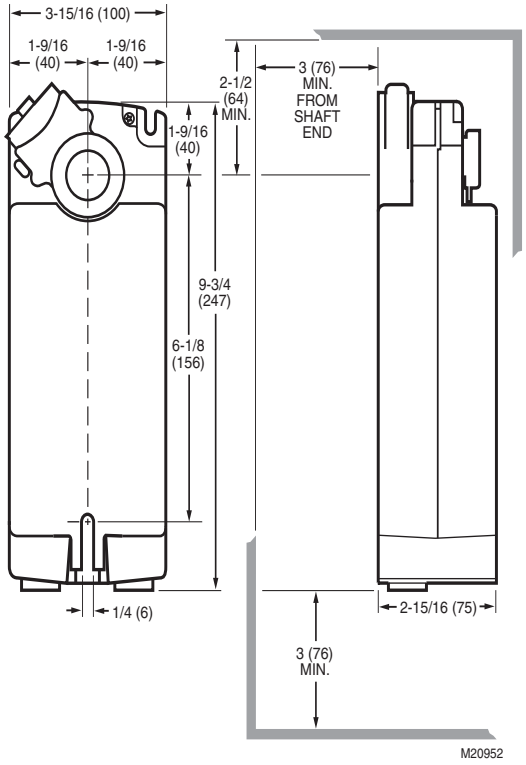
Approvals
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

Direct Coupled Damper Actuator—Spring Return

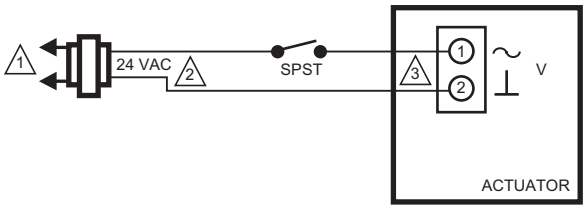
Product Number	Control Signal	Feedback	Timing (seconds)		Switch Ratings	Power Consumption		Supply Voltage	Input Impedance	Cable Entry	Electrical Connections	Electrical Connection Length		Number of Internal Auxiliary Switch
			Nominal Driving @ 60 Hz	Maximum Spring Return (sec)		Driving	Holding					(inch)	(m)	
MS4110A1002/U	Two position; SPST	—	45 sec	20 sec	—	45 VA	13 VA	100 to 250 Vac	—	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
MS4110A1200/U		—	45 sec	20 sec	250 Vac, 5 A res	45 VA	13 VA	100 to 250 Vac	—	—		—	—	2
MS7510A2008/U	(0)2-10 Vdc (4-20 mA w/500 ohm resistor); On/Off; SPDT; Floating	2-10 Vdc (max. output: ±1.0 mA)	90 sec	20 sec	—	14 VA	5 VA	24 Vac/dc	Min. 95 kOhm	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
MS7510A2206/U		2-10 Vdc (max. output: ±1.0 mA)	90 sec	20 sec	250 Vac, 5 A res	14 VA	5 VA	24 Vac/dc	Min. 95 kOhm	—		—	—	2
MS7510H2209/U		2-10 Vdc (max. output: ±1.0 mA)	90 sec	20 sec	250 Vac, 5 A res	14 VA	5 VA	24 Vac/dc	Min. 95 kOhm	—		—	—	2
MS7510W2008/U	(0)2-10 Vdc (4-20 mA w/500 ohm resistor); Floating	2-10 Vdc (max. output: ±1.0 mA)	90 sec	20 sec	—	14 VA	5 VA	24 Vac/dc	Min. 95 kOhm	Threaded conduit connector	18 AWG color-coded cable	36 in.	0.9 m	0
MS7510W2206/U		2-10 Vdc (max. output: ±1.0 mA)	90 sec	20 sec	250 Vac, 5 A res	14 VA	5 VA	24 Vac/dc	Min. 95 kOhm	Threaded conduit connector		36 in.	0.9 m	2
MS8110A1008/U	Two position; SPST	—	45 sec	20 sec	—	30 VA	8 VA	24 Vac/dc	—	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
MS8110A1206/U		—	45 sec	20 sec	250 Vac, 5 A res	30 VA	8 VA	24 Vac/dc	—	—		—	—	2
MS8110W1008/U		—	45 sec	20 sec	—	30 VA	8 VA	24 Vac/dc	—	Threaded conduit connector	18 AWG color-coded cable	36 in.	0.9 m	0
MS8110W1206/U		—	45 sec	20 sec	250 Vac, 5 A res	30 VA	8 VA	24 Vac/dc	—	Threaded conduit connector		36 in.	0.9 m	2

Dimension and Wiring Diagrams—MS4110; MS4120; MS7510; MS7520; MS8110; MS8120

Dimensions in inches (millimeters)



Wiring for On/Off Control

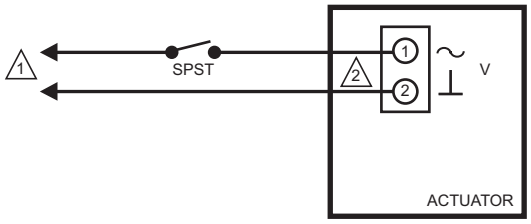


1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M19718C

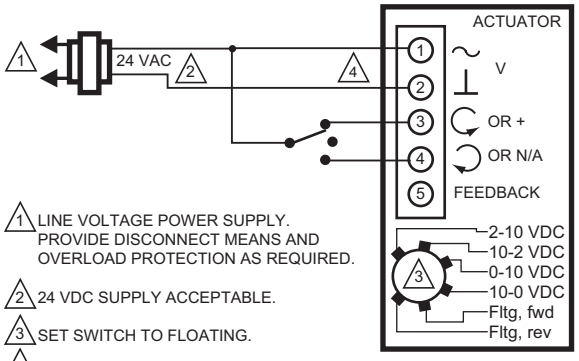


1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M22289A

Wiring for Floating Control (Floating mode setting)



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

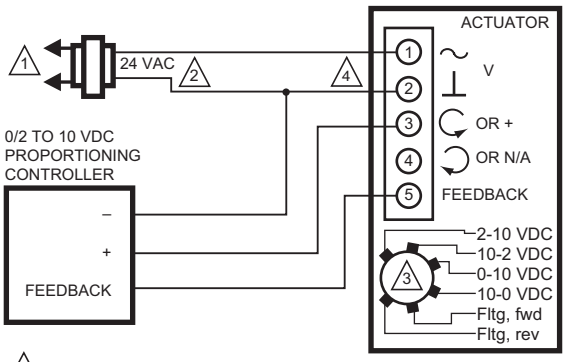
2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO FLOATING.

4 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M19573B

Wiring for Proportioning Controllers (Modulating mode setting)



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

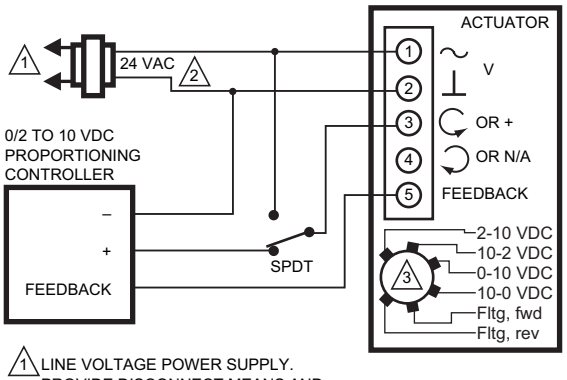
2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

4 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M19574B

Override to full open (Modulating mode setting)



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

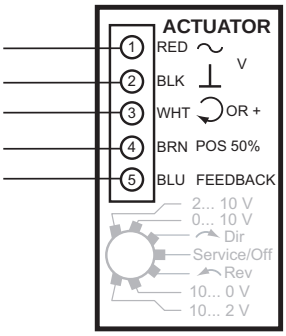
3 SET SWITCH TO MODULATING.

M19576A

Commercial Components

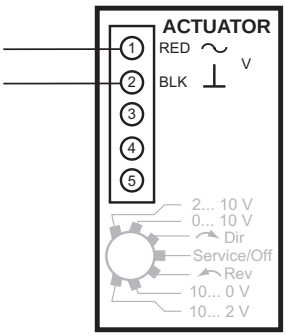
Direct Coupled Damper Actuator—Spring Return

MS7510W2008/2206 Floating Modulating.



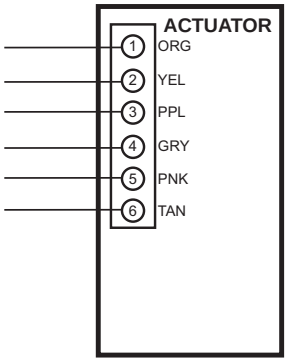
M28934

MS8110W1008/1206 Two Position, Low voltage.



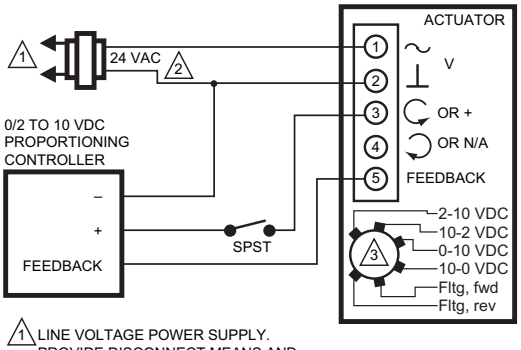
M28935

Switch only models.



M28936

Override to full closed (Modulating mode setting)



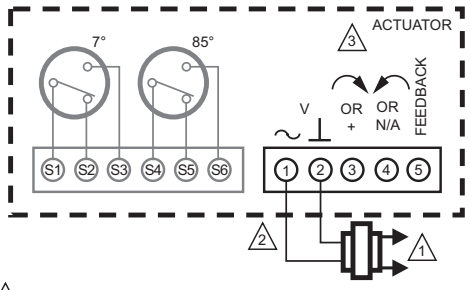
1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

M19577A

Terminal Block Details



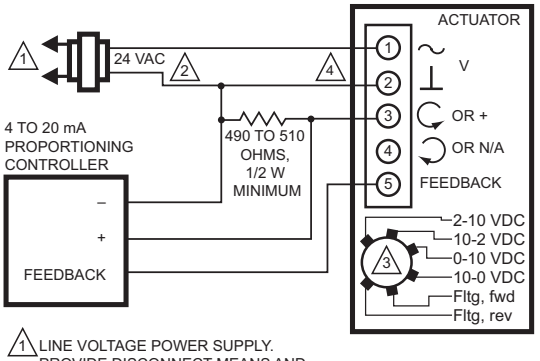
1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 THE INTERNAL AUXILIARY SWITCHES MUST BE CONNECTED TO THE SAME POWER SOURCE; OR THE AUXILIARY SWITCHES SHALL BE CONNECTED TO THE SAME POLE OF THE SAME SUPPLY CIRCUIT, CONNECTED IN A SAME POLARITY MANNER.

3 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M19571B

Wiring for Proportioning Controllers (Modulating mode setting)



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

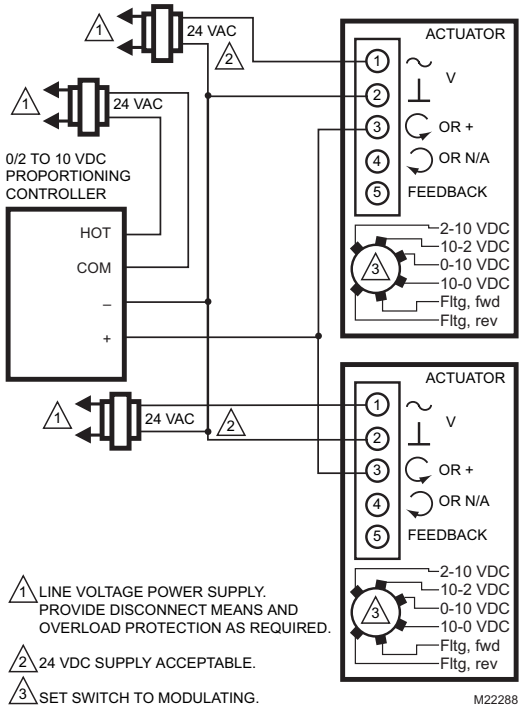
2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

4 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M22282B

Wiring for Proportioning Controllers operating multiple actuators (Modulating mode setting)



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING.

M22288

S20 Series: MS4120; MS7520; MS8120
Spring Return Direct Coupled Actuator, 175 lb-in

MS4120, MS7520, MS8120 Spring Return Direct Coupled Actuators (DCA) are used within heating, ventilating, and air-conditioning (HVAC) systems. They can drive a variety of quarter-turn, final control elements requiring spring return fail-safe operation.

- Brushless DC submotor with electronic stall protection for floating/ modulating models.
- Brush DC submotor with electronic stall protection for 2-position models.
- Self-centering shaft adapter (shaft coupling) for wide range of shaft sizes.
- Models available for use with two-position, single pole single throw (spst), line- (Series 40) or low- (Series 80) voltage controls.
- Models available for use with floating or switched single-pole, double-throw (spdt) (Series 60) controls.
- Models available for use with proportional current or voltage (Series 70) controls.
- Models available with combined floating/modulating control in a single device.
- Models available with adjustable zero and span.
- Models available with line-voltage internal end switches.
- Models available with three-foot, 18 AWG color-coded cable.
- Access cover to facilitate connectivity.
- Metal housing with built-in mechanical end limits.
- Spring return direction field-selectable.
- Shaft position indicator and scale.
- Manual winding capability with locking function.
- UL (cUL) listed and CE compliant.
- All models are plenum-rated per UL873.

Actuator Type: Damper; Valve
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 175 lb-in. (20 Nm)
Spring Return Torque: 175 lb-in. (20 Nm)
Spring Return Direction: By orientation
Dimensions, Approximate: 9.72 in high x 3.94 in wide x 2.95 in deep (247 mm high x 100 mm wide x 75 mm deep)
External Auxiliary Switches Available: Yes, SW2-US
Electrical Connections: Enclosed screw terminal strip (22 to 14 AWG)
Environmental Rating: NEMA2
Frequency: 50 Hz; 60 Hz
Manual operation: Manual crank
Mounting: Direct Coupled
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no aud ble noise)
Maximum Noise Rating, Driving (dBA @ 1m): 40
Rotational Stroke Adjustment: Mechanically limited 5 degree increments

Compatible Damper Shafts: 3/8 to 1.06 in. round or 3/8 to 11/16 in. square (10 to 27 mm round or 10 to 18 mm square)
Shaft Adapter Type: Self-centering clamping
Supply Voltage: 100 to 250 Vac
Materials: Aluminum housing, Plenum rated plastic access cover
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Storage Temperature Range: -40 F to +158 F (-40 C to +70 C)
Weight: 7.4 lb (3.36 kg)
Includes: Mounting bracket, self-centering shaft adapter, 3mm crank
Comments: Integral 1/2 in. NPSM conduit connection
Approvals
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

Direct Coupled Damper Actuator—Spring Return

Product Number	Control Signal	Feed-back	Timing (seconds)		Switch Ratings	Power Consumption		Supply Voltage	Input Impe-dance	Cable Entry	Electrical Connections	Electrical Connection Length		Number of Internal Auxiliary Switch
			Nominal Driving @ 60 Hz	Maximum Spring Return (sec)		Driving	Holding					(m)	(inch)	
MS4120A1001/U	Two position; SPST	—	45 sec	20 sec	—	60 VA	13 VA	100 to 250 Vac	—	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
MS4120A1209/U		—	45 sec	20 sec	250 Vac, 5 A res	60 VA	13 VA	100 to 250 Vac	—	—		—	—	2
MS7520A2007/U	(0)2-10 Vdc (4-20 mA w/ 500 ohm resistor); On/Off; SPDT; Floating	2-10 Vdc (max. output: ±1.0 mA)	90 sec	20 sec	—	16 VA	5 VA	24 Vac ±20%	Min. 95 kOhm	—		—	—	0
MS7520A2205/U			90 sec	20 sec	250 Vac, 5 A res	16 VA	5 VA	24 Vac ±20%	Min. 95 kOhm	—		—	—	2
MS7520H2208/U			90 sec	20 sec	250 Vac, 5 A res	16 VA	5 VA	24 Vac ±20%	Min. 95 kOhm	—		—	—	2
MS7520W2007/U	(0)2-10 Vdc (4-20 mA w/ 500 ohm resistor); Floating		90 sec	20 sec	—	16 VA	5 VA	24 Vac ±20%	Min. 95 kOhm	Threaded conduit connector	18 AWG color-coded cable	0.9 m	36 in.	0
MS7520W2205/U			90 sec	20 sec	250 Vac, 5 A res	16 VA	5 VA	24 Vac ±20%	Min. 95 kOhm	Threaded conduit connector		0.9 m	36 in.	2
MS8120A1007/U	Two position; SPST	—	45 sec	20 sec	—	40 VA	8 VA	24 Vac ±20%	—	—	Enclosed screw terminal strip (22 to 14 AWG)	—	—	0
MS8120A1205/U		—	45 sec	20 sec	250 Vac, 5 A res	40 VA	8 VA	24 Vac ±20%	—	—		—	—	2
MS8120W1007/U		—	45 sec	20 sec	—	40 VA	8 VA	24 Vac ±20%	—	Threaded conduit connector	18 AWG color-coded cable	0.9 m	36 in.	0
MS8120W1205/U		—	45 sec	20 sec	250 Vac, 5 A res	40 VA	8 VA	24 Vac ±20%	—	Threaded conduit connector		0.9 m	36 in.	2

ML4135; ML8135
HVAC, Fast-Acting, Two-Position Actuators, 40 lb-in

The ML8135 Fast-Acting, Two-Position Actuators are spring return direct coupled actuators (DCA) with an integral junction box for on/off damper control.

- Integral spring return
- -40 C to 130 F (-40 C to 54 C) operating temperature range
- No audible noise during holding
- Electronic circuitry provides efficient operation while eliminating the need for limit switches
- Ninety-five degree angle of rotation
- Die-cast aluminum housing
- Housing design allows flush mounting to damper
- Integral junction box with three conduit openings eliminates need for separate wiring box
- Direct mounting to 3/8 or 1/2 in. round or square shaft
- Not intended for smoke control systems

Actuator Type: Damper
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 40 lb-in. (4.5 Nm)
Spring Return Torque: 40 lb-in. (4.5 Nm)
Dimensions, Approximate: 7.5 in high x 5.13 in wide x 3.32 in deep (192 mm high x 129 mm wide x 84 mm deep)
External Auxiliary Switches Available: Yes, 32003532-005
Number of Internal Auxiliary Switch: 0
Electrical Connections: Two color-coded leads
Electrical Connection Length: 16 in. (406 mm)
Environmental Rating: NEMA1
Frequency: 60 Hz
Mounting: Direct Coupled
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no aud ble noise)
Maximum Noise Rating, Driving (dBA @ 1m): 65
Compatible Damper Shafts: 3/8 to 1/2 in. square or round (10 to 13 mm square/round)
Shaft Adapter Type: Aluminum Hub, four set screws
Materials: Aluminum housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: x-40 F to +130 F (4.5 Nm)
Storage Temperature Range: -40 F to +140 F (-18 C to +60 C)
Weight: 6 lb (2.72 kg)
Comments: Integral junction box with three 7/8 in. conduit openings (fittings not included)

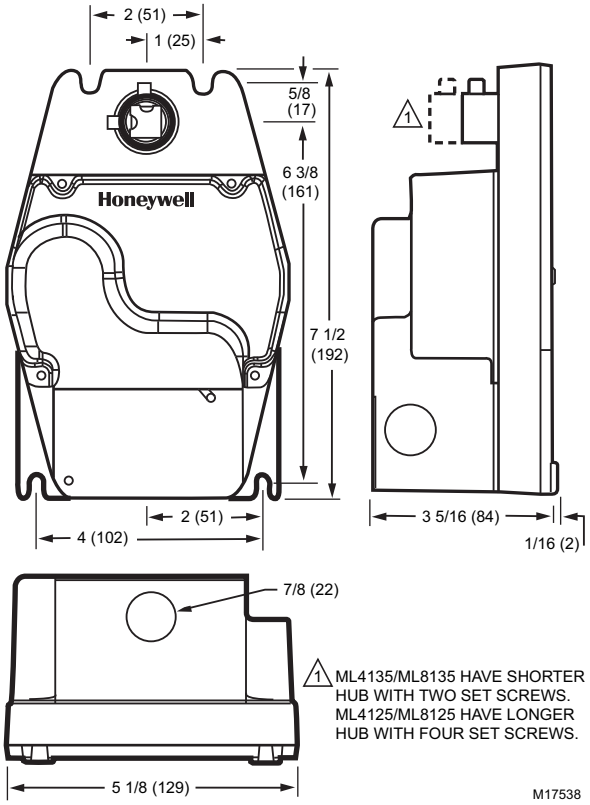
Approvals
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

Product Number	Control Signal	Timing (seconds)			Power Consumption		Supply Voltage	Includes	Spring Return Direction
		Maximum Driving @ 60 Hz	Nominal Driving @ 60 Hz	Maximum Spring Return (sec)	Driving	Holding			
ML4135A1007/U	Two position; SPST	25 sec	20 sec	15 sec	0.18A, 18W	0.11A, 9W	120 Vac ±10%	Mounting bracket, ground screw	CCW
ML4135B1006/U	Two position; SPST	25 sec	20 sec	15 sec	0.18A, 18W	0.11A, 9W	120 Vac ±10%	Mounting bracket, ground screw	CW
ML8135A1003/U	Two position; SPST	25 sec	20 sec	15 sec	18 VA	8.5 VA	24 Vac +20%, -10%	Mounting bracket	CCW
ML8135B1002/U	Two position; SPST	25 sec	20 sec	15 sec	18 VA	8.5 VA	24 Vac +20%, -10%	Mounting bracket	CW

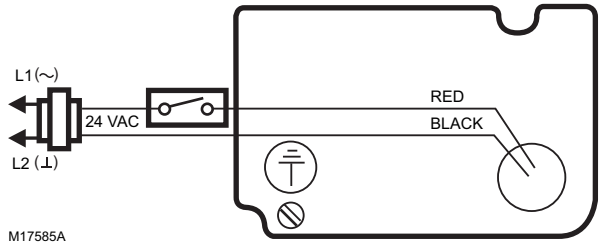
Direct Coupled Damper Actuator—Spring Return

Dimension and Wiring Diagrams—ML4135; ML8135; ML4125; ML8125

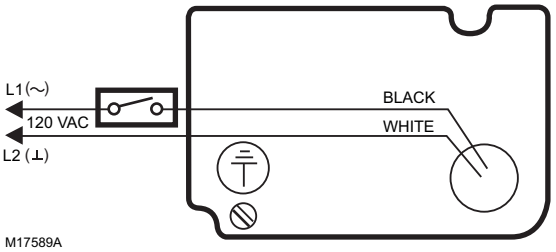
Dimensions in inches (millimeters)



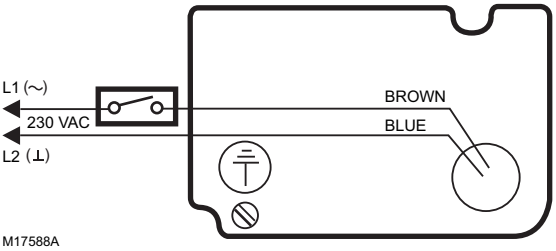
Typical 24 Vac wiring



Typical 120 Vac Wiring



Typical 230 Vac Wiring



ML4125; ML8125
HVAC, Fast-Acting, Two-Position Actuators, 100 lb-in

The ML8125 Fast-Acting, Two-Position Actuators are spring return direct coupled actuators (DCA) with an integral junction box for on/off damper control.

- Integral spring return
- -40 C to 130 F (-40 C to 54 C) operating temperature range
- No audible noise during holding
- Electronic circuitry provides efficient operation while eliminating the need for limit switches
- Ninety-five degree angle of rotation
- Die-cast aluminum housing. Housing design allows flush mounting to damper
- Integral junction box with three conduit openings eliminates need for separate wiring box
- Direct mounting to 3/8 or 1/2 in. round or square shaft
- Not intended for smoke control systems

Actuator Type: Damper
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 100 lb-in. (11.3 Nm)
Spring Return Torque: 100 lb-in. (11.3 Nm)
External Auxiliary Switches Available: Yes, 32003532-005
Number of Internal Auxiliary Switch: 0
Electrical Connections: Two color-coded leads
Electrical Connection Length: 16 in. (406 mm)
Environmental Rating: NEMA1
Frequency: 60 Hz
Mounting: Direct Coupled
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no aud ble noise)
Maximum Noise Rating, Driving (dBA @ 1m): 65

Compatible Damper Shafts: 3/8 to 1/2 in. square or round (10 to 13 mm square/round)
Shaft Adapter Type: Aluminum Hub, two set screws
Materials: Aluminum housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -40 F to +130 F (-40 C to +55 C)
Storage Temperature Range: -40 F to 140 F (-40 C to +60 C)
Weight: 6 lb (2.72 kg)
Comments: Integral junction box with three 7/8 in. conduit openings (fittings not included)

Approvals
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

Product Number	Control Signal	Timing (seconds)			Power Consumption		Supply Voltage	Includes	Spring Return Direction
		Maximum Driving @ 60 Hz	Nominal Driving @ 60 Hz	Maximum Spring Return (sec)	Driving	Holding			
ML4125A1008/U	Two position; SPST	40 sec	25 sec	25 sec	0.16A, 15W	0.10A, 5W	120 Vac +10%, -15%	Ground Screw	CCW
ML4125B1007/U	Two position; SPST	40 sec	25 sec	25 sec	0.16A, 15W	0.10A, 5W	120 Vac +10%, -15%	Ground Screw	CW
ML4125C1006/U	Two position; SPST	40 sec	25 sec	25 sec	0.12A, 18.6W	0.10A, 7W	230 Vac ±10%	Mounting bracket	CCW
ML4125D1005/U	Two position; SPST	40 sec	25 sec	25 sec	0.12A, 18.6W	0.10A, 7W	230 Vac ±10%	Mounting bracket	CW
ML8125A1004/U	Two position; SPST	40 sec	25 sec	25 sec	15.6 VA	4 VA	24 Vac +20%, -10%	Mounting bracket	CCW
ML8125B1003/U	Two position; SPST	40 sec	25 sec	25 sec	15.6 VA	4 VA	24 Vac +20%, -10%	Mounting bracket	CW

ML4115; ML8115
Fire and Smoke, Fast-Acting, Two-Position Actuators, 30 lb-in

Spring return direct coupled actuators (DCA) for on/off damper control with an integral junction box. The actuator accepts an on/off signal from a single-pole, single-throw (SPST) controller. They are designed to operate reliably in smoke control systems requiring Underwriter's Laboratories Inc. UL555S ratings up to 350 F.

- Integral spring return
- No audible noise during holding
- Electronic circuitry provides efficient operation while eliminating the need for limit switches
- Ninety-five degree angle of rotation for tight damper closure
- Die-cast aluminum housing
- Housing design allows flush mounting to damper
- Integral junction box with three conduit openings eliminates need for separate wiring box
- Mounts to 3/8 or 1/2 in. round or square shaft

Actuator Type: Damper
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 30 lb-in. (3.4 Nm)
Minimum Driving Torque at 350 F: 30 lb-in.
Spring Return Torque: 30 lb-in. (3.4 Nm)
Dimensions, Approximate: 7.5 in high x 5.13 in wide x 3.32 in deep (192 mm high x 129 mm wide x 84 mm deep)
External Auxiliary Switches Available: Yes, 32003532-005
Number of Internal Auxiliary Switch: 0
Electrical Connections: Two color-coded leads
Electrical Connection Length: 16 in. (406 mm)
Environmental Rating: NEMA1
Frequency: 60 Hz
Mounting: Direct Coupled

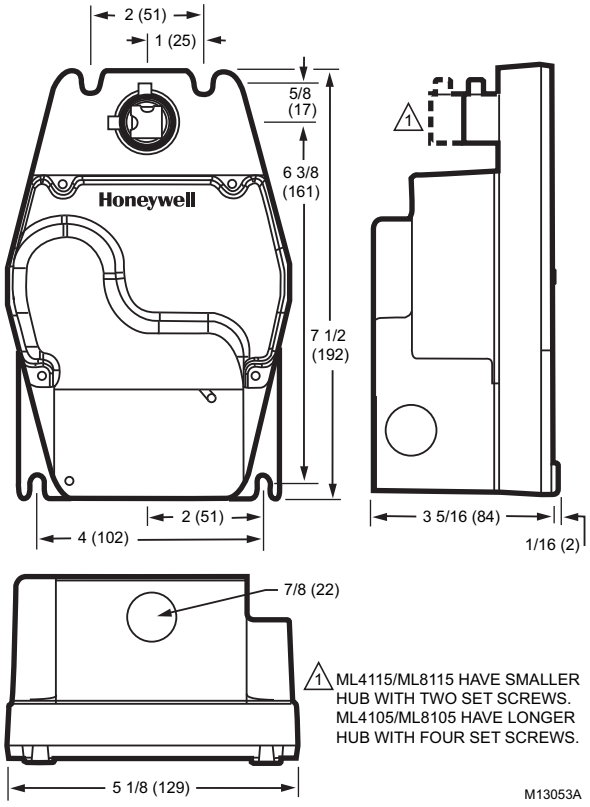
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no audible noise)
Maximum Noise Rating, Driving (dBA @ 1m): 65
Compatible Damper Shafts: 3/8 to 1/2 in. square or round (10 to 13 mm square/round)
Shaft Adapter Type: Aluminum Hub, two set screws
Materials: Aluminum housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: 0 F to +130 F (-18 C to +55 C)
Storage Temperature Range: -40 F to 140 F (-40 C to +60 C)
Weight: 6 lb (2.72 kg)
Comments: Integral junction box with three 7/8 in. conduit openings (fittings not included)

Approvals
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

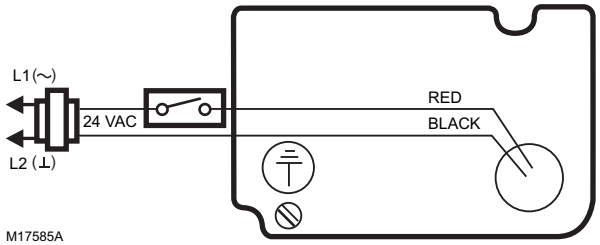
Product Number	Control Signal	Timing (seconds)			Power Consumption		Supply Voltage	Includes	Spring Return Direction
		Maximum Driving @ 60 Hz	Nominal Driving @ 60 Hz	Maximum Spring Return (sec)	Driving	Holding			
ML4115A1009/U	Two position; SPST	25 sec	18 sec	15 sec	0.18A, 18W	0.11A, 9W	120 Vac ±10%	Ground Screw	CCW
ML4115B1008/U	Two position; SPST	25 sec	18 sec	15 sec	0.18A, 18W	0.11A, 9W	120 Vac ±10%	Ground Screw	CW
ML8115A1005/U	Two position; SPST	25 sec	18 sec	15 sec	16 VA	8 VA	24 Vac ± 20%	—	CCW
ML8115B1004/U	Two position; SPST	25 sec	18 sec	15 sec	16 VA	8 VA	24 Vac ± 20%	—	CW

Dimension and Wiring Diagrams—ML4115; ML8115; MS4209F; MS4309F; MS4709F; MS4809F; MS8209F; MS8309F

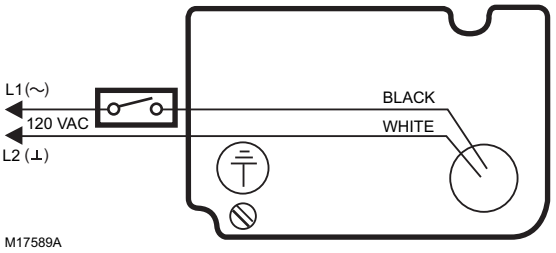
Dimensions in inches (millimeters)



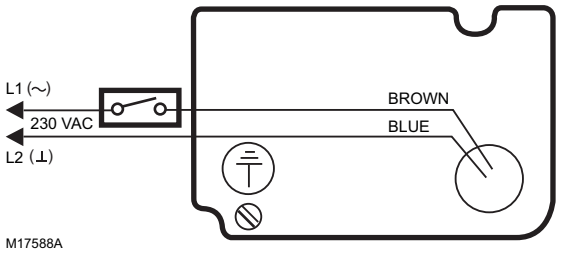
Typical 24 Vac wiring



Typical 120 Vac wiring



Typical 230 Vac Wiring



Commercial Components

Direct Coupled Damper Actuators—Fire and Smoke

MS4209F; MS4309F; MS4709F; MS4809F; MS8209F; MS8309F Fast-Acting, Two-Position Actuators, 80 lb-in

The MS8309F is a 80 lb-in (9Nm), spring return direct-coupled, 24 Vac, CCW actuator that accepts two position (SPST) control with an integral junction box. The actuator accepts an on/off signal from a single-pole, single-throw (SPST) controller. They are designed to operate reliably in smoke control systems requiring Underwriter's Laboratories Inc. UL555S ratings up to 350 F.

- Integral spring return ensures level of return torque
- Fifteen-second spring return timing
- No special cycling required during long-term holding
- No audible noise during holding
- Patent pending design eliminates need for limit switches to reduce power consumption
- Models available for 24, 120, and 230 Vac
- Ninety-five degree angle of rotation for tight damper closure
- Actuator holds rated torque at reduced power level
- Die-cast aluminum housing
- Housing design allows flush mounting to damper
- Integral junction box with three conduit openings eliminates need for separate wiring box

Actuator Type: Damper
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 80 lb-in. (9 Nm)
Minimum Driving Torque at 350 F: 80 lb-in.
Spring Return Torque: 80 lb-in. (9 Nm)
Dimensions, Approximate: 7.5 in high x 5.13 in wide x 3.32 in deep (192 mm high x 129 mm wide x 84 mm deep)
External Auxiliary Switches Available: Yes, 32003532-005
Number of Internal Auxiliary Switch: 0
Environmental Rating: NEMA1
Frequency: 60 Hz
Mounting: Direct Coupled
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no aud ble noise)
Maximum Noise Rating, Driving (dBA @ 1m): 80

Compatible Damper Shafts: 3/8 to 1/2 in. square or round (10 to 13 mm square/round)
Shaft Adapter Type: Aluminum Hub, four set screws
Materials: Aluminum housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: 0 F to +130 F (-18 C to +55 C)
Storage Temperature Range: -40 F to 140 F (-40 C to +60 C)
Weight: 6 lb (2.72 kg)
Comments: Integral junction box with three 7/8 in. conduit openings (fittings not included)
Approvals
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

Product Number	Control Signal	Timing (seconds)			Power Consumption		Supply Voltage	Electrical Connections	Electrical Connection Length		Spring Return Direction
		Maximum Driving @ 60 Hz	Nominal Driving @ 60 Hz	Maximum Spring Return (sec)	Driving	Holding			(inch)	(m)	
MS4209F1007/U	Two position; SPST	25 sec	15 sec	15 sec	0.25A, 23W	0.13A, 7W	120 Vac +10%, -15%	Two color-coded leads	39 in.	1 m	CW
MS4309F1005/U	Two position; SPST	25 sec	15 sec	15 sec	0.25A, 23W	0.13A, 7W	120 Vac +10%, -15%	Two color-coded leads	39 in.	1 m	CCW
MS4709F1014/U	Two position; SPST	25 sec	15 sec	15 sec	0.13A, 23W	0.09A, 7W	230 Vac ±10%	Appliance cable	39 in.	1 m	CW
MS4809F1012/U	Two position; SPST	25 sec	15 sec	15 sec	0.13A, 23W	0.09A, 7W	230 Vac ±10%	Appliance cable	39 in.	1 m	CCW
MS8209F1003/U	Two position; SPST	25 sec	15 sec	15 sec	23 VA	7 VA	24 Vac +20%, -10%	Two color-coded leads	39 in.	1 m	CW
MS8309F1001/U	Two position; SPST	25 sec	15 sec	15 sec	23 VA	7 VA	24 Vac +20%, -10%	Two color-coded leads	39 in.	1 m	CCW

MS4120F; MS4620F; MS8120F
Fast-Acting, Two-Position Actuators, 175 lb-in

The MS8120F,S is a 175 lb-in (20Nm), spring return direct-coupled, 24 Vac actuator that accepts two position (SPST) control with an integral junction box. The actuator accepts an on/off signal from a single-pole, single-throw (SPST) controller. They are designed to operate reliably in smoke control systems requiring Underwriter's Laboratories Inc. UL555S ratings up to 350 F.

- Brush DC submotor with electronic stall protection for 2-position models
- Self-centering shaft adapter (shaft coupling) for wide range of shaft sizes
- Models available for use with two-position, single pole single throw (spst), line- (Series 40) or low- (Series 80) voltage controls
- Metal housing with built-in mechanical end limits
- Spring return direction field-selectable
- Shaft position indicator and scale
- Manual winding capability with locking function
- UL (cUL) listed and CE compliant
- All Models are plenum-rated per UL873

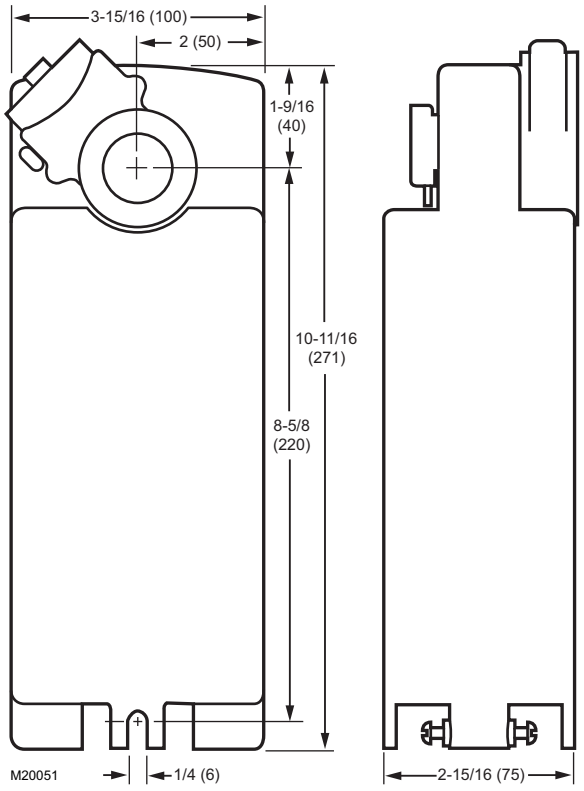
Actuator Type: Damper
Rotational Stroke: 95 ±3 degrees
Fail Safe Mode: Spring Return
Torque Rating: 175 lb-in. (20 Nm)
Minimum Driving Torque at 350 F: 175 b-in.
Spring Return Torque: 175 lb-in. (20 Nm)
External Auxiliary Switches Available: No
Electrical Connections: Teflon-jacketed cable
Electrical Connection Length: 40 in. (1 m)
Environmental Rating: NEMA2
Ingress Protection Rating: IP54
Frequency: 60 Hz
Manual operation: Manual crank
Mounting: Direct Coupled
Maximum Noise Rating, Holding (dBA @ 1m): 20 (no aud ble noise)
Maximum Noise Rating, Driving (dBA @ 1m): 70

Compatible Damper Shafts: 3/8 to 1.06 in. round or 3/8 to 11/16 in. square (10 to 27 mm round or 10 to 18 mm square)
Shaft Adapter Type: Self-centering clamping
Materials: Aluminum housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Ambient Temperature Range: -40 F to +130 F (-40 C to +55 C)
Storage Temperature Range: -40 F to +140 F (-40 C to +60 C)
Weight: 8 lb (3.63 kg)
Includes: Self-centering shaft adapter, 3mm crank
Comments: Two integral 3/8 in. flexible conduit connections
Approvals
CE: 89/336/ECC, 73/23/EEC
C-Tick: N314
Underwriters Laboratories, Inc: UL873, Plenum Rated
Canadian Underwriters Laboratories, Inc: cUL C22.2 No. 24-93

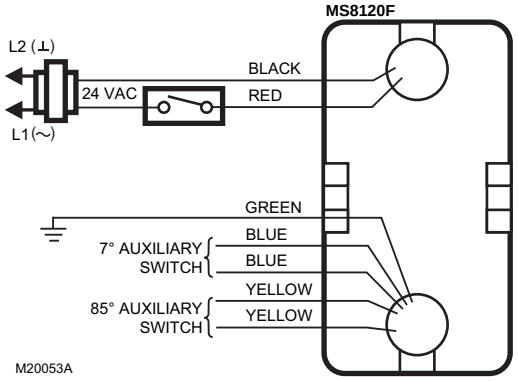
Product Number	Control Signal	Timing (seconds)		Switch Ratings	Power Consumption		Supply Voltage	Number of Internal Auxiliary Switch	Spring Return Direction
		Nominal Driving @ 60 Hz	Maximum Spring Return (sec)		Driving	Holding			
MS4120F1006/U	Two position; SPST	15 sec	15 sec	—	0.35A, 35W	0.15A, 10W	120 Vac ±10%	0	By orientation
MS4120F1204/U	Two position; SPST	15 sec	15 sec	250 Vac, 5 A res	0.35A, 35W	0.15A, 10W	120 Vac ±10%	2	By orientation
MS4620F1005/U	Two position; SPST	15 sec	15 sec	—	0.20A, 35W	0.14A, 10W	230 Vac ±10%	0	By orientation
MS4620F1203/U	Two position; SPST	15 sec	15 sec	250 Vac, 5 A res	0.20A, 35W	0.14A, 10W	230 Vac ±10%	2	By orientation
MS8120F1002/U	Two position; SPST	15 sec	15 sec	—	45 VA	10 VA	24 Vac +20%, -10%	0	By orientation
MS8120F1200/U	Two position; SPST	15 sec	15 sec	250 Vac, 5 A res	45 VA	10 VA	24 Vac +20%, -10%	2	By orientation

Dimension and Wiring Diagrams—MS4120F; MS4620F; MS8120F

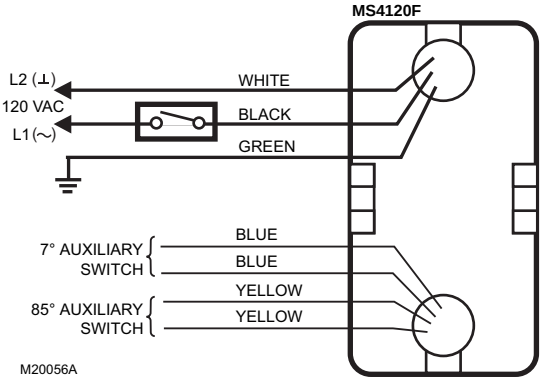
Dimensions in inches (millimeters)



Wiring for 24V Control



Wiring for 120V Control

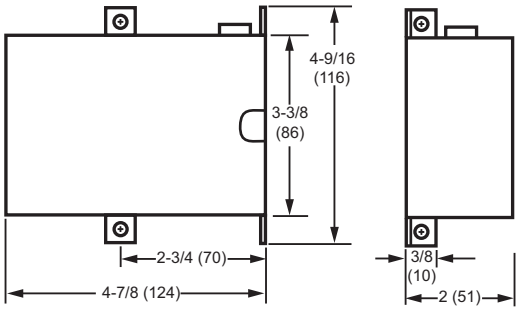


Q7002 Interface Modules

The Q7002 Interface Modules allow controllers with an otherwise incompatible signal to control an Economizer Logic Module or Direct Coupled Actuator.

- 24 Vac or 24 Vdc power.
- Available for input signals: dc voltage, current, or resistive; and pulse-width modulation (PWM).
- Available to provide output: analog voltage or current for an actuator.
- Inputs and outputs are jumper-selectable and include adjustable zero and span.
- Output is jumper-selectable direct or reverse acting.
- Includes reference voltage and current to power an input device or sensor.
- PWM time base is user-selectable with positive or negative input reference; all ranges have 255-step resolution.
- Multiplex mode enables one PWM signal from a Building Automation System (BAS) controller to address and control up to eight interface modules.

Dimensions in inches (millimeters)



ENCLOSURE MODELS M18985

Frequency: 60 Hz
Mounting: Enclosure (NEMA 1) with mounting tabs
Used With: Direct-Coupled Proportional Actuators and Modutrol Motors

Product Number	Output Burden	Supply Voltage	Description	Comments
Q7002B1009/U	0 to 10 Vdc > 500 Ohm; 0 to 20 mA < 500 ohm	24 Vac ±20%; 24 Vdc	Transducer, Accepts dc voltage, current, or resistive input and provides a voltage or current output	Input: dc voltage, current, or resistive, Output: voltage or current output
Q7002C1007/U	0 to 10 Vdc > 500 Ohm; 0 to 20 mA < 500 ohm	24 Vac ±20%; 24 Vdc	Transducer, Accepts a pulse-width modulation (PWM) signal and provides a voltage output	Input: PWM signal, Output: analog voltage

Direct Coupled Damper Actuators—Accessories

Accessories for Direct Coupled Damper Actuators

Compatibility Chart		SPRING RETURN									NON-SPRING RETURN					
ACTUATOR ACCESSORIES		MSxx03A, MSxx05A*	MSxx10A	MSxx20A	MLxx75	MLxx85	MLxx95	ML41x5, ML81x5	MSxx09F	MSxx20F	MLxx61, MLxx74	MNxx05, MNxx10	MNxx20A	MNxx34A	MLxx84	MLxx94
Control, Positioning, Feedback																
SW2-US	Auxiliary Switch (2 SPDT)		•	•								•	•	•		
32003532-005	High Temperature Auxiliary Switch (2 SPDT)							•	•							
200976C	Feedback Potentiometer (2000 ohm)										•					
200976A	Feedback Potentiometer (500 ohm)										•					
205860	Minimum Position Potentiometer	•	•	•	•	•	•				•	•	•	•	•	•
32006306-001	Resistor Kit (500 ohm); converts 4-20 mA signal to 2-10 Vdc	•	•	•	•	•	•				•				•	•
Q7002B1009	Universal Interface Module (Enclosed)	•	•	•	•	•	•				•	•	•	•	•	•
Mounting																
32007205-001	Actuator Mounting Plate	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32007205-002	Damper Blade Drive Lever (<24 in.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32007205-003	Damper Blade Drive Lever (>24 in.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32007205-004	Damper External Drive Pin Clip	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32007205-005	Damper External Drive Pin Kit	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32007205-008	Damper Axle Coupler	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32007205-009	Crank Arm (1 in.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50001194-001	Foot Mounting Kit	•	•	•	•	•	•					•	•	•	•	•
205649	Mounting Bracket							•	•	•						
205784	Mounting Bracket				•	•										
50006427-001	Flexible Anti-rotation Bracket		•	•						•			•	•		
50000407-001	Tandem Mounting Kit		•	•									•	•		
STRN-BRKT	Anti-rotation Bracket	•														
STRN-CRK-01	Crank Arm Kit	•														
STRN-ECONO-01	Economizer Retrofit Kit	•														
STRN-WMK-01	Wall Mount Kit	•														
Rotation Limiters, Position Indicators																
4074ENJ	Stroke Stop/Minimum Position Kit										•					
4074ENY	Stroke Stop Kit										•					
Ball Joints, Push Rods																
103598	Ball Joint (1/4 in.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
27518	Ball Joint (5/16 in.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
27520Q	Push Rod (5/16 in. dia., 8 in. length)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
27520B	Push Rod (5/16 in. dia., 10 in. length)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
27520C	Push Rod (5/16 in. dia., 12 in. length)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
27520E	Push Rod (5/16 in. dia., 18 in. length)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
27520G	Push Rod (5/16 in. dia., 24 in. length)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
27520K	Push Rod (5/16 in. dia., 36 in. length)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
27520L	Push Rod (5/16 in. dia., 48 in. length)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Compatibility Chart

ACTUATOR ACCESSORIES		SPRING RETURN									NON-SPRING RETURN					
		MSxx03A, MSxx05A*	MSxx10A	MSxx20A	MLxx75	MLxx85	MLxx95	ML41x5, ML81x5	MSxx09F	MSxx20F	MLxx61, MLxx74	MNxx05, MNxx10	MNxx20A	MNxx34A	MLxx84	MLxx94
Crankarms																
205685	Crank Arm Kit														•	
205846	Crank Arm Kit															•
26026G	Damper Crank Arm, 1/2 in. damper shaft	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
205830A	Rotary-to-Linear Kit				•	•					•					
205870	Shaft Adapter 1 in. with Crank Arm				•	•										
STRN-CA-01	Non-Self-centering Crank Arm	•														
STRN-CA-02	Self-centering Crank Arm	•														
Shaft Adapters																
205849A	Hub Insert 5/8 in.															•
32003167-001	Shaft Adapter (3/8 in.)										•					
32003168-001	Short Shaft Adapter (3/4-1/2 in.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32003168-002	Short Shaft Adapter (5/8-1/2 in.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32003168-003	Short Shaft Adapter (9/16-1/2 in.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32004254-003	Self Centering Shaft Adapter											•	•			
32004254-002	Self Centering Shaft Adapter		•	•												
32004254-001	Self Centering Shaft Adapter											•		•		
4074EVK	Short Shaft Kit										•					
STRN-SCSA	Self-centering Shaft Adapter	•														
Enclosures																
32003036-001	Weather Enclosure	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50005859-001	NEMA 4 Enclosure	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
7640QW	Metal Enclosure										•					
Miscellaneous																
32000085-001	Strain Relief Fitting (10 pack)	•	•	•								•	•	•		
AT120A1004	120 to 24 Vac Transformer (20 VA)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT140A1000	120 to 24 Vac Transformer (40 VA)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
STRN-STRNRLF	Strain Relief Fitting (10 pack)	•														

Direct Coupled Damper Actuators—Accessories

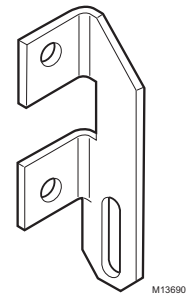
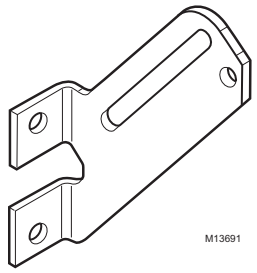
Control, Positioning, Feedback Accessories

Product Number	Description	Used With	
200976A/U	Auxiliary Feedback Potentiometer (0 to 500 ohm) Used With: ML6161, ML6174, ML7161, ML7174	ML6161, ML6174, ML7161, ML7174	
200976C/U	Auxiliary Feedback Potentiometer (0 to 2000 ohm) Used With: ML6161, ML6174, ML7161, ML7174	ML6161, ML6174, ML7161, ML7174	
201052A/U	Auxiliary Switch Package, Single Used With: ML6161, ML6174, ML7161, ML7174	ML6161, ML6174, ML7161, ML7174	
201052B/U	Auxiliary Switch Package, Double Used With: ML6161, ML6174, ML7161, ML7174	ML6161, ML6174, ML7161, ML7174	
205860/U	Electronic Remote Minimum Position Potentiometer Used With: Proportional Actuators	Proportional Actuators	
32003532-005/U	High Temperature Dual Switch Assembly	ML4105, ML8105, ML4115, ML8115, ML4125, ML8125, ML4135, ML8135, MS4209, MS4309, MS4709, MS4809, MS8209, MS8309	
32006306-001/U	Resistor Kit (500 ohm, converts 4-20mA to 2-10Vdc)	Proportional Actuators	
SW2-US/U	Auxiliary Switch Package (2 adjustable SPDT switches)	MS and MN Series High Torque Actuators (MNXX20 and XX34); Not for use with Fire and Smoke Actuators, for example MS4120F	

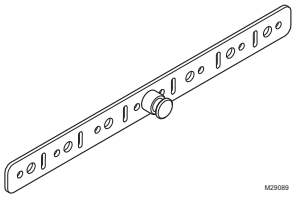
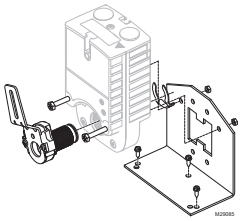
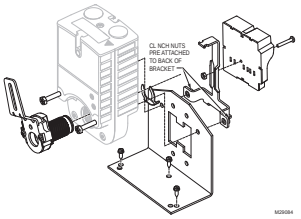
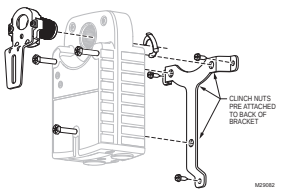
Mounting Accessories

Product Number	Description	Used With	
205649/U	Mounting Bracket Used With: 150 and 300 lb-in NSR and SR Actuators	150 and 300 lb-in. NSR and SR (except 25, 53 and 142 lb-in) Actuators	
32007205-001/U	Direct Coupled Actuator Mounting Bracket Used With: Damper with External Actuator Mounting (i.e., 32007205-005 Kit)	Damper with External Actuator Mounting (i.e., 32007205-005 Kit)	

Direct Coupled Damper Actuators—Accessories

Product Number	Description	Used With	
32007205-002/U	Damper Blade Drive Lever (Small) Used With: All Actuators and Dampers	All Actuators and Dampers	 M13690
32007205-003/U	Damper Blade Drive Lever (Large) Used With: All Actuators and Dampers	All Actuators and Dampers	 M13691
32007205-004/U	Retaining Clip, Damper External Drive Pin Used With: Damper with External Actuator Mounting (i.e., 32007205-005 Kit)	Damper with External Actuator Mounting (i.e., 32007205-005 Kit)	
32007205-005/U	Damper External Drive Pin Kit Used With: Damper with External Actuator Mounting (i.e., 32007205-005 Kit)	Damper with External Actuator Mounting (i.e., 32007205-005 Kit)	
32007205-006/U	Damper Axle Coupling Used With: Multi-Section Dampers	Multi-Section Dampers	
32007205-007/U	Jumper Bracket Used With: Multi-Section Dampers	Multi-Section Dampers	
50000407-001/U	Actuator Tandem Mounting Kit	N20 Actuators; N34 Actuators; S10 Actuators; S20 Actuators	

Direct Coupled Damper Actuators—Accessories

Product Number	Description	Used With	
50001194-001/U	Foot Mounting Kit	MS and MN Series High Torque Actuators (MNXX20 and XX34)	
50006427-001/U	Flexible Anti-Rotation Bracket	N20 Actuators; N34 Actuators; S10 Actuators; S20 Actuators	
STRN-BRKT/U	Anti-rotation Bracket for S03 and S05 Series Actuators	Zelix (S03, S05 Actuators)	
STRN-CRK-01/U	Crank arm kit for S03 and S05 Series Actuators	Zelix (S03, S05 Actuators)	
STRN-ECONO-01/U	Economizer Retrofit Kit for S03 and S05 Series Actuators	Zelix (S03, S05 Actuators)	
STRN-WMK-01/U	Wall mount kit for S03 and S05 Series Actuators	Zelix (S03, S05 Actuators)	

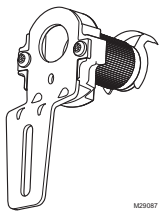
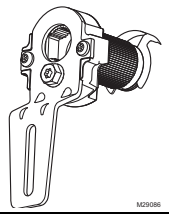
Rotational Limiters, Position Indicators

Product Number	Description	Used With	
4074ENJ/U	Minimum Position Kit Used With: ML6161, ML6174, ML7161, ML7174	ML6161, ML6174, ML7161, ML7174	

Ball Joints, Push Rod Accessories

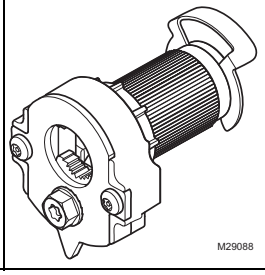
Product Number	Description	Used With	
27518/U	Crankarm balljoint with 1/4 - 28 UNF male threads, fits 5-16 inch diameter push rods	All Actuators and Dampers	
27520B/U	Push Rod (5/16 in. dia., 10 in. length) Used With: All Actuators and Dampers	All Actuators and Dampers	
27520C/U	Push Rod (5/16 in. dia., 12 in. length)	All Actuators and Dampers	
27520E/U	Push Rod (5/16 in. dia., 18 in. length) Used With: All Actuators and Dampers	All Actuators and Dampers	
27520G/U	Push Rod (5/16 in. dia., 24 in. length)	All Actuators and Dampers	
27520K/U	Push Rod (5/16 in. dia., 36 in. length)	All Actuators and Dampers	
27520L/U	Push Rod (5/16 in. dia., 48 in. length)	All Actuators and Dampers	
27520Q/U	Push Rod (5/16 in. dia., 8 in. length) Used With: All Actuators and Dampers	All Actuators and Dampers	

Crankarms

Product Number	Description	Used With	
205830A/U	Rotary-to-Linear Kit Used With: 35 and 70 b-in NSR Actuators	35 and 70 lb-in.NSR	
26026G/U	Damper Crank Arm, 1/2 in. damper shaft	All Actuators and Damper	
STRN-CA-01/U	Non Self-centering Crank Arm for S03 and S05 Series Actuators	Zelix (S03, S05 Actuators)	
STRN-CA-02/U	Self-centering Crank Arm for S03 and S05 Series Actuators	Zelix (S03, S05 Actuators)	

Direct Coupled Damper Actuators—Accessories

Shaft Adapter Accessories

Product Number	Description	Used With	
172092060	Self-Centering Shaft Adapter Used With: N34 Actuators	N34 Actuators	
32003167-001/U	3/8 in. Shaft Adapter Used With: ML6161, ML6174, ML7161, ML7174, ML7999	ML6161; ML6174; ML7161; ML7174; ML7999	
32003168-001/U	Short Shaft Adapter (3/4 in. to 1/2 in.) Used With: All Actuators and Dampers	All Actuators and Dampers	
32003168-002/U	Short Shaft Adapter (5/8 in. to 1/2 in.) Used With: All Actuators and Dampers	All Actuators and Dampers	
32003168-003/U	Short Shaft Adapter (9/16 in. to 1/2 in.) Used With: All Actuators and Dampers	All Actuators and Dampers	
32004254-002/U	Self-Centering Shaft Adapter Used With S10, S20 Actuators	S10 Actuators; S20 Actuators	
4074ENY/U	3/8 in. Shaft Kit Used With: ML6161, ML6174, ML7161, ML7174	ML6161, ML6174, ML7161, ML7174	
4074EVK/U	Short Shaft Kit Used With: ML6161, ML6174, ML7161, ML7174	ML6161, ML6174, ML7161, ML7174	
STRN-SCSA/U	Self-centering Shaft Adapter for S03 and S05 Series Actuators	Zelix (S03, S05 Actuators)	

Enclosure Accessories

Product Number	Description	Used With	
32003036-001/U	Weather Enclosure Used With: All Actuators	All Actuators	
50005859-001/U	NEMA 4 Enclosure for Direct Coupled Actuator	ML6161, ML6174, ML7161, ML7174; N20 Actuators; N34 Actuators; 150 b-in. NSR Actuators (ML Series); S03 Actuators; S05 Actuators; S10 Actuators; S20 Actuators	
7640QW/U	Enclosure for Conduit Connection Used With: ML6161, ML6174, ML7161, ML7174	ML6161, ML6174, ML7161, ML7174	

Rectangular Damper Accessories

Product Number	Description
106783A/U	Damper Crank Assembly for 1/2 inch diameter axle
14000028-001/U	Nylon Bearing
14000644-002/U	Drive Bracket for D640 and D641 (included in Q605D1069)
14000644-004/U	Drive Bracket for D640 and D641
14004096-001	Drive Bracket Right
27514B/U	Damper crank arm for 3/4 in. damper shaft

Miscellaneous Accessories

Product Number	Description	Used With	
32000085-001	Strain Relief Fitting (10 pack)	MS and MN Series Actuators	
STRN-STRNRLF/U	Strain Relief Fitting for S03 and S05 Series Actuators	Zelix (S03, S05 Actuators)	

Economizer Logic Modules

JADE™ Economizer Module with Sensors and Actuators

The JADE™ Economizer System is an expandable economizer control system, which includes a W7220 Economizer Module (controller) with an LCD and keypad. The W7220 can be configured for 4 different economizer strategies: referential or differential dry bulb, referential or differential enthalpy.

The W7220 Economizer Module can be used as a standalone economizer module wired directly to a commercial set back space thermostat and sensors to provide Outdoor Air dry-bulb economizer control.

The W7220 Economizer Module can be connected to optional Sylk Bus sensors for single or differential enthalpy control. The W7220 Economizer Module provides power and communications on the Sylk Bus for the sensors.

The W7220 Economizer Module automatically detects sensors by polling to determine which sensors are present. If a sensor loses communications after it has been detected, the W7220 Economizer indicates a device fail error on the display or through the AUX 1 OUT terminal programmed to SYS.

Dimensions, Approximate: 4.98 in. high x 6.3 in. wide x 1.34 in. deep (126.4 mm high x 160 mm wide x 34mm deep)
Contact Ratings: 1.5 A Run @ 30 Vac; 3.5 A Inrush @ 30 Vac
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Operating Temperature Range: -40 F to -150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Color: Gray

Used With: C7232; Honeywell Series 72 actuators; C7250A and C7400S sensors
Approvals
CE: CE Compliance
C-Tick: Approved
Federal Communications Commission: Compliant
Underwriters Laboratories, Inc: Flammability Rating UL94V-5V
Other Agencies: Complies with California Title 24

Product Number	Input	Output	Use with Sensor
W7220A1000/U	Y1, Y2 and occupied input in from thermostat or unitary controller, 24 VAC power, Mixed air sensor, OA sensor and optional CO2 and RA sensors. And Programmable AUX 2 In.	Y1 and Y2 out to the mechanical cooling, AUX 1 out (programmable), 2-10 or SYLK communicating to the actuator.	C7250A1001/U and C7400S1000/U sensors.

Jade Y-packs

Product Number	Control Type	Includes	Comments
Y7220A7215/U	Dry Bulb with black motor	W7220A1000 Logic Module; C7250A1001 OAT sensor; C7250A1001 MAT sensor; M7215A1008 Black motor	Output - 2-10 Vdc to actuator
YL7220A7503/U	Dry Bulb with non-communicating DCA	W7220A1000 Logic Module; C7250A1001 OAT sensor; C7250A1001 MAT sensor; MS7503A2030 DCA OA	Output - 2-10 Vdc to actuator
YL7220AJ3103/U	Dry Bulb with communicating 27 lb-in DCA	W7220A1000 Logic Module; C7250A1001 OAT sensor; C7250A1001 MAT sensor; MS3103J1030 DCA OA	Sylk communicating actuator
YL7220AJ3105/U	Dry Bulb with communicating 44 lb-in DCA	W7220A1000 Logic Module; C7250A1001 OAT sensor; C7250A1001 MAT sensor; MS3105J3030 DCA OA	Sylk communicating actuator
YL7220ACW3103/U	Dry Bulb with communicating 27 lb-in DCA and CO2 wall sensor without a display	W7220A1000 Logic Module; C7250A1001 OAT sensor; C7250A1001 MAT sensor; MS3103J1030 DCA OA; C7632A1004 CO2 sensor	Sylk communicating actuator
Y7220S7215/U	Enthalpy with black motor	W7220A1000 Logic Module; C7400S1000 OAE sensor; C7250A1001 MAT sensor; M7215A1008 Black motor	Output - 2-10 Vdc to actuator
Y7220SCW7215/U	Enthalpy with black motor and CO2 wall sensor with a display	W7220A1000 Logic Module; C7400S1000 OAE sensor; C7250A1001 MAT sensor; M7215A1008 Black motor; C7232A1016 CO2 sensor	Output - 2-10 Vdc to actuator
Y7220SCD7215/U	Enthalpy with black motor and CO2 duct sensor with a display	W7220A1000 Logic Module; C7400S1000 OAE sensor; C7250A1001 MAT sensor; M7215A1008 Black motor; C7232A1016 CO2 sensor	Output - 2-10 Vdc to actuator
YL7220S7503/U	Enthalpy with non-communicating DCA	W7220A1000 Logic Module; C7400S1000 OAE sensor; C7250A1001 MAT sensor; MS7503A2030 DCA OA	Output - 2-10 Vdc to actuator
YL7220SJ3103/U	Enthalpy with communicating 27 lb-in DCA	W7220A1000 Logic Module; C7400S1000 OAE sensor; C7250A1001 MAT sensor; MS3103J1030 DCA OA	Sylk communicating actuator
YL7220SJ3105/U	Enthalpy with communicating 44 lb-in DCA	W7220A1000 Logic Module; C7400S1000 OAE sensor; C7250A1001 MAT sensor; MS3105J3030 DCA OA	Sylk communicating actuator
YL7220SCW3103/U	Enthalpy with communicating 27 lb-in DCA and CO2 wall sensor with a display	W7220A1000 Logic Module; C7400S1000 OAE sensor; C7250A1001 MAT sensor; MS3103J1030 DAC OA ; C7232A1016 CO2 sensor	Sylk communicating actuator
YL7220SCD3103/U	Enthalpy with communicating 27 lb-in DCA and CO2 duct sensor with a display	W7220A1000 Logic Module; C7400S1000 OAE sensor; C7250A1001 MAT sensor; MS3103J1030 DAC OA ; C7232B1014 CO2 sensor	Sylk communicating actuator

PC Interface Module

Digital economizer controller for programming and remote fault detection and diagnostics

Dimensions, Approximate: 4.98 in. high x 6.3 in. wide x 1.34 in. deep (126.4 mm high x 160 mm wide x 34mm deep)
Voltage: 12-30 VAC (powered by Jade controller)
Frequency: 60 Hz/50Hz
Operating Temperature Range: -40 F to -150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Approvals
Federal Communications Commission: Compliant
Underwriters Laboratories, Inc: Flammability Rating UL94V-5V
Other Agencies: Complies with California Title 24

Product Number	Input	Output	Color	Description
W7220-PCMOD/U	Sylk bus communication to JADE (W7220A1000)	USB connection to a personal computer	Gray	W7220-PCMOD interface module used with JADE (W7220A1000) and Personal Computer

W7215B Enhanced Economizer Logic Modules

Use with C7400A, or C7660 and C7150B or C7046 Sensors; Demand Control Ventilation (DCV) sensor C7232 C02 sensor (2-10 Vdc); and Honeywell Series 72 actuators to proportion outdoor and return air

Dimensions, Approximate: 8 11/16 in. high x 5 13/16 in. wide x 1 11/16 in. deep (221 mm high x 147 mm wide x 43 mm deep)
Contact Ratings: 1.5 A Run @ 30 Vac; 3.5 A Inrush @ 30 Vac
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Operating Temperature Range: -25 F to +125 F (-32 C to +52 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Used With: Honeywell Series 72 actuators

dampers for economizer and ventilation control in commercial HVAC equipment. (See below)

- Input from DCV C02 sensor provides optimum ventilation based on occupancy
- Includes air change and shutdown
- Demand control ventilation economizer provides comfort, energy savings, reliability, air quality compliance and flex bility in heating, cooling and ventilating applications
- Combines enthalpy or dry bu b changeover control, minimum and maximum damper position potentiometer and DCV setpoint functions
- Optional differential enthalpy control (enthalpy setpoint D with two C7400A sensors) provides greater economizer savings and maximum comfort over single enthalpy control
- Enthalpy setpoint (A-D) on economizer module controls the combination of air temperature and humidity that is suitable for free cooling
- LEDs indicates when economizer is in free cooling and DCV modes
- Provides for input from an outdoor air quality sensor

Approvals
CE: CE Report: GV02-003
C-Tick: Approved
Underwriters Laboratories, Inc: UL Listed File: E4436, Guide: XAPX, Meets UL873 plenum requirements
Other Agencies: Complies with California Title 24

Accessories:
4074EJM-1.2K ohm checkout resistor, 620 ohm resistor, and jumper
S963B1128-Manual Potentiometer (135 ohm)

Product Number	Input	Output	Use with Sensor	Comments
W7215B1004/U	Discharge Air Temperature sensor: C7150 or C7046; Air Quality Sensor	2-10 Vdc to actuator	C7232; C7400A; C7150; C7046; C7660	Can accept remote minimum position damper position potentiometer and/or analog input from two carbon dioxide sensors for indoor and outdoor air.Economizer Logic Module operates Series 72 actuators

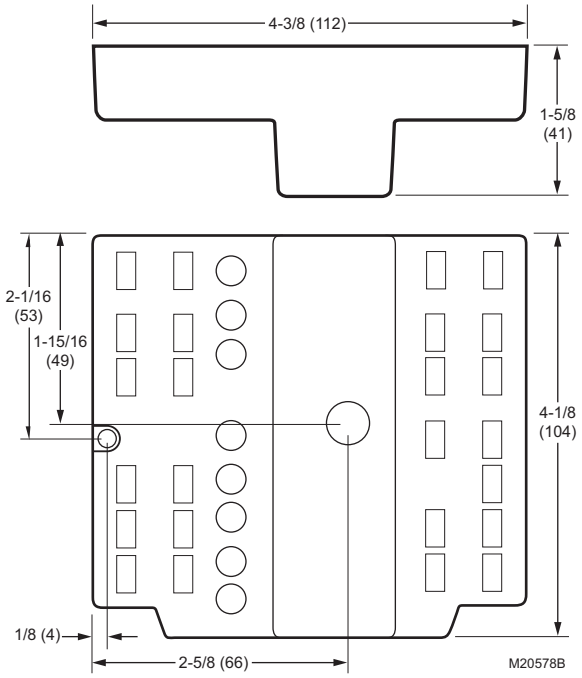
Economizer Logic Modules

W7212 Demand Control Ventilation Economizer Logic Modules

W7212, W7213, and W7214 Economizer Logic Modules are used with CO2 Demand Control Ventilation (DCV) Sensors, and solid state C7400A Enthalpy Sensors or C7660 Dry Bulb Temperature Sensors. All models proportion outdoor and return air dampers for control of free cooling in commercial HVAC equipment.

- Operates from commercial thermostat and DCV sensor to provide a totally integrated control system
- Mounts on M7215 Motor or ductwork
- Used with Honeywell M7215 or Series 72 DCA
- Combines minimum and DCV maximum damper position potentiometers with mechanical cooling staging
- Solid state enthalpy or dry bulb changeover control
- Terminals included for connecting optional S963B1128 Remote Potentiometer for remote minimum damper position control
- LED indicates when free cooling is available
- LED indicates when module is in DCV mode
- LED indicates when exhaust fan contact is closed

Dimensions in inches (millimeters)



Contact Ratings: 1.5 A Run @ 30 Vac; 3.5 A Inrush @ 30Vac
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Operating Temperature Range: -40 F to +149 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Used With: C7232; C7632; Honeywell Series 72 actuators
Approvals
CE: CE Report: GV02-003
C-Tick: Approved
Underwriters Laboratories, Inc: UL Listed File: E4436, Guide: XAPX, Meets UL873 plenum requirements
Other Agencies: Complies with California Title 24

Accessories:
C7232A1008-Wall mounted Non-dispersive Infrared (NDIR) Carbon Dioxide Sensor with LCD Display and Honeywell logo
C7232A1016-Wall mounted Non-dispersive Infrared (NDIR) Carbon Dioxide Sensor with Honeywell logo
C7232B1006-Duct mounted Non-dispersive Infrared (NDIR) Carbon Dioxide Sensor with LCD Display and Honeywell logo
C7232B1014-Duct mounted Non-dispersive Infrared (NDIR) Carbon Dioxide Sensor with Honeywell logo
C7632A1004-Wall mounted Non-dispersive Infrared (NDIR) Carbon Dioxide Sensor with Honeywell logo
C7632B1002-Duct mounted Non-dispersive Infrared (NDIR) Carbon Dioxide Sensor with Honeywell logo
S963B1128-Manual Potentiometer (135 ohm)

Product Number	Input	Output	Color	Use with Sensor	Comments
W7212A1009/U	Dry Bulb Temperature sensor: C7660; Mixed Air Temperature sensor: C7150; CO2 sensor: C7232; Enthalpy Sensor: C7400A	2-10 Vdc to actuator	Black	C7232; C7400A; C7150	Can be used with C7400A Enthalpy sensors or C7660 Dry Bulb sensor and C7232 CO2 sensors for Demand Control Ventilation; Accepts inputs from discharge or mixed air temperature sensors.Economizer Logic Module operates Series 72 actuators. Default minimum position in freeze protection

Economizer Parts and Accessories

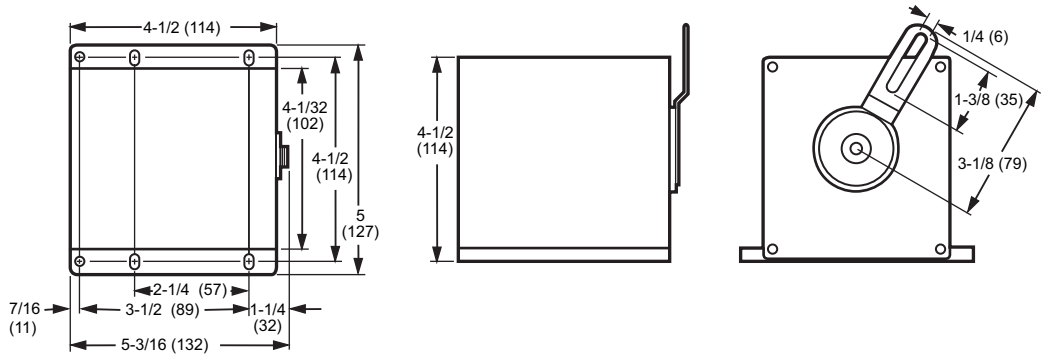
Product Number	Description	Used With
138823/U	Knob for H205	H205
198992A/U	620 ohm Resistor Assembly	—
4074EJM/U	1.2K ohm checkout resistor, 620 ohm resistor, and jumper	W7459; W7210; W7212; W7215
4074EJQ/U	Board for panel mounting W7459A	W7459A
50048926-001/U	Economizer Edge Connector Bag Assembly - 2 Position - 20 Piece Pack	W7220A1000, C7400S1000, C7250A1001, C7400A2001, C7400C2007, C7600A2008, C7600C2001
50048926-002/U	Economizer Edge Connectors - 6 Position - 20 Pieces per pack	W7220A1000
50053060-001/U	Duct mounting kit for 2000 series, Sylk bus enthalpy and humidity sensors - 5 kits in a unit pack	C7400A200X, C7600A200X, C7400S and C7600S sensors

M6415; M7215; M7415; M8405; M8415 Economizer Damper Actuators

25 lb-in. spring return damper actuators provide two-position, three-position, floating, or modulating control of economizer systems, ventilation dampers and combustion air dampers used in residential or commercial HVAC equipment.

- Synchronous Motor. Quiet, high efficiency drive motor
- Spring returns motor shaft to normal position in the event of power failure
- High impact, glass-fiber reinforced plastic case is rugged, lightweight and corrosion resistant
- Uses Q298B Linkage

Dimensions in inches (millimeters)



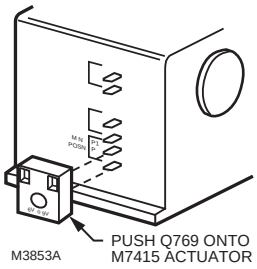
Fail Safe Mode: Spring Return
Torque Rating: 25 lb-in. (2.8 Nm)
Torque Rating, Breakaway: 40 lb-in. (4.5 Nm)
External Auxiliary Switches Available: Yes
Fixed Stroke: Yes
Motor Shafts: 1
Feedback: No
Electrical Connections: Quick-connect terminals
Frequency: 50 Hz; 60 Hz
Mounting: Foot-mounted
Vibration: V2 level
Angle of Rotation (Stroke Max (deg)): 90

Nominal Spring Return (seconds): 18 sec
Nominal Timing Opening (seconds): 90 sec
Maximum Run Time (seconds): 90 sec
Minimum Timing (seconds): 90 sec
Deadweight Load on Shaft (Power End): 15 lbs max
Operating Temperature Range: -25 F to +125 F (-32 C to +52 C)
Shipping Temperature Range: -30 F to +150 F (-34 C to +66 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Materials (Housing): UL94-5V plastic housing
Weight: 3 lb
Approvals
Underwriters Laboratories, Inc: Listed File: E4436, Guide: XAPX

Product Number	Control Signal	Power Consumption (Driving)	Power Consumption (Holding)	Rotation to Open	Description	Used With
M6415A1016/U	Floating, SPDT	8 VA	3 VA	CCW	Spring return-foot mounted, Spdt floating, 24 Vac	Floating Controllers
M7215A1008/U	2 to 10 Vdc	8 VA	3 VA	CCW	Spring return-foot mounted, Modulating, 24 Vac	W7212/13/14 Economizers; W7215 Economizers
M7415A1006/U	Thermistor, Modulating	8 VA	5 VA	CCW	Spring return-foot mounted, Modulating, 24 Vac	W7459 Economizers; W7460 Economizers
M7415B1004/U	Thermistor, Modulating	8 VA	5 VA	CW	Spring return-foot mounted, Modulating, 24 Vac	W7459 Economizers; W7460 Economizers
M8405A1006/U	Three position	8 VA	3 VA	CCW	Spring return-foot mounted, 3 position w/field adj. min pos., 24 Vac	W7459C
M8415A1004/U	Two position, SPST	8 VA	3 VA	CCW	Spring return-foot mounted, 2 position, 2 wire w/field adj. min. pos., 24 Vac	—

Economizer Damper Actuators

Q769 Signal Adapters



Q769 Adapter is used to provide a modulating signal to the M7415 Economizer Damper Motors when used with a controller.

NOTE: Do not use with a Jade (W7220) economizer.

Dimensions, Approximate: 1 3/8 in. high x 1 3/8 in. wide x 11/16 in. deep (35 mm high x 35 mm wide x 17 mm deep)
Electrical Connections: Quick-connect terminals
Operating Temperature Range: -25 F to +125 F (-32 C to +52 C)

Product Number	Control Signal	Description	Used With
Q769C1007/U	0 to 10 Vdc	0-2 to 10 Vdc Adjustable Adapter	M7415

Economizer Actuator Accessories

Product Number	Description	Used With	
203977A/U	Economizer Adapter Kit for Mod Motors	Modutrol Motors; W7459 Economizers;	
4074EGR/U	Crank arm assembly	M6415; M7215; M7415; M8405; M8415	
4074EKV/U	24 Vac Auxiliary switch which provides switching capability for controlling auxiliary equipment	M6415; M7215; M7415; M8405; M8415	
Q709A1005/U	Minimum Position Potentiometer. NOTE: Do not use with a Jade (W7220) Economizer.	M7415; M7405	

C7150 Mixed Air Sensor

C7150 Solid State mixed air sensor is used with Honeywell economizer logic modules and W973 and M7415 to proportion outdoor and return air dampers in economizer systems.

- Uses thermistor sensing element in ventilation duct systems
- Negative temperature coefficient (NTC) causes resistance to decrease as sampled air temperature increases
- Resistance change used as in input to control W973 and M7415
- Requires no settings or calibration
- Mounts on duct surface with four screws (not supplied)

Application: Temperature Mixed Air
Dimensions, Approximate: 2 in. high, 2 1/2 in. wide, 3/4 in. deep (51 mm high x 64 mm wide)
Sensor Type: 3000 ohms @ 25C NTC
Color: Black

Mounting: Mount on a mounting bracket (not included) inside the mixed air or discharge air duct
Operating Temperature Range: 40 F to 110 F (4 C to 43 C)
Electrical Connections: 1/4 in. (6 mm) quick-connect terminals
Approvals
CE: Report: GV97-011
Underwriters Laboratories, Inc: Component Recognized

Product Number	Application Type	Maximum Ambient Temperature (F)	Maximum Ambient Temperature (C)	Description	Used With
C7150B1004/U	Duct mixed or discharge air	250 F	121 C	Electronic Temperature Sensor	W973 and M7415; W7210, W7212, W7213, W7214, W7215, W7459, W7460

C7250 Temperature Sensor

The C7250 Mixed Air sensor is designed for use as a 20k input to a controller for mixed air temperature in rooftop packaged air conditioning equipment.

A separate controller such as the JADE™ Economizer System (Model W7220) provides power and communications for the C7250 Mixed Air sensor.

Application: Electronic 20K temperature sensor
Dimensions, Approximate: 4.25 in high x 2.17 in wide x .81 in deep (108 mm high by 55 mm wide x 20.5 mm deep)
Sensor Type: 20K NTC
Color: Gray
Mounting: Mounted in any position where it is exposed to freely circulating air
Operating Temperature Range: -40 F to 150 F (-40 C to 66 C)

Operating Humidity Range (% RH): 11 to 89% RH
Electrical Connections: 2-pin header-pin style or 2-pin card edge removable terminal blocks
Approvals
Underwriters Laboratories, Inc: Component Recognized

Product Number	Application Type	Maximum Ambient Temperature		Description	Used With
C7250A1001/U	A 20k temperature sensor intended for sensing mixed or discharge air in roof top packaged air conditioning equipment. used with a W7220 economizer controller	150 F	66 C	Electronic 20k temperature sensor	W7220

Economizer Sensors

C7400A,C Enthalpy Sensor

The C7400A Enthalpy Sensor is used with the economizer logic modules with the A,B,C, and D performance curves; the C7400C sensor is used with the logic modules with the A,B,C,D, and E performance curves. The sensors combined with the economizer logic modules permit the use of outdoor air as the first stage of cooling in heating, ventilating and air conditioning (HVAC) systems.

- Senses and combines temperature and humidity of outdoor air.
- As enthalpy of outdoor air increases, the outdoor air damper closes to a preset minimum position.
- As enthalpy of outdoor air becomes low, the outdoor air damper opens to reduce the mechanical cooling load in the building.
- Maximum economizer savings is achieved when two C7400 Enthalpy Sensors are used for differential enthalpy changeover control.
- Compact size and lightweight construction allows easy mounting in HVAC rooftop unit. A duct mounting kit is available.
- Sensors are enclosed in a rugged, corrosion-resistant glass-fiber reinforced plastic duct-mount case.
- Provides a 4 to 20 mA output signal to Economizer Logic Module; setpoint is located on the logic module.

Application: Enthalpy economizing
Dimensions, Approximate: 4.25 in high x 2.17 in wide x .81 in deep (108 mm high by 55mm wide x 20.5 mm deep)
Sensor Type: 4-20 mA output
Color: Gray
Mounting: Mounted in any position where it is exposed to freely circulating air.
Operating Temperature Range: -40 F to 150 F (-40 C to 66 C)
Operating Humidity Range (% RH): 11 to 89% RH
Electrical Connections: Two 1/4 in. quick-connect terminals
Approvals
Underwriters Laboratories, Inc: Component Recognized

Product Number	Application Type	Maximum Ambient Temperature (F)	Maximum Ambient Temperature (C)	Description	Used With
C7400A2001/U	A solid state enthalpy sensor designed to sense temperature and humidity with 5% accuracy	150 F	66 C	Solid State Enthalpy Sensor	W7210, W7212A, W7213, W7214, W7215, W7459, W7460
C7400C2007/U	A solid state enthalpy sensor designed to sense temperature and humidity with 5% accuracy	150 F	66 C	Solid State Enthalpy Sensor	W7210, W7212A, W7213, W7214, W7215, W7459, W7460

C7400S Enthalpy Sensor

The C7400S Sylk Bus sensor is a combination temperature and humidity sensor, which is intended to be used in commercial roof top units for sensing air. The sensor is powered by and communicates on the Sylk Bus. The C7400S communicates temperature and humidity separately digitally on the Sylk Bus Communication Protocol.

A separate controller such as the JADE™ Economizer System (Model W7220) provides power and communications on the Sylk Bus for the C7400S Sylk Bus sensor.

- This unit mounted C7400S enthalpy sensor includes solid state temperature and humidity sensors.
- Outputs a digital communicating signal on a two-wire Sylkbus communications link, reporting the temperature and humidity separately to the controller.
- The controller determines the enthalpy (total heat), enabling economizer modes of operation when outside air enthalpy is suitable for free cooling.
- Enthalpy sensors are compatible with Honeywell economizer systems.
- When used with an economizer, the enthalpy boundary curve is programmed via the controller. When the temperature and humidity are determined to be suitable based on the relationship to the boundary, the controller allows outside air for economizing.
- Dual enthalpy sensors in outside air and return switches the controllers to economizer mode of operation anytime the outside enthalpy is less than the return air enthalpy.

Application: Provides Honeywell SYLK Bus signal in relation to enthalpy - 5% accuracy
Dimensions, Approximate: 4.25 in high x 2.17 in wide x .81 in deep (108 mm high by 55mm wide x 20.5 mm deep)
Sensor Type: 7-21Vdc
Color: Gray
Mounting: Mounted in any position where it is exposed to freely circulating air.
Operating Temperature Range: -40 F to 150 F (-40 C to 66 C)
Operating Humidity Range (% RH): 11 to 89% RH
Electrical Connections: 2-pin header-pin style or 2-pin card edge removable terminal blocks
Approvals
Underwriters Laboratories, Inc: Component Recognized Guide info XAPX)

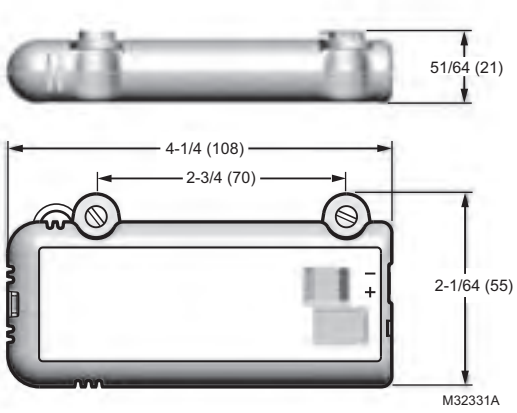
Product Number	Application Type	Maximum Ambient Temperature (F)	Maximum Ambient Temperature (C)	Description	Used With
C7400S1000/U	A solid state enthalpy sensor designed to sense temperature and humidity with 5% accuracy. Use with W7220 economizer control, for use in outdoor air intakes of HVAC rooftop	150 F	65 C	Solid State Enthalpy Sensor	W7220

C7600 Humidity Sensor for Economizers

The C7600A,C Solid State Humidity Sensors sense relative humidity in air and are used with controllers that can process a 4 to 20 mA signal.

- Sensor enclosed in rugged glass-fiber reinforced plastic case.
- Compact size and lightweight construction for easy mounting in duct or on wall.
- Cover vents allow air flow to humidity sensing element inside.
- 4 to 20 mA output to relative air humidity.
- Can be used indoors or outdoors.
- The C7600A provides 4-20 mA output inversely proportional to air relative humidity.
- The C7600C provides 4-20 mA output directly proportional to air relative humidity.

Dimensions in inches (millimeters)



Application: Solid State Humidity Sensor
Sensor Type: 4-20 mA output
Color: Gray
Mounting: Mounted in any position where it is exposed to freely circulating air.
Operating Temperature Range: -40 F to 150 F (-40 C to 66 C)
Operating Humidity Range (% RH): 10 to 90% RH
Electrical Connections: Two 1/4 in. quick-connect terminals
Approvals
Underwriters Laboratories, Inc: Component Recognized

Product Number	Application Type	Maximum Ambient Temperature	
		(F)	(C)
C7600A2008/U	Provides 4-20 mA output inversely proportional to air relative humidity	150 F	66 C
C7600C2001/U	Provides 4-20 mA output directly proportional to air relative humidity.	150 F	66 C

C7660 Selectable Temperature Sensor

C7660 Selectable Temperature Sensor is used with the W7459, W7215, W7212, W7213 and W7214 Economizer Controls. The economizer controls are mounted on an M7415/M7215 Actuator. They permit the use of outdoor air as the first stage of cooling in heating, ventilating and air conditioning (HVAC) systems.

The C7660 Selectable Temperature Sensor is only to be used with single temperature change over with the sensor located in the outdoor air.

- Senses temperature of outdoor air and provides a signal to economizer control with OK or not OK to economize
- Selectable dip switch provides 8 change over temperature options
- When temperature of outdoor air is below change over temperature, the outdoor air damper is opened to reduce the cooling load in the building
- Provides 4 OR 20 mA output signal to economizer control; At 4 mA not OK to economize, 20 mA OK to economize
- Highly accurate microprocessor control
- Sensor is enclosed in a rugged, corrosion-resistant plastic case
- Replaces C7650 temperature sensors and the control function of temperature change over in the economizer contro

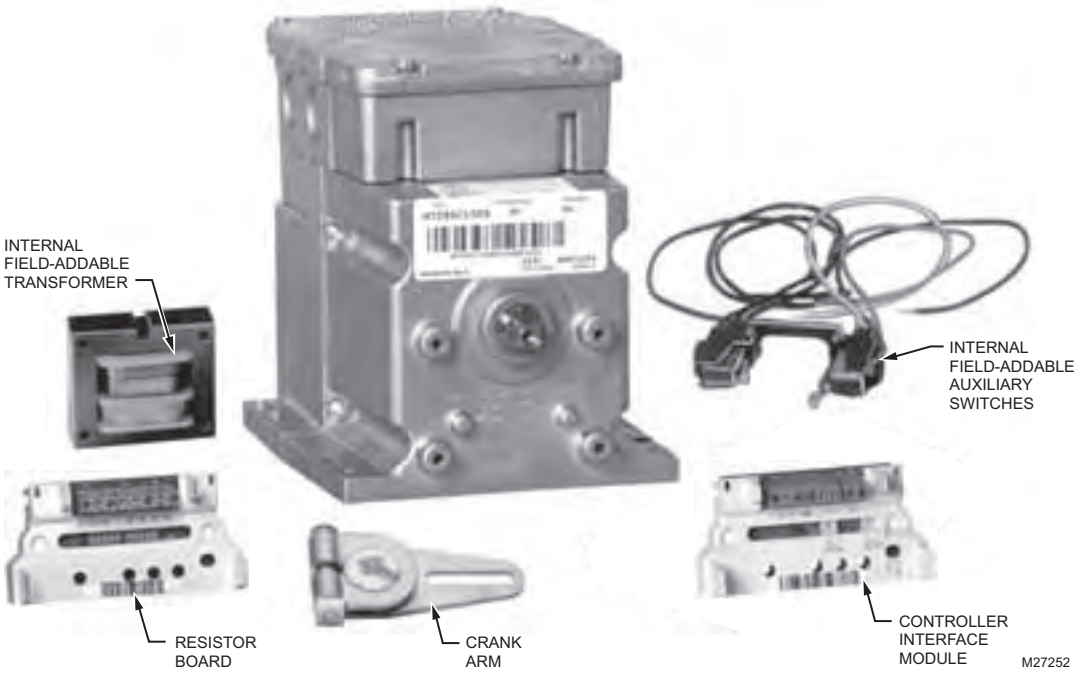
Application: Selectable Temperature Sensor
Dimensions, Approximate: 4 5/32 in. high x 3 7/8 in. wide x 1 in. deep (81 mm high x 96 mm wide x 25 mm deep)
Sensor Type: 4 or 20mA Output
Color: Black

Mounting: Mounted in any position where it is exposed to freely circulating air
Operating Temperature Range: -40 to 150 F (-40 to 66 C)
Electrical Connections: Two 1/4 in. quick-connect terminals
Approvals
Underwriters Laboratories, Inc: Flammability Rating 94-5V (cUL)

Product Number	Application Type	Description	Used With
C7660A1000/U	Duct outside (supply) or return	Selectable Temperature Sensor	W7210, W7212, W7213, W7214, W7215, W7459, W7460

Modutrol IV Motors

Modutrol IV™ Series 2 and Series 3 Family of Motors “Contractor-Friendly” design for service and retrofit



Modutrol IV™ Series 2 and Series 3 Motors replace all present generation Modutrol motors and set a new, certifiable standard for the industry. Modutrol IV™ Series 2 and Series 3 Motors retain all the features that make Honeywell Modutrol motors the most reliable produced, and go even further with many quality improvements.

Our engineers have incorporated Design for SIx Sigma methodology and Electronic Excellence to re-engineer this popular product. The motor has undergone a technology update integrating the proven DCA (Direct Coupled Actuator) microprocessor based design into the existing footprint of a Mod Motor.

The Series 2 and Series 3 Motors provide these features and benefits:

1. **Dual shafts.** Slotted and tapped at both ends. Both drive and auxiliary shafts have equal torque ratings, allowing auxiliary shaft to drive full torque loads. This provides a more flexible motor. For example, a spring-return, normally closed motor will provide normally open operation simply by using the auxiliary shaft.
2. **NEMA 3 housing.** Modutrol IV™ motor housings protect the motor from driving rain if motor is mounted in the upright position (as shown in above photo). May be mounted outdoors without a weatherproofing kit.
3. **Brushless DC sub motor** provides a fixed torque over the entire voltage range.
4. **Reduced power consumption.** Motor power needs can always be satisfied with a 20 VA transformer.
5. **Internal quality improvements.** Results in improved performance and longer life. These quality improvements include:
   - Microprocessor based technology eliminated the need for mechanical end stops.
   - Brushless DC sub motor eliminates the need for oil.
6. **Auxiliary Switch cams.** All models have auxiliary switch cams that permit acceptance of 220736A,B Internal Auxiliary Switch Kits.
7. **Field Adjustable stroke.** Most models are field adjustable (i.e. 90 to 160 degrees).

TRADELINE motors and appropriate accessories can be configured to replace all previous Honeywell Modutrol motors, as well as most OEM modutrol motors. The appropriate accessories are listed with the different models and in tables near the end of this section.

Modutrol IV™ Family of Motors

The following Modutrol IV™ motors can replace the old style Modutrol motors as shown below.

	Mod IV Replacement	Old Motors Replaced
Non-Spring Return	M6184 M9164 M6194 M9174 M6284 M9184 M6294 M9194 M7164 M9484 M7284 M9494 M7294	M644 M744 M941 M944 M954 M734 M934
Spring Return	M4185 M7685 M6285 M8185 M7285 M9185 M7286	M445 M745 M845 M945 M955
Medium Torque Spring Return	M9175	M765 M865 M965 M975

Modutrol IV Motors

The Honeywell Family of Modutrol IV™ Series 2 and Series 3 Motors

Actuator	Voltage Vac			Stroke	Timing	Control Input			Torque (lb-in.)					Spring Return	Recommended Controller
	24[a]	120	230			On/Off	SPDT Floating	Modulating	35	60	75	150	300		
**TRADELINE models.*															
M4185A1001/U		●		90-160	30-60	●				●				●	T775; T4031
M4185B1009/U		●		90-160	30-60	●				●				●	T775; T4031
M4185B1058/U	●	●	●	90-160	30-60	●				●				●	T775; T4031
M4185C1007/U	●	●		90-160	30-60	●				●				●	T775; T4031
M6184A1015/U	●			90-160	30-60		●					●			T775; T675; T678; T6031
M6184A1023/U		●		90-160	15-30		●				●				T775; T675; T678; T6031
M6184D1001/U	●			90-160	15-30		●				●				T775; T675; T678; T6031
***M6184D1035/U**	●			90-160	30-60		●					●			T775; T675; T678; T6031
M6184D1068/U	●			90-160	120-240		●					●			T775; T675; T678; T6031
M6184F1014/U	●			90-160	30-60		●					●			T775; T675; T678; T6031
***M6194B1011/U**	●			90-160	60-120		●						●		T775; T675; T678; T6031
***M6194D1017/U**	●			90-160	120-240		●						●		T775; T675; T678; T6031
M6194E1006/U	●			90-160	120-240		●						●		T775; T675; T678; T6031
M6284A1055		●		90-160	30-60		●					●			T775; T675; T678; T6031
M6284A1071		●		90-160	30-60		●					●			T775; T675; T678; T6031
***M6284D1000**	●			90-160	30-60		●					●			T775; T675; T678; T6031
***M6284D1026**	●			90-160	30-60		●					●			T775; T675; T678; T6031
M6284F1013	●			90-160	30-60		●					●			T775; T675; T678; T6031
***M6285A1005**	●			90-160	30-60		●			●				●	T775; T675; T678; T6031
M6285C1001	●			90-160	30-60		●			●				●	T775; T675; T678; T6031
***M6294D1008**	●			90-160	120-240		●						●		T775; T675; T678; T6031
M7164A1017/U[b]	●			90-160	30-60			10.5-13.5 Vdc	●						T775; W7080
M7164G1030/U[b]		●		90-160	30-60			10.5-13.5 Vdc	●						T775; W7080
M7284A1004/U[b]		●		90-160	30-60			4-20 mA				●			T775, EXCEL 5000
M7284A1012/U[b]		●		90-160	30-60			4-20 mA				●			T775, EXCEL 5000
M7284A1038/U[b]		●		90-160	15-30			4-20 mA			●				T775, EXCEL 5000
M7284A1079/U[b]	●			90-160	30-60			2-10 Vdc				●			T775, EXCEL 5000
M7284C1000/U[b]		●		90-160	30-60			4-20 mA				●			T775, EXCEL 5000
M7284C1083/U	●			90	30		●	4-20 mA				●			DDC
M7284C1091/U	●			160	60		●	4-20 mA				●			DDC
M7284Q1009/U[b]		●		90-160	30-60			4-20 mA				●			T775, EXCEL 5000
M7284Q1082/U	●			90	30		●	4-20 mA				●			DDC
M7284Q1090/U	●			160	60		●	4-20 mA				●			DDC
M7285A1003/U[b]		●		90-160	30-60			4-20 mA		●				●	T775, EXCEL 5000
M7285A1045/U[b]	●			90-160	30-60			2-10 Vdc		●				●	T775, EXCEL 5000
M7285C1009/U[b]		●		90-160	30-60			4-20 mA		●				●	T775, EXCEL 5000
M7285Q1008/U[b]		●		90-160	30-60			4-20 mA		●				●	T775, EXCEL 5000
M7286G1009/U[b]	●			90-160	30-60			2-10 Vdc		●				●	T775, EXCEL 5000
M7294A1010/U[b]	●			90-160	60-120			2-10 Vdc					●		T775, EXCEL 5000
M7294Q1007/U[b]		●		90-160	60-120			4-20 mA					●		T775, EXCEL 5000
M7685A1025/U[b,c]	●			90-160	30-60			14-17 Vdc		●				●	T775; W7080
***M8185D1006/U**	●			90-160	30-60	●				●				●	T775
M9164A1005/U		●		90-160	30-60			135 ohm	●						T775; T915; T991

[a] All 24 Vac Modutrol motors have CE approval.

[b] Available only through Honeywell Authorized Distr butors.

[c] Includes minimum position potentiometer.

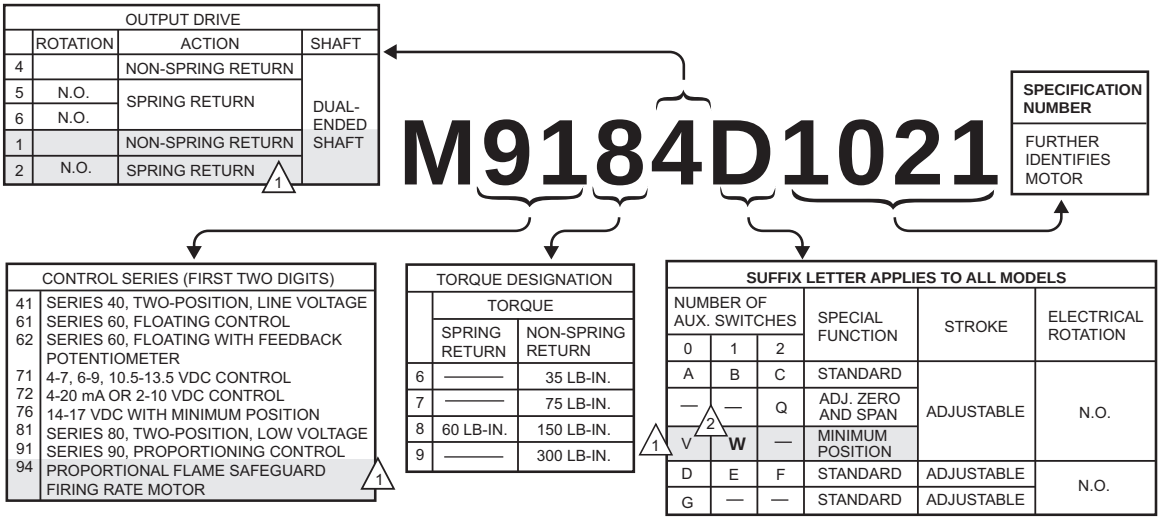
Actuator	Voltage Vac			Stroke	Timing	Control Input			Torque (lb-in.)					Spring Return	Recommended Controller
	24[a]	120	230			On/Off	SPDT Floating	Modulating	35	60	75	150	300		
*TRADELINE models.															
M9164A1013/U	●	●	●	90-160	30-60			135 ohm	●						T775; T915; T991
M9164A1070/U	●			90-160	30-60			135 ohm	●						T775; T915; T991
M9164C1001/U	●			90-160	30-60			135 ohm	●						T775; T915; T991
M9164C1068/U		●		90-160	30-60			135 ohm	●						T775; T915; T991
***M9164D1009/U**	●			90-160	30-60			135 ohm	●						T775; T915; T991
M9174B1027/U		●		90-160	30-60			135 ohm			●				T775; T915; T991
M9174C1025/U		●		90-160	30-60			135 ohm			●				T775; T915; T991
M9174C1033/U		●		90-160	30-60			135 ohm			●				T775; T915; T991
***M9174D1007/U**	●			90-160	30-60			135 ohm			●				T775; T915; T991
M9184A1019/U	●			90-160	30-60			135 ohm				●			T775; T915; T991
M9184C1031/U	●			90-160	30-60			135 ohm				●			T775; T915; T991
M9184D1005/U	●			90-160	15-30			135 ohm			●				T775; T915; T991
***M9184D1021/U**	●			90-160	30-60			135 ohm				●			T775; T915; T991
M9184F1034/U	●			90-160	30-60			135 ohm				●			T775; T915; T991
M9185A1018/U	●			90-160	30-60			135 ohm		●				●	T775; T915; T991
M9185C1006/U	●			90-160	30-60			135 ohm		●				●	T775; T915; T991
***M9185D1004/U**	●			90-160	30-60			135 ohm		●				●	T775; T915; T991
M9185E1019/U	●			90-160	30-60			135 ohm		●				●	T775; T915; T991
***M9194D1003/U**	●			90-160	120-240			135 ohm					●		T775; T915; T991
M9194E1000/U	●			90-160	120-240			135 ohm					●		T775; T915; T991

[a] All 24 Vac Modutrol motors have CE approval.

[b] Available only through Honeywell Authorized Distributors.

[c] Includes minimum position potentiometer.

Modutrol IV™ Series 2 and Series 3 Motor Order Number Guide



1 MODEL NUMBERS IN SHADED AREAS ARE AVAILABLE SPECIAL ORDER ONLY. CONTACT YOUR HONEYWELL SALES REPRESENTATIVE.

2 SUFFIX LETTERS IN BOLD ARE OBSOLETE.

M13696A

Modutrol IV Motors

M4185 Line Volt; M8185 Low Volt Two-Position Modutrol IV™ Series 2 Motors

Series 41 and Series 81 Modutrol IV motors are 2-position (line- and low-voltage per motor control) spring-return motors. They are used to operate dampers or valves in applications where it is necessary or desirable to have the controlled element return to the starting position in the event of power failure or interruption.

- Fixed torque throughout the entire voltage range
- Integral spring return returns motor to normal position in the event of power failure
- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Motors are designed for either normally open or normally closed valves and dampers
- Integral auxiliary switches are available factory mounted, or can be field added
- Motors can operate valve linkages from the power end or auxiliary end shafts for normally closed or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)

Application Type: Electric
Fail Safe Mode: Spring Return
Control Signal: Two position, SPST
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Electrical Connections: Quick-connect terminals
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Clockwise (as viewed from power end) (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.

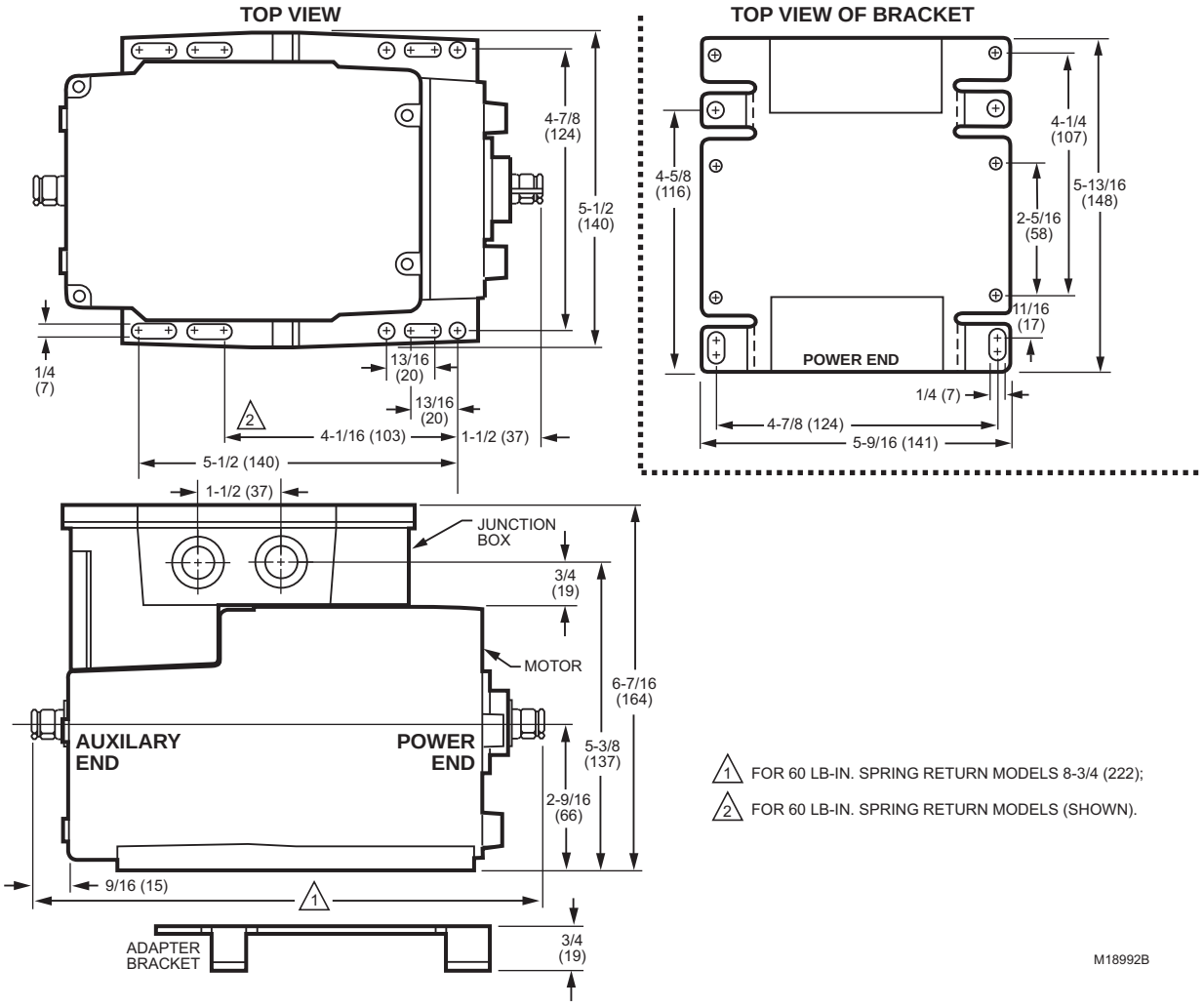
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 9.5 lb
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III
220741A2-TP-Screw Terminal Adapter Kit for 2 position Modutrol IV Series 2 motors - Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

	Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
		lb-in., lb	Nm, N							
	M4185A1001/U	60 lb-in.	6.8 Nm	120V	30-60 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
	M4185B1009/U	60 lb-in.	6.8 Nm	120V	30-60 sec	1	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
	M4185B1058/U	60 lb-in.	6.8 Nm	24/120/230V	30-60 sec	1	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-001
	M4185C1007/U	60 lb-in.	6.8 Nm	120V	30-60 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
*	**M8185D1006/U**	60 lb-in.	6.8 Nm	24V	30-60 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None

** TRADELINE models • SUPER TRADELINE models*

Dimensions in inches (millimeters)



1 FOR 60 LB-IN. SPRING RETURN MODELS 8-3/4 (222);

2 FOR 60 LB-IN. SPRING RETURN MODELS (SHOWN).

Modutrol IV Motors

M6184; M6194 Floating Modutrol IV™ Series 2 Motors

Series 61 Modutrol IV™ Motors non-spring return floating control motors used with controllers that provide a switched spdt or floating output to operate dampers or valves.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers

Application Type: Electric
Fail Safe Mode: Non-Spring Return
Control Signal: Floating
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Electrical Connections: Quick-connect terminals
Internal Transformer: None
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Dependent on wiring (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 6.5 lb

Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

	Product Number	Torque/Force lb-in., lb	Torque/Force Nm, N	Voltage	Nominal Timing (sec)	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Comments	Internal Transformer
	M6184A1015/U	150 b-in.	17 Nm	24V	30-60 sec	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	—	None
	M6184A1023/U	75 lb-in.	8.5 Nm	120V	15-30 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	—	50004263-003
	M6184D1001/U	75 lb-in.	8.5 Nm	24V	15-30 sec	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	—	None
*	**M6184D1035/U**	150 b-in.	17 Nm	24V	30-60 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	—	None
	M6184D1068/U	150 b-in.	17 Nm	24V	120-240 sec	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	Contains on-off pulsing circuitry to achieve timing	None
	M6184F1014/U	150 b-in.	17 Nm	24V	30-60 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	—	None
	M6194B1011/U	300 b-in.	34 Nm	24V	60-120 sec	1	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	—	None
*	**M6194D1017/U**	300 b-in.	34 Nm	24V	120-240 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	—	None
	M6194E1006/U	300 b-in.	34 Nm	24V	120-240 sec	1	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	—	None

** TRADELINE models • SUPER TRADELINE models*

M6284; M6294 Floating Modutrol IV™ Series 2 Motors, for Slaving Applications only

These Series 62 Modutrol IV™ Motors non-spring return floating control motors are used with controllers that provide a switched spdt or floating output to operate dampers or valves. These motors also have an internal electrically isolated feedback potentiometer that provides indication of the motor shaft position. Some models can be used for slaving Series 90 Motors.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers
- Include electrically isolated feedback potentiometer that provides shaft position indication
- -S models with non-linear feedback are for slaving applications only

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep (164 mm high x 140 mm wide x 185 mm deep)
Fail Safe Mode: Non-Spring Return
Control Signal: Floating
Feedback: Yes
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Mounting: Foot-mounted
Motor Shafts: 2; Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 6.5 b

Stroke: Adjustable; 90 to 160 degrees
Comments: non-linear feedback, for slaving applications only
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-62-Screw Terminal Adapter Kit for Series 62 Series Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

Product Number	Torque/Force lb-in., lb	Torque/Force Nm, N	Voltage	Nominal Timing (sec)	Electrical Connections	Shaft Rotation (upon control signal increase)	Motor Shafts	Internal Auxiliary Switch	Factory Stroke Setting	Includes	Internal Transformer
M6284A1030-S	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	—	Dual-ended shaft; 2	0	160 degrees	220741A Screw Terminal Adapter	None
M6284A1089-S/U	75 lb-in.	8.5 Nm	120V	15-30 sec	Screw terminals	Dependent on wiring (normally closed)	Dual-ended shaft	0	90 degrees	Transformer	50004263-002
M6284A1097-S/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals		Dual-ended shaft	0	90 degrees	—	None
M6284B1004-S	150 lb-in.	17 Nm	120V	120-240 sec	Quick-connect terminals		Dual-ended shaft	1	160 degrees	Transformer	50004263-003
M6284C1010-S/U	150 lb-in.	17 Nm	24V	30-60 sec	Screw terminals		Dual-ended shaft	2	90 degrees	Bag Assembly	None
M6284C1028-S/U	150 lb-in.	17 Nm	24V	30-60 sec	Screw terminals	—	Dual-ended shaft, 2	2	90 degrees	220741A Screw Terminal Adapter	None
M6284C1044-S/U	150 lb-in.	17 Nm	120V	30-60 sec	Quick-connect terminals	Dependent on wiring (normally closed)	Dual-ended shaft	2	90 degrees	Transformer and Weatherproof Kit	50004263-003
M6284F1039-S/U	150 lb-in.	17 Nm	24V	30-60 sec	Screw terminals		Dual-ended shaft	2	90 degrees	Bag Assembly	None
M6284F1062-S/U	150 lb-in.	17 Nm	24/120/230V	30-60 sec	Quick-connect terminals	—	Dual-ended shaft2	2	90 degrees	Transformer	50004263-001
M6294B1036-S/U	300 lb-in.	34 Nm	24V	60-120 sec	Quick-connect terminals	Dependent on wiring (normally closed)	Dual-ended shaft	1	160 degrees	—	None

Modutrol IV Motors

M6284; M6294 Floating Modutrol IV™ Series 2 Motors, for Slaving Applications only

These Series 62 Modutrol IV™ Motors non-spring return floating control motors are used with controllers that provide a switched spdt or floating output to operate dampers or valves. These motors also have an internal electrically isolated feedback potentiometer that provides indication of the motor shaft position. Some models can be used for slaving Series 90 Motors.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers
- Include electrically isolated feedback potentiometer that provides shaft position indication
- -S models with non-linear feedback are for slaving applications only

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep (164 mm high x 140 mm wide x 185 mm deep)
Fail Safe Mode: Non-Spring Return
Control Signal: Floating
Feedback: Yes
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Mounting: Foot-mounted; Dual-ended shaft
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Dependent on wiring (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.

Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 7.5 lb
Comments: non-linear feedback, for slaving applications only
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-62-Screw Terminal Adapter Kit for Series 62 Series Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

	Product Number	Torque/Force lb-in., lb	Torque/Force Nm, N	Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
	M6284A1055-S/U	150 lb-in.	17 Nm	120V	30-60 sec	Quick-connect terminals	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Transformer	50004263-003
	M6284A1071-S/U	150 lb-in.	17 Nm	120V	30-60 sec	Screw terminals	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Transformer	50004263-002
*	**M6284D1000-S/U**	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Slave with Series 90 Motors	None
*	**M6284D1026-S/U**	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	220741A2-62 Screw Terminal Adapter Kit	None
*	**M6284D4004-S/U**	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
	M6284F1013-S/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
*	**M6294D1008-S/U**	300 lb-in.	34 Nm	24V	120-240 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees	—	None

** TRADELINE models • SUPER TRADELINE models*

M6285 Floating Modutrol IV™ Series 2 Motors, for Slaving Applications only

Series 62 Modutrol IV™ Motors are spring return floating control motors used with controllers that provide a switched spdt or floating output to operate dampers or valves. These motors also have an internal electrically isolated feedback potentiometer that provides indication of the motor shaft position and can be used for slaving Series 90 motors or rebalancing an external control circuit.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Integral spring return returns motor to normal position in the event of power failure
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- Spring return motors can operate valve linkages from power end or auxiliary end shafts for normally closed or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers
- Include electrically isolated feedback potentiometer that provides shaft position indication

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 8 3/4 in. deep (164 mm high x 140 mm wide x 222 mm deep)
Fail Safe Mode: Spring Return
Control Signal: Floating
Feedback: Yes
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Dependent on wiring (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.

Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 8.5 lb
Comments: non-linear feedback, for slaving applications only
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
	lb-in., lb	Nm, N								
M6285A1039-S	60 lb-in.	6.8 Nm	24V	60-120 sec	Quick-connect terminals	0	90 degrees	Adjustable; 90 to 160 degrees	—	None
M6285A1047-S/U	60 lb-in.	6.8 Nm	24V	30-60 sec	Screw terminals	0	160 degrees	Adjustable; 90 to 160 degrees	Bag Assembly	None
M6285A1054-S	60 lb-in.	6.8 Nm	120V	30-60sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees	Transformer	50004263-003

Modutrol IV Motors

M6285 Floating Modutrol IV™ Series 2 Motors, for Slaving Applications only

Series 62 Modutrol IV™ Motors are spring return floating control motors used with controllers that provide a switched spdt or floating output to operate dampers or valves. These motors also have an internal electrically isolated feedback potentiometer that provides indication of the motor shaft position and can be used for slaving Series 90 motors or rebalancing an external control circuit.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Integral spring return returns motor to normal position in the event of power failure
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- Spring return motors can operate valve linkages from power end or auxiliary end shafts for normally closed or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers
- Include electrically isolated feedback potentiometer that provides shaft position indication

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 8 3/4 in. deep (164 mm high x 140 mm wide x 222 mm deep)
Fail Safe Mode: Spring Return
Control Signal: Floating
Feedback: Yes
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Electrical Connections: Quick-connect terminals
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Dependent on wiring (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.

Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 8.5 lb

Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-62-Screw Terminal Adapter Kit for Series 62 Series Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

	Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Comments	Internal Transformer
		lb-in., lb	Nm, N							
*	**M6285A1005-S/U**	60 lb-in.	6.8 Nm	24V	30-60 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	non-linear feedback, for slaving applications only	None
*	**M6285A4009-S/U**	60 lb-in.	6.8 Nm	24V	30-60sec	0	160 degrees	Adjustable; 90 to 160 degrees	non-linear feedback, for slaving applications only	None
	M6285C1001-S/U	60 lb-in.	6.8 Nm	24V	30-60 sec	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	non-linear feedback, for slaving applications only	None

** TRADELINE models • SUPER TRADELINE models*

Modutrol IV™ Motor with Linear 10K Feedback

Series 62 Modutrol IV™ Motors Spring Return and Non-Spring Return floating control motors used with controllers that provide a switched spdt or floating output to operate dampers or valves.

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep (164 mm high x 140 mm wide x 185 mm deep)
Control Signal: Floating
Feedback: Yes
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Internal Transformer: None
Mounting: Foot-mounted
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Dependent on wiring (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)

These motors also have an internal electrically isolated feedback potentiometer that provides indication of the motor shaft position.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers
- -F models have an internal electrically isolated feedback potentiometer that provides indication of the motor shaft position

Weight: 6.5 lb
Comments: Linear 10K feedback
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-62-Screw Terminal Adapter Kit for Series 62 Series Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

	Product Number	Fail Safe Mode	Torque/Force		Voltage	Timing (sec)		Electrical Connections	Motor Shafts	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Internal Transformer
			lb-in., lb	Nm, N		Nominal	Spring Return						
	M6274F1009-F/U	Non-Spring Return	75 lb-in.	8.5 Nm	24V	15/27	—	Screw terminals	Dual-ended shaft; 2	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	None
*	**M6284D1032-F/U**	Non-Spring Return	150 lb-in.	17 Nm	24V	30-60 sec	—	Quick-connect terminals	Dual-ended shaft	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	None
	M6284F1078-F/U	Non-Spring Return	150 lb-in.	17 Nm	24V	30/53	—	Screw terminals	Dual-ended shaft; 2	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	None
	M6285F1001-F/U	Spring Return	60 lb-in.	6.8 Nm	24V	30/53	30 sec.	Screw terminals	Dual-ended shaft; 2	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	None
	M6294F1009-F/U	Non-Spring Return	300 lb-in.	34 Nm	24V	120/214	—	Screw terminals	Dual-ended shaft; 2	2	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	None
	M6294F1017-F/U	Non-Spring Return	300 lb-in.	34 Nm	24V	60/107	—	Screw terminals	Dual-ended shaft; 2	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	None

** TRADELINE models • SUPER TRADELINE models*

Modutrol IV Motors

M7164 Modutrol IV™ Series 2 Motors

Series 71 Modutrol IV™ Motors non-spring return motors used to control dampers and valves. These motors accept a voltage signal from an electronic controller to position a damper or valve at any point between open and closed.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep (164 mm high x 140 mm wide x 185 mm deep)
Fail Safe Mode: Non-Spring Return
Control Signal: Modulating, 10.5-13.5 Vdc
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Electrical Connections: Quick-connect terminals
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Clockwise (as viewed from power end) (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 6.5 lb
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-71-Screw Terminal Adapter Kit for Series 71 Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
	lb-in., lb	Nm, N							
M7164A1017/U	35 lb-in	4 Nm	24/120/230V	30-60 sec	0	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	50004263-001
M7164G1030/U	35 lb-in	4 Nm	120V	30-60 sec	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Transformer	50004263-003

M7274 4-20 mA V Modutrol IV™ Motors

The Series 72 Modutrol IV Motors spring return and non-spring return motors are used to control dampers and valves. The motors accept a current or voltage signal from an electronic controller to position a damper or valve at any point between open and closed.

- Integral spring return returns motor to normal position in the event of power failure on spring return models
- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- Spring return motors can operate valve linkages from power end or auxiliary end shafts for normally closed or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers
- Models available with adjustable start (zero) and span
- Models available with 4 to 20 mA input signal
- Die-cast aluminum housing

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep (164 mm high x 140 mm wide x 185 mm deep)
Fail Safe Mode: Non-Spring Return
Control Signal: Modulating, 4-20 mA
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Electrical Connections: Screw terminals
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Clockwise (as viewed from power end) (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.

Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 7 lb

Approvals
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-72-Screw Terminal Adapter Kit for Series 72 Modutrol IV Series 2 motors - Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Comments	Internal Transformer
	lb-in., lb	Nm, N							
M7274Q1009/U	75 lb-in.	8.5 Nm	24V	15/27	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Adjustable zero and span for split range applications	None

Modutrol IV Motors

M7284; M7285; M7286; M7294 Modutrol IV™ Series 2 Motors

Series 72 Modutrol IV Motors are spring return and non-spring return motors (per motor type) used to control dampers and valves. The motors accept a current or voltage signal from an electronic controller to position a damper or valve at any point between open and closed.

- Integral spring return returns motor to normal position in the event of power failure on spring return models
- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard--screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- Spring return motors can operate valve linkages from power end or auxiliary end shafts for normally closed or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers
- Models available with adjustable start (zero) and span
- Models available with 4 to 20 mA input signal
- Models available with 2 to 10 Vdc input signal
- Die-cast aluminum housing

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep (164 mm high x 140 mm wide x 185 mm deep)
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Internal Transformer: 50004263-002
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase):
M7284A,C,Q; M7285A,C,Q; M7294A,Q: Clockwise (as viewed from power end) (normally closed)
M7286G: Counter-clockwise (as viewed from power end) (normally open)
Deadweight Load on Shaft (Either End): 200 lbs.

Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 7.5 lb
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-72-Screw Terminal Adapter Kit for Series 72 Modutrol IV Series 2 motors - Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

Product Number	Fail Safe Mode	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Control Signal	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Comments	Internal Transformer
		lb-in., lb	Nm, N										
M7284A1004/U	Non-Spring Return	150 lb-in.	17 Nm	120V	30-60 sec	Screw terminals	Modulating, 4-20 mA	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Transformer and Screw Terminal Adapter	—	50004263-002
M7284A1012/U	Non-Spring Return	150 lb-in.	17 Nm	120V	30-60 sec	Screw terminals	Modulating, 4-20 mA	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer and Screw Terminal Adapter	—	50004263-002
M7284A1038/U	Non-Spring Return	75 lb-in.	8 5 Nm	120V	15-30 sec	Screw terminals	Modulating, 4-20 mA	0	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer and Screw Terminal Adapter	—	50004263-002
M7284A1079/U	Non-Spring Return	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	Modulating, 2-10 Vdc	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	—	None
M7284C1000/U	Non-Spring Return	150 lb-in.	17 Nm	120V	30-60 sec	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Transformer and Screw Terminal Adapter	—	50004263-002
M7284C1083/U	Non-Spring Return	150 lb-in.	17 Nm	24/ 120/ 230V	30 sec	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Fixed; 90 degrees, Symmetrical	Transformer	Enhanced models, additional repositions	50004263-001

Product Number	Fail Safe Mode	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Control Signal	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Comments	Internal Transformer
		lb-in., lb	Nm, N										
M7284C1091/U	Non-Spring Return	150 lb-in.	17 Nm	24/120/230V	60 sec	Screw terminals	Modulating, 4-20 mA	2	160 degrees	Fixed; 160 degrees, Asymmetrical	Transformer	Enhanced models, additional repositions	50004263-001
M7284Q1009/U	Non-Spring Return	150 lb-in.	17 Nm	120V	30-60 sec	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Transformer and Screw Terminal Adapter	Adjustable zero and span for split range applications	50004263-002
M7284Q1082/U	Non-Spring Return	150 lb-in.	17 Nm	24/120/230V	30 sec	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Fixed; 90 degrees, Symmetrical	Transformer	Enhanced models, additional repositions (160°) Adjustable zero and span for split range applications	50004263-006
M7284Q1090/U	Non-Spring Return	150 lb-in.	17 Nm	24/120/230V	60 sec	Screw terminals	Modulating, 4-20 mA	2	160 degrees	Fixed; 160 degrees, Asymmetrical	Transformer	Enhanced models, additional repositions (160°) Adjustable zero and span for split range applications	50004263-006
M7284Q1098/U	Non-Spring Return	150 lb-in.	17 Nm	24V	30-53	Screw terminals	2 to 10 Vdc	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	Enhanced models, additional repositions; Adjustable zero and span for split range applications	None
M7284Q1106/U	Non-Spring Return	150 lb-in.	17 Nm	24V	30-60 sec	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	Adjustable zero and span for split range applications	None
M7285A1003/U	Spring Return	60 lb-in.	6.8 Nm	120V	30-60 sec	Screw terminals	Modulating, 4-20 mA	0	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer and Screw Terminal Adapter	—	50004263-002
M7285A1045/U	Spring Return	60 lb-in.	6.8 Nm	24V	30-60 sec	Quick-connect terminals	Modulating, 2-10 Vdc	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	—	None
M7285C1009/U	Spring Return	60 lb-in.	6.8 Nm	120V	30-60 sec	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer and Screw Terminal Adapter	—	50004263-002
M7285Q1008/U	Spring Return	60 lb-in.	6.8 Nm	120V	30-60 sec	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer and Screw Terminal Adapter	Adjustable zero and span for split range applications	50004263-002
M7285Q1024/U	Spring Return	60 lb-in.	6.8 Nm	24 V	30/53	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Screw Terminal Adapter	Adjustable zero and span for split range applications	None
M7285Q1032/U	Spring Return	60 lb-in.	6.8 Nm	24 V	30/53	Screw terminals	Modulating, 2-10 Vdc	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Screw Terminal Adapter	Adjustable zero and span for split range applications	None
M7286G1009/U	Spring Return	60 lb-in.	6.8 Nm	24V	30-60 sec	Quick-connect terminals	Modulating, 2-10 Vdc	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	—	None

Modutrol IV Motors

Product Number	Fail Safe Mode	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Control Signal	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Comments	Internal Transformer
		lb-in., lb	Nm, N										
M7294A1010/U	Non-Spring Return	300 lb-in.	34 Nm	24V	60-120 sec	Quick-connect terminals	Modulating, 2-10 Vdc	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	—	None
M7294Q1007/U	Non-Spring Return	300 lb-in.	34 Nm	120V	60-120 sec	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Transformer and Screw Terminal Adapter	Adjustable zero and span for split range applications	50004263-002
M7294Q1015/U	Non-Spring Return	300 lb-in.	34 Nm	24V	60/107	Screw terminals	Modulating, 4-20 mA	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Screw Terminal Adapter	Adjustable zero and span for split range applications	None

M7685 Modutrol IV™ Series 2 Motor

Proportional, spring-return motors for use with Honeywell W7080 panel 14-17 Vdc output; with minimum position adjustment.

- Integral spring return returns motor to normal position in the event of power failure
- Integral junction box provides NEMA 3 weather protection
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 deg. to 160 deg.)
- Integral auxiliary switches are available factory mounted, or can be field added
- Spring return motors can operate valve linkages from power end or auxiliary end shafts for normally closed or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 8 3/4 in. deep (164 mm high x 140 mm wide x 222 mm deep)
Fail Safe Mode: Spring Return
Control Signal: Modulating, 14-17 Vdc
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Electrical Connections: Quick-connect terminals
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Clockwise (as viewed from power end) (normally closed)

Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 8.5 lb
Approvals
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
	lb-in., lb	Nm, N							
M7685A1025/U	60 lb-in.	6.8 Nm	24V	30-60 sec	0	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Minimum Position Potentiometer	None

M9164; M9174; M9184; M9194 Modutrol IV™ Series 3 Motors

Series 90 Modutrol™ IV Motors non-spring return modulating proportional control motors used with controllers that provide a Series 90 output to operate dampers or valves.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard; screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep (164 mm high x 140 mm wide x 185 mm deep)
Fail Safe Mode: Non-Spring Return
Control Signal: Proportional, 135 ohm
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase):
M9164A,C; M9174B,C,D,F; M9184A,C,D,E,F; M9194D,E: Clockwise (as viewed from power end) (normally closed)
M9164D: Counter-clockwise (as viewed from power end) (normally open)
Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.

Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 7.5 lb
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
Q7230A1005-Interface module, provides adjustable zero & span, voltage or current control
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-90-Screw Terminal Adapter Kit for Series 90 Modutrol IV Series 2and Series 3 motors - Converts quick-connect terminals to Accessories:
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

	Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
		lb-in., lb	Nm, N								
	M9164A1005/U	35 lb-in	4 Nm	120V	30-60 sec	Quick-connect terminals	0	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
	M9164A1013/U	35 lb-in	4 Nm	24/120/ 230V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-001
	M9164A1070/U	35 lb-in	4 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9164C1001/U	35 lb-in	4 Nm	24V	30-60 sec	Quick-connect terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9164C1068/U	35 lb-in	4 Nm	120V	30-60 sec	Quick-connect terminals	2	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
*	**M9164D1009/U**	35 lb-in	4 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9174B1027/U	75 lb-in.	8.5 Nm	120V	30-60 sec	Quick-connect terminals	1	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
	M9174C1025/U	75 lb-in.	8.5 Nm	120V	30-60 sec	Quick-connect terminals	2	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
	M9174C1033/U	75 lb-in.	8.5 Nm	120V	30-60 sec	Quick-connect terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003

** TRADELINE models • SUPER TRADELINE models*

Modutrol IV Motors

	Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
		lb-in., lb	Nm, N								
*	**M9174D1007/U**	75 lb-in.	8.5 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9174F1001/U	75 lb-in.	8.5 Nm	24 V	30/53	Screw terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9184A1019/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9184C1031/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
	M9184D1005/U	75 lb-in.	8.5 Nm	24V	15-30 sec	Quick-connect terminals	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
*	**M9184D1021/U**	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
*	**M9184E4006**	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	1	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
	M9184F1034/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
*	**M9194D1003/U**	300 lb-in.	34 Nm	24V	120-240 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
	M9194E1000/U	300 lb-in.	34 Nm	24V	120-240 sec	Quick-connect terminals	1	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None

** TRADELINE models • SUPER TRADELINE models*

M9175; M9185 Modutrol IV™ Series 3 Motors

Series 90 Modutrol™ Motors are spring return modulating proportional control motors used with controllers that provide a Series 90 output to operate dampers or valves.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Integral spring return in the event of power failure
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard; screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- Spring return motors can operate valve linkages from power end or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 8 3/4 in. deep (164 mm high x 140 mm wide x 222 mm deep)
Fail Safe Mode: Spring Return
Control Signal: Proportional, 135 ohm
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Clockwise (as viewed from power end) (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.
Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)

Weight: 8.5 lb
Approvals
CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
Q7230A1005-Interface module, provides adjustable zero & span, voltage or current control
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
221455A-Infinitely adjustable Motor Crank Arm
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-90-Screw Terminal Adapter Kit for Series 90 Modutrol IV Series 2and Series 3 motors - Converts quick-connect terminals to screw terminals

	Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Internal Transformer
		lb-in., lb	Nm, N							
	M9185A1018/U	60 lb-in.	6.8 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	None
	M9185C1006/U	60 lb-in.	6.8 Nm	24V	30-60 sec	Quick-connect terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	None
*	**M9185D1004/U**	60 lb-in.	6.8 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	None
	M9185E1019/U	60 lb-in.	6.8 Nm	24V	30-60 sec	Quick-connect terminals	1	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	None
	M9185F1002/U	60 lb-in.	6.8 Nm	24V	30/53	Screw terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	None

** TRADELINE models • SUPER TRADELINE models*

Modutrol IV Motors

M9182 Modutrol IV™ Series 3 Motors

Series 90 Modutrol™ IV Motors spring return modulating proportional control motors used with controllers that provide a Series 90 output to operate dampers or valves.

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Integral spring return returns motor to normal position in the event of power failure
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard; screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- Spring return motors can operate valve linkages from power end or auxiliary end shafts for normally closed or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range

Application Type: Electric
Dimensions, Approximate: 6 7/16 in. high x 5 1/2 in. wide x 8 3/4 in. deep (164 mm high x 140 mm wide x 222 mm deep)
Fail Safe Mode: Spring Return
Control Signal: Proportional, 135 ohm
Feedback: No
Frequency: 50 Hz; 60 Hz
External Auxiliary Switches Available: Yes
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Electrical Connections: Quick-connect terminals
Internal Transformer: None
Mounting: Foot-mounted
Motor Shafts: Dual-ended shaft
Shaft Shape: square
Shaft Dimensions: 0.375 in. (10 mm)
Shaft Rotation (upon control signal increase): Clockwise (as viewed from power end) (normally closed)
Deadweight Load on Shaft (Either End): 200 lbs.

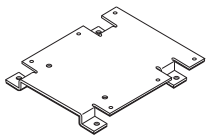
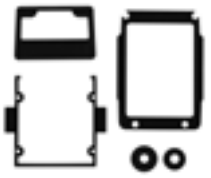
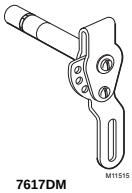
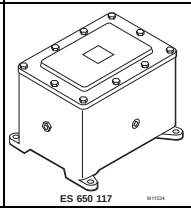
Deadweight Load (Combined on both Shafts): 300 lbs.
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 8.5 lb

Approvals
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
Q7230A1005-Interface module, provides adjustable zero & span, voltage or current control
4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position
220736A-Internal Auxiliary Switch Assembly - 1 Switch
220736B-Internal Auxiliary Switch Assembly - 2 Switches
220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors
220741A2-90-Screw Terminal Adapter Kit for Series 90 Modutrol IV Series 2and Series 3 motors - Converts quick-connect terminals to screw terminals
221455A-Infinitely adjustable Motor Crank Arm
50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3 Motors
50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Internal Transformer
	lb-in., lb	Nm, N						
M9182A1011/U	60 lb-in.	6.8 Nm	24V	30-60 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	None

Foot Mounted Motor Accessories

Product Number	Description	Used With	
16230	Adapter bushing for cast crank arm 18437 to be used with Modutrol IV Motor	Modutrol IV Motors	
18437	Cast crank arm for Modutrol Motors - need adapter bushing 16230	Modutrol IV Motors	
203709D2/U	Screw Terminal Adapter for Series 70 Mod IV Motors With Zero and Span Adjustment	Series 2 and Series 3 Modutrol IV™ motors	
220738A/U	Adapter Bracket. Adjusts shaft height to match Modutrol III motors	Mod IV Actuator to match shaft height of Mod III Actuator	
220741A2-61/U	Screw Terminal Adapter Kit for Series 61 Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals	Series 61 Mod IV Motor	
220741A2-62/U	Screw Terminal Adapter Kit for Series 62 Series Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals	Series 62 Mod IV Motor	
220741A2-71/U	Screw Terminal Adapter Kit for Series 71 Modutrol IV Series 2 motors- Converts quick-connect terminals to screw terminals	Series 71 Mod IV Motor	
220741A2-72/U	Screw Terminal Adapter Kit for Series 72 Modutrol IV Series 2 motors - Converts quick-connect terminals to screw terminals	Series 72 Mod IV Motor	
220741A2-90/U	Screw Terminal Adapter Kit for Series 90 Modutrol IV Series 2and Series 3 motors - Converts quick-connect terminals to screw terminals	Series 90 Mod IV Motor	
220741A2-TP/U	Screw Terminal Adapter Kit for 2 position Modutrol IV Series 2 motors - Converts quick-connect terminals to screw terminals	Two Position for use with M4XXX and M8XXX Mod IV Motors	
221455A/U	Infinitely adjustable Motor Crank Arm	Modutrol IV Motors	
221508A2/U	Resistor Board Assembly for Series 2 and 3 Modutrol IV Motors	Series 2 and Series 3 Modutrol IV™ motors	
4074ERU/U	Weatherproofing kit. Protects motor from driving rain when mounted in any position	Fits all Modutrol IV motors	
7617DM/U	Coupling- Must be used with ES650117 explosion-proof housing	ES650117	
ES650-117	ES650-117 Explosion-Proof Housing encloses motor for use in explosive atmospheres. Also required, a 7617DM coupling assembly from Honeywell to use with the cover. To order ES650-117 contact EGS Enclosures at (281) 449-6271, ask for the sales department and for distribution in your area.	Modutrol IV Motors, not for use with Q5001 (or any other valve linkages)	

Modutrol IV Motors

198162 Internal Transformer for Series 1 Motors

Application Type: Internal Transformer
Ambient Temperature Range: 0 F to 131 F (-18 C to +55 C)

Product Number	Voltage	Control Signal	Includes	Comments
198162AA/U	120/208/240 Vac at 50 or 60 Hz	SPST, On/Off switch	Transformer, screws, instructions for mounting internally in Modutrol IV Series 1 motors	For Mod IV Series 2 and 3 actuators, use 50017460-001
198162EA/U	120 Vac at 50 or 60 Hz	SPST, On/Off switch	Transformer, screws, instructions for mounting internally in Modutrol IV Series 1 motors	For Mod IV Series 2 and 3 actuators, use 50017460-003
198162GA/U	220 Vac at 50 or 60 Hz	SPST, On/Off switch	Transformer, screws, instructions for mounting internally in Modutrol IV Series 1 motors	For Mod IV Series 2 and 3 actuators, use 50017460-001
198162JA/U	24 Vac (for electrical isolation)	SPST, On/Off switch	Transformer, screws, instructions for mounting internally in Modutrol IV Series 1 motors	For Mod IV Series 2 and 3 actuators, use 50017460-001

220736 Internal Auxiliary Switch Kits

Application Type: Internal Auxiliary Switch Kits
Auxiliary Switch Ratings AFL - 120 Vac: 7.2A
Auxiliary Switch Ratings ALR - 120 Vac: 43.2A
Auxiliary Switch Ratings AFL - 240 Vac: 3.6A
Auxiliary Switch Ratings ALR - 240 Vac: 21.6A
Electrical Connections: 15 in (381 mm) Lead Wires
Ambient Temperature Range: 0 F to 131 F (-18 C to +55 C)
Weight: 0.3 lb

Product Number	Electrical Connections	Control Signal	Includes	Used With
220736A/U	15 in (381 mm) Lead Wires	SPDT, On/Off switch	One Micro Switch V3 precision switch, which is actuated by adjustable cams inside the motor.	TRADELINE Modutrol IV Motors
220736B/U	15 in (381 mm) Lead Wires	SPDT, On/Off switch	Two Micro Switch V3 precision switches, which are actuated by adjustable cams inside the motor.	TRADELINE Modutrol IV Motors

50017460 Internal Transformers for Series 2 and 3 Motors

Application Type: Internal Transformer
Control Signal: SPST, On/Off switch
Frequency: 50 Hz; 60 Hz
Mounting: Internal mount to Modutrol IV Motors
Ambient Temperature Range: 0 F to 131 F (-18 C to +55 C)

Product Number	Voltage	Control Signal	Includes	Used With
50017460-001/U	24/120/230 Vac	SPST, On/Off switch	Transformer, screws, instructions for mounting internally in Modutrol IV™ Series 2 and 3 motors	Series 2 and Series 3 Modutrol IV™ motors
50017460-003/U	120 Vac	SPST, On/Off switch	Transformer, screws, instructions for mounting internally in Modutrol IV™ Series 2 and 3 motors	Series 2 and Series 3 Modutrol IV™ motors

Q181 Auxiliary Potentiometer for Modutrol Motors

Controls from one to four Modutrol (Series 90) motors from one master motor.

- Compat ble with Modutrol III and Modutrol IV motors
- Mounts on master motor and operates controlled motors in unison or in sequence
- Controls motors with mechanical balance relay and solid state drive circuit
- Use with 24V motors

Application Type: Electro-mechanical
Dimensions, Approximate: 3 3/16 in. high x 3 1/4 in. wide x 3 3/8 in. deep (81 mm high x 83 mm wide x 86 mm deep)
Mounting: External mount to Modutrol IV Motors
Weight: 1.38 b
Approvals
CE: Report: GV97-011

Product Number	Electrical Connections	Control Signal	Includes	Comments	Used With
Q181A1007/U	Screw terminals	SPST, On/Off switch	Cover	For controlling one modutrol motor	Series 90
Q181A1015/U	Screw terminals	SPST, On/Off switch	Cover	For controlling two modutrol motors	Series 90
Q181A1064/U	Screw terminals	SPST, On/Off switch	—	For controlling up to three modutrol motors	Series 90

Q209 Manual Potentiometer for Modutrol Motors

Used to limit minimum position of a proportioning Modutrol motor.

- Mount directly in motor
- All wiring is accomplished within motor wiring compartment
- Color-coded leadwires

Application Type: Electro-mechanical
Dimensions, Approximate: 3 1/4 in. high x 3 3/8 in. wide x 3 7/8 in. deep (83 mm high x 86 mm wide x 98 mm deep)
Control Signal: SPST, On/Off switch
Electrical Connections: Screw terminals
Mounting: Internal mount to Modutrol IV Motors
Weight: 0.2 lb
Approvals
CE: Report: GV97-011

Product Number	Electrical Connections	Control Signal	Includes	Used With
Q209A1022/U	Screw terminals	SPST, On/Off switch	150 ohm Potentiometer, leadwires and bracket	M9184; M9185; M6284; M6285
Q209A1030/U	Screw terminals	SPST, On/Off switch	300 ohm Potentiometer, leadwires and bracket	M9184; M9185; M6284; M6285
Q209E1002/U	Quick-connect terminals with lead wires	SPST, On/Off switch	150 ohm Potentiometer, factory mounted on a wring cover box	—
Q209E1010/U	Quick-connect terminals with lead wires	SPST, On/Off switch	300 Ohm Potentiometer, Factory Mounted on a wiring cover box	—

Q607 Auxiliary Switches for Modutrol Motors

For control of auxiliary equipment as a function of motor shaft position.

- Compat ble with Modutrol III and Modutrol IV motors (Requires 220738A adapter bracket for use with Modutrol IV motors)
- Micro Switch precision switches, adjustable
- Indicate motor position by use of a scale plate anchored to a common shaft, which allows Q607 to be adjusted for operational sequence before mounting
- Adjustable plate allows universal mounting on either end of motor
- Wrap-around cover for easy access to switch adjustments and wiring
- Maintenance-free protection of the switches and cams

Application Type: Electro-mechanical
Dimensions, Approximate: 6 7/16 in. high x 5 3/16 in. wide x 2 1/8 in. deep (164 mm high x 132 mm wide x 54 mm deep)
Auxiliary Switch Ratings AFL - 120 Vac: 9.8A
Auxiliary Switch Ratings ALR - 120 Vac: 58.8A
Auxiliary Switch Ratings AFL - 240 Vac: 4.90A
Auxiliary Switch Ratings ALR - 240 Vac: 29.4A

Electrical Connections: Screw terminals
Mounting: Cover or gear end
Weight: 2.5 lb

Approvals
Canadian Standards Association: Certified: File No. LR1620
Underwriters Laboratories, Inc: Listed File: E4436, Guide: XAPX2

	Product Number	Electrical Connections	Control Signal	Internal Auxiliary Switch	Includes	Comments
	Q607A1050/U	Screw terminals	SPDT, On/Off switch	1	Revised mounting bracket	Post 1969 Honeywell Modutrol Motors
*	**Q607A1076/U**	Screw terminals	SPDT, On/Off switch	1	With adapter for cover end spring return motor and revised mounting bracket	Post 1969 Honeywell Modutrol Motors
	Q607B1067/U	Screw terminals	SPDT, On/Off switch	2	Revised mounting bracket	Pre/Post 1969 Honeywell Modutrol Motors
*	**Q607B1083/U**	Screw terminals	SPDT, On/Off switch	2	With adapter for cover end spring return motor and revised mounting bracket	—
	Q607C1009/U	Terminal Board	SPDT, On/Off switch	1	Special terminal panel and metric grounding screws	—
	Q607D1008/U	Terminal Board	SPDT, On/Off switch	2	Special terminal panel and metric grounding screws	—

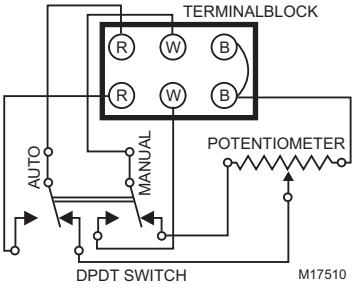
** TRADELINE models • SUPER TRADELINE models*

S443 Manual Potentiometer for Modutrol Motors

Used for remote manual control of proportioning (Series 90) motors and relays.

- Compat ble with Modutrol III and Modutrol IV motors
- Select automatic or manual control with DPST toggle switch
- Suitable for Series 90, M7685; and M7285 motors controlled by 135 ohm inputs
- Surface mounted, with conduit outlet on each side of case
- Screw terminals
- Scale marked OPEN-CLOSE

Internal schematic of S443A



Application Type: Electric
Dimensions, Approximate: Including Knob 3 3/4 in. high, 3 3/8 in. wide, 3 1/4 in. deep (95 mm high, 86 mm wide, 83 mm deep)
**Fits inside wiring junction box of Modutrol IV Motor)
Mounting: Surfaced mounted with conduit knock-outs
Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)
Weight: 1.3 lb

Product Number	Electrical Connections	Control Signal	Comments	Used With
S443A1007/U	Screw terminals	SPST, On/Off switch	2 position manual switch	M9164; M9484; M9184; M9185 and motors replaced by these motors

Q7130; Q7230; Q7330 Interface Modules for Series 90 Modutrol IV Motors

For converting Series 90 Modutrol IV motors to Series 70 (electronic) control.

- Mounts and works inside wiring box of any series 90 Modutrol IV Motor
- Protected from weather by motor's NEMA 3 wiring box
- Mates to motor's quick-connect terminals and provides screw terminals for control wiring connections
- Features solid-state circuitry with surface mount components
- Cover holds module in place, screws not required

Includes (except Q7330A) reversing switch to allow replacement of electrically normally open or electrically normally closed motors

Application Type: Electric

Dimensions, Approximate: Fits inside wiring junction box of Modutrol IV Motor

Frequency: 50 Hz; 60 Hz

Mounting: Mounts to quick-connects inside Mod Motor

Ambient Temperature Range: -40 F to +150 F (-40 C to +60 C)

Weight: 0.3 lb

Product Number	Electrical Connections	Control Signal	Used With
Q7130A1006/U	Terminal Board	Provides selectable voltage ranges: 4 to 7, 6 to 9, or 10.5 to 13.5 Vdc. Adapts M91XX to function as M71XX model	Series 90 for conversion to Series 70
Q7230A1005/U	Terminal Board	Provides adjustable zero & span, voltage or current control (includes 2-10 Vdc or 4-20 mA). Adapts M91XX to function as M72XX model.	Series 90 for conversion to Series 70
Q7330A1004/U	Terminal Board	Provides interface to W936 Control. Adapts M91XX to function as M73XX model.	Series 90 for conversion to Series 70

Kit Mounted Motors

M436; M836 Damper Motors

Spring return motors for two-position back draft, outdoor air changeover, zone, or minimum position damper control.

- Operate outdoor air dampers for combustion or makeup air in residential and light commercial applications
- Operate changeover dampers for heating and cooling systems
- Operate minimum position dampers for ventilation and similar applications
- Include internal SPDT switch for controlling auxiliary equipment, additional motors, or to provide a burner interlock switch
- Spring returns motor to start position on power failure
- Drive shafts located on both sides of motor
- Adjustable auxiliary switch for cascading motors or operating auxiliary equipment
- Thermal breaker for overload protection during lifting stroke or if motor stalls

Dimensions, Approximate: 4 1/2 in. high x 4 5/8 in. wide x 3 3/4 in. deep (114 mm high x 118 mm wide x 95 mm deep)
Fail Safe Mode: Spring Return
Control Signal: Two position, SPST
Internal Auxiliary Switch: 1
External Auxiliary Switches Available: Yes
Torque Rating, Breakaway: 30 lb-in.
Electrical Connections: Screw terminals
Frequency: 60 Hz
Spring Return Timing (Maximum (seconds)): 25 sec
Mounting: Foot-mounted

Motor Shafts: 2
Shaft Shape: Hexagonal
Angle of Rotation (Stroke Max (deg)): 75
Angle of Rotation (Stroke Min (deg)): 75
Operating Temperature Range: 32 F to 125 F (0 C to 52 C)
Operating Humidity Range (% RH): 5 to 95% RH
Weight: 4 lb 10 oz (2.1 kg)
Approvals
Underwriters Laboratories, Inc: Listed File: E4436, Guide: XAPX

	Product Number	Torque Rating (lb-in.)	Torque Rating (Nm)	Voltage	Run Time (Maximum (seconds))	Timing Opening, Nominal (seconds)	Nominal Current Draw (amps) Opening	Nominal Current Draw (amps) Holding	Nominal Power (watts) Opening	Nominal Power (watts) Holding	Includes	Used With
*	**M436A1116/U**	20 lb-in.	2.3 Nm	120 Vac	40 sec	Open: 30 sec	0.37 A	0.12 A	28 W	8.5 W	—	—
*	**M436A1124/U**	20 lb-in.	2.3 Nm	240 Vac	40 sec	Open: 30 sec	0.19 A	0.06 A	29 W	8.5 W	Includes Bracket 198545	—
	M436A1140/U	20 lb-in.	2.3 Nm	220 Vac	55 sec	Open: 30 sec, Close: 25 sec	0.21 A	0.062 A	30 W	8.5 W	Ground and cover screw	Series 40, 80 circuits
*	**M836A1042/U**	20 lb-in.	2.3 Nm	24 Vac	40 sec	Open: 30 sec	1.85 A	0.6 A	28 W	8.5 W	—	—
*	**M836B1033/U**	15 lb-in.	1.7 Nm	24 Vac	40 sec	Open: 25 sec	1.34 A	0.73 A	20.3 W	11.2 W	—	—

** TRADELINE models • SUPER TRADELINE models*

M835 Two-Position Zone Damper Actuator

Two-Position Zone Motor, used with two-wire, 24-volt room thermostat or other controller for two position damper control.

- Controls zone or changeover damper in heating and air conditioning systems, and control gates on feeders
- SPST end switch makes within 20 sec of full open, breaks within 20 sec after start of closing stroke

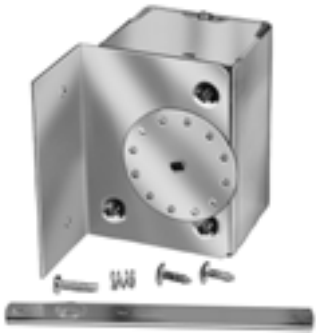
Dimensions, Approximate: 5 1/2 in. high x 4 1/4 in. wide x 2 5/8 in. deep (140 mm high x 108 mm wide x 67 mm deep)
Fail Safe Mode: Spring Return
Control Signal: Two position, SPST
External Auxiliary Switches Available: No
Torque Rating, Breakaway: 30 lb-in.
Electrical Connections: Lead wire in conduit box
Frequency: 60 Hz

Mounting: Foot-mounted
Motor Shafts: 2
Shaft Shape: Round
Angle of Rotation (Stroke Max (deg)): 60
Angle of Rotation (Stroke Min (deg)): 75
Operating Temperature Range: Cooling: 140 F, Heating: 200 F (Cooling: 60 C, Heating: 93 C)
Operating Humidity Range (% RH): 5 to 95% RH

	Product Number	Torque Rating (lb-in.)	Torque Rating (Nm)	Voltage	Run Time (Maximum (seconds))	Nominal Power (watts) Opening	Nominal Power (watts) Holding
*	**M835A1051/U**	4 lb-in.	0.45 Nm	24 Vac	Open: 80 sec, Close: 160 sec	27 W	8.5 W

** TRADELINE models • SUPER TRADELINE models*

M847 Two-Position Draft Damper Actuator



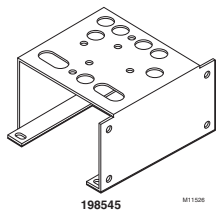
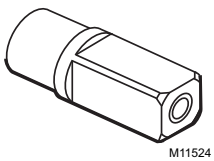
Two-Position Draft Damper Actuators. Use with two-wire 24V room thermostats or other low voltage controllers to operate the draft damper on solid fuel furnaces or boilers and other similar light duty applications.

- Low voltage, spring-return damper actuator
- Equipped with mounting bracket for wall, duct or direct appliance mounting to control draft damper through an actuator arm or chain linkage arrangement
- Actuator wheel rotates in a clockwise direction (when facing the wheel) when energized

Dimensions, Approximate: 3 1/2 in. high x 2 5/8 in. wide x 3 5/16 in. deep (89 mm high x 66 mm wide x 84 mm deep)
Fail Safe Mode: Spring Return
Control Signal: Two position, SPST
External Auxiliary Switches Available: No
Frequency: 60 Hz
Mounting: Foot mounted. Direct Coupled
Motor Shafts: 1
Shaft Shape: Round
Angle of Rotation (Stroke Max (deg)): 45
Operating Temperature Range: 40 F to 125 F (5 C to 50 C)
Operating Humidity Range (% RH): 5 to 95% RH
Weight: 1.75 bs

Product Number	Torque Rating (lb-in.)	Torque Rating (Nm)	Voltage	Run Time (Maximum (seconds))	Includes
M847A1072/U	1.9 lb-in.	0.21 Nm	24 Vac	20 sec	3.8 in. linkage arm
M847A1080/U	1.9 lb-in.	0.21 Nm	24 Vac	20 sec	38 in. linkage chain

Replacement Parts and Accessories for Kit Mounted Motors

Product Number	Description	Used With	
121825AA/U	Auxiliary crank arm assembly	Q298; M835	
126809/0021/U	M836 Mounting Bracket	M836	
126816/0021/U	Clamp for M436	M436	
128336/0021/U	Mounting Bracket for M436/M836, Increases motor height 0.5 inches	M436, M836	
16254AC	Motor mounting bracket for M436/M836	M436, M836	
198545/U	Motor mounting bracket for M436/M836	M436, M836	 198545 M11526
4074BRU/U	Bag Assembly Extension adapter and screws for mounting Q607 Auxiliary switch to M436A Damper Motor	Q607; M436A	 M11524 **4074BRU**
4074ELR/U	Crank arm, heavy duty	—	
4074ELY/U	Crank arm, infinitely adjustable	—	

Damper and Valve Linkages

Q100 Linkage

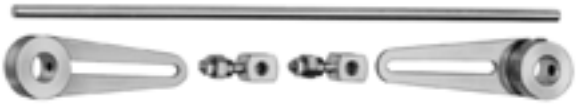
Contains necessary hardware to link Modutrol motors to a V51B Butterfly Valve.

- Compat ble with Modutrol III and Modutrol IV™ motors (Requires adapter bracket)
- Adaptable for all sizes of V51B Valves
- Strain release and stop bracket are provided with V51B

Linkage Type: Valve
Used with Actuator: Modutrol Motor

Product Number	Description
Q100A1015/U	Linkage for 2 1/2 and 3 in. butterfly valves
Q100A1023/U	Linkage for 4 in. butterfly valves

Q298 Damper Linkage for Economizer Motors



Connects M833, M835, M836 or M7415 motor to 1 or 2 zone dampers.

- May be used to link shafts of two dampers together
- Includes pushrod, ball joints and bushings for 1/4 in. (6 mm) to 1/2 in. (13 mm) diameter shafts

Linkage Type: Damper
Used with Actuator: Damper Actuator (M6415, M7405, M7415, M8415)

Product Number	Description	Includes
Q298B1065/U	Damper Linkage	Pushrod in variable lengths, 2 damper arms, and 2 ball joints

Q605 Damper Linkage

Connect Modutrol motor to standard damper or set of dampers to provide control of duct airflow.

- Adjustable to any degree of damper opening. Include ball joints, motor crank arm and damper arm for 1/2 in. (13 mm) diameter shaft
- 27520 pushrod must be ordered separately

Linkage Type: Damper
Mounting: Mount motor externally on duct
Used with Actuator: Modutrol Motor

Accessories:
27520A-Push Rod (5/16 in. dia., 5 in. length) Used With: All Actuators and Dampers
27520B-Push Rod (5/16 in. dia., 10 in. length) Used With: All Actuators and Dampers
27520C-Push Rod (5/16 in. dia., 12 in. length)
27520D-Push Rod (5/16 in. dia., 15 in. length) Used With: All Actuators and Dampers
27520E-Push Rod (5/16 in. dia., 18 in. length) Used With: All Actuators and Dampers
27520G-Push Rod (5/16 in. dia., 24 in. length)
27520H-Push Rod (5/16 in. dia., 28 in. length) Used With: All Actuators and Dampers
27520K-Push Rod (5/16 in. dia., 36 in. length)
27520L-Push Rod (5/16 in. dia., 48 in. length)
27520Q-Push Rod (5/16 in. dia., 8 in. length) Used With: All Actuators and Dampers

	Product Number	Shaft Dimensions	Description	Comments	Includes
*	**Q605A1070/U**	1/2 in.	Damper-Linkage with 1/2 inch shaft- Connects Modutrol motor to a damper to control duct air flow	—	Motor bracket, damper arm, motor crankarm, and 2 ball joints
*	**Q605D1051/U**	—	Damper-Linkage including motor bracket, 3 damper arms, motor crankarm, and 4 ball joints - connects Modutrol motor to a damper for control of duct airflow	—	Motor bracket, 3 damper arms, motor crankarm, and 4 ball joints
•	**Q605D1069/U**	—	Damper-Linkage including Motor Bracket, 3 damper arms, motor crankarm, 4 ball joints, left hand drive ear and crankarm adapter - Connects Modutrol motor to a damper to provide control of duct airflow	—	Motor bracket, 3 damper arms, motor crankarm, 4 ball joints, left hand drive ear and crankarm adapter
*	**Q605E1050/U**	—	Damper-Linkage including damper arm, motor crankarm, and 2 ball joints - Connects Modutrol Motor to a damper to provide control of duct airflow	—	Damper arm, motor crankarm, and 2 ball joints
*	**Q605F1018/U**	—	Damper-Linkage including Motor bracket, damper arm, motor crankarm, and 2 ball joints - Connects Modutrol motor to damper to provide control of duct airflow	—	Motor bracket, damper arm, motor crankarm, and 2 ball joints
	Q605G1009/U	—	Damper-Linkage including Motor bracket, damper arm, motor crankarm, and 2 ball joints - connects Modutrol motor to a damper to provide control of duct airflow	—	Motor bracket, damper arm, motor crankarm, and 2 ball joints
	Q605H1016/U	1/2 in.	Damper-Linkage including Motor bracket, 3 damper arms, motor crankarm, and 4 ball joints - connects Modutrol motor to a damper to provide control of duct airflow	Connects One Mod IV Motor to Two Louver Dampers	Motor bracket, 3 damper arms, motor crankarm, and 4 ball joints
•	**Q605H1024/U**	1/2 in.	Damper-Linkage including Motor bracket, 3 damper arms, motor crankarm, 4 ball joints, left hand drive ear and crankarm adapter - connects Modutrol motor with a damper to provide control of duct airflow	Connects One Mod IV Motor to Two Louver Dampers	Motor bracket, 3 damper arms, motor crankarm, 4 ball joints, left hand drive ear and crankarm adapter
*	**Q605J1013/U**	1/2 in.	Damper-Linkage with 1/2 inch shaft - Connects Modutrol motor to a damper to provide control of duct airflow	—	Damper arm, motor crankarm, and 2 ball joints

** TRADELINE models • SUPER TRADELINE models*

Q605 Accessories

Used with Actuator: Modutrol Motor

Product Number	Description	Includes	Used With
101662A/0021/U	Motor Mounting Bracket Assembly for Q605	—	Q605
102931/0021/U	Adapter arm for less that 90 degree rotation for the Q605	—	Q605
7617ACL/U	Bag Assembly, Q605	Damper arm, motor crankarm, and 2 ball joints	Q605

Damper and Valve Linkages

Q5001 Valve Linkage for Modutrol IV Motors

The Q5001 Valve Linkage connects a Modutrol Motor to a 2- or 3-way valve. It is used primarily on V5011 or V5013 steam and water valves.

- Q5001 Valve Linkage is applicable to 2-Way or 3-Way valves in modulating or two-position service
- Linkage requires no adjustment when used with Honeywell valves and Modutrol IV™ Motors
- Q5001 Valve Linkage replaces Q601 and Q618 Valve Linkages
- Linkage mounts directly to the valve bonnet; motor mounts to linkage bracket
- Easy-to-read position indicator
- Valve stem lift height cam selectable
- Overtravel permits tight close-off without excessive motor strain
- Available brackets make linkages adaptable to many valve bodies
- Models available with 80 lb, 160 lb, and 320 b stem force
- Reversible cams on the Q5001 allow field selection of normally open or normally closed valve operation
- All models have anti-spin clips

Linkage Type: Valve
Mounting: Linkage mounts directly to the valve bonnet; motor mounts on linkage bracket
Used with Actuator: Modutrol Motor
Stem Force Rating: 80 or 160 lbf (356 N or 712 N)
Ambient Temperature Range: -40 F to +150 F (-40 C to +66 C)

Replacement Parts:
220845/0767-Retainer button for Q5001

	Product Number	Bonnet Size (in.)	Stroke	Description	Includes	Used With
*	**Q5001D1000/U**	1 3/8 in.	3/4 in.	Valve Linkage for Mod III and Mod IV motors with 80 or 160 lb stem force	1 3/8 in. valve bracket and Anti spin clip	V5011/V5013; Modutrol IV Motors
*	**Q5001D1018/U**	1 3/8 in.	3/4 in.	Valve Linkage for Mod IV motors with 160 or 320 lb stem force and up to 3 inch valves	1 3/8 in. valve bracket and Anti spin clip	Valve sizes up to 3 inch; V5011/ V5013; Modutrol IV Motors
*	**Q5001D1026/U**	1 7/8 in.	1 1/2 in.	Valve Linkage for Mod IV motors with 160 or 320 lb stem force and 4, 5 or 6 inch valves	1 7/8 in. valve bracket and Anti spin clip	4, 5 or 6 inch valves; V5011/ V5013; Modutrol IV Motors

** TRADELINE models • SUPER TRADELINE models*

Q5001 parts

Product Number	Stroke	Description	Used With
220845/0767/U	—	Retainer button for Q5001	—
220848A/U	1/2 in.	Q5001 Cam	Q5001
220852A/U	—	Stroke Indicator, Q5001	Q5001
220861A/U	3/4 in.	3/4 inch lift Q5001 linkage cam assembly	Q5001
220863A/U	1 in.	1 inch lift Q5001 linkage cam assembly	Q5001
220864A/U	1 1/8 in.	1 1/8 inch lift Q5001 linkage cam assembly	Q5001
220867A/U	1 1/2 in.	1 1/2 inch lift Q5001 linkage cam assembly	Q5001
220874/0767/U	—	9/16 inch anti spin clip for Q5001	—
4074ETB/U	—	Antispin Kit, Q5001	Q5001

Q5020 Globe Valve Linkages

The Q5020 Globe Valve Linkages connect a Honeywell direct coupled actuator (DCA) to a steam or water globe valve. The Q5020 Linkages are compatible with two-way and three-way globe valves up to 3 inch (DN80).

- Used with two-way and three-way globe valves in modulating or two-position service
- Used with 25, 50, and 142 b-in. spring return and 35, 70, 150, and 300 b-in. non-spring return DCA
- Quick and simple installation with no disassembly required
- Heavy-duty Steel rack and pinion construction and Aluminum Die-cast housing
- Maintenance-free construction
- Precision roller-bearing rack construction prevents premature valve packing wear and leakage
- Flexible actuator mounting orientation
- Adjustable manual override lever and valve position indicator
- Can be mounted on specific non-Honeywell valves using a 32004629 Bonnet Adapter Kit

Linkage Type: Valve
Mounting: Linkage mounts directly to the valve bonnet; actuator mounts on linkage

Used with Actuator: Direct Coupled Actuator

Product Number	Bonnet Size (in.)	Shaft Dimensions	Stroke	Includes	Used With
Q5020A1003/U	1 3/8 in.	1/2 in.	3/4 in.	1/2 in. diameter drive shaft	V5011G; V5011F; V5013N; V5011N
Q5020B1001/U	1 3/8 in.	1 in.	3/4 in.	1 in. diameter drive shaft	V5011G; V5011F; V5013N; V5011N
Q5020C1009/U	1 3/8 in.	1 in.	1 1/2 in.	1 in. diameter drive shaft	V5051
Q5020D1007/U	1 3/8 in.	1/2 in.	1/2 in.	1/2 in. diameter drive shaft	T.A.C. valves; Johnson valves; Siemens valves

Damper and Valve Linkages

Q5022 Globe Valve Tandem DCA Linkage

The Q5022A,B Globe Valve Linkages connect one or two Honeywell direct coupled rotary actuators (DCA) to a globe valve for control of chilled water, hot water, or steam. The Q5022A,B Linkages are compatible with 2 and 3-way globe valves up to 6 in. (DN150) pipe size.

Q5022A is used to provide enhanced close-off ratings with Honeywell globe valves up to 3 in. (1-3/8 in. diameter bonnet and 3/4 in. stem stroke).

Q5022B is used with Honeywell globe valves 4 to 6 in. (1-7/8 in. diameter bonnet and 1-1/2 in. stem stroke).

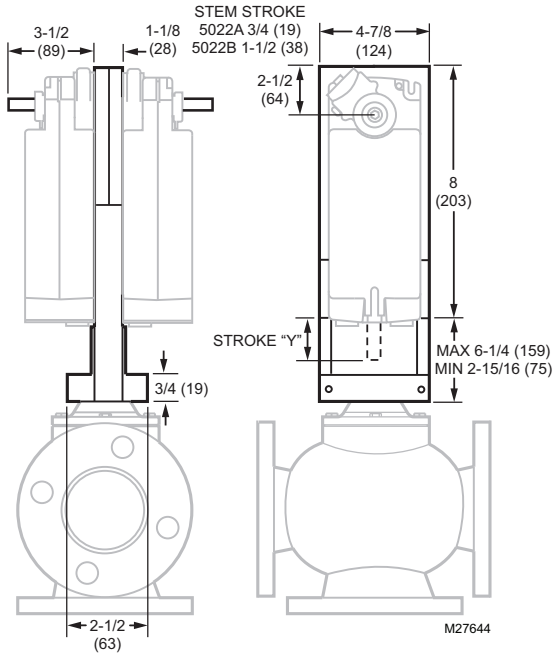
- For use with 2-way and 3-way globe valves in modulating or two-position service
- For use with 175 b.-in. (S20) spring return or 175 and 300 lb.-in. (N20, N34) non-spring return DCAs
- Accepts single or dual matching actuators for higher close-off pressures
- Fail-safe operation with spring return DCAs, field selectable normally open or normally closed for direct or reverse-acting valves
- Linkage threads onto valve stem
- Oilite™ self-lubricated actuator shaft bearing
- Anodized extruded aluminum housing
- Maintenance-free construction
- Precision roller-bearing rack construction to prevent premature valve packing wear and leakage
- Flexible actuator mounting orientation

Linkage Type: Valve
Mounting: Linkage mounts directly to the valve bonnet; actuator(s) mount on linkage

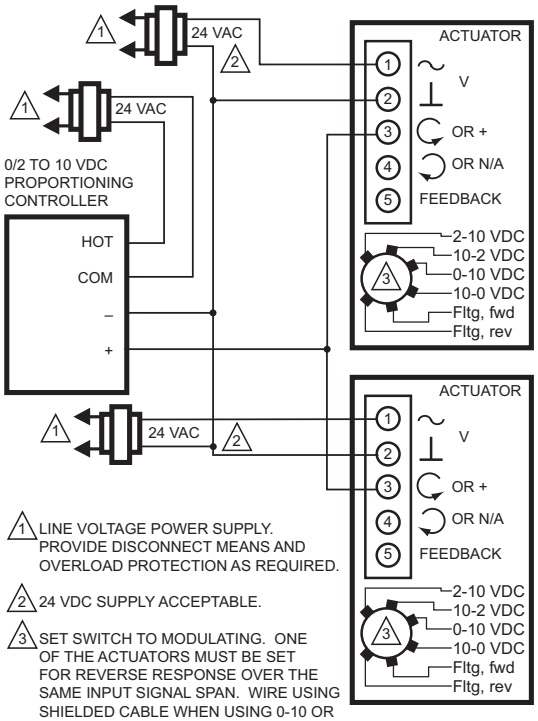
Used with Actuator: Direct Coupled Actuator
Stem Force Rating: 1117 lbf max (4969 N max)

Product Number	Bonnet Size (in.)	Shaft Dimensions	Stroke	Comments	Includes	Used With
Q5022A1001/U	1 3/8 in.	1/4 -28UNF-2A	3/4 in.	This linkage family is not compatible with the 43196000 high temperature kits	Anti-spin function	VGF under 4 in.; V5013; V5011
Q5022B1009/U	1 7/8 in.	7/16 -20UNF-2A	1 1/2 in.	This linkage family is not compatible with the 43196000 high temperature kits	Anti-spin function	VGF over 3 in.; V5013; V5011

Dimensions in inches (millimeters)



Wiring and configuring modulating tandem actuators with Q5022 linkages



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

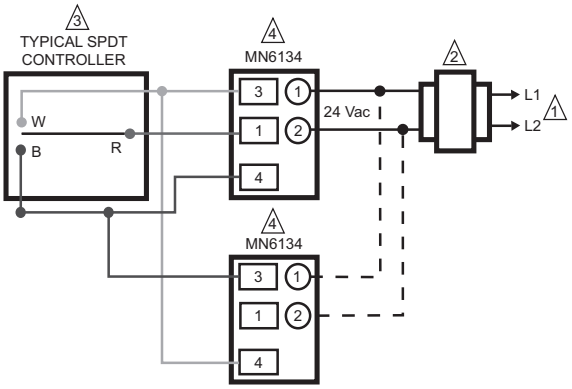
2 24 VDC SUPPLY ACCEPTABLE.

3 SET SWITCH TO MODULATING. ONE OF THE ACTUATORS MUST BE SET FOR REVERSE RESPONSE OVER THE SAME INPUT SIGNAL SPAN. WIRE USING SHIELDED CABLE WHEN USING 0-10 OR 10-0V SIGNAL SPAN GROUND SHIELD AT CONTROLLER ONLY.

4 ENSURE PROPER GROUNDING OF ACTUATOR CASE. DO NOT GROUND SIGNAL COMMON.

M27710

Wiring of tandem floating actuators with Q5022 linkages



1 POWER SUPPLY PROVIDES OVERLOAD PROTECTION AND DISCONNECT MEANS.

2 ALLOW UP TO 0.5 AMPS FOR EACH DEVICE. ACTUATORS AND CONTROLLER CAN SHARE SAME TRANSFORMER, PROVIDED THAT THE VA RATING OF THE TRANSFORMER IS NOT EXCEEDED AND PROPER PHASING IS OBSERVED. DO NOT MIX A.C. AND D.C. POWER SOURCES.

3 CONTROLLER CAN BE LOW VOLTAGE SPDT SERIES 20 "ON-OFF" OR SP3T SERIES 60 "FLOATING" (TRI-STATE) TYPE.

4 MULTIPLE ACTUATORS CONTROLLED BY A COMMON CONTROLLER IN PARALLEL MUST BE WIRED SO THAT THEY ALL ROTATE IN THE SAME DIRECTION.

M27648

Damper and Valve Linkage Accessories

Linkage Type: Damper

Product Number	Description	Used With
102546/U	Ball Joint, 5/16 in.	Damper Linkages
104643A/U	Adapter for driving 2 dampers from 1 crank arm	Kit Mounted Motors; Modutrol IV Motors
26025F/U	Damper Arm, 3/8 in. shaft	—
26026B/U	Damper Arm, 1/2 in. shaft, 3 in. long	—
32004629-001/U	Bonnet adapter kit to adapt Seimens (Landis/Power) Flowrite 599 1/2 inch to 3 inch globe valves with Q5020A or Q5009B	Siemens valves
32004629-002/U	Bonnet Adapter Kit, Johnson Controls 1/2 to 3/4 in., Q5020	Johnson valves; Q5020
32004629-003/U	Bonnet Adapter Kit, Johnson Controls 1 to 2 in., Q5020	Johnson valves; Q5020
32004629-004/U	Bonnet Adapter Kit, Siebe 1/2 to 2 in., Q5020	Siebe valves; Q5020

Carbon Dioxide (CO2) Sensors

C7232 Carbon Dioxide (CO_2) Sensors

The Carbon Dioxide (CO2) Sensors and Controllers are stand-alone carbon dioxide (CO2) sensors for use in determining ventilation necessity with HVAC controllers. The sensor measures the CO2 concentration in the ventilated space or duct. The sensors are used in ventilation and air conditioning systems to control the amount of fresh outdoor air supplied to maintain acceptable levels of CO2 in the space.

- Models available with LCD that provides sensor readings and status information
- Non-Dispersion-Infrared (NDIR) technology used to measure carbon dioxide gas
- Gold-plated sensor provides long-term calibration stability
- C7232 provides voltage or current output based on CO2 levels
- SPST relay output
- Used for CO2 based ventilation control (Demand Control Ventilation (DCV))
- Automatic Background Cal bration (ABC) algorithm based on long-term evaluation reduces required typical zero-drift check maintenance

Description: Carbon Dioxide Sensor, Non-dispersive Infrared (NDIR), Wall Mount, LCD Display, Honeywell Logo
Carbon Dioxide Range: 0 to 2000 ppm, adjustable
Analog Current Output: 0/2 - 10 Vdc or 0/4 - 20 mA selectable, w/ one relay output
Electrical Connections: Six leadwires, 20-gauge, 8 in. long
Contact Ratings: 1 A @ 50 Vac/24 Vdc

Relay Output: One: Normally Open SPST
Voltage: 24 Vac/dc ±20%,
Frequency: 50 Hz; 60 Hz
Response Time: 1 minute
Sensor Type: Non-dispersive Infrared (NDIR)
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Accuracy: (5% full scale)

Product Number	Display	Mounting	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Includes
C7232A1008/U	Yes	Wall mount	5 1/16 in. high x 3 11/16 in. wide x 2 in. deep	128 mm high x 80 mm wide x 25 mm deep	Honeywell Logo
C7232A1016/U	No	Wall mount	5 1/16 in. high x 3 5/32 in. wide x 2 in. deep	128 mm high x 80 mm wide x 25 mm deep	Honeywell Logo
C7232A1024/U	Yes	Wall mount	5 1/16 in. high x 3 5/32 in. wide x 2 in. deep	128 mm high x 80 mm wide x 25 mm deep	No Honeywell Logo
C7232A1032/U	No	Wall mount	5 1/16 in. high x 3 5/32 in. wide x 2 in. deep	128 mm high x 80 mm wide x 25 mm deep	No Honeywell Logo
C7232B1006/U	Yes	Duct mount	5 5/8 in. high x 3 5/16 in. wide x 3 7/16 in. deep x plus 8 in. long sensing tube	142 mm high x 84 mm wide x 87 mm deep x plus 203 mm sensing tube	Honeywell Logo
C7232B1014/U	No	Duct mount	5 5/8 in. high x 3 5/16 in. wide x 3 7/16 in. deep x plus 8 in. long sensing tube	142 mm high x 84 mm wide x 87 mm deep x plus 203 mm sensing tube	Honeywell Logo
C7232B1022/U	Yes	Duct mount	5 5/8 in. high x 3 5/16 in. wide x 3 7/16 in. deep x plus 8 in. long sensing tube	142 mm high x 84 mm wide x 87 mm deep x plus 203 mm sensing tube	No Honeywell Logo
C7232B1030/U	No	Duct mount	5 5/8 in. high x 3 5/16 in. wide x 3 7/16 in. deep x plus 8 in. long sensing tube	142 mm high x 84 mm wide x 87 mm deep x plus 203 mm sensing tube	No Honeywell Logo

C7262 Carbon Dioxide (CO_2)/Temperature Sensors

The C7262 Sensor is a stand-alone carbon dioxide (CO2) and temperature sensor for use in determining ventilation necessity with HVAC controllers. The C7262 measures the CO2 concentration and temperature to control the amount of fresh outdoor air supplied to maintain acceptable levels of CO2 in the space.

- Used for CO_2 based ventilation control.
- Integral 20K ohm NTC temperature output.
- Models available with LCD that provides CO2 ppm level.
- Non-Dispersion-Infrared (NDIR) technology used to measure carbon dioxide gas.
- Device provides voltage or current output based on CO_2 levels.
- Models available with SPST relay output.
- Automatic Background Cal bration (ABC) algorithm based on long-term evaluation reduces required typical zero-drift check maintenance.

Description: Carbon Dioxide and Temperature Sensor, Non-dispersive infrared
Carbon Dioxide Range: 0 to 2000 ppm, adjustable
Analog Current Output: 0/2 - 10 Vdc or 0/4 - 20 mA selectable, w/ one relay output
Contact Ratings: 1 A @ 50 Vac/24 Vdc
Relay Output: One: Normally Open SPST

Voltage: 24 Vac/dc ±20%,
Frequency: 50 Hz; 60 Hz
Response Time: 1 minute
Sensor Type: Non-dispersive Infrared (NDIR)
Temperature Sensor Range: 50 F to 100 F
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Accuracy: (± (30 ppm + 2% of reading))

Product Number	Display	Mounting	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Includes
C7262A1008/U	Yes	Wall mount	4 9/16 in. high x 3 in. wide x 7/8 in. deep	116 mm high x 76 mm wide x 22 mm deep	Honeywell Logo
C7262A1016/U	No	Wall mount	4 9/16 in. high x 3 in. wide x 7/8 in. deep	116 mm high x 76 mm wide x 22 mm deep	Honeywell Logo

C7632 Carbon Dioxide (CO_2) Sensors

The Carbon Dioxide (CO2) Sensors offer a fixed 0-2000ppm and fixed 0-10Vdc output. No adjustments are necessary. Like the C7232 sensors, these are for use in determining ventilation necessity with HVAC controllers. The sensor measures the CO2 concentration in the ventilated space or duct. The sensors are used in ventilation and air conditioning systems to control the amount of fresh outdoor air supplied to maintain acceptable levels of CO2 in the space.

- Non-Dispersion-Infrared (NDIR) technology used to measure carbon dioxide gas
- Gold-plated sensor provides long-term calibration stability
- Fixed 0-2000ppm, fixed 0-10Vdc output
- Used for CO2 based ventilation control (Demand Control Ventilation (DCV))
- Automatic Background Cal bration (ABC) algorithm based on long-term evaluation reduces required typical zero-drift check maintenance

Description: Carbon Dioxide Sensor, Non-dispersive Infrared (NDIR), Wall Mount, Honeywell Logo
Carbon Dioxide Range: 0 to 2000 ppm, fixed
Analog Current Output: 0-10Vdc fixed
Electrical Connections: Terminal block
Relay Output: None

Voltage: 24 Vac (±20%)
Frequency: 50 Hz; 60 Hz
Response Time: 1 minute
Sensor Type: Non-dispersive Infrared (NDIR)
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Accuracy: (5% full scale)

Product Number	Display	Mounting	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Includes
C7632A1004/U	No	Wall mount	4 1/8 in high x 3 7/8 in. wide x 1 1/16 in. deep	104 mm high x 99 mm high x 27 mm deep	Honeywell Logo
C7632B1002/U	No	Duct mount	5 5/8 in. high x 3 5/16 in. wide x 1 13/16 in. deep x plus 8 in. long sensing tube	142 mm high x 84 mm wide x 87 mm deep x plus 203 mm sensing tube	Honeywell Logo

Current Switches

Solid and Split Core Current Switches

All of these sensors have a solid-state output with an adjustable or fixed trip point (setpoint). These current switches should be used in applications in which a "Go/No Go" current switch is required. The current switches can be used to monitor devices with a maximum continuous operating current of up to 250 Amps. These current switches do not need to be externally powered, since the power for the switch is induced from the conductor being monitored. The split core switches are ideal for retrofit or existing installations, since it is not necessary to power down the unit and disconnect any wires during the installation process. Solid core switches are extremely easy to install, they are an excellent choice for new installations.

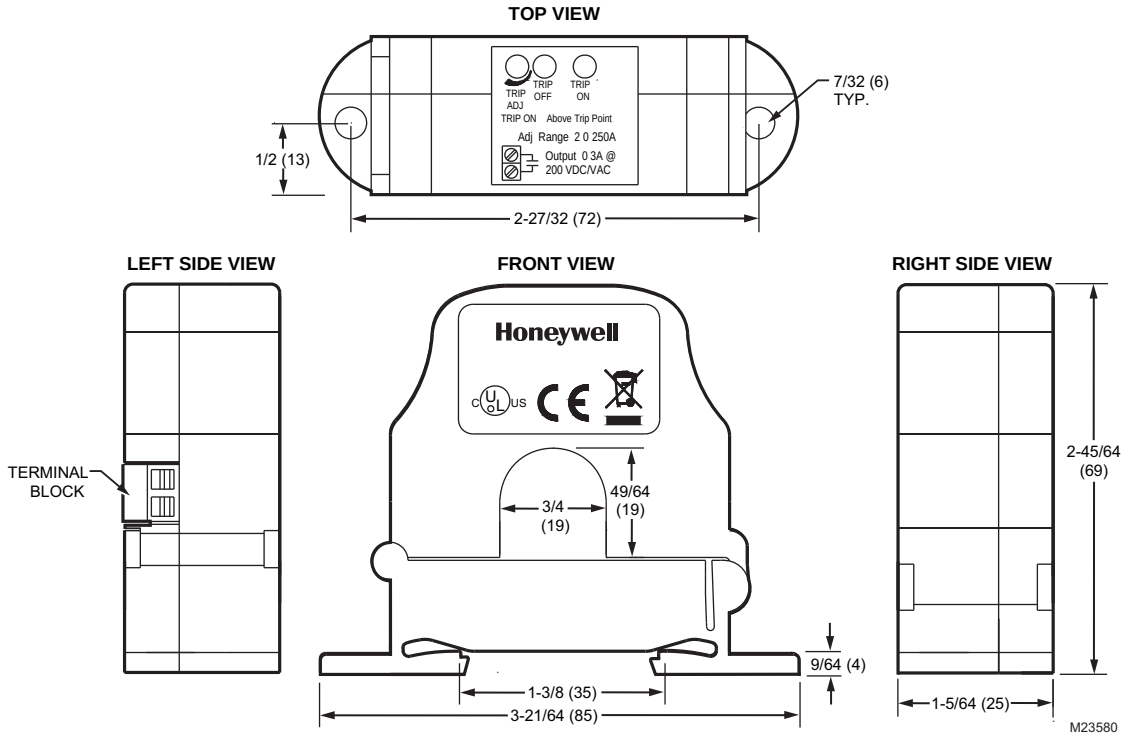
- Solid or split core switches with fixed or adjustable trip points
- Very low operating trip points
- LED status indication
- Integral DIN rail mounting flange
- Accepts up to a 350 MCM (17.3 mm) cable
- Operates up to 250 continuous amps
- RoHS and WEEE Compliant
- Limited 5 year warranty

Application: Great for monitoring fans, pumps, motors, compressors, or other electrical equipment
Dimensions, Approximate: 2 45/64 in. high x 3 21/64 in. wide x 1 5/64 in. deep (69 mm high x 85 mm wide x 25 mm deep)
Din Rail Size: 1-3/8 in. (35 mm)
Enclosure Rating/Color: UL94-5V/Burgundy
Isolation Voltage: 2200 Vac
Supply Voltage: Induced from monitored conductor
Frequency: 40 Hz to 1 kHz

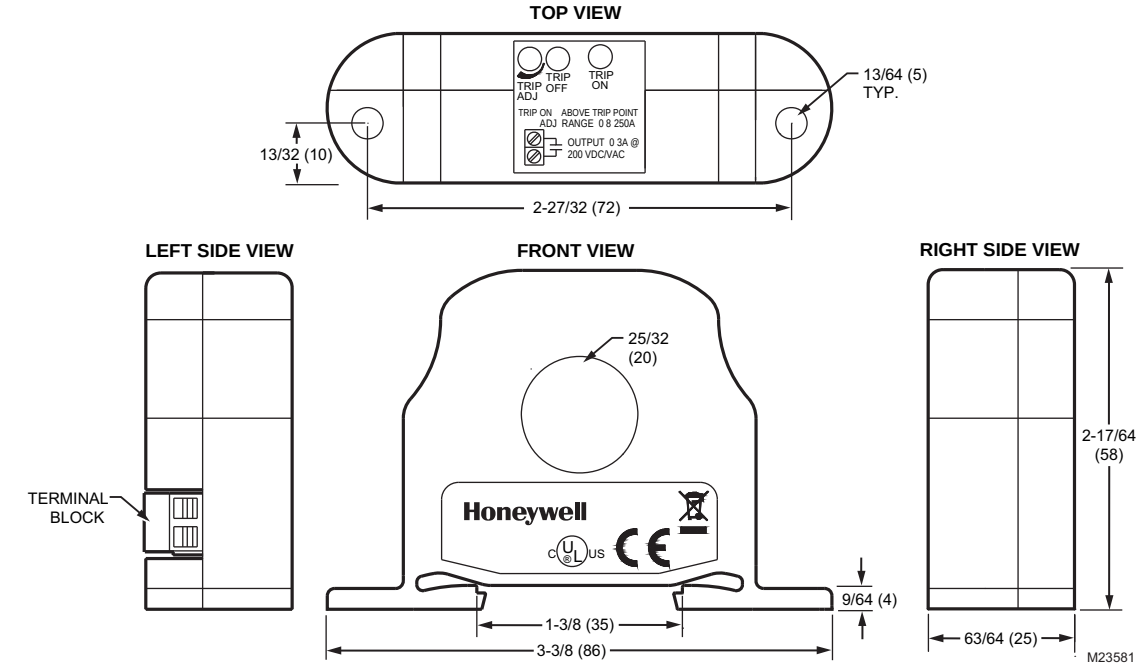
Operating Temperature Range: 5 F to 104 F (-15 C to 40 C)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Weight: 0.23 b (0.1 kg)
Approvals
CE: Approved
Underwriters Laboratories, Inc: Approved
Environmental Compliance: RoHS-Directive 2002/95/EC, WEEE-Directive 2002/96/EC

Product Number	Description	Core Type	Normal Position	Output Switch Rating	Operating Range	Trip Point	LEDs
CSP-C-A200-001/U	Adjustable Current Switch	Split	N.C.	0.15 Amps @ 300 Vac/Vdc	0-250A	2.5-250 Amps	Green – Below the trip point; Red – Above the trip point
CSP-O-A200-001/U	Adjustable Current Switch	Split	N.O.	0.30 Amps @ 200 Vac/Vdc	0-250A	2.0-200 Amps	Green – Below the trip point; Red – Above the trip point
CSP-O-A300-001/U	Adjustable Current Switch	Split	N.O.	0.30 Amps @ 200 Vac/Vdc	0-250A	3.0-200 Amps	Green – Below the trip point; Red – Above the trip point
CSP-O-F10-001/U	Go/No Go Current Switch	Split	N.O.	0.30 Amps @ 200 Vac/Vdc	0-200A	1.50 Amps	Red – Above the trip point
CSP-O-F15-001/U	Go/No Go Current Switch	Split	N.O.	0.30 Amps @ 200 Vac/Vdc	0-200A	2.50 Amps	Red – Above the trip point
CSS-C-F1-001/U	Go/No Go Current Switch	Solid	N.C.	0.15 Amps @ 300 Vac/Vdc	0-250A	0.50 Amps	Red – Above the trip point
CSS-C-F5-001/U	Go/No Go Current Switch	Solid	N.C.	0.15 Amps @ 300 Vac/Vdc	0-250A	1.00 Amps	Red – Above the trip point
CSS-O-A200-001/U	Adjustable Current Switch	Solid	N.O.	0.30 Amps @ 200 Vac/Vdc	0-200A	0.5-250 Amps	Green – Below the trip point; Red – Above the trip point
CSS-O-A300-001/U	Adjustable Current Switch	Solid	N.O.	0.30 Amps @ 200 Vac/Vdc	0-200A	1.0-250 Amps	Green – Below the trip point; Red – Above the trip point
CSS-O-F1-001/U	Go/No Go Current Switch	Solid	N.O.	0.30 Amps @ 200 Vac/Vdc	0-250A	0.20 Amps	Red – Above the trip point
CSS-O-F5-001/U	Go/No Go Current Switch	Solid	N.O.	0.30 Amps @ 200 Vac/Vdc	0-250A	0.50 Amps	Red – Above the trip point

Split Core Dimensions in inches (millimeters)



Solid Core Dimensions in inches (millimeters)



Current Switches

Solid and Split Core Current Transmitters

Depending on model selected the current is converted into a linear and proportional output signal of 0-5 Vdc, 0-10 Vdc or 4-20 mA, which can be monitored by a building management controller. These current sensors should be used in load trending (current monitoring) type applications. The split core transmitters are ideal for retrofit or existing installations, since it is not necessary to power down the unit and disconnect any wires during the installation process. Solid core transmitters are extremely easy to install, they are an excellent choice for new installations.

- Solid or split core loop-powered current transmitters for 4-20 mA models
- Solid or split core 0-5 or 0-10 Vdc models
- Fast response time
- Integral DIN rail mounting flange
- Easy wiring, polarity sensitive output
- Accepts up to a 350 MCM (17.3 mm) cable
- Operates up to 250 continuous amps
- True RMS versions are available
- RoHS and WEEE Complaint
- Limited 5 Year Warranty

Application: Ideal for retrofit or existing installations requiring load trending (current monitoring)
Dimensions, Approximate: 2 45/64 in. high x 3 21/64 in. wide x 1 5/64 in. deep (69 mm high x 85 mm wide x 25 mm deep)
Din Rail Size: 1-3/8 in. (35 mm)
Enclosure Rating/Color: UL94-5V/Burgundy
Response Time: <200 mS
Maximum Load Resistance: 650 Ohms @ 24 Vdc (Vs-10)/0.02-40.2
Isolation Voltage: 2200 Vac

Supply Current: 36 mA max
Operating Temperature Range: 5 F to 104 F (-15 C to 40 C)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Weight: 0.24 b (0.1 kg)

Approvals
CE: Pending
Underwriters Laboratories, Inc: Approved
Environmental Compliance: RoHS-Directive 2002/95/EC, WEEE-Directive 2002/96/EC

Product Number	Description	Core Type	Output Switch Rating	Current Range	Type	Response Time	Supply Voltage	Frequency
CTP-20-050-VFD-001	Loop Powered Current Sensor	Split	4-20 mA Average True RMS	0-50 Amps; 0-20 Amps; 0-10 Amps	Adjustable	<200 mS	12 to 30 Vdc	30 Hz to 1 kHz
CTP-20-200-AVG-001	Loop Powered Current Sensor	Split	4-20 mA Average	0-150 Amps; 0-200 Amps; 0-100 Amps	Adjustable	<75 mS	12 to 30 Vdc	30 Hz to 1 kHz
CTS-05-050-VDC-001	Current Sensors	Solid	0 to 5 Vdc	0-50 Amps; 0-20 Amps; 0-10 Amps	Adjustable	<100 mS	Induced from monitored conductor	50 Hz to 600 Hz
CTS-10-250-VDC-001	Current Sensors	Solid	0 to 10 Vdc	0-250 Amps; 0-200 Amps; 0-100 Amps	Adjustable	<100 mS	Induced from monitored conductor	50 Hz to 600 Hz
CTS-20-250-AVG-001	Loop Powered Current Sensor	Solid	4-20 mA Average	0-250 Amps; 0-200 Amps; 0-100 Amps	Adjustable	<75 mS	12 to 30 Vdc	30 Hz to 1 kHz
CTS-20-250-VFD-001	Loop Powered Current Sensor	Solid	4-20 mA Average True RMS	0-250 Amps; 0-200 Amps; 0-100 Amps	Adjustable	<200 mS	12 to 30 Vdc	30 Hz to 1 kHz

Early-Warning Dewpoint Switch

The HSS-DPS early-warning dewpoint switch is used to monitor the formation of condensation on chilled ceilings or to prevent condensation at critical spots of HVAC systems. It is also used as a dewpoint monitor for systems operating near the dewpoint.

- Does not wait to detect when the dewpoint has already been reached, but rather provides an early warning of the approaching dewpoint
- Compact design
- Fast response
- Module is coated, thus protected against contamination
- Simple and easy mounting
- Status indication

Application: For use in monitoring the formation of condensation on chilled ceilings or to prevent condensation at critical spots of HVAC systems

Operating Humidity Range (% RH): 10~100% RH

Power Consumption: < 10mA(AC); < 3 mA (DC)

Voltage: 60 Vdc

Mounting: Flat and round surfaces

Response Time: ~3 min (given a jump in the relative humidity of from 55% to 100%)

Product Number	ON Voltage	Supply Voltage	R.H. Hysteresis Switching	Switch Points	Switching Current	Output Type
HSS-DPS	max. 24 Vac/dc	24Vac/Vdc ± 20%	5% RH	Contact Closed @ <90% RH Contact Open @ > 90% RH	max. 1A	Potential-Free relay with changeover contact

Humidity Sensors

H7012 Humidity and Temperature Room Sensors

Wall-mounted, capacitance type relative humidity room sensor.
- Capacitance type sensing element
- Wide sensing range
- Temperature indication sensor, H7012B only

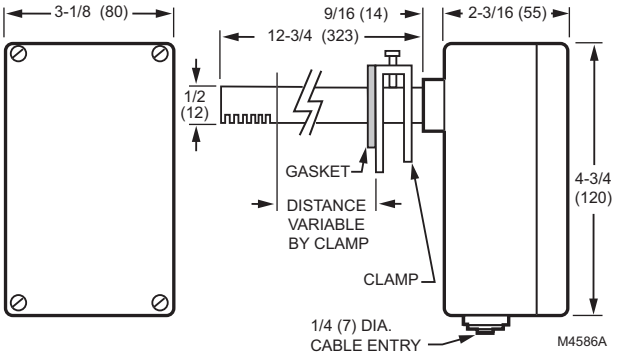
Application: Humidity
Dimensions, Approximate: 5 1/8 in. high x 3 3/16 in. wide x 1 11/32 in. deep (130 mm high x 81 mm wide x 34 mm deep)
Operating Humidity Range (% RH): 30 to 70% RH

Product Number	Mounting	Sensor Type	Description	Comments
H7012A1009	Wall mount	—	Humidity Sensor	Capacitance type humidity sensor
H7012B1007	Wall mount	PT1000	Humidity and Temperature Sensor	Capacitance type humidity sensor
H7012B1015	Wall mount	Balco 500	Humidity and Temperature Sensor	Capacitance type humidity sensor

H7015B Humidity Transducers

The H7015B Combined Humidity/Temperature Duct Sensor combines a capacitance-type relative humidity sensor with a PT1000 or BALCO 500 temperature sensor in one housing. These sensors can be used for discharge, outside or return air control or as a high-limit sensor in applications such as steam humidification.
- Wide sensing range
- Capacitance type sensing element for relative humidity
- PT1000 or BALCO 500 temperature sensing element

Dimensions in inches (millimeters)



Application: Humidity Sensor
Operating Temperature Range: -22 F to 158 F (-30 C to 70 C)
Operating Humidity Range (% RH): 10 to 90% RH, non-condensing

Product Number	Mounting	Description	Comments
H7015B1004	Duct mount	Humidity and Temperature Duct Mounted Sensors	With PT1000 Temperature Sensor

H7625, H7635, and H7655 Humidity and Temperature Transmitters

H7625A
H7635A

H7655A

H7625B
H7635B,C
H7655B

The H7625, H7635, and H7655 are highly accurate, stable humidity transducers designed for use with HVAC controllers such as the T7350 Thermostat, T775U Remote Humidity Controller, and W7760 Direct Digital Controllers. The Ceramic Technology humidity sensor is not affected by condensation and provides excellent long-term stability.

- Ceramic Technology overcomes the limitations of other resistance based humidity sensors that use water soluble polymer coatings.
- Ceramic Technology allows sensors to recover fully from condensation, fog, and high humidity.
- Highly accurate, repeatable, stable output with negligible hysteresis.
- Temperature compensated output.
- Zero and span trimmers, and increment/decrement recalibration feature.
- All units have selectable 4-20 mA, 0-10 Vdc, or 0-5 Vdc output.
- NIST traceable 2%, 3%, and 5% calibration, every sensor calibrated at 3 different points.
- All humidity sensors use the same enclosure as the T7770 sensor, except the H7655A, which uses the T7047-like enclosure.

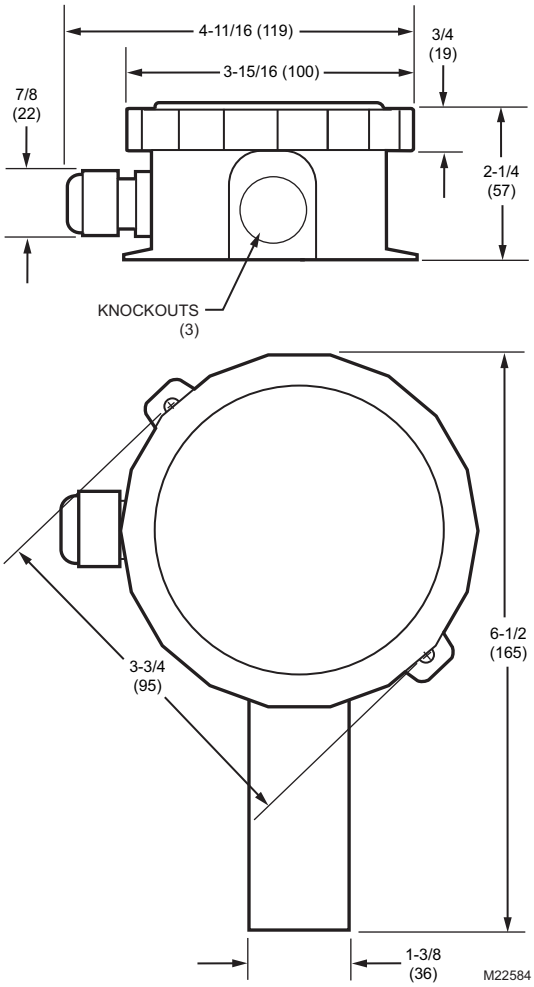
Application: Humidity and Temperature
Dimensions, Approximate: 4 9/16 in. high, 3 in. wide, 7/8 in. deep (116 mm high, 76.5 mm wide, 22 mm deep)
Voltage: 18 – 40 VDC / 18 - 28 VAC

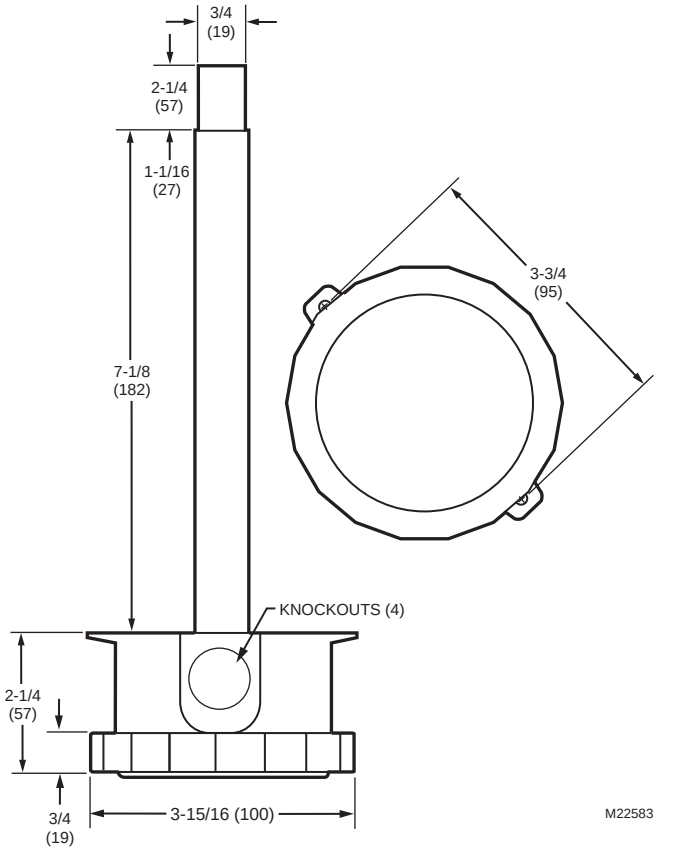
Operating Temperature Range: -10 to 140 F (23 to 60 C)
H7625A only: 32 to 122 F (0 to 50 C)
Shipping Temperature Range: -40 to 160 F (-40 to 71 C)
Operating Humidity Range (% RH): 0 to 95% RH non-condensing
H7625A only: 0 to 100% RH

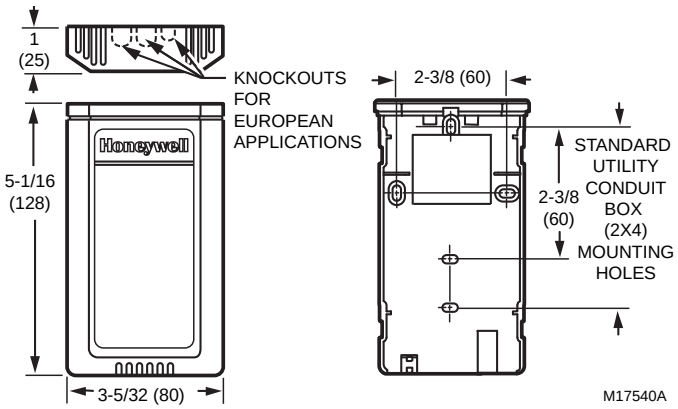
Product Number	Application Type	Accuracy (% RH)	Temperature Output	Humidity Output	Comments	Used With
H7625A010/U	Wall mount	± 2% from 20-95% RH	20K ohm NTC	4-20mA, 0-5Vdc, or 0-10Vdc selectable		Excel 10, Excel 15, T7350
H7625B2006/U	Duct mount	± 2% from 20-95% RH	20K ohm NTC	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350
H7626A2020/U	Wall mount	± 2% from 20-95% RH	1097 ohm at 77F	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350, T775 Series 2000
H7626B2024/U	Duct mount	± 2% from 20-95% RH	1097 ohm at 77F	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350, T775 Series 2000
H7635A2012/U	Wall mount	± 3% from 20-95% RH	20K ohm NTC	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350
H7635B2018/U	Duct mount	± 3% from 20-95% RH	20K ohm NTC	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350
H7635C2015/U	Outdoor mount	± 3% from 20-95% RH	20K ohm NTC	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350
H7636A2022/U	Wall mount	± 3% from 20-95% RH	1097 ohm at 77F	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350, T775 Series 2000
H7636B2026/U	Duct mount	± 3% from 20-95% RH	1097 ohm at 77F	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350, T775 Series 2000
H7655A1001/U	Wall mount	± 5% from 30-70% RH	none	0-10Vdc	Uses different enclosure (same as T7047 Sensor). Polymer capacitance humidity sensor	Excel 10, Excel 15, T7350
H7655B2014/U	Duct mount	± 5% from 25-95% RH	20K ohm NTC	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350
H7656B2029/U	Duct mount	± 5% from 25-95% RH	1097 ohm at 77F	4-20mA, 0-5Vdc, or 0-10Vdc selectable	—	Excel 10, Excel 15, T7350, T775 Series 2000

Humidity Sensors

Dimensions in inches (millimeters)







P7640 Differential Pressure Transmitters

Duct Mount without Display

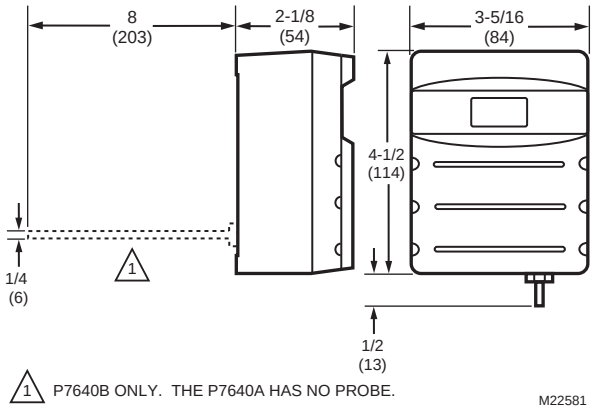
Duct Mount with Display

Universal Mount without Display

The P7640 Pressure Sensors are designed with field-selectable 4-20 mA, 0-5 Vdc, or 0-10 Vdc output. The P7640 offers switch selectable pressure ranges between 0-1 in. w.c./0-250 Pa or 0-10 in. w.c./0-2500PA depending on the model. Pressure ranges can be set for either uni-directional or bi-directional.

- The P7640A Panel Mount, P7640B Duct Mount and P7640U Universal Mount Differential Pressure Transmitters provide reliable, accurate measurement and control
- Proper applications include measurement of extremely low pressure applications such as: building/room pressure, air flow, variable air volume, filter status, and duct pressure
- They are ideal for clean rooms, hospitals, fume hoods, and computer rooms
- Selectable inches w.c. or Pascal scale
- Selectable fast or standard response time
- Duct mount model comes with factory installed duct probe
- The Universal model comes with attachable duct probe and can be used in either panel or duct mounting application

Dimensions in inches (millimeters)



Dimensions, Approximate: 4.5 in. high, 3.313 in. wide, 2.125 in. deep (114 mm high, 84 mm wide, 54 mm deep)
Connection Size: Pneumatic:1/4 in. Brass Hose Barb, Electrical: Unpluggable screw terminal block
Output: 4-20mA, 0-5Vdc or 0-10Vdc selectable
Temperature Range: 32F to 140F (0C to 60C)
Accuracy: (±1% Full Scale)
Burst Pressure: 5 psi
Proof Pressure: 3 psi
Supply Voltage: 12 to 30 Vdc or 24 Vac
Comments: With autozero calibration by push button or external contact closure

Product Number	Pressure Ranges (in. wc)	Pressure Ranges (Pa)	Mounting	Display
P7640U1052/U	0-0.1, 0-0.25, 0-0.5, 0-1, 0-2.5, 0-5, or 0-10 inches w.c., uni or bi-directional	0-25, 0-50, 0-100, 0-250, 0-500, 0-1000, 0-2500 Pa uni- or bi-directional	Universal	Yes
P7640U1040/U	0-0.1, 0-0.25, 0-0.5, 0-1, 0-2.5, 0-5, or 0-10 inches w.c., uni or bi-directional	0-25, 0-50, 0-100, 0-250, 0-500, 0-1000, 0-2500 Pa uni- or bi-directional	Universal	No
P7640B1032/U	0-10, 0-5, 0-2.5, or 0-1 inches w.c., uni or bi-directional	0-250, 0-500, 0-1000, 0-2500 Pa uni- or bi-directional	Duct mount, integral 8 in. probe	No
P7640B1024/U	0-10, 0-5, 0-2.5, or 0-1 inches w.c., uni or bi-directional	0-250, 0-500, 0-1000, 0-2500 Pa uni- or bi-directional	Duct mount, integral 8 in. probe	Yes
P7640B1016/U	0-1.0, 0-0.5, 0-0.25, or 0-0.1 inches w.c., uni- or bi-directional	0-25, 0-50, 0-100, 0-250 Pa uni- or bi-directional	Duct mount, integral 8 in. probe	No
P7640B1008/U	0-1.0, 0-0.5, 0-0.25, or 0-0.1 inches w.c., uni- or bi-directional	0-25, 0-50, 0-100, 0-250 Pa uni- or bi-directional	Duct mount, integral 8 in. probe	Yes
P7640A1034/U	0-10, 0-5, 0-2.5, or 0-1 inches w.c., uni or bi-directional	0-250, 0-500, 0-1000, 0-2500 Pa uni- or bi-directional	Panel mount	No
P7640A1026/U	0-10, 0-5, 0-2.5, or 0-1 inches w.c., uni or bi-directional	0-250, 0-500, 0-1000, 0-2500 Pa uni- or bi-directional	Panel mount	Yes
P7640A1018/U	0-1.0, 0-0.5, 0-0.25, or 0-0.1 inches w.c., uni- or bi-directional	0-25, 0-50, 0-100, 0-250 Pa uni- or bi-directional	Panel mount	No
P7640A1000/U	0-1.0, 0-0.5, 0-0.25, or 0-0.1 inches w.c., uni- or bi-directional	0-25, 0-50, 0-100, 0-250 Pa uni- or bi-directional	Panel mount	Yes

Pressure Sensors

PWT Series Wet/Wet Differential Pressure Sensors

The PWT Series wet/wet differential pressure sensors provide reliable, accurate measurement and control of many applications, including pump differential pressure, chiller/boiler differential pressure drop, and CW/HW system differential pressure.

- The PWT Pressure Sensors incorporate microprocessor profiled sensors for exceptional accuracy and reliability
- Field-selectable 4-20 mA, 0-5 Vdc, or 0-10 Vdc output
- Jumper-selectable slow or fast response time
- Switch-selectable pressure ranges
- The jumper-selectable output switch for normal (4-20 mA) or reverse (20-4mA) operation provides application flexibility
- Rugged, die-cast enclosure provides NEMA 4 sealing
- Jumper-selectable port swap feature
- All models offer both push button and digital input to zero the output

Dimensions, Approximate: 4 in. high x 5 51/64 in. wide x 2 13/64 in. deep (102 mm high x 147 mm wide x 57 mm deep)
Connection Size: 1/8 in. NPT female, stainless steel 17-4 PH
Output: 4-20mA, 0-5Vdc or 0-10Vdc selectable
Mounting: Vertical Mount
Operating, Storage, and Compensated Temperature Range: 14 F to 131 F (-10 C to 55 C)

Burst Pressure: 5x max. F.S. range
Proof Pressure: 2x max. F.S. range
Supply Voltage: 12 to 30 Vdc or 24 Vac
Approvals
CE: CE

Product Number	Accuracy	Pressure Range (psi)	Display	Description
PWT50/U	±1% F.S. for 0-10, 0-25, 0-50 psid; ±2% F.S. for 0-5 psid	0-5, 0-10, 0-25, 0-50 psid	Yes	Wet Differential Pressure Transmitter
PWT250/U	±1% F.S. for 0-250, 0-125, & 0-50 psid; ±2% F.S. for 0-25 psid	0-25, 0-50, 0-125, 0-250 psid	Yes	Wet Differential Pressure Transmitter
PWT100/U	±1% F.S. for 0-100, 0-50, 0-20 psid; ±2% F.S. for 0-10 psid	0-100, 0-50, 0-20, 0-10 psid	Yes	Wet Differential Pressure Transmitter
PWT-BV/U	—	—	No	Bypass Valve Manifold

Gauge Pressure Sensors

The 50035430 Series is a two-wire 4-20mA gauge pressure sensor. This digitally compensated sensor offers an unparalleled value and performance combination, making it the ideal pressure sensing solution for demanding applications. The 50035430 series is available in pressure ranges up to 1000 psi.

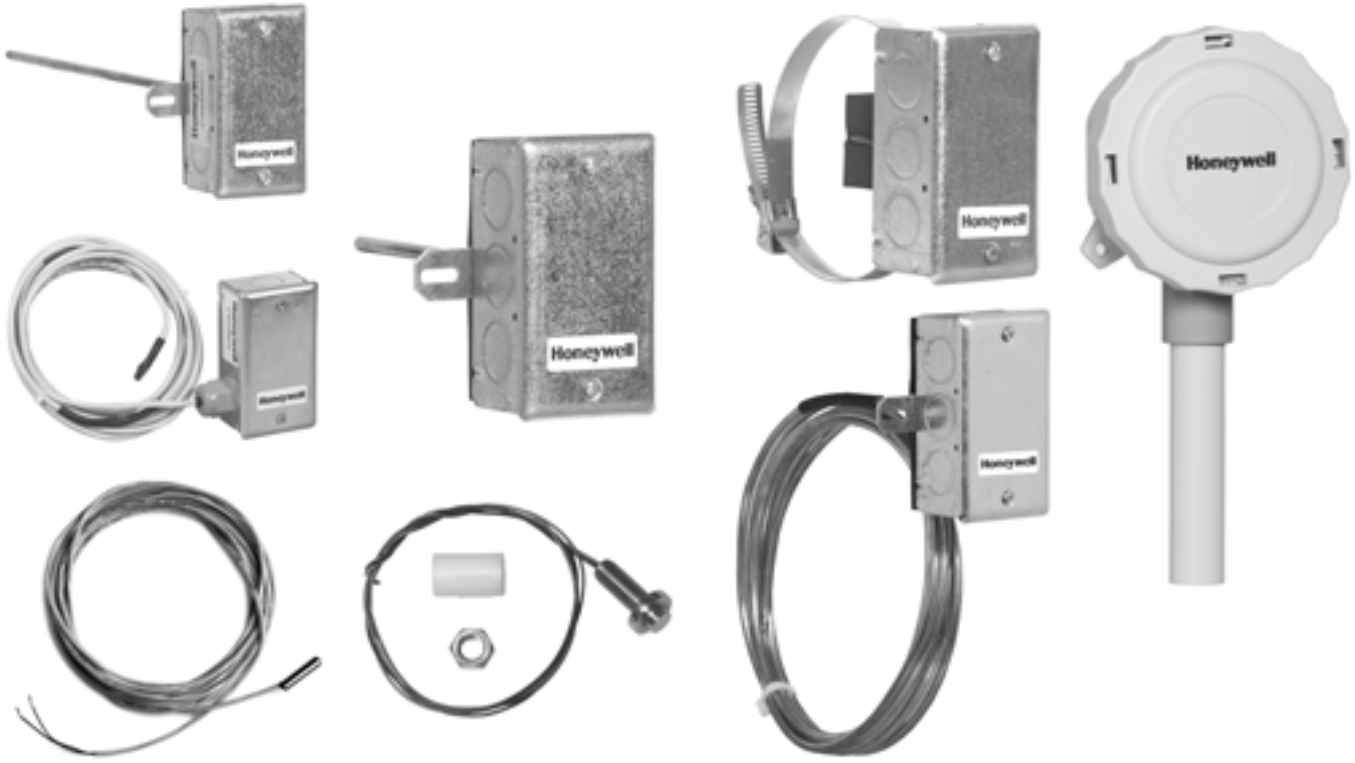
- Available in 50, 150, 300, 500 and 1000 psi
- All metal wetted parts for use in wide variety of fluid applications
- Suitable for use with freon and ammonia based cooling systems
- No internal elastomeric seals mean no o-ring compatibility issues
- Less than 2 ms response time provides accurate, high speed measurement
- Select models available with 1/4-in. SAE female Schrader connection with valve depressor

Connection Size: 1/4" SAE female Schrader
Operating, Storage, and Compensated Temperature Range: -40 F to +257 F (-40 C to 125 C)
Burst Pressure: 10X Working Pressure Range
Proof Pressure: 3X Working Pressure Range

Supply Voltage: 9.5Vdc to 30Vdc
Materials (Housing): Black plastic, Amodel AS-4133 HS-PPA
Materials in contact with media: SST 304L and Haynes 214 alloy
Approvals
CE: CE

Product Number	Accuracy	Pressure Ranges (psi)	Output	Connection Size	Electrical Termination
MLH500PSCDJ1240	±0.25% FSS	500 psig	4-20 mA, 2-wire	1/4" SAE female Schrader	Cable (3 meter)
MLH300PSCDJ1237	±0.25% FSS	300 psig	4-20 mA, 2-wire	1/4"-18 NPT	Cable (3 meter)
MLH150PSCDJ1236	±0.25% FSS	150 psig	4-20 mA, 2-wire	1/4"-18 NPT	Cable (3 meter)
MLH050PSCDJ1235	±0.50% FSS	50 psig	4-20 mA, 2-wire	1/4"-18 NPT	Cable (3 meter)
MLH01KPSCDJ1241	±0.25% FSS	1000 psig	4-20 mA, 2-wire	1/4" SAE female Schrader	Cable (3 meter)

C7021 10K ohm NTC Type II Temperature Sensors



The Series 2000 10K ohm NTC Electronic Temperature Sensors are designed for use with electronic controllers in domestic or commercial heating and cooling systems.

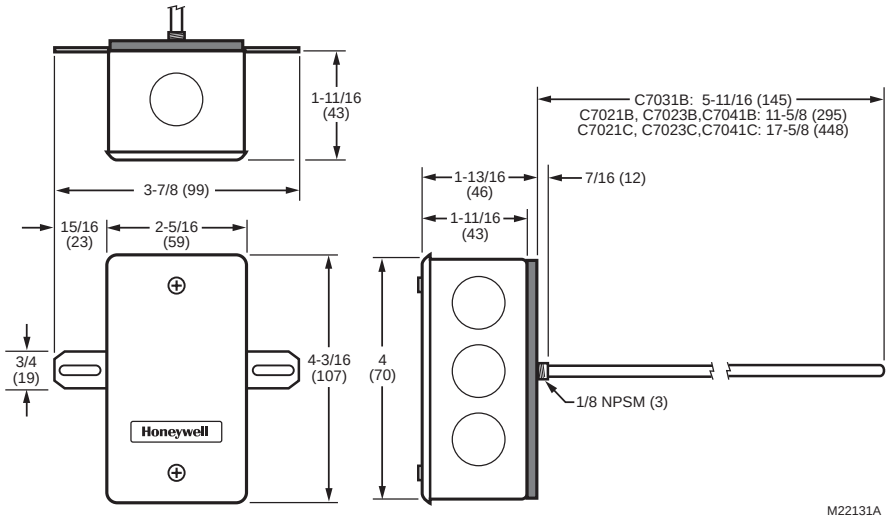
- B and C Model sense duct air temperature
- D models for immersion mounting sense water temperature
- F models sense outdoor air temperature and are weatherproof for outdoor use (knockouts allow for 1/2 in. conduit connection).
- J and R models sense average duct air temperature
- K models with strap-on mounting senses water temperature
- P models sense air temperature
- Solid state components not affected by dust or dirt

Sensor Type: 10 K ohm NTC @ 77 F Type II
Maximum Ambient Temperature: 302 F (150 C)
Shipping Temperature Range: -30 F to +160 F (-34 C to +71 C)
Used With: TB7600, TB7300, TB7200 Series communicating thermostats

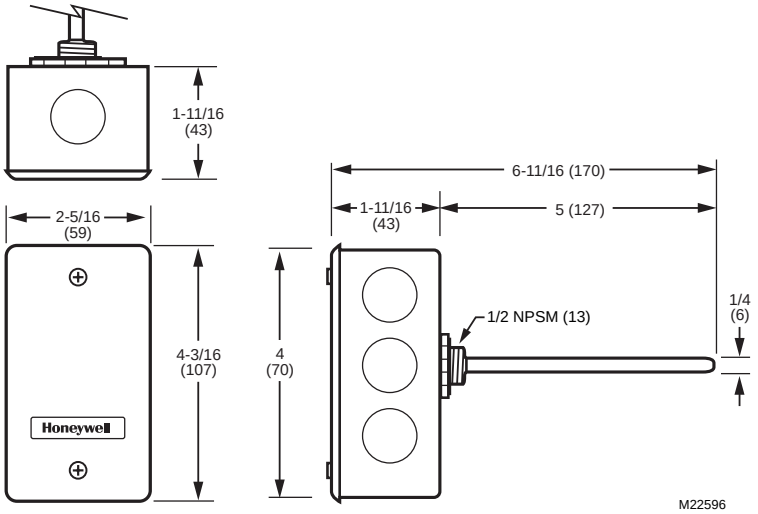
Product Number	Application	Insertion Length (inch)	Insertion Length (mm)	Operating Temperature Range (F)	Operating Temperature Range (C)
C7021B2005/U	Duct Discharge	6 in.	152 mm	-40 F to +250 F	-40 C to +121 C
C7021B2013/U	Duct Discharge	12 in.	305 mm	-40 F to +250 F	-40 C to +121 C
C7021C2003/U	Duct Discharge	18 in.	457 mm	-40 F to +250 F	-40 C to +121 C
C7021D2001/U	Immersion sensor for hot or chilled water, purchase well 50001774-001 separately	5 in.	127 mm	-40 F to +250 F	-40 C to +121 C
C7021F2009/U	Outside air temperature	—	—	-40 F to +158 F	-40 C to +70 C
C7021J2007/U	Duct discharge air (averaging)	12 ft.	3.66 m	-40 F to +250 F	-40 C to +121 C
C7021K2005/U	Hot or chilled water (strap on)	—	—	-40 F to +250 F	-40 C to +121 C
C7021N2001/U	Water or air temperature sensor (probe sensor)	—	—	-40 F to +250 F	-40 C to +121 C
C7021P2004/U	Temperature sensor	—	—	-40 F to +250 F	-40 C to +121 C
C7021R2000/U	Duct discharge air (averaging)	12 ft.	3.66 m	-40 F to +250 F	-40 C to +121 C
C7021R2018/U	Duct discharge air (averaging)	24 ft.	7.3 m	-40 F to +250 F	-40 C to +121 C

Diagrams for C7031, C7032, C7041 and T775 Series 2000 Sensor

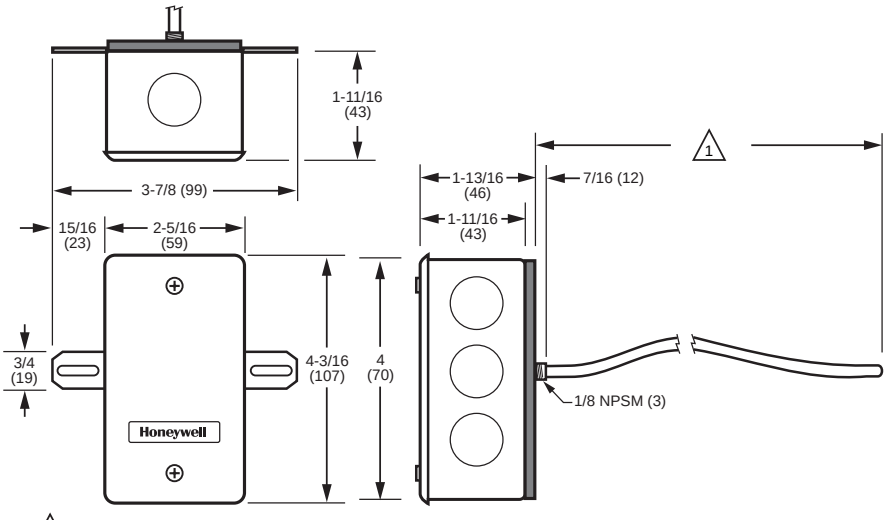
C7021B/C, C7023B/C, C7041B/C Dimensions



C7021D, C7023D, C7031D, C7041D Dimensions in inches (millimeters)

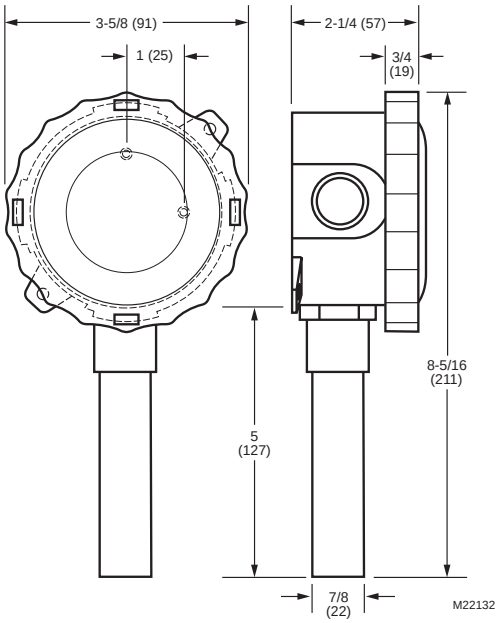


C7021R, C7023R, C7041R Dimensions

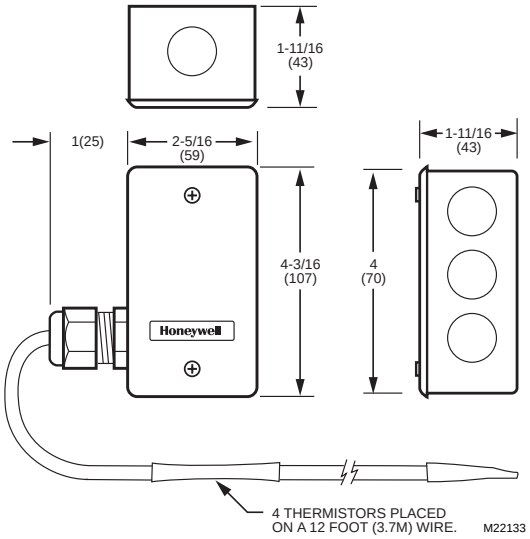


1 DEPENDING ON THE MODEL, THE ELEMENT LENGTH IS EITHER 12 FT (366 CM) OR 24 FT (732 CM).

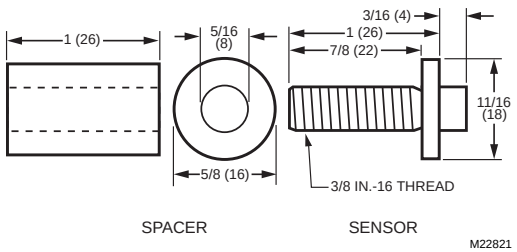
C7021F, C7023F, C7031G, C7041F, C7021F, C7023F, C7031G, C7041F, T775-SENS-OAT Dimensions



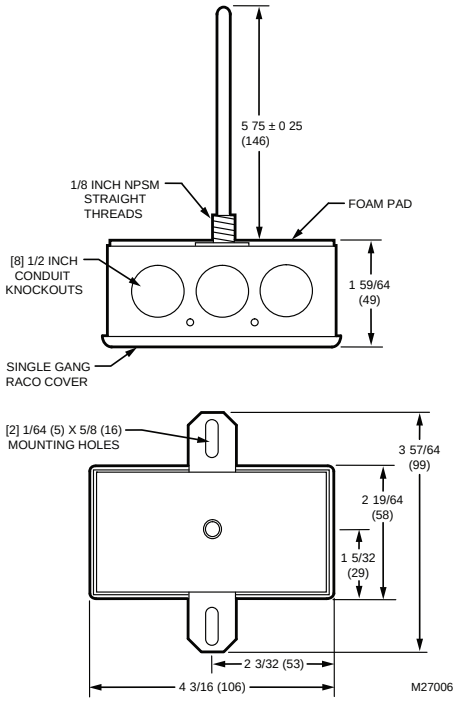
C7021J, C7023J, C7031J, C7041J Dimensions



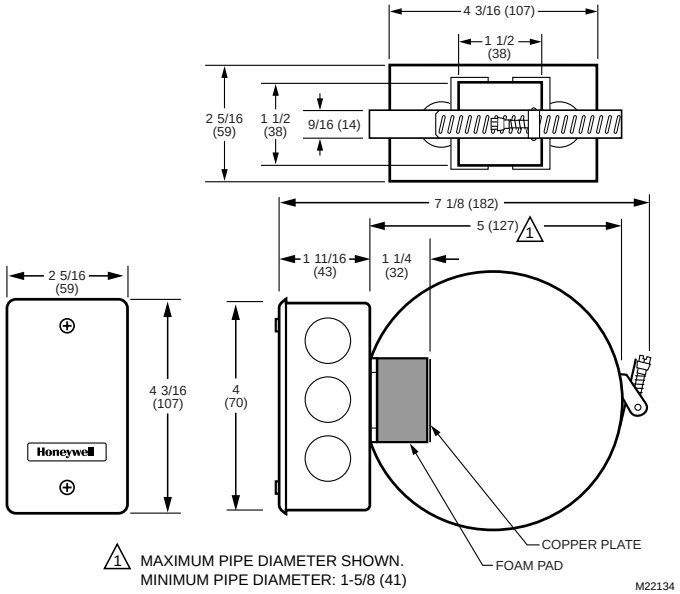
C7021P, C7023P, C7041P Dimensions



Dimensions in inches (millimeters)



C7021K, C7023K, C7021K, C7023KC7041K, T775-SENS-STRAP Dimensions



Temperature Sensors

C7023 10K ohm NTC Type III Temperature Sensors

The Series C7023 2000 10 K ohm Type III Electronic Temperature Sensors are designed for use with electronic controllers in domestic or commercial heating and cooling systems.

- B and C Model sense duct air temperature
- D models for immersion mounting sense water temperature
- F models sense outdoor air temperature and are weatherproof for outdoor use (knockouts allow for 1/2 in. conduit connection).
- J and R models sense average duct air temperature
- K models with strap-on mounting senses water temperature
- P models sense air temperature
- Solid state components not affected by dust or dirt

Sensor Type: 10 K ohm NTC @ 77 F Type III
Maximum Ambient Temperature: 302 F (150 C)
Shipping Temperature Range: -30 F to +160 F (-34 C to +71 C)
Used With: WEBs-AX I/O Modules

Product Number	Application	Insertion Length		Operating Temperature Range	
		(inch)	(mm)	(F)	(C)
C7023B2005/U	Duct	6 in.	152 mm	-40 F to +250 F	-40 C to +121 C
C7023B2013/U	Duct	12 in.	305 mm	-40 F to +250 F	-40 C to +121 C
C7023C2003/U	Duct	18 in.	457 mm	-40 F to +250 F	-40 C to +121 C
C7023D2001/U	Immersion sensor for hot or chilled water, purchase well 50001774-001 separately	5 in.	127 mm	-40 F to +250 F	-40 C to +121 C
C7023F2009/U	Outside air temperature	—	—	-40 F to +158 F	-40 C to +70 C
C7023J2007/U	Duct (averaging)	12 ft.	3.66 m	-40 F to +250 F	-40 C to +121 C
C7023K2005/U	Hot or chilled water (strap on)	—	—	-40 F to +250 F	-40 C to +121 C
C7023N2001/U	Water or air temperature sensor (probe sensor)	—	—	-40 F to +250 F	-40 C to +121 C
C7023P2004/U	Temperature sensor	—	—	-40 F to +250 F	-40 C to +121 C
C7023R2000/U	Duct (averaging)	12 ft.	3.66 m	-40 F to +250 F	-40 C to +121 C
C7023R2018/U	Duct (averaging)	24 ft.	7.3 m	-40 F to +250 F	-40 C to +121 C

C7031 Electronic Temperature Sensors

Electronic temperature sensors, 20K ohm NTC, used with DDC Systems.
- Solid state thermistor element provides accurate sensing of temperature changes.

Application: Duct Discharge

Dimensions, Approximate: 4 3/16 in. high x 2 19/64 in. wide x 1 59/64 in. deep (107 mm high x 58 mm wide x 49 mm deep)
Maximum Ambient Temperature250 F: (121 C)
Shipping Temperature Range: -30 F to +160 (-34 C to +71 C)

Product Number	Application	Sensor Type	Insertion Length		Operating Temperature Range		Includes	Used With
			(inch)	(mm)	(F)	(C)		
C7031B2005/U	Duct	1097 K ohm PTC @ 77 F	6 in.	152 mm	-40 F to +250 F	-40 C to +121 C	—	Excel 10, 50, 80, 100, 500; T775 Series 2000
C7031D2003/U	Hot or chilled water	PT1000, 1097 ohms @ 77 F	5 in.	127 mm	-40 F to +350 F	-40 C to +177 C	Well	Excel 500, T775 Series 2000
C7031G2006/U	Outside air temperature	1715 @ 90F NTC	—	—	-40 F to +120 F	-40 C to +49 C	—	W7100 (outdoor reset)
C7031G2014/U	Outside air temperature	PT3000, 3484 ohms @ 77 F	—	—	-40 F to +120 F	-40 C to +49 C	—	T7350
C7031J2009/U	Duct	PT1000, 1097 ohms @ 77 F PTC	144 in.	3658 mm	40 F to 180 F	4 C to 82 C	—	Excel 500, T775 Series 2000

C7031 Accessories

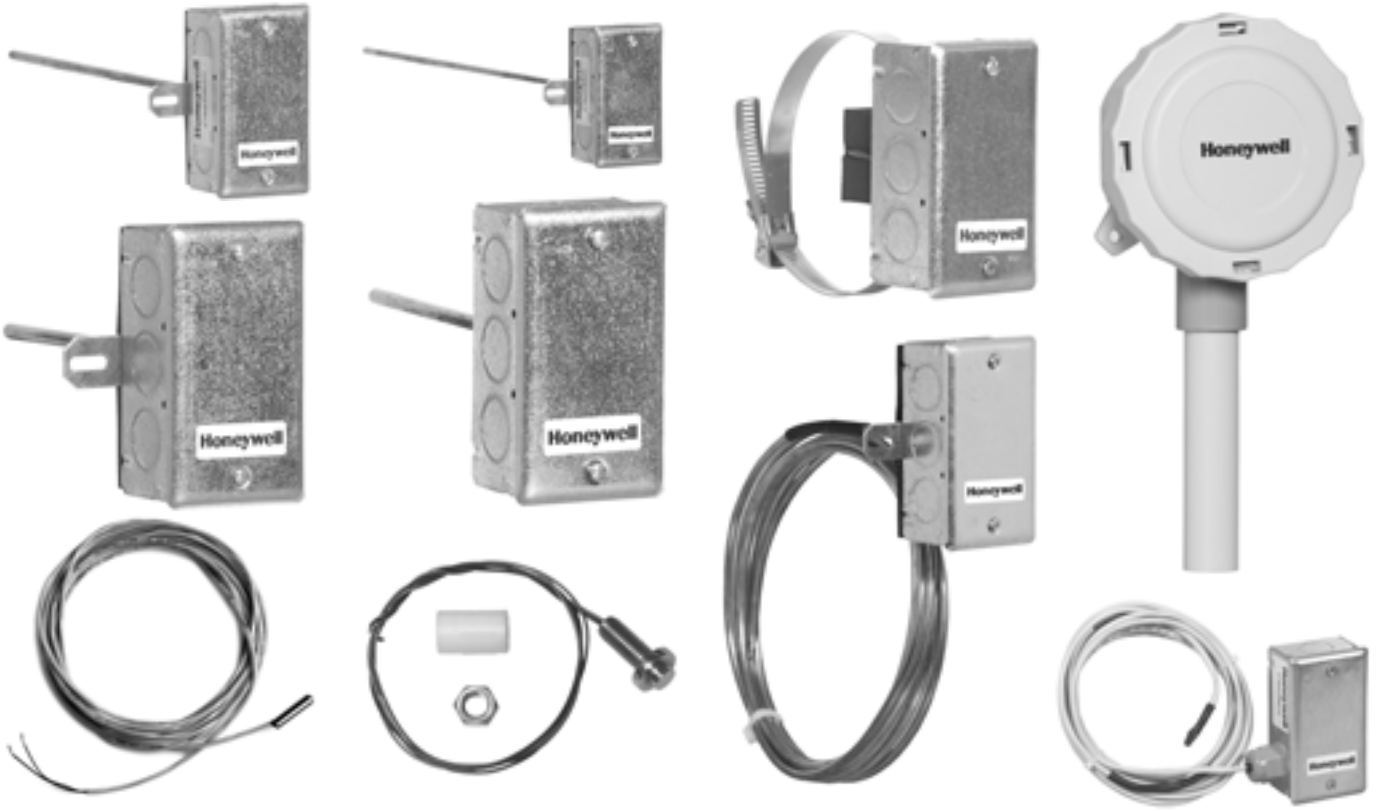
Product Number	Application	Description
32005960-001/U	Temperature Sensor Part or Accessory	Immersion well for C7031D Series 2 models only

C7031 Replacement Parts

Product Number	Application	Description
32006523-001/U	Temperature Sensor Part or Accessory	Temperature probe for C7031D1062

Temperature Sensors

C7041 20K ohm NTC Temperature Sensors



The C7041 Electronic Temperature Sensors are 20K ohm NTC sensors designed to be used with electronic controllers in domestic or commercial heating and cooling systems.

- The C7041 series of electronic temperature sensors are designed for use with the Excel 10, Excel 15, or any controller requiring a 20K ohm NTC non-linearized sensor input.
- Various models are available for sensing duct air temperature, averaging air temperature, water temperature, outdoor air temperature, or water pipe temperature.
- All devices consist of a temperature sensitive element and leadwires enclosed for protection from physical damage.
- Sensor element enclosures are made of various lengths and configurations for the specific applications.
- All devices have a wiring box housing to enclose the field wiring connections. C7041F outdoor sensor design, made of aluminum and stainless steel, is waterproof, and includes a sunshield.

Sensor Type: 20 K ohm NTC @ 77 F
Maximum Ambient Temperature: 302 F (150 C)
Operating Temperature Range: -40 F to +250 F (-40 C to +121 C)
Shipping Temperature Range: -30 F to +160 F (-34 C to +71 C)
Used With: Excel 10, 50, 80, 100, 500

Accessories:

50001774-001-5 inch Stainless Steel Immersion Well for Use with C7041D2001

50001775-001-Immersion well adaptor, to adapt new C7041D2001 to fit into old brass 32005960-001 well used with old C7031D1062 and C7041D1003

Product Number	Application	Insertion Length		Operating Temperature Range	
		(inch)	(mm)	(F)	(C)
C7041B2005/U	Duct	6 in.	152 mm	-40 F to +250 F	-40 C to +121 C
C7041B2013/U	Duct	12 in.	305 mm	-40 F to +250 F	-40 C to +121 C
C7041C2003/U	Duct	18 in.	457 mm	-40 F to +250 F	-40 C to +121 C
C7041D2001/U	Immersion sensor for hot or chilled water, purchase well 50001774-001 separately	5 in.	127 mm	-40 F to +250 F	-40 C to +121 C
C7041F2006/U	Outside air temperature	—	—	-40 F to +158 F	-40 C to +70 C
C7041J2007/U	Duct (averaging)	12 ft.	3.66 m	-40 F to +250 F	-40 C to +121 C
C7041K2005/U	Hot or chilled water (strap on)	—	—	-40 F to +250 F	-40 C to +121 C
C7041N2020/U	Water or air temperature sensor (probe sensor)	—	—	-40 F to +250 F	-40 C to +121 C
C7041P2004/U	Temperature sensor	—	—	-40 F to +250 F	-40 C to +121 C
C7041R2000/U	Duct (averaging)	12 ft.	3.66 m	-40 F to +250 F	-40 C to +121 C
C7041R2018/U	Duct (averaging)	24 ft.	7.3 m	-40 F to +250 F	-40 C to +121 C

C7041 Temperature Sensor Accessories

Product Number	Description	Application	Used With
50001774-001/U	5 inch immersion well	Temperature Sensor Part or Accessory	C7031D2000, C7031D2003, C7041D2000, and C7041D2001 only
50001775-001/U	Immersion well adaptor	Temperature Sensor Part or Accessory	C7031D2000, C7041D2000 series to thread into old 32005960-001

C7046 Discharge Air Temperature Sensors

Air Temperature Sensors function as primary and/or secondary sensors in electronic control systems.
- No settings or calibration required.
- Solid state components not affected by dust or dirt.
- Fast reacting.
- Rugged aluminum insertion probe.
- Mounts on duct or plenum surface with integral mounting flange, or in a 2 x 4 in. junction box.

Application: Primary and/or secondary sensors in electronic control systems
Dimensions, Approximate: 1 in. high x 2 in. wide x 9 in. deep (25 mm high x 51 mm wide x 229 mm deep)
Maximum Ambient Temperature: 250 F (121 C)
Operating Temperature Range: 40 F to 150 F (4 C to 66 C)
Shipping Temperature Range: -30 F to +160 F (-34 C to +71 C)
Mounting: Mounts on flat duct or plenum surface with integral mounting flange or in a 2 in. x 4 in. (51 mm x 102 mm) junction box.
Includes: 6 in. leadwires
Comments: Quick response time. Sensor probe diameter is 1/4 in. (6 mm). 6 in. leadwires.

Product Number	Sensor Type	Insertion Length (inch)	Insertion Length (mm)	Used With
C7046A1004/U	3K ohm @ 77 F NTC	8 in.	203 mm	W973, W6210, W6215, W7210, W7215, W7459, W7460
C7046A1038/U	3K ohm @ 77 F NTC	12 in.	305 mm	W973, W6210, W6215, W7210, W7215, W7459, W7460
C7046B1010/U	22.8 K ohm NTC @ 77 F	6 in.	152 mm	W7080
C7046C1000/U	3K ohm @ 77 F NTC	8 in.	203 mm	W973
C7046D1008/U	1097 ohm @ 77 F PTC	8 in.	203 mm	Excel 80, 100, 500, and 600 controllers and T775 Series 2000

C7100 Averaging Duct Temperature Sensors

Averaging Duct Temperature Sensors are used to sense temperature in discharge duct.
- Use to troubleshoot system operation.
- Platinum positive temperature coefficient sensor.
- Factory calibrated; no settings or field calibration required.

Dimensions, Approximate: 1 13/16 in. high x 1 13/16 in. wide x 13 1/4 in. deep (46 mm high x 46 mm wide x 336 mm deep)
Maximum Ambient Temperature: 250 F (121 C)
Shipping Temperature Range: -30 F to +150 F (-34 C to +66 C)
Mounting: Discharge Duct
Comments: Recessed 1/4 in. (6 mm) quick-connect terminals. 3/4 in. (19 mm) diameter sensor probe.

Product Number	Application	Sensor Type	Insertion Length (inch)	Insertion Length (mm)	Operating Temperature Range (F)	Operating Temperature Range (C)	Used With
C7100A1015/U	Averaging Duct Discharge Air Sensor	PT3000, 3484 ohms @ 77 F PTC	13 in.	330 mm	40 F to 220 F	4 C to 104 C	W7100, W8900
C7100B1013/U	Averaging Air Sensor	22.8 K ohm @ 77 F NTC	13 in.	330 mm	40 F to 150 F	4 C to 64 C	W7080
C7100C1003/U	Averaging Duct Discharge Air Sensor	PT3000, 3484 ohms @ 25C PTC	13 in.	330 mm	40 F to 220 F	4 C to 104 C	T775
C7100D1001/U	Averaging Duct Discharge Air Sensor	PT1000, 1097 ohms @ 77 F PTC	13 in.	330 mm	40 F to 220 F	4 C to 104 C	Excel 500, T775 Series 2000

Temperature Sensors

C7130 Wall Mount Temperature Sensor

The C7130A,B Wall-Mount Air Temperature Sensors provide the input required by the R7380J,L, W7100, W7600, W7620, and Excel 500 Control Systems to sense air temperature in indoor spaces.

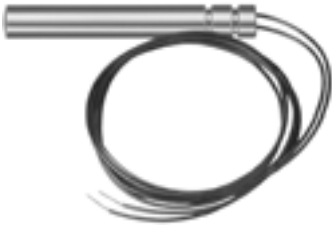
- C7130A Wall-mount Temperature Sensor:
- Intended for use as an indoor air sensor with the R7380J,L Indicating Controller, the W7100 Discharge Controller, the W7600 Direct Digital Controller, and the W7620 Direct Digital Controller.
- C7130B Wall-mount Temperature Sensor:
- Intended for use as an indoor air sensor with the Excel 500 Controller.

Application: Intended for monitoring or controlling temperature in conjunction with an electronic control
Dimensions, Approximate: 2 13/16 in. high x 4 5/8 in. wide (71.4mm high x 118 mm wide)

Maximum Ambient Temperature: 150 F (66 C)
Operating Temperature Range: -40 F to +100 F (-40 C to +38 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Mounting: Wall mount

Product Number	Description	Sensor Type	Used With
C7130A1001/U	PT 3000 Temperature Sensor	PT3000, 3484 ohms @ 77 F PTC	R7380J,L, W7100, W7600, W7620
C7130B1009/U	PT 1000 Temperature Sensor	PT1000, 1097 ohms @ 77 F PTC	Excel 500, T775 Series 2000

C7170 Immersion Sensor



Primary electronic temperature sensor for the R7380J,L, W7100 and W7505 load inputs for immersion, strap-on and duct mounting.

- Requires no setting or calibration.
- Sensor can be located up to 1195 ft. (340 m) from controller.
- Pigtail leads.

Application: Intended for monitoring or controlling temperature in conjunction with an electronic control
Dimensions, Approximate: 3/8 in. dia. x 2 5/8 in. long (10 mm dia. x 66 mm long)

Operating Temperature Range: -40 F to +250 F (-40 C to +125 C)
Shipping Temperature Range: -40 F to +302 F (-40 C to +150 C)
Operating Humidity Range (% RH): 90% RH at 90 F, non-condensing
Mounting: Immersion or strap-on discharge

Product Number	Description	Sensor Type	Insertion Length		Comments	Used With
			(inch)	(mm)		
C7170A1002/U	PT 3000 Temperature Sensor with 24 leads	PT3000, 3484 ohms @ 77 F PTC	3 in.	76 mm	24 in. pigtail leads; Use immersion well 121371A copper or 121371E steel.	R7380J,L, W7100, W7600, W7620
C7170A1010/U	PT 3000 Temperature Sensor with 180 leads	PT3000, 3484 ohms @ 77 F PTC	3 in.	76 mm	180 in. pigtail leads; Use immersion well 121371A copper or 121371E steel.	R7380J,L, W7100, W7600, W7620
C7170B1000/U	PT 1000 Temperature Sensor	PT1000, 1097 ohms @ 77 F PTC	3 in.	76 mm	Use immersion well 121371A copper or 121371E steel.	Excel 500, T775 Series 2000

C7750 Duct Probe

The C7750A is a direct wired temperature sensor that is used to sense discharge or return air in a duct that may be controlled by an Excel 10 Controller. The C7750A Sensor consists of a temperature sensitive 20K ohm thermistor that is connected on a circuit board to two linearizing resistors in series-parallel configuration.

- A primary and/or secondary sensor for use with electronic control systems.
- Designed with an integral linearized 20K ohm thermistor.
- Operating range of 45 to 99 F (7.2 to 37.2 C).
- Intended for mounting on a flat duct or plenum surface or (for a plenum-rated application) in a standard utility conduit box.
- Probe length of 6-1/2 in. (165 mm) and a nominal sensor resistance of 8000 ohms at 77 F (25 C).
- Rugged aluminum insertion probe.

Application: Primary and/or secondary sensors in electronic control systems
Dimensions, Approximate: 1 in. high x 2 in. wide x 7 in. deep (25 mm high x 51 mm wide x 177 mm deep)
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)

Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Mounting: Mounts on flat duct or plenum surface with integral mounting flange or in a 2 in. x 4 in. (51 mm x 102 mm) junction box.
Used With: Excel 10, W7751

Product Number	Sensor Type	Insertion Length (inch)	Insertion Length (mm)	Description
C7750A3006/U	20 K ohm NTC linear	6 in.	152 mm	20 K ohm NTC linear Temperature Sensor, used with Excel 10, Series 1000 only

C7770A Duct Probe

The C7770 Temperature Sensors are direct wired temperature sensors that are used to sense discharge or return air in a duct. The Sensors contain a temperature sensitive 20K ohm NTC nonlinearized thermistor and are compatible with the Excel 10 controller.

- Primary and/or secondary sensor for use with electronic control systems.
- Integral 20K ohm NTC nonlinear sensors
- Operating range of 45 to 99 F (7 to 37 C).
- Mounts on a flat duct or plenum surface or, for a plenum-rated application, in a standard utility conduit box.
- Probe length of 6 in. (152 mm)
- Rugged 1/4 in. diameter aluminum insertion probe.

Application: Primary and/or secondary sensors in electronic control systems
Dimensions, Approximate: 1 in. high x 2 in. wide x 7 in. deep (25 mm high x 51 mm wide x 177 mm deep)
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)

Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Mounting: Mounts on flat duct or plenum surface with integral mounting flange or in a 2 in. x 4 in. (51 mm x 102 mm) junction box.
Used With: Excel 10, W7751

Product Number	Sensor Type	Insertion Length (inch)	Insertion Length (mm)	Description	Comments
C7770A1006/U	20 K ohm NTC non-linear	6 in.	152 mm	6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor	—
C7770A1040/U	20 K ohm NTC non-linear	6 in.	152 mm	6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor	6 foot plenum rated cable

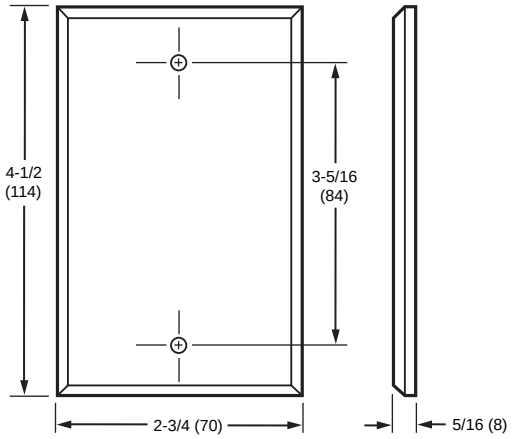
Temperature Sensors

C7772 Flush Mount Sensors

The C7772A, F, G Wallplate Temperature Sensors provide a resistive output signal proportional to sensed room or space temperature. The sensors are well suited for low profile wall mounted applications where durability and tamper-proof construction is desired, such as schools, prisons and institutions. The C7772A Wallplate Temperature Sensors are designed to be used with the Excel 5000 family, Excel 10, Excel 15, T7350, and other Honeywell controllers. The C7772F's are designed to be used with the TB7600, TB7300, and the TB7200 Series communicating thermostats and other controllers requiring a 10K NTC Type II sensor. The C7772G,s are designed to be used with WEBs-AX I/O modules and other controllers requiring a 10K NTC Type III sensor. The C7772 sensors provide a resistive output signal proportional to sensed room or space temperature. The C7772 is well suited for low-profile wall-mounted applications where durability and tamper-proof construction is desired, such as schools, prisons and institutions.

- Low profile when mounted on industry standard utility conduit box
- Rugged, brushed stainless steel wallplate
- Integral foam pad isolates wallplate sensor from conduit box
- Insulated screw terminals ensure reliable field wiring connection
- Models available with a variety of resistive temperature sensor elements

Dimensions in inches (millimeters)



Application: Low profile wall mounted where durability and tamper proof construction is desired
Dimensions, Approximate: 4 1/2 in. high x 2 3/4 in. wide (114 mm high x 70 mm wide)
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Mounting: Wall mount

Product Number	Sensor Type	Description	Comments	Used With
C7772A1004/U	20 K ohm NTC non-linear	20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor without logo	—	Excel 5000 family
C7772A1012/U	20 K ohm NTC non-linear	20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor with Honeywell logo	with Honeywell logo, looks very professional and facilitates finding sensor after installation	Excel 5000 family
C7772F1004/U	10 K ohm NTC Type II non-linear	10 K ohm NTC Type II non-linear Wall Flush Mount Temperature Sensor without logo	—	TB7600, TB7300, TB7200 Series communicating thermostats
C7772F1012/U	10 K ohm NTC Type II non-linear	10 K ohm NTC Type II non-linear Wall Flush Mount Temperature Sensor with Honeywell logo	with Honeywell logo, looks very professional and facilitates finding sensor after installation	TB7600, TB7300, TB7200 Series communicating thermostats
C7772G1004/U	10 K ohm NTC Type III non-linear	10 K ohm NTC Type III non-linear Wall Flush Mount Temperature Sensor without logo	—	WEBs-AX I/O Modules
C7772G1012/U	10 K ohm NTC Type III non-linear	10 K ohm NTC Type III non-linear Wall Flush Mount Temperature Sensor with Honeywell logo	with Honeywell logo, looks very professional and facilitates finding sensor after installation	WEBs-AX I/O Modules

C7776A Duct Probe

The C7776 Air Temperature Sensors are direct wired temperature sensors that are used to sense discharge or return air in a duct. The sensors are 10 ohm NTC Type II sensors that are compatible with TB7600, TB7300, and TB7200 communicating thermostats.

- Primary and/or secondary sensor for use with
- electronic control systems
- Integral 10K ohm NTC Type II nonlinear sensors
- Operating range of 45 to 99 F (7 to 37 C)
- Mounts on a flat duct or plenum surface or, for a plenum-rated application, in a standard utility conduit box
- Probe length of 6 in. (152 mm)
- Rugged 1/4 in. diameter aluminum insertion probe

Application: Primary and/or secondary sensors in electronic control systems
Dimensions, Approximate: 1 in. high x 2 in. wide x 7 in. deep (25 mm high x 51 mm wide x 177 mm deep)
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)

Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Mounting: Mounts on flat duct or plenum surface with integral mounting flange or in a 2 in. x 4 in. (51 mm x 102 mm) junction box.
Used With: TB7600, TB7300, TB7200 Series communicating thermostats

Product Number	Sensor Type	Insertion Length (inch)	Insertion Length (mm)	Description	Comments
C7776A1006/U	10 K ohm NTC Type II non-linear	6 in.	152 mm	6 in. Duct Probe for Return Air 10 K ohm NTC Type II non-linear Temperature Sensor	—
C7776A1040/U	10 K ohm NTC Type II non-linear	6 in.	152 mm	6 in. Duct Probe for Return Air 10 K ohm NTC Type II non-linear Temperature Sensor	6 foot plenum rated cable

C7778A Duct Probe

The C7778 Air Temperature Sensors are direct wired temperature sensors that are used to sense discharge or return air in a duct. The sensors are 10 ohm NTC Type III sensors that are compatible with WEBs-AX I/O modules.

- Primary and/or secondary sensor for use with
- electronic control systems
- Integral 10K ohm NTC Type III nonlinear sensors
- Operating range of 45 to 99 F (7 to 37 C)
- Mounts on a flat duct or plenum surface or, for a plenum-rated application, in a standard utility conduit box
- Probe length of 6 in. (152 mm)
- Rugged 1/4 in. diameter aluminum insertion probe

Application: Primary and/or secondary sensors in electronic control systems
Dimensions, Approximate: 1 in. high x 2 in. wide x 7 in. deep (25 mm high x 51 mm wide x 177 mm deep)
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)

Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Mounting: Mounts on flat duct or plenum surface with integral mounting flange or in a 2 in. x 4 in. (51 mm x 102 mm) junction box.
Used With: WEBs-AX I/O Modules

Product Number	Sensor Type	Insertion Length (inch)	Insertion Length (mm)	Description	Comments
C7778A1006/U	10 K ohm NTC Type III non-linear	6 in.	152 mm	6 in. Duct Probe for Return Air 10 K ohm NTC Type III non-linear Temperature Sensor	—
C7778A1040/U	10 K ohm NTC Type III non-linear	6 in.	152 mm	6 in. Duct Probe for Return Air 10 K ohm NTC Type III non-linear Temperature Sensor	6 foot plenum rated cable

T7022A Return Air Temperature Sensor

The T7022 Remote Temperature Sensor is a non-adjustable thermistor sensor. Its primary use is with the T7300 Programmable Commercial Thermostat (only in return air) to control heating or cooling equipment.

Application: Remote Temperature Sensors for use with T7300 thermostats
Dimensions, Approximate: 3/8 in. dia. x 2 3/4 in. long (10 mm dia. x 70 mm long)
Operating Temperature Range: 60 F to 90 F (16 C to 32 C)
Used With: T7300, T7067B, W927

Product Number	Sensor Type	Insertion Length (inch)	Insertion Length (mm)	Description
T7022A1010/U	1420 ohms @ 75 F	2 3/4 in.	70 mm	1420 ohm Remote Temperature Sensor

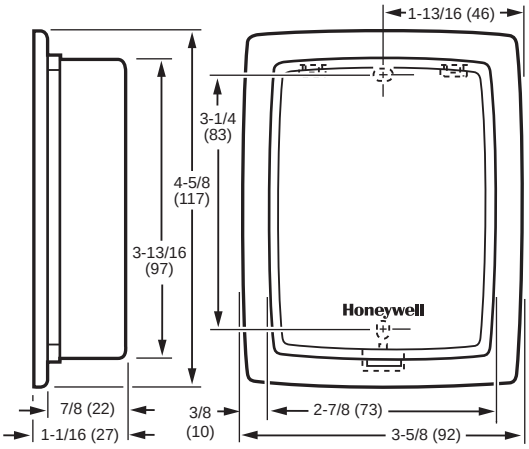
Temperature Sensors

T7047 Remote Temperature Sensors for use with T7300 Thermostats

The T7047 Electronic Thermostats, Remote Space Sensors are used with T7300 thermostats and W973 controller to provide modulating space temperature control.

- T7047C is a 2-wire remote space sensor for applications requiring remote setpoint adjustment.
- T7047G is a 2-wire remote space sensor used as one half of an averaging sensor network.
- T7047C,G contain a carbon type negative temperature coefficient (NTC) thermistor sensing element.
- T7047H is a thin-film, platinum 1K (at 0 C), positive temperature coefficient (PTC) temperature sensor only and is for use with the Excel 80/100/500/600 Controllers.
- Locking cover.

Dimensions in inches (millimeters)



Application: Used in Series 70 control systems to provide modulating space temperature control
Dimensions, Approximate: 4 5/8 in. high x 3 5/8 in. wide x 1 5/16 in. deep (118 mm high x 93 mm wide x 33 mm deep)
Operating Temperature Range: 40 F to 110 F (4 C to 43 C)
Mounting: Mounts on wall or 2 x 4 inch vertical outlet box
Used With: T7300/Q7300

Product Number	Sensor Type	Color	Description	Comments
T7047C2007/U	1420 ohms @ 75 F	Taupe	1420 ohm Electronic Thermostat Sensor	Series 2000 styling
T7047C2015/U	1420 ohms @ 75 F	Premier White®	1420 ohm Electronic Thermostat Sensor	Series 2000 styling
T7047G2008/U	710 ohm @ 75F	Taupe	710 ohm Electronic Thermostat Sensor	Series 2000 styling, for averaging only.
T7047G2016/U	710 ohm @ 75F	Premier White®	710 ohm Electronic Thermostat Sensor	Series 2000 styling, for averaging only.

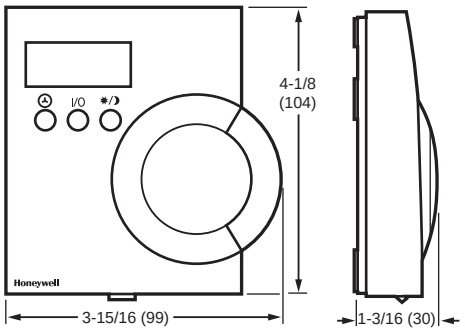
T7047 Accessories

Product Number	Description
190389A/U	Cover assembly for T7047A,B, series 1000 styling

T7560 Digital Wall Modules

Electronic wall modules with LCD for use with Excel 10 controllers.
- 2 models configurable to cover all applications.
- T7560B has Humidity sensor.
- Intuitive and easy to operate.

Dimensions in inches (millimeters)



Application: Networked Sensor
Dimensions, Approximate: 4 1/8 in. high x 3 15/16 in. wide x 13/16 in. deep (104mm high x 99mm wide x 30mm deep)
Sensor Type: 20 K ohm NTC
Operating Temperature Range: 32 F to 104 F (0 C to 40 C)
Setpoint Temperature Range: 55 F to 85 F (12 C to 30 C)
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Used With: Excel 10 Controllers

Product Number	Color	Description	Comments	Includes
T7560A1018	White with blue knob	20 K ohm NTC Digital Wall Module	—	Setpoint Wheel, Unoccupied/Occupied override, and LCD display for temperature, setpoint and fan status
T7560A1042	White with white knob	20 K ohm NTC Digital Wall Module	Same as T7560A1018 except with white knob and push buttons	Setpoint Wheel, Unoccupied/Occupied override, and LCD display for temperature, setpoint and fan status
T7560B1016	White with blue knob	20 K ohm NTC Digital Wall Module	—	Humidity sensor, Setpoint Wheel, Unoccupied/Occupied override, and LCD display for temperature, setpoint, fan status and humidity
T7560B1032	White with white knob	20 K ohm NTC Digital Wall Module	Same as T7560B1016 except with white knob and push buttons	Humidity sensor, Setpoint Wheel, Unoccupied/Occupied override, and LCD display for temperature, setpoint, fan status and humidity

Product Number	Description	Network Jack	Used With
T7460-LONJACK	Lon Jack for T7560	LonWorks Bus	T7560A, B

Temperature Sensors

T775 Series 2000 Sensors

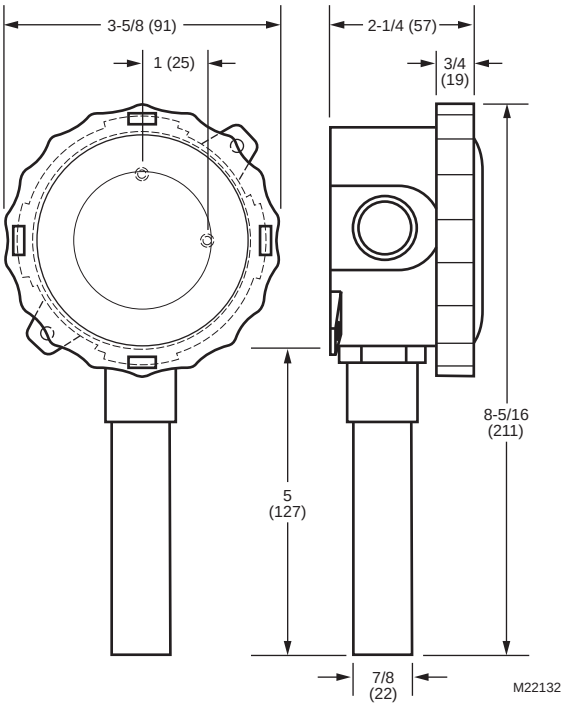
A family of general use, simple to use, broadly featured electronic temperature and universal controllers for use in HVAC, agricultural, and industrial applications.

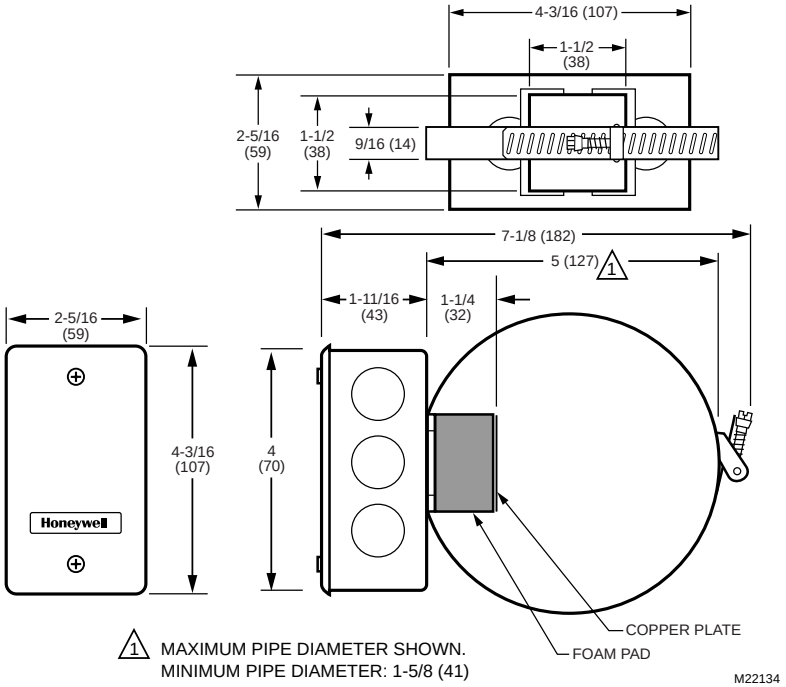
- Use the T775-SENS-OAT to measure outside air temperature.
- Some typical applications for the 50021579-001 and T775-SENSWT/WR sensors include:
- Monitoring return air temperatures
- Monitoring discharge air temperatures
- Monitoring mixed air temperatures
- All sensors:
- Fast response time and highly accurate
- 1/2 in. (6.35 mm) stainless steel probe with a thermally conductive epoxy
- 1,097 Ohms PTC at 77ÞF (25C)
- The 50021579-001 is a standard temperature sensor for indoor applications
- The T775-SENS-WR is a water resistant sensor with 5 ft leads
- The T775-SENS-WT is a water tight sensor with 6 ft leads
- The T775-SENS-OAT is for sensing outdoor air temperature and is housed in a weatherproof case for outdoor use (knockouts allow for 1/2 in. conduit connection)
- Two year warranty

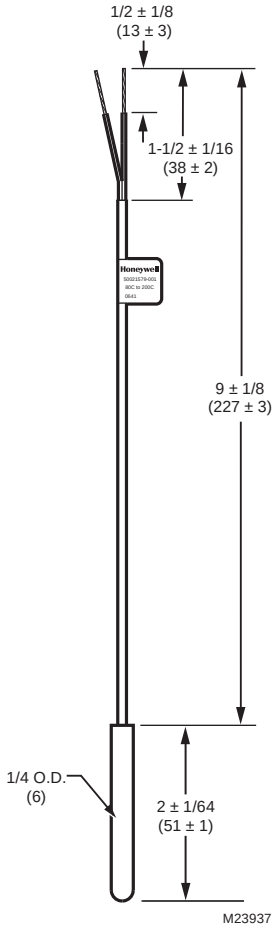
Application: For indoor use in applications such as monitoring return air, discharge air, and mixed air temperatures
Used With: T775 Series 2000

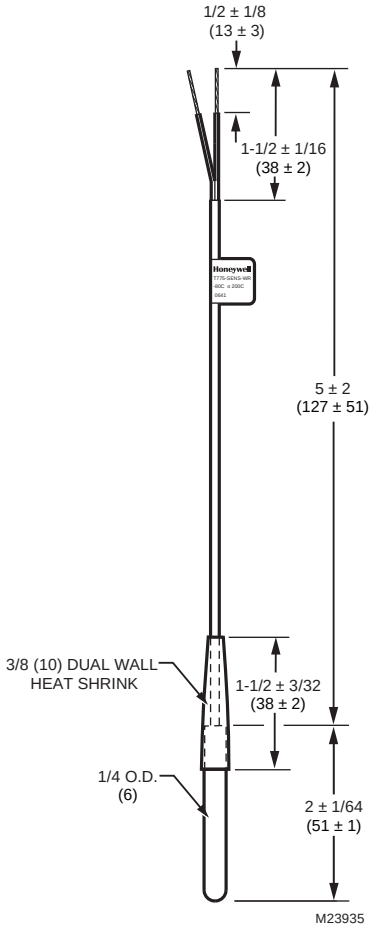
Product Number	Application	Sensor Type	Operating Temperature Range		Dimensions, Approximate		Description
			(F)	(C)	(inch)	(mm)	
50021579-001/U	For indoor use in applications such as monitoring return air, discharge air, and mixed air temperatures	1097 ohm @ 77 F PTC	-40 F to 270 F	-40 C to 132 C	2 in. long x 1/4 in. dia probe with 9 in. lead	51 mm long x 6 mm dia probe with 227 mm lead	Standard Temperature Sensor for the T775 Series 2000
T775-SENS-OAT/U	Outside air temperature	PT1000, 1097 ohms @ 77 F PTC	-40 F to 158 F	-40 C to 70 C	8 5/16 in. high x 3 5/8 in. wide x 2 1/4 in. deep	211 mm high x 91 mm wide x 57 mm deep	1097 ohm Outdoor Air Temperature Sensor
T775-SENS-STRAP/U	Hot or chilled water (strap on)	PT1000, 1097 ohms @ 77 F PTC	-40 F to +250 F	-40 C to +121 C	4 3/16 in. high x 2 5/16 in. wide x 1 11/16 in. deep	107 mm high x 59 mm wide x 43 mm deep	Strap-on Sensor for Hot or Chilled Water
T775-SENS-WR/U	For use in applications such as monitoring return air, discharge air, and mixed air temperatures	PT1000, 1097 ohms @ 77 F PTC	-40 F to 270 F	-40 C to 132 C	2 in. long x 1/4 in. dia probe with 5 ft. lead	51 mm long x 6 mm dia probe with 1524 mm lead	Water-resistant Sensor for T775 Series 2000.
T775-SENS-WT/U	For use in applications such as monitoring return air, discharge air, and mixed air temperatures	PT1000, 1097 ohms @ 77 F PTC	-40 F to 270 F	-40 C to 132 C	2 in. long x 1/4 in. dia probe with 6 ft. lead	51 mm long x 6 mm dia probe with 1829 mm lead	Water-tight Sensor for T775 Series 2000

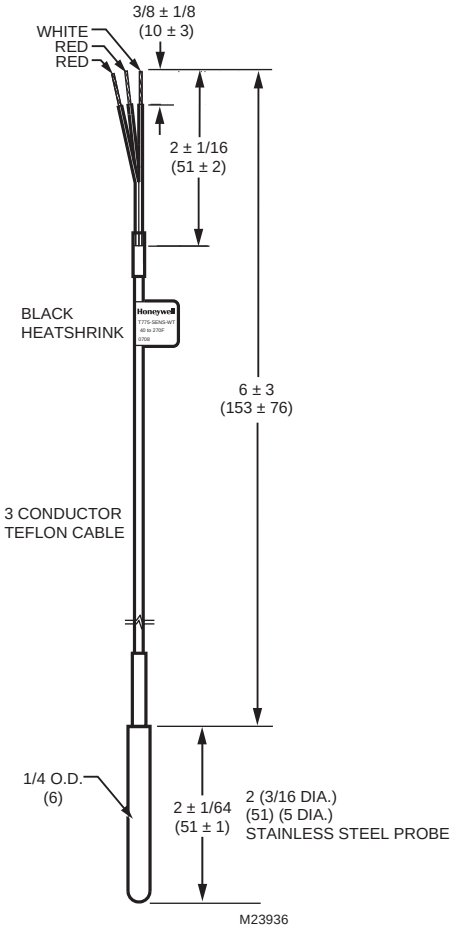
Dimensions in inches (millimeters)











Temperature Sensors

T7750 Wall Modules

Temperature sensors for use with Excel 10 Series 1000 Controllers. The T7750 Wall Modules provide the following additional combination of options to the customer: analog setpoint input and for models used with Excel 10 Controllers, override (bypass) digital input contact, LED status indicator and network access jack.

- Integral linearized 20K ohm NTC thermistor.
- Vertical Mounting.
- Models available with setpoint adjustment.
- Models available with occupied/unoccupied override.
- For use only as replacement of existing T7750's.
- Not for new installations.
- All new Honeywell controllers now use TR20 Series Wall Modules.

Application: Wall Modules
Dimensions, Approximate: 5 1/32 in. high x 3 5/32 in. wide x 1 19/32 in. deep (128 mm high x 80 mm wide x 41 mm deep)
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)
Setpoint Temperature Range: 55 F to 85 F (12 C to 30 C)

Product Number	Sensor Type	Mounting	Comments	Used With
T7750A1000/U	20 K ohm NTC linear	Wall mount	—	W7751
T7750B1008/U	20 K ohm NTC linear	Wall mount	Has optional setpoint	W7751; Excel 20, 80, 100, 500, or 600
T7750C1006/U	20 K ohm NTC linear	Wall mount	Has optional setpoint, override, and override LED	W7751
T7750D1004/U	20 K ohm NTC linear	Wall mount	Has override, and override LED	W7751

T7771 Wall Module

The T7771A Remote Temperature Sensors are direct wired wall modules for use with the Honeywell T7350 Commercial Programmable Thermostat. The T7771A has a space temperature sensor, LED push button setpoint adjustment, and override with LED.

- Push button setpoint adjustment with LED indicators.
- Occupied/unoccupied override (bypass) with LED.
- LONWORKS® bus jack.
- Operating range 45 to 99 F (7 to 37 C).

Application: Remote Room Temperature Sensor for use with T7350 thermostat
Dimensions, Approximate: 5 1/32 in. high x 3 5/32 in. wide x 1 in. deep (128 mm high x 80 mm wide x 25 mm deep)
Color: White
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)
Setpoint Temperature Range: offset +/- 3F **(**offset +/- 1.67 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Comments: Can be configured to output 10K ohms for use in multiple sensor averaging with T7770A.
Used With: T7350
Approvals
N.E.C. Class II

Product Number	Sensor Type	Network Jack	Mounting	Comments
T7771A1005/U	20 K ohm NTC non-linear	LonWorks Bus	Mounted on a standard 2 x 4 inch junction box or on a 60 mm diameter junction box.	Can be configured to output 10K ohms for use in multiple sensor averaging with T7770A.

TB-WALL 10K ohm NTC Type II Temperature Sensors

Honeywell 10K ohm NTC Type II remote wall sensors are for use with the TB7200, TB7300, and TB7600 Series communicating thermostats and other devices requiring a 10K ohm NTC Type II sensor. These robust sensors provide accurate and stable temperature readings using a 10K ohm NTC thermistor element. The TB-WALL sensors can also be used for temperature averaging applications.Two or three TB wall sensors can be used and are quickly configured with the onboard dip switches. Temperature averaging with the usual 4, 9, 16, 25, etc. sensors can also be done with the TB wall sensors.

Dimensions, Approximate: 5 in. high x 3 3/8 in. wide x 1 3 5/32 in. deep (125 mm high x 86 mm wide x 29 mm deep)
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Shipping Temperature Range: -22 F to +122 F (-30 F to +50 F)
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Mounting: Wall mount
Used With: TB7600, TB7300, TB7200 Series communicating thermostats

Product Number	Application	Sensor Type	Description
TB-WALL-1014/U	Wall temperature sensor	10 K ohm NTC @ 77 F Type II	Wall Sensor
TB-WALLOVR-1014/U	Wall temperature sensor with override	10 K ohm NTC @ 77 F Type II	Wall Sensor with Override

TR20 Series Wall Modules

The TR21, TR22, TR23, TR24, and TR29 are a family of direct wired wall modules for use with Honeywell Excel 600, 500, 100, and 80 controllers; Excel 10 W7750, W7751A, W7752, and W7753 controllers; W7761 Controller; and Spyder Unitary Controllers. All models have a space temperature sensor.

- Models available with user selectable setpoint adjustment dials in Fahrenheit, Celsius and Relative Scales
- Models available with occupied/unoccupied override (bypass) with LED
- Models available with 3-position (auto/0/1) or 5-position (auto/0/1/2/3 speed) fan switch
- LONWORKS network jack on all models except the TR21 and TR21-A models
- Models available with on board humidity sensor, humidity output: 0-10Vdc, 0-5 Vdc, 4-20ma selectable
- Sensor can be mounted inside of the enclosure or directly to the wall or duct using the mounting clips supplied with the unit.

Application: Networked Sensor
Application Type: Wall Module
Dimensions, Approximate: 4 13/16 in. high x 3 in. wide x 7/8 in. deep (122mm high x 76.5 mm wide x 22 mm deep)
Color: White
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)
Setpoint Temperature Range: 55 F to 85 F (13 C to 30 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Mounting: Mounted on a standard 2 x 4 inch junction box or on a 60 mm diameter junction box.
Comments: Also used with the T7350 and TB8220 Thermostats
Used With: Spyder, Excel 600, 500, 100, 80 and Excel 10, 15 Series Controllers
Approvals
CE: Approved
Federal Communications Commission: FCC Part 15, Class B
Underwriters Laboratories, Inc: UL94 plastic enclosure

Product Number	Application	Network Jack	Sensor Type	Switch Positions (Fan)	Comments	Includes
TR21/U	Networked Sensor	None	20 K ohm NTC non-linear	—	Also used with the T7350 and TB8220 Thermostats	—
TR21-A/U	For use only when averaging multiple sensors	None	Unique 10K ohm non-linear, two 20Ks in parallel	—	Special 10K ohm for use only when averaging multiple sensors, can also be used with T7350, TB8220 Thermostats	—
TR21-H/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	Also used with T7350 Thermostat	Humidity and LON Jack
TR21-J/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	—	LON Jack
TR22/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	Also used with T7350 Thermostat	Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +) and LON Jack

Temperature Sensors

Product Number	Application	Network Jack	Sensor Type	Switch Positions (Fan)	Comments	Includes
TR22-F5/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	AUTO-OFF-1-2-3	—	Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +), LON Jack, and 5 position fan
TR23/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	Also used with T7350 Thermostat	Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +), LON Jack and Override Button with LED
TR23-F3/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	AUTO-OFF-ON	—	Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +), LON Jack, Override Button with LED and 3 position fan
TR23-F5/U	Networked Sensor	LonWorks Bus	20K ohm NTC non-linear	AUTO-OFF-1-2-3	—	Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +), LON Jack, Override Button with LED and 5 position fan
TR23-H/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	Also used with T7350 Thermostat	Humidity, Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +), LON Jack and Override Button with LED.
TR23-H-KL	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	Setpoint knobs not included Also used with T7350 Thermostat	on board humidity sensor
TR23-KL	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	Setpoint adjustment knobs not included Also used with T7350 Thermostat	—
TR23-N/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	Also used with T7350 Thermostat, no Honeywell logo	Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +), LON Jack and Override Button with LED
TR24/U	Networked Sensor	LonWorks Bus	20 K ohm NTC non-linear	—	Also used with T7350 Thermostat	LON Jack and Override Button with LED
TR29/U	—	—	Enclosure without sensor	—	—	—

Replacement Parts for the TR20 Series Wall Modules

Comments: sold in packs of 20
Used With: TR20 Series Wall Modules

Product Number	Color	Description
KNOB-C/U	White	Celsius Scale Knobs, (13 to 30C)
KNOB-F/U	White	Fahrenheit Scale Knobs (55F to 85F)
KNOB-O/U	White	Relative Scale Knobs (- to +)

TR20 Series Wireless Wall Sensor Kits

The WRECVR receiver and TR21-WS, TR23-WS, TR21-WK, and TR23-WK sensors are a family of wireless wall modules and receivers. All models report space temperature; TR23 models come with setpoint adjustment and override.

- Wall module to Receiver (point to point) wireless kits can replace any standard wired sensor
- Wireless Kits (wall module and receiver) are pre bound at the factory for quick installation
- Signal Strength LED built into the wall module
- Low battery indication
- Optional dip switches available to bind any wall module to any receiver
- Approximate 5 year battery life with AA Alkaline (included), 7.5 year with Lithium
- Locking screw discourages tampering and battery theft

Application Type: Wall Module
Dimensions, Approximate:
Sensor: 4 11/16 in. high x 3 in. wide x 7/8 in. deep
(Sensor: 119 mm high x 77 mm wide x 22 mm deep)
Receiver: 5 1/2 in. high x 3 13/64 in. wide x 2 13/64 in. deep
(Receiver: 140 mm high x 81 mm wide x 56 mm deep)
Operating Temperature Range:
Sensor: 45 F to 99 F (Sensor: 7 C to 37 C)
Receiver: -40 to +150 F (Receiver: -40 to + 65.5 C)
Temperature Sensor Accuracy: ± 1 F across 53.6 F to 86 F
(± 0.5 C across 12 C to 30 C)
Setpoint Temperature Range: 55 F to 85 F (13 C to 30 C)
Shipping Temperature Range: -40 F to +150 F (-40 to + 65.5 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Network Communications: —
Mounting: Wall Mount Sensor
Receiver Voltage: 20-30 Vac/dc, 50/60Hz; 24 Vac typical
Radio Frequency: 2.4 GHz (IEEE Std 802.15.4-2003 compliant)
Open Range: 3000 feet
Typical Range: 100 feet
Battery Life: 5 years with two AA Alkaline batteries (included)
7.5 years with two AA Lithium Batteries
Includes: TR21-WS and WRECVR
Comments: not compatible with TB7220, TB8220,TB line voltage thermostats, XL15s, W7762, W7763
Used With: Spyder, Excel 10 W7750, W7751, W7752, W7753, T7350, T7351, TB8575, WEBs-AXô I/O Module

Approvals
Federal Communications Commission: FCC Part 15
Underwriters Laboratories, Inc: UL94 plastic enclosure
Receiver: UL94-5VA

Product Number	Mounting	Color	Description	Includes
TR21-WK/U	Wall Mount Sensor	White Sensor	Wireless sensor kit, ships with both sensor and receiver	TR21-WS and WRECVR; Honeywell logo
TR21-WKU/U	Wall Mount Sensor	—	Wireless sensor kit, ships with both sensor and receiver	TR21-WSU and WRECVRU
TR23-WK/U	Wall Mount Sensor	—	Wireless sensor kit, ships with both sensor and receiver	TR23-WS and WRECVR; Honeywell logo
TR23-WKU/U	Wall Mount Sensor	—	Wireless sensor kit, ships with both sensor and receiver	TR23-WSU and RECVRU

Temperature Sensors

TR20 Series Wireless Wall Sensors

TR21-WS and TR23-WS sensors are a family of wireless wall modules. All models report space temperature; TR23 models come with setpoint adjustment and override.

- Wall module to Receiver (point to point) wireless kits can replace any standard wired sensor
- Wireless Kits (wall module and receiver) are pre bound at the factory for quick installation
- Signal Strength LED built into the wall module
- Low battery indication
- Optional dip switches available to bind any wall module to any receiver
- Approximate 5 year battery life with AA Alkaline (included), 7.5 year with Lithium
- Locking screw discourages tampering and battery theft

Application Type: Wall Module
Color: White
Dimensions, Approximate: 4 11/16 in. high x 3 in. wide x 7/8 in. deep (119 mm high x 77 mm wide x 22 mm deep)
Operating Temperature Range: 45 F to 99 F (7 C to 37 C)
Setpoint Temperature Range: 55 F to 85 F (13 C to 30 C)
Temperature Sensor Accuracy: ± 1 F across 53.6 F to 86 F (± 0.5 C across 12 C to 30 C)
Shipping Temperature Range: -40 F to +150 F (-40 to + 65.5 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Mounting: Wall mount

Battery Life: 5 years with two AA Alkaline batteries (included)
7.5 years with two AA Lithium Batteries
Radio Frequency: 2.4 GHz (IEEE Std 802.15.4-2003 compliant)
Open Range: 3000 feet
Typical Range: 100 feet
Comments: not compatible with TB7220, TB8220,TB line voltage thermostats, XL15s, W7762, W7763
Used With: Spyder, Excel 10 W7750, W7751, W7752, W7753, T7350, T7351, TB8575, WEBs-AXô I/O Module
Approvals
Federal Communications Commission: FCC Part 15
Underwriters Laboratories, Inc: UL94 plastic enclosure

Product Number	Description	Includes
TR21-WS/U	TR21 wireless temperature sensor	Honeywell logo
TR21-WSU/U	TR21 Wireless Temp Sensor without Honeywell logo	—
TR23-WS/U	TR23 Wireless temperature sensor with Setpoint (F/C/Relative) and override button	Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +), and Override Button; Honeywell logo
TR23-WSU/U	TR23 Wireless temperature sensor, with Setpoint (F/C/Relative) and override button, no Honeywell logo	Selectable Setpoint dials in Fahrenheit, Celsius, and Relative (- to +), and Override Button

TR20 Series Wireless Wall Modules

The WRECVR receiver and TR21-WS, TR23-WS, TR21-WK, and TR23-WK sensors are a family of wireless wall modules and receivers.

- Wall module to Receiver (point to point) wireless kits can replace any standard wired sensor
- Wireless Kits (wall module and receiver) are pre bound at the factory for quick installation
- Signal Strength LED built into the wall module
- Low battery indication
- Optional dip switches available to bind any wall module to any receiver

Application: Receiver
Application Type: Wireless Receiver
Dimensions, Approximate:
5 1/2 in. high x 3 13/64 in. wide x 2 13/64 in. deep (140 mm high x 81 mm wide x 56 mm deep)
Operating Temperature Range: -40 to +150 F (-40 to + 65.5 C)
Shipping Temperature Range: -40 F to +150 F (-40 to + 65.5 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing

Receiver Voltage: 20-30 Vac/dc, 50/60Hz; 24 Vac typical
Radio Frequency: 2.4 GHz (IEEE Std 802.15.4-2003 compliant)
Open Range: 3000 feet
Typical Range: 100 feet
Approvals
Federal Communications Commission: FCC Part 15
Underwriters Laboratories, Inc: UL94-5VA

Product Number	Comments	Includes	Used With	Description
WRECVR/U	—	Honeywell Logo	TR21-WS, TR23-WS	Receiver used with wireless temperature sensors
WRECVRU/U	no Honeywell logo	—	TR21-WSU, TR23-WSU	Receiver used with wireless temperature sensors

Zio® LCD Wall Modules

The TR70 and TR70-H are 2-wire, non-polarity sensitive, Sylk™ bus communicating wall modules for use with Spyder™ programmable controllers which are compatible with the Sylk bus.

All models have a space-temperature sensor, network bus jack, and an LCD with three soft keys and two Up/Down adjustment keys. The TR70-H model includes an onboard humidity sensor.

- Ability to control user access to controller parameters.
- Parameter access can be customized by using the Tridium Niagara Workbench tool.
- Programmable for: Home screen options, tenant access, contractor access, access to controller parameters, setpoint, override, fan, and other parameters.
- Supplied with eight pre-programmed configurations (e.g. VAV with balancing) in the wall module configuration tool.
- Ability to access and adjust most parameters in the
- programmable controller (except Scheduling).
- Ability to balance the VAV system from the wall
- module.
- Home screen can display one to three of any of the following parameters: Temperature Setpoint, Room Temperature, Room Humidity, Outdoor Humidity, Outdoor Temperature, and Time, or one of virtually any parameter in the controller.
- Network bus jack.
- Simple 2-wire terminal connection to the programmable controller and an optional 2-wire terminal connection for the network. All connections are polarity insensitive.
- Retention of user configuration, including setpoints after a power outage.

Application Type: Wall Module
Dimensions, Approximate: 3 5/16 in. wide x 4 5/8 in. high x 15/16 in. deep (84 mm wide x 117 mm high x 24 mm deep)
Temperature Sensor Accuracy: ±0.36 F at 77 F (±0.2 C at 25 C)
Operating Temperature Range: 30 F to 110 F (-1 C to 43 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to 65.5 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Color: White
Network Communications: Sylk Bus and Network Jack

Network Jack: Yes
Mounting: Vertical Mount
Switch Positions (Fan)
Configurable: : Used With: Spyder Sylk Enhanced
Approvals
CE: Approved
Federal Communications Commission: FCC Part 15
Underwriters Laboratories, Inc: UL94-HB plastic enclosure

Product Number	Application	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Humidity Sensor Accuracy	Comments
TR70-H-US/U	Temperature and Humidity Sensor	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	±5% RH from 20% to 80% RH	Meet ARRA Requirements Configurable with Niagara Workbench
TR70-US/U	Temperature sensor	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	—	Meet ARRA Requirements Configurable with Niagara Workbench
TR71/U	Temperature sensor	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	—	Configurable with Niagara Workbench
TR71-H/U	Temperature and Humidity Sensor	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	±5% RH from 20% to 80% RH	Configurable with Niagara Workbench

Temperature Sensors

Zio® Mini Wall Modules

The TR40 and TR42 are 2-wire, non-polarity sensitive, Sylk bus communicating wall modules, which communicate with Spyder® and some ComfortPoint™ programmable controllers.

The TR40 and TR42 are simple LDC temperature wall modules with basic setpoint, override, and fan options, and are designed for a broad range of applications. Models are available that include humidity and CO2 sensing.

- Two wire, polarity insensitive Sylk provides both power and communication to the device.
- Models available with display (TR42) or without display (TR40).
- Models available with or without built in humidity or CO2 sensors.
- TR42 models have configurable options using the Niagara tool for fan speeds and override.
- TR42 models have the ability for tenant to change between °F and °C
- TR42 models have the ability to provide tenant either a relative warmer/cooler setpoint adjustment or absolute temperature setpoint adjustment

Dimensions, Approximate: 3-1/4 in wide x 4-3/4 in high x 7/8 in. deep (83 mm wide x 121 mm high x 22 mm deep)
Temperature Sensor Accuracy: ±0.36 F at 77 F (±0.2 C at 25 C)
Operating Temperature Range: 32 F to 110 F (0 C to 43 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to 65.5 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Color: White
Network Communications: Sylk Bus
Mounting: Vertical Mount

Password Protection: Yes
Switch Positions (Fan): Configurable:
Comments: Configurable with Niagara Workbench
Used With: Spyder Controllers
Approvals
CE: Approved
Federal Communications Commission: FCC Part 15
Underwriters Laboratories, Inc : UL94-HB plastic enclosure

Product Number	Application	Setpoint Temperature Range		Humidity Sensor Accuracy
		(F)	(C)	
TR40	Temperature, Sensor Wall Module	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	—
TR40-H-CO2	Temperature, Humidity, CO2 Sensor Wall Module	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	±3% RH
TR40-H	Temperature, Humidity, Sensor Wall Module	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	±3% RH
TR40-CO2	Temperature, CO2 Sensor Wall Module	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	—
TR42-H-CO2	Temperature, Humidity, CO2 Sensor Wall Module	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	±3% RH
TR42-CO2	Temperature, CO2 Sensor Wall Module	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	—
TR42	Temperature, Sensor Wall Module	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	—
TR42-H	Temperature, Humidity, Sensor Wall Module	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	±3% RH

Zio® Mini Wall Modules Accessories

Product Number	Description	Dimensions, Approximate
TR-JACK	Enclosure with Lon Jack Termination Wall Plate	3-1/4 in wide x 4-3/4 in high x 7/8 in. deep (83 mm wide x 121 mm high x 22 mm deep)

Zio Plus LCD Wall Modules

The TR70 and TR70-H are 2-wire, non-polarity sensitive, Sylk™ bus communicating wall modules for use with Spyder™ programmable controllers which are compatible with the Sylk bus.

All models have a space-temperature sensor, network bus jack, and an LCD with three soft keys and two Up/Down adjustment keys. Like the TR71, but includes access to controller schedule and has more memory for additional parameters.

- Ability to control user access to controller parameters.
- Parameter access can be customized by using the Tridium Niagara Workbench tool.
- Programmable for: Home screen options, tenant access, contractor access, access to controller parameters, setpoint, override, fan, and other parameters.
- Supplied with eight pre-programmed configurations (e.g. VAV with balancing) in the wall module configuration tool.
- Ability to access and adjust most parameters in the
- programmable controller (except Scheduling).
- Ability to balance the VAV system from the wall
- module.
- Home screen can display one to three of any of the following parameters: Temperature Setpoint, Room Temperature, Room Humidity, Outdoor Humidity, Outdoor Temperature, and Time, or one of virtually any parameter in the controller.
- Network bus jack.
- Simple 2-wire terminal connection to the programmable controller and an optional 2-wire terminal connection for the network. All connections are polarity insensitive.
- Retention of user configuration, including setpoints after a power outage.

Application Type: Wall Module
Dimensions, Approximate: 3 5/16 in. wide x 4 5/8 in. high x 15/16 in. deep (84 mm wide x 117 mm high x 24 mm deep)
Color: White
Operating Temperature Range: 30 F to 110 F (-1 C to 43 C)
Temperature Sensor Accuracy: ±0.36 F at 77 F (±0.2 C at 25 C)
Shipping Temperature Range: -40 F to +150 F (-40 C to 65.5 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Network Communications: Sylk Bus and Network Jack

Network Jack: Yes
Mounting: Vertical Mount
Switch Positions (Fan): Configurable
Comments: Configurable with Niagara Workbench
Used With: Spyder Sylk Enhanced

Approvals
CE: Approved
Federal Communications Commission: FCC Part 15
Underwriters Laboratories, Inc: UL94-HB plastic enclosure

Product Number	Application	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Humidity Sensor Accuracy	Description
TR75/U	Temperature sensor	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	±5% RH from 20% to 80% RH	Zio Plus LCD Wall Module (Temperature)
TR75-H/U	Temperature and Humidity Sensor	Default range is 55 F to 85 F; configurable for other ranges	Default range is 10 C to 35 C; configurable for other ranges	—	Zio Plus LCD Wall Module (Temperature & Humidity)

H10 Series One or Two Phase kWh Meter

The H10 Series 100 kWh meters are fully electronic, low-cost meters for monitoring electrical usage in multi-family, commercial and industrial applications. Monitor anything from a single lighting circuit to an entire building. Ideal for both new and retrofitted facilities. Can be used for tenant monitoring and billing.

- Direct-read 2-line alpha-numeric LCD display without multiplier displays accumulative kWh and “real-time” kW load.
- Available in MMU (Multiple Meter Unit) enclosures containing up to 24 meters in one compact enclosure.
- Revenue-grade accuracy.
- Patented 0-2 volt output split-core current sensors promote enhanced safety and accurate remote mounting of current sensors up to 2,000 feet from meter without power interruption.
- Parallel up to three (3) sets of current sensors for cumulative reading.
- Current sensor installation diagnostics.
- Fixed pulse output.
- Non-volatile Memory.
- Maintains reading in the event of power failure.
- Meter can be used in the following configurations:
  — 1-Phase, 2-Wire
  — 2-Phase, 3-Wire
- Available in Industrial grade JIC steel enclosure (J) or NEMA 4X poly carbonate enclosure (R).
- UL/cUL Listed.
- Certified by independent test lab to ANSI C12.20 national accuracy standards. (±0.2% from 1% to 100% of rated load.)
- All meters must be ordered via fax at 800-356-0149, or e-mailed to “ACSUSTradeOrdersandQuotesOnly@honeywell.com”

Class 100 Selection Guide

Series	Class		Voltage	Current	Enclosure Type		Current Sensors	
H	10	-	2120	25-	J	JIC Steel Enclosure	KIT	Split-core Current Sensors
		-	3208	50-	R	NEMA 4X Enclosure	NONE	No Current Sensors Included
		-	2277	100	M	MMU Style meter		
				200				

Example: H10-212025-JKIT = Class 100 Single Phase 120V 25A Steel Enclosure with 1 Current Sensor

Example: H10-3208100JKIT = Class 100 Single Phase 208V 100A Steel Enclosure with 2 Current Sensors

Please see the MMU Ordering information for an example showing how to order an MMU panel.

MMU (Multiple Meter Unit) Cabinet Ordering Information

- Available in configurations containing up to 8, 16, or 24 meters.
- MMU cabinets are available for H10*, H20, and H32 meters and HIDRs.
- Compact installation of multiple meters allows for easy and centralized reading.
- IDRs (Interval Data Recorders) can be factory installed inside the MMU enclosures along with the meters allowing for easy interface to the E-Mon Energy software system. (IDRs are mounted on the back wall of the enclosure.)
- Three-phase MMU cabinets come with pre-wired voltage feeds. If IDR(s) are installed inside MMU cabinets, the connections from the meters to the IDR are also pre-wired at the factory.
- MMU cabinets may contain meters of different voltage configurations. (i.e. 208V & 480V meters inside a single MMU enclosure.)
- All meters must be ordered via fax at 800-356-0149, or e-mailed to “ACSUSTradeOrdersandQuotesOnly@honeywell.com”

**Single-Phase 277V meters not compatible with MMU cabinets.

MMUs should be ordered as shown in the example with meters and blanks directly following the HMMU part, so that the factory knows exactly what is needed in each MMU panel

NOTE: The MMU unit must be ordered separately when selecting 'M' for the enclosure type for class 100, 200, 320 and IDRs.

NOTE: Please specify the meter configuration in the MMU using the form 62-0460, and fax this in with the order. When ordering meters less than the capacity of the MMU, please fill up the difference with the ‘MMU-BLANK’ spaces. For example, if you buy 6 meters for HMMU-8, you need 2 MMU-Blank spaces (8-6=2).

MMU order example

	Part	Qty	
line 1	HMMU-8	1	**Meters and blanks must add up to # of slots in MMU, in this case 8**
line 2	H32-4801600MEZ7KIT	3	
line 3	H32-480400-MEZ7KIT	3	
line 4	MMU-BLANK	2	

MMU (Multi Meter Unit) Parts	
Part number	**Description**
HMMU-8	MMU-8 Cabinet/enclosure for 8 meters
HMMU-16	MMU-16 Cabinet/enclosure for 16 meters
HMMU-24	MMU-24 Cabinet/enclosure for 24 meters
MMU-BLANK	Multiple Meter Unit Blank Space

H20 Series Three Phase kWh demand meter

The H20 Series 200 kWh meters are fully electronic, low cost meters for monitoring electrical usage in multifamily, commercial and industrial applications.

- Direct-read 2-line alpha-numeric LCD display without multiplier displays cumulative kWh & “real-time” kW load.
- Demand option displays kW/Demand and kW Peak date and time (15 minute interval standard, 30 and 60 minute intervals available.)
- Patented 0-2 volt output split-core current sensors promote enhanced safety and accurate remote mounting of current sensors up to 2000 feet from meter without power interruption.
- Onboard installation diagnostics & verification system.
- Parallel up to three (3) sets of current sensors for cumulative reading.
- Meter can be used on the following configurations:
  3-Phase, 4-Wire
  3-Phase, 3-Wire
  2-Phase, 3-Wire
- Fixed-value pulse output.
- Available in both industrial grade JIC steel enclosure and NEMA 4X polycarbonate enclosure.
- Non-volatile Memory.
- UL/CUL Listed.
- Revenue Grade Accuracy. Certified by independent test lab to ANSI C12.20 national accuracy standards. (±0.2% from 1% to 100% of rated load.)
- All meters must be ordered via fax at 800-356-0149, or e-mailed to “ACSUSTradeOrdersandQuotesOnly@honeywell.com”

Class 200 and Green Net Meter Selection Guide

Series	Class		Voltage	Current	Enclosure Type		Green or Demand Option		Current Sensors	
H	20	-	120	100-	J	JIC Steel Enclosure	-G-	Green Class Meter	KIT	Split-core Current Sensors
		-	208	200-	R	NEMA 4X Enclosure	KIT	No Options, Split Core Sensors	NONE	No Current Sensors Included
		-	480	400-	M	MMU Style Meter	SCS	Solid-core Current Sensors		
			600	800-			XXX	No Options. No Sensors		
				1600						
				3200						

Example: H20-208100-RKIT = Class 200 Three Phase 208/240V 100A NEMA 4X Enclosure with 3 Current Sensors.

Example: H20-2081600R-D-KIT = Class 200 Three Phase 208/240V 1600A NEMA 4X Enclosure, Demand Option, with Three Current Sensors

Please see the MMU Ordering information for an example showing how to order an MMU panel.

H32 Series 3 Phase Communicating Meters

The H32 Series meter is a 3-element meter with communications. The device is used to monitor electric power usage of individual loads after the utility meter and store kW and kVAR data for automatic meter reading.

- Advanced 4-line display showing:
  - — kWh
  - — kW demand (with peak date & time)
  - — Power factor per phase
  - — Real-time load in kW
  - — Amps per Phase
  - — Volts per phase.
- On-board set-up option for:
  - — Meter date/time
  - — ID codes for communication option
- 0-2 volt output split-core current sensors allow for enhanced safety and accurate remote mounting of sensors up to 500 feet from meter without power interruption (all part numbers with 'KIT' include 3 current sensors).
- Meter is designed for use on both 3-phase, 3-wire (Delta) and 3-phase, 4-wire (Wye) circuits.
- Onboard installation diagnostics and verification system: current sensor installation diagnostics indicator, phase error indicator and phase angle diagnostics on display.
- RS-485 Protocol options:
  - — Modbus RTU
  - — BACnet MS/TP
  - — EZ-7
- Available in MMU (Multiple Meter Unit) enclosures containing up to 24 meters in one compact enclosure.
- When the "M" (MMU) enclosure type is chosen, the MMU should be ordered separately.
- Compat ble with E-Mon Energy software via EZ7 protocol or automatic meter reading, energy billing and profiling.
- Built-in RS-485 communication capability supports the following connection configuration combinations not to exceed 52 devices per channel): - Up to 52 Class 500 meters and/or IDR interval data recorders. Cabling can be either daisy-chain or star configuration, 3-conductor, 18-22 AWG, up to 4,000 cable feet total per network string.
- Records kWh and kVARh delivered, kWh and kVARh received in first four channels. Data stored in 15-min. for up to 72 days or 5-minute intervals for up to 24 days. Maintains data in a first-in, first-out format.
- Enclosure: Type 4X polycarbonate enclosure for outdoor/ indoor installation and type 1 heavy duty JIC steel enclosure for indoor installation.
- UL/CUL Listed. Certified by independent test lab to ANSI C12.20 national accuracy standards. (±0.2% from 1% to 100% of rated load).
- Non-volatile memory to maintain reading during power outages.
- MV-90 Compatible with EZ7 only.
- All meters must be ordered via fax at 800-356-0149, or e-mailed to "ACSUSTradeOrdersandQuotesOnly@honeywell.com"

Class 320 Meter and MMU Selection Guide

Series	Class		Voltage	Current	Enclosure Type		Protocol		Current Sensors	
H	32	-	120	25HV	J	JIC Steel Enclosure	RTU	Modbus RTU	KIT	Split-core Current Sensors
		-	208	100-	R	NEMA 4X Enclosure	EZ7	EZ-7	NONE	No Current Sensors Included
		-	480	200-	M	MMU Style Meter				
			600	400-						
				800-						
				1600						
				3200						

Example: H32-480400-JRTUKIT = Class 32 Three-Phase 480V 400A Steel Enclosure, Modbus RTU, Three Current Sensors

Example: H32-4801600MEZ7KIT = Class 32 Three-Phase, 480V 1600A MMU Enclosure, RS-485 EZ-7,Three current Sensors

Please see the MMU Ordering tab for an example showing how to order an MMU panel.

H50 Series Advanced 3 Phase Communicating Meter

The H50 Series Class 500 Meter is a 3-element meter with communications. The device is used to monitor electric power usage of individual loads after the utility meter and store kW and kVAR data for automatic meter reading. Installation must only be performed by qualified personnel and in accordance with these instructions and all applicable local and national electrical codes.

- Advanced 4-line display showing:
  - — kWh
  - — kW demand (with peak date & time)
  - — Power factor per phase
  - — Real-time load in kW
  - — Amps per Phase
  - — Volts per phase.
- On-board set-up option for:
  - — IP address
  - — Meter date/time
  - — ID codes for EZ7
  - — Modbus and BACnet.
- 0-2 volt output split-core current sensors allow for enhanced safety and accurate remote mounting of sensors up to 500 feet from meter without power interruption (all part numbers with 'KIT' include 3 current sensors).
- Onboard installation diagnostics and verification system: current sensor installation diagnostics indicator, phase error indicator and phase angle diagnostics on display.
- Optional 5th & 6th channel available for two external meter inputs (gas, water, BTU, etc.) on Modbus, BACnet, and LonWorks (only one channel is available with EZ-7 protocol). Both channels provide interval data logging that can be read via E-Mon Energy software.
- Communication options/protocols:
  - — Built in RS-485: BACnet MS/TP, Modbus RTU, Lon Twisted Pair, EZ-7
  - — Built in Ethernet: BACnet IP, Modbus TCP/IP, EZ-7.
- Compat ble with E-Mon Energy software via EZ7 protocol for automatic meter reading, energy billing and profiling (applicable communication options: 02,03,05, and 07).
- Phase loss alarm (N.O. Contact).
- Built-in RS-485 communication capability supports the following connection configurations (or combinations not to exceed 52 devices per channel): - Up to 52 Class 500 meters and/or IDR interval data recorders. Cabling can be either daisy-chain or star configuration through RJ-11 modular jack (4-conductor) or terminal block (3-conductor), 18-26 AWG, up to 4,000 cable feet total.
- For EZ-7 meters, records kWh and kVARh delivered, kWh and kVARh received in first four channels. Data stored in 15-min. for up to 72 days or 5-minute intervals for up to 24days. Maintains data in a first-in, first-out format.
- Meter operates as slave device when used with Modbus or LONworks options. Meter works as a master device on BACnet MS/TP.
- Enclosure: Type 4X polycarbonate enclosure for outdoor/ indoor installation and type 1 heavy duty JIC steel enclosure for indoor installation.
- UL/CUL Listed. Certified by independent test lab to ANSI C12.20 national accuracy standards. (+/- 0.2% from 1% to 100% of rated load).
- Non-volatile memory to maintain reading during power outages.
- MV-90 Compat ble (with EZ7 only).
- Meter data points
  - — Energy delivered
  - — Reactive Energy delivered
  - — Energy Received
  - — Real Power
  - — Reactive Power
  - — Apparent power
  - — Power factor
  - — Current total
  - — Current average
  - — Voltage line
  - — Frequency
  - — Phase angle
  - — Real power for each phase
  - — Reactive power for each phase
  - — Apparent power for each phase
  - — Power factor for each phase
  - — Current for each phase
  - — Voltage for each phase
  - — Phase angle for each phase
  - — External input 1 (optional)
  - — External input 2 (optional)
- All meters must be ordered via fax at 800-356-0149, or e-mailed to "ACSUSTradeOrdersandQuotesOnly@honeywell.com"

Class 500 and Green Net Meter Selection Guide

Series	Class		Voltage	Current	Enclosure Type		Protocol		Green Net Option		Current Sensors	
H	50	-	120	25HV	J	JIC Steel Enclosure	01	EZ-7, EZ-7 Ethernet (Green Net Meters only)	-X-	Expanded Feature Package	KIT	Split-core Current Sensors
		-	208	100-	R	NEMA 4X Enclosure	03	BACnet MS/TP, EZ-7 Ethernet	KIT	No Options, Split Core Sensors	NONE	No Current Sensors Included
		-	480	200-			04	EZ-7, Modbus TCP/IP	SCS	No Options, Solid Core Sensors		
			600	400-			05	EZ-7, BACnet IP	XXX	No Options, No Sensors		
				800-			06	Modbus RTU, Modbus TCP/IP				
				1600			07	LONWORKS TP, EZ-7 Ethernet				
				3200			08	LONWORKS TP, Modbus TCP/ IP				
							09	EZ-7, EZ-7 Ethernet with modem				
							10	EZ-7, Modbus TCP/IP with modem				
							11	EZ-7, BACnet IP with modem				

Example: H50-480400-J05KIT = Class 500 Three-Phase 480V 400A Steel Enclosure, BACnet IP and RS-485 EZ-7 with Three Current Sensors

Example: H50-480400-J01-N-KIT = Class 500 Three-Phase Green Net, 480V 400A Steel Enclosure, Ethernet EZ-7 and RS-485 EZ-7, with Three Current Sensors

Submeters

Interval Data Recorder

The Interval Data Recorder (IDR) is an energy data collection device.

- Advanced 4-line display showing:
  - — kWh
  - — Real-time load
- • On-board set-up option for:
  - — IP address
  - — Date/time
  - — ID codes for EZ7, Modbus and BACnet
- Standard IDR (RJ Jacks) reads & records up to 8 or 16 H-Series class 100/200 meters (pulse input). (3rd party meters don't work with RJ jacks.)
- IDR-ST (screw terminal) model can accept contact closure type pulse inputs from other types of meters (water, gas, BTU, steam, etc.). The ST option is available only on HIDR-8 models.
- Built-in RS-485 communications capability supports the following connection configurations (or combinations not to exceed 52 devices per channel):
  - — Up to 52 Class 500 meters and/or IDR interval data recorders
  - — Cabling can be either daisy-chain or star configuration, 3-conductor, 18-22 AWG, up to 4,000 cable feet total per channel.
- Built-in communications
  - — RS-485
  - — Ethernet - Optional telephone modem
- Protocols
  - — EZ7
  - — Modbus RTU
  - — Modbus TCP/IP
  - — BACnet MS/TP
  - — BACnet IP
  - — LonWorks FT-10 (Twisted Pair)
- Data stored for 55 days at 5-min intervals and 165 days at 15-min intervals. (When connected to E-mon Energy software, data can be retrieved for 72 days at 15-min intervals and 24 days at 5-min intervals).
- Reads usage and reads demand in 15, 30 or 60-minute kW periods.
- 120V power supply required and included with all IDR's.
- Maintains data in case of power outage.
- Industrial-grade JIC steel enclosure with padlocking hasp and mounting flanges and three 1 1/16 knockouts (3/4" conduit) on bottom of enclosure (stand-alone IDR's only).
- MV-90 compatible (with EZ7 only).
- All meters must be ordered via fax at 800-356-0149, or e-mailed to "ACSUSTradeOrdersandQuotesOnly@honeywell.com"

Interval Data Recorder Selection Guide

Class	# of Meters	Enclosure Type		Protocol		Connection	
HIDR-	8-	J	JIC Steel Enclosure	01	EZ-7, EZ-7 Ethernet	ST	Screw Terminal Connections (only available for HIDR-8 models)
	16	R	NEMA 4X Enclosure	02	Modbus RTU, EZ-7 Ethernet	RJ	RJ Connections
		M	MMU style meter	03	BACnet MS/TP, EZ-7 Ethernet		
				04	EZ-7, Modbus TCP/IP		
				05	EZ-7, BACnet IP		
				06	Modbus RTU, Modbus TCP/IP		
				07	LONWORKS TP, EZ-7 Ethernet		
				08	LONWORKS TP, Modbus TCP/ IP		
				09	EZ-7, EZ-7 Ethernet with modem		
				10	EZ-7, Modbus TCP/IP with modem		
				11	EZ-7, BACnet IP with modem		

Example: HIDR-8-J05ST = IDR for 8 meters, Steel enclosure, EZ-7 RS-485 and EZ-7 Ethernet with Screw Terminal connection option

Example: HIDR-16J02RJ = IDR for 16 meters, Steel enclosure, Modbus RTU and EZ-7 Ethernet with RJ connection option

Please see the MMU Ordering tab for an example showing how to order an MMU panel.

SXB35/SXB36 Networked Power Meters (Modbus® RTU)

Honeywell's innovative three-phase networked (Modbus RTU) power meters combine power metering electronics and high accuracy industrial grade current sensors in a single package. There are two application-specific platforms to choose from. The SXB35 Meters are ideal for submetering applications where only kW and kWh are required. The SXB36 Enhanced Data Stream meters output 26 energy variables including kW, kWh, volts, amps, and power factor, making them ideal for power monitoring and diagnostics.

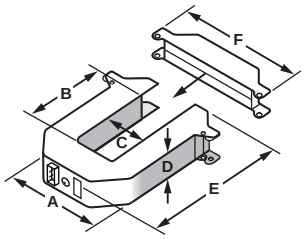
- Monitor energy parameters (kW, kWh, kVAR, PF, Amps, Volts) at up to 63 locations on a single RS-485 network, greatly reduces wiring time and cost
- Fast split-core installation eliminates the need to remove conductors, saving time and labor
- Precision metering electronics and current transformers in a single package reduces the number
- of installed components, meaning huge labor savings
- Smart electronics eliminate current sensor orientation concerns, resulting in fast, trouble-free installation
- Certified to ANSI C12.16

Application: Ideal for monitoring electrical power in commercial and industrial facilities
Output: RS-485
Display: No
Frequency (Hz): 50-60 Hz
Operating Temperature Range: 32 F to 140 F (0 C to 60 C)

Operating Humidity Range (% RH): 0-95% non-condensing
Protocol: Modbus RTU
Approvals
Canadian Standards Association: Recognized
Underwriters Laboratories, Inc: UL

Product Number	Description	Current Sensor Rating (A)
SXB35-100/U	Energy Only, 3Ø,100Amp, Small	100A
SXB35-1600/U	Energy Only, 3Ø,1600Amp, Large	1600A
SXB35-2400/U	Energy Only, 3Ø, 2400Amp, Large	2400A
SXB35-300/U	Energy Only, 3Ø, 300Amp, Small	300A
SXB35-400/U	Energy Only, 3Ø,400Amp, Med	400A
SXB35-800-3/U	Energy Only, 3Ø, 800Amp, Med	800A
SXB35-800-4/U	Energy Only, 3Ø, 800Amp, Large	800A
SXB36-100/U	Full Data Stream, 3Ø, 100Amp, Small	100A
SXB36-1600/U	Full Data Stream, 3Ø, 1600Amp, Large	1600A
SXB36-2400/U	Full Data Stream, 3Ø, 2400Amp, Large	2400A
SXB36-300/U	Full Data Stream, 3Ø, 300Amp, Small	300A
SXB36-400/U	Full Data Stream, 3Ø, 400Amp, Med	400A
SXB36-800-3/U	Full Data Stream, 3Ø, 800Amp, Med	800A
SXB36-800-4/U	Full Data Stream, 3Ø, 800Amp, Large	800A

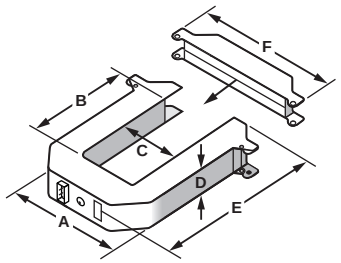
Dimensions in inches (millimeters)



SMALL
100/300 AMP

A = 3-51/64 (96)
B = 1-1/2 (38)
C = 1-19/64 (31)
D = 1-3/32 (29)
E = 4 (100)
F = 4-51/64 (121)

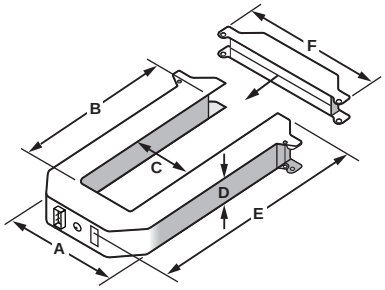
M29225



MEDIUM
400/800 AMP

A = 4-29/32 (125)
B = 2-29/32 (73)
C = 2-1/2 (62)
D = 1-3/32 (29)
E = 5-13/64 (132)
F = 5-29/32 (151)

M29226



LARGE
800/1600/2400 AMP

A = 4-29/32 (125)
B = 5-1/2 (139)
C = 2-1/2 (62)
D = 1-3/32 (29)
E = 7-29/32 (201)
F = 6 (151)

M29227

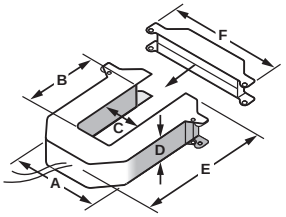
SXB40/SXB50 Self Contained Split-Core kW/kWh Transducers

The Honeywell SXB40/SXB50 Series kW (real power)/kWh (consumption) transducers combine processing electronics and industrial grade current sensors in an easy-to install split-core package. These devices continuously measure voltage and current values for the monitored conductors and update calculations to provide highly accurate true RMS power readings. Models designed for balanced loads include one current sensor only, while models for unbalanced loads have three current sensors.

- Fast split-core installation eliminates the need to remove conductors - perfect for retrofits
- Precision meter electronics and current transformers in a single package reduces the number of installed components, resulting in huge labor savings
- Smart electronics eliminate the need to be concerned with current sensor orientation, providing fast, trouble-free installation
- Certified to ANSI C12.16

Output: Pulse
Display: No
Frequency (Hz): 50-60 Hz
Operating Temperature Range: 32 F to 140 F (0 C to 60 C)
Operating Humidity Range (% RH): 0-95% non-condensing
Approvals
Canadian Standards Association: Recognized
Underwriters Laboratories, Inc: Listed

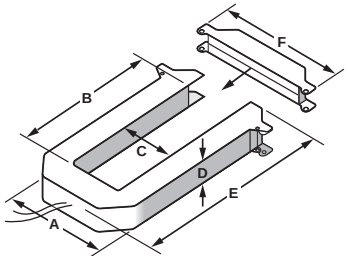
Dimensions in inches (millimeters)



SMALL
100/300 AMP

A = 3-51/64 (96)
B = 1-13/64 (30)
C = 1-19/64 (31)
D = 1-13/64 (30)
E = 4 (100)
F = 4-51/64 (121)

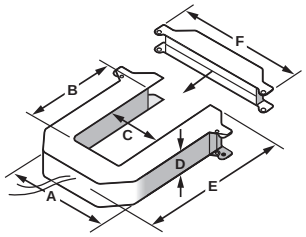
M29198



LARGE
800/1600/2400 AMP

A = 4-29/32 (125)
B = 5-1/2 (139)
C = 2-1/2 (62)
D = 1-13/64 (30)
E = 7-29/32 (201)
F = 6 (151)

M29200



MEDIUM
400/800 AMP

A = 4-29/32 (125)
B = 2-29/32 (73)
C = 2-1/2 (62)
D = 1-13/64 (30)
E = 5-13/64 (132)
F = 5-29/32 (151)

M29199

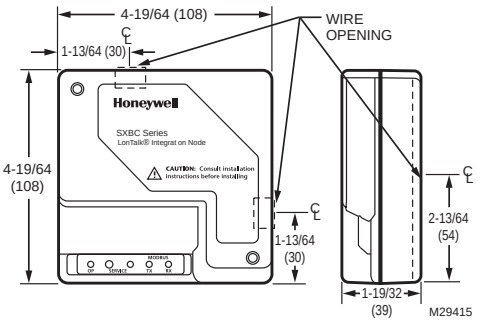
Product Number	Application	Description	Current Sensor Rating (A)
SXB53-100/U	Ideal for monitoring electrical power in commercial and industrial facilities	Pulse/kWH, 3Ø, 100Amp, Small	100A
SXB53-1600/U	Ideal for monitoring electrical power in commercial and industrial facilities	Pulse/kWH, 3Ø, 1600Amp, Large	1600A
SXB53-2400/U	Ideal for monitoring electrical power in commercial and industrial facilities	Pulse/kWH, 3Ø, 2400Amp, Large	2400A
SXB53-300/U	Ideal for monitoring electrical power in commercial and industrial facilities	Pulse/kWH, 3Ø, 300Amp, Small	300A
SXB53-400/U	Ideal for monitoring electrical power in commercial and industrial facilities	Pulse/kWH, 3Ø, 400Amp, Med	400A
SXB53-800-3/U	Ideal for monitoring electrical power in commercial and industrial facilities	Pulse/kWH, 3Ø, 800Amp, Med	800A
SXB53-800-4/U	Ideal for monitoring electrical power in commercial and industrial facilities	Pulse/kWH, 3Ø, 800Amp, Large	800A

SXBC-1, SXBC-5 Integration Nodes

To answer the needs for open-protocol standards and cost-effective energy information, Honeywell offers the SXBC Series of LonTalk Integration Nodes. Transducers can be connected to LonWorks networks through the SXBC devices. Couple the simplified installation of our Modbus power meters to the flexible SXBC platform and realize installation savings of up to 70% when compared to "standard" power transducers.

- Easy Integration to Honeywell networks
- Pre-configured to pass points acquired by Honeywell transducers to a Lon controller
- Easy cost-effective connectivity to LonWorks systems makes open connectivity possible
- Flexible mounting and wiring options save time and money

Dimensions in inches (millimeters)



Product Number	Application	Description
SXBC-1/U	LonTalk® integration node	SXB36 to LonTalk® integration node
SXBC-5/U	LonTalk® integration node	SXB35 to LonTalk® integration node

T4039 Fan Coil Thermostat

Control line voltage valves of a fan coil unit in cooling, manual or automatic changeover heating-cooling systems.

- Directly operate one or two valves
- Positive deadband separates heating and cooling circuits in automatic models
- Includes allen wrench for cover and mounting screw

Dimensions, Approximate: 4 5/8 in. high x 4 15/16 in. wide x 1 5/16 in. deep (118 mm high x 125 mm wide x 33 mm deep)
Mounting: 4 in. square outlet box or 2-ganged outlet box
Electrical Ratings: Fan Switch: 120 Vac: 5.5 AFL, 33.0 ALR; 240 Vac: 2.75 AFL, 16.5 ALR; 277 Vac: 2.4 AFL, 14.4 ALR
Thermostat (Valve load): 120 Vac: 0.32 AFL, 1.0 A ALR; 240 Vac: 0.16 AFL, 0.50 ALR; 277 Vac: 0.14 AFL, 0.43 ALR
Voltage: 120 to 277 Vac
Frequency: 50 Hz; 60 Hz
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Display: No
Includes: Allen wrench for cover and mounting screws
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: File No. E34436, Vol 2, dated 3-19-73; Guide No. XAPX

Accessories:
TG511A1000-Medium Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T822, T834, T8034, T841, T874 with Q674, WR1F46, and others
TG511D1004-Medium Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T822, T834, T8034, T841, T874 with Q674, and others
TG512A1009-Large Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T8082, T8085, T8600, and most electronic thermostats
TG512D1003-Large Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T8082, T8085, T8600, and most electronic thermostats

Product Number	Application	Setting Temperature Range (F)	Setting Temperature Range (C)	Differential Temperature (F)	Differential Temperature (C)	Switch Position: System	Switch Position: Fan	Changeover	Color
T4039B1008/U	Fan coil, cooling only	55 F to 95 F, marked COOL-WARM	13 C to 35 C, marked COOL-WARM	Approximately 2 F at midscale	Approximately 1 C at midscale	ON-OFF	HI-MED-LO	—	Tan
T4039J1026/U	4 pipe fan coil, automatic heat-cool changeover	55 F to 95 F, marked COOL-WARM	13 C to 35 C, marked COOL-WARM	The differential from make of one contact to make of the opposite contact is 7 F maximum with a positive deadspot	The differential from make of one contact to make of the opposite contact is 4 C maximum with a positive deadspot	OFF-HI-LO, Off breaks cooling and fan circuits	—	Remote changeover switch is required to separate circuits in manual changeover heating-cooling models	Tan
T4039M1004/U		55 F to 95 F, marked COOL-WARM	13 C to 35 C, marked COOL-WARM			ON-OFF	HI-MED-LO	Automatic	Tan
T4039M1103/U		55 F to 95 F, marked COOL-WARM	13 C to 35 C, marked COOL-WARM			ON-OFF	HI-MED-LO	Automatic	Premier White®
T4039S1016/U	4 pipe fan coil, manual heat-cool changeover	55 F to 95 F, marked COOL-WARM	13 C to 35 C, marked COOL-WARM			HEAT-OFF-COOL	HI-MED-LO	Manual	Tan
T4039S1040/U		55 F to 95 F, marked COOL-WARM	13 C to 35 C, marked COOL-WARM			HEAT-OFF-COOL	HI-MED-LO	Manual	Tan

Fan Coil Thermostats

T6069 Fan Coil Thermostat

T6069 thermostats control line voltage valves and/or blower motors on fan coil units in manual changeover heating/cooling systems. The thermostats feature a single System and Fan speed switch.

- Thermostat, system and fan control switches combined in one deluxe-styled unit
- Available in classic gold or contemporary white styling
- Language-free graphic symbols
- Manual three-speed fan control on most models
- Suitable for single or double gang electrical boxes
- Operates one or two valves
- Has cycled or constant fan control

Dimensions, Approximate: 4 5/8 in. high x 4 1/2 in. wide x 1 7/8 in. deep. + 5/8 in projection into junction box (119 mm high x 114 mm wide x 47 mm deep + 15 mm projection into junction box)
Mounting: Mounts on 2 in. x 4 in. (50mm x 75 mm) single or double-ganged vertically-oriented outlet box
Electrical Ratings: 8.0 AFL / 48 ALR / 13A resistive @ 120 Vac
4.4 AFL / 26.4 ALR / 7.5A resistive @208 Vac
4.0 AFL / 24 ALR / 6.5A resistive @240 Vac
3.3 AFL / 19.8 ALR 5.5A resistive @277 Vac
Voltage: 120 to 277 Vac
Frequency: 50 Hz; 60 Hz
Display: No thermometer

Approvals
Canadian Standards Association: File No. LR1322
Underwriters Laboratories, Inc: File No. E4436

Accessories:
TG511A1000-Medium Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T822, T834, T8034, T841, T874 with Q674, WR1F46, and others
TG511D1004-Medium Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T822, T834, T8034, T841, T874 with Q674, and others

Product Number	Application	Setting Temperature Range		Differential Temperature		Switch Position		Changeover	Color
		(F)	(C)	(F)	(C)	System	Fan		
T6069A4010/U	2 pipe fan coil, manual heat-cool changeover, constant or cycled fan	44 F to 86 F	—	2 F	—	HEAT-OFF-COOL	HI-MED-LO	Manual	Tan
T6069B4000/U	4 pipe fan coil, manual heat-cool changeover, constant fan	—	7 C to 28 C	—	1 C	HEAT-OFF-COOL	HI-MED-LO	Manual	Premier White®
T6069B4018/U	4 pipe fan coil, manual heat-cool changeover, constant fan	44 F to 86 F	—	2 F	—	HEAT-OFF-COOL	HI-MED-LO	Manual	Tan
T6069C4016/U	4 pipe fan coil, manual heat-cool changeover, cycled fan	44 F to 86 F	—	2 F	—	HEAT-OFF-COOL	HI-MED-LO	Manual	Tan
T6069D4014/U	2 pipe fan coil, seasonal auto changeover, constant or cycled fan	44 F to 86 F	—	2 F	—	ON-AUTO-OFF	HI-MED-LO	Seasonal Auto with External Aquastat® Controller	Tan

T6169 Fan Coil Thermostat

The T6169 thermostats control line voltage valves and/or blower motors on fan coil units in manual or automatic changeover, cooling, heating or cooling/heating systems. The thermostats feature a single fan and/or system manual switches.

- Combines thermostat, single system and/or fan control switch in one deluxe-styled unit
- Three speed manual FAN control on some models
- Fan can be wired for continuous (ON) or cycled (AUTO) operation
- System switch OFF position breaks heating/cooling and fan circuits
- Color-coded leadwire connections
- Available in classic gold or Premier White® styling
- Language-free graphic symbols
- Suitable for single or double gang electrical boxes

Dimensions, Approximate: 4 5/8 in. high x 4 1/2 in. wide x 1 7/8 in. deep + 5/8 in projection into junction box (133 mm high x 114 mm wide x 47 mm deep + 15 mm projection into junction box)
Mounting: Mounts on 2 in. x 4 in. (50mm x 75 mm) single or double-ganged vertically-oriented outlet box.
Electrical Ratings: 8.0 AFL / 48 ALR / 13A resistive @ 120 Vac
4.4 AFL / 26.4 ALR / 7.5A resistive @208 Vac
4.0 AFL / 24 ALR / 6.5A resistive @240 Vac
3.3 AFL / 19.8 ALR 5.5A resistive @277 Vac
Voltage: 120 to 277 Vac
Frequency: 50 Hz; 60 Hz
Display: No thermometer

Approvals
Canadian Standards Association: File No. LR1322
Underwriters Laboratories, Inc: File No. E4436

Accessories:
TG511A1000-Medium Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T822, T834, T8034, T841, T874 with Q674, WR1F46, and others
TG511D1004-Medium Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T822, T834, T8034, T841, T874 with Q674, and others

Product Number	Application	Setting Temperature Range		Differential Temperature		Switch Position		Changeover	Color
		(F)	(C)	(F)	(C)	System	Fan		
T6169A4001/U	2 pipe fan coil, seasonal auto changeover, constant or cycled fan	—	7 C to 28 C	—	1 C	—	HI-OFF-MED-LO	Seasonal Auto with External Aquastat® Controller	Premier White®
T6169A4019/U	2 pipe fan coil, seasonal auto changeover, constant or cycled fan	44 F to 86 F	—	2 F	—	—	HI-OFF-MED-LO	Seasonal Auto with External Aquastat® Controller	Tan
T6169B4017/U	4 pipe fan coil, manual heat-cool changeover, no fan switching	44 F to 86 F	—	2 F	—	HEAT-OFF-COOL	—	Manual	Tan
T6169C4015/U	2 pipe fan coil, manual or auto changeover	44 F to 86 F	—	2 F	—	Auto-Off	—	Automatic; Manual	Tan

Fan Coil Thermostats

TB6575; TB8575 Digital Fan-Coil Thermostat

The TB6575A, TB6575B, and TB8575A are a family of Digital Fan-Coil thermostats for residential and commercial applications. They are great for use in hotels, condos, and school classrooms. They provide line voltage and low voltage on/off control for various fan-coil units. The three models provide control of 2 or 4 pipe fan-coil units, 120, 240, or 24 Vac, and manual or automatic heat/cool changeover. The fan can also be controlled from the thermostat, which offers three fan speeds (Low, Med, High) and Auto. Valves and auxiliary electric heaters can be controlled using a relay or contactor system switch controlled by the thermostat.

Dimensions, Approximate: 3 13/16 in. high x 5 13/16 in. wide x 1 1/8 in. deep (97 mm high x 148 mm wide x 29 mm deep)
Mounting: Direct mounting on horizontal 2 x 4 in. (50mm x 75 mm) junction box. Mounts on vertical 2 x 4 in. or 4 x 4 in junction box with optional wall plate (50033847-001)
Electrical Ratings: 120 Vac, Fan Rating: 6.0 A, Relay Rating: 1.0 A; 240 Vac, Fan Rating: 3.0 A, Relay Rating: 1.0 A
Frequency: 50 Hz; 60 Hz
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Display: LCD
Color: Premier White®
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: Meets the same requirements as UL-873

- Simple, intuitive user interface and ease of installation
- Attractive modern styling ideal for hotels and condos
- Digital display of ambient temperature, setpoint, mode icons when cooling or heating relays operate, when energy savings mode is active, and fan status
- Four buttons allow manual control of system operation, fan speed, and temperature setpoint adjustment
- VersaSpeed™ Fan Ramp Algorithm automatically adjusts Low, Medium, High fan speed
- Optional freeze protection feature that turns on heat, if necessary
- Activity sensing algorithm sets back thermostat to economy mode
- Auto fan rest option sets back fan to auto mode
- Energy savings mode -- external energy savings input from dry contact such as time switch, occupancy sensor, or hotel cardkey overrides comfort setpoint with selectable setback heating or cooling setpoints
- Energy savings input configurable as a normally open or normally closed dry contact
- Proportional plus integral (P+I) control algorithm for precision temperature regulation
- Selectable C or F
- Adjustable deadband, in auto changeover mode, for heat and cool control
- Adjustable maximum heating and minimum cooling setpoint limits
- Installer setup mode allows changes of operating parameters
- EEPROM permanently retains user settings, including setpoints, during power loss (no batteries required)
- Capability to display temperature sensor failure for easier troubleshooting
- Optional remote temperature sensor and remote pipe sensor

Accessories:
50033847-001-Adapter plate for mounting TB6575/TB8575 series fan coil thermostats to vertical, single or double-gang junction box
C7041B2005-20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013-20K ohm NTC Temperature Sensor with 12 in. insertion
C7041C2003-20K ohm NTC Temperature Sensor with 18 in. insertion
C7041P2004-20K ohm NTC Stainless Steel Button Sensor, 11/16 in. dia.
C7770A1006-6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor
C7772A1004-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor without logo
C7772A1012-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor with Honeywell logo
TR21-20 K ohm NTC non-linear Temperature Wall Module
TR21-A-10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
PS20-20 K ohm Pipe sensor

Product Number	Application	Setting Temperature Range (C)	Setting Temperature Range (F)	Switch Position: System	Switch Position: Fan	Changeover	Description	Voltage
TB6575A1000/U	2 or 4 pipe fan coil, Heat/Cool manual/auto changeover, 3-speed fan, 120 - 240 Vac	10 C to 30 C	50 F to 90 F	OFF-HEAT-COOL-AUTO	HI-MED-LOW-AUTO-OFF	Manual/Auto	3-Speed Fan Coil Thermostat; 2 or 4 pipe Manual/Auto Heat/Cool changeover, 3 speed fan, Supply voltage: 120/240 Vac 50/60 Hz	120 Vac (+/- 10%) or 240 Vac (+/- 10%)
TB6575B1000/U	2 pipe fan coil, Heat/Cool manual/auto changeover, 3-speed fan, 120 - 240 Vac	10 C to 30 C	50 F to 90 F	OFF-HEAT-COOL-AUTO	HI-MED-LOW-AUTO-OFF	Manual/Auto	3-Speed Fan Coil Thermostat; 2 pipe Manual/Auto Heat/Cool changeover, 3 speed fan, Supply voltage: 120/240 Vac 50/60 Hz	120 Vac (+/- 10%) or 240 Vac (+/- 10%)
TB6575C1000/U	2 or 4 pipe fan coil, Heat/Cool manual/auto changeover, 3-speed fan, 120 - 240 Vac	10 C to 30 C	50 F to 90 F	OFF-HEAT-COOL-AUTO	HI-MED-LOW-AUTO-OFF	Manual/Auto	3-Speed Fan Coil Thermostat; 2 or 4 pipe Manual/Auto Heat/Cool changeover, 3 speed fan, Supply voltage: 120/240 Vac 50/60 Hz	120 Vac (+/-10%), 240 Vac (-15% to 10%) or 277 Vac (+/- 10%)
TB8575A1000/U	2 or 4 pipe fan coil, Heat/Cool manual/auto changeover, 3-speed fan, 24 Vac	10 C to 30 C	50 F to 90 F	OFF-HEAT-COOL-AUTO	HI-MED-LOW-AUTO-OFF	Manual/Auto	3-Speed Fan Coil Thermostat; 2 or 4 pipe Manual/Auto Heat or Cool changeover, 3 speed fan, Supply voltage: 24 Vac 50/60 Hz	20 to 30 Vac

Fan Coil Thermostat Accessories

Product Number	Description	Used With	
50033847-001/U	Adapter plate for mounting TB6575/TB8575 series fan coil thermostats to vertical, single or double-gang junction box	—	
PS20	20 K ohm Pipe sensor	TB6575, TB8575	
W6380B1005/B	Fan Coil Unit Relay Control Center for 24 Vac Fan Coil Thermostats	—	

Replacement Parts

Product Number	Description	Used With
190389AD/U	Cover assembly for T4039 with Thermometer	T4039
272735T/U	Tan wallplate for covering old thermostat marks. To be used with T6069 and T6169 thermostats	T6069, T6169

Wireless Occupancy Solutions

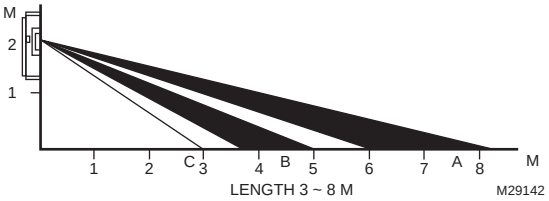
Wireless Occupancy Solution

The WSK-24 Wireless Occupancy Solution automatically controls HVAC equipment by determining when a room is occupied. The WSK-24 uses the combination of an occupancy sensor and a door switch to provide optimal control. The WSK-24 is packaged in a kit that includes a 24V dry contact receiver, a wireless PIR (passive infrared receiver) occupancy sensor with mounting kit, a wireless door sensor with mounting kit, and a wiring harness.

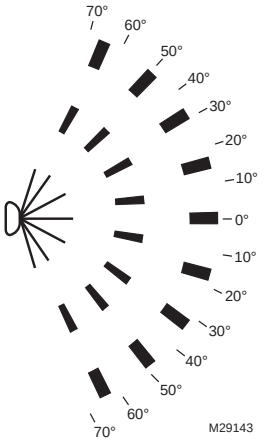
The receiver can be wired into any thermostat or controller that supports the connection of a remote setback device. The receiver communicates wirelessly to a PIR occupancy sensor, a door sensor, and an optional 2nd door/window sensor. After the receiver determines that the room is unoccupied, it closes a dry contact switch. After the thermostat or controller recognizes the contact closure, it places the thermostat in economy setback mode, which provides energy savings for when the room is unoccupied.

- Wireless system provides quick and easy installation
- Pre-configured door sensor and occupancy sensor
- Guest comfort is maintained by never turning off HVAC equipment when someone is in the room - even if they are sleeping
- Fuse protection
- Long battery life
- Low battery indication
- Receiver memory retained after power loss
- Optional sliding door/window sensor can be easily added

Side view of PIR detection pattern



Top view of PIR detection pattern



PIR Detection Pattern: Length: 3 to 8 meters when mounted 2 meters above the floor; Angle: 140 degrees

Power Supply:
Receiver: 24 Vac/Vdc at 50/60 Hz; Standby power consumption 15 mA; Channel 1 relay output, N.O.
Door Sensor: Two CR2032 lithium batteries
PIR Sensor: Three AAA E92 1.5V alkaline batteries

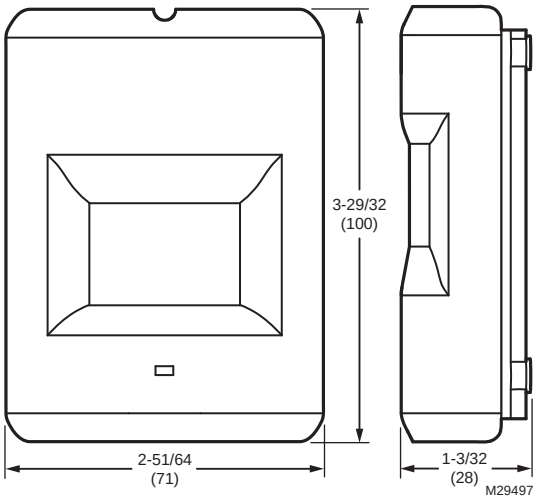
Operating Temperature Range:
Receiver: -5 F to 140 F (Receiver: -21 C to 60 C)
Door Sensor: -4 F to 140 F (Door Sensor: -20 C to 60 C)
PIR Sensor: -4 F to 104 F (PIR Sensor: -20 C to 40 C)

Used With: TB6575; TB8575; TB7100; T7350/T7351 (requires R8222 switching relay)

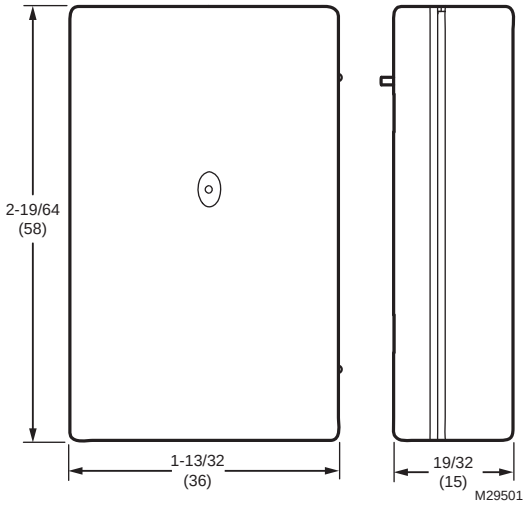
Approvals
Federal Communications Commission: FCC Part 15, Class B

Product Number	Operating Frequency	Open Range	Typical Range	Battery Life
WSK-24/U	Door Sensor: 433.92 MHz; Receiver: 433 92 MHz	With antenna coiled inside receiver: 50 ft; With antenna exposed: 200 ft	With antenna coiled inside receiver: 40 ft; With antenna exposed: 100 ft	PIR Sensor: One year (under normal usage); Door Sensor: Two years (under normal usage)

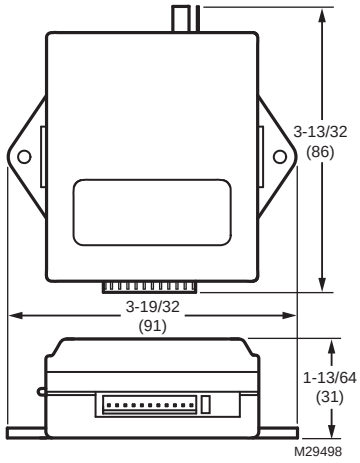
Dimensions in inches (millimeters)



Dimensions in inches (millimeters)



Dimensions in inches (millimeters)



Wireless Occupancy Solution Accessories

Used With: WSK-24

Product Number	Operating Frequency	Open Range	Typical Range	Battery Life
50037735-001	433.92 MHz	With antenna coiled inside receiver: 50 ft; With antenna exposed: 200 ft	With antenna coiled inside receiver: 40 ft; With antenna exposed: 100 ft	Door Sensor: Two years (under normal usage)

Wireless Occupancy Solution Replacement Parts

Used With: WSK-24

Product Number	Operating Frequency	Operating Temperature Range	
		(F)	(C)
50037736-001	433.92 MHz	PIR Sensor: -4 F to 104 F	PIR Sensor: -20 C to 40 C
50037737-001	433.92 MHz	Receiver: -5 F to 140 F	Receiver: -21 C to 60 C

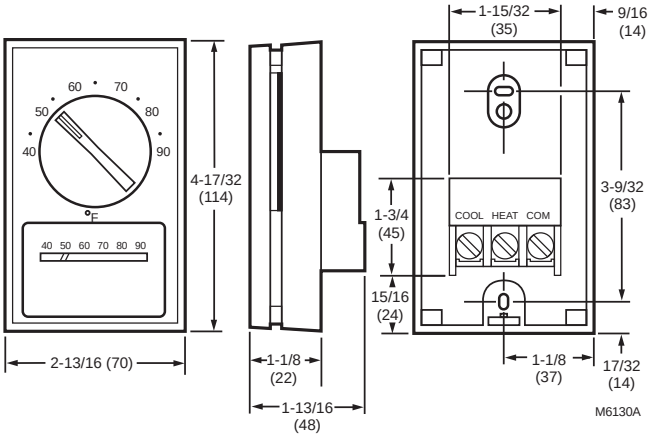
Line Volt Thermostats

T451; T651 Light and Medium Duty Line Voltage Thermostat

Light and Medium Duty Line Voltage Thermostats control line voltage valves, motors, contractors, electric heat, elements, duct furnaces, and fan coil units in heating/cooling systems.

- Automatic cooling and heating anticipation
- Mount on standard vertical or horizontal outlet box

Dimensions in inches (millimeters)



Application: T451-Heating; T651-Heating and cooling
Dimensions, Approximate: 4 1/2 in. high x 2 15/16 in. wide x 1 1/2 in. deep (switches and wiring terminals protrude into outlet box 3/4 in.) (115 mm high x 75 mm wide x 39 mm deep (switches and wiring terminals protrude into outlet box 19 mm))
Electrical Ratings:
22 A @ 120 - 240 Vac Resistive
19 A @ 277 Vac Resistive
9.8 FLA / 58.8 ALR @ 120 Vac
5.6 FLA / 33.6 ALR @ 208 Vac
4.9 FLA / 29.4 ALR @240 Vac
4.2 FLA / 25.2 ALR @277 Vac
Electrical Connections: Flylead
Voltage: 120 Vac - 227 Vac
Frequency: 50 Hz; 60 Hz
Sensor Element: Vapor filled dual diaphragm
Color: Champagne gold face-plate with beige cover
Approvals
Canadian Standards Association: CSA Certified, File No. LR1322
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

Accessories:
TG511A1000-Medium Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T822, T834, T8034, T841, T874 with Q674, WR1F46, and others
TG511D1004-Medium Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T822, T834, T8034, T841, T874 with Q674, and others

	Product Number	Setting Temperature Range (F)	Setting Temperature Range (C)	Differential Temperature (F)	Differential Temperature (C)	Switch Position System	Switching Action	Includes
	T451A3005/U	44 F to 86 F	—	2 F	—	—	SPST- breaks on temperature rise	Vertical scaleplate with thermometer, range stops and locking cover screws, wall plate, high accuracy Dual Diaphragm sensor
	T451B3004/U	50 F to 86 F	—	2 F	—	—	SPST- breaks on temperature rise; with positive off	Vertical scaleplate with thermometer and high accuracy Dual Diaphragm sensor
•	**T651A3018/U**	44 F to 86 F	—	2 F	—	heating and cooling	SPDT - breaks heating and makes cooling on temperature rise	Vertical scaleplate with thermometer, horizontal scaleplate with no thermometer, range stops and locking screws, wall plate, and high accuracy Dual Diaphragm sensor
	T651A3026/U	—	7 C to 28 C	—	1 C	heating and cooling	SPDT - breaks heating and makes cooling on temperature rise	Vertical scaleplate with thermometer, range stops and locking screws, wall plate, high accuracy Dual Diaphragm sensor

** TRADELINE models • SUPER TRADELINE models*

T6051; T6052 Heavy Duty Line Voltage Thermostats

Heavy Duty Line Voltage Thermostats used to control fan coils, fans, motor starters, valves, contactors, and circulator motors in heating and/or cooling systems.

- Provide good line voltage comfort control
- Use with Q651A,B subbases for system and fan switching
- Removable setpoint knob locks setpoint and prevents tampering
- With locking cover

Dimensions, Approximate: 5 in. high x 3 1/8 in. wide x 1 5/8 in. deep (127 mm high x 79 mm wide x 41 mm deep)
Electrical Ratings:
120 Vac: 16 AFL, 96 ALR
240 Vac: 8 AFL, 48 ALR
Resistive 22A @ 120 Vac, 19 A @ 277 Vac
Pilot Duty 125 VA
Electrical Connections: Screw terminals
Voltage: 120 Vac; 240 Vac
Frequency: 50 Hz; 60 Hz
Sensor Element: Vapor filled dual diaphragm
Color: Plastic cover, tan

Approvals
Canadian Standards Association: CSA Certified: File no. LR1620
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

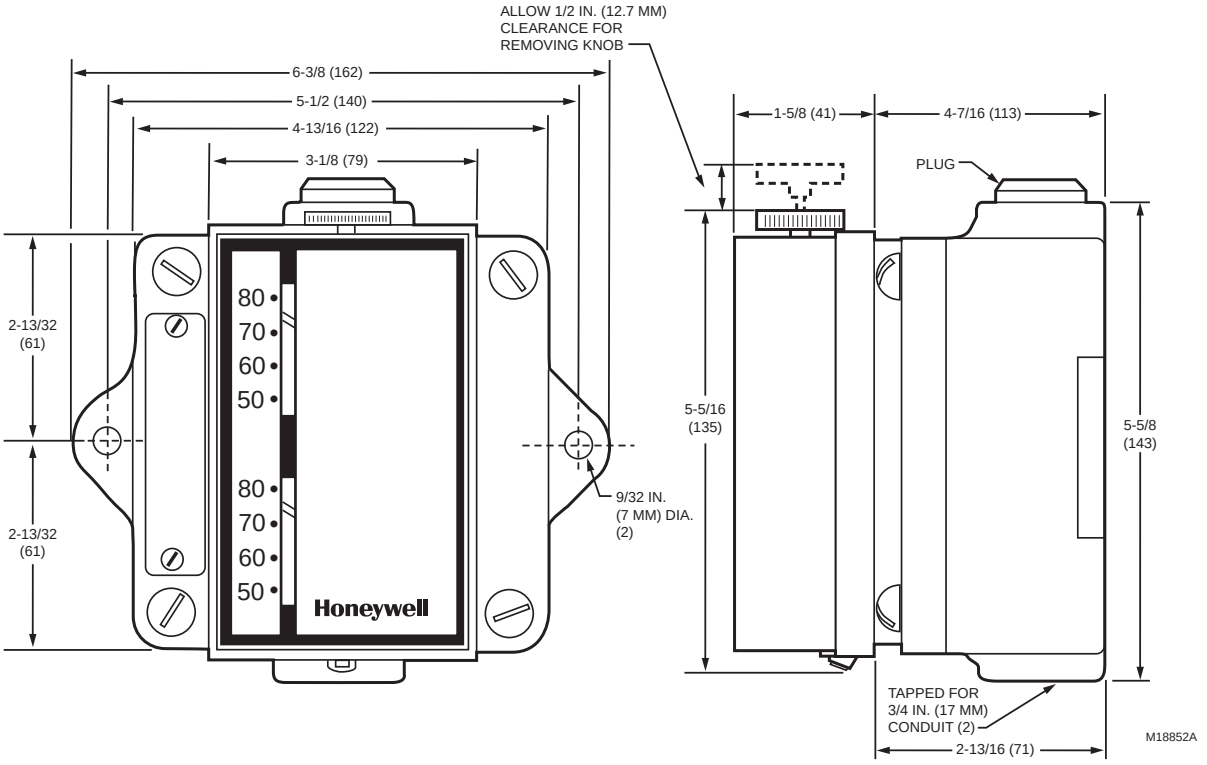
Accessories:
135531J-Scaleplate, vertical, Celsius, 10 C to 25 C.
23394B-Locking guard for T42, T92, T451, T498, T651, T4051, T6051, T6052
TG511A1000-Medium Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T822, T834, T8034, T841, T874 with Q674, WR1F46, and others
TG511D1004-Medium Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T822, T834, T8034, T841, T874 with Q674, and others

	Product Number	Application	Setting Temperature Range (F)	Setting Temperature Range (C)	Differential Temperature (F)	Differential Temperature (C)	Switch Position System	Switching Action	Includes	Used With
	T6051A1016/U	Heating and cooling	46 F to 84 F	—	1 F	—	—	SPDT	Vertical mounting	Q651A, B subbases for system and fan switching
*	**T6051A1057/U**	Heating and cooling	—	8 C to 29 C	—	0.6 C	—	SPDT	Vertical mounting	Q651A, B subbases for system and fan switching
	T6051B1006/U	Explosion-proof, Heating and cooling	46 F to 84 F	—	1 F	—	—	SPDT	Vertical mounting	—
*	**T6052A1015/U**	Two stage heating or two stage cooling	46 F to 84 F	—	Stage 2 Heat, Stage 1 Cool: 3.2 F Stage 1 Heat, Stage 2 Cool: 2.5 F	—	2-stage heating or 2-stage cooling	2 SPDT switches	Vertical or horizontal mounting	Q651A, B subbases for system and fan switching
	T6052A1023/U	Two stage heating or two stage cooling	—	8 C to 29 C	—	Stage 2 Heat, Stage 1 Cool: 1.8 C; Stage 1 Heat, Stage 2 Cool: 1.4 C	2-stage heating or 2-stage cooling	2 SPDT switches	Vertical or horizontal mounting	Q651C subbase for system and fan switching
*	**T6052B1013/U**	Heating and cooling, auto changeover	46 F to 84 F	—	Stage 2 Cool: 3.2 F Stage 1 Heat: 2.5 F	—	1-stage heating-cooling	2 SPDT switches	Vertical or horizontal mounting	Q651A, B subbases for system and fan switching

** TRADELINE models • SUPER TRADELINE models*

Line Volt Thermostats

Dimensions in inches (millimeters)



Line Volt Thermostats Cross Reference

T451, T651, Q473 Cross Reference

Thermostat Replaced						Replacement			
	Honeywell								
Competitor	Older	Series 2000	Scale	Thermometer	Comments	Product Number	Scale	Thermometer	Comments
		T4059A1005	10 - 30 °C	yes	Includes range stop and cover screws	None			
	T451A1132 T451A1157 T451A1298	T451A2007	40 - 90 °F	yes	Includes range stop and cover screws	**T451A3005**	44 - 86 °F	yes	Includes range stop and cover screws
	T451A1173	T451A2015	40 - 90 °F		with positive off	**T451B3004**	50 - 86 °F		with positive off
	T451A1256	T451A2023			Trane logo on cover; Includes range stop and cover screws	None			
		T451A2049	40 - 70 °F		with positive off	**T451B3004**	46 - 86 °F		with positive off
	T651A1202	T651A2010	40 - 90 °F			**T651A3000**	44 - 86 °F		
White Rogers 1A10-651	T651A1269 T651A1236	T651A2028	40 - 90 °F	Yes	SUPER TRADELINE horizontal; no thermometer scaleplate; includes range stop, cover screws, wallplate, horizontal blank scaleplate, and vertical blank scaleplate	**T651A3018**	44 - 86 °F	yes	Super TRADELINE horizontal no thermometer scaleplate Includes range stop, cover screws, and wallplate
		T651A2036	40 - 90 °F	Yes	TRADELINE horizontal no thermometer scaleplate	**T651A3018**	44 - 86 °F	yes	Super TRADELINE horizontal no thermometer scaleplate Includes range stop, cover screws, and wallplate
		T651A2044	5 - 30 °C			**T651A3026**	7 - 28 °C	yes	TRADELINE Includes range stop, cover screws, and wallplate
		T651A2051	5 - 30 °C	yes	TRADELINE Includes range stop, cover screws, wallplate, and vertical blank scaleplate	**T651A3026**	7 - 28 °C	yes	TRADELINE range stop, cover screws, and wallplate
Jonson T26		T651A2077	40 - 90 °F	yes	horizontal no thermometer scaleplate Includes range stop, cover screws, wallplate, horizontal blank scaleplate, and vertical blank scaleplate	**T651A3018**	44 - 86 °F	yes	SUPER TRADELINE horizontal no thermometer scaleplate Includes range stop, cover screws and wallplate
		T651A2085	40 - 90 °F	yes	Universal horizontal scaleplate with Universal logo Includes range stop, cover screws, and wallplate	None			
		T6059A1000	10 - 30 °C	yes	Includes range stop and cover screws	**T651A3026**	7 - 28 °C	yes	TRADELINE Includes range stop, cover screws and wallplate
White Rogers S29-21	Q473A1040	Q473A2006			Switch Function - HEAT-OFF-COOL	No direct Replacement			Subbase not sold separately; order T6169B4017 instead
		Q473A2022			Trane; Switch Function - HEAT-OFF-COOL	No direct Replacement			Subbase not sold separately; order T6169B4017 with Honeywell logo instead
	Q473B21015	Q473B2005			Switch Function - OFF-AUTO	No direct Replacement			Subbase not sold separately; order T6169C4015 instead
		Q473B2013			Trane; Switch Function - OFF-AUTO	No direct Replacement			Subbase not sold separately; order T6169C4015 with Honeywell logo instead

Line Volt Thermostats

T694 - T6069 Product Cross Reference

Product Number	Scale	Thermometer	System switch	Fan switch	Comments	Functional Replacement	
						New Product number	Difference from original Product
T694A2002	40 - 90 F		ON-OFF	HI-MED-LO		**T6169A4019/U**	Scale range 44-86°F
T694A2044	40 - 90 F		ON-OFF	HI-MED-LO	no logo	**T6169A4019/U**	Scale range 44-86°F; with Honeywell logo
T694B2001	40 - 90 F		ON-OFF; HEAT-COOL	HI-MED-LO		**T6069A4010/U**	Scale range 44-86°F
T694D2009	40 - 90 F		ON-OFF; HEAT-COOL	HI-MED-LO	Off opens fan and cooling circuits	**none**	
T694F2007	40 - 90 F		ON-OFF; HEAT-COOL	HI-MED-LO	Off opens all circuits	**T6069B4018/U**	Scale range 44-86°F
T694M2009	40 - 90 F		HEAT-OFF-COOL	ON-AUTO	with Amp connector; includes cover screws and range stops	**none**	
T694M2017	40 - 90 F	yes	HEAT-OFF-COOL	ON-AUTO	with Amp connector; includes cover screws and range stops	**none**	

T651 Cross Reference New to Old

New Models	Product Numbers Replaced
T451A3005/U	T451A2007
T451B3004/U	T451A2015
	T451A2049
T651A3026/U	T651A2002
	T651A2044
	T651A2051
	T6059A1000
T651A3000/U	T651A2010
T651A3018/U	T651A2028
	T651A2036
	T651A2077
T6069A4002/U	T6069A3004
	T6069A3004B
	T6069A3012
	T6069A3012B
	T694B2001
T6069B4000/U	T6069B3002
	T6069B3002B
	T6069B3010
	T6069B3010B
	T6069B3036
	T694D2009
	T694F2007

New Models	Product Numbers Replaced
T6069B4026B	T6069B3028B
T6069C4008/U	T6069C3000
	T6069C3018
T6069D4006 /U	T6069D3008
	T6069D3016
T6169A4001/U	T6169A3003
	T6169A3003B
	T6169A3011
	T6169A3011B
	T6169A3029
	T6169A3029B
	T6169A3037
	T6169A3037B
T6169A4019/U	T6169A3045B
	T694A2002
	T694A2044
T6169B4017/U	T651A + Q473A2006
T6169C4015/U	T651 + Q473B2005

Q651 Switching Subbase

Provide manual system switching for T6051 and T6052 Thermostats.
- Provide positive OFF switching of the system
- Mount vertically or horizontally on standard outlet box
- Include pressure sensitive labels to identify switching positions

Dimensions, Approximate: 5 13/16 in. high x 3 3/16 in. wide x 11/16 in. deep (148 mm high x 81 mm wide x 18 mm deep)
Electrical Ratings:
16 A @ 120 Vac Full Load;
8 A @ 240 Vac Full Load;
96 A @ 120 Vac LR;
48 A @ 240 Vac LR
Voltage: 120 or 240 Vac
Frequency: 60 Hz
Approvals
Canadian Standards Association: Certified
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX

Accessories:
TG511A1000-Medium Universal Thermostat Guard with clear cover and base, and opaque wallplate Fits T822, T834, T8034, T841, T874 with Q674, WR1F46, and others
TG511D1004-Medium Universal Thermostat Guard with Beige painted steel cover, opaque ring base and wallplate Fits T822, T834, T8034, T841, T874 with Q674, and others

Product Number	Application	Switch Position		Switching Action	Description	Includes	Used With
		System	Fan				
Q651A1009/U	Subbase for T6051A	See switch labels	See switch labels	Provide positive OFF switching of the system	Subbase for T6051A	Switch labels: HEAT-OFF-COOL, HEAT-OFF-FAN, AUTO-OFF-ON; Pressure sensitive labels to identify switching positions	Thermostat: T6051A, Thermostat Guard: TG511 and TG512
Q651B1008/U	Subbase for T6051A	See switch labels	See switch labels	Provide positive OFF switching of the system	Subbase for T6051A	Switch labels: AUTO-OFF-FAN; Pressure sensitive labels to identify switching positions	Thermostat: T6051A, Thermostat Guard: TG511 and TG512

Line Volt Thermostat Replacement Parts and Accessories

Product Number	Description	Used With
135531J/U	Scaleplate, vertical, Celsius, 10 C to 25 C	—
199923AA/U	Plastic cover for T6051/T6052 with thermometer and setpoint scale. With ground strap	T6051/T6052
272804A/U	Range Stop and Locking Screws Assembly	T410, T498, T4398

Proportional Thermostats

T921 Proportional Thermostats

Proportional Thermostats provide low voltage, 3-wire control for valve motors, damper motors, and balancing relays in heating or cooling system applications.

- Bellows element adjusts potentiometer slider to regulate motor operation
- Removable setting knob prevents unauthorized tampering with setpoint

Dimensions, Approximate: 5 11/16 in. high x 3 3/8 in. wide x 2 1/4 in. deep (144 mm high x 86 mm wide x 58 mm deep)
Mounting: Wall mount
Throttling Range: 2.5 F (1.4 C)

	Product Number	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Output Signal	Includes
	T921A1183/U	—	13 C to 29 C	135 Ohm potentiometer	Celsius model
*	**T921A1191/U**	56 F to 84 F	—	135 Ohm potentiometer	* model which includes slotted sides and an add-on faceplate to allow thermostat to be mounted horizontally
	T921G1005/U	56 F to 84 F	—	135 Ohm potentiometer	—

** TRADELINE models • SUPER TRADELINE models*

Proportional Thermostat Parts and Accessories

Product Number	Description	Used With
100653A/U	Potentiometer Assembly for use with T921	T921
130224/U	Knob - Adjusting	—
4074BKB/U	Envelope assembly for T921	—
50014156-002/U	Remote room sensor for the ZonePRO®	ZonePRO
50014157-001/U	Duct temperature sensor for the ZonePRO®	ZonePRO

ZonePRO® Modulating/Floating Control Thermostats

The ZonePRO® thermostats are for low-voltage pressure-dependent variable air volume (VAV) applications. ZonePRO can also be used for hydronic perimeter heating/cooling and bypass box with or without reheat. The four models cover modulating applications, floating applications and applications that require up to two additional outputs for reheat.

- Provides modulating (2 to 10 Vdc analog) control (TB7980)
- Provides floating control (TB6980)
- Provides 2 additional outputs (TB6980B and TB7980B)
- Provides max. and min. setpoints for heating and cooling
- Provides a night setback (NSB) terminal for energy savings

Dimensions, Approximate: 2 5/8 in. wide X 4 9/16 in. high X 1 in. deep (69 mm wide X 118 mm high X 27 mm deep)
Mounting: Wall mount

Power Supply: 24 Vac
Frequency: 60 Hz

Product Number	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Output Signal	Output Signal Burden	Additional Outputs	Description
TB6980A1007/U	50F to 95F	10C to 35C	Floating	0.5A max @ 24Vac	—	Floating control
TB6980B1006/U	50F to 95F	10C to 35C	Floating	0.5A max @ 24Vac	1 Analog/TRIAC1 TRIAC	Floating control with 2 additional outputs
TB7980A1006/U	50F to 95F	10C to 35C	0-10 Vdc or 2-10 Vdc	0-10V, 10k min	—	Modulating (0-10Vdc) control
TB7980B1005/U	50F to 95F	10C to 35C	0-10 Vdc or 2-10 Vdc	0.5A max @ 24Vac	1 Analog/TRIAC1 TRIAC	Modulating (0-10Vdc) control with 2 additional outputs

Prestige® IAQ 2-Wire Comfort System

THX9421R5021SG

THX9421R5021BB

THX9421R5021WW or THX9421R5021WG

THM5421R1021

C7735A1000 Discharge and Return Air Sensors

C7089R1013

The Prestige® IAQ thermostat is a 2-wire, high-definition, color, touchscreen thermostat, 7-day programmable and selectable for residential or light commercial use. Controls up to 4-stages of heat and 2-stages of cool in a heat pump system and up to 3-stages of heat and 2-stages of cool in a conventional system. Three sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices. Works with the Equipment Interface Module and RedLINK® accessories including the RedLINK® Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor and Wireless Indoor Sensor.

- Control heating, cooling and IAQ equipment with only 2 wires at the thermostat. Heating, cooling and IAQ equipment wires to the Equipment Interface Module.
- Smart Schedule - programs in seconds for any lifestyle.
- Patented interview based programming and installer setup.
- Increase profit per job by including RedLINK® accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications. Meets commercial code and is title 24 compliant.
- Light commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day.
- Delta T Alerts and Diagnostics informs customers when their system is not performing as expected.
- Keeps a history of heating and cooling performance.
- Quickly determine if the system is performing as expected and reduces service time on the job.
- Customizable Service Reminders allow dealers to remind their customers when to call for service, when their warranty is expiring and to provide customized alerts.
- USB port for transferring Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- 3 assignable outputs to control humidification, dehumidification, ventilation and a stage of heating or cooling.
- 4 assignable inputs on the Equipment Interface Module can be used with wired outdoor, indoor or discharge/return sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts.
- Tri-lingual - English, French and Spanish - display options.

REDLINK Wireless Technology

Application: Up to 4 Heat/2 Cool Heat Pumps or Up to 3 Heat/2 Cool Conventional Systems
Dimensions, Approximate: 3 1/2 in. High, 4 1/2 in. Wide, 7/8 in. Deep (88 mm. High, 115 mm. Wide, 22 mm. Deep)
Display Size: 8.06 sq in.
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Stages: Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Switch Positions (System): HEAT-OFF-COOL-AUTO-EM.HEAT
Switch Positions (Fan): AUTO-ON-CIRC-FOLLOW SCHEDULE
Terminal Designations: R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Humidification Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Temperature Setting Range: Heat: 40 F to 90 F; Cool 50 F to 99F (Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C)
Frequency: 50 Hz; 60 Hz

Power Method: Hardwired
Comments: Tri-Lingual Display (selectable for English, French or Spanish)
Used With: THM5421R1021 Equipment Interface Module and RedLINK® accessories

Accessories

THM6000R1002-RedLINK Internet Gateway
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THM5421R1021-Equipment Interface Module
YTHM5421R1010-Equipment Interface Module Kit with 2 Duct Sensors.
REM1000R1003-Wireless Entry/Exit Remote
HVC20A1000-Wireless Vent and Filter Boost Remote
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7189R1004-Wireless Indoor Air Sensor.
THP2400A1027W-White Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027G-Gray Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027B-Black Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.

Material Number	Color	Includes
YTHX9421R5085WW/U	Front: White, Side: White	Kit contains THX9421R5021WW Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors
YTHX9421R5085BB/U	Front: Black, Side: Black	Kit contains THX9421R5021BB Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors
YTHX9421R5085WG/U	Front: White, Side: Gray	Kit contains THX9421R5021WG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors
YTHX9421R5085SG/U	Front: Silver, Side: Gray	Kit contains THX9421R5021SG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors
YTHX9421R5101WW/U	Front: White, Side: White	Kit contains THX9421R5021WW Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101BB/U	Front: Black, Side: Black	Kit contains THX9421R5021BB Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101WG/U	Front: White, Side: Gray	Kit contains THX9421R5021WG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors
YTHX9421R5101SG/U	Front: Silver, Side: Gray	Kit containsTHX9421R5021SG Prestige® IAQ 2-Wire Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors

Programmable Thermostats

Prestige® IAQ 2-Wire Thermostat

THX9421R5021WW or THX9421R5021WG

THX9421R5021BB

THX9421R5021SG

The Prestige® IAQ thermostat is a 2-wire, high-definition, color, touchscreen thermostat, 7-day programmable and selectable for residential or light commercial use. Controls up to 4-stages of heat and 2-stages of cool in a heat pump system and up to 3-stages of heat and 2-stages of cool in a conventional system. Three sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices. Works with the Equipment Interface Module and RedLINK® accessories including the RedLINK® Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor and Wireless Indoor Sensor.

- Control heating, cooling and IAQ equipment with only 2 wires at the thermostat. Heating, cooling and IAQ equipment wires to the Equipment Interface Module.
- Smart Schedule - programs in seconds for any lifestyle.
- Patented interview based programming and installer setup.
- RedLINK® wireless communication.
- Increase profit per job by including RedLINK® accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications. Meets commercial code and is title 24 compliant
- Light commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day.
- Delta T Alerts and Diagnostics informs customers when their system is not performing as expected.
- All Prestige® IAQ kits come standard with a return and discharge air temperature sensor to measure Delta T.
- Keeps a searchable history of alerts and setting changes to the thermostat to determine if there is a system malfunction or if the issue was caused by user error. Saves time in troubleshooting.
- Keeps a history of heating and cooling performance.
- Quickly determine if the system is performing as expected and reduces service time on the job.
- Customizable Service Reminders allow dealers to remind their customers when to call for service, when their warranty is expiring and to provide customized alerts.
- USB port for transferring Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- USB port for adding the dealer's full color business logo on the screen.
- 3 assignable outputs to control humidification, dehumidification, ventilation and a stage of heating or cooling.
- 4 assignable inputs on the Equipment Interface Module can be used with wired outdoor, indoor or discharge/return sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts.
- Tri-lingual - English, French and Spanish - display options.

Application: Up to 4 Heat/2 Cool Heat Pumps or Up to 3 Heat/2 Cool Conventional Systems
Dimensions, Approximate: 3 1/2 in. High, 4 1/2 in. Wide, 7/8 in. Deep (88 mm. High, 115 mm. Wide, 22 mm. Deep)
Display Size: 8.06 sq in.
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Stages: See Equipment Interface Module
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Terminal Designations: R, C then RedLINK to Equipment Interface Module
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Humidification Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Temperature Setting Range: Heat: 40 F to 90 F; Cool 50 F to 99F (Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C)
Frequency: 50 Hz; 60 Hz
Power Method: Hardwired
Comments: Tri-Lingual Display (selectable for English, French or Spanish)

Accessories:
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
THM6000R1002-RedLINK Internet Gateway
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THM5421R1021-Equipment Interface Module
YTHM5421R1010-Equipment Interface Module Kit with 2 Duct Sensors.
REM1000R1003-Wireless Entry/Exit Remote
HVC20A1000-Wireless Vent and Filter Boost Remote
C7189R1004-Wireless Indoor Air Sensor.
THP2400A1027W-White Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027G-Gray Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.
THP2400A1027B-Black Coverplate assembly for use with the Prestige® IAQ 2-Wire Thermostat.

Material Number	Color	Switch Positions (System)	Switch Positions (Fan)	Used With
THX9421R5021WW/U	Front: White, Side: White	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	THM5421R1021 Equipment Interface Module and RedLINK® accessories
THX9421R5021BB/U	Front: Black, Side: Black	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	THM5421R1021 Equipment Interface Module and RedLINK® accessories
THX9421R5021WG/U	Front: White, Side: Gray	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	THM5421R1021 Equipment Interface Module and RedLINK® accessories
THX9421R5021SG/U	Front: Silver, Side: Gray	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	THM5421R1021 Equipment Interface Module and RedLINK® accessories

Prestige® 2.0 Comfort System

- Patented interview based programming and installer setup.
- RedLINK™ wireless communication.
- Increase profit per job by including RedLINK™ accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications.
- Meets commercial code and is title 24 compliant.
- Light commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day.
- Keeps a searchable history of alerts and setting changes to the thermostat to determine if there is a system malfunction or if the issue was caused by user error.
- Customizable Service Reminders allow dealers to remind customers when to call for service, when warranty is expiring and to provide customized alerts.
- USB port for transferring Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- USB port for adding the dealer's full color business logo on the screen.
- 2 assignable outputs to control humidification, dehumidification, ventilation and a stage of heating or cooling.
- Tri-lingual - English, French and Spanish - display options.

The Prestige® 2.0 thermostat is a high-definition, color, touchscreen thermostat, 7-day programmable, selectable for residential and light commercial, up to 3 heat/2 cool heat pump and up to 2 heat / 2 cool conventional, controls humidification, dehumidification, or ventilation. Works with RedLINK™ accessories including the RedLINK™ Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor and Wireless Indoor Sensor.

Application: Up to 3 Heat/2 Cool Heat Pumps; Up to 2 Heat/2 Cool Conventional Systems
Dimensions, Approximate: 3 15/16 in. High, 6 7/8 in. Wide, 1 1/2 in. Deep (100 mm. High, 175 mm. Wide, 38 mm. Deep)
Display Size: 8.06 sq in.
Color: Arctic White
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Operating Humidity Range (% RH): 0 to 90% RH, non-condensing
Humidity Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range: 32 F to 120 F (0 C to 48.9 C)
Stages:
Up to 3 Heat / 2 Cool Heat Pump or
Up to 2 Heat / 2 Cool Conventional
Frequency: 50 Hz; 60 Hz

Power Method: Hardwired
Used With: RedLINK™ accessories

Accessories:
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7189R1004-Wireless Indoor Air Sensor.
HVC20A1000-Wireless Vent and Filter Boost Remote
REM1000R1003-Wireless Entry/Exit Remote
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THP9045A1023-WireSaver
THM6000R1002-RedLINK Internet Gateway
50028399-001-Cover plate for Prestige Thermostats 7 7/8 in. (200 mm) x 5 1/2 in. (140 mm)

Product Number	Switch Positions		Terminal Designations	Temperature Setting Range		Includes
	System	Fan		(F)	(C)	
THX9321R5030/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, U1 U1, U2 U2	Heat: 40 F to 90 F; Cool 60 F to 99F	Heat: 4.5 C to 32.0 C; Cool: 10.0 C to 37.0 C	Prestige 2.0 High Definition Color Touchscreen Thermostat
YTHX9321R5061/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, U1 U1, U2 U2	Heat: 40 F to 90 F; Cool 50 F to 99F	Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C	THX9321R5030 Prestige 2.0 HD Thermostat, REM5000R1001 Portable Comfort Control and C7089R1013 Wireless Outdoor Air Sensor
YTHX9321R5079/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, U1 U1, U2 U2	Heat: 40 F to 90 F; Cool 50 F to 99F	Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C	THX9321R5030 Prestige 2.0 HD Thermostat and C7089R1013 Wireless Outdoor Air Sensor

Programmable Thermostats

VisionPRO® 8000 with RedLINK™

VisionPRO® 8000 with RedLINK™ is a 7 day programmable touchscreen thermostat that is selectable for residential or light commercial use. The thermostat can be wired directly to the equipment, used with the THM5421R1021 Equipment Interface Module or used with the THM4000R1000 TrueZONE Wireless Adapter. Works with the RedLINK™ accessories including the RedLINK™ Internet Gateway, Portable Comfort Control, Wireless Outdoor Sensor, Wireless Indoor Sensor, Wireless Entry/Exit Remote and Wireless Vent and Filter Boost Remote.

- Thermostat works standalone or with a THM5421R1021 Equipment Interface Module or with a TrueZONE Wireless Adapter.
- Smart Schedule - programs in seconds for any lifestyle.
- Patented interview based programming and installer setup.
- RedLINK™ wireless communication.
- Increase profit per job by including RedLINK™ accessories that provide comfort and convenience.
- Selectable for residential and light commercial applications. Meets commercial code and is title 24 compliant.
- Light commercial - commercial language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day. Remote Setback requires THM5421R1021 Equipment Interface Module.
- Plain language setup, no manual needed.
- Keeps a searchable history of alerts and setting changes to the thermostat to determine if there is a system malfunction or if the issue was caused by a user error. Saves time in troubleshooting.
- Customizable Service Reminders allow dealers to remind their customers when it is time to call for service, when their warranty is expiring and to provide customized alerts.
- MicroSD port for copying the Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- MicroSD port for adding the dealer's contact information on the screen.
- 1 assignable output on the TH8321 model to control humidification, dehumidification, ventilation or a stage of heating/cooling.
- 3 assignable outputs on the Equipment Interface Module to control humidification, dehumidification, ventilation or a stage of heating/cooling. The TH8110 and TH8320 models require the use of a Wireless Indoor Sensor to control humidification and dehumidification.
- 1 assignable input can be used with a wired outdoor, indoor or discharge sensor.
- 4 assignable inputs on the Equipment Interface Module can be used with wired outdoor, indoor or discharge/return sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts.
- Dual powered - battery or hardwired (C wire).

Applications: Residential or commercial use. 7 day programmable. Works standalone or with the THM5421R1021 Equipment Interface Module.
Dimensions, Approximate: 4 5/8 in. High, 4 15/16 in. Wide, 1 1/8 in. Deep (118 mm. High, 126 mm. Wide, 29 mm. Deep)
Display Size: 10 sq in.
Color: Arctic White
Programmability: 7-Day Multiple Day Programming or Non-Programmable
Changeover: Auto or Manual
Electrical Ratings: 18 to 30 Vac or 750 mV
Frequency: 50 Hz; 60 Hz
Electrical Connections: Screw terminals
Operating Humidity Range (% RH): 5 to 90% RH, non-condensing
Humidification Setting Range: 10 to 60% RH.
Dehumidification Setting Range: 40 to 80% RH.
Operating Temperature Range (F): 32 F to 120 F (0 C to 48.9 C)
Temperature Setting Range: Heat: 40 F to 90 F; Cool 50 F to 99F, (Heat: 4.5 C to 32.0 C; Cool: 10 C to 37.0 C)
Power Method: Battery or Hardwired
Used With: Used with optional THM5421R1021 Equipment Interface Module and RedLINK® accessories

Accessories:
REM5000R1001-Portable Comfort Control uses RedLINK™ to sense and control room temperature anywhere in the home. Works in both zoned and non-zoned applications.
THM6000R1002-RedLINK Internet Gateway
THM4000R1000-Wireless Adapter for use with RedLINK™ enabled thermostats and TrueZONE™ system
THM5421R1021-Equipment Interface Module
YTHM5421R1010-Equipment Interface Module Kit with 2 Duct Sensors.
REM1000R1003-Wireless Entry/Exit Remote
HVC20A1000-Wireless Vent and Filter Boost Remote
C7089R1013-Senses outdoor temperature and humidity to display on RedLINK™ enabled thermostats and accessories.
C7189R1004-Wireless Indoor Air Sensor.
THP2400A1019-Coverplate assembly for use with the RedLINK® VisionPRO®. Includes a coverplate, bracket for j-boxes and mounting hardware. Coverplate is 5-3/4 in. x 6-5/32 in.

Material Number	Terminal Designations	Stages	Switch Positions (System)	Switch Positions (Fan)	Includes
TH8321R1001/U	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, U1 U1, S1 S1	Up to 3 Heat / 2 Cool Heat Pump or Up to 2 Heat / 2 Cool Conventional when used standalone. Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional when used with the Equipment Interface Module.	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	Includes a set of Universal IAQ contacts to control humidification, dehumidification or ventilation.
TH8320R1003/U	R, RC, C, W-O/B, W2-AUX/E, Y, Y2, G, A-L/A, K, S1 S1	Up to 3 Heat / 2 Cool Heat Pump or Up to 2 Heat / 2 Cool Conventional when used standalone. Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional when used with the Equipment Interface Module.	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	—
TH8110R1008/U	R, RC, C, W-O/B, Y, G, K, S1 S1	Up to 1 Heat / 1 Cool Heat Pump or Up to 1 Heat / 1 Cool Conventional when used standalone. Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional when used with the Equipment Interface Module.	HEAT-OFF-COOL-AUTO	AUTO-ON-CIRC-FOLLOW SCHEDULE	—

THM5421 Equipment Interface Module for Prestige® IAQ and VisionPRO® 8000 with RedLINK™

Equipment Interface Module controls up to 4-stages of heat and 2-stages of cool in a heat pump system and up to 3-stages of heat and 2-stages of cool in a conventional system. Three sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices.

Application: Gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity
Dimensions, Approximate: 9 5/16 in. High, 4 13/16 in. Wide, 1 5/8 in. Deep (237.4 mm High, 122.5 mm Wide, 40.6 mm Deep)
Color: Gray
Electrical Connections: Screw terminals
Electrical Ratings: 18 to 30 Vac
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Operating Temperature Range: -40 F to 165 F (-40 C to 73.9 C)
Currents (Cooling): 1.0 A running
Currents (Heating): 1.0 A running
Currents (Fan): 0.5A running
Frequency: 50 Hz; 60 Hz
Power Method: Hardwired
Mounting: Vertical

Product Number	Terminal Designations	Stages	Includes	Used with
THM5421R1021/U	R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D	Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional	—	Prestige® IAQ 2-Wire Thermostat and VisionPRO® Thermostat with RedLINK™
YTHM5421R1010/U	R, RC, RH, C, W-O/B, W2-AUX1, W3-AUX2, Y, Y2, G, A-L/A, U1, U1, U2, U2, U3, U3, S1, S1, S2, S2, S3, S3, S4, S4, A, B, C, D	Up to 4 Heat / 2 Cool Heat Pump or Up to 3 Heat / 2 Cool Conventional	THM5421R1021 and 2 Duct Sensors	Prestige® IAQ 2-Wire Thermostat and VisionPRO® Thermostat with RedLINK™

Programmable Commercial Thermostats

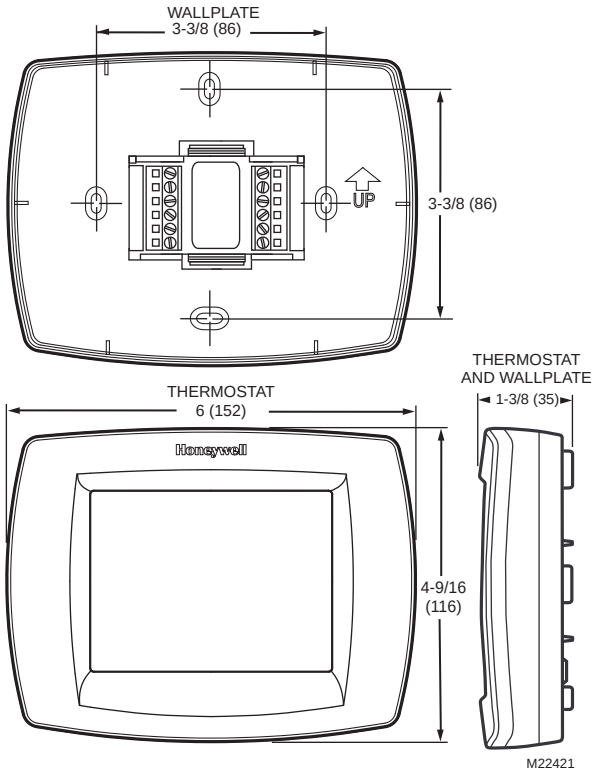
Commercial VisionPRO® 8000

The TB8220 Commercial VisionPRO 8000 Touchscreen Programmable Thermostat is an effortless, seven day programmable thermostat that provides universal system compatibility, precise comfort control and is easy to program.

The TB8220 provides temperature control for gas, oil, electric and heat pumps for up to 2 heat, 2 cool systems.

- Large, clear display with backlight shows the current and set temperature and time even in the dark
- Menu-driven programming make setup effortless
- Beautiful ergonomic design is smart and sophisticated to match your customers' lifestyle
- Touchscreen interaction Real-time clock keeps time during power failures and automatically updates to daylight savings
- Saving Changes notification lets you know when the schedule changes have been saved
- Change reminders let you know when to replace the batteries
- Holiday Override options allow you to override the program schedule, as desired
- Speedy same--schedule programming--no need to copy multiple days
- Armchair programming allows you to remove the thermostat from the wall for programming

Dimensions in inches (millimeters)



Application: 24 Vac heating and cooling systems; Heat Pump Systems; Conventional systems; Packaged RTU
Color: Premier White®
Network Communications: None
Comments: The L-terminal is an input only Selectable programmable or non-programmable.Includes A terminal to enable an economizer or control a lighting panel when used as a time of day relay

Accessories:
C7041B2005-20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013-20K ohm NTC Temperature Sensor with 12 in. insertion
C7041C2003-20K ohm NTC Temperature Sensor with 18 in. insertion
C7041P2004-20K ohm NTC Stainless Steel Button Sensor, 11/16 in. dia.
C7089U1006-Remote Outdoor Sensor
C7189U1005-Remote Indoor Sensor
C7770A1006-6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor
C7772A1004-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor without logo
C7772A1012-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor with Honeywell logo
TR21-20 K ohm NTC non-linear Temperature Wall Module
TR21-A-10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
W7212A1009-Series 72 Economizer Logic Module with Demand Control Ventilation
32003796-001-Premier White® cover plate 7 7/8 in. x 5 1/2 in. (200 mm x 140 mm)

Product Number	Switch Position		Terminal Designations	Stages	Setting Temperature Range	
	System	Fan			(F)	(C)
TB8220U1003/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	R, Rc, W (O/B), W2 (W1), Y, Y2, L, A, G, C, S1, S2	Up to 2 Heat/2 Cool Conventional; Up to 3 Heat/2 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

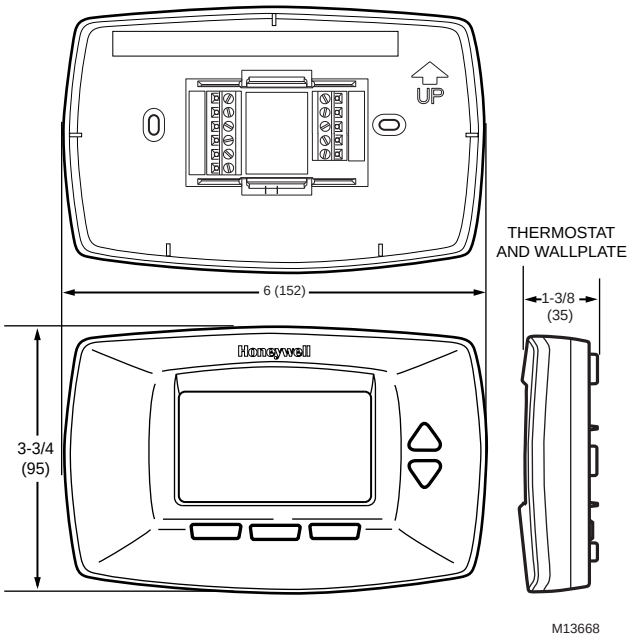
CommercialPRO® 7000

The COMMERCIALPRO® 7000 Programmable Thermostat is an effortless, seven-day programmable thermostat that provides universal system compatibility, precise comfort control and is easy-to-program.

The TB7220 provides temperature control for gas, oil, electric and heat pumps for up to 2 heat, 2 cool systems.

- Large, clear display with backlight shows the current and set temperature and time--even in the dark
- Menu-driven programming make setup effortless
- Beautiful ergonomic design is smart and sophisticated to match your customers' lifestyle
- Real-time clock keeps time during power failures and automatically updates to daylight savings
- Saving Changes notification lets you know when the schedule changes have been saved
- Change reminders let you know when to replace the batteries
- Holiday Override options allow you to override the program schedule, as desired
- Speedy same--schedule programming--no need to copy multiple days
- Armchair programming allows you to remove the thermostat from the wall for programming

Dimensions in inches (millimeters)



Application: 24 Vac heating and cooling systems; Heat Pump Systems; Conventional systems; Packaged RTU
Color: Premier White®
Network Communications: None
Comments: Selectable programmable or non-programmable.Includes A terminal to enable an economizer or control a lighting panel when used as a time of day relay

Accessories:
C7041B2005-20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013-20K ohm NTC Temperature Sensor with 12 in. insertion
C7041C2003-20K ohm NTC Temperature Sensor with 18 in. insertion
C7041P2004-20K ohm NTC Stainless Steel Button Sensor, 11/16 in. dia.
C7089U1006-Remote Outdoor Sensor
C7189U1005-Remote Indoor Sensor
C7770A1006-6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor
C7772A1004-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor without logo
C7772A1012-20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor with Honeywell logo
TR21-20 K ohm NTC non-linear Temperature Wall Module
TR21-A-10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
W7212A1009-Series 72 Economizer Logic Module with Demand Control Ventilation
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 Cover Plate Assembly

Product Number	Switch Position		Terminal Designations	Stages	Setting Temperature Range	
	System	Fan			(F)	(C)
TB7220U1012/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	R, Rc, W (O/B), W2 (W1), Y, Y2, A, G, C, S1, S2	Up to 2 Heat/2 Cool Conventional; Up to 3 Heat/2 Cool Heat Pump	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

Programmable Commercial Thermostats

MultiPRO™ 7000

The MultiPRO™ Multispeed and Multipurpose Thermostat is an effortless, seven-day programmable or non-programmable thermostat that provides universal system compatibility, precise comfort and is easy to program.

The MultiPRO provides temperature control for gas, oil, electric, heat pumps, PTACs, and fan-coil equipment for the following types of applications: 1H/1C conventional; Up to 2H/1C heat pump; 4 pipe fan coil (3 fan speeds); 2 pipe fan coil (3 fan speeds); 2 pipe fan coil w/Auxiliary Heat (3 fan speeds); PTAC (Hi, Lo fan speeds).

- Large, clear display with backlight shows the current and set temperature and time--even in the dark
- Menu-driven programming make setup effortless
- Beautiful ergonomic design is smart and sophisticated to match your customers' lifestyle
- Real-time clock keeps time during power failures and automatically updates to daylight savings
- Saving Changes notification lets you know when the schedule changes have been saved
- Change reminders let you know when to replace the batteries
- Holiday Override options allow you to override the program schedule, as desired
- Speedy same--schedule programming--no need to copy multiple days
- Armchair programming allows you to remove the thermostat from the wall for programming
- Programmable or non-programmable modes
- Remote setback input for occupancy sensors or time clocks
- VersaSpeed™ fan ramping algorithm and fan reset algorithm (fan coil and PTAC applications)
- Up to 3 fan speeds for fan coil and 2 fan speeds for PTAC applications
- Remote Indoor air sensing option (20K ohm or 10K ohm)

Application: Conventional, Heat Pump, Fan Coil, and PTAC Systems
Color: Premier White®
Network Communications: None
Comments: Includes 3 speed fan control and configurable sensor input for indoor temperature, occupancy sensor, or changeover; Selectable programmable or non-programmable

Accessories:
C7041B2005- 20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013 -20K ohm NTC Temperature Sensor with 12 in. insertion
C7041C2003 -20K ohm NTC Temperature Sensor with 18 in. insertion
C7041P2004 -20K ohm NTC Stainless Steel Button Sensor, 11/16 in. dia.
C7189U1005- Remote Indoor Sensor
C7770A1006- 6 in. Duct Probe for Return Air 20 K ohm NTC non-linear Temperature Sensor
C7772A1004- 20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor without logo
C7772A1012- 20 K ohm NTC non-linear Wall Flush Mount Temperature Sensor with Honeywell logo
TR21- 20 K ohm NTC non-linear Temperature Wall Module
TR21-A- 10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
WSK-24-Wireless Occupancy Solution
50002883-001-FocusPRO 5000/6000 and PRO 3000/4000 Cover Plate Assembly

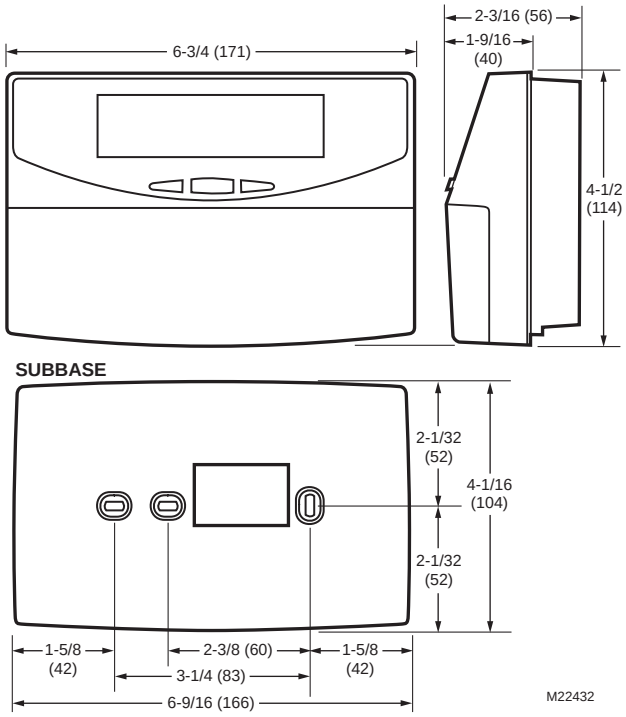
Product Number	Switch Position		Terminal Designations	Stages	Setting Temperature Range	
	System	Fan			(F)	(C)
TB7100A1000/U	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON; Fan Coil: HI-MED-LO-AUTO; PTAC: HI-LO-AUTO	R, Rc, W1, O/B, Y, G, G2, G3, C, S1, S2	1 Heat/ 1Cool Conventional; Up to 2 Heat/ 1 Cool Heat Pump; 2 or 4 pipe Fan Coil; Up to 2 Heat/ 1 Cool PTAC	Heat: 40 F to 90 F; Cool: 50 F to 99 F	Heat: 4.5 C to 32 C; Cool: 10 C to 37 C

T7350 Programmable Commercial Thermostats

T7350 Thermostats control 24 Vac commercial single-zone multistage conventional, heat pump and modulating HVAC equipment.

- 365-day programming
- Two Occupied and two Not Occupied periods per day
- Thermostat Interface Module (TIM) connections to thermostat from PDA for advanced configuration, programming, keypad lockout, etc.
- Individual heat and cool setpoints available for Occupied and Not Occupied periods
- P+I+D control minimizes temperature fluctuations
- Recovery ramping control automatically optimizes equipment start times based on building load
- Universal Versaguard™ Thermostat guards available
- Convenient overrides allow temporary setpoint changes
- Keypad multi-level lockout available with all models
- Remote sensor capability - EXCEPT T7350A model - for temperature (including outdoor air and discharge air) and humidity sensors
- Auxiliary contact interfaces with a Honeywell Economizer System (for total rooftop control integration) or as a dehumidification output

Dimensions in inches (millimeters)



Color: Trident White
Network Communications: None

Accessories:

C7041B2005-20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013-20K ohm NTC Temperature Sensor with 12 in. insertion
C7041R2000-20K ohm NTC 12 ft Flexible Copper Averaging Temperature Sensor
C7089A1002-Remote Outdoor Sensor
H7625A1008-Humidity Transmitter, 2% RH accuracy, wall mount, with optional 20K ohm temp output
H7625B1006-Humidity Transmitter, 2% RH accuracy, duct mount, with optional 20K ohm temp output
H7635A1006-Humidity Transmitter, 3% RH accuracy, wall mount, with optional 20K ohm temp output
H7635B1004-Humidity Transmitter, 3% RH accuracy, duct mount, with optional 20K ohm temp output
H7655A1001-Humidity Transmitter, 5% RH accuracy, wall mount, without temp output
H7655B1009-Humidity Transmitter, 5% RH accuracy, duct mount, with optional 20K ohm temp output
TR21-20 K ohm NTC non-linear Temperature Wall Module
TR22-20 K ohm NTC non-linear Temperature Wall Module with Setpoint adjustment
TR23-20 K ohm NTC non-linear Temperature Wall Module with Override and Setpoint adjustment
TR24-20 K ohm NTC non-linear Temperature Wall Module with Override
TR21-H-20 K ohm NTC non-linear Temperature Wall Module with Humidity
TR23-H-20 K ohm NTC non-linear Temperature Wall Module with Humidity
TR21-A-10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
T7771A1005-20 K ohm NTC non-linear Temperature Wall Module
W7212A1009-Series 72 Economizer Logic Module with Demand Control Ventilation
WSK-24-Wireless Occupancy Solution

Product Number	Application	Switch Position		Stages	Comments
		System	Fan		
T7350A1004/U	Conventional and Heat Pump systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	1 Heat / 1 Cool	—
T7350B1002/U	Conventional and Heat Pump systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	2 Heat / 2 Cool	Remote Temp, Outdoor, Discharge Air
T7350D1008/U	Conventional and Heat Pump systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	3 Heat / 3 Cool	Remote Temp, Outdoor, Discharge Air, Humidity, Occupancy
T7350M1008/U	Modulating Systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	2 Mod (4-20mA)/ 2 Relay	Remote Temp, Outdoor, Discharge Air, Humidity, Occupancy

Programmable Commercial Thermostats

T7351F Programmable Commercial Thermostats

- Typically used in buildings (including: restaurants, shopping malls, office buildings and banks) under 55,000 square feet
- For single zone rooftop units, split systems, heat pumps or hot/chilled water systems
- 365-day programming
- Two Occupied and two Not Occupied periods per day
- Individual heat and cool setpoints available for Occupied and Not Occupied periods
- P+I+D control minimizes temperature fluctuations
- Recovery ramp control automatically optimizes equipment start times based on building load
- Convenient overrides allow temporary setpoint changes
- Keypad multi-level lockout available with all models
- Remote sensor capability for temperature (including outdoor air and discharge air) and humidity sensors
- Auxiliary subbase contact typically interface with a Honeywell Economizer System (for total rooftop control integration) or act as dehumidification output
- Universal Versaguard Thermostat guards available

The T7351 Commercial Programmable Thermostat controls 24 Vac commercial single zone heating, ventilating and air conditioning (HVAC) equipment. The T7351 consists of a thermostat and subbase. The thermostat includes the keypad and display for 365-day programming. The subbase includes equipment control connections. The subbase mounts on the wall and the thermostat mounts to the subbase.

Color: Trident White
Network Communications: None

Accessories:
C7041B2005-20K ohm NTC Temperature Sensor with 6 in. insertion
C7041B2013-20K ohm NTC Temperature Sensor with 12 in. insertion
C7041R2000-20K ohm NTC 12 ft Flexible Copper Averaging Temperature Sensor
C7089A1002-Remote Outdoor Sensor
H7625A1008-Humidity Transmitter, 2% RH accuracy, wall mount, with optional 20K ohm temp output
H7625B1006-Humidity Transmitter, 2% RH accuracy, duct mount, with optional 20K ohm temp output
H7635A1006-Humidity Transmitter, 3% RH accuracy, wall mount, with optional 20K ohm temp output
H7635B1004-Humidity Transmitter, 3% RH accuracy, duct mount, with optional 20K ohm temp output
H7655A1001-Humidity Transmitter, 5% RH accuracy, wall mount, without temp output
H7655B1009-Humidity Transmitter, 5% RH accuracy, duct mount, with optional 20K ohm temp output
T7771A1005-20 K ohm NTC non-linear Temperature Wall Module
TR21-20 K ohm NTC non-linear Temperature Wall Module
TR21-A-10 K ohm NTC non-linear Temperature Wall Module (for averaging only)
TR21-H-20 K ohm NTC non-linear Temperature Wall Module with Humidity
TR22-20 K ohm NTC non-linear Temperature Wall Module with Setpoint adjustment
TR23-20 K ohm NTC non-linear Temperature Wall Module with Override and Setpoint adjustment
TR23-H-20 K ohm NTC non-linear Temperature Wall Module with Humidity
TR24-20 K ohm NTC non-linear Temperature Wall Module with Override
WSK-24-Wireless Occupancy Solution
W7212A1009-Series 72 Economizer Logic Module with Demand Control Ventilation

Product Number	Application	Switch Position		Stages	Comments
		System	Fan		
T7351F2010/U	Conventional and Heat Pump systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	3 Heat / 3 Cool	Remote Temp, Outdoor, Discharge Air, Humidity, Occupancy

Commercial Thermostat Accessories

Product Number	Description	Used With	
209651A/U	Wallplate	T7350;	
USB-TIM/U	USB Thermostat Interface Module cable	T7350 thermostats and TStat; Spec software	

T7350 Communicating Programmable Commercial Thermostats

T7350H Communicating Thermostats control 24 Vac commercial single-zone multistage conventional, heat pump and modulating HVAC equipment. T7350H allows remote access and the sharing of system parameters with other devices in a LONWORKS® network

- 365-day programming.
- Two Occupied and two Not Occupied periods per day.
- Thermostat Interface Module (TIM) connections to thermostat from PDA for advanced configuration, programming, keypad lockout, etc.
- Individual heat and cool setpoints available for Occupied and Not Occupied periods.
- P+I+D control minimizes temperature fluctuations.
- Recovery ramping control automatically optimizes equipment start times based on building load.
- Universal Versaguard™ Thermostat guards available.
- Convenient overrides allow temporary setpoint changes.
- Keypad multi-level lockout available with all models.
- Remote sensor capability for temperature (including outdoor air and discharge air) and humidity sensors.
- Auxiliary contact interfaces with a Honeywell Economizer System (for total rooftop control integration) or as a dehumidification output LONWORKS® network communication.

Color: Trident White
Stages: 3 Heat / 3 Cool
Network Communications: LonWorks Bus and PDA Serial Port

Accessories:

C7041B2005-20K ohm NTC Temperature Sensor with 6 in. insertion
C7041R2000-20K ohm NTC 12 ft Flexible Copper Averaging Temperature Sensor
H7625A1008-Humidity Transmitter, 2% RH accuracy, wall mount, with optional 20K ohm temp output
H7625B1006-Humidity Transmitter, 2% RH accuracy, duct mount, with optional 20K ohm temp output
H7635A1006-Humidity Transmitter, 3% RH accuracy, wall mount, with optional 20K ohm temp output
H7635B1004-Humidity Transmitter, 3% RH accuracy, duct mount, with optional 20K ohm temp output
H7635C1002-Humidity Transmitter, 3% RH accuracy, outdoor mount, with optional 20K ohm temp output
H7655A1001-Humidity Transmitter, 5% RH accuracy, wall mount, without temp output
H7655B1009-Humidity Transmitter, 5% RH accuracy, duct mount, with optional 20K ohm temp output
W7212A1009-Series 72 Economizer Logic Module with Demand Control Ventilation
T7771A1005-20 K ohm NTC non-linear Temperature Wall Module
TR21-20 K ohm NTC non-linear Temperature Wall Module
TR21-H-20 K ohm NTC non-linear Temperature Wall Module with Humidity
TR22-20 K ohm NTC non-linear Temperature Wall Module with Setpoint adjustment
TR23-20 K ohm NTC non-linear Temperature Wall Module with Override and Setpoint adjustment
TR23-H-20 K ohm NTC non-linear Temperature Wall Module with Humidity
TR24-20 K ohm NTC non-linear Temperature Wall Module with Override
TR21-A-10 K ohm NTC non-linear Temperature Wall Module (for averaging only)

Product Number	Application	Switch Position		Comments	Includes
		System	Fan		
T7350H1009/U	Conventional and Heat Pump systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Remote Temp, Outdoor, Discharge Air, Humidity	—
T7350H1017/U	Modulating Systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Remote Temp, Outdoor, Discharge Air, Humidity and Occupancy	—
Y7355H1009/U	Conventional and Heat Pump systems	HEAT-OFF-COOL-AUTO-EM.HEAT	AUTO-ON	Remote Temp, Outdoor, Discharge Air, Humidity, Occupancy	T7350H1009, C7041B2005, T7771A1005

Communicating Thermostats

TB7200 Communicating Zoning Thermostat

The TB7200 Series PI thermostat family is specifically designed for zoning applications. These communicating thermostats are available in BACnet® MS/TP and ZigBee® wireless mesh protocols and can be easily integrated into a WEBs-AX building automation system based on the NiagaraAX® platform. Typical applications include local hydronic reheat valve control and pressure dependent VAV with or without local reheat. Models are available for 3 point floating and analog 0 to 10 Vdc control. All models include a remote sensor output, two digital inputs a universal input and an auxiliary output. Optional features include humidity control and an integrated PIR occupancy sensor cover.

- Available in BACnet MS/TP and ZigBee wireless protocols
- Fully integrated advanced occupancy functionality with a PIR cover provides energy savings opportunity on select models; all other models are PIR ready and can have an optional occupancy sensor cover added at any time
- Pre-configured sequences of operation means one model meets more application needs
- Password protection to minimize parameter tampering
- Four levels of keypad lockout to limit access to change user parameters
- Available in 24 Vac on/off, floating or 0-10 Vdc analog control to meet advanced applications requirements
- Three configurable inputs for monitoring and advanced functions
- SPST auxiliary output that can be used for lighting or reheat
- All wiring connections are made to removable terminal blocks simplifying installation

Application Type: Zoning Modulating with Reheat
Color: White
Dimensions, Approximate: 5 in. high x 3 3/8 in. wide x 1 5/32 in. deep (125 mm high x 86 mm wide x 29 mm deep)
Mounting: Wall mount
Display: LCD
Frequency: 50 or 60 Hz
Power Supply: 24 Vac with range from 19 to 30 Vac
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)

Setpoint Temperature Range:
Heating: 40 F to 90 F (Heating: 4.5 C to 32 C)
Cooling: 54 F to 100 F (Cooling: 12.0 C to 37.5 C)
Throttling Range: 3 F to 10 F (1.7 C to 5.6 C)

Switch Position
System: OFF-HEAT-COOL-AUTO
Fan: HI-MED-LOW-AUTO-OFF
Changeover: Manual/Auto
Compatible With: WEBs-AX
Includes: Remote Temperature Sensor Input, 2 Digital Inputs; 1 Universal Input; 1 Aux Output

Product Number	Network Communications	Output Signal	Output Signal Burden	Outputs	Occupancy Sensor
TB7200C5014B/U	BACnet MS/TP	Floating or On/Off	30 Vac, 1A max, 3A in-rush	2 Floating or On/Off +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-ZN
TB7200C5514B/U	BACnet MS/TP	Floating or On/Off	30 Vac, 1A max, 3A in-rush	2 Floating or On/Off +1 Aux	Onboard PIR occupancy sensor cover
TB7200F5014B/U	BACnet MS/TP	0 - 10 Vdc	0 - 10 Vdc into 2k Ohm resistance min.	2 0 - 10 Vdc +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-ZN
TB7200F5514B/U	BACnet MS/TP	0 - 10 Vdc	0 - 10 Vdc into 2k Ohm resistance min.	2 0 - 10 Vdc +1 Aux	Onboard PIR occupancy sensor cover
TB7200C5014W/U	ZigBee Wireless Mesh	Floating or On/Off	30 Vac, 1A max, 3A in-rush	2 Floating or On/Off +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-ZN
TB7200C5514W/U	ZigBee Wireless Mesh	Floating or On/Off	30 Vac, 1A max, 3A in-rush	2 Floating or On/Off +1 Aux	Onboard PIR occupancy sensor cover
TB7200F5014W/U	ZigBee Wireless Mesh	0 - 10 Vdc	0 - 10 Vdc into 2k Ohm resistance min.	2 0 - 10 Vdc +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-ZN
TB7200F5514W/U	ZigBee Wireless Mesh	0 - 10 Vdc	0 - 10 Vdc into 2k Ohm resistance min.	2 0 - 10 Vdc +1 Aux	Onboard PIR occupancy sensor cover

TB7300 Series Communicating Digital Fan Coil Thermostats

Select from a range of 24 Vac models that provide control of 2 or 4 pipe fan-coil units with on/off, floating or analog control and manual or automatic heat/cool changeover. Additionally, 3-speed fan control and auxiliary on/off heat control with relay (not included) are also supported. All models include a remote sensor input, two digital inputs, universal input, and an auxiliary output.

- Available in BACnet MS/TP and ZigBee wireless protocols
- Backlit LCD display with dedicated function menu keys for simple operation
- Internal humidity sensing for increased occupant comfort through dehumidification on some models
- Fully integrated advanced occupancy functionality with a PIR cover provides energy savings opportunity on select models; all other models are PIR ready and can have an optional occupancy sensor cover added
- Configurable sequences of operation
- Configurable fan button allows thermostat to meet more applications with a single model
- Password protection to minimize parameter tampering
- Six levels of keypad lockout to limit access to change user parameters
- 3-speed fan control
- Auto Fan speed mode increases occupant comfort in cooling mode by reducing humidity and reduces fan noise
- Available for 24 Vac on/off, floating or analog control meets advanced applications requirements
- Three inputs for monitoring and other advanced functions
- SPST auxiliary output that can be used for lighting or auxiliary reheat
- All wiring connections are made to removable terminal blocks simplifying installation

The TB7300 PI thermostat family is specifically designed for fan coil control in commercial buildings. These communicating thermostats are available in BACnet® MS/TP and ZigBee® wireless mesh protocols and can be easily integrated into a WEBs-AX building automation system based on the NiagaraAX® platform.

Color: White
Dimensions, Approximate: 5 in. high x 3 3/8 in. wide x 1 5/32 in. deep (125 mm high x 86 mm wide x 29 mm deep)
Mounting: Wall mount
Display: LCD
Electrical Ratings: Fan relay output: 30 Vac, 1A max, 3A in-rush and Valve triac output: 30 Vac, 1A max, 3A in-rush
Frequency: 50 or 60 Hz
Power Supply: 24 Vac with range from 19 to 30 Vac
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)
Setpoint Temperature Range:
Heating: 40 F to 90 F (Heating: 4.5 C to 32 C)
Cooling: 54 F to 100 F (Cooling: 12.0 C to 37.5 C)

Switch Position
System: OFF-HEAT-COOL-AUTO
Fan: HI-MED-LOW-AUTO-OFF
Changeover: Manual/Auto
Compatible With: WEBs-AX
Includes: Remote Temperature Sensor Input, 2 Digital Inputs; 1 Universal Input; 1 Aux Output

Approvals
Canadian Standards Association: Certified
Federal Communications Commission: FCC Part 15, Subpart B, Class A
Underwriters Laboratories, Inc: UL-873

Product Number	Application	Network Communications	Outputs	Occupancy Sensor
TB7300F5014B/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Analog +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-C
TB7300F5514B/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Analog +1 Aux	Onboard PIR occupancy sensor cover
TB7350F5014B/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Analog +1 Aux + RH	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-C
TB7350F5514B/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Analog +1 Aux + RH	Onboard PIR occupancy sensor cover
TB7305F5014B/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Analog +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-L
TB7355F5014B/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Analog +1 Aux + RH	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-L
TB7355F5514B/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Analog +1 Aux + RH	Onboard PIR occupancy sensor cover
TB7305F5514B/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Lodging, PIR	BACnet MS/TP	2 Analog +1 Aux	Onboard PIR occupancy sensor cover
TB7300A5014B/U	2 or 4 Pipe On/Off Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Digital +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-C
TB7300A5514B/U	2 or 4 Pipe On/Off Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Digital +1 Aux	Onboard PIR occupancy sensor cover
TB7305A5014B/U	2 or 4 Pipe On/Off Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Digital +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-L

Communicating Thermostats

Product Number	Application	Network Communications	Outputs	Occupancy Sensor
TB7305A5514B/U	2 or 4 Pipe On/Off Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Digital +1 Aux	Onboard PIR occupancy sensor cover
TB7300C5014B/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Floating +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU
TB7300C5514B/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Floating +1 Aux	Onboard PIR occupancy sensor cover
TB7350C5014B/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Floating +1 Aux +RH	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU
TB7350C5514B/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Commercial	BACnet MS/TP	2 Floating +1 Aux +RH	Onboard PIR occupancy sensor cover
TB7305C5014B/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Floating +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU
TB7305C5514B/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Digital +1 Aux	Onboard PIR occupancy sensor cover
TB7355C5014B/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Floating +1 Aux +RH	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU
TB7355C5514B/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Lodging	BACnet MS/TP	2 Floating +1 Aux +RH	Onboard PIR occupancy sensor cover
TB7300A5014W/U	2 or 4 Pipe On/Off Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Digital +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-C
TB7300A5514W/U	2 or 4 Pipe On/Off Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Digital +1 Aux	Onboard PIR occupancy sensor cover
TB7300C5014W/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Floating +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU
TB7300C5514W/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Floating +1 Aux	Onboard PIR occupancy sensor cover
TB7300F5014W/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Analog +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-C
TB7300F5514W/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Analog +1 Aux	Onboard PIR occupancy sensor cover
TB7305A5014W/U	2 or 4 Pipe On/Off Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Digital +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-L
TB7305A5514W/U	2 or 4 Pipe On/Off Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Digital +1 Aux	Onboard PIR occupancy sensor cover
TB7305C5014W/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Floating +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU
TB7305C5514W/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Floating +1 Aux	Onboard PIR occupancy sensor cover
TB7305F5014W/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Analog +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-L
TB7305F5514W/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Lodging, PIR	ZigBee Wireless Mesh	2 Analog +1 Aux	Onboard PIR occupancy sensor cover
TB7350C5014W/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Floating +1 Aux + RH	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU
TB7350C5514W/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Floating +1 Aux + RH	Onboard PIR occupancy sensor cover
TB7350F5014W/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Analog +1 Aux	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-C
TB7350F5514W/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Commercial	ZigBee Wireless Mesh	2 Analog +1 Aux	Onboard PIR occupancy sensor cover
TB7355C5014W/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Floating +1 Aux +RH	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU
TB7355C5514W/U	2 or 4 Pipe On/Off or Floating Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Floating +1 Aux +RH	Onboard PIR occupancy sensor cover
TB7355F5014W/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Analog +1 Aux +RH	Upgradeable with PIR occupancy sensor cover TB-PIR-FCU-L
TB7355F5514W/U	2 or 4 Pipe Analog Fan Coil, 24 Vac, Lodging	ZigBee Wireless Mesh	2 Analog +1 Aux +RH	Onboard PIR occupancy sensor cover

TB7600 Communicating Commercial Thermostats

The TB7600 Series PI thermostat family is designed for single stage and multi-stage control of heating/cooling equipment such as rooftop and heat pump. These communicating thermostats have models available in BACnet® MS/TP and ZigBee® wireless mesh protocols and can be easily integrated into a WEBs-AX building automation system based on the NiagaraAX® platform. The product features an intuitive, menu-driven, back-lit LCD display, which walks users through the programming steps, making the process extremely simple. Depending on the model, up to three remote sensor inputs are available and all models include an auxiliary output, and one or two digital inputs. Optional features include humidity control, an integrated economizer control logic and integrated PIR occupancy sensor cover.

- Available in BACnet MS/TP and ZigBee wireless protocols
- Built in default profile set-up for easier start up and commissioning
- Fully integrated advanced occupancy functionality with a PIR accessory cover on some models
- Programmable smart fan operation
- Password protection to minimize parameter tampering
- Three levels of keypad lockout
- Gas/oil or electric system compatibility for all type of applications
- SPST auxiliary output can be used for lighting and/or economizer override
- 0 to 10 Vdc economizer output for more retrofit opportunities
- Automatic frost protection to prevents costly freeze damage
- Anti short cycle and minimum on/off run time protection to reduce wear and maximizes life span of mechanical equipment
- One or two programmable digital inputs for added flexibility can be use to monitor filter status, activate a remote temporary occupancy switch, and/or used as a general purpose service indicator
- Heat Pump models support single and two stages heat pump with one auxiliary heat stage, selectable single or dual stage compressor stages, and comfort/economy mode maximizes heat pump use before turning on auxiliary heating, compressor/auxiliary interlock adds flexibility by locking out heat pump operation during auxiliary heating to prevent high pressure trip when the coil is downstream of the auxiliary heat source
- 7 day programmable models, 2 or 4 events for use in non-networked applications

Application : Conventional systems
Color: White
Dimensions, Approximate: 5 in. high x 3 3/8 in. wide x 1 5/32 in. deep (125 mm high x 86 mm wide x 29 mm deep)
Mounting: Wall mount
Display: LCD
Electrical Ratings: —
Frequency: 50 or 60 Hz
Power Supply: 24 Vac with range from 19 to 30 Vac
Operating Humidity Range (% RH): 0 to 95% RH, non-condensing
Operating Temperature Range: 32 F to 122 F (0 C to 50 C)

Switch Position
System: OFF-HEAT-COOL-AUTO
Fan: HI-MED-LOW-AUTO-OFF
Changeover: Manual/Auto
Setpoint Temperature Range:
Heating: 40 F to 90 F (Heating: 4.5 C to 32 C)
Cooling: 54 F to 100 F (Cooling: 12.0 C to 37.5 C)
Compatible With: WEBs-AX

Approvals
Canadian Standards Association: Certified
Federal Communications Commission: FCC Part 15, Subpart B, Class A
Underwriters Laboratories, Inc: UL-873

Product Number	Stages	Network Communi-cations	Occupancy Sensor	Scheduling	Humidity Control	Includes
TB7600A5014B/U	1 Heat / 1 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	—	Remote Temperature Sensor, Outdoor Air Sensor & Mixed Air Sensor Inputs; 2 Digital Inputs; 1 Aux Output
TB7600A5014W/U	1 Heat / 1 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	—	
TB7600A5514B/U	1 Heat / 1 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	—	—	
TB7600A5514W/U	1 Heat / 1 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	—	—	
TB7600B5014B/U	2 Heat / 2 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	—	
TB7600B5014W/U	2 Heat / 2 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	—	
TB7600B5514B/U	2 Heat / 2 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	—	—	
TB7600B5514W/U	2 Heat / 2 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	—	—	
TB7600H5014B/U	3 Heat / 2 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	—	
TB7600H5014W/U	3 Heat / 2 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	—	
TB7600H5514B/U	3 Heat / 2 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	—	—	

Communicating Thermostats

Product Number	Stages	Network Communi-cations	Occupancy Sensor	Scheduling	Humidity Control	Includes
TB7600H5514W/U	3 Heat / 2 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	—	—	Remote Temperature Sensor, Outdoor Air Sensor & Mixed Air Sensor Inputs; 2 Digital Inputs; 1 Aux Output
TB7605B5014B/U	2 Heat / 2 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	—	Economizer, Remote Temperature Sensor, Outdoor Air Sensor & Mixed Air Sensor Inputs; 2 Digital Inputs; 1 Aux Output
TB7605B5014W/U	2 Heat / 2 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	—	Remote Temperature Sensor, Outdoor Air Sensor & Mixed Air Sensor Inputs; 2 Digital Inputs; 1 Aux Output
TB7605B5514B/U	2 Heat / 2 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	—	—	
TB7605B5514W/U	2 Heat / 2 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	—	—	
TB7607B5014B/U	2 Heat / 2 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	Yes	Remote Humidity Sensor, Remote High Limit Sensor and Outdoor Air Sensor Inputs; 1 Digital Input; 1 Aux Output
TB7607B5014W/U	2 Heat / 2 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	—	Yes	
TB7607B5514B/U	2 Heat / 2 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	—	Yes	
TB7607B5514W/U	2 Heat / 2 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	—	Yes	
TB7652A5014B/U	1 Heat / 1 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	—	Remote Temperature Sensor, Outdoor Air Sensor & Mixed Air Sensor Inputs; 2 Digital Inputs; 1 Aux Output
TB7652A5014W/U	1 Heat / 1 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	—	
TB7652A5514B/U	1 Heat / 1 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	7 Day Programmable	—	
TB7652A5514W/U	1 Heat / 1 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	7 Day Programmable	—	
TB7652B5014B/U	2 Heat / 2 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	—	
TB7652B5014W/U	2 Heat / 2 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	77 Day Programmable	—	
TB7652B5514B/U	2 Heat / 2 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	7 Day Programmable	—	
TB7652B5514W/U	2 Heat / 2 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	7 Day Programmable	—	
TB7652H5014B/U	3 Heat / 2 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	—	
TB7652H5014W/U	3 Heat / 2 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	—	
TB7652H5514B/U	3 Heat / 2 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	7 Day Programmable	—	Remote Temperature Sensor, Outdoor Air Sensor & Mixed Air Sensor Inputs; 2 Digital Inputs; 1 Aux Output
TB7652H5514W/U	3 Heat / 2 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	7 Day Programmable	—	
TB7656B5014B/U	2 Heat / 2 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	—	
TB7656B5014W/U	2 Heat / 2 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	Yes	
TB7656B5514B/U	2 Heat / 2 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	7 Day Programmable	—	
TB7656B5514W/U	2 Heat / 2 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	7 Day Programmable	Yes	
TB7657B5014B/U	2 Heat / 2 Cool	BACnet MS/TP	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	Yes	Remote Humidity Sensor, Remote High Limit Sensor and Outdoor Air Sensor Inputs; 1 Digital Input; 1 Aux Output
TB7657B5014W/U	2 Heat / 2 Cool	ZigBee Wireless	Upgradeable with PIR occupancy sensor cover TB-PIR-RTU	7 Day Programmable	Yes	
TB7657B5514B/U	2 Heat / 2 Cool	BACnet MS/TP	Onboard PIR occupancy sensor cover	7 Day Programmable	Yes	
TB7657B5514W/U	2 Heat / 2 Cool	ZigBee Wireless	Onboard PIR occupancy sensor cover	7 Day Programmable	Yes	

Commercial Communicating Thermostats Accessories

Product Number	Description	
TB-RA-1014/U	WEBs-AX ZigBee Wireless Communication Card Remote Antenna	
TB-RP5000W/U	ZigBee Wireless Repeater for TB7200, TB7300, TB7600 Series Wireless Communicating Thermostat Networks	
TB-VWG-APP-1014/U	WEBs-AX ZigBee Wireless Communication Card for TB7200 / TB7300 / TB7600 Series Wireless Thermostats	

TB7200 Communicating Zoning Thermostat Accessories

Product Number	Description	
TB-PIR-ZN/U	TB7200 Communicating Zoning Thermostat PIR Occupancy Sensor Cover	

TB7300 Series Communicating Digital Fan Coil Thermostat Accessories

Product Number	Description	
TB-PIR-FCU-C/U	TB7300 Fan Coil Thermostat PIR Occupancy Sensor Cover for Commercial Models	
TB-PIR-FCU-L/U	TB7300 Fan Coil Thermostat PIR Occupancy Sensor Cover for Lodging Models	

TB7600 Communicating RTU/Heat Pump Thermostat Accessories

Product Number	Description	Used With	
TB-PIR-RTU/U	TB7600 Series RTU/Heat Pump Thermostat PIR Occupancy Sensor Cover		
TBST-5014W/U	ZigBee Wireless Survey Toolkit for TB7200, TB7300, TB7600 Series Wireless Communicating Thermostat Networks	TB7200, TB7300, TB7600 Series Wireless Communicating Thermostats;	

ST6008 Energy Management Timers

Provide 24-hour or 7-day time-based switching.
- Universal application with 24-hour or 7-day programming
- Battery backup (quartz drive)
- Screw wiring terminals
- Three-way override
- Captive trippers

Dimensions, Approximate: 4 1/4 in. high x 2 15/16 in. wide x 2 1/4 in. deep (108 mm high x 75 mm wide x 57 mm deep)
Electrical Connections (in.): Screw terminals
Mounting: Surface or on DIN rail
Frequency: 60 Hz

Ambient Temperature Range: -40 F to +180 F (-40 C to +82 C)
Operating Humidity Range (% RH): 0 to 95% RH
Approvals
Canadian Standards Association: Certified: File No. LR52379
Underwriters Laboratories, Inc: Listed File: E83486

Product Number	Clock Type	Voltage	Minimum Timing	Switching	Switch Ratings
ST6008A1006/U	24-hours synchronous	120 Vac	15 min	1 SPDT	1350 W tungsten; 21 A resistive @ 250 V
ST6008B1005/U	7-day synchronous	120 Vac	2 hrs	1 SPDT	22 A resistive @ 250 V; 1350 W tungsten
ST6008C1004/U	7-day quartz (7 day battery reserve)	120 Vac	2 hrs	1 SPDT	23 A resistive @ 250 V; 1350 W tungsten

Pressure-regulated Control Valves

NPT Dynamic Pressure-regulated Control Valves

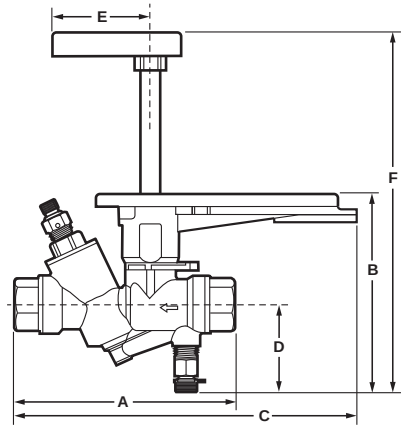
The VRN2 two-way dynamic pressure-regulating control ball valves maintain constant flow of hot or chilled water in closed loop heating, ventilating, and air conditioning (HVAC) systems regardless of head pressure fluctuations above the minimum specified pressure drop. These valve assemblies can be used with Honeywell non-spring return or spring return direct coupled actuators (DCA) with minimum torque of 35 lb-in (4 Nm) on valve sizes up to 3 inches (DN80).

The built-in differential pressure regulator makes fluid flow through the valve independent of changes in supply pressure, eliminating "hunting" by the control system, even at low coil flow. The pressure regulator virtually eliminates cavitation in the valve, and decouples the control valve from the effects of piping components such as reducers and elbows.

Pressure independent control valves are sized to match design coil flow regardless of coil size. VRN2 valves eliminate the need to balance the system for proper flow, and allow chillers to be operated at design temperature differential for maximum efficiency at every load condition. When used in a system with variable speed pump drives, 3-way valves and coil bypass lines are not required. In new construction, VRN2 valves perform better than reverse return piping designs without the extra materials these systems need. Pressure-independent control requires less flow, enabling use of smaller piping, pumps, and chillers.

- Sizes from 1/2 to 3 in. with internal (female) NPT connections
- Controls hot or chilled water with up to 50% glycol
- Regulated flow rates available from 1 to 95 gpm
- Differential pressure regulator for constant pressure drop across valve seat
- Positive pressure, rolling diaphragm regulator design for long service life for flow control accuracy of ±5% over specified control range
- Equal percentage flow characteristic using patented flow control ball insert
- Multiple regulated flow rates available per valve size
- Patented ball seals require low operating torque
- Nickel-chrome plated brass or stainless steel trim
- Choice of factory-installed actuation using Honeywell N05/S05-series direct-coupled actuators: Floating, Modulating (2-10 V), Spring Return Modulating/Floating
- Spring return actuators field-configurable for normally open or normally closed fail-safe position
- Actuators available with optional auxiliary switches
- Removable, manual operating handle to control valve during installation or in an event of power failure
- Upstream Test Port for venting or pressure gauge attachment
- Three actuator orientations on the valve for cramped spaces
- Integral snubber eliminates affect of system pressure fluctuations and entrapped air while improving flow performance

Dimensions in inches (millimeters)



VALVE SIZE (IN.)	DIMENSIONS IN INCHES (MM)						
	A	B	C	D	E	F_Z [a]	F_S [a]
1/2	5-11/16 (145)	4-5/16 (109)	8-19/32 (218)	1 (26)	2-1/2 (64)	8-13/32 (213)	7-3/16 (182)
3/4							
1	5-29/32 (150)		8-45/64 (221)				
	9 (229)	4-19/32 (117)	10-57/64 (277)	1-5/8 (41)		9-13/32 (239)	8-3/16 (207)
1-1/4	8-3/32 (213)		10-19/32 (269)				
1-1/2	8-3/16 (208)		10-1/2 (267)				
	10 (254)	5-3/16 (132)	12-3/32 (307)	2-3/32 (53)		10-13/32 (264)	9-3/16 (232)
2	9-29/32 (251)		12 (305)				
2-1/2	10-9/32 (263)		12-3/16 (310)				
3	10-13/16 (274)		12-13/32 (314)				

[a] LONG SHAFT SUPPLIED WITH "ZELIX" (Z) DIRECT COUPLED ACTUATORS; SHORT SHAFT SUPPLIED WITH "SALT" (S) NON-SPRING RETURN DCAS

M31310A

Valve Type: Dynamic pressure-regulated control valve
Body Pattern: 2-way, straight-through
Flow Characteristic: Equal Percentage with flow control insert
Connection Type: Female-NPT
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Valve Action: Quarter-turn rotary
Maximum Safe Operating Pressure: 360 psi (2500 kPa)
Maximum Safe Operating Temperature: 248 F (120 C)
Maximum Close-off Pressure: 100 psid (690 kPa)
Fluid Temperature Range: -22 F to +250 F (-30 C to +121 C)
Ambient Temperature Range: 14 F to 131 F (-10 C to 55 C)
Accuracy: (±5% over specified pressure range)
Stem Travel: 90 deg. rotation

Materials
(Body): Forged Brass ASTM B584
(Stem): See table
(Seat): Teflon seals / EPDM O-rings
(Regulator): Stainless Steel
(Plug/Ball/Disc): See table
(Packing): Teflon seals / EPDM O-rings
(Diaphragm): Hydrogenated Acrylonitrile Butadiene Rubber

Valve, Regulated	Pipe fitting	Body Pattern	Valve Size	Flow Rating	Pressure Rating	Valve Trim	Actuator Secondary Spec	Actuator Control Form	Description
VR									Dynamic pressure regulated control valve
	N								Female NPT fitting
		2							2-way
			A						Valve size, 1/2 in. (DN15)
			B						Valve size, 3/4 in. (DN20)
			C						Valve size, 1 in. (DN25)
			D						Valve size, 1-1/4 in. (DN32)
			E						Valve size, 1-1/2 in. (DN40)
			F						Valve size, 2 in. (DN50)
			G						Valve size, 2-1/2 in. (DN65)
			H						Valve size, 3 in. (DN80)
				B					1 0 gpm
				D					2 0 gpm
				E					3 0 gpm
				F					4 0 gpm
				G					5 0 gpm
				H					6 0 gpm
				J					7 0 gpm
				K					8 0 gpm
				L					9 0 gpm
				M					10 gpm
				N					15 gpm
				P					20 gpm
				Q					25 gpm
				R					30 gpm
				S					35 gpm
				T					40 gpm
				U					45 gpm
				1					50 gpm
				2					55 gpm
				3					60 gpm
				4					65 gpm
				5					70 gpm
				6					75 gpm
				7					80 gpm
				8					85 gpm
				9					95 gpm
					3				360 psig body static pressure rating
						D			Brass trim, dual Test Ports
						S			Stainless steel trim, dual Test Ports
							2		NEMA-2 actuator housing
							F		Flanged valve bonnet (no actuator)
								A	Floating actuator
								B	Modulating actuator
								D	Modulating spring return actuator
								X	Valve body only

VR	N	2	B	F	3	S	2	D	= 2-way, 3/4-in. NPT dynamic pressure-regulated valve, SS trim, max. 4 gpm, modulating spring return.

1/2 in. | 3/4 in. | 1 in.
1-1/4 in. F.P. | F.P.
1-1/2 in.
2 in. | 2-1/2 in. | 3 in.
F.P. | F.P.

NOTE: "F.P." indicates full port ball (no flow characterization insert).

Pressure-regulated Control Valves

Wafer Flanged Dynamic Pressure-regulated Control Valves

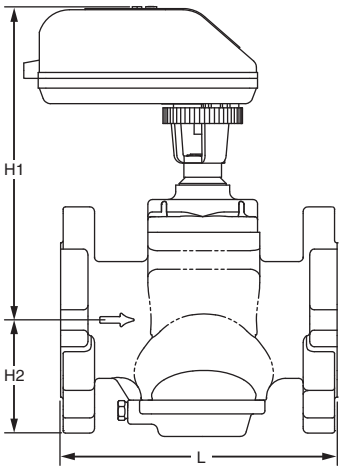
The VRW2 two-way dynamic pressure-regulating control valves maintain constant flow of hot and chilled water in closed-loop heating, ventilating, and air conditioning (HVAC) systems regardless of head pressure fluctuations above minimum specified pressure drop. These valves come complete with proportional, stay-in-place or electronic fail-safe actuators.

The built-in differential pressure regulator makes fluid flow through the valve independent of changes in supply pressure, eliminating "hunting" by the control system, even at low coil flow. The pressure regulator virtually eliminates cavitation in the valve, and decouples the control valve from the effects of piping components such as reducers and elbows.

Pressure independent control valves are sized to match design coil flow regardless of coil size. VRW2 valves eliminate the need to balance the system for proper flow, and allow chillers to be operated at design temperature differential for maximum efficiency at every load condition. When used in a system with variable speed pump drives, 3-way valves and coil bypass lines are not required.

- Multi-sized bodies from 21/2 to 6 inch pipes with wafer flanged connections
- Combination ANSI/ASME Class 150/300 pressure rating
- Controls hot or chilled water with up to 50% glycol
- Regulated flow rates available from 39 to 469 gpm
- Stainless steel pressure regulator maintains constant pressure drop across valve seat
- Positive pressure, rolling diaphragm regulator design provides flow control accuracy of ±5% over specified pressure range
- Equal percentage flow characteristic using multi turn, non-rising, characterized plug
- High close-off rating
- 50 discrete, selectable flow rates available per valve size
- Stainless steel trim
- Six-turn actuator with floating or modulating inputs available with stay-in-place or electronic fail-safe action
- Fail-safe actuators field-configurable for normally open or normally closed power failure return position
- Two Test Ports for venting or pressure gauge attachment

Dimensions in inches (millimeters)



MODEL (SIZE)	L IN. (MM)	H1 IN. (MM)	H2 IN. (MM)
VRW2J… (2-1/2 & 3)	8 3/4 (224)	9 3/4 (246)	3 3/4 (95)
VRW2K… (3 & 4)	12 5/8 (320)	11 3/8 (290)	5 1/4 (135)
VRW2L… (5 & 6)	16 5/8 (422)	13 1/4 (338)	7 1/8 (180)

M34706

Valve Type: Wafer flanged dynamic pressure-regulated control valve
Body Pattern: 2-way, straight-through
Flow Characteristic: Equal Percentage
Connection Type: Wafer flange
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Valve Action: Multi-turn linear
Leakage Rating: 0.2% max
Maximum Safe Operating Pressure: 580 psig (4000 kPa)
Maximum Safe Operating Temperature: 248 F (120 C)
Maximum Close-off Pressure: 101 psid (700 kPa)
Fluid Temperature Range: -4 F to 248 F (-20 C to 120 C)
Ambient Temperature Range: 14 F to 131 F (-10 C to 55 C)
Accuracy: (±5% over specified pressure range)
Stem Travel: 1 to 6 Rotations in 51 equal, field-selectable increments
ANSI/ ASME Class: 150/300
Comments: 2 - 10V position feedback signal
Materials
(Body): Ductile Iron, ASTM A536ñ65T, Class 60-45-18
(Stem): Stainless Steel
(Seat): 316 Stainless steel
(Regulator): 316 Stainless steel
(Plug/Ball/Disc): 316 stainless steel
(Packing): EPDM and Nitrile O-rings
(Diaphragm): EPDM

Valve, Regulated	Pipe fitting	Body Pattern	Valve Size[a]	Flow Rating	Pressure Rating	Valve Trim	Actuator Secondary Spec	Actuator Control Form	Description
VR									Dynamic pressure regulated control valve
	W								Combination-size wafer flange
		2							2-way
			J						Valve size, 2-1/2 and 3 in. (DN65 and DN80)
			K						Valve size, 3 and 4 in. (DN80 and DN100)
			L						Valve size, 5 and 6 in. (DN125 and DN150)
				V					Adjustable, low minimum differential pressure
				W					Adjustable, high minimum differential pressure
					4				ANSI/ASME 150/300
						S			Stainless steel trim, dual Test Ports
							M		Multi-turn valve
								B	Modulating actuator
								D	Modulating fail-safe actuator
VR	W	2	K	V	4	S	M	B	= 2-way, 3 & 4" wafer flanged dynamic pressure-regulated valve, SS trim, 55~147 gpm, modulating electronic fail safe.

[a] Wafer-style flanges for each model fit between 2 pipe flange sizes, of either ANSI/ASME Class 150 or Class 300. Valve is suspended from the rods joining the flanges attached to the pipes.

Replacement stainless steel regulator for VRN valves

Product Number	Description	Used With
8615-031/U	Replacement SS regulator for VRN 1-1/2 to 3 in *VRN literature/Griswold literature	VRN
8615-100/U	Replacement SS regulator for VRN2A low gpm	VRN
8615-101/U	Replacement SS regulator for VRN 1/2 to 1 in	VRN
8615-102/U	Replacement SS regulator for VRN 1 to 1-1/2 in	VRN

Replacement stem assembly for VRN2 valves

Product Number	Description
5112-34/U	Brass stem kit for 1/2” -1” Small VRN2 valves
5112-35/U	Brass stem kit for 1" Large - 1-1/2” Small VRN2 valves
5112-36/U	Brass stem kit for 1-1/2” Large - 3" VRN2 valves
5112-37/U	SS stem kit for 1/2” -1” Small VRN2 valves
5112-38/U	SS stem kit for 1 Large- 1-1/2” Small VRN2 valves
5112-39/U	SS stem kit for 1-1/2” Large - 3" VRN2 valves

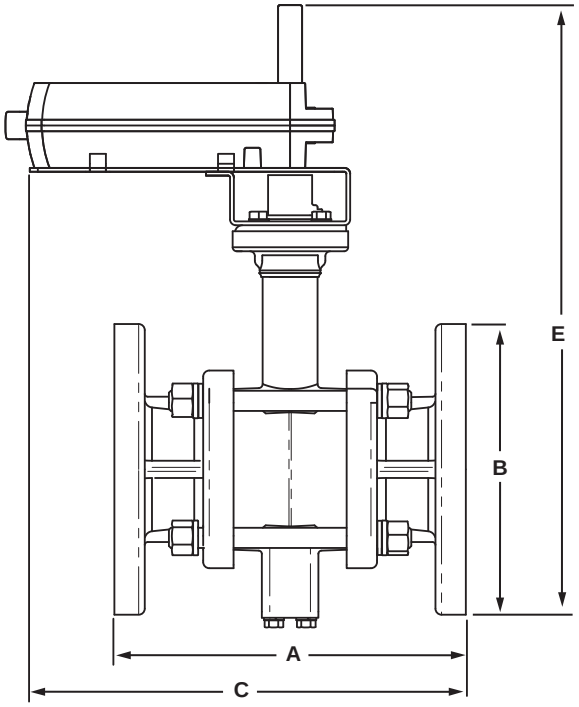
Control Ball Valves

VBF2 Two-way Flanged Control Ball Valve

The VBF2 Two-Way Ball Valve Assemblies, with and without actuators, control hot and chilled water with glycol solutions up to 50% in closed loop heating, ventilating, and air conditioning (HVAC) systems to provide two-position or modulating functions. These valve assemblies can be ordered with or without factory-mounted non-spring return or spring return direct-coupled actuators (DCA).

- Sizes from 4 to 6 inch with ANSI Class 125 flanged connections
- Equal percentage or linear flow characteristics
- Choice of four, factory-installed actuation control schemes: Floating, Modulating (2-10 V), Spring Return 24V 2-Position, Spring Return Modulating/Floating
- Field configurable for normally open or normally
- closed fail-safe position
- Removable manual operating handle to control valve
- during installation or in an event of power failure
- ANSI Class IV leakage specification (0.01% of Cv)
- Optional NEMA 3R (IP54) rated enclosure for outdoor applications
- Option of four actuator mounting positions on the valve
- Wide range of Cv choices from 91 to 650
- Valve ball and stem 316 stainless steel

Dimensions in inches (millimeters)



Size (in.)	Model Number	**A** in. (mm)	**B** in. (mm)	**C** in. (mm)	**D** (depth) (not shown) in. (mm)	**E** in. (mm)	**Wt.** lb (kg)
4	VBF2J	11 (278)	9 (229)	13-1/4 (337)	9 (229)	18-3/4 (476)	65 (31)
5	VBF2K	12-3/8 (352)	10 (254)	14-1/4 (362)	10 (254)	19 (483)	75 (34)
6	VBF2L	13-7/8 (352)	11 (278)	15-1/8 (384)	11 (278)	19-7/8 (505)	90 (41)

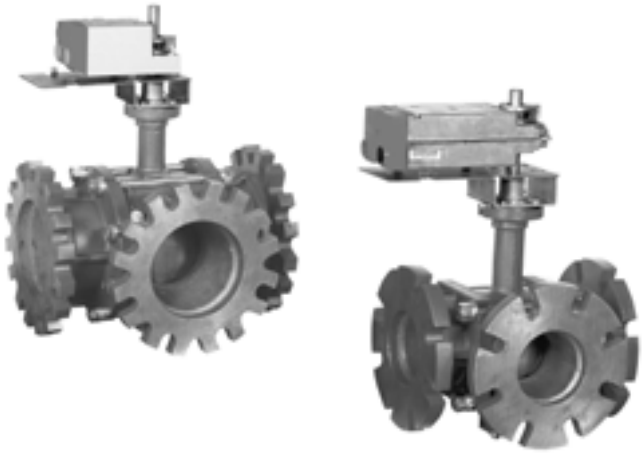
M13732

Valve Type: Control Ball Valve
Body Pattern: Two-way
Connection Type: Flanged
Flow Characteristic: Equal percentage
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels.
Leakage Rating: ANSI Class IV (0.01% of Cv maximum)
Maximum Safe Operating Pressure: 240 psi (1655 kPa)
Maximum Differential Pressure Ratings (Close-off): 70 psi (483 kPa)
Fluid Temperature Range: -22 F to +250 F (-30 C to +121 C)
Materials
(Body): Cast Iron
(Stem): 316 Stainless Steel
(Seat): Teflon®
(Plug/Ball/Disc): 316 stainless steel

Valve	Fitting	Body/Flow	Size	C_V	T/P	Trim	Enclosure	Actuator
VB = valve, ball								
	F = Flanged							
	N = Female NPT threaded							
		2 = 2 way						
		3 = 3 way						
				inch	S.I. metric			
			A	1/2	DN15			
			B	3/4	DN20			
			C	1	DN25			
			D	1-1/4	DN32			
			E	1-1/2	DN40			
			F	2	DN50			
			G	2-1/2	DN65			
			H	3	DN80			
			J	4	DN100			
			K	5	DN125			
			L	6	DN150			
				B	C_V Designator (specific values vary by valve size)			
				C				
				D				
				E				
				F				
				....				
				S				
				T				
				U				
				1				
				2				
				3				
				4				
				5				
				6				
				7				
					1 = ANSI Valve construction			
					3 = ANSI 300 Valve construction			
						P = Plated (chrome or nickel)		
						S = Stainless Steel		
							0 = no enclosure	
							R = NEMA 3R enclosure	
								X = no actuator
								A = NSR, Floating, conduit
								B = NSR, Modulating
								C = SR, 2-Position, 24 Vac
								D = SR, Floating/Modulating
								F = NSR, Floating, open terminal strip, 1/2 and 3/4 inch only
VB	F	2	A	B	1	S	0	A

Control Ball Valves

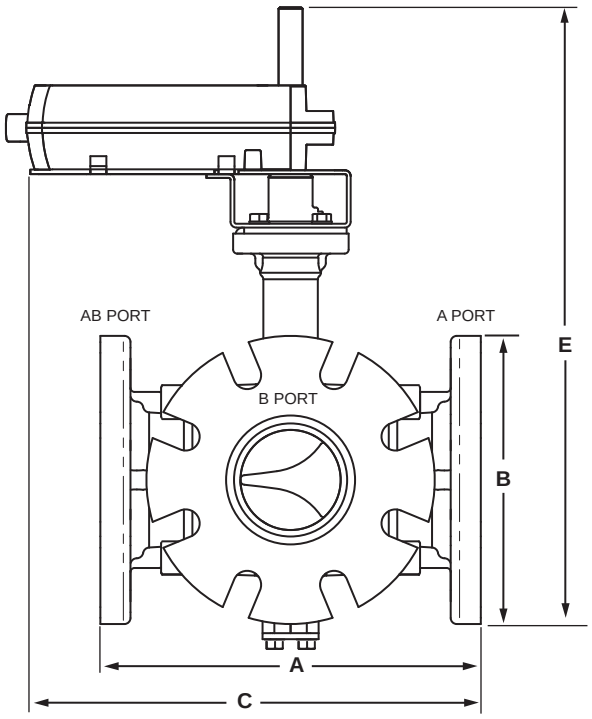
VBF3 Three-way Flanged Control Ball Valve



The VBF3 Three-Way Ball Valve Assemblies, with and without actuators, control hot and chilled water with glycol solutions up to 50% in closed loop heating, ventilating, and air conditioning (HVAC) systems to provide two-position or modulating functions. These valve assemblies can be ordered with or without factory-mounted non-spring return or spring return direct-coupled actuators (DCA).

- Sizes from 4 to 6 inch with ANSI Class 125 flanged connections
- Equal percentage or linear flow characteristics
- Choice of four, factory-installed actuation control schemes: Floating, Modulating (2-10 V), Spring Return 24V 2-Position, Spring Return Modulating/Floating
- Field configurable for normally open or normally
- closed fail-safe position
- Removable manual operating handle to control valve
- during installation or in an event of power failure
- ANSI Class IV A-port seat leakage (0.01% of Cv)
- Optional NEMA 3R (IP54) rated enclosure for outdoor applications
- Option of four actuator mounting positions on the valve
- Wide range of Cv choices from 91 to 650
- Valve ball and stem 316 stainless steel
- Non-isolating mixing or diverting control

Dimensions in inches (millimeters)



Size (in.)	Model Number	**A** in. (mm)	**B** in. (mm)	**C** in. (mm)	**D** (depth) (not shown) in. (mm)	**E** in. (mm)	**Wt.** lb (kg)
4	VBF3J	11-7/8 (278)	9 (229)	14-1/8 (337)	10-3/8 (229)	18-1/2 (470)	75 (34)
5	VBF3K	13-7/8 (352)	10 (254)	15-1/8 (362)	12 (254)	19-3/8 (483)	90 (41)
6	VBF3L	15-7/8 (403)	11 (278)	16-1/8 (410)	13-3/8 (521)	20-1/2 (521)	105 (48)

M13733A

Valve Type: Control Ball Valve
Body Pattern: Three-way
Connection Type: Flanged
Flow Characteristic: Linear (B-AB); Equal Percentage (A-AB)
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating: ANSI Class IV (A port only); B port ~2% leakage
Maximum Safe Operating Pressure: 240 psi (1655 kPa)
Maximum Differential Pressure Ratings (Close-off): 70 psi (483 kPa)
Fluid Temperature Range: -22 F to +250 F (-30 C to +121 C)
Materials
(Body): Cast Iron
(Stem): 316 Stainless Steel
(Seat): Teflon®
(Plug/Ball/Disc): 316 stainless steel

Valve	Fitting	Body/Flow	Size	C_V	T/P	Trim	Enclosure	Actuator
VB = valve, ball								
	F = Flanged							
	N = Female NPT threaded							
		2 = 2 way						
		3 = 3 way						
				inch	S.I. metric			
			A	1/2	DN15			
			B	3/4	DN20			
			C	1	DN25			
			D	1-1/4	DN32			
			E	1-1/2	DN40			
			F	2	DN50			
			G	2-1/2	DN65			
			H	3	DN80			
			J	4	DN100			
			K	5	DN125			
			L	6	DN150			
				B	C_V Designator (specific values vary by valve size)			
				C				
				D				
				E				
				F				
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				S				
				T				
				U				
				1				
				2				
				3				
				4				
				5				
				6				
				7				
					1 = ANSI Valve construction			
					3 = ANSI 300 Valve construction			
						P = Plated (chrome or nickel)		
						S = Stainless Steel		
							0 = no enclosure	
							R = NEMA 3R enclosure	
								X = no actuator
								A = NSR, Floating, conduit
								B = NSR, Modulating
								C = SR, 2-Position, 24 Vac
								D = SR, Floating/Modulating
								F = NSR, Floating, open terminal strip, 1/2 and 3/4 inch only
VB	F	2	A	B	1	S	0	A

Control Ball Valves

Replacement bottom stem for VBF2 and VBF3 valves

Product Number	Description	Used With
7981-701/U	Replacement bottom stem for VBF2 AND VBF3 ball valves	VBF2 and VBF3 Ball Valves

Replacement seal for VBF valves

Product Number	Description	Used With
7981-910/U	Replacement seal for VBF2 4 in. ball valves	4 in. VBF2 Ball Valves
7981-911/U	Replacement seal for VBF2 5 in. and VBF3 4 in. ball valves	5 in. VBF2 and 4 in. VBF3 Ball Valves
7981-912/U	Replacement seal for VBF2 6 in. and VBF3 5 in. ball valves	6 in. VBF2 and 5 in. VBF3 Ball Valves
7981-913/U	Replacement seal for VBF3 6 in. ball valves	6 in. VBF3 Ball Valves

Replacement seal O-ring for VBF valves

Product Number	Description	Used With
7981-914/U	O-Ring Replacement seal for VBF2 4 in. ball valves	4 in. VBF2 Ball Valves
7981-915/U	Replacement seal O-Ring for VBF2 5 in. and VBF3 4 in. ball valves	5 in. VBF2 and 4 in. VBF3 Ball Valves
7981-916/U	Replacement seal O-Ring for VBF2 6 in. and VBF3 5 in. ball valves	6 in. VBF2 and 5 in. VBF3 Ball Valves
7981-917/U	Replacement seal O-Ring for VBF3 6 in. ball valves	6 in. VBF3 Ball Valves

Replacement flange O-ring for VBF valves

Product Number	Description	Used With
7978-65/U	Replacement flange O-Ring for VBF2 4 in. ball valves	4 in. VBF2 Ball Valves
7978-66/U	Replacement flange O-Ring for VBF2 5 in. and VBF3 4 in. ball valves	5 in. VBF2 and 4 in. VBF3 Ball Valves
7978-67/U	Replacement flange O-Ring for VBF3 5 in. ball valves	5 in. VBF3 Ball Valves
7978-68/U	Replacement flange O-Ring for VBF2 6 in. ball valves	6 in. VBF2 Ball Valves
7978-69/U	Replacement flange O-Ring for VBF3 6 in. ball valves	6 in. VBF3 Ball Valves

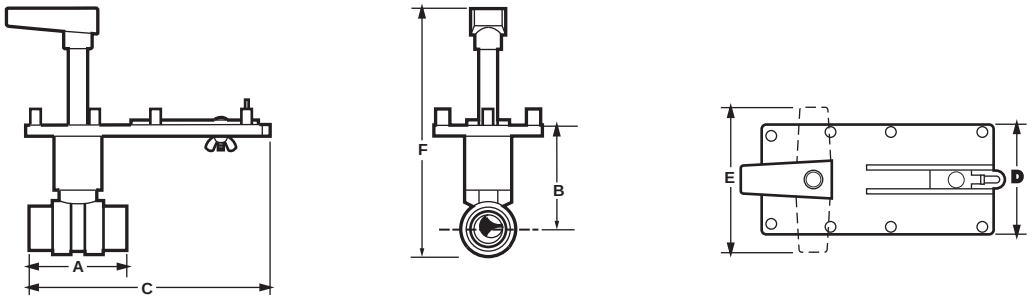
VBN2 Two-way Threaded Control Ball Valve

The VBN2 Two-Way Control Ball Valves control hot and chilled water with glycol solutions up to 50% in heating, ventilating, and air conditioning (HVAC) systems to provide two-position or modulating functions. These valve assemblies can be ordered with or without factory-mounted non-spring return or spring return direct-coupled actuators (DCA).

- Sizes from 1/2 to 3 inches with internal (female) NPT connections
- Equal percentage or linear flow characteristics
- Choice of four, factory-installed actuation control schemes: Floating, Modulating (2-10 V), Spring Return 2-Position, Spring Return Modulating/Floating
- Field configurable for normally open or normally
- closed fail-safe position
- Removable manual operating handle to control valve during installation or in an event of power failure
- ANSI Class IV seat leakage specification (0.01% of Cv)
- Optional NEMA 3R (IP54) rated enclosure for outdoor applications
- Actuator can be mounted on the valve in any of four positions
- Field-serviceable stem assembly
- Wide Cv choices from 0.38 to 266
- Nickel-chrome plated brass or 316 stainless steel ball and stem

Valve Type: Control Ball Valve
Body Pattern: Two-way
Connection Type: Female NPT
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating: ANSI Class IV (0.01% of Cv maximum)
Maximum Safe Operating Pressure: 360 psi (2482 kPa)
Maximum Differential Pressure Ratings (Close-off): 130 psi (896 kPa)
Fluid Temperature Range: -22 F to +250 F (-30 C to +121 C)
Materials
(Body): Brass
(Stem): See table
(Seat): Teflon® seals with EPDM O-rings
(Plug/Ball/Disc): See table
(Flow Control Insert) : Noryl®

Dimensions in inches (millimeters)



Pipe Size	Model No.	C_V	Dimensions inches (mm) A	B	C	D	E	F	Weight lb (kg)
1/2"	VBN2A	0.38, 0.68, 1.3, 2.0, 2.6, 4.7, 11.7	2-3/8 (60)	3-7/16 (87)	6-5/8 (168)	3 (76)	4 (102)	8-1/8 (206)	1 (0.5)
		8.0	2-5/8 (67)	3-11/16 (94)	6-1/2 (165)	3 (76)	4 (102)	8-5/16 (211)	1 (0.5)
3/4"	VBN2B	0.31, 0.63, 1.2, 2.5, 4.3, 7.4, 14.7	2-3/8 (60)	3-7/16 (87)	6-7/16 (164)	3 (76)	4 (102)	8-1/8 (206)	1 (0.5)
		10.1, 29	2-5/8 (67)	3-11/16 (94)	6-1/2 (165)	3 (76)	4 (102)	8-5/16 (211)	1 (0.5)
1"	VBN2C	9.0	3-3/4 (95)	3-11/16 (94)	7-1/16 (179)	3 (76)	4 (102)	8-5/16 (211)	1 (0.5)
		4.4, 15.3, 54	3 (76)	3-15/16 (100)	6-3/4 (171)	3 (76)	4 (102)	8-11/16 (221)	1.4 (0.6)
		26, 44	4-3/8 (111)	4-7/16 (113)	7-3/8 (187)	3 (76)	4 (102)	8-7/8 (225)	2.4 (1.1)
1-1/4"	VBN2D	4.4, 8.3, 14.9, 25, 41	3 (76)	3-15/16 (100)	6-11/16 (170)	3 (76)	4 (102)	8-11/16 (221)	1.4 (0.6)
		37, 102	3-5/8 (92)	4-7/16 (113)	7 (178)	3 (76)	4 (102)	9-1/16 (231)	2.4 (1.1)
1-1/2"	VBN2E	23, 30, 74	3-3/8 (86)	3-15/16 (100)	6-15/16 (176)	3 (76)	4 (102)	9-1/16 (231)	2.4 (1.1)
		41, 172	3-3/4 (95)	5-3/16 (132)	7-1/16 (179)	3 (76)	4 (102)	8-7/8 (225)	3.2 (1.5)
2"	VBN2F	42, 108	4 (102)	5-3/16 (132)	7-3/16 (183)	3 (76)	4 (102)	8-7/8 (225)	3.2 (1.5)
		57, 71, 100, 210, 266	4-3/8 (111)	5-3/4 (146)	7-7/16 (189)	3 (76)	4 (102)	10-1/2 (267)	5 (2.3)
2-1/2"	VBN2G	45, 55, 72, 101, 162, 202	4-3/4 (121)	5-3/4 (146)	7-9/16 (192)	3 (76)	4 (102)	10-1/2 (267)	5.5 (2.5)
3"	VBN2H	49, 63, 82, 124, 145	5 (127)	5-7/8 (149)	7-11/16 (195)	3 (76)	4 (102)	10-11/16 (271)	5.9 (2.7)

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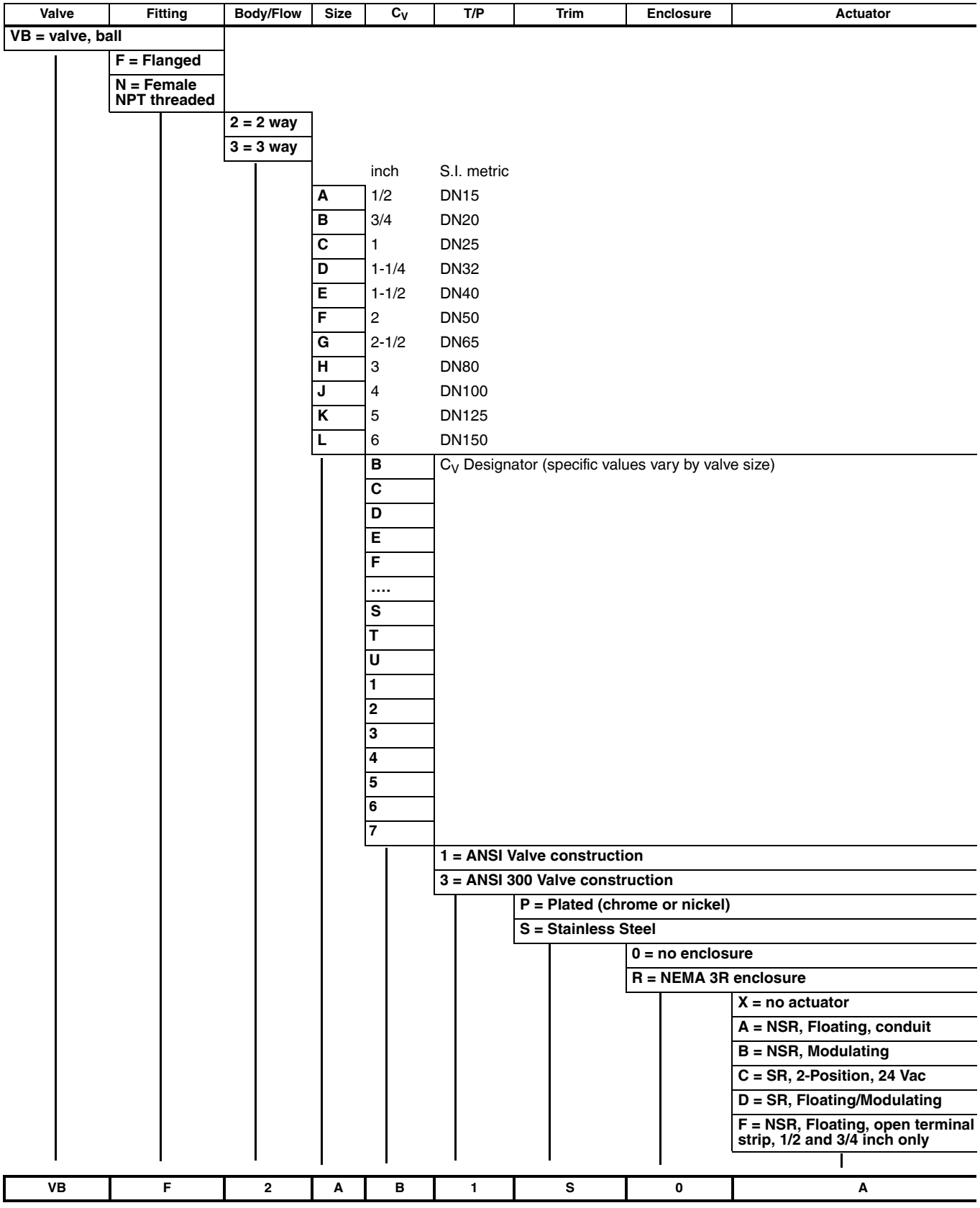
Control Ball Valves



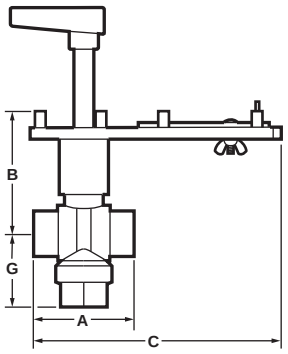
VBN3 Three-way Threaded Control Ball Valve

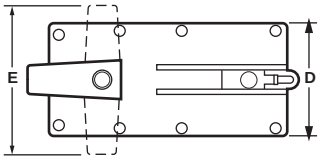
The VBN3 Three-Way Control Ball Valves control hot and chilled water with glycol solutions up to 50% in heating, ventilating, and air conditioning (HVAC) systems to provide two-position or modulating functions. These valve assemblies can be ordered with or without factory-mounted non-spring return or spring return direct-coupled actuators (DCA).

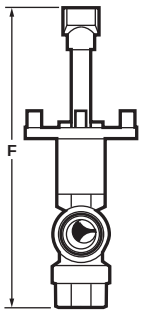
- Sizes from 1/2 to 2-1/2 inches with internal (female) NPT connections
- Equal percentage or linear flow characteristics
- Reduced B-port Cv for constant loop flow
- Choice of four, factory-installed actuation control schemes: Floating, Modulating (2-10 V), Spring Return 2-Position, Spring Return Modulating/Floating
- Field configurable for normally open or normally
- closed fail-safe position
- Removable manual operating handle to control valve during installation or in an event of power failure
- ANSI Class IV seat leakage specification (0.01% of Cv)
- Optional NEMA 3R (IP54) rated enclosure for outdoor applications
- Actuator can be mounted on the valve in any of four positions
- Wide Cv choices from 0.33 to 109
- Valve installs in a globe valve "T" pattern, no extra elbows or piping required
- Field-serviceable stem assembly
- Nickel-chrome plated brass ball and stem
- Mixing or Diverting control

Valve Type: Control Ball Valve
Body Pattern: Three-way
Flow Characteristic: Linear (B-AB); Equal Percentage (A-AB)
Connection Type: Female NPT
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating: ANSI Class IV (0.01% of Cv maximum)
Maximum Safe Operating Pressure: 360 psi (2482 kPa)
Maximum Differential Pressure Ratings (Close-off): 50 psi (345 kPa)
Fluid Temperature Range: -22 F to +250 F (-30 C to +121 C)
Materials
(Body): Brass
(Stem): Brass
(Seat): Teflon® seals with EPDM O-rings
(Plug/Ball/Disc): Nickel-plated brass ball
(Flow Control Insert) : Noryl®

Dimensions in inches (millimeters)



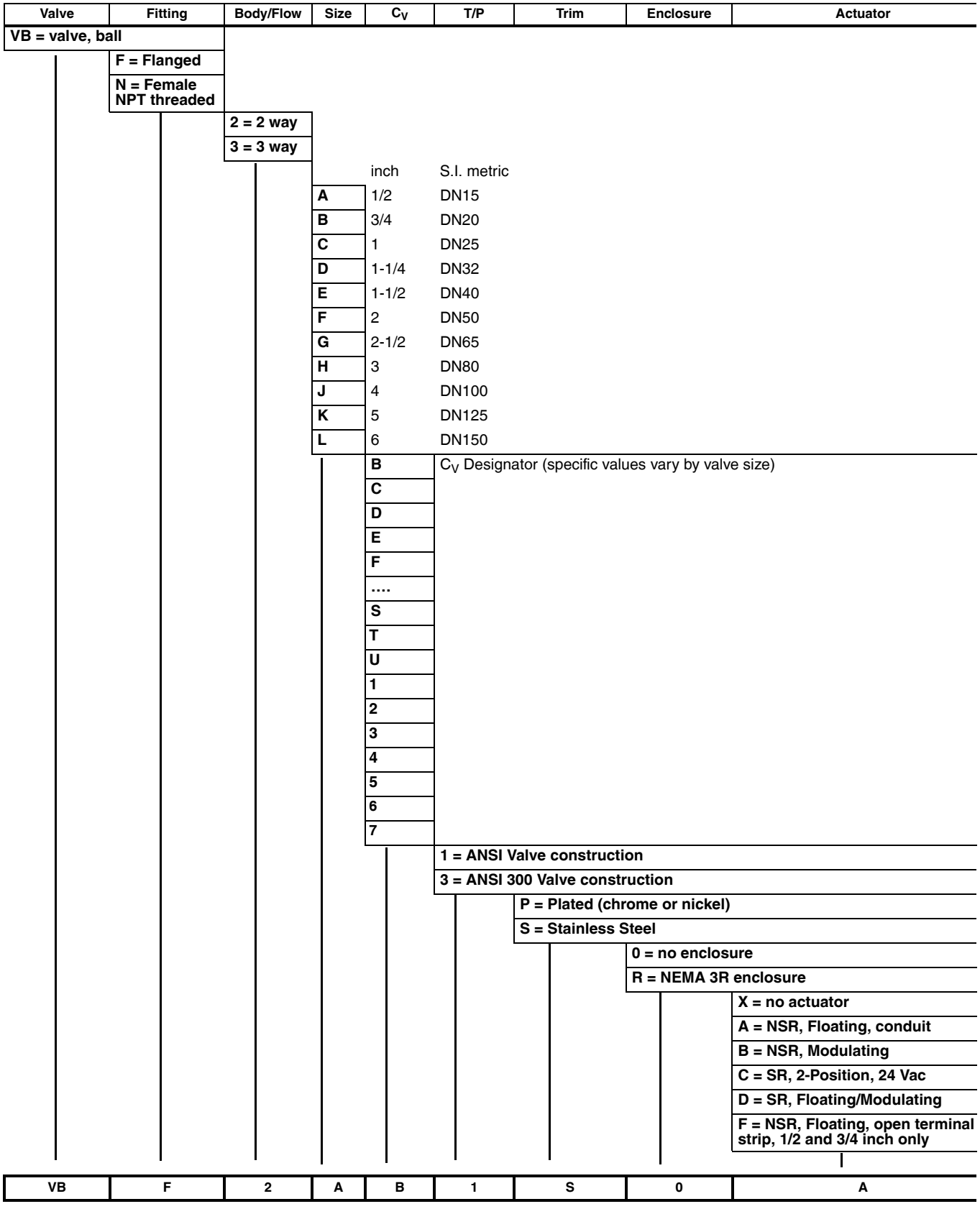




Pipe Size	Model No.	C_V	Dimensions inches (mm) A	B	C	D	E	F	G	Weight lb (kg)
1/2"	VBN3A	0.33, 0.59, 1.0, 2.4, 4.3, 8.0	3-1/2 (90)	3-5/16 (84)	7 (178)	3 (76)	4 (102)	9-3/8 (238)	2-3/8 (60)	2.4 (1.1)
3/4"	VBN3B	0.40, 0.66, 1.3, 2.4, 3.8, 11.0	2-13/16 (71)	3-5/16 (84)	6-1/2 (168)	3 (76)	4 (102)	8-13/16 (224)	2 (51)	2 (0.9)
1"	VBN3C	0.40, 0.65, 1.3, 2.3, 3.5	3-13/16 (97)	3-5/16 (84)	7-5/16 (186)	3 (76)	4 (102)	9-1/2 (241)	2-3/4 (70)	2.8 (1.3)
		8.6, 22	3 (76)	3-13/16	6-13/16 (173)	3 (76)	4 (102)	9-13/16 (249)	2-5/8 (67)	2.6 (1.2)
		4.5, 14.9, 31	4-1/2 (114)	4 (102)	7-13/16 (198)	3 (76)	4 (102)	10-13/16 (275)	3-1/4 (83)	3.3 (1.5)
1-1/4"	VBN3D	4.1, 8.7, 19.0	3 (76)	3-13/16	6-13/16 (173)	3 (76)	4 (102)	9-13/16 (249)	2-1/2 (64)	2.5 (1.1)
		12.7, 27, 34	3-5/8 (92)	4 (102)	7-5/16 (186)	3 (76)	4 (102)	10-5/16 (262)	2-3/4 (70)	2.8 (1.3)
1-1/2"	VBN3E	4.0, 8.3, 13.4, 32	4-1/2 (114)	4 (102)	7-13/16 (198)	3 (76)	4 (102)	10-13/16 (275)	3-1/4 (83)	3.3 (1.5)
		24, 61	4 (102)	4-1/2 (114)	7-5/16 (186)	3 (76)	4 (102)	11 (279)	3-1/4 (83)	3.3 (1.5)
2"	VBN3F	24, 38, 57	4 (102)	4-1/2 (114)	7-5/16 (186)	3 (76)	4 (102)	11 (279)	3-1/4 (83)	3.3 (1.5)
		83, 109	5 (127)	5-13/16	7-13/16 (198)	3 (76)	4 (102)	12-5/16 (313)	3-3/4 (95)	3.8 (1.7)
2-1/2"	VBN3G	38, 74, 100	5 (127)	5-13/16	7-13/16 (198)	3 (76)	4 (102)	12-5/16 (313)	3-3/4 (95)	3.8 (1.7)

M13730

Control Ball Valves



Replacement stem assembly for VBN valves

Product Number	Description
5112-11/U	Stem replacement kit
5112-19/U	Brass stem kit for 1/2”-1” Small VBN valves
5112-20/U	Brass stem kit for 1" Large-1-1/2” Small VBN valves
5112-21/U	Brass stem kit for 1-1/2” Large-3” VBN valves
5112-22/U	Stainless Steel stem kit for 1/2” - 1" Small VBN2 valves
5112-23/U	Stainless Steel stem kit for 1" Large-1-1/2” Small VBN2 valves
5112-24/U	Stainless Steel stem kit for 1-1/2” Large to 3" VBN2 valves

Control Ball Valves Accessories

Product Number	Description
5112-3R	NEMA 3R Enclosure

Butterfly Control Valves

VFF1 Two-way Normally-Open Butterfly Control Valves

Resilient seat in two-way valves, provide control for HVAC system applications including chilled water, hot water, cooling tower water, and thermal storage systems.

Body Pattern: 2 way (S/R NO)
Valve Action: Normally Open
Connection Type: Lugged
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels.
Actuator Control Type: Pneumatic
Flow Characteristic: Modified Equal Percent
Mounting: ANSI Flanged
Static Pressure Rating (max): 250 psi (1724 kPa)
Actuator Ambient Temperature Ratings: -20 F to 150 F (-29 C to 66 C)
Temperature Range: -40 F to 250 F (-40 C to 121 C)
Number of Flange Bolts
For 2 in., 2-1/2 in., 3 in. valves: 4
For 4 in., 5 in., 6 in., 8 in., valves: 8
For 10 in., 12 in., 14 in. valves: 12
For 16 in., 18 in. valves: 16
For 20 in. valves: 20
Flange Bolt Thread
For 2 in., 2-1/2 in., 3 in., 4 in. valves: 5/8 in. -11 pitch
For 5 in., 6 in., 8 in., valves: 3/4 in. -10 pitch
For 10 in., 12 in. valves: 7/8 in. -9 pitch
For 14 in., 16 in., 18 in., 20 in. valves: 1-1/8 in. -7 pitch
Materials
(Body): Polyester-coated cast iron ASTM A126 Class B
(Stem): 416 Stainless Steel
(Seat): Peroxide-cured EPDM resilient seat
(Plug/Ball/Disc): Nylon 11-coated ductile iron (optional: aluminum, bronze, and stainless steel)

Butterfly Valves	Fitting	Body Pattern	Size	Disk size (close-off)	Pressure Rating	Valve trim	Actuator secondary Specification	Actuator primary Specification	Description	Actuator Type
VF	Butterfly Valve, resilient seat									
	F	Flanged fitting								
		1	2-way (spring return normally open)							
		2	2-way (non-spring return: Spring return normally closed or field-convertible)							
		3	3-way A-B-AB (mixing/diverting)							
		6	3-way A-AB-B (diverting/mixing)							
			F	2 inch (DN50)						
			G	2-1/2 inch (DN65)						
			H	3 inch (DN80)						
			J	4 inch (DN100)						
			K	5 inch (DN125)						
			L	6 inch (DN150)						
			M	8 inch (DN200)						
			N	10 inch (DN250)						
			P	12 inch (DN300)						
			R	14 inch (DN350)						
			S	16 inch (DN400)						
			T	18 inch (DN450)						
			U	20 inch (DN500)						
				V	Undercut disk (lower actuator torque; 50 psid close-off)					
				W	Full diameter disk (high close-off)					
					1	ANSI 150 psig body pressure rating				
					2	ANSI 250 psig body pressure rating				
						Y	Nylon-coated disk, EPDM seat			
							2		NEMA 2 actuator housing (Honeywell DCA)	Electric
							6		NEMA 6 actuator housing with manual operator and heater	Electric
							X		NEMA 4X actuator housing with manual operator and heater	Electric
							8		Spring Range 8-13 psi for 20 psi pneumatic actuator	Pneumatic
							C		24 Vac solenoid for 80 psi pneumatic actuator	Pneumatic
							D		Electro-pneumatic positioner for 80 psi actuator	Pneumatic
							E		120 Vac solenoid for 80 psi pneumatic actuator	Pneumatic
							P		Pneumatic positioner for modulating applications	Pneumatic
							X		Standard, two-position control only	Pneumatic
							L		Lever operator for dead end service	Manual
							G		Geared operator for dead end service	Manual
								A	Floating actuator	Electric
								B	Modulating actuator	Electric
								C	Two-position 24 Vac spring return actuator	Electric
								D	Modulating spring return actuator	Electric
								E	Two-position 120 Vac spring return actuator	Electric
								P	Pneumatic actuator, spring return 20 psi	Pneumatic
								R	Pneumatic actuator, push-pull 80 psi	Pneumatic
								S	Pneumatic actuator, spring return 80 psi	Pneumatic
								X	Valve body only, for dead end service	Man

VF	F	2	J	V	1	Y	2	D	2-way, 4 inch flanged resilient-sear butterfly valve, undercut disk (50 psid close-off) modulating/floating control, spring return normally closed.

Butterfly Control Valves

VFF2 Two-way Butterfly Control Valves

Resilient seat two-way valves provide control for HVAC system applications including chilled water, hot water, cooling tower water, and thermal storage systems.

Body Pattern: 2 way (NC, NC/NO; NSR)
Valve Action: Normally Closed, convertible to Normally Open with Spring Return DCA
Connection Type: Lugged
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels.
Flow Characteristic: Modified Equal Percent
Mounting: ANSI Flanged
Static Pressure Rating (max): 250 psi (1724 kPa)
Actuator Ambient Temperature Ratings: -5 F to 140 F (-20 C to 60 C)
Temperature Range: -40 F to 250 F (-40 C to 121 C)

Number of Flange Bolts
For 2 in., 2-1/2 in., 3 in. valves: 4
For 4 in., 5 in., 6 in., 8 in., valves: 8
For 10 in., 12 in., 14 in. valves: 12
For 16 in., 18 in. valves: 16
For 20 in. valves: 20

Flange Bolt Thread
For 2 in., 2-1/2 in., 3 in., 4 in. valves: 5/8 in. -11 pitch
For 5 in., 6 in., 8 in., valves: 3/4 in. -10 pitch
For 10 in., 12 in. valves: 7/8 in. -9 pitch
For 14 in., 16 in., 18 in., 20 in. valves: 1-1/8 in. -7 pitch

Materials
(Body): Polyester-coated cast iron ASTM A126 Class B
(Stem): 416 Stainless Steel
(Seat): Peroxide-cured EPDM resilient seat
(Plug/Ball/Disc): Nylon 11-coated ductile iron (optional: aluminum, bronze, and stainless steel)

Approvals
CE: Compliant
Underwriters Laboratories, Inc: C/US UL873, Plenum Rated

Accessories:
VFF50-0400-Position status monitor for VFF butterfly valves with high pressure pneumatic actuators

NOTE: Valves with Manual Operators use over-cut disks to achieve 250 psid close-off, and cannot be automated due to their high torque

Butterfly Valves	Fitting	Body Pattern	Size	Disk size (close-off)	Pressure Rating	Valve trim	Actuator secondary Specification	Actuator primary Specification	Description	Actuator Type
VF	Butterfly Valve, resilient seat									
	F	Flanged fitting								
		1	2-way (spring return normally open)							
		2	2-way (non-spring return: Spring return normally closed or field-convertible)							
		3	3-way A-B-AB (mixing/diverting)							
		6	3-way A-AB-B (diverting/mixing)							
			F	2 inch (DN50)						
			G	2-1/2 inch (DN65)						
			H	3 inch (DN80)						
			J	4 inch (DN100)						
			K	5 inch (DN125)						
			L	6 inch (DN150)						
			M	8 inch (DN200)						
			N	10 inch (DN250)						
			P	12 inch (DN300)						
			R	14 inch (DN350)						
			S	16 inch (DN400)						
			T	18 inch (DN450)						
			U	20 inch (DN500)						
				V	Undercut disk (lower actuator torque; 50 psid close-off)					
				W	Full diameter disk (high close-off)					
					1	ANSI 150 psig body pressure rating				
					2	ANSI 250 psig body pressure rating				
						Y	Nylon-coated disk, EPDM seat			
							2	NEMA 2 actuator housing (Honeywell DCA)		Electric
							6	NEMA 6 actuator housing with manual operator and heater		
							X	NEMA 4X actuator housing with manual operator and heater		
							8	Spring Range 8-13 psi for 20 psi pneumatic actuator		Pneumatic
							C	24 Vac solenoid for 80 psi pneumatic actuator		
							D	Electro-pneumatic positioner for 80 psi actuator		
							E	120 Vac solenoid for 80 psi pneumatic actuator		
							P	Pneumatic positioner for modulating applications		
							X	Standard, two-position control only		
							L	Lever operator for dead end service		Manual
							G	Geared operator for dead end service		
								A	Floating actuator	Electric
								B	Modulating actuator	
								C	Two-position 24 Vac spring return actuator	
								D	Modulating spring return actuator	
								E	Two-position 120 Vac spring return actuator	
								P	Pneumatic actuator, spring return 20 psi	Pneumatic
								R	Pneumatic actuator, push-pull 80 psi	
								S	Pneumatic actuator, spring return 80 psi	
								X	Valve body only, for dead end service	Man
VF	F	2	J	V	1	Y	2	D	2-way, 4 inch flanged resilient-sear butterfly valve, undercut disk (50 psid close-off) modulating/floating control, spring return normally closed.	

**VFF50-0400 position status monitor for VFF butterfly valves with high pressure pneumatic actuators is available to be ordered separately or will be assembled to the valve if ordered at the same time. It is compatible with any high pressure pneumatic actuators without pneumatic or electro-pneumatic positioner (e.g. VFF...XR/XS, VFF...CR/CS, or VFF...ER/ES).

Butterfly Control Valves

VFF3 Three-way (A-B-AB) Butterfly Control Valves

Resilient seat three-way valves provide control for HVAC system applications including chilled water, hot water, cooling tower water, and thermal storage systems.

Body Pattern: 3 way (A-B-AB porting)
Valve Action: Normally Closed
Connection Type: Lugged
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels.
Flow Characteristic: Modified Equal Percent
Mounting: ANSI Flanged
Static Pressure Rating (max): 250 psi (1724 kPa)
Actuator Ambient Temperature Ratings: -5 F to 140 F (-20 C to 60 C)
Temperature Range: -40 F to 250 F (-40 C to 121 C)

Number of Flange Bolts
For 2 in., 2-1/2 in., 3 in. valves: 4
For 4 in., 5 in., 6 in., 8 in., valves: 8
For 10 in., 12 in., 14 in. valves: 12
For 16 in., 18 in. valves: 16
For 20 in. valves: 20

Flange Bolt Thread
For 2 in., 2-1/2 in., 3 in., 4 in. valves: 5/8 in. -11 pitch
For 5 in., 6 in., 8 in., valves: 3/4 in. -10 pitch
For 10 in., 12 in. valves: 7/8 in. -9 pitch
For 14 in., 16 in., 18 in., 20 in. valves: 1-1/8 in. -7 pitch

Materials
(Body): Polyester-coated cast iron ASTM A126 Class B
(Stem): 416 Stainless Steel
(Seat): Peroxide-cured EPDM resilient seat
(Plug/Ball/Disc): Nylon 11-coated ductile iron (optional: aluminum, bronze, and stainless steel)

Approvals
CE: Compliant
Underwriters Laboratories, Inc: C/US UL873, Plenum Rated

Accessories:
VFF50-0400-Position status monitor for VFF butterfly valves with high pressure pneumatic actuators

Butterfly Valves	Fitting	Body Pattern	Size	Disk size (close-off)	Pressure Rating	Valve trim	Actuator secondary Specification	Actuator primary Specification	Description	Actuator Type
VF	Butterfly Valve, resilient seat									
	F	Flanged fitting								
		1	2-way (spring return normally open)							
		2	2-way (non-spring return: Spring return normally closed or field-convertible)							
		3	3-way A-B-AB (mixing/diverting)							
		6	3-way A-AB-B (diverting/mixing)							
			F	2 inch (DN50)						
			G	2-1/2 inch (DN65)						
			H	3 inch (DN80)						
			J	4 inch (DN100)						
			K	5 inch (DN125)						
			L	6 inch (DN150)						
			M	8 inch (DN200)						
			N	10 inch (DN250)						
			P	12 inch (DN300)						
			R	14 inch (DN350)						
			S	16 inch (DN400)						
			T	18 inch (DN450)						
			U	20 inch (DN500)						
				V	Undercut disk (lower actuator torque; 50 psid close-off)					
				W	Full diameter disk (high close-off)					
					1	ANSI 150 psig body pressure rating				
					2	ANSI 250 psig body pressure rating				
						Y	Nylon-coated disk, EPDM seat			
							2	NEMA 2 actuator housing (Honeywell DCA)		Electric
							6	NEMA 6 actuator housing with manual operator and heater		
							X	NEMA 4X actuator housing with manual operator and heater		
							8	Spring Range 8-13 psi for 20 psi pneumatic actuator		Pneumatic
							C	24 Vac solenoid for 80 psi pneumatic actuator		
							D	Electro-pneumatic positioner for 80 psi actuator		
							E	120 Vac solenoid for 80 psi pneumatic actuator		
							P	Pneumatic positioner for modulating applications		
							X	Standard, two-position control only		
							L	Lever operator for dead end service		Manual
							G	Geared operator for dead end service		
								A	Floating actuator	Electric
								B	Modulating actuator	
								C	Two-position 24 Vac spring return actuator	
								D	Modulating spring return actuator	
								E	Two-position 120 Vac spring return actuator	
								P	Pneumatic actuator, spring return 20 psi	Pneumatic
								R	Pneumatic actuator, push-pull 80 psi	
								S	Pneumatic actuator, spring return 80 psi	
								X	Valve body only, for dead end service	Man
VF	F	2	J	V	1	Y	2	D	2-way, 4 inch flanged resilient-sear butterfly valve, undercut disk (50 psid close-off) modulating/floating control, spring return normally closed.	

**VFF50-0400 position status monitor for VFF butterfly valves with high pressure pneumatic actuators is available to be ordered separately or will be assembled to the valve if ordered at the same time. It is compatible with any high pressure pneumatic actuators without pneumatic or electro-pneumatic positioner (e.g. VFF...XR/XS, VFF...CR/CS, or VFF...ER/ES).

Butterfly Control Valves

VFF6 Three-way (A-AB-B) Butterfly Control Valves

Resilient seat three-way valves provide control for HVAC system applications including chilled water, hot water, cooling tower water, and thermal storage systems.

Body Pattern: 3 way (A-AB-B porting)
Valve Action: Normally Closed
Connection Type: Lugged
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels.
Flow Characteristic: Modified Equal Percent
Mounting: ANSI Flanged
Static Pressure Rating (max): 250 psi (1724 kPa)
Actuator Ambient Temperature Ratings-5 F to 140 F: (-20 C to 60 C)
Temperature Range: -40 F to 250 F (-40 C to 121 C)

Number of Flange Bolts
For 2 in., 2-1/2 in., 3 in. valves: 4
For 4 in., 5 in., 6 in., 8 in., valves: 8
For 10 in., 12 in., 14 in. valves: 12
For 16 in., 18 in. valves: 16
For 20 in. valves: 20

Flange Bolt Thread
For 2 in., 2-1/2 in., 3 in., 4 in. valves: 5/8 in. -11 pitch
For 5 in., 6 in., 8 in., valves: 3/4 in. -10 pitch
For 10 in., 12 in. valves: 7/8 in. -9 pitch
For 14 in., 16 in., 18 in., 20 in. valves: 1-1/8 in. -7 pitch

Materials
(Body): Polyester-coated cast iron ASTM A126 Class B
(Stem): 416 Stainless Steel
(Seat): Peroxide-cured EPDM resilient seat
(Plug/Ball/Disc): Nylon 11-coated ductile iron (optional: aluminum, bronze, and stainless steel)

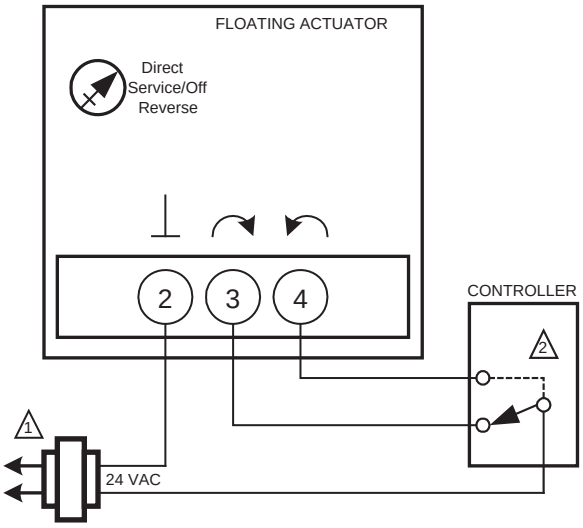
Approvals
CE: Compliant
Underwriters Laboratories, Inc: C/US UL873, Plenum Rated

Accessories:
VFF50-0400-Position status monitor for VFF butterfly valves with high pressure pneumatic actuators

Butterfly Valves	Fitting	Body Pattern	Size	Disk size (close-off)	Pressure Rating	Valve trim	Actuator secondary Specification	Actuator primary Specification	Description	Actuator Type
VF	Butterfly Valve, resilient seat									
	F	Flanged fitting								
		1	2-way (spring return normally open)							
		2	2-way (non-spring return: Spring return normally closed or field-convertible)							
		3	3-way A-B-AB (mixing/diverting)							
		6	3-way A-AB-B (diverting/mixing)							
			F	2 inch (DN50)						
			G	2-1/2 inch (DN65)						
			H	3 inch (DN80)						
			J	4 inch (DN100)						
			K	5 inch (DN125)						
			L	6 inch (DN150)						
			M	8 inch (DN200)						
			N	10 inch (DN250)						
			P	12 inch (DN300)						
			R	14 inch (DN350)						
			S	16 inch (DN400)						
			T	18 inch (DN450)						
			U	20 inch (DN500)						
				V	Undercut disk (lower actuator torque; 50 psid close-off)					
				W	Full diameter disk (high close-off)					
					1	ANSI 150 psig body pressure rating				
					2	ANSI 250 psig body pressure rating				
						Y	Nylon-coated disk, EPDM seat			
							2	NEMA 2 actuator housing (Honeywell DCA)		Electric
							6	NEMA 6 actuator housing with manual operator and heater		
							X	NEMA 4X actuator housing with manual operator and heater		
							8	Spring Range 8-13 psi for 20 psi pneumatic actuator		Pneumatic
							C	24 Vac solenoid for 80 psi pneumatic actuator		
							D	Electro-pneumatic positioner for 80 psi actuator		
							E	120 Vac solenoid for 80 psi pneumatic actuator		
							P	Pneumatic positioner for modulating applications		
							X	Standard, two-position control only		
							L	Lever operator for dead end service		Manual
							G	Geared operator for dead end service		
								A	Floating actuator	Electric
								B	Modulating actuator	
								C	Two-position 24 Vac spring return actuator	
								D	Modulating spring return actuator	
								E	Two-position 120 Vac spring return actuator	
								P	Pneumatic actuator, spring return 20 psi	Pneumatic
								R	Pneumatic actuator, push-pull 80 psi	
								S	Pneumatic actuator, spring return 80 psi	
								X	Valve body only, for dead end service	Man
VF	F	2	J	V	1	Y	2	D	2-way, 4 inch flanged resilient-sear butterfly valve, undercut disk (50 psid close-off) modulating/floating control, spring return normally closed.	

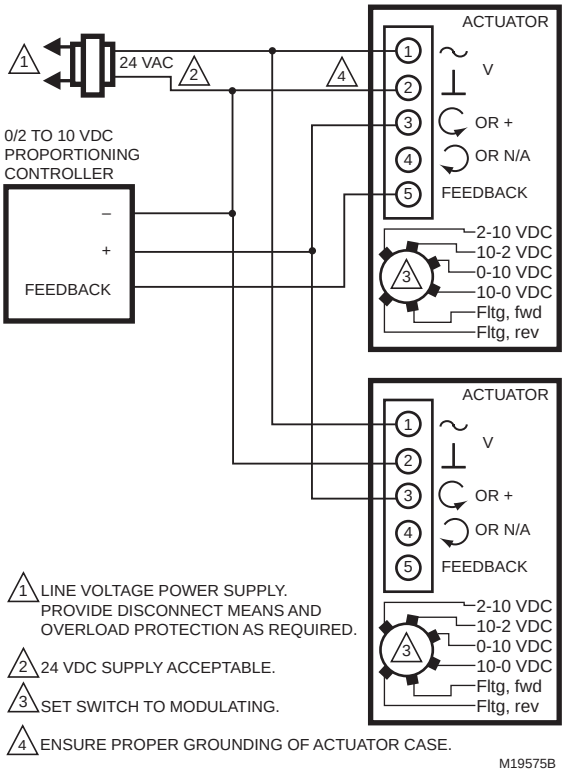
**VFF50-0400 position status monitor for VFF butterfly valves with high pressure pneumatic actuators is available to be ordered separately or will be assembled to the valve if ordered at the same time. It is compatible with any high pressure pneumatic actuators without pneumatic or electro-pneumatic positioner (e.g. VFF...XR/XS, VFF...CR/CS, or VFF...ER/ES).

Butterfly Control Valves Actuator Wiring Diagrams



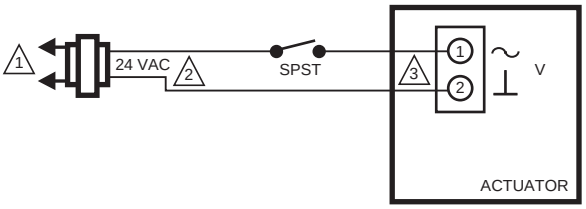
1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2 CONNECTION REQUIRED FOR SPST CONTROL.

M18945A



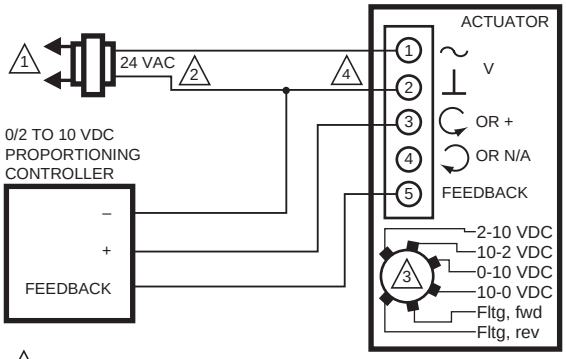
1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2 24 VDC SUPPLY ACCEPTABLE.
3 SET SWITCH TO MODULATING.
4 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M19575B



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2 24 VDC SUPPLY ACCEPTABLE.
3 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M19718C



1 LINE VOLTAGE POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2 24 VDC SUPPLY ACCEPTABLE.
3 SET SWITCH TO MODULATING.
4 ENSURE PROPER GROUNDING OF ACTUATOR CASE.

M19574B

Butterfly Valve Assembly Accessories

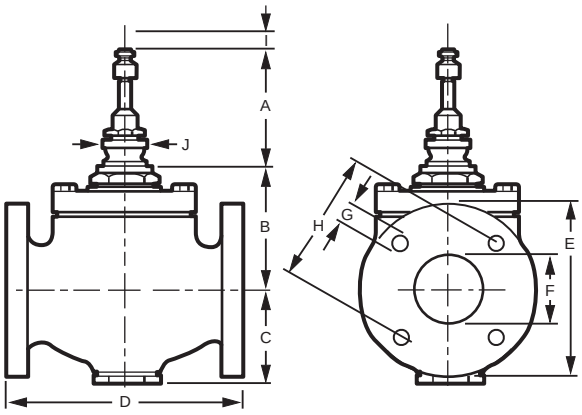
Product Number	Description	Used With
VFF50-0400/M	Position status monitor for VFF butterfly valves with high pressure pneumatic actuators	VFF...XR/XS; VFF...ER/ES; VFF...CR/CS; High pressure pneumatic actuator without pneumatic or electro-pneumatic positioner

V5011A,B Two-Way Flanged Globe Valves

Used for proportional control of hot or chilled water and glycol solutions (to 50 percent concentration) and for two-position control of low pressure steam in closed loop HVAC systems.

- Sizes range from 2-1/2 to 6 inches
- Stainless steel stem with serviceable Teflon packing
- Valves utilize direct mounting valve actuators, Q5020/Q5022 linkages with Direct Coupled Actuators, or Pneumatic Valve Actuators to operate the valve
- Equal Percentage flow characteristic

Dimensions in inches (millimeters)



MODEL	VALVE SIZE	A[a]	B	C	D	E	F	G	H	I (TRAVEL)	J (DIAMETER)
V5011A	2-1/2 (64)	3-1/2 (89)	4-13/16 (122)	4 (102)	9-1/2 (241)	7 (178)	2-1/2 (64)	3/4 (19)	5-1/2 (140)	3/4 (19)	1-3/8 (35)
	3 (76)	3-1/2 (89)	3-1/2 (89)	4-5/8 (117)	11 (279)	7-1/2 (191)	3 (76)	3/4 (19)	6 (152)	3/4 (19)	1-3/8 (35)
	4 (102)	5-1/4 (133)	5-1/4 (133)	5-3/16 (132)	13 (330)	9 (229)	4 (102)	3/4 (19)	7-1/2 (191)	1-1/2 (38)	1-7/8 (48)
V5011B	4 (102)	6-3/4 (171)	6-3/4 (171)	8-1/16 (205)	13 (330)	9 (229)	4 (102)	3/4 (19)	7-1/2 (191)	1-1/2 (38)	1-7/8 (48)

M27256

Valve Type: Globe Valve
Body Pattern: Two-way
Connection Type: Flanged
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with fuels; Low pressure steam
Maximum Safe Operating Pressure: 15 psi steam (100 kPa steam) 150 psi at 240 F water (1034 kPa at 115 C water)
Maximum Differential for Quiet Water Service: 20 psid (138 kPa)
Ambient Temperature Range: 40 F to 250 F (4 C to 121 C)
ANSI/ASME Rating: 125
Actuation: Must be purchased separately
Materials
(Body): Cast Iron
(Stem): 316 Stainless Steel
(Seat): Bronze
(Packing): Teflon Cone

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Stem Travel (inch)	Stem Travel (mm)	Bonnet Size (inch)	Bonnet Size (mm)	Valve Action	Used With
V5011A1734/U	2 1/2 in.	DN65	63 Cv	54 kvs	3/4 in.	20 mm	1-3/8 in.	35 mm	Stem down to close	Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ML7425; ML6984/ML7984
V5011A1767/U	3 in.	DN80	100 Cv	85 kvs	3/4 in.	20 mm	1-3/8 in.	35 mm	Stem down to close	ML6984/ML7984; ML7420/ML7421A/ML7425; ML6420,21A,25; Q5001/Modutrol IV Motor; MP953
V5011A1858/U	4 in.	DN100	160 Cv	137 kvs	1 1/2 in.	38 mm	1-7/8 in.	47.6 mm	Stem down to close	Q5001/Modutrol IV Motor; MP953; ML7421B; ML6421B
V5011A1882/U	5 in.	DN125	250 Cv	214 kvs	1 1/2 in.	38 mm	1-7/8 in.	47.6 mm	Stem down to close	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
V5011A1916/U	6 in.	DN150	360 Cv	308 kvs	1 1/2 in.	38 mm	1-7/8 in.	47.6 mm	Stem down to close	ML6421B; Q5001/Modutrol IV Motor; MP953; ML7421B
V5011B1013/U	4 in.	DN100	160 Cv	137 kvs	1 1/2 in.	38 mm	1-7/8 in.	47.6 mm	Stem up to close	ML7421B; Q5001/Modutrol IV Motor; MP953; ML6421B
V5011B1047/U	5 in.	DN125	250 Cv	214 kvs	1 1/2 in.	38 mm	1-7/8 in.	47.6 mm	Stem up to close	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
V5011B1070/U	6 in.	DN150	360 Cv	308 kvs	1 1/2 in.	38 mm	1-7/8 in.	47.6 mm	Stem up to close	ML6421B; Q5001/Modutrol IV Motor; MP953; ML7421B

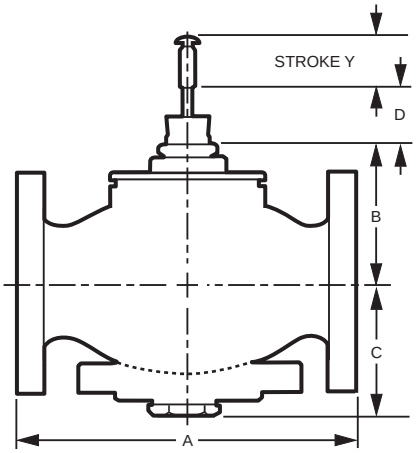
Flanged Globe Valves

VGF2 Two-way Flanged Globe Valves

VGF Flanged Globe Valves are used for 2-position or modulating control of steam, hot water, or chilled water-glycol solutions up to 50 percent concentration in closed loop heating, ventilation and air conditioning (HVAC) systems. They can be operated by ML6984/7984, ML6420/6425, ML6421/7421 Electric Linear Actuators, MP953 Pneumatic Actuators, Modutrol™ Motors with Q5001 valve linkage, or MN/MS Series Direct Coupled Actuators with Q5020 or Q5022 valve linkages.

- ANSI Class 125 and Class 250 cast iron bodies with flanged end connections
- Equal percentage and linear flow characteristics
- Face-to-face flange dimensions per ANSI/ISA S75.03 standard
- Sizes from 2-1/2 to 6 in.
- Stainless steel trim standard for long life span
- ANSI Class III or IV seat leakage
- Steam inlet pressure up to 125 psig and 353 F maximum temperature
- Self-adjusting packing
- Accurate positioning with equal percentage and linear flow characteristics to ensure precise temperature control
- Universal bonnet for direct-coupled electric and pneumatic actuators for easy mounting, or linkage coupled Modutrol™ Motors and MN/MS Series direct coupled actuators
- Not suitable for combustible gasses

Dimensions in inches (millimeters)



1 DOTTED LINE REPRESENTS ANSI 125 VALVE BONNET.

MODEL NUMBER	DIMENSIONS, IN. (MM)				
	A	B	C	E	Y
2-WAY VALVES, ANSI CLASS 125. STEM DOWN TO CLOSE. EQUAL PERCENTAGE OR LINEAR FLOW CHARACTERISTIC					
VGF21 S25	10-7/8 (276)	4-3/8 (112)	7 (178)	3-1/2 (89)	13/16 (20)
VGF21 S30	11-3/4 (298)	6-3/8 (161)	7-1/2 (191)		
VGF21 S40	13-7/8 (352)	5-7/8 (150)	9 (229)	5-1/4 (133)	1-1/2 (38)
VGF21 S50	15-3/4 (400)	6-3/16 (157)	10 (254)		
VGF21 S60	17-3/4 (451)	6-3/16 (157)	11 (279)		
2-WAY VALVES, ANSI CLASS 250. STEM DOWN TO CLOSE. EQUAL PERCENTAGE FLOW CHARACTERISTIC					
VGF22ES25	11-1/2 (292)	4-3/8 (112)	7-1/2 (191)	3-1/2 (89)	13/16 (20)
VGF22ES30	12-1/2 (318)	6-3/8 (161)	8-1/4 (210)		
VGF22ES40	14-1/2 (368)	5-7/8 (150)	10 (254)	5-1/4 (133)	1-1/2 (38)
VGF22ES50	16-5/8 (422)	6-3/16 (157)	11 (279)		
VGF22ES60	18-5/8 (473)	6-3/16 (157)	12-1/2 (318)		
2-WAY VALVES, PRESSURE-BALANCED, ANSI CLASS 125. STEM DOWN TO CLOSE. EQUAL PERCENTAGE OR LINEAR FLOW CHARACTERISTIC					
VGF21 P25	10-7/8 (276)	4-3/16 (107)	7 (178)	3-1/2 (89)	13/16 (20)
VGF21 P30	11-3/4 (298)	5-7/8 (150)	7-1/2 (191)		
VGF21 P40	13-7/8 (352)	5-7/8 (150)	9 (229)	5-1/4 (133)	1-1/2 (38)
VGF21 P50	15-3/4 (400)	6-1/8 (156)	10 (254)		
VGF21 P60	17-3/4 (451)	6-1/8 (156)	11 (279)		

M27603

Valve Type: Globe Valve
Valve Action: Stem down to close
Body Pattern: Two-way
Connection Type: Flanged
Controlled Medium: Steam; Chilled or hot water with up to 50% Glycol; not for use with fuels
Fluid Temperature Range: 20 F to 250 F, steam 353 F (-7 C to +120 C, steam 180 C)
Actuation: Must be purchased separately

Stem Travel
2 1/2 and 3 inch valves: 3/4 in. (20 mm)
4 to 6 inch valves: 1 1/2 in. (39 mm)

Bonnet Size
2 1/2 and 3 inch valves: 1 3/8 in. (35 mm)
4 to 6 inch valves: 1 7/8 in. (47.6 mm)

Materials
(Body): Cast Iron ASTM A126 Class B
(Stem): Stainless Steel
(Seat): Stainless Steel
(Cartridge): Stainless Steel
(Plug/Ball/Disc): Stainless Steel
(Packing): Spring-loaded PTFE cone rings

Valves with Equal Percentage Flow Characteristic

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Maximum Safe Operating Pressure (psi)	Maximum Safe Operating Pressure (kPa)	ANSI/ ASME Rating	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Comments	Used With	Leakage Rating
VGF21EP25	2 1/2 in.	DN65	70 Cv	60 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 135# (600N); Direct acting	MP953 (7-1/8 to 13"); ML6984/ ML7984; ML642X/ ML742X	0.01% of Cv
VGF21EP30	3 in.	DN80	115 Cv	99 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 135# (600N); Direct acting		0.01% of Cv
VGF21EP40	4 in.	DN100	150 Cv	129 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 400# (1800N); Direct acting	ML6421B/ ML7421B, MP953(13")	0.01% of Cv
VGF21EP50	5 in.	DN125	285 Cv	245 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 400# (1800N); Direct acting		0.01% of Cv
VGF21EP60	6 in.	DN150	365 Cv	314 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 400# (1800N); Direct acting		0.01% of Cv
VGF21ES25	2 1/2 in.	DN65	70 Cv	60 kvs	175 psig	1206 kPa	125	69 psi	475 kPa	Direct acting	ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953	0.05% of Cv
VGF21ES30	3 in.	DN80	115 Cv	99 kvs	175 psig	1206 kPa	125	34 psi	234 kPa	Direct acting		0.05% of Cv
VGF21ES40	4 in.	DN100	150 Cv	129 kvs	175 psig	1206 kPa	125	34 psi	234 kPa	Direct acting	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953	0.05% of Cv
VGF21ES50	5 in.	DN125	285 Cv	245 kvs	175 psig	1206 kPa	125	13 psi	90 kPa	Direct acting		0.05% of Cv
VGF21ES60	6 in.	DN150	365 Cv	314 kvs	175 psig	1206 kPa	125	13 psi	90 kPa	Direct acting		0.05% of Cv
VGF22ES25	2 1/2 in.	DN65	70 Cv	60 kvs	400 psig	2758 kPa	250	69 psi	475 kPa	Direct acting	ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953	0.05% of Cv
VGF22ES30	3 in.	DN80	120 Cv	103 kvs	400 psig	2758 kPa	250	34 psi	234 kPa	Direct acting		0.05% of Cv
VGF22ES40	4 in.	DN100	150 Cv	129 kvs	400 psig	2758 kPa	250	34 psi	234 kPa	Direct acting	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953	0.05% of Cv
VGF22ES50	5 in.	DN125	320 Cv	275 kvs	400 psig	2758 kPa	250	13 psi	90 kPa	Direct acting		0.05% of Cv
VGF22ES60	6 in.	DN150	370 Cv	318 kvs	400 psig	2758 kPa	250	13 psi	90 kPa	Direct acting		0.05% of Cv

Valves with Linear Flow Characteristic

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Maximum Safe Operating Pressure (psi)	Maximum Safe Operating Pressure (kPa)	ANSI/ ASME Rating	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Comments	Used With	Leakage Rating
VGF21LP25	2 1/2 in.	DN65	72 Cv	62 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 135# (600N); Direct acting	MP953 (7-1/8 to 13"); ML6984/ ML7984; ML642X/ ML742X	0.01% of Cv
VGF21LP30	3 in.	DN80	120 Cv	103 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 135# (600N); Direct acting		0.01% of Cv
VGF21LP40	4 in.	DN100	150 Cv	129 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 400# (1800N); Direct acting	ML6421B/ ML7421B, MP953(13")	0.01% of Cv
VGF21LP50	5 in.	DN125	320 Cv	275 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 400# (1800N); Direct acting		0.01% of Cv
VGF21LP60	6 in.	DN150	370 Cv	318 kvs	175 psig	1206 kPa	125	175 psi	1206 kPa	Pressure-balanced. Minimum actuator force is 400# (1800N); Direct acting		0.01% of Cv
VGF21LS25	2 1/2 in.	DN65	70 Cv	60 kvs	175 psig	1206 kPa	125	69 psi	475 kPa	Direct acting	ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953	0.05% of Cv
VGF21LS30	3 in.	DN80	125 Cv	108 kvs	175 psig	1206 kPa	125	34 psi	234 kPa	Direct acting		0.05% of Cv
VGF21LS40	4 in.	DN100	155 Cv	133 kvs	175 psig	1206 kPa	125	34 psi	234 kPa	Direct acting	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953	0.05% of Cv
VGF21LS50	5 in.	DN125	320 Cv	275 kvs	175 psig	1206 kPa	125	13 psi	90 kPa	Direct acting		0.05% of Cv
VGF21LS60	6 in.	DN150	370 Cv	318 kvs	175 psig	1206 kPa	125	13 psi	90 kPa	Direct acting		0.05% of Cv

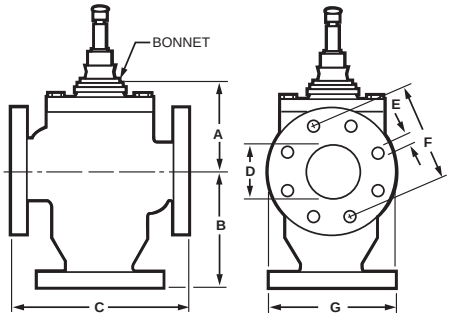
Flanged Globe Valves

V5013B,C Three-Way Flanged Globe Valves

The V5013B are three-way mixing valves. The V5013C are three-way diverting valves. These valves provide proportional or two-position control of hot or chilled water in closed loop heating or cooling systems. These valves are offered in sizes 2 1/2 in. through 6 in.

- Not suitable for combustible gases
- Valves utilize direct mounting valve actuators, Q5020/Q5022 linkages with Direct Coupled Actuators, or Pneumatic Valve Actuators to operate the valve
- Constant total flow through full plug travel
- Stainless steel stem prevents corrosion
- Class IV (0.01% of Cv) Leakage Rating

Dimensions in inches (millimeters)



V5013B,C DIMENSIONS

	VALVE SIZE IN INCHES (MM)				
	2-1/2 (DN65)	3 (DN80)	4 (DN100)	5 (DN125)	6 (DN150)
A	4-1/2 (114)	5-1/4 (133)	5-7/8 (149)	6-1/4 (159)	7-1/4 (184)
B	6-7/17 (164)	6-5/8 (168)	8-11/16 (221)	9-5/8 (244)	10-11/16 (271)
C	9-1/2 (241)	11 (279)	13 (330)	15 (381)	16-1/2 (419)
D	2-1/2 (64)	3 (76)	4 (102)	5 (127)	6 (152)
E	3/4 (19)	3/4 (19)	3/4 (19)	7/8 (22)	7/8 (22)
F	5-1/2 (140)	6 (152)	7-1/2 (191)	8-1/2 (216)	9-1/2 (241)
G	7 (178)	7-1/2 (191)	9 (229)	10 (254)	11 (279)

M16833

Valve Type: Globe Valve
Body Pattern: Three-way
Flow Characteristics: Linear (constant total)
Connection Type: Flanged
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels.
Maximum Safe Operating Pressure: 150 psi at 240 F water (1034 kPa at 115 C water)
Maximum Differential for Quiet Water Service: 20 psid (138 kPa)
Ambient Temperature Range: 40 F to 250 F (4 C to 121 C)
Bonnet Size: 1 3/8 in. (35 mm)
ANSI/ASME Rating: 125
Actuation: Must be purchased separately
Materials
(Body): Cast Iron
(Stem): Stainless Steel
(Seat): Bronze
(Packing): Teflon Cone

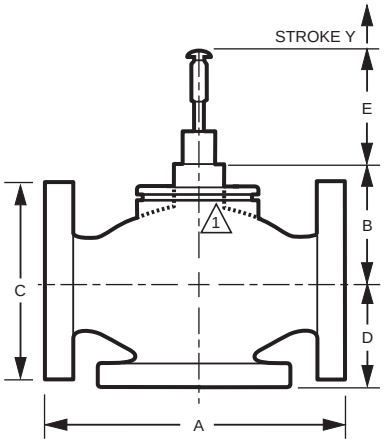
Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Valve Action	Stem Travel (inch)	Stem Travel (mm)	Comments	Used With
V5013B1003/U	2 1/2 in.	DN65	63 Cv	54 kvs	Stem up increases B to AB flow	3/4 in.	20 mm	Mixing	ML6984/ML7984; Q5001/Modutrol IV Motor; ML7420/ML7421A/ML7425; ML6420,21A,25
V5013B1011/U	3 in.	DN80	100 Cv	85 kvs	Stem up increases B to AB flow	3/4 in.	20 mm	Mixing	ML6984/ML7984; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7425
V5013B1029/U	4 in.	DN100	160 Cv	137 kvs	Stem up increases B to AB flow	1 1/2 in.	38 mm	Mixing	ML7421B; ML6421B; Q5001/Modutrol IV Motor
V5013B1037/U	5 in.	DN125	250 Cv	214 kvs	Stem up increases B to AB flow	1 1/2 in.	38 mm	Mixing	ML6421B; ML7421B; Q5001/Modutrol IV Motor
V5013B1045/U	6 in.	DN150	360 Cv	308 kvs	Stem up increases B to AB flow	1 1/2 in.	38 mm	Mixing	ML7421B; ML6421B; Q5001/Modutrol IV Motor
V5013C1001/U	2 1/2 in.	DN65	63 Cv	54 kvs	Stem up increases AB to A flow	3/4 in.	20 mm	Diverting	ML6984/ML7984; Q5001/Modutrol IV Motor; ML7420/ML7421A/ML7425; ML6420,21A,25
V5013C1019/U	3 in.	DN80	100 Cv	85 kvs	Stem up increases AB to A flow	3/4 in.	20 mm	Diverting	ML6984/ML7984; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7425
V5013C1027/U	4 in.	DN100	160 Cv	137 kvs	Stem up increases AB to A flow	1 1/2 in.	38 mm	Diverting	ML6421B; ML7421B; Q5001/Modutrol IV Motor
V5013C1035/U	5 in.	DN125	250 Cv	214 kvs	Stem up increases AB to A flow	1 1/2 in.	38 mm	Diverting	ML7421B; ML6421B; Q5001/Modutrol IV Motor
V5013C1043/U	6 in.	DN150	360 Cv	308 kvs	Stem up increases AB to A flow	1 1/2 in.	38 mm	Diverting	ML6421B; ML7421B; Q5001/Modutrol IV Motor

VGF3 Three-way Flanged Globe Valves

VGF Flanged Globe Valves are used for 2-position or modulating control of hot water or chilled water-glycol solutions up to 50% concentration in closed loop heating, ventilation and air conditioning (HVAC) systems. They can be operated by ML6984/ 7984, ML6420/6425, ML6421/7421 Electric Linear Actuators, MP953 Pneumatic Actuators, Modutrol™ Motors with Q5001 valve linkage, or MN/MS Series Direct Coupled Actuators with Q5020 or Q5022 valve linkages. Three-way bodies are available in mixing or diverting style with equal percentage and linear flow characteristics, respectively. For boiler/chiller bypass applications requiring tight close-off, use VGF31/32LD diverting valves. For outdoor temperature compensation of building supply water, or modulating control of heat exchangers, use VGF31/32EM mixing valves.

- ANSI Class 125 and Class 250 cast iron bodies with flanged end connections
- Face-to-face flange dimensions per ANSI/ISA S75.03 standard
- Sizes from 2-1/2 to 6 inches
- Stainless steel trim standard for long life span
- Self-adjusting packing
- Accurate positioning with equal percentage and linear flow characteristics to ensure precise temperature control
- Universal bonnet for direct-coupled electric and pneumatic actuators for easy mounting, or linkage coupled Modutrol™ Motors and MN/MS Series direct coupled actuators
- Constant total flow throughout full plug travel (3-way diverting models)
- Not suitable for combustible gasses

Dimensions in inches (millimeters)



1 DOTTED LINE REPRESENTS ANSI 125 VALVE BONNET.

MODEL NUMBER	DIMENSIONS, IN. (MM)					
	A	B	C	D	E	Y
3-WAY MIXING VALVES, ANSI CLASS 125. STEM UP TO CLOSE A-AB						
VGF31EM25	10-7/8 (276)	3 (76)	7 (178)	3-3/4 (95)	4-3/16 (107)	13/16 (20)
VGF31EM30	11-3/4 (298)	4-3/16 (107)	7-1/2 (191)	4-3/8 (111)		
VGF31EM40	13-7/8 (352)	5-8/16 (140)	9 (229)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)
VGF31EM50	15-3/4 (400)	5-3/8 (137)	10 (254)	5-3/4 (146)		
VGF31EM60	17-3/4 (451)	5-11/16 (145)	11 (279)	6-5/8 (168)		
3-WAY MIXING VALVES, ANSI CLASS 250. STEM UP TO CLOSE A-AB						
VGF32EM25	11-1/2 (292)	4-3/8 (112)	7-1/2 (191)	3-3/4 (95)	4-3/16 (107)	13/16 (20)
VGF32EM30	12-1/2 (318)	6-3/8 (161)	8-1/4 (210)	4-3/8 (111)		
VGF32EM40	14-1/2 (368)	5-7/8 (150)	10 (254)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)
VGF32EM50	16-5/8 (422)	6-3/16 (157)	11 (279)	5-3/4 (146)		
VGF32EM60	18-5/8 (473)	6-3/16 (157)	12-1/2 (318)	6-5/8 (168)		
3-WAY DIVERTING VALVES, ANSI CLASS 125. STEM DOWN TO CLOSE AB-A						
VGF31LD25	10-7/8 (276)	3 (76)	7 (178)	3-3/4 (95)	4-3/16 (107)	13/16 (20)
VGF31LD30	11-3/4 (298)	4-3/16 (107)	7-1/2 (191)	4-3/8 (111)		
VGF31LD40	13-7/8 (352)	5-8/16 (140)	9 (229)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)
VGF31LD50	15-3/4 (400)	5-3/8 (137)	10 (254)	5-3/4 (146)		
VGF31LD60	17-3/4 (451)	5-11/16 (145)	11 (279)	6-5/8 (168)		
3-WAY DIVERTING VALVES, ANSI CLASS 250. STEM DOWN TO CLOSE AB-A						
VGF32LD25	11-1/2 (292)	4-3/8 (112)	7-1/2 (191)	3-3/4 (95)	4-3/16 (107)	13/16 (20)
VGF32LD30	12-1/2 (318)	6-3/8 (161)	8-1/4 (210)	4-3/8 (111)		
VGF32LD40	14-1/2 (368)	5-7/8 (150)	10 (254)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)
VGF32LD50	16-5/8 (422)	6-3/16 (157)	11 (279)	5-3/4 (146)		
VGF32LD60	18-5/8 (473)	6-3/16 (157)	12-1/2 (318)	6-5/8 (168)		

M27604

Valve Type: Globe Valve
Body Pattern: Three-way
Connection Type: Flanged
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating: Port A seat leakage: 0.5%; Port B seat leakage 1.0%; For Supply mixing control; use diverting value for boiler/chiller bypass
Maximum Safe Operating Pressure: 175 psig at 130 F (66 C) (1206 kPa at 66 C (130 F))
Maximum Differential Pressure Ratings (Close-off): 87 psi (599 kPa)
Fluid Temperature Range: 20 F to 250 F (-7 C to +120 C)
Actuation: Must be purchased separately

Stem Travel
2 1/2 and 3 inch valves: 3/4 in. (20 mm)
4 to 6 inch valves: 1 1/2 in. (39 mm)
Bonnet Size
2 1/2 and 3 inch valves: 1 3/8 in. (35 mm)
4 to 6 inch valves: 1 7/8 in. (47.6 mm)
Materials
(Body): Cast Iron ASTM A126 Class B
(Stem): Stainless Steel
(Seat): Stainless Steel
(Cartridge): Stainless Steel
(Plug/Ball/Disc): Stainless Steel
(Packing): Spring-loaded PTFE cone rings

Flanged Globe Valves

Valves with Equal Percentage Flow Characteristic

Note: For supply mixing control, use diverting value for boiler/chiller bypass
Valve action: Mixing, step up to close A-AB
Leakage Rating: Port A seat leakage: 0.5%; Port B seat leakage: 1.0%

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Maximum Safe Operating Pressure (psi)	Maximum Safe Operating Pressure (kPa)	ANSI/ ASME Rating	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Comments	Used With
VGF31EM25	2 1/2 in.	DN65	70 Cv	60 kvs	175 psig at 130 F	1206 kPa at 66 C	125	87 psi	599 kPa	Stem up to close A-AB	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF31EM30	3 in.	DN80	115 Cv	99 kvs	175 psig at 130 F	1206 kPa at 66 C	125	58 psi	400 kPa	Stem up to close A-AB	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF31EM40	4 in.	DN100	170 Cv	146 kvs	175 psig at 130 F	1206 kPa at 66 C	125	34 psi	234 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF31EM50	5 in.	DN125	320 Cv	275 kvs	175 psig at 130 F	1206 kPa at 66 C	125	13 psi	90 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF31EM60	6 in.	DN150	370 Cv	318 kvs	175 psig at 130 F	1206 kPa at 66 C	125	13 psi	90 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF32EM25	2 1/2 in.	DN65	70 Cv	60 kvs	400 psig	2758 kPa	250	87 psi	599 kPa	Stem up to close A-AB	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF32EM30	3 in.	DN80	115 Cv	99 kvs	400 psig	2758 kPa	250	58 psi	400 kPa	Stem up to close A-AB	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF32EM40	4 in.	DN100	170 Cv	146 kvs	400 psig	2758 kPa	250	34 psi	234 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF32EM50	5 in.	DN125	320 Cv	275 kvs	400 psig	2758 kPa	250	13 psi	90 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF32EM60	6 in.	DN150	370 Cv	318 kvs	400 psig	2758 kPa	250	13 psi	90 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953

Valves with Linear Flow Characteristic

Valve action: Diverting, stem down to close AB-A
Leakage Ratings: Port A seat leakage: 0.05%; Port B seat leakage: 0.1%

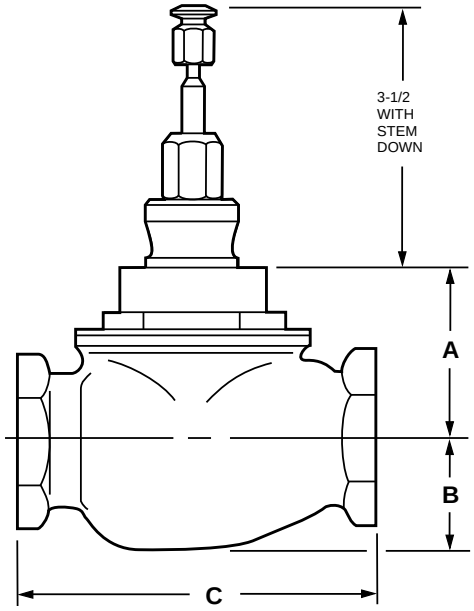
Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Maximum Safe Operating Pressure (psi)	Maximum Safe Operating Pressure (kPa)	ANSI/ ASME Rating	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Comments	Used With
VGF31LD25	2 1/2 in.	DN65	70 Cv	60 kvs	175 psig at 130 F	1206 kPa at 66 C	125	69 psi	475 kPa	Stem down to close AB-A	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF31LD30	3 in.	DN80	120 Cv	103 kvs	175 psig at 130 F	1206 kPa at 66 C	125	34 psi	234 kPa	Stem down to close AB-A	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF31LD40	4 in.	DN100	160 Cv	138 kvs	175 psig at 130 F	1206 kPa at 66 C	125	34 psi	234 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF31LD50	5 in.	DN125	285 Cv	245 kvs	175 psig at 130 F	1206 kPa at 66 C	125	13 psi	90 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF31LD60	6 in.	DN150	380 Cv	327 kvs	175 psig at 130 F	1206 kPa at 66 C	125	13 psi	90 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF32LD25	2 1/2 in.	DN65	70 Cv	60 kvs	400 psig	2758 kPa	250	69 psi	475 kPa	Stem down to close AB-A	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF32LD30	3 in.	DN80	120 Cv	103 kvs	400 psig	2758 kPa	250	34 psi	234 kPa	Stem down to close AB-A	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF32LD40	4 in.	DN100	160 Cv	138 kvs	400 psig	2758 kPa	250	34 psi	234 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF32LD50	5 in.	DN125	285 Cv	245 kvs	400 psig	2758 kPa	250	13 psi	90 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953
VGF32LD60	6 in.	DN150	380 Cv	327 kvs	400 psig	2758 kPa	250	13 psi	90 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/ Modutrol IV Motor; MP953

V5011F,G Two-Way Threaded Globe Valves

Used for two-position or modulating control of steam and water and glycol solutions (to 50 percent concentration) in heating or cooling systems.

- Sizes range from 2-1/2 to 3 inches
- Direct acting
- High pressure steam models with stainless steel trim
- Spring-loaded, self-adjusting packing
- Stainless steel stem prevents corrosion
- Valve designs provide equal percentage characteristics of flow for close control of water, and linear characteristic of flow for close control of steam or chilled water
- Valves utilize direct mounting, electric or pneumatic linear valve actuators; Q5001 linkage with Modutrol Motor; or Q5020/Q5022A linkages with Direct Coupled Actuators to operate the valve

Dimensions in inches (millimeters)



V5011F,G

BODY STYLE	PIPE SIZE (in.)	DIMENSIONS					
		A		B		C	
		in	mm	in	mm	in	mm
V5011F,G THREADED DIRECT BODY	1/2	2	51	1-3/4	45	3-3/8	86
	3/4	1-3/4	45	1-3/4	45	3-3/8	86
	1	1-7/8	48	1-3/4	45	4-1/4	108
	1-1/4	2	51	1-5/8	42	4-7/8	124
	1-1/2	2-7/8	73	1-5/8	42	5-5/8	143
	2	3-1/8	80	2	51	5-5/8	143
	2-1/2	2-3/4	70	2-3/8	61	7-1/2	191
	3	3-1/8	80	2-5/8	67	8-7/8	226

M2804A

Valve Type: Globe Valve
Body Pattern: Two-way, Straight-through
Connection Type: Female NPT
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating: 0.5% of Cv
Maximum Differential for Quiet Water Service: 20 psid (138 kPa)
Fluid Temperature Range: 40 F to 337 F (4 C to 169 C)
Stem Travel: 3/4 in. (20 mm)
Bonnet Size: 1 3/8 in. (35 mm)
Valve Action: Stem down to close
ANSI/ASME Rating: 150
Actuation: Must be purchased separately

Approvals
CRN Number: 0C0861.9087YTN

	Materials					
	Body	**Cartridge**	**Packing**	**Plug/Ball/Disc**	**Seat**	**Stem**
V5011F	Red Brass	Brass	Teflon and Nitrile	Brass plug with Teflon® disc	Brass	Stainless Steel
V5011G	Red Brass	—	Teflon Cone	Stainless Steel plug with carbon-loaded Teflon® disc	Stainless Steel	Stainless Steel

Commercial Components

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Flow Characteristic	Maximum Safe Operating Pressure (psi)	Maximum Safe Operating Pressure (kPa)	Used With
V5011F1105/U	2 1/2 in.	DN65	63 Cv	54 kvs	Equal Percentage	217 psi at 250 F water; 250 psi at 100 F water	1496 psi at 121 C water; 1724 kPa at 38 C water	Q5001/Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425; ML6984/ML7984; Q5020/DCA
V5011F1113/U	3 in.	DN80	100 Cv	85 kvs	Equal Percentage	217 psi at 250 F water; 250 psi at 100 F water	1496 psi at 121 C water; 1724 kPa at 38 C water	Q5020/DCA; ML6984/ML7984; ML7420/ML7421A/ML7425; ML6420,21A,25; Q5001/Modutrol IV Motor; MP953
V5011G1111/U	2 1/2 in.	DN65	63 Cv	54 kvs	Linear	240 psi water at 150 F; 100 psi at 337 F steam	240 psi at 66 C; 690 kPa at 69C steam	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011G1129/U	3 in.	DN80	100 Cv	85 kvs	Linear	240 psi water at 150 F; 100 psi at 337 F steam	240 psi at 66 C; 690 kPa at 69C steam	ML7420/ML7421A/ML7425; ML6420,21A,25; Q5001/Modutrol IV Motor; MP953; Q5020/DCA; ML6984/ ML7984

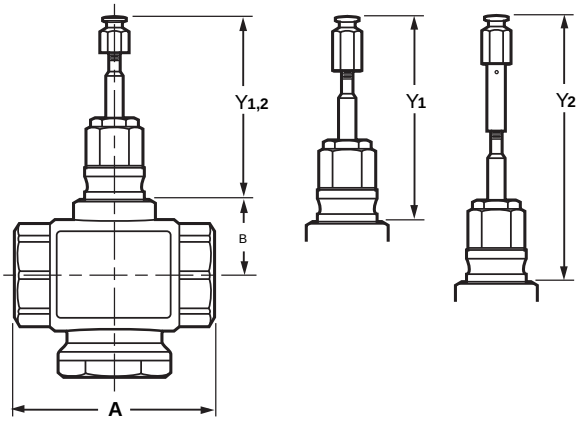
Flanged Globe Valves

V5011N Two-way Globe Valves

Used for two-position or modulating control of steam and water and glycol solutions (to 50 percent concentration) in heating or cooling systems.

- Sizes range from 1/2 to 2 inches
- Direct and reverse acting
- High pressure steam models with stainless steel trim
- Spring-loaded, self-adjusting packing
- Stainless steel stem prevents corrosion
- Valve designs provide equal percentage characteristics of flow for close control of water, and linear characteristic of flow for close control of steam or chilled water
- Valves utilize direct mounting, electric or pneumatic linear valve actuators; Q5001 linkage with Modutrol Motor; or Q5020/Q5022A linkages with direct coupled rotary actuators to operate the valve
- Not suitable for combustible gases

Dimensions in inches (millimeters)



VALVE SIZE (IN)	A in. (mm)	B in. (mm)
1/2	3-1/4 (83)	1-9/16 (40)
3/4		
1	4-1/16 (103)	
1-1/4	4-3/16 (106)	
1-1/2	4-3/4 (120)	1-13/16 (47)
2	5-1/4 (134)	

VALVE	Y1 in. (mm)	Y2[a] in. (mm)
V5011N1XXX	3-1/2 (89)	5-1/4 (133)
OR		
V5011N2XXX	STEM FULLY DOWN	
V5011N3XXX	4-3/16 (107)	5-15/16 (151)
	STEM FULLY UP	

[a] Y2 WITH STEM EXTENSION FOR MP953C,E (8 IN. ONLY)

M17378A

Valve Type: Globe Valve
Body Pattern: Two-way
Connection Type: Female NPT
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating: Seat: 0.05% of Cv
Maximum Differential for Quiet Water Service: 20 psid (138 kPa)
Maximum Differential Pressure Ratings (Close-off): 240 psi (1655 kPa)
Ambient Temperature Range: 36 F to 248 F water (2 C to 120 C water)
Stem Travel: 3/4 in. (20 mm)
Bonnet Size: 1 3/8 in. (35 mm)
ANSI/ASME Rating: 150
Actuation: Must be purchased separately
Materials
(Body): Red Brass
(Stem): Stainless Steel
(Seat): Stainless Steel
(Cartridge): See table
(Plug/Ball/Disc): See table
(Packing): Teflon
Approvals
CRN Number: 0C0861.9087YTN/0C0861.99

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Flow Characteristic	Maximum Safe Operating Pressure (psi)	Maximum Safe Operating Pressure (kPa)	Valve Action	(Cartridge)	(Plug/Ball/Disc)	Used With
V5011N1008/U	1/2 in.	DN15	0.73 Cv	0.63 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N1016/U	1/2 in.	DN15	1.2 Cv	1.0 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N1024/U	1/2 in.	DN15	1.85 Cv	1.6 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N1032/U	1/2 in.	DN15	2.9 Cv	2.5 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N1040/U	1/2 in.	DN15	4.7 Cv	4.0 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Flow Characteristic	Maximum Safe Operating Pressure (psi)	Maximum Safe Operating Pressure (kPa)	Valve Action	(Cartridge)	(Plug/Ball/Disc)	Used With
V5011N1057/U	3/4 in.	DN20	7.3 Cv	6.3 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N1065/U	1 in.	DN25	11.7 Cv	10 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N1073/U	1 1/4 in.	DN32	18.7 Cv	16 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N1081/U	1 1/2 in.	DN40	29 Cv	25 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N1099/U	2 in.	DN50	46.8 Cv	40 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem down to close	Brass	Brass	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N2006/U	1/2 in.	DN15	0.73 Cv	0.63 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N2014/U	1/2 in.	DN15	1.2 Cv	1.0 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N2022/U	1/2 in.	DN15	1.85 Cv	1.6 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N2030/U	1/2 in.	DN15	2.9 Cv	2.5 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N2048/U	1/2 in.	DN15	4.7 Cv	4.0 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N2055/U	3/4 in.	DN20	7.3 Cv	6.3 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N2063/U	1 in.	DN25	11.7 Cv	10 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N2071/U	1 1/4 in.	DN32	18.7 Cv	16 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N2089/U	1 1/2 in.	DN40	29 Cv	25 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	ML6984/ML7984; Q5020/DCA; Q5001/ Modutrol IV Motor; MP953; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N2097/U	2 in.	DN50	46.8 Cv	40 kvs	Linear	100 psi/ 337 F steam	690 kPa/ 169C steam	Stem down to close	Stainless Steel	Stainless Steel	Q5020/DCA; ML6984/ML7984; Q5001/ Modutrol IV Motor; MP953; ML7420/ ML7421A/ML7425; ML6420,21A,25
V5011N3004/U	1/2 in.	DN15	2.9 Cv	2.5 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem up to close	Brass	Brass	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ ML7425
V5011N3012/U	1/2 in.	DN15	4.7 Cv	4.0 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem up to close	Brass	Brass	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ ML7426
V5011N3020/U	3/4 in.	DN20	7.3 Cv	6.3 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem up to close	Brass	Brass	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ ML7427
V5011N3038/U	1 in.	DN25	11.7 Cv	10 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem up to close	Brass	Brass	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ ML7428
V5011N3046/U	1 1/4 in.	DN32	18.7 Cv	16 kvs	Equal Percentage	217 psi at 248 F	1500 kPa at 120 C	Stem up to close	Brass	Brass	MP953; ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ ML7429

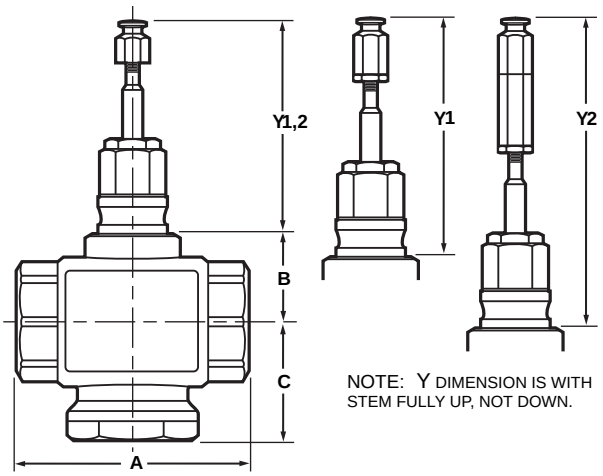
Flanged Globe Valves

V5013N Three-Way Threaded Globe Valves

The V5013N is a three-way threaded globe valve that controls hot water, cold water, and glycol solutions (up to 50 percent concentration) in heating or cooling HVAC applications. The valves are used for mixing service to direct flow from one or two inlets to a common outlet in two-position or modulating control systems.

- Red brass body with NPT-threaded connections
- Stainless steel stem and brass plug
- Low seat leakage rating, < 0.05%
- Spring-loaded, self adjusting packing
- 50:1 rangeability per VDI/VDE 2173
- Constant total flow throughout full stem travel
- Accurate positioning to ensure state-of-the-art temperature control
- Sizes range from 1/2 inch to 2 inches
- Valves utilize direct mounting, electric or pneumatic valve actuators; Q5001 linkage with Modutrol Motor; or Q5020/Q5022 linkages with Direct Coupled Actuators to operate the valve
- Repack and rebuild kits available for field servicing
- Not suitable for combustible gases

Dimensions in inches (millimeters)



VALVE SIZE	A	B	C	Y 1 STEM UP	Y 2 [a] STEM UP
1/2 (15)	3-1/4 (83)	1-9/16 (39.7)	2-9/16 (65)	4-3/16 (106)	5-15/16 (151)
3/4 (20)	3-1/4 (83)	1-9/16 (39.7)	2-9/16 (65)		
1 (25)	4-1/16 (103)	1-9/16 (39.7)	2-5/8 (66.5)		
1-1/4 (32)	4-3/16 (106)	1-9/16 (39.7)	2-7/8 (72.5)		
1-1/2 (40)	4-3/4 (120)	1-13/16 (46.5)	3 (77)		
2 (50)	5-1/4 (134)	1-13/16 (46.5)	3-5/16 (83.5)		

[a] Y2 WITH STEM EXTENSION FOR MP953C,E (8 IN. ONLY)

M12901A

Valve Type: Globe Valve
Body Pattern: Three-way mixing, A-B-AB porting
Connection Type: Female NPT
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating: 0.05% of Cv
Maximum Safe Operating Pressure: 217 psi at 248 F (1500 kPa at 120 C)
Maximum Differential for Quiet Water Service: 20 psid (138 kPa)
Maximum Differential Pressure Ratings (Close-off): 240 psi (1655 kPa)
Ambient Temperature Range: 36 F to 248 F water (2 C to 120 C water)
Stem Travel: 3/4 in. (20 mm)
Bonnet Size: 1 3/8 in. (35 mm)
ANSI/ASME Rating: 150
Actuation: Must be purchased separately
Materials
(Body): Red Brass
(Stem): Stainless Steel
(Plug/Ball/Disc): Brass
(Packing): Teflon/EPDM
(Seat):
V5013N1030, 1048: Stainless Steel
V5013N1055, 1063: Integral Brass
V5013N1071, 1089, 1097: Brass
Approvals
CRN Number: 0C0861.9087YTN/0C0861.123

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Flow Characteristic	Valve Action	Used With
V5013N1030/U	1/2 in.	DN15	2.9 Cv	2.5 kvs	Linear (B-AB); Equal Percentage (A-AB)	Mixing	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML7420/ML7421A/ML7425; ML6420,21A,25
V5013N1048/U	1/2 in.	DN15	4.7 Cv	4.0 kvs	Linear (B-AB); Equal Percentage (A-AB)	Mixing	Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7425
V5013N1055/U	3/4 in.	DN20	7.3 Cv	6.3 kvs	Linear (B-AB); Equal Percentage (A-AB)	Mixing	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML7420/ML7421A/ML7425; ML6420,21A,25
V5013N1063/U	1 in.	DN25	11.7 Cv	10 kvs	Linear (B-AB); Equal Percentage (A-AB)	Mixing	Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7425
V5013N1071/U	1 1/4 in.	DN32	18.7 Cv	16 kvs	Linear (B-AB); Equal Percentage (A-AB)	Mixing	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML7420/ML7421A/ML7425; ML6420,21A,25
V5013N1089/U	1 1/2 in.	DN40	29 Cv	25 kvs	Linear (B-AB); Equal Percentage (A-AB)	Mixing	Q5020/DCA; ML6984/ML7984; Q5001/Modutrol IV Motor; ML6420,21A,25; ML7420/ML7421A/ML7425
V5013N1097/U	2 in.	DN50	46.8 Cv	40 kvs	Linear (B-AB); Equal Percentage (A-AB)	Mixing	ML6984/ML7984; Q5020/DCA; Q5001/Modutrol IV Motor; ML7420/ML7421A/ML7425; ML6420,21A,25

Globe Valve Accessories

Product Number	Description	Used With	
0901787A/U	Rebuild kit for V5011N and V5013N 1 1/2 to 3 inch valves	V5011N; V5011n and V5013N	
14002734-001/U	Grease Tube	—	
14002734-002/U	Lubricant, packing, AMOCO H-100	—	
14004552-001/U	Packing Nut for V5011F, G	V5011F,G	
14004623-001/U	Stem button for V5011F/G	V5011F,G	
205699A/U	Stem/Bonnet Adapter for 2 1/2 in. and 3 in. V33xx and V34xx Flanged Valves	2 1/2 inch and 3 inch V33xx and V34xx Flanged Valves	
209116/U	Stem Button for 4 inch to 6 inch V5011 and V3350 valves	V3350; V5011	
209117/U	Stem Button for 2 1/2 inch to 3 inch V5011 and V3350 valves	V5011; V3350	
310498/U	Packing Spring, V5011A, C, J	V5011A,C,J	
310506/U	Packing Follower	—	
310509/U	Packing Gland, V5011 1/2 in. to 1 1/4 in.	V5011	
310537/U	Valve Seat, V5011A, C, F, G, Cv 4	V5011A, C,F,G	
310538/U	Valve Seat, V5011A, C, F, G, Cv 6.3	V5011A, C,F,G	
310623/U	Packing, Teflon Cone, V5011, Steam	V5011	
310890/U	Valve Seat, V5011A, C, F, G, Cv 6.3	V5011A, C,F,G	
311057/U	Lubricant, Tube	—	
311077/U	Valve Seat, V5011A, C, F, G, Cv 10	V5011A, C,F,G	
311078/U	Valve Seat, V5011A, C, F, G, Cv	V5011A, C,F,G	
311095A/U	Stem and Disc holder, V5011A, C, F, Cv	V5011A	
311619A/U	Stem Assembly, V5011 A, C, F, G, 3/4 in. travel, 1 1/2 in. to 3 in. NPT	V5011A	
311731/U	Seat, V5011A, C, F, G, 2 1/2 in., Cv 63	V5011A, C,F,G	
311734/U	Seat, V5011A, C, F, G, 3 in., Cv 100	V5011A, C,F,G	
311860/U	Plug, V5011A, F, 2 1/2 in., Cv 63	V5011A	
311861/U	Plug, V5011A, F, 3 in., Cv 100	V5011A	
312495/U	Large stem button provides anti-spin for globe valves up to 3 in. (1/4-28UNF stem) with ML6420, ML7420, ML6421A, ML7421A, ML6425, and ML7425 actuators. Not required with ML6984/7984 actuators or Q5022A linkage; not compatible with Q5020 linkage.	—	
312498/U	Packing, V5013A, 4 in. to 6 in.	V5013A	
313104/U	Disc, V5011, 1 in. NPT	V5011	
313338/U	Valve Stem, 1/2 in. to 1 1/4 in. NPT for V5013	V5013	
314539/U	Plug, V5011C, G, 3 in. NPT, Cv 100	V5011C	
32003941-001/U	Seat Removal Tool	—	
32003941-002/U	Seat Removal Tool	—	

Globe Valve Accessories and Replacement Parts

Globe Valve Replacement Parts

Product Number	Description	Used With
0901116A/U	Stem button for V5011N and V5013N valves	—
14004625-001/U	Replacement Disc, V5011A, F, Cv 0.4 to 4.0	V5011A, F
14004625-003/U	Replacement Disc, V5011A, F, Cv 16	V5011A, F
14004625-004/U	Replacement Disc, V5011A, F, Cv 25	V5011A, F
14004625-005/U	Replacement Disc, V5011A, F, Cv 40	V5011A, F
14004625-006/U	Replacement Disc, V5011A, F, Cv 63	V5011A, F
14004625-007/U	Replacement Disc, V5011A, F, Cv 100	V5011A, F
14004625-012/U	Replacement Disc, V5011C, G, Cv 6.3 to 10	V5011C, G
14004625-013/U	Replacement Disc, V5011C, G, Cv 16	V5011C, G
14004625-014/U	Replacement Disc, V5011C, G, Cv 25	V5011C, G
14004625-015/U	Replacement Disc, V5011C, G, Cv 40	V5011C, G
14004625-016/U	Replacement Disc, V5011C, G, Cv 63	V5011C, G
14004625-017/U	Replacement Disc, V5011C, G, Cv 100	V5011C, G
311432/U	White Packing 3/8 inch I.D.	V5011G1111; V5011G1129
311746/U	Disc holder for 3 in. valves	V5011G1129; V5011F1113

VGF Packing Kits

Product Number	Description	Used With
R43176754002	Packing kit for 2 1/2” and 3" ANSI 125 VGF valves	VGF21, VGF31 up to 3"
R43176755004	Packing kit for 2 1/2” and 3" ANSI 250 and pressure-balanced VGF valves	VGF21EP/LP; VGF22; VGF32; up to 3"
R43176755005	Packing kit for 4" to 6" VGF valves	VGF2; VGF3; 4 to 6"

Globe Valve Rebuild Kit

Product Number	Description	Used With
0901748A/U	Rebuild kit for V5011N1024 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901749A/U	Rebuild kit for V5011N1032 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901750A/U	Rebuild kit for V5011N1040 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901751A/U	Rebuild kit for V5011N1057 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901752A/U	Rebuild kit for V5011N1065 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901753A/U	Rebuild kit for V5011N1073 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901754A/U	Rebuild kit for V5011N1081 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901755A/U	Rebuild kit for V5011N1099 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901759A/U	Rebuild kit for V5011N3004 and V5013N1030 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901760A/U	Rebuild kit for V5011N3012 and V5013N1048 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901761A/U	Rebuild kit for V5011N3020 and V5013N1055 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901762A/U	Rebuild kit for V5011N3038 and V5013N1063 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901763A/U	Rebuild kit for V5011N3046 and V5013N1071 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0901764A/U	Rebuild kit for V5013N1089 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5013N
0901765A/U	Rebuild kit for V5013N1097 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5013N
0901786A/U	Repack Kit for V5011N and V5013N 1/2 inch to 1-1/4 inch valves	V5011N
0903424A/U	Rebuild kit for V5011N2022 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N

Globe Valve Accessories and Replacement Parts

Product Number	Description	Used With
0903425A/U	Rebuild kit for V5011N2030 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0903426A/U	Rebuild kit for V5011N2048 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0903427A/U	Rebuild kit for V5011N2055 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0903428A/U	Rebuild kit for V5011N2063 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0903429A/U	Rebuild kit for V5011N2071 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0903430A/U	Rebuild kit for V5011N2089 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
0903431A/U	Rebuild kit for V5011N2097 including stem button, repack kit, packing cartridge, seat ring and plug assembly	V5011N
14002694-006/U	Valve Repack/Rebuild Kit, V5011A, F: 1/2 in., 3/4 in., 1 in., 4 Cv or less	V5011A, F
14002694-008/U	Valve Repack/Rebuild Kit, V5011C, G: 1/2 in., 3/4 in., 1 in., 4 Cv or less	V5011C, G
14002695-006/U	Valve Repack/Rebuild Kit, V5011A, F: 1/2 in., 3/4 in., 1 in., 6.3 Cv or 10 Cv	V5011A, F
14002695-008/U	Valve Repack/Rebuild Kit, V5011C, G: 1/2 in., 3/4 in., 1 in., 6.3 Cv or 10 Cv	V5011C, G
14003109-006/U	Valve Repack/Rebuild Kit, V5011A, F: 1 1/4 in.	V5011A, F
14003109-008/U	Valve Repack/Rebuild Kit, V5011C: 1 1/4 in.	V5011C
14003110-006/U	Valve Repack/Rebuild Kit, V5011A, F: 1 1/2 in., 2 in., 2 1/2 in.	V5011A, F
14003110-008/U	Valve Repack/Rebuild Kit, V5011C: 1 1/2 in., 2 in., 2 1/2 in.	V5011C
14003111-006/U	Valve Repack/Rebuild Kit, V5011A, F: 2 in., 2 1/2 in., 3 in.	V5011A, F
14003111-008/U	Valve Repack/Rebuild Kit, V5011A, F: 2 in., 2 1/2 in., 3 in.	V5011A, F
14003294-002/U	Valve Repack Kit, Steam or water application	—
14003294-004/U	Valve Service Parts, V5011A, C, F, G, V5013A, F with 1/4 in. stem for water service	V5011A,C,F,G
14003295-002/U	Valve Repack Kit, V5011A, C, F, G, V5013A, F with 3/8 in. stem for steam service	V5011A,C,F,G
14003295-004/U	Valve Repack Kit, V5011A, C, F, G, V5013A, F with 3/8 in. stem, for water	V5011A,C,F,G
14003296-002/U	Valve Repack Kit, V5011A, C, F, G, V5013A, F with 1/2 in. stem	V5011A,C,F,G

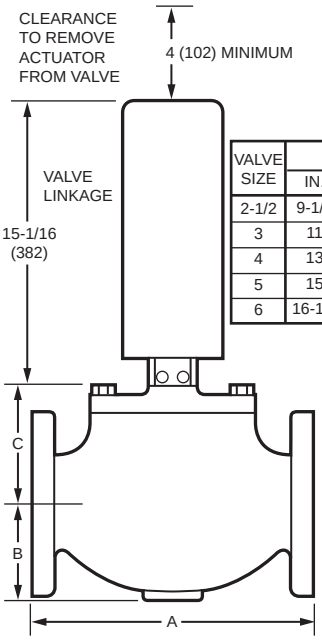
Cage Valves

V5051A Single-Seated Cage Valves

Single-Seated Cage Valves control steam, air, liquids, or non-combustible gases in two-position, proportional, or floating control systems where line isolation is not required.

- Pressure balanced cage type construction
- Low operating force allows fail safe operation with spring return actuator
- Combines 1 3/8” bonnet with 1 1/2” stroke
- Sizes range from 2-1/2 to 6 in. (DN65 to DN150)
- Spring-loaded Teflon V-ring packing
- Requires Q5020C valve linkage with one rotary, direct coupled actuator, or Q5001D with Modutrol Motor

Dimensions in inches (millimeters)



VALVE SIZE	A		B		C	
	IN.	MM	IN.	MM	IN.	MM
2-1/2	9-1/2	241	3-1/2	89	4-5/8	117
3	11	297	3-15/16	100	4-7/8	124
4	13	330	4-1/2	114	5-5/8	143
5	15	381	5-1/2	140	7-3/8	187
6	16-1/2	419	6-3/8	162	7-3/8	187

M27552

Valve Type: Cage Valves
Body Pattern: Two-way, Straight-through
Connection Type: Flanged
Flow Characteristic: Modified Linear
Controlled Medium: Steam; Chilled or hot water with up to 50% Glycol; not for use with fuels
Leakage Rating: 0.01% of Cv, 0.03% of Cv @ 5 & 6 in.
Maximum Safe Operating Pressure: 55 psi steam (379 kPa steam); 150 psi water at 100F (1034 kPa water at 38 C)
Maximum Differential Pressure Ratings (Close-off): 150 psi (1034 kPa)
Ambient Temperature Range: 35 F to 300 F (2 C to 150 C)
Stem Travel: 1 1/2 in. (38 mm)
Bonnet Size: 1 3/8 in. (35 mm)
Valve Action: Stem down to close
ANSI/ASME Rating: 125
Actuation: Must be purchased separately
Comments: Q5001D1000 requires 1-1/2 in. 220867A Cam
Materials
(Body): Cast Iron
(Stem): Stainless Steel
(Seat): Resilient
(Plug/Ball/Disc): Stainless Steel
(Packing): Teflon

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Used With
V5051A3004/U	2 1/2 in.	DN65	75 Cv	64.5 kvs	Q5001D/Modutrol IV Motor, or Q5020C/DCA
V5051A3012/U	3 in.	DN80	116 Cv	88 kvs	Q5001D/Modutrol IV Motor, or Q5020C/DCA
V5051A3020/U	4 in.	DN100	178 Cv	125 kvs	Q5001D/Modutrol IV Motor, or Q5020C/DCA
V5051A3038/U	5 in.	DN125	318 Cv	224 kvs	Q5001D/Modutrol IV Motor, or Q5020C/DCA
V5051A3046/U	6 in.	DN150	390 Cv	224 kvs	Q5001D/Modutrol IV Motor, or Q5020C/DCA

V5852; V5862 Two-way Cartridge Globe Valves

Two-way Cartridge Globe Valves control hot and/or chilled water for VAV terminal units, fan coil units, small reheaters and recoolers in electric/electronic temperature control systems. Used with the M6410 3-position floating Non-Spring Return Valve Actuator and the M7410 selectable 0 to 10 Vdc or 2 to 10 Vdc Non-Spring Return Actuator. The 1/2" and 3/4" valves are compatible with the M6435 floating Spring Return Actuator, the M7435 selectable 0 to 10 Vdc or 2 to 10 Vdc Spring Return Actuator, and the MP958 Pneumatic Actuator. Larger valves (1" through 1-1/2") are pressure balanced, which results in higher close-off pressures.

- Long stroke allows wider range of control
- Soft valve seat provides low leakage rate
- Inserts for 1/2 in. and 3/4 in. valves are changeable without draining valve when used with an insert replacement tool
- Brass body and Stainless Steel stem
- Threaded plastic cover/manual handle allows manual operation
- Easily installed in areas where space is limited

Valve Type: Cartridge Globe Valve
Body Pattern: Two-way
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating:
1/2 in. and 3/4 in. valves: ANSI Class IV (0.01% of Cv maximum)
1 in., 1 1/4 in., 1 1/2 in. valves: ANSI Class III (less than 0.02% of Cv)
Maximum Safe Operating Pressure: 235 psi (1620 kPa)
Ambient Temperature Range: 36 F to 230 F (2 C to 110 C)
Stem Travel: 1/4 in. (6.4 mm)
Actuation: Must be purchased separately
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Cartridge): Brass
(Plug/Ball/Disc): Brass

Replacement Parts:
0902812-Replacement Insert for 1/2" V5852/V5862, 0.19 Cv
Interchangeable with 0902809 or 090210
0902814-Replacement Insert for 3/4" V5852/V5862, 2.9 Cv
Interchangeable with 0902815
0902815-Replacement Insert for 3/4" V5852/V5862, 4.9 Cv
Interchangeable with 0902814
0903827-Replacement Packing for 1" V5862/63
0903828-Replacement Packing for 1-1/4" V5862/63
0903829-Replacement Packing for 1-1/2" V5862/63

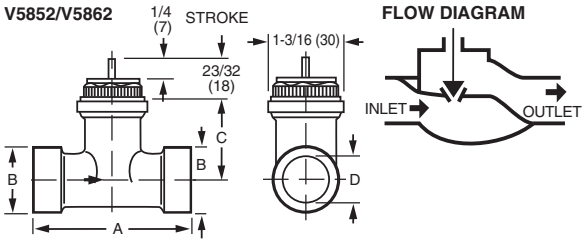
Accessories:
0902807-Replacement Insert for 1/2" V5852/V5862, 1.9Cv
Interchangeable with 0902808
0902808-Replacement Insert for 1/2" V5852/V5862, 1.2 Cv
Interchangeable with 0902807
0902809-Replacement Insert for 1/2" V5852/V5862, 0.74 Cv
Interchangeable with 0902810 or 090212
0902810-Replacement Insert for 1/2" V5852/V5862, 0.47 Cv
Interchangeable with 0902809 or 090212
0903827-Replacement Packing for 1" V5862/63

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Flow Characteristic	Connection Type	Valve Action	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Used With
V5852A2007	1/2 in.	DN15	0.19 Cv	0.16 kvs	Equal Percentage	Sweat (Female)	Stem down to close	232 psi	1600 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2015	1/2 in.	DN15	0.29 Cv	0.25 kvs	Equal Percentage	Sweat (Female)	Stem down to close	232 psi	1600 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5852A2023	1/2 in.	DN15	0.47 Cv	0.41 kvs	Equal Percentage	Sweat (Female)	Stem down to close	232 psi	1600 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2031	1/2 in.	DN15	0.7 Cv	0.6 kvs	Equal Percentage	Sweat (Female)	Stem down to close	232 psi	1600 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5852A2049	1/2 in.	DN15	1.2 Cv	1.0 kvs	Equal Percentage	Sweat (Female)	Stem down to close	174 psi	1200 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2056	1/2 in.	DN15	1.9 Cv	1.6 kvs	Equal Percentage	Sweat (Female)	Stem down to close	174 psi	1200 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5852A2064	3/4 in.	DN20	2.9 Cv	2.5 kvs	Equal Percentage	Sweat (Female)	Stem down to close	58 psi	400 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2072	3/4 in.	DN20	4.9 Cv	4.2 kvs	Equal Percentage	Sweat (Female)	Stem down to close	58 psi	400 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5862A2005	1/2 in.	DN15	0.19 Cv	0.16 kvs	Equal Percentage	Female NPT	Stem down to close	232 psi	1600 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5862A2013	1/2 in.	DN15	0.29 Cv	0.25 kvs	Equal Percentage	Female NPT	Stem down to close	232 psi	1600 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958

Cartridge Globe Valves

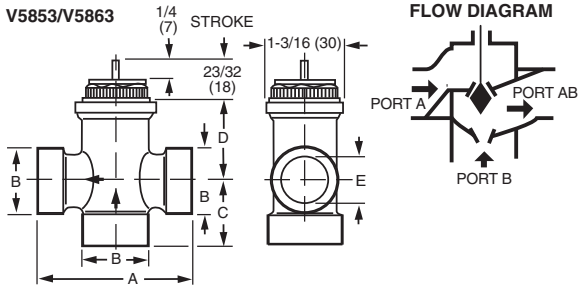
Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Flow Characteristic	Connection Type	Valve Action	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Used With
V5862A2021	1/2 in.	DN15	0.47 Cv	0.41 kvs	Equal Percentage	Female NPT	Stem down to close	232 psi	1600 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5862A2039	1/2 in.	DN15	0.74 Cv	0.64 kvs	Equal Percentage	Female NPT	Stem down to close	232 psi	1600 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A2047	1/2 in.	DN15	1.2 Cv	1.0 kvs	Equal Percentage	Female NPT	Stem down to close	174 psi	1200 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5862A2054	1/2 in.	DN15	1.9 Cv	1.6 kvs	Equal Percentage	Female NPT	Stem down to close	174 psi	1200 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A2062	3/4 in.	DN20	2.9 Cv	2.5 kvs	Equal Percentage	Female NPT	Stem down to close	58 psi	400 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5862A2070	3/4 in.	DN20	4.9 Cv	4.2 kvs	Equal Percentage	Female NPT	Stem down to close	58 psi	400 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A3003	1 in.	DN25	5.5 Cv	4.8 kvs	Linear	Female NPT	Stem up to close	232 psi	1600 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5862A3011	1 in.	DN25	7.8 Cv	6.7 kvs	Linear	Female NPT	Stem up to close	232 psi	1600 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5862A3029	1 in.	DN25	11.0 Cv	9.5 kvs	Linear	Female NPT	Stem up to close	232 psi	1600 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5862A3037	1 1/4 in.	DN32	18 Cv	15.6 kvs	Linear	Female NPT	Stem up to close	174 psi	1200 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5862A3045	1 1/2 in.	DN40	25 Cv	21.6 kvs	Linear	Female NPT	Stem up to close	145 psi	1000 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007

Dimensions in inches (millimeters) for Series 2000 V5852A, V5853A, V5862A and V5863A Valves



FLOW DIAGRAM

VALVE SIZE	A	B (NPT)	C	D (NPT)	D (SWEAT)
1/2 (13)	2-1/3 (60)	1/2 NPT	1-1/3 (34)	1/2 NPT	5/8 (16)
3/4 (19)	3-2/9 (82)	3/4 NPT	1-1/4 (32)	3/4 NPT	7/8 (22)



FLOW DIAGRAM

V5853 (SWEAT)

VALVE SIZE	A	B NPT	C	D	E (SWEAT)
1/2 (13)	2-1/2 (63)	5/6 (21)	1-1/4 (32)	1-1/3 (34)	5/8 (16)
3/4 (19)	3-2/9 (82)	1 (27)	1-3/5 (41)	1-2/7 (33)	7/8 (22)

V5863 (NPT)

VALVE SIZE	A	B NPT	C	D	E (NPT)
1/2 (13)	2-5/7 (69)	1/2 NPT	1-1/4 (32)	1-1/3 (34)	1/2 NPT
3/4 (19)	3-2/9 (82)	3/4 NPT	1-3/5 (41)	1-2/7 (33)	3/4 NPT

NOTE: SOLDER ENDS CONFORM TO ANSI B16-18.

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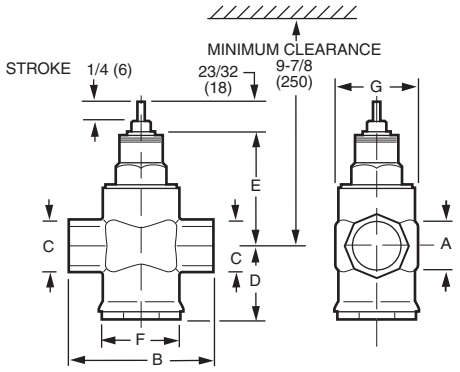
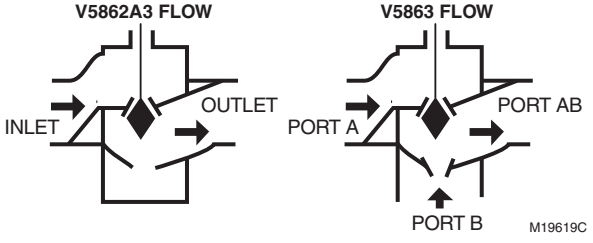
Dimensions in inches (millimeters) for Series 3000 V5862A and V5863A Valves



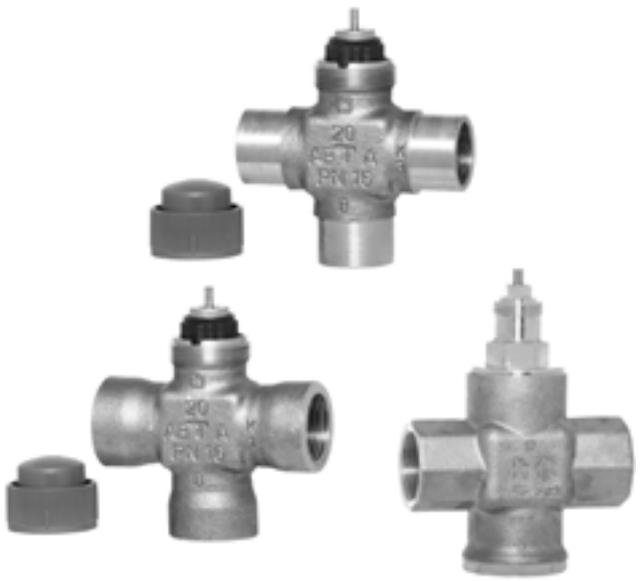
VALVE SIZE A (mm)	B	C	D	E	F	G
1 (25)	4-1/8 (105)	1-5/8 (41)	2-1/16 (53)	3-5/8 (92)	2 (50)	2-5/16 (58)
1-1/4 (32)	4-15/16 (125)	2 (50)	2-7/16 (62)	3-5/8 (92)	2-3/16 (55)	2-5/16 (58)
1-1/2 (38)	5-1/8 (130)	2-3/16 (55)	2-9/16 (65)	3-7/8 (98)	2-9/16 (65)	2-11/16 (69)

FLOW DIAGRAM FOR 1, 1 1/4 AND 1 1/2 INCH VALVES



M19619C

V5853; V5863 Three-way Cartridge Globe Valves



Three-way Cartridge Globe Valves control hot and/or chilled water for VAV terminal units, fan coil units, small reheaters and recoolers in electric/ electronic temperature control systems. Used with the M6410 3-position floating Non-Spring Return Valve Actuator and the M7410 selectable 0 to 10 Vdc or 2 to 10 Vdc Non-Spring Return Actuator. The 1/2" and 3/4" valves are also compatible with the M6435 floating Spring Return Actuator, the M7435 selectable 0 to 10 Vdc or 2 to 10 Vdc Spring Return Actuator, and the MP958 Pneumatic Actuator.

- Long stroke allows wider range of control
- Soft valve seat provides low leakage rate
- Inserts for 1/2 in. and 3/4 in. valves are changeable without draining valve when used with an insert replacement tool
- Brass body and stainless steel stem
- Threaded plastic cover/manual handle allows manual operation
- Easily installed in areas where space is limited

Valve Type: Cartridge Globe Valve
Body Pattern: Three-way
Connection Type: Sweat (Female)
Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels
Leakage Rating:
ANSI Class IV (0.01% of Cv maximum)
ANSI Class III (less than 0.02% of Cv)
Maximum Safe Operating Pressure: 235 psi (1620 kPa)
Ambient Temperature Range: 36 F to 230 F (2 C to 110 C)
Stem Travel: 1/4 in. (6.4 mm)
Actuation: Must be purchased separately
Materials
(Body): Brass
(Stem): Stainless Steel
(Seat): Brass
(Cartridge): Brass
(Plug/Ball/Disc): Brass

Replacement Parts:
0902821-Replacement Insert for 1/2" V5853/V5863, 0.29 Cv
Interchangeable with 0902822 or 0902823 or 0902824
0902822-Replacement Insert for 1/2" V5853/V5863, 0.47 Cv
Interchangeable with 0902821 or 0902823 or 0902824
0902823-Replacement Insert for 1/2" V5853/V5863, 0.74 Cv
Interchangeable with 0902821 or 0902822 or 0902824
0902824-Replacement Insert for 1/2" V5853/V5863, 1.2 Cv
Interchangeable with 0902821 or 0902822 or 0902823
0902825-Replacement Insert for 1/2" V5853/V5863, 1.9 Cv
Interchangeable with 0902827
0903827-Replacement Packing for 1" V5862/63
0903828-Replacement Packing for 1-1/4" V5862/63
0903829-Replacement Packing for 1-1/2" V5862/63

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Flow Characteristic	Connection Type	Valve Action	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Used With
V5853A1008	3/4 in.	DN20	2.9 Cv	2.5 kvs	Equal Percentage	Sweat (Female)	Stem up to close	34 psi	234 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001
V5853A1016	3/4 in.	DN20	4.9 Cv	4.2 kvs	Equal Percentage	Sweat (Female)	Stem up to close	34 psi	234 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001
V5853A2006	1/2 in.	DN15	0.29 Cv	0.25 kvs	Equal Percentage	Sweat (Female)	Stem up to close	116 psi	800 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2014	1/2 in.	DN15	0.47 Cv	0.41 kvs	Equal Percentage	Sweat (Female)	Stem up to close	116 psi	800 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5853A2022	1/2 in.	DN15	0.74 Cv	0.64 kvs	Equal Percentage	Sweat (Female)	Stem up to close	36 psi	248 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2030	1/2 in.	DN15	1.2 Cv	1.0 kvs	Equal Percentage	Sweat (Female)	Stem up to close	36 psi	248 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5853A2048	1/2 in.	DN15	1.9 Cv	1.6 kvs	Equal Percentage	Sweat (Female)	Stem up to close	34 psi	234 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2055	3/4 in.	DN20	2.9 Cv	2.5 kvs	Equal Percentage	Sweat (Female)	Stem up to close	7.25 psi	50 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5853A2063	3/4 in.	DN20	4.9 Cv	4.2 kvs	Equal Percentage	Sweat (Female)	Stem up to close	7.25 psi	50 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A1006	3/4 in.	DN20	2.9 Cv	2.5 kvs	Equal Percentage	Female NPT	Stem up to close	34 psi	234 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001
V5863A1014	3/4 in.	DN20	4.9 Cv	4.2 kvs	Equal Percentage	Female NPT	Stem up to close	34 psi	234 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001

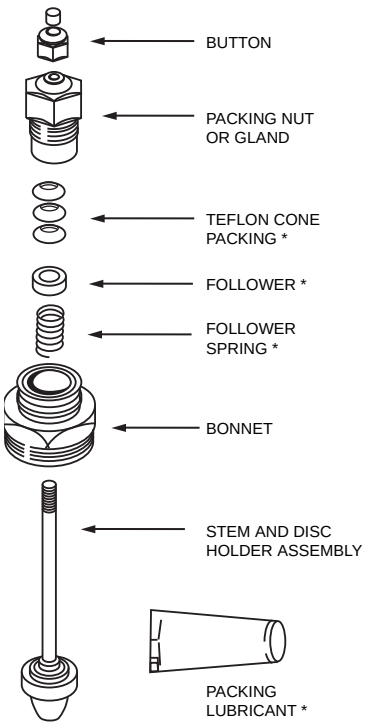
Cartridge Globe Valves

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Flow Characteristic	Connection Type	Valve Action	Maximum Close-off Pressure (psi)	Maximum Close-off Pressure (kPa)	Used With
V5863A2004	1/2 in.	DN15	0.29 Cv	0.25 kvs	Equal Percentage	Female NPT	Stem up to close	116 psi	800 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5863A2012	1/2 in.	DN15	0.47 Cv	0.41 kvs	Equal Percentage	Female NPT	Stem up to close	116 psi	800 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A2020	1/2 in.	DN15	0.74 Cv	0.64 kvs	Equal Percentage	Female NPT	Stem up to close	36 psi	248 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5863A2038	1/2 in.	DN15	1.2 Cv	1.0 kvs	Equal Percentage	Female NPT	Stem up to close	36 psi	248 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A2046	1/2 in.	DN15	1.9 Cv	1.6 kvs	Equal Percentage	Female NPT	Stem up to close	34 psi	234 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5863A2053	3/4 in.	DN20	2.9 Cv	2.5 kvs	Equal Percentage	Female NPT	Stem up to close	7.25 psi	50 kPa	M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A2061	3/4 in.	DN20	4.9 Cv	4.2 kvs	Equal Percentage	Female NPT	Stem up to close	7.25 psi	50 kPa	M6410A1029; M6435A1004; M7410F1000; M7435F1001; MP958
V5863A3002	1 in.	DN25	5.5 Cv	4.8 kvs	Linear	Female NPT	Stem up to close port A to AB	232 psi	1600 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5863A3010	1 in.	DN25	7.8 Cv	6.7 kvs	Linear	Female NPT	Stem up to close port A to AB	232 psi	1600 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5863A3028	1 in.	DN25	11.0 Cv	9.5 kvs	Linear	Female NPT	Stem up to close port A to AB	232 psi	1600 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5863A3036	1 1/4 in.	DN32	18 Cv	15.6 kvs	Linear	Female NPT	Stem up to close port A to AB	174 psi	1200 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5863A3044	1 1/2 in.	DN40	25 Cv	21.6 kvs	Linear	Female NPT	Stem up to close port A to AB	145 psi	1000 kPa	M6410A3017; M7410F3006; M6435A3000; M7435F3007

Cartridge Globe Valve Accessories

Product Number	Description	Used With
WV108B	Brush Tool for Valve Cleaning 1/2” and 3/4” V5852/V5853/V5862/V5863	V5862; V5853; V5852; V5863
WV108M	Insert Replacement Tool for 1/2” and 3/4” V5852/V5853/V5862/V5863	V5853; V5862; V5852; V5863

Cartridge Globe Valve Replacement Parts

Product Number	Description	Used With	
0902807	Replacement Insert for 1/2" V5852/V5862, 1.9Cv Interchangeable with 0902808	V5852A2056; V5862A2054	
0902808	Replacement Insert for 1/2" V5852/V5862, 1.2 Cv Interchangeable with 0902807	V5852A2049; V5862A2047	
0902809	Replacement Insert for 1/2" V5852/V5862, 0.74 Cv Interchangeable with 0902810 or 090212	V5852A2031; V5862A2039	
0902810	Replacement Insert for 1/2" V5852/V5862, 0.47 Cv Interchangeable with 0902809 or 090212	V5852A2023; V5862A2021	
0902811	Replacement Insert for 1/2" V5852/V5862, 0.29 Cv	V5852A2015; V5862A2013	
0902812	Replacement Insert for 1/2" V5852/V5862, 0.19 Cv Interchangeable with 0902809 or 090210	V5852A2007; V5862A2005	
0902814	Replacement Insert for 3/4" V5852/V5862, 2.9 Cv Interchangeable with 0902815	V5852A2064; V5862A2062	
0902815	Replacement Insert for 3/4" V5852/V5862, 4.9 Cv Interchangeable with 0902814	V5852A2072; V5862A2070	
0902821/U	Replacement Insert for 1/2" V5853/V5863, 0.29 Cv Interchangeable with 0902822 or 0902823 or 0902824	V5853A2006; V5863A2004	
0902822	Replacement Insert for 1/2" V5853/V5863, 0.47 Cv Interchangeable with 0902821 or 0902823 or 0902824	V5853A2014; V5863A2012	
0902823	Replacement Insert for 1/2" V5853/V5863, 0.74 Cv Interchangeable with 0902821 or 0902822 or 0902824	V5853A2022; V5863A2020	
0902824	Replacement Insert for 1/2" V5853/V5863, 1.2 Cv Interchangeable with 0902821 or 0902822 or 0902823	V5853A2030; V5863A2038	
0902825	Replacement Insert for 1/2" V5853/V5863, 1.9 Cv Interchangeable with 0902827	V5853A2048; V5863A2046	
0902827	Replacement Insert for 3/4" V5853/V5863, 4.9 Cv Interchangeable with 0902825	V5853A1016; V5853A2063; V5863A1014; V5863A2061; V5853A2063; V5963A2061	
0903827	Replacement Packing for 1" V5862/63	V5862A3003; V5862A3011; V5862A3029; V5863A3002; V5863A3010; V5863A3028	
0903828	Replacement Packing for 1-1/4" V5862/63	V5862A3037; V5863A3036	
0903829	Replacement Packing for 1-1/2" V5862/63	V5862A3045; V5863A3044	

* INCLUDED IN KIT.

Cartridge Cage Valves

VCZA; VCZB Two-way Cartridge Cage Valves

Sweat Connection

Sweat Connection

Sweat Connection

NPT Connection

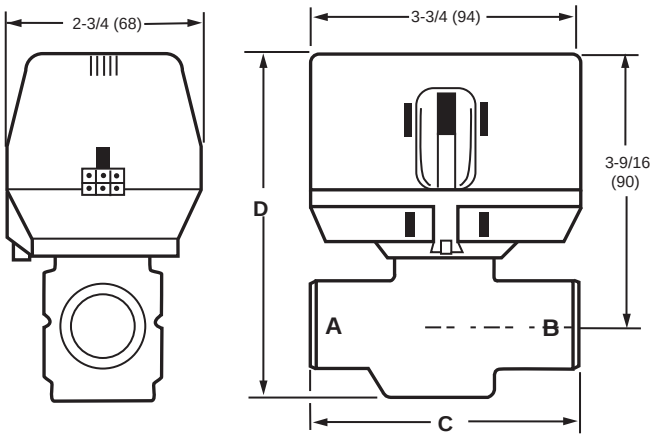
NPT Connection

NPT Connection

Two-way Cartridge Cage Valves are intended for hydronic applications in a normal indoor environment to control the flow of hot water or chilled water glycol solution to 60% concentration. These valves are designed for zone control of heating/cooling systems, or to control individual fan coil, baseboard radiator or convector applications. Depending on the model selected they can be controlled by SPST or SPDT two position controller, tristate (floating), or modulating proportional controller. For best control, outdoor temperature compensation of supply water temperature is recommended. For trouble-free operation of the product, good installation practice must include initial system flushing, chemical water treatment, and the use of a 50 micron (or finer) system side stream filter(s). Remove all filters before flushing.

- Quick open, linear, and equal percentage flow characteristics available
- Bi-directional installation
- 3000-series valves for floating and modulating non-fail safe applications
- 1000-series valves for two-position control
- High close-off rating independent of Cv
- Available with a variety of North American and international pipe fittings
- No tools required for actuator installation or removal
- Actuator removal does not require draining system
- Service is by replacement of cartridge, not valve body
- Cartridge replacement rebuilds valve to factory-new condition

Dimensions in inches (millimeters)



	C		D	
PIPE FITTING SIZES	**IN.**	**MM**	**IN.**	**MM**
3/8" FLARE [1]	3-7/8	98	4-3/8	111
1/2" SWEAT	3-1/2	89		
1/2" FLARE [1]	3-7/8	98		
1/2" INVERTED FLARE [1]				
1/2" NPT (int.)				
3/4" NPT (int.)	3-11/16	94	4-7/16	113
3/4" SWEAT				
1" NPT (int.)				
1" SWEAT				
1-1/4" SWEAT	4-5/16	110	4-5/8	118
1-1/4" NPT (int.)				

[1] NO ADAPTERS

M16839

Valve Type: Cartridge Cage Valve
Valve Action: Stem up to close A port
Body Pattern: Two-way, Straight-through
Controlled Medium: Chilled or hot water with up to 60% Glycol
Maximum Safe Operating Pressure: 300 psi (2068 kPa (20 Bar))
Maximum Differential Pressure Ratings (Close-off): (414 kPa; 60 psi (4 bar))
Fluid Temperature Range: 34 F to 203 F (1 C to 95 C)
Ambient Temperature Range: 32 F to 150 F (0 C to 65 C)
Stem Travel: 0.4 in. (10 mm)

Materials
(Body): Bronze
(Stem): Stainless Steel
(Seat): EPDM O-ring seals on Noryl piston
(Cartridge): Ryton™, Noryl™ engineering plastic
(Packing): EPDM rubber
Includes: Cartridge installation wrench

Approvals
Canadian Standards Association: CSA Certified

Accessories:
40007029-002-Wrench for cartridge (included with sweat valves and all replacement cartridges)

Valves with Linear Flow Characteristic

Comments: Characterized cartridge; Can be controlled by either a low or a line voltage SPDT or SPST or floating controller

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Timing (sec, min.) when used with VC series Actuator	Connection Type	Actuation	Used With
VCZAA1100/U	1/2 in.	DN15	3.5 Cv	3.03 kvs	On/Off models with 6 seconds	Sweat	Must be purchased separately	VC actuators, On-Off Type
VCZAE1100/U	1/2 in.	DN15	3.2 Cv	2.74 kvs	On/Off models with 6 seconds	Inverted Flare	Must be purchased separately	VC actuators, On-Off Type
VCZAL1100/U	3/4 in.	DN20	4.7 Cv	4.0 kvs	On/Off models with 6 seconds	Female NPT	Must be purchased separately	VC actuators, On-Off Type
VCZAM1100/U	3/4 in.	DN20	4.6 Cv	3.9 kvs	On/Off models with 6 seconds	Sweat	Must be purchased separately	VC actuators, On-Off Type
VCZAR1100/U	1 in.	DN25	6.6 Cv	5.7 kvs	On/Off models with 6 seconds	Female NPT	Must be purchased separately	VC actuators, On-Off Type
VCZAS1100/U	1 in.	DN25	6.6 Cv	5.7 kvs	On/Off models with 6 seconds	Sweat	Must be purchased separately	VC actuators, On-Off Type
VCZBB1100/U	1/2 in.	DN15	3.5 Cv	3.03 kvs	On/Off models with 6 seconds	Female NPT	Must be purchased separately	VC actuators, On-Off Type
VCZBD1100/U	1 1/4 in.	DN32	7.0 Cv	6.5 kvs	On/Off models with 6 seconds	Female NPT	Must be purchased separately	VC actuators, On-Off Type
VCZBE1100/U	1 1/4 in.	DN32	7.0 Cv	6.5 kvs	On/Off models with 6 seconds	Sweat	Must be purchased separately	VC actuators, On-Off Type

Valves with Linear Flow Characteristic

Comments: Characterized cartridge for use with non-fail safe floating and modulating actuators

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Timing (sec, min.) when used with VC series Actuator	Connection Type	Actuation	Used With
VCZAA3100/U	1/2 in.	DN15	3.5 Cv	3.03 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAL3100/U	3/4 in.	DN20	4.7 Cv	4.0 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAM3100/U	3/4 in.	DN20	4.7 Cv	4.0 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAR3100/U	1 in.	DN20	6.6 Cv	5.7 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAS3100/U	1 in.	DN20	6.6 Cv	5.7 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZBB3100/U	1/2 in.	DN15	3.5 Cv	3.03 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZBD3100/U	1 1/4 in.	DN32	7.0 Cv	6.5 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZBE3100/U	1 1/4 in.	DN32	7.0 Cv	6.5 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934

Cartridge Cage Valves

Valves with Modified Equal Percent Flow Characteristic

Comments: Characterized cartridge for use with non-fail safe floating and modulating actuators

Product Number	Valve Size		Flow Capacity		Timing (sec, min.) when used with VC series Actuator	Connection Type	Actuation	Used With
	(inch)	DN	(Cv)	(Kv)				
VCZAA3400/U	1/2 in.	DN15	2.3 Cv	1.98 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAA3500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAA3600/U	1/2 in.	DN15	1.3 Cv	1.1 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAA3800/U	1/2 in.	DN15	1.9 Cv	1.64 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAL3400/U	3/4 in.	DN20	3.9 Cv	3.4 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAL3800/U	3/4 in.	DN20	3.1 Cv	2.6 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAM3400/U	3/4 in.	DN20	3.9 Cv	3.4 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAR3400/U	1 in.	DN20	4.2 Cv	3.6 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZAS3400/U	1 in.	DN20	4.2 Cv	3.6 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZBB3400/U	1/2 in.	DN15	2.3 Cv	1.98 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZBB3500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZBB3600/U	1/2 in.	DN15	1.3 Cv	1.1 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934
VCZBB3800/U	1/2 in.	DN15	1.9 Cv	1.64 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/ VC6934; VC7930/VC7931/VC7934

VCZM; VCZN Three-way Cartridge Cage Valves

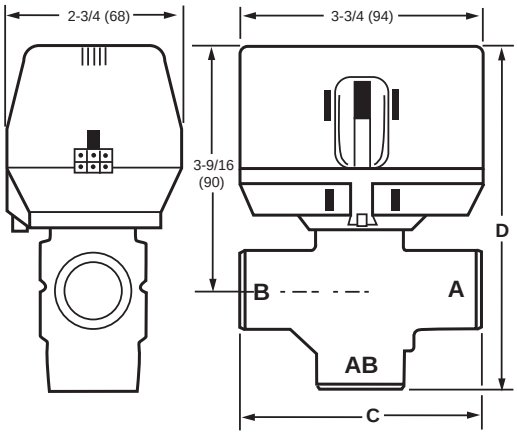
Sweat Connection

NPT Connection

Three-way Cartridge Cage Valves are intended for hydronic applications in a normal indoor environment to control the flow of hot water or chilled water glycol solution to 60% concentration. These valves are designed for zone control of heating/cooling systems, or to control individual fan coil, baseboard radiator or convector applications. Depending on the model selected they can be controlled by SPST or SPDT two position controller, tristate (floating), or modulating proportional controller. For best control, outdoor temperature compensation of supply water temperature is recommended. For trouble-free operation of the product, good installation practice must include initial system flushing, chemical water treatment, and the use of a 50 micron (or finer) system side stream filter(s). Remove all filters before flushing.

- Quick open and linear flow characteristics available
- Mixing or diverting application
- A-AB-B body pattern
- 7000-series valves for floating and modulating non-fail safe applications
- 6000-series valves for two-position control
- High close-off rating independent of Cv
- Available with a variety of North American and international pipe fittings
- No tools required for actuator installation or removal
- Actuator removal does not require draining system
- Service is by replacement of cartridge, not valve body
- Cartridge replacement rebuilds valve to factory-new condition

Dimensions in inches (millimeters)



	C		D	
PIPE FITTING SIZES	IN.	MM	IN.	MM
3/8" FLARE [1]	3-7/8	98	5-11/32	136
1/2" SWEAT	3-1/2	89	5-1/8	130
1/2" FLARE [1]	3-7/8	98	5-11/32	136
1/2" INVERTED FLARE [1]				
1/2" NPT (int.)				
3/4" NPT (int.)	3-11/16	94	5-1/8	130
3/4" SWEAT			5-3/16	132
1" NPT (int.)				136
1" SWEAT			5-11/32	
1-1/4" SWEAT	4-5/16	110	5-5/8	142
1-1/4" NPT (int.)				

[1] NO ADAPTERS

M16840

Valve Type: Cartridge Cage Valve
Valve Action: Stem up to close A port
Body Pattern: Three-way A-AB-B
Controlled Medium: Chilled or hot water with up to 60% Glycol
Maximum Safe Operating Pressure: 300 psi (2068 kPa (20 Bar))
Maximum Differential Pressure Ratings (Close-off): (414 kPa; 60 psi (4 bar))
Fluid Temperature Range: 34 F to 203 F (1 C to 95 C)
Ambient Temperature Range: 32 F to 150 F (0 C to 65 C)
Stem Travel: 0.4 in. (10 mm)
Materials
(Body): Bronze
(Stem): Stainless Steel
(Seat): EPDM O-ring seals on Noryl piston
(Cartridge): Ryton™, Noryl™ engineering plastic
(Packing): EPDM rubber
Approvals
Canadian Standards Association: CSA Certified

Accessories:
40007029-002-Wrench for cartridge (included with sweat valves and all replacement cartridges)

Cartridge Cage Valves

Valves with Linear Flow Characteristics

Comments: Characterized cartridge; Can be controlled by either a low or a line voltage SPDT or SPST or floating controller

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Timing (sec, min.) when used with VC series Actuator	Connection Type	Actuation	Used With	Includes
VCZMA6100/U	1/2 in.	DN15	3.7 Cv	3.2 kvs	On/Off models with 6 seconds	Sweat	Must be purchased separately	VC actuators, 2-position, On-Off Type	Cartridge changing tool
VCZMC6100/U	1/2 in.	DN15	3.8 Cv	3.3 kvs	On/Off models with 6 seconds	Flare	Must be purchased separately	VC actuators, 2-position, On-Off Type	—
VCZMD6100/U	1/2 in.	DN15	3.2 Cv	2.74 kvs	On/Off models with 6 seconds	Inverted Flare	Must be purchased separately	VC actuators, 2-position, On-Off Type	—
VCZMK6100/U	3/4 in.	DN20	6.6 Cv	5.7 kvs	On/Off models with 6 seconds	Female NPT	Must be purchased separately	VC actuators, 2-position, On-Off Type	—
VCZML6100/U	3/4 in.	DN20	6.6 Cv	5.7 kvs	On/Off models with 6 seconds	Sweat	Must be purchased separately	VC actuators, 2-position, On-Off Type	Cartridge changing tool
VCZMR6100/U	1 in.	DN25	8.3 Cv	7.1 kvs	On/Off models with 6 seconds	Female NPT	Must be purchased separately	VC actuators, 2-position, On-Off Type	—
VCZMS6100/U	1 in.	DN25	8.3 Cv	7.1 kvs	On/Off models with 6 seconds	Sweat	Must be purchased separately	VC actuators, 2-position, On-Off Type	Cartridge changing tool
VCZNB6100/U	1/2 in.	DN15	3.7 Cv	3.2 kvs	On/Off models with 6 seconds	Female NPT	Must be purchased separately	VC actuators, 2-position, On-Off Type	—
VCZND6100/U	1 1/4 in.	DN32	9.0 Cv	7.7 kvs	On/Off models with 6 seconds	Female NPT	Must be purchased separately	VC actuators, 2-position, On-Off Type	—
VCZNE6100/U	1 1/4 in.	DN32	9.0 Cv	7.7 kvs	On/Off models with 6 seconds	Sweat	Must be purchased separately	VC actuators, 2-position, On-Off Type	Cartridge changing tool

Valves with Linear Flow Characteristics

Comments: Characterized cartridge for use with non-fail safe floating and modulating actuators

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Timing (sec, min.) when used with VC series Actuator	Connection Type	Actuation	Used With	Includes
VCZMA7100/U	1/2 in.	DN15	3.7 Cv	3.2 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool
VCZMK7100/U	3/4 in.	DN20	6.6 Cv	5.7 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—
VCZML7100/U	3/4 in.	DN20	6.6 Cv	5.7 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool
VCZNB7100/U	1/2 in.	DN15	3.7 Cv	3.2 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—
VCZND7100/U	1 1/4 in.	DN32	9.0 Cv	7.7 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—
VCZNE7100/U	1 1/4 in.	DN32	9.0 Cv	7.7 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool

Valves with Linear Flow Characteristics

Comments: Can be controlled by either a low voltage or a line voltage SPDT or SPST or floating controller; characterized cartridge for use with floating and modulating actuators

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Timing (sec, min.) when used with VC series Actuator	Connection Type	Actuation	Used With	Includes
VCZMR7100/U	1 in.	DN25	8.3 Cv	7.1 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—
VCZMS7100/U	1 in.	DN25	8.3 Cv	7.1 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool

Valves with Modified Equal Percent Flow Characteristics

Comments: Characterized cartridge for use with non-fail safe floating and modulating actuators

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Timing (sec, min.) when used with VC series Actuator	Connection Type	Actuation	Used With	Includes
VCZMA7400/U	1/2 in.	DN15	2.7 Cv	2.3 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool
VCZMA7500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool
VCZMA7600/U	1/2 in.	DN15	1.5 Cv	1.3 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool
VCZMA7800/U	1/2 in.	DN15	1.5 Cv	1.3 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool
VCZMK7400/U	3/4 in.	DN20	4.2 Cv	3.6 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—
VCZMK7800/U	3/4 in.	DN20	3.2 Cv	2.7 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—
VCZML7800/U	3/4 in.	DN20	3.2 Cv	2.7 kvs	2 minutes	Sweat	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	Cartridge changing tool
VCZNB7400/U	1/2 in.	DN15	2.7 Cv	2.3 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—
VCZNB7500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—
VCZNB7600/U	1/2 in.	DN15	1.5 Cv	1.3 kvs	2 minutes	Female NPT	Proportional non-fail safe, purchase separately	VC6830/VC6831/VC6834; VC6930/VC6931/VC6934; VC7930/VC7931/VC7934	—

Cartridge Cage Valves

VC Series Valve and Fail-Safe Actuator Assemblies

The Fail Safe VC6936 Floating and VC7936 Modulating Control valves provides proportional control of hot or chilled water in commercial heating and cooling applications, such as unit ventilators. On a power failure, this patented actuator design drives the valve to the fail safe position, either fully open or closed according to the installer's wiring connections.

These actuators use a microprocessor-controlled, low voltage stepper motor with a super capacitor-based power supply capable of storing enough power to drive the valve to its when 24V power is removed from the actuator.

A VC hydronic valve consists of a valve body, a replaceable characterized cartridge assembly and a Honeywell VC6900 or VC7900-series actuator, providing proportional flow control. Three-way bodies may be used in either diverting or mixing applications. VC valves use cam-operated cartridge travel to resist water hammer. Limit switches prevent motor overrun. For best control, outdoor temperature compensation of supply water temperature is recommended.

Valve Type: Cartridge Cage Valve
Valve Action: Stem up to close A port
Controlled Medium: Chilled or hot water with up to 60% Glycol
Maximum Safe Operating Pressure: 300 psi (2068 kPa (20 Bar))
Maximum Differential Pressure Ratings (Close-off): (414 kPa; 60 psi (4 bar))
Fluid Temperature Range: 34 F to 203 F (1 C to 95 C)
Ambient Temperature Range: 32 F to 150 F (0 C to 65 C)
Stem Travel: 0.4 in. (10 mm)

Timing (sec, min.): For VC6936: 2 minutes; For VC7936: installer-selectable 60 or 120 seconds

Materials
(Body): Bronze
(Stem): Stainless Steel
(Seat): EPDM O-ring seals on Noryl piston
(Cartridge): Ryton®, Noryl™ engineering plastic
(Packing): EPDM rubber

Approvals
Canadian Standards Association: CSA Certified

Two-way, Straight-through Valves

Comments: Characterized cartridge for use with non-fail safe floating and modulating actuators

Product Number	Valve Size (inch)	Valve Size DN	Flow Capacity (Cv)	Flow Capacity (Kv)	Connection Type	Flow Characteristic	Actuation	Includes
VC6936AA1100/U	1/2 in.	DN15	3.5 Cv	3.1 kvs	Sweat	Linear	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AA1400/U	1/2 in.	DN15	2.3 Cv	1.98 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AA1500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AA1600/U	1/2 in.	DN15	1.3 Cv	1.1 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AA1800/U	1/2 in.	DN15	1.9 Cv	1.6 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AL1100/U	3/4 in.	DN20	4.7 Cv	4.1 kvs	Female NPT	Linear	Floating (24V SP3T) fail-safe	—
VC6936AL1400/U	3/4 in.	DN20	3.9 Cv	3.4 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936AL1800/U	3/4 in.	DN20	3.1 Cv	2.6 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936AM1100/U	3/4 in.	DN20	4.7 Cv	4.1 kvs	Sweat	Linear	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AM1400/U	3/4 in.	DN20	3.9 Cv	3.4 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AM1800/U	3/4 in.	DN20	3.1 Cv	2.6 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AR1100/U	1 in.	DN20	6.6 Cv	5.7 kvs	Female NPT	Linear	Floating (24V SP3T) fail-safe	—
VC6936AR1400/U	1 in.	DN20	4.2 Cv	3.6 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936AS1100/U	1 in.	DN20	6.6 Cv	5.7 kvs	Sweat	Linear	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936AS1400/U	1 in.	DN20	4.2 Cv	3.6 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936BB1100/U	1/2 in.	DN15	3.5 Cv	3.1 kvs	Female NPT	Linear	Floating (24V SP3T) fail-safe	—
VC6936BB1400/U	1/2 in.	DN15	2.3 Cv	1.98 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936BB1500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936BB1600/U	1/2 in.	DN15	1.3 Cv	1.1 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936BB1800/U	1/2 in.	DN15	1.9 Cv	1.6 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936BD1100/U	1 1/4 in.	DN32	7 Cv	6.0 kvs	Female NPT	Linear	Floating (24V SP3T) fail-safe	—
VC6936BE1100/U	1 1/4 in.	DN32	7 Cv	6.0 kvs	Sweat	Linear	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC7936AA1100/U	1/2 in.	DN15	3.5 Cv	3.1 kvs	Sweat	Linear	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AA1400/U	1/2 in.	DN15	2.3 Cv	1.98 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AA1500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AA1600/U	1/2 in.	DN15	1.3 Cv	1.1 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AA1800/U	1/2 in.	DN15	1 9 Cv	1.6 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AL1100/U	3/4 in.	DN20	4.7 Cv	4.1 kvs	Female NPT	Linear	Modulating/Floating/PWM fail-safe	—
VC7936AL1400/U	3/4 in.	DN20	3 9 Cv	3.4 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936AL1800/U	3/4 in.	DN20	3.1 Cv	2.6 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936AM1100/U	3/4 in.	DN20	4.7 Cv	4.1 kvs	Sweat	Linear	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AM1400/U	3/4 in.	DN20	3 9 Cv	3.4 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AM1800/U	3/4 in.	DN20	3.1 Cv	2.6 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AR1100/U	1 in.	DN20	6 6 Cv	5.7 kvs	Female NPT	Linear	Modulating/Floating/PWM fail-safe	—

Product Number	Valve Size (inch)	DN	Flow Capacity (Cv)	(Kv)	Connection Type	Flow Characteristic	Actuation	Includes
VC7936AR1400/U	1 in.	DN20	4 2 Cv	3.6 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936AS1100/U	1 in.	DN20	6 6 Cv	5.7 kvs	Sweat	Linear	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936AS1400/U	1 in.	DN20	4 2 Cv	3.6 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936BB1100/U	1/2 in.	DN15	3 5 Cv	3.1 kvs	Female NPT	Linear	Modulating/Floating/PWM fail-safe	—
VC7936BB1400/U	1/2 in.	DN15	2 3 Cv	1.98 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936BB1500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936BB1600/U	1/2 in.	DN15	1 3 Cv	1.1 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936BB1800/U	1/2 in.	DN15	1 9 Cv	1.6 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936BD1100/U	1 1/4 in.	DN32	7 Cv	6.0 kvs	Female NPT	Linear	Modulating/Floating/PWM fail-safe	—
VC7936BE1100/U	1 1/4 in.	DN32	7 Cv	6.0 kvs	Sweat	Linear	Modulating/Floating/PWM fail-safe	Cartridge changing tool

Three-way, A-AB-B Valves

Comments: Characterized cartridge for use with non-fail safe floating and modulating actuators

Product Number	Valve Size (inch)	DN	Flow Capacity (Cv)	(Kv)	Connection Type	Flow Characteristic	Actuation	Includes
VC6936MA6100/U	1/2 in.	DN15	3.7 Cv	3.2 kvs	Sweat	Linear	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936MA6400/U	1/2 in.	DN15	2.7 Cv	2.3 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936MA6500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936MA6600/U	1/2 in.	DN15	1.5 Cv	1.3 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936MK6100/U	3/4 in.	DN20	6.6 Cv	5.7 kvs	Female NPT	Linear	Floating (24V SP3T) fail-safe	—
VC6936MK6400/U	3/4 in.	DN20	4.2 Cv	3.6 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936MK6800/U	3/4 in.	DN20	3.2 Cv	2.7 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936ML6100/U	3/4 in.	DN20	6.6 Cv	5.7 kvs	Sweat	Linear	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936ML6400/U	3/4 in.	DN20	4.2 Cv	3.6 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936ML6800/U	3/4 in.	DN20	3.2 Cv	2.7 kvs	Sweat	Modified Equal Percent	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC6936NB6100/U	1/2 in.	DN15	3.7 Cv	3.2 kvs	Female NPT	Linear	Floating (24V SP3T) fail-safe	—
VC6936NB6400/U	1/2 in.	DN15	2.7 Cv	2.3 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936NB6500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936NB6600/U	1/2 in.	DN15	1.5 Cv	1.3 kvs	Female NPT	Modified Equal Percent	Floating (24V SP3T) fail-safe	—
VC6936ND6100/U	1 1/4 in.	DN32	9 Cv	7.8 kvs	Female NPT	Linear	Floating (24V SP3T) fail-safe	—
VC6936NE6100/U	1 1/4 in.	DN32	9 Cv	7.8 kvs	Sweat	Linear	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC7936MA6100/U	1/2 in.	DN15	3.7 Cv	3.2 kvs	Sweat	Linear	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936MA6400/U	1/2 in.	DN15	2.7 Cv	2.3 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936MA6500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936MA6600/U	1/2 in.	DN15	1.5 Cv	1.3 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936MA6800/U	1/2 in.	DN15	1.5 Cv	1.3 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936MK6100/U	3/4 in.	DN20	6.6 Cv	5.7 kvs	Female NPT	Linear	Modulating/Floating/PWM fail-safe	—
VC7936MK6400/U	3/4 in.	DN20	4.2 Cv	3.6 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936MK6800/U	3/4 in.	DN20	3.2 Cv	2.7 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936ML6100/U	3/4 in.	DN20	6.6 Cv	5.7 kvs	Sweat	Linear	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936ML6400/U	3/4 in.	DN20	4.2 Cv	3.6 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936ML6800/U	3/4 in.	DN20	3.2 Cv	2.7 kvs	Sweat	Modified Equal Percent	Modulating/Floating/PWM fail-safe	Cartridge changing tool
VC7936NB6100/U	1/2 in.	DN15	3.7 Cv	3.2 kvs	Female NPT	Linear	Modulating/Floating/PWM fail-safe	—
VC7936NB6400/U	1/2 in.	DN15	2.7 Cv	2.3 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936NB6500/U	1/2 in.	DN15	0.7 Cv	0.6 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936NB6600/U	1/2 in.	DN15	1.5 Cv	1.3 kvs	Female NPT	Modified Equal Percent	Modulating/Floating/PWM fail-safe	—
VC7936ND6100/U	1 1/4 in.	DN32	9 Cv	7.8 kvs	Female NPT	Linear	Modulating/Floating/PWM fail-safe	—
VC7936NE6100/U	1 1/4 in.	DN32	9 Cv	7.8 kvs	Sweat	Linear	Modulating/Floating/PWM fail-safe	Cartridge changing tool

Three-way, A-AB-B Valves

Comments: Characterized cartridge for use with non-fail safe floating and modulating actuators

Product Number	Valve Size (inch)	DN	Flow Capacity (Cv)	(Kv)	Connection Type	Flow Characteristic	Actuation	Includes
VC6936MR6100/U	1 in.	DN25	8.3 Cv	7.2 kvs	Female NPT	Linear	Floating (24V SP3T) fail-safe	—
VC6936MS6100/U	1 in.	DN25	8.3 Cv	7.2 kvs	Sweat	Linear	Floating (24V SP3T) fail-safe	Cartridge changing tool
VC7936MR6100/U	1 in.	DN25	8.3 Cv	7.2 kvs	Female NPT	Linear	Modulating/Floating/PWM fail-safe	—
VC7936MS6100/U	1 in.	DN25	8.3 Cv	7.2 kvs	Sweat	Linear	Modulating/Floating/PWM fail-safe	Cartridge changing tool

Cartridge Cage Valves

Cartridge Cage Valve Accessories

Product Number	Description
40007029-002/U	Wrench for cartridge (included with sweat valves and all replacement cartridges)

VCZZ Valve Replacement Cartridges

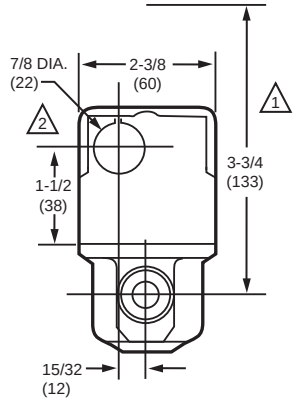
Product Number	Description	
VCZZ1000/U	Replacement cartridge, silver spring, for VC series 2-way valves, with quick open flow for use w/ 2-position actuators. Includes cartridge wrench.	
VCZZ1100/U	Replacement cartridge, silver spring, for VC series 2-way valves, with Linear flow f or use w/ 2-position or fail safe proportional actuators. Includes cartridge wrench.	
VCZZ1400/U	Replacement cartridge, silver spring, for VC series 2-way valves, with Equal Percentage flow for use with fail safe proportional actuators. Includes cartridge wrench.	
VCZZ1500/U	Replacement cartridge, silver spring, for VC series 2-way valves, with Equal Percentage Extra Low flow for use with fail safe proportional actuators. Includes cartridge wrench.	
VCZZ1600/U	Replacement cartridge, silver spring, for VC series 2-way valves, with Equal Percentage Low flow for use with fail safe proportional actuators. Includes cartridge wrench.	
VCZZ3100/U	Replacement cartridge, red spring, for VC series with Linear flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ3400/U	Replacement cartridge, red spring, for VC series with Equal Percentage flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ3500/U	Replacement cartridge, red spring, for VC series with Equal Percentage Extra Low flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ3600/U	Replacement cartridge, red spring, for VC series with Equal Percentage Low flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ3800/U	Replacement cartridge, red spring, for VC series with Equal Percentage flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ6000/U	Replacement cartridge, silver spring, for VC series 3-way valves, with quick open flow, for use w/2-position actuators. Includes cartridge wrench.	
VCZZ6000/U	Replacement cartridge, silver spring, for VC series 3-way valves, with quick open flow, for use w/2-position actuators. Includes cartridge wrench.	
VCZZ6100/U	Replacement cartridge, silver spring, for VC series 3-way valves, with Linear flow, for use w/2-position or fail safe proportional actuators. Includes cartridge wrench.	
VCZZ6400/U	Replacement cartridge, silver spring, for VC series 3-way valves, with Equal Percentage flow, for use w/fail safe proportional actuators. Includes cartridge wrench.	
VCZZ6600/U	Replacement cartridge, silver spring, for VC series 3-way valves, with Equal Percentage Low flow, for use w/fail safe proportional actuators. Includes cartridge wrench.	
VCZZ7100/U	Replacement cartridge, red spring, for VC series with Linear flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ7400/U	Replacement cartridge, red spring, for VC series with Equal Percentage flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ7500/U	Replacement cartridge, red spring, for VC series with Equal Percentage Extra Low flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ7600/U	Replacement cartridge, red spring, for VC series with Equal Percentage Low flow for proportional control (non-fail safe). Includes cartridge wrench.	
VCZZ7800/U	Replacement cartridge, red spring, for VC series with Equal Percentage flow for proportional control (non-fail safe). Includes cartridge wrench.	

VU52; VU53 Two-way Fan Coil Valves

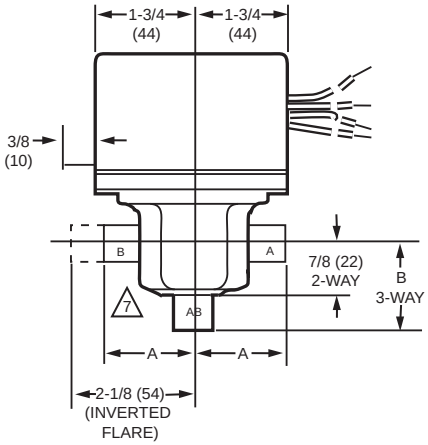
Two-way Fan Coil Valves, the VU53 high pressure zone valves are used to control the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors. IMPORTANT These valves are not for use in systems containing dissolved oxygen.

- Compact construction for easy installation
- Fits under the cover of most baseboard convectors with actuator fitted to valve body
- VU52 and VU53 provide 2-way, straight-through control of water
- Available in normally closed (VU53) or normally open (VU52) configurations
- 300 psi (2,000 kPa, PN20) operating pressure rating
- Patented ball seal provides long service life, soft close off
- Triple O-ring seal provides three lines of defense against corrosion and water leakage around drive shaft
- Quick opening flow curve
- Available with NPT end connections for iron or steel piping

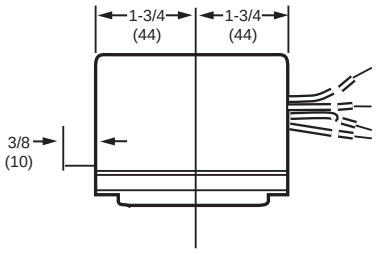
Dimensions in inches (millimeters)



VU53 VALVE WITH VU448 ACTUATOR



VU53 AND VU54 VALVE WITH ACTUATOR



VU5 ACTUATOR

VALVE BODY SIZE	A	B
1/2 IN. SWEAT	1 5/6 (33)	1 5/6 (33)
3/4 IN. SWEAT	1 3/8 (35)	1 11/16 (43)
1 IN. SWEAT	1 11/16 (43)	1 11/16 (43)
1/2 IN. NPT	1 3/8 (35)	1 5/16 (33)
3/4 IN. NPT	1 11/16 (43)	1 7/16 (37)
1 IN. NPT	1 11/16 (43)	1 7/16 (37)

1 HEIGHT NEEDED TO REMOVE ACTUATOR OR COVER

2 OPENING FOR 1/2 IN. CONDUIT ON OPPOSITE SITE OF MANUAL LEVER FOR ALL MODELS.

M18261A

Valve Type: Fan Coil Valve
Actuation: Must be purchased separately
Flow Characteristics: Quick opening
Body Pattern: Two-way, Straight-through
Controlled Medium: Chilled or hot water with up to 60% Glycol
Maximum Safe Operating Pressure: 300 psig (2068 kPa)
Ambient Temperature Range: 34 F to 125 F at 200 F Fluid (1 to 52 C @ 94 C Fluid)

Materials
(Body): Brass
(Stem): Brass
(Seat): Brass
(Plug/Ball/Disc): Bun a-N rubber
(Packing): EPDM rubber
Approvals
Canadian Standards Association: CSA C/US

Fan Coil Valves

Product Number	Valve Size		Flow Capacity		Dimensions, A to B ports End to End		Dimensions, Center Line of A&B port to end of AB port		Connection Type	Valve Action	Maximum Close-off Pressure		Used With
	(inch)	DN	(Cv)	(Kv)	(inch)	(mm)	(inch)	(mm)			(psi)	(kPa)	
VU52N1001/U	3/4 in.	DN20	8.0 Cv	7.0 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Female NPT	Normally Open	10 psi	69 kPa	VU444 Actuator, VU844 Actuator
VU52N1019/U	1/2 in.	DN15	3.5 Cv	3.0 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Female NPT	Normally Open	20 psi	138 kPa	VU444 Actuator, VU844 Actuator
VU52N1027/U	1/2 in.	DN15	1.0 Cv	0.9 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Female NPT	Normally Open	50 psi	345 kPa	VU444 Actuator, VU844 Actuator
VU52N1035/U	1/2 in.	DN15	2.4 Cv	2.1 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Female NPT	Normally Open	30 psi	207 kPa	VU444 Actuator, VU844 Actuator
VU52S2002/U	1/2 in.	DN15	1.0 Cv	0.9 kvs	2 5/8 in.	66 mm	1 5/16 in.	33 mm	Sweat	Normally Open	50 psi	345 kPa	VU444 Actuator, VU844 Actuator
VU52S2010/U	1/2 in.	DN15	2.4 Cv	2.1 kvs	2 5/8 in.	66 mm	1 5/16 in.	33 mm	Sweat	Normally Open	30 psi	207 kPa	VU444 Actuator, VU844 Actuator
VU52S2028/U	1/2 in.	DN15	3.5 Cv	3.0 kvs	2 5/8 in.	66 mm	1 5/16 in.	33 mm	Sweat	Normally Open	20 psi	138 kPa	VU444 Actuator, VU844 Actuator
VU52S2036/U	3/4 in.	DN20	3.5 Cv	3.0 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Sweat	Normally Open	20 psi	138 kPa	VU444 Actuator, VU844 Actuator
VU52S2044/U	3/4 in.	DN20	5.0 Cv	4.3 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Sweat	Normally Open	15 psi	103 kPa	VU444 Actuator, VU844 Actuator
VU52S2051/U	3/4 in.	DN20	8.0 Cv	7.0 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Sweat	Normally Open	10 psi	69 kPa	VU444 Actuator, VU844 Actuator
VU53N1009/U	1/2 in.	DN15	3.5 Cv	3.0 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Female NPT	Normally Closed	20 psi	138 kPa	VU443 Actuator, VU843 Actuator
VU53N1017/U	3/4 in.	DN20	8.0 Cv	7.0 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Female NPT	Normally Closed	10 psi	69 kPa	VU443 Actuator, VU843 Actuator
VU53N1026/U	1 in.	DN25	8.0 Cv	7.0 kvs	—	—	—	—	Female NPT	Normally Closed	10 psi	69 kPa	VU443 Actuator, VU843 Actuator
VU53N1033/U	3/4 in.	DN20	3.5 Cv	3.0 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Female NPT	Normally Closed	20 psi	138 kPa	VU443 Actuator, VU843 Actuator
VU53N1041/U	1/2 in.	DN15	1.0 Cv	0.9 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Female NPT	Normally Closed	50 psi	345 kPa	VU443 Actuator, VU843 Actuator
VU53N1058/U	1/2 in.	DN15	2.4 Cv	2.1 kvs	—	—	—	—	Female NPT	Normally Closed	30 psi	207 kPa	VU443 Actuator, VU843 Actuator
VU53N1066/U	3/4 in.	DN20	5.0 Cv	4.3 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Female NPT	Normally Closed	15 psi	103 kPa	VU443 Actuator, VU843 Actuator
VU53S2000/U	1 in.	DN25	8.0 Cv	7.0 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Sweat	Normally Closed	10 psi	69 kPa	VU443 Actuator, VU843 Actuator
VU53S2018/U	1/2 in.	DN15	1.0 Cv	0.9 kvs	2 5/8 in.	66 mm	1 5/16 in.	33 mm	Sweat	Normally Closed	50 psi	345 kPa	VU443 Actuator, VU843 Actuator
VU53S2026/U	1/2 in.	DN15	2.4 Cv	2.1 kvs	2 5/8 in.	66 mm	1 5/16 in.	33 mm	Sweat	Normally Closed	30 psi	207 kPa	VU443 Actuator, VU843 Actuator
VU53S2034/U	1/2 in.	DN15	3.5 Cv	3.0 kvs	2 5/8 in.	66 mm	1 5/16 in.	33 mm	Sweat	Normally Closed	20 psi	138 kPa	VU443 Actuator, VU843 Actuator
VU53S2042/U	3/4 in.	DN20	3.5 Cv	3.0 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Sweat	Normally Closed	20 psi	138 kPa	VU443 Actuator, VU843 Actuator
VU53S2059/U	3/4 in.	DN20	8.0 Cv	7.0 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Sweat	Normally Closed	10 psi	69 kPa	VU443 Actuator, VU843 Actuator
VU53S2075/U	3/4 in.	DN20	5.0 Cv	4.3 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Sweat	Normally Closed	15 psi	103 kPa	VU443 Actuator, VU843 Actuator

VU54 Three-way Fan Coil Valves

Three-way Fan Coil Valve, the VU54 high pressure zone valves are used to control the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors. IMPORTANT These valves are not for use in systems containing dissolved oxygen.

- Compact construction for easy installation
- Fits under the cover of most baseboard convectors with actuator fitted to valve body
- VU54 provides three-way diverting control of water
- 300 psi (2,000 kPa, PN20) operating pressure rating
- Patented ball seal provides long service life, soft close off
- Triple O-ring seal provides three lines of defense against corrosion and water leakage around drive shaft
- Quick opening flow curve
- Choice of NPT end connections for iron or steel piping

Valve Type: Fan Coil Valve
Valve Action: Mixing
Body Pattern: Three-way A-AB-B
Flow Characteristic: Quick opening
Controlled Medium: Chilled or hot water with up to 60% Glycol
Maximum Safe Operating Pressure: 300 psig (2068 kPa)
Ambient Temperature Range: 34 F to 125 F at 200 F Fluid (1 to 52 C @ 94 C Fluid)
Actuation: Must be purchased separately

Materials
(Body): Brass
(Stem): Brass
(Seat): Brass
(Plug/Ball/Disc): Buna-N rubber
(Packing): EPDM rubber
Used With: VU444 Actuator; VU844 Actuator
Approvals
Canadian Standards Association: CSA C/US

Product Number	Valve Size		Flow Capacity		Dimensions, A to B ports End to End		Dimensions, Center Line of A&B port to end of AB port		Connection Type	Maximum Close-off Pressure	
	(inch)	DN	(Cv)	(Kv)	(inch)	(mm)	(inch)	(mm)		(psi)	(kPa)
VU54N1007/U	1/2 in.	DN15	4.0 Cv	3.4 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Female NPT	20 psi	138 kPa
VU54N1015/U	3/4 in.	DN20	7.0 Cv	6.5 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Female NPT	10 psi	69 kPa
VU54N1023/U	1 in.	DN25	7.0 Cv	6.5 kvs	—	—	—	—	Female NPT	10 psi	69 kPa
VU54N1031/U	3/4 in.	DN20	4.0 Cv	3.4 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Female NPT	20 psi	138 kPa
VU54N1049/U	3/4 in.	DN20	5.0 Cv	4.3 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Female NPT	15 psi	103 kPa
VU54S2008/U	1/2 in.	DN15	4.0 Cv	3.4 kvs	2 5/8 in.	66 mm	1 5/16 in.	33 mm	Sweat	20 psi	138 kPa
VU54S2016/U	3/4 in.	DN20	7.0 Cv	6.5 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Sweat	10 psi	69 kPa
VU54S2024/U	1 in.	DN25	7.0 Cv	6.5 kvs	3 3/8 in.	86 mm	1 11/16 in.	43 mm	Sweat	10 psi	69 kPa
VU54S2040/U	1/2 in.	DN15	3.0 Cv	2.6 kvs	2 5/8 in.	66 mm	1 5/16 in.	33 mm	Sweat	25 psi	172 kPa
VU54S2057/U	3/4 in.	DN20	5.0 Cv	4.3 kvs	2 3/4 in.	70 mm	1 3/8 in.	35 mm	Sweat	15 psi	103 kPa

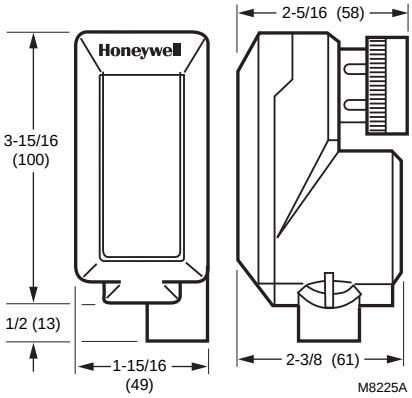
Cartridge Globe Valve Actuators

M6410; M7410 Cartridge Globe Valve Actuator

Cartridge Globe Valve Actuator are small electric actuators for individual room control that provide floating or modulating control of V5852, V5862 two-way or V5853, V5863 three-way valves.

- Suitable for Excel/IRC system or other controllers providing specified signals
- Magnetic coupling for torque limitation independent of voltage supply and self-adjustment of the close-off port
- No mounting tools required
- Small size allows installation in limited space of fan coil units, induction units, and small reheaters or recoolers
- Visual position indication (red pin)

Dimensions in inches (millimeters)



Actuator Type: Valve
Fail Safe Mode: Stays in place
Cable Entry: Threaded conduit connector
Electrical Protection: Class I Insulation (24 Vac)
Electrical Connections: Plenum-rated cable
Ingress Protection Rating: IP42
Feedback: No
Frequency: 50 Hz; 60 Hz
Timing (seconds): Nominal Driving @ 60 Hz: 125 sec.
Number of Internal Auxiliary Switch: 0
Manual operation: None (use valve dust cap)
Mounting: Threads onto V58XX valve bonnet
Stroke: 1/4 in. (6 mm)
Supply Voltage: 24 Vac +10/-30%
Materials
Low Maintenance Plastic Housing
Operating Humidity Range (% RH): 5 to 95% RH
Medium Temperature: 266 F Maximum (130 C Maximum)
Ambient Temperature Range: 32 F to 122 F (0 C to 50 C)
Storage Temperature Range: -40 F to +158 F (-40 C to +70 C)
Weight: 0.3125 lb (0.15 kg)
Includes: 1/2 in. conduit hub
Approvals
Underwriters Laboratories, Inc: UL94-5V

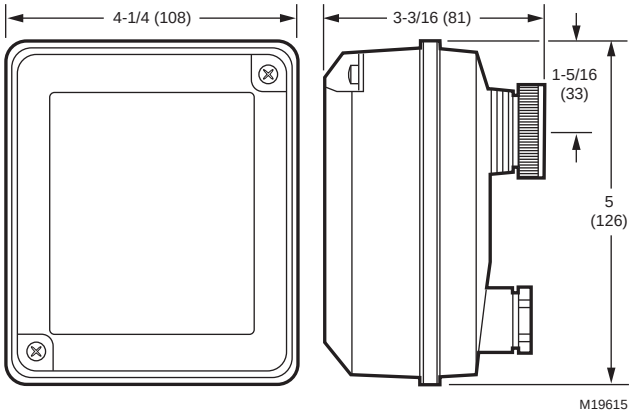
Product Number	Control Signal	Power Consumption (Driving)	Input Impedance	(Rated) Stem Force (lb-in.)	(Nm)	Comments	Used With
M6410A1029	SPDT; Floating; Two position	0.7 VA	—	40.5 bf	180 N	—	1/2 inch and 3/4 inch V58XX Globe Valves
M6410A3017	SPDT; Floating; Two position	0.7 VA	—	67.5 bf	300 N	High force for metal-seated valves	1 inch to 1-1/2 inch V58XX Globe Valves
M7410F1000	2 to 10 Vdc; 0 to 10 Vdc	1.4 VA	100K ohm	40.5 bf	180 N	Direct/Reverse Acting Switch	1/2 inch and 3/4 inch V58XX Globe Valves
M7410F3006	2 to 10 Vdc; 0 to 10 Vdc	1.4 VA	100K ohm	67.5 bf	300 N	High force for metal-seated valves; Direct/Reverse Acting Switch	1 inch to 1-1/2 inch V58XX Globe Valves

M6435; M7435 Cartridge Globe Valve Actuator

Cartridge Globe Valve Spring Return Actuators are small electric actuators for individual room control that provide floating or modulating control of V5852, V5862 two-way or V5853, V5863 three-way valves.

- Stem actuator retracts up on power failure
- Fail safe mode depends on valve seat rest position
- Suitable for Excel/IRC system or other controllers providing specified signals
- Magnetic coupling for torque limitation independent of voltage supply and self-adjustment of the close-off port
- No mounting tools required
- Compact size allows installation in limited space of fan coil units, induction units, and small reheaters or recoolers
- Visual position indication (red disk)

Dimensions in inches (millimeters)



Actuator Type: Valve
Fail Safe Mode: Spring Return, operator retracts up; (Normally open for 1/2 in. and 3/4 in. V5852 and V5862. Normally closed for all other V58XX valves.)
Spring Return Timing (Nominal (sec.)): 10 sec.
Spring Return Direction: Stem up
Cable Entry: Threaded conduit connector
Electrical Protection: Class I Insulation (24 Vac)
Electrical Connections: Screw terminals
Ingress Protection Rating: IP54
Feedback: No
Frequency: 50 Hz; 60 Hz
Timing (seconds): Nominal Driving @ 60 Hz: 50 sec.
Number of Internal Auxiliary Switch: 0
Manual operation: None (use valve dust cap)
Mounting: Threads onto V58XX valve bonnet
Stroke: 1/4 in. (6 mm)
Supply Voltage: 24 Vac +20%, -15%
Materials: Low Maintenance Plastic Housing
Operating Humidity Range (% RH): 5 to 95% RH
Medium Temperature: 266 F Maximum (130 C Maximum)
Ambient Temperature Range: 32 F to 122 F (0 C to 50 C)
Storage Temperature Range: -40 F to +158 F (-40 C to +70 C)
Weight: 1.1 lb (0.5 kg)
Includes: 1/2 in. conduit hub
Approvals
Underwriters Laboratories, Inc: UL94-5V

Product Number	Control Signal	Power Consumption (Driving)	Input Impedance	(Rated) Stem Force (lb-in.)	(Rated) Stem Force (Nm)	Spring Return Torque (lb-in.)	Spring Return Torque (Nm)	Comments	Used With
M6435A1004	SPDT; Floating; Two position	10 VA	—	40.5 lbf	180 N	40.5 bf	180 N	—	1/2 inch and 3/4 inch V58XX Globe Valves
M6435A3000	SPDT; Floating; Two position	10 VA	—	90 bf	400 N	90 lbf	400 N	High force for metal-seated valves	1 inch to 1-1/2 inch V58XX Globe Valves
M7435F1001	2 to 10 Vdc; 0 to 10 Vdc	5 VA	100K ohm	40.5 lbf	180 N	40.5 bf	180 N	Direct/Reverse Acting Switch	1/2 inch and 3/4 inch V58XX Globe Valves
M7435F3007	2 to 10 Vdc; 0 to 10 Vdc	5 VA	100K ohm	90 bf	400 N	90 lbf	400 N	High force for metal-seated valves; Direct/ Reverse Acting Switch	1 inch to 1-1/2 inch V58XX Globe Valves

VC Valve Actuators

VC Series Two-position Actuators

Control central heating and/or cooling systems, fan coil systems, radiators and convectors. Depending on the model selected, it can be controlled by either a low or line voltage SPST or SPDT controller such as a room thermostat.

- Use with two-way or three-way valves
- Minimal actuator power consumption
- Quick-connect or one meter cable electrical connections available
- Quick and easy replacement of moving parts
- Actuator head installation does not require draining the system
- On/Off models with six second nominal timing
- Use two-position actuators with 1000 Series 2 way and 6000 Series 3-way VC valve bodies only
- All VC Series actuator-valve combinations provide 60 psi close-off

Actuator Type: Valve
Fail Safe Mode: Stays in place
Cable Entry: Molded strain relief, conduit clamp
Dimensions, Approximate: 2.8 in. high x 3.7 in. wide x 2.7 in. deep (70 mm high x 94 mm wide x 68 mm deep)
External Auxiliary Switches Available: —
Electrical Protection: Double Insulated
Ingress Protection Rating: IP40
Frequency: 60 Hz
Timing (seconds): Nominal Driving @ 60 Hz: 6 sec.
Manual operation: Lever
Mounting: Direct Coupled
Shaft Adapter Type: Self-alignment

Stroke: 0.4 in. (10 mm)
Maximum Differential Pressure Ratings (Close-off): 60 psid
Materials: Plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Medium Temperature: 203 F (95 C)
Ambient Temperature Range: 32 F to 150 F (0 C to 65 C)
Temperature Ratings (Shipping): -40 F to +150 F (-40 C to +65 C)
Storage Temperature Range: -40 F to +150 F (-40 C to +65 C)
Weight: 0.75 b (0.34 kg)
Approvals
Canadian Standards Association: CSA Certified: LR1322-367
CE: 89/336/ECC, 73/23/EEC
Underwriters Laboratories, Inc: UL Recognized, File# MH11826

Product Number	Control Signal	Type of Internal Auxiliary Switch	Switch Ratings	Power Consumption (Driving)	Supply Voltage	Cable Entry	Electrical Connections			Type of Internal Auxiliary Switch	Number of Internal Auxiliary Switch	Comments	Used With	Includes
							Type	Length (inch)	Length (m)					
VC2114ZZ11/U	SPDT; Two position	—	—	6 VA	24 Vac	Molded strain relief, conduit clamp	Plenum-rated cable	5 ft.	1 5 m	—	0	—	VC Series Valves, 1000 Series 2-way and 6000 Series 3-way	Flexible conduit adapter
VC2714ZZ11/U	On/Off switch; SPDT	SPDT	2.2A (5 to 110 Vac)/ 1.0A (110 to 277Vac) Inductive; Min. DC switching capability: 5 mA @ 24 Vac.	6 VA	24 Vac		Plenum-rated cable	5 ft.	1 5 m	SPDT	1	—		3/8 in. flex conduit adapter
VC4011ZZ11/U	Two position ; SPST	—	—	6 VA	100 to 130V	Molded strain relief	Cable	39 in.	1 m	—	0	—	VC Series Valve	—
VC4013ZZ11/U	Two position ; SPST	—	—	6 VA	200 to 240V		Cable	39 in.	1 m	—	0	—	VC Series Valves, 1000 Series 2-way and 6000 Series 3-way	—
VC8111ZZ11/U	Two position ; SPST	—	—	6 VA	24 Vac		Cable	39 in.	1 m	—	0	—		—
VC8114ZZ11/U	Two position ; SPST	—	—	6 VA	24 Vac	Molded strain relief, conduit clamp	Plenum-rated cable	5 ft.	1.5 m	—	0	—		Flexible conduit adapter

Product Number	Control Signal	Type of Internal Auxiliary Switch	Switch Ratings	Power Consumption (Driving)	Supply Voltage	Cable Entry	Electrical Connections			Type of Internal Auxiliary Switch	Number of Internal Auxiliary Switch	Comments	Used With	Includes
							Type	Length (inch)	Length (m)					
VC8711ZZ11/U	Two position ; SPST	SPDT	2.2A (5 to 110 Vac)/ 1.0A (110 to 277Vac) Inductive; Min. DC switching capability: 5 mA @ 24 Vac.	6 VA	24 Vac	Molded strain relief	Cable	39 in.	1 m	SPDT	1	—	VC Series Valves, 1000 Series 2-way and 6000 Series 3-way	—
VC8714ZZ11/U	Two position ; SPST	SPDT		6 VA	24 Vac	Molded strain relief, conduit clamp	Plenum-rated cable	5 ft.	1 5 m	SPDT	1	—		Flexible conduit adapter
VC8715ZZ11/U	Two position ; SPST	SPST		6 VA, 3W standby for thermostat anticipator	24 Vac	Molded strain relief	Cable	39 in.	1 m	SPST	1	With additional current draw for compatibility with Honeywell power stealing thermostats		—

VC Valve Actuators

VC Series Proportional Actuators

Control central heating and/or cooling systems, fan coil systems, radiators and convectors. Depending on the model selected, it can be controlled by a low voltage SPST or SPDT switch, pulse-width modulated 24 Vac signal, or floating input, modulating controller such as a room thermostat, Aquastat control, flow switch or a 0/2 to 10 Vdc controller.

- Use with two-way or three-way valves
- Double insulated actuator
- Five foot plenum-rated cable
- Quick and easy replacement of moving parts
- Actuator head installation does not require draining the system
- Selectable/switchable electronic fail safe normally open or normally closed
- Available with valve bodies with 1000-series 2-way and 6000-series 3-way cartridges for new construction
- All VC Series actuator-valve combinations provide 60 psi close-off

Actuator Type: Valve
Fail Safe Mode: Stays in place
Cable Entry: Molded strain relief, conduit clamp
Dimensions, Approximate: 2.8 in. high x 3.7 in. wide x 2.7 in. deep (70 mm high x 94 mm wide x 68 mm deep)
Electrical Protection: Double Insulated
Ingress Protection Rating: IP40
Frequency: 50 Hz; 60 Hz
Timing (seconds): Nominal Driving @ 60 Hz: 120 sec.
Manual operation: Lever
Mounting: Direct Coupled
Shaft Adapter Type: Self-alignment
Stroke: 0.4 in. (10 mm)
Close-off: 60 psid

Power Consumption (driving): 6 VA
Supply Voltage: 24 Vac
Materials: Plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Medium Temperature: 203 F (95 C)
Ambient Temperature Range: 32 F to 150 F (0 C to 65 C)
Temperature Ratings (Shipping): -40 F to +150 F (-40 C to +65 C)
Storage Temperature Range: -40 F to +150 F (-40 C to +65 C)
Weight: 0.84 b (0.38 kg)
Used With: 3000 Series 2-way and 7000 Series VC valve bodies only
Approvals
Canadian Standards Association: CSA Certified: LR1322-367
Underwriters Laboratories, Inc: Listed 94-5V

Product Number	Control Signal	Type of Internal Auxiliary Switch	Switch Ratings	Cable Entry	Electrical Connections			Number of Internal Auxiliary Switch	Includes
					Type	Length (inch)	Length (m)		
VC6834ZZ11/U	24 Vac; SP3T (tri-state) Floating	SPDT	2.2A (5 to 110 Vac)/1.0A (110 to 277 Vac) Inductive; Min. DC switching capability: 5 mA @ 24 Vac	Molded strain relief, conduit clamp	Plenum-rated cable	1.5 m	5 ft.	1	Flexible conduit adapter
VC6931ZZ11/U	24 Vac; SP3T (tri-state) Floating	—	—	Molded strain relief	Cable	1 m	39 in.	0	Flexible conduit adapter
VC6934ZZ11/U	24 Vac; SP3T (tri-state) Floating	—	—	Molded strain relief, conduit clamp	Plenum-rated cable	1.5 m	5 ft.	0	Flexible conduit adapter
VC7931ZZ11/U	2 to 10 Vdc	—	—	Molded strain relief	Cable	1 m	39 in.	0	—
VC7934ZZ11/U	2 to 10 Vdc	—	—	Molded strain relief, conduit clamp	Plenum-rated cable	1.5 m	5 ft.	0	Flexible conduit adapter

VC Series Fail Safe Proportional Actuators

Control central heating and/or cooling systems, fan coil systems, radiators and convectors. Depending on the model selected, it can be controlled by either a low or line voltage SPST or SPDT or floating or modulating controller such as a room thermostat, Aquastat control, flow switch or a 0/2 to 10 Vdc controller.

- Use with two-way or three-way valves
- Minimal actuator power consumption
- Double insulated actuator
- Five foot plenum-rated cable electrical connections available
- Quick and easy replacement of moving parts
- Actuator head installation does not require draining the system
- Selectable/switchable electronic fail safe normally open or normally closed
- Includes valve bodies with 1000-series 2-way and 3000-series 3-way cartridges
- All VC Series actuator-valve combinations provide 60 psi close-off

Actuator Type: Valve
Fail Safe Mode: N.O. or N.C., switchable electronic
Cable Entry: Molded strain relief, conduit clamp
Dimensions, Approximate: 2.8 in. high x 3.7 in. wide x 2.7 in. deep (70 mm high x 94 mm wide x 68 mm deep)
Electrical Protection: Double Insulated
Electrical Connections: Plenum-rated cable
Electrical Connection Length: 5 ft. (1.5 m)
Ingress Protection Rating: IP40
Power Consumption: 12 Watts, 18 VA inrush
Frequency: 50 Hz; 60 Hz
Number of Internal Auxiliary Switch: 0
Manual operation: Lever
Mounting: Direct Coupled
Shaft Adapter Type: Self-alignment
Stroke: 0.4 in. (10 mm)

Supply Voltage: 24 Vac
Materials: Plastic housing
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Medium Temperature: 203 F (95 C)
Ambient Temperature Range: 32 F to 150 F (0 C to 65 C)
Temperature Ratings (Shipping): -40 F to +150 F (-40 C to +65 C)
Storage Temperature Range: -40 F to +150 F (-40 C to +65 C)
Weight: 0.84 lb (0.38 kg)
Includes: Flex ble conduit adapter
Used With: VC Series Valves, 1000 Series 2-way and 6000 Series 3-way with proportional cartridges
Approvals
Canadian Standards Association: CSA Certified: LR1322-367
CE: 89/336/ECC, 73/23/EEC
Underwriters Laboratories, Inc: Listed 94-5V

Product Number	Control Signal	Timing (seconds) Nominal Driving @ 60 Hz	Spring Return Timing (Nominal (sec))	Close-off	Comments
VC6936ZZ11-530/U	24 Vac SPDT; SP3T (tri-state) Floating	120 sec	12 sec.	60 psid	Power failure reposition installer-selectable for NC/NO. Use with series 60 controller (TB6980 or XL10). Replaces VC6936ZZ11-524/526/527
VC7936ZZ11-529/U	On/Off; 24V Pulse Width Modulation; 2 to 10 Vdc; 24 Vac Floating	120 sec; 60 sec	12 sec.	60 psid	Power failure reposition installer-selectable for NC/NO. Use with series 60/70/80 controller (TB6980, XL15, or XL10). Replaces VC7936ZZ11-523

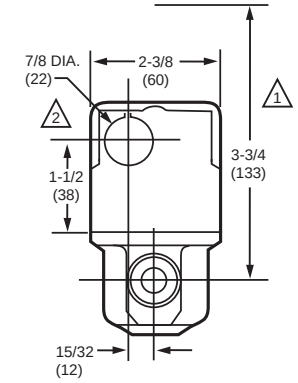
Fan Coil Actuators

VU443, VU444; VU843; VU844 Fan Coil Actuators

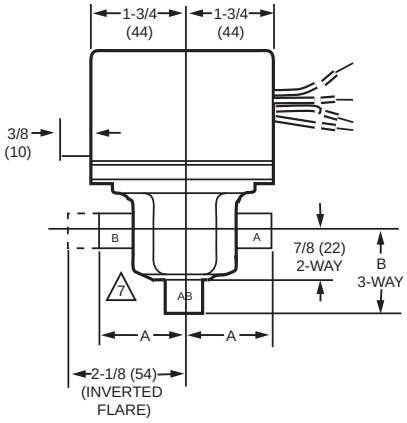
The VU844 Fan Coil Valve Actuators are used in conjunction with the VU52, VU53 and VU54 valves for controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors. These valves are humidity resistant and are suitable for use in condensing, non-corrosive environments.

- Compact construction for easy installation
- Fits under the cover of most baseboard convectors with actuator fitted to valve body
- One-button, quick release
- Secure 3-point, metal latch to valve body
- Spring return operation
- Stainless steel case and aluminum cover
- Rust-proof nickel-plated motors available
- Line or low voltage, rust-resistant motors
- Manual opener for installation and valve operation on power failure
- Valve returns to automatic position when power is restored
- Actuator may be reinstalled or serviced without draining the system or disassembling the valve
- Slotted conduit hole for faster wiring

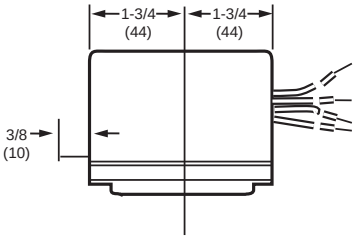
Dimensions in inches (millimeters)



VU53 VALVE WITH VU448 ACTUATOR



VU53 AND VU54 VALVE WITH ACTUATOR



VU5 ACTUATOR

VALVE BODY SIZE	A	B
1/2 IN. SWEAT	1-5/6 (33)	1-5/6 (33)
3/4 IN. SWEAT	1-3/8 (35)	1-11/16 (43)
1 IN. SWEAT	1-11/16 (43)	1-11/16 (43)
1/2 IN. NPT	1-3/8 (35)	1-5/16 (33)
3/4 IN. NPT	1-11/16 (43)	1-7/16 (37)
1 IN. NPT	1-11/16 (43)	1-7/16 (37)

1 HEIGHT NEEDED TO REMOVE ACTUATOR OR COVER

2 OPENING FOR 1/2 IN. CONDUIT ON OPPOSITE SITE OF MANUAL LEVER FOR ALL MODELS.

M18261A

Actuator Type: Valve
Fail Safe Mode: Spring Return
Dimensions, Approximate: 2 3/8 in. high, 3 1/2 in. wide, 2 3/8 in. wide (62 mm high, 88 mm wide, 60 mm deep)
Electrical Connections: Leads
Frequency: 60 Hz
Manual operation: Lever
Stroke: 22 deg.
Power Consumption (driving): 6 Watts

Materials: Stainless Case, Aluminum Cover
Maximum Differential Pressure Ratings (Close-off): Depends on Cv rating of valve
Medium Temperature: 200 F (94 C)
Ambient Temperature Range: 34 F to 125 F ambient at 200 F Fluid (1 C to 52 C ambient at 93 C Fluid)
Approvals
Canadian Standards Association: Certified C/US File No. LR1322

Product Number	Control Signal	Timing (seconds) Maximum Driving @ 60 Hz	Type of Internal Auxiliary Switch	Switch Ratings	Supply Voltage	Electrical Connection Length (inch)	Electrical Connection Length (m)	Type of Internal Auxiliary Switch	Number of Internal Auxiliary Switch	Stroke (inch)	Spring Return Timing (Nominal (sec))	Comments	Used With
VU443A1008/U	Two position; SPST	15 sec	—	—	120V	6 in.	0.15 m	—	0	22 deg.	4 sec.	For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors	2-way NC VU valve body (VU53)
VU443A1024/U	Two position; SPST	15 sec	—	—	208V	18 in.	0.5 m	—	0	22 deg.	4 sec.		

Product Number	Control Signal	Timing (seconds) Maximum Driving @ 60 Hz	Type of Internal Auxiliary Switch	Switch Ratings	Supply Voltage	Electrical Connection Length (inch)	Electrical Connection Length (m)	Type of Internal Auxiliary Switch	Number of Internal Auxiliary Switch	Stroke (inch)	Spring Return Timing (Nominal (sec))	Comments	Used With
VU443A1057/U	Two position; SPST	15 sec	—	—	277V	18 in.	0.5 m	—	0	22 deg.	4 sec.	For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils andconvectors	2-way NC VU valve body (VU53)
VU443A1115/U	Two position; SPST	15 sec	—	—	230V	6 in.	0.15 m	—	0	22 deg.	4 sec.		
VU443A1180/U	Two position; SPST	15 sec	—	—	120V	6 in.	0.15 m	—	0	22 deg.	4 sec.	Nickel plated motor for added humidity resistance; For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors	
VU443E1009/U	Two position; SPST	15 sec	SPST, N.O.	1 A Pilot Duty	120V	18 in.	0.5 m	SPST, N.O.	1	22 deg.	4 sec.	For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors; Aux Switch Rating - Inductive: 2.2 A from 5 to 110 Vac, 1.0 A from 110 to 277 Vac	
VU444A1007/U	Two position; SPST	15 sec	—	—	120V	6 in.	0.15 m	—	0	45 deg.	6 sec.	For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors	2-way NO (VU52) or 3-way VU valve body (VU54)
VU444A1098/U	Two position; SPST	15 sec	—	—	227V	18 in.	0.5 m	—	0	45 deg.	6 sec.		
VU444A1106/U	Two position; SPST	15 sec	—	—	230V	6 in.	0.15 m	—	0	45 deg.	6 sec.		
VU444A1155/U	Two position; SPST	15 sec	—	—	120V	6 in.	0.15 m	—	0	45 deg.	6 sec.	Nickel plated motor for added humidity resistance; For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors	
VU843A1004/U	Two position; SPST	15 sec	—	—	24V	6 in.	0.15 m	—	0	22 deg.	4 sec.	For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors	2-way NC VU valve body (VU53)
VU843A1087/U	Two position; SPST	15 sec	—	—	24V	6 in.	0.15 m	—	0	22 deg.	4 sec.	Nickel plated motor for added humidity resistance; For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors	
VU844A1003/U	Two position; SPST	15 sec	—	—	24V	6 in.	0.15 m	—	0	45 deg.	6 sec.	For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors	2-way NO (VU52) or 3-way VU valve body (VU54)
VU844A1060/U	Two position; SPST	15 sec	—	—	24V	6 in.	0.15 m	—	0	45 deg.	6 sec.	Nickel plated motor for added humidity resistance; For controlling the flow of hot or chilled water in commercial HVAC equipment such as fan coil units, terminal reheat coils and convectors	

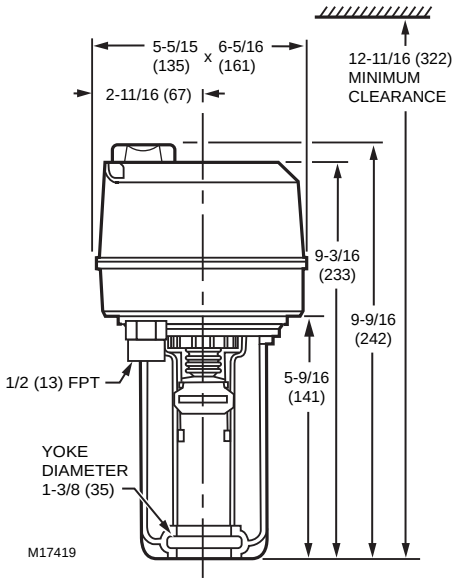
Direct Coupled Valve Actuators

ML6420; ML7420
Non-Spring Return Direct Coupled Globe Valve Actuators

Direct Coupled Globe Valve Actuators provide floating or modulating control of chilled water, hot water, or steam, and mount directly on VGF series, V5011, and V5013 globe valves from 1/2 to 3 inches.

- Easy and quick installation on valves with 1 3/8" bonnet and 3/4" stroke
- No separate linkage required
- Conduit connector standard
- No adjustments required on linkage
- Accurate valve positioning
- Low power consumption
- High close-off ratings
- Force limiting end switches
- Manual operator
- Synchronous motor
- Maintenance free
- ML7420 has an internal selector plug that can be used to reverse the direction of action

Dimensions in inches (millimeters)



Actuator Type: Valve
Fail Safe Mode: Stays in place
(Rated) Stem Force: 135 bf (600 N)
Cable Entry: Conduit connector and one knockout on actuator case
Electrical Protection: Class I Insulation (24 Vac)

Electrical Connections: Screw terminals
Ingress Protection Rating: IP54
Frequency: 50 Hz; 60 Hz
Number of Internal Auxiliary Switch: 0
Manual operation: Knob
Mounting: Directly on V5011/V5013 Globe Valves and VGF Flanged Globe Valves (3/4" or 20mm stroke)
Stroke: 3/4 in. (20 mm)
Supply Voltage: 24 Vac ±15%
Materials: ABS-FR Plastic, aluminum yoke
Operating Humidity Range (% RH): 5 to 95% RH
Medium Temperature: 300 F Maximum (150 C Maximum)
Ambient Temperature Range: 14 F to 122 F (-10 C to +50 C)
Storage Temperature Range: -40 F to +158 F (-40 C to +70 C)
Weight: 2.9 lb (1.3 kg)
Includes: 1/2 in. conduit hub; 1/2 in. flex ble conduit adapter
Approvals
Canadian Standards Association: Certified
CE: Listed
Underwriters Laboratories, Inc: UL94-5V

Accessories:
43191679-111-Potentiometer, 10k ohm, for ML6420 only
43191679-112-Potentiometer, 220 ohm, for ML6420 only
43191680-105-Dual Auxiliary Switch for CREVAL actuators, for ML6420 only
43196000-001-High Temperature Kit for actuators with 3/4 inch (20 mm) stroke, stem button attachment
312495-Large stem button provides anti-spin for globe valves up to 3 in. (1/4-28UNF stem) with ML6420, ML7420, ML6421A, ML7421A, ML6425, and ML7425 actuators. Not required with ML6984/7984 actuators or Q5022A linkage; not compatible with Q5020 linkage.

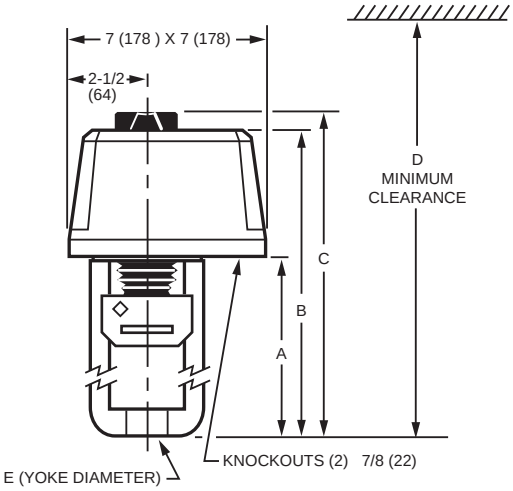
Product Number	Control Signal	Feedback	Timing (seconds) Nominal Driving @ 60 Hz	Power Consumption (Driving)	Input Impedance
ML6420A3049	SPDT; Floating; Two position	—	60 sec	6 VA	—
ML6420A3056	SPDT; Floating; Two position	—	30 sec	6 VA	—
ML7420A3055	2 to 10 Vdc; 0 to 10 Vdc	2-10 Vdc	60 sec	7 VA	1K ohm
ML7420A3063	2 to 10 Vdc; 0 to 10 Vdc	2-10 Vdc	30 sec	7 VA	1K ohm

ML6421; ML7421
Non-Spring Return Direct Coupled Globe Valve Actuators

Direct Coupled Globe Valve Actuators provide floating or modulating control of chilled water, hot water, or steam, and mount directly on VGF series, V5011, and V5013 valves. These Non-Spring Return High Force Actuators will operate 1-1/2 to 6 inch valves.

- Easy and quick installation on valves with 1 3/8" bonnet and 3/4" stroke, or with 1 7/8" bonnet and 1 1/2" stroke
- High force for VGF Pressure-balanced valves
- No separate linkage required
- Conduit connector standard
- No adjustments required on linkage
- Accurate valve positioning
- Low power consumption
- High close-off ratings
- Force limiting end switches
- Manual operator
- Synchronous motor
- Maintenance free

Dimensions in inches (millimeters)



	ML6421A, ML7421A	ML6421B, ML7421B
A	5-5/8 (142)	8 (204)
B	9-3/8 (239)	11-7/8 (301)
C	10-3/8 (264)	12-3/4 (326)
D	14-1/4 (360)	16-7/8 (430)
E	1-3/8 (35)	1-7/8 (48)

M16827

Actuator Type: Valve
Fail Safe Mode: Stays in place
(Rated) Stem Force: 405 bf (1800 N)

Cable Entry: Two knockout holes for 1/2 in. conduit standard on actuator case
Electrical Protection: Class I Insulation (24 Vac)
Electrical Connections: Screw terminals
Ingress Protection Rating: IP54
Frequency: 50 Hz; 60 Hz
Number of Internal Auxiliary Switch: 0
Manual operation: Knob
Mounting: Directly on V5011/V5013 Globe Valves and VGF Flanged Globe Valves
Supply Voltage: 24 Vac +10%,-15%
Materials: ABS Plastic
Operating Humidity Range (% RH): 5 to 95% RH
Medium Temperature: 300 F Maximum (150 C Maximum)
Ambient Temperature Range: 14 F to 122 F (-10 C to +50 C)
Storage Temperature Range: -40 F to +158 F (-40 C to +70 C)
Weight: 5.1 lb (2.3 kg)
Includes: 1/2 in. conduit hub; 1/2 in. flex ble conduit adapter
Approvals
Canadian Standards Association: Certified
CE: Recognized
Underwriters Laboratories, Inc: UL94-5V

Accessories:
43191679-101-Auxiliary Potentiometer for ML6421A
43191679-102-220 ohm Auxiliary Potentiometer for ML6421B
43191680-102-Dual Auxiliary Switch for CREVAL actuators
43196000-001-High Temperature Kit for actuators with 3/4 inch (20 mm) stroke, stem button attachment
43196000-038-High Temperature Kit for actuators with 1-1/2 inch (38 mm) stroke, stem button attachment
312495-Large stem button provides anti-spin for globe valves up to 3 in. (1/4-28UNF stem) with ML6420, ML7420, ML6421A, ML7421A, ML6425, and ML7425 actuators. Not required with ML6984/7984 actuators or Q5022A linkage; not compatible with Q5020 linkage.

Product Number	Control Signal	Feedback	Stroke (inch)	Stroke (mm)	Timing (seconds) Nominal Driving @ 60 Hz	Power Consumption (Driving)
ML6421A1017	SPDT; Floating; Two position	—	3/4 in.	20 mm	95 sec	11 VA
ML6421B1040	SPDT; Floating; Two position	—	1 1/2 in.	38 mm	175 sec	11 VA
ML7421A1032	2 to 10 Vdc; 0 to 10 Vdc	2-10 Vdc	3/4 in.	20 mm	95 sec	12 VA
ML7421B1023	2 to 10 Vdc; 0 to 10 Vdc	2-10 Vdc	1 1/2 in.	38 mm	175 sec	12 VA

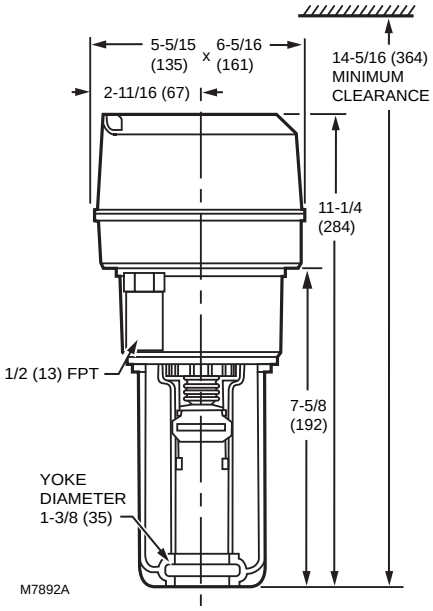
Direct Coupled Valve Actuators

ML6425; ML7425
Spring Return Direct Coupled Globe Valve Actuators

Direct Coupled Globe Valve Actuators provide floating and modulating control of chilled water, hot water, and steam, and mount directly on VGF series, V5011, and V5013 globe valves. These Spring Return Actuators will operate 1/2 to 3 inch valves.

- Easy and quick installation on valves with 1 3/8" bonnet and 3/4" stroke
- No separate linkage required
- Conduit connector standard
- No adjustments required on linkage
- Accurate valve positioning
- Low power consumption
- High close-off ratings
- Force limiting end switches
- Internal manual operator
- Synchronous motor
- Maintenance free

Dimensions in inches (millimeters)



Actuator Type: Valve
Fail Safe Mode: Stem down on power failure
(Rated) Stem Force: 135 lbf (600 N)
Spring Return Torque: 135 lbf (600 N)
Spring Return Timing (Nominal sec.): 12 sec.

Cable Entry: Conduit connector and one knockout on actuator case
Electrical Protection: Class I Insulation (24 Vac)
Electrical Connections: Screw terminals
Ingress Protection Rating: IP54
Frequency: 50 Hz; 60 Hz
Timing (seconds): Nominal Driving @ 60 Hz: 90 sec.
Number of Internal Auxiliary Switch: 0
Manual operation: Manual override winding
Mounting: Directly on V5011/V5013 Globe Valves and VGF Flanged Globe Valves (3/4" or 20mm stroke)
Stroke: 3/4 in. (20 mm)
Materials: ABS-FR Plastic, aluminum yoke
Operating Humidity Range (% RH): 5 to 95% RH
Medium Temperature: 300 F Maximum (150 C Maximum)
Ambient Temperature Range: 14 F to 122 F (-10 C to +50 C)
Storage Temperature Range: -40 F to +158 F (-40 C to +70 C)
Weight: 5.1 lb (2.3 kg)
Includes: 1/2 in. conduit hub; 1/2 in. flex ble conduit adapter

Approvals
CE: Recognized
Underwriters Laboratories, Inc: UL94-5V

Accessories:
43191679-111-Potentiometer, 10k ohm, for ML6425 only
43191679-112-Potentiometer, 220 ohm, for ML6425 only
43191680-105-Dual Auxiliary Switch for CREVAL actuators, for ML6425 only
43196000-001-High Temperature Kit for actuators with 3/4 inch (20 mm) stroke, stem button attachment
312495-Large stem button provides anti-spin for globe valves up to 3 in. (1/4-28UNF stem) with ML6420, ML7420, ML6421A, ML7421A, ML6425, and ML7425 actuators. Not required with ML6984/7984 actuators or Q5022A linkage; not compatible with Q5020 linkage.

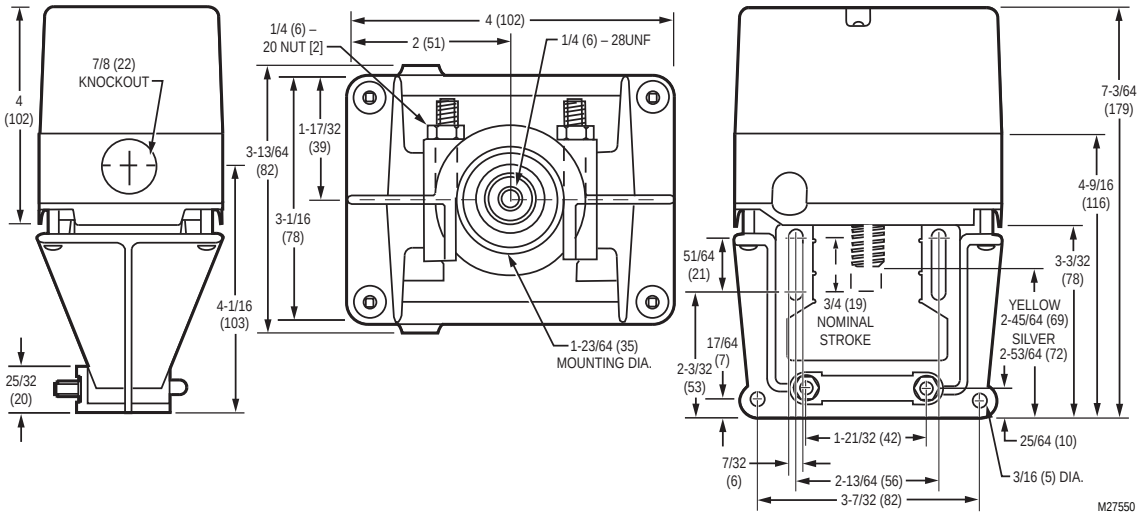
Product Number	Control Signal	Feedback	Power Consumption (Driving)	Supply Voltage	Spring Return Direction
ML6425A3022	SPDT; Floating; Two position	—	11 VA	24 Vac	Stem down on power failure
ML6425B3013	SPDT; Floating; Two position	—	11 VA	24 Vac	Stem up on power failure
ML7425A3013	2 to 10 Vdc; 0 to 10 Vdc	2-10 Vdc	12 VA	24 Vac ±15%	Stem down on power failure
ML7425B3012	2 to 10 Vdc; 0 to 10 Vdc	2-10 Vdc	12 VA	24 Vac ±15%	Stem up on power failure

ML6984 Direct Coupled Linear Valve Actuators

The ML6984 is a self-contained, self-adjusting, motorized linkage that mounts directly onto V5011 two-way or V5013 three-way valves and provides up to 25 mm (1") of linear travel (stem lift). For use with low voltage 3-wire SPDT Series 20 (on-off); Series 60 (floating) electromechanical (dry) contacts; or electronic (triac output) controllers (3-wire installation).

- Allows the use of one common transformer power supply for multiple actuators and controllers
- Self-contained, motorized valve linkage
- Linkage self-adjusts to valve stroke of 12 to 25 mm (1/2 to 1")
- Multi-pose mounting
- Strong valve seat closing force 160 lbf (710 N)
- Compact size for easy installation in confined area
- One device for either 24 Vac or 28 Vdc power supply application
- Electronic current sensing provides internal protection and positive full closing force
- Field-addable position feedback/auxiliary switch module available (5-wire control wiring only)
- Compat ble with 3-wire control systems

Dimensions in inches (millimeters)



Actuator Type: Valve
Fail Safe Mode: Stays in place
(Rated) Stem Force: 160 bf (710 N)
Cable Entry: 7/8 in. hole for 1/2 in. conduit
External Auxiliary Switches Available: 272630D
Electrical Protection: NEMA 3R
Electrical Connections: Screw terminals
Ingress Protection Rating: NEMA 3R, IP54 (mounted in vertical position)
Feedback: Position feedback available w/ 272630D; 2-10 Vdc
Frequency: 50 Hz; 60 Hz
Number of Internal Auxiliary Switch: 0
Manual operation: None
Mounting: Screws onto 1/4-28 UNF threaded valve stem
Stroke: 1/2 to 1 in. (13 to 25 mm)

Supply Voltage: 24 Vac; 28 Vdc
Materials: UV-stabilized plastic cover, aluminum base & yoke
Operating Humidity Range (% RH): 15 to 95% RH at 104 F (40 C)
Medium Temperature: 300 F Maximum (150 C Maximum)
Ambient Temperature Range: 32 F to 130 F (0 C to 50 C)
Temperature Ratings (Shipping): -40 F to +150 F (-40 C to + 65 C)
Storage Temperature Range: -40 F to +150 F (-40 C to +65 C)
Weight: 2.2 lb (1 kg)
Includes: Screw terminals
Comments: 3 or 5-wire operation.(3-wire required for XL10 controllers)

Accessories:
272629A-Adapter Kit for mounting ML6984/ML7984 to V5045 and VGF non-pressure balanced 2-way valves
272630D-Position feedback and SPDT pilot duty auxiliary switch

Product Number	Control Signal	Timing (seconds) Nominal Driving @ 60 Hz	Switch Ratings	Power Consumption (Driving)	Power Consumption (Holding)	Used With
ML6984A4000/U	SPDT; Floating; Two position	63 at 3/4 in stroke	24 Vac	6 VA	12 VA	V5011/13, VGF21, and VGF22 up to 3 in.; V5045 w/ 272629A

Direct Coupled Valve Actuators

ML7984 Direct Coupled Linear Valve Actuators

The ML7984 is a self-contained, self-adjusting, motorized linkage that mounts directly onto V5011 two-way or V5013 three-way valves and provides up to 25 mm (1") of linear stem travel. For use with Series 70 2-10Vdc, 4-20mA; Series 90 135 ohm; and Electronic (Super Mod) modulating signals controllers.

- Allows the use of one common transformer power supply for multiple actuators and controllers
- Self-contained, motorized valve linkage
- Linkage self-adjusts to valve stroke from 12 to 25 mm (1/2 - 1")
- Multi-pose mounting
- Strong valve seat closing force 160 bf (710 N)
- Compact size for easy installation in confined area
- One device for either Vac or Vdc power supply application
- Electronic current sensing provides internal protection and positive full closing force
- Field-addable position feedback/auxiliary switch module available

Actuator Type: Valve
Fail Safe Mode: Stays in place
(Rated) Stem Force: 160 bf (710 N)
Cable Entry: 7/8 in. hole for 1/2 in. conduit
Dimensions, Approximate: 6 13/16 in. high x 4 in. wide x 3 3/16 in. deep (173 mm high x 102 mm wide x 82 mm deep)
External Auxiliary Switches Available: 272630D
Electrical Protection: NEMA 3R
Electrical Connections: Screw terminals
Ingress Protection Rating: NEMA 3R, IP54 (mounted in vertical position)
Feedback: Position feedback available w/ 272630D; 2-10 Vdc
Frequency: 50 Hz; 60 Hz
Number of Internal Auxiliary Switch: 0
Manual operation: None
Mounting: Screws onto 1/4-28 UNF threaded valve stem
Stroke: 1/2 to 1 in. (13 to 25 mm)
Supply Voltage: 24 Vac; 28 Vdc
Materials: UV-stabilized plastic cover, aluminum base & yoke
Operating Humidity Range (% RH): 15 to 95% RH at 104 F (40 C)
Ambient Temperature Range: 32 F to 130 F (0 C to 55 C)
Temperature Ratings (Shipping): -40 F to +150 F (-40 C to + 65 C)
Storage Temperature Range: -40 F to +150 F (-40 C to +65 C)
Weight: 2.2 lb (1 kg)
Includes: Screw terminals
Comments: Direct/Reverse Acting Switch

Accessories:
272629A-Adapter Kit for mounting ML6984/ML7984 to V5045 and VGF non-pressure balanced 2-way valves
272630D-Position feedback and SPDT pilot duty auxiliary switch

Product Number	Control Signal	Timing (seconds) Nominal Driving @ 60 Hz	Switch Ratings	Power Consumption (Driving)	Power Consumption (Holding)	Input Impedance	Used With
ML7984A4009/U	SuperMod; 2 to 10 Vdc; 4 to 20 mA; 135 ohm potentiometer	63 at 3/4 in stroke	24 Vac	6 VA	12 VA	Voltage - 20 Kohm, Current - 237ohm	V5011/13, VGF21, and VGF22 up to 3 in.; V5045 w/ 272629A

Valve Actuator Accessories

Product Number	Description	Used With	
127834A/U	Switch (made)	—	
272629A/U	Adapter Kit for mounting ML6984/ML7984 to V5045 and VGF non-pressure balanced 2-way valves	ML6984 or ML7984, V5045; VGF21ES; VGF21LS, VGF22ES; VGF22LS	
272630D/U	Position feedback and SPDT pilot duty auxiliary switch	ML6984/ML7984 Series 4000 and higher (ML6984 in 5-wire mode only)	
312495/U	Large stem button provides anti-spin for CREVAL actuators with globe valves up to 3 in.	ML6420, ML6421, ML6425, ML7420, ML7421, or ML7425; Not required with ML6984/M7984 Actuators or Q5022A linkage; Not compatible with Q5020 linkage	
40003793-005/U	U-bolt bag assembly for ML6984 & ML7984	ML6984 or ML7984	
43191679-101	Auxiliary Potentiometer for ML6421A	ML6421A	
43191679-102	220 ohm Auxiliary Potentiometer for ML6421B	ML6421B	
43191679-111	Potentiometer, 10k ohm, for ML6425, ML7425	ML6425 or ML7425	
43191679-112/U	Potentiometer, 220 ohm for ML6425, ML7425	ML6425 or ML7425	
43191680-102	Dual Auxiliary Switch for CREVAL actuators	ML6421, ML7421	
43191680-105	Dual Auxiliary Switch for CREVAL actuators	ML6420, ML6425, ML7420, ML7425	
43196000-001	High Temperature Kit for actuators with 3/4 inch (20 mm) stroke, stem button attachment	ML6420, ML6421, ML6425, ML7420, ML7421, or ML7425; Not compat ble with Q5022A	
43196000-038	High Temperature Kit for actuators with 1-1/2 inch (38 mm) stroke, stem button attachment	ML6421, ML7421; Not compatible with Q5022B	

SmartVFD COMPACT

You already know the energy savings variable frequency drives (VFDs) deliver. With the Honeywell SmartVFD COMPACT, you select the capabilities you need. Our compact line lets you customize the drive features to the application, eliminating waste. The COMPACT provide the perfect balance, with essential features like a standard PI Controller and the ability to program without the need for line voltage. It is a true micro drive and is among the smallest, most streamlined VFDs on the market, which saves space in your equipment cabinet. Along with the compact size for installation ease, the intuitive user interface makes commissioning a breeze.

- Easy commissioning
  - — Intuitive user interface
  - — PID controller included
  - — Program without the need for a main power supply
- Easy installation
  - — The most streamlined VFDs on the market
  - — DIN rail or screw mounting
  - — Side-by-side mounting
- Easy communication
  - — Up to seven programming control inputs
  - — Up to three programmable control outputs
  - — Several field bus options available

Drive Family: SmartVFD COMPACT
Acceleration time: 0.1 - 3000 sec
Deceleration time: .1 - 3000 sec
Analog Current Input: 0 (4) - 20 mA, 250 ohm differential
Analog Voltage Input: 0 - 10 Vdc, 200K ohm
Analog Current Output: 0 (4) - 20 mA, max 500 ohm
Digital Output: Open collector, max. load 48V/50mA
Continuous Output Current: overload 1.5 x High overload current (1min/10min); overload 1.1 x Low overload current (1min/10min)
Relay Output: Max. switching load: 250Vac/2A or 250Vdc/0,4A

Reference Output Voltage: Maximum Load 10mA
Auxiliary Voltage: ± 20%, max. load 50 mA
Starting Torque: Depends on the Motor
Peak Current: 2 x IN, 2 secs in every 20 sec period
Frequency (Hz): 0 Hz to 320 Hz
Operating Temperature: 14 to 122 F (-10 to 50 C)
Type of Enclosure: Open Chassis
Type of RFI Filter: EMC Filter
Configuration: Drive alone
Type of Enclosure: Open chassis

Product Number	Voltage	Horse-power	Frame Type	Current Ratings	Soft-ware	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)	Description
HVFDCD1A0003F00/U	115V/ 230V 1/3	.25 HP	2	1.7A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1 Phase 115Vac in/3 phase 230Vac out, 0.25 HP, Full IO, Open Chasis, No EMC
HVFDCD1A0003L00/U	115V/ 230V 1/3	.25 HP	2	1.7A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1 Phase 115Vac in/3 phase 230Vac out, 0.25 HP, Limited IO, Open Chassis, No EMC
HVFDCD1A0005F00/U	115V/ 230V 1/3	.5 HP	2	2.4A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1 Phase 115Vac in/3 phase 230Vac out, 0.5 HP, Full IO, Open Chasis, No EMC
HVFDCD1A0005L00/U	115V/ 230V 1/3	.5 HP	2	2.4A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1 Phase 115Vac in/3 phase 230Vac out, 0.5 HP, Limited IO, Open Chassis, No EMC
HVFDCD1A0010F00/U	115V/ 230V 1/3	1 HP	2	3.7A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1 Phase 115Vac in/3 phase 230Vac out, 1 HP, Full IO, Open Chasis, No EMC
HVFDCD1A0010L00/U	115V/ 230V 1/3	1 HP	2	3.7A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1 Phase 115Vac in/3 phase 230Vac out, 1 HP, Limited IO, Open Chassis, No EMC
HVFDCD1A0015F00/U	115V/ 230V 1/3	1.5 HP	3	4.8A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 1 Phase 115Vac in/3 phase 230Vac out, 1.5 HP, Full IO, Open Chasis, No EMC
HVFDCD1A0015L00/U	115V/ 230V 1/3	1.5 HP	3	4.8A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 1 Phase 115Vac in/3 phase 230Vac out, 1.5 HP, Limited IO, Open Chassis, No EMC
HVFDCD1B0003F00/U	230v 1/3	.25 HP	1	1.7 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 b	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.25 HP, Full IO, Open Chasis, No EMC
HVFDCD1B0003F01/U	230v 1/3	.25 HP	1	1.7 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 b	0.54 kg	COMPACT VFD. 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.25 HP, Full IO, Open Chasis, EMC
HVFDCD1B0003L00/U	230v 1/3	.25 HP	1	1.7 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 b	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.25 HP, Limited IO, Open Chasis, No EMC
HVFDCD1B0003L01/U	230v 1/3	.25 HP	1	1.7 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 b	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.25 HP, Limited IO, Open Chasis, EMC

Product Number	Voltage	Horse-power	Frame Type	Current Ratings	Soft-ware	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)	Description
HVFDCD1B0005F00/U	230v 1/3	0.5 HP	1	2.4 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.5HP, Full IO, Open Chasis, No EMC
HVFDCD1B0005F01/U	230v 1/3	0.5 HP	1	2.4 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac0.5HP, Full IO, Open Chasis, EMC
HVFDCD1B0005L00/U	230v 1/3	0.5 HP	1	2.4 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac, 0.5HP, Limited IO, Open Chasis, No EMC
HVFDCD1B0005L01/U	230v 1/3	0.5 HP	1	2.4 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.5HP, Limited IO, Open Chasis, EMC
HVFDCD1B0007F00/U	230v 1/3	0.75 HP	1	2.8 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.75HP, Full IO, Open Chasis, No EMC
HVFDCD1B0007F01/U	230v 1/3	0.75 HP	1	2.8 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.75HP, Full IO, Open Chasis, EMC
HVFDCD1B0007L00/U	230v 1/3	0.75 HP	1	2.8 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.75HP, Limited IO, Open Chasis, No EMC
HVFDCD1B0007L01/U	230v 1/3	0.75 HP	1	2.8 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 0.75HP, Limited IO, Open Chasis, EMC
HVFDCD1B0010F00/U	230v 1/3	1 HP	1	3.7 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 1HP, Full IO, Open Chasis, No EMC
HVFDCD1B0010F01/U	230v 1/3	1 HP	1	3.7 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 1HP, Full IO, Open Chasis, EMC
HVFDCD1B0010L00/U	230v 1/3	1 HP	1	3.7 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 1HP, Limited IO, Open Chasis, No EMC
HVFDCD1B0010L01/U	230v 1/3	1 HP	1	3.7 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 1HP, Limited IO, Open Chasis, EMC
HVFDCD1B0015F00/U	230v 1/3	1.5 HP	2	4.8 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 1.5HP, Full IO, Open Chasis, No EMC
HVFDCD1B0015F01/U	230v 1/3	1.5 HP	2	4.8 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 1.5HP, Full IO, Open Chasis, EMC
HVFDCD1B0015L00/U	230v 1/3	1.5 HP	2	4.8 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 1.5HP, Limited IO, Open Chasis, No EMC
HVFDCD1B0015L01/U	230v 1/3	1.5 HP	2	4.8 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 1.5HP, Limited IO, Open Chasis, EMC
HVFDCD1B0020F00/U	230v 1/3	2 HP	2	7.0 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 2HP, Full IO, Open Chasis, No EMC
HVFDCD1B0020F01/U	230v 1/3	2 HP	2	7.0 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 2HP, Full IO, Open Chasis, EMC
HVFDCD1B0020L00/U	230v 1/3	2 HP	2	7.0 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 2HP, Limited IO, Open Chasis, No EMC
HVFDCD1B0020L01/U	230v 1/3	2 HP	2	7.0 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 1-Phase 208/230Vac2HP, Limited IO, Open Chasis, EMC
HVFDCD1B0030F00/U	230v 1/3	3 HP	3	11.0 A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 3HP, Full IO, Open Chasis, No EMC
HVFDCD1B0030F01/U	230v 1/3	3 HP	3	11.0 A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 3HP, Full IO, Open Chasis, EMC
HVFDCD1B0030L00/U	230v 1/3	3 HP	3	11.0 A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 3HP, Limited IO, Open Chasis, No EMC

SmartVFD COMPACT

Product Number	Voltage	Horse-power	Frame Type	Current Ratings	Soft-ware	Dimensions, Approximate		Weight		Description
						(inch)	(mm)	(lb)	(kg)	
HVFDCD1B0030L01/U	230v 1/3	3 HP	3	11.0 A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 b	1 kg	COMPACT VFD, 1-Phase 208/230Vac in/3-Phase 208/230Vac out, 3HP, Limited IO, Open Chasis, EMC
HVFDCD3B0003F00/U	230V 3/3	.25 HP	1	1.7A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 b	0.54 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 0.25 HP, Full IO, Open Chassis, No EMC
HVFDCD3B0003L00/U	230V 3/3	.25 HP	1	1.7A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 b	0.54 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 0.25 HP, Limited IO, Open Chassis, No EMC
HVFDCD3B0005F00/U	230V 3/3	.5 HP	1	2.4A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 0.5 HP, Full IO, Open Chassis, No EMC
HVFDCD3B0005L00/U	230V 3/3	.5 HP	1	2.4A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 0.5 HP, Limited IO, Open Chassis, No EMC
HVFDCD3B0010F00/U	230V 3/3	1 HP	2	3.7A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 1 HP, Full IO, Open Chassis, NO, Open Chassis, No EMC
HVFDCD3B0010L00/U	230V 3/3	1 HP	2	3.7A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 1 HP, Limited IO, Open Chassis, No EMC
HVFDCD3B0020F00/U	230V 3/3	2 HP	2	7A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 2 HP, Full IO, Open Chassis, No EMC
HVFDCD3B0020L00/U	230V 3/3	2 HP	2	7A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 2 HP, Limited IO, Open Chassis, No EMC
HVFDCD3B0030F00/U	230V 3/3	3 HP	3	11A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 3 HP, Full IO, Open Chassis, No EMC
HVFDCD3B0030L00/U	230V 3/3	3 HP	3	11A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out, 230Vac, 3 HP, Limited IO, Open Chassis, No EMC
HVFDCD3C0005F00/U	460v 3/3	0.5 HP	1	1.3 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 0.5HP, Full IO, Open Chasis, No EMC
HVFDCD3C0005F01/U	460v 3/3	0.5 HP	1	1.3 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 0.5HP, Full IO, Open Chasis, EMC
HVFDCD3C0005L00/U	460v 3/3	0.5 HP	1	1.3 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 0.5HP, Limited IO, Open Chasis, No EMC
HVFDCD3C0005L01/U	460v 3/3	0.5 HP	1	1.3 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 0.5HP, Limited IO, Open Chasis, EMC
HVFDCD3C0007F00/U	460v 3/3	0.75 HP	1	1.9 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 0.75HP, Full IO, Open Chasis, No EMC
HVFDCD3C0007F01/U	460v 3/3	0.75 HP	1	1.9 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 0.75HP, Full IO, Open Chasis, EMC
HVFDCD3C0007L00/U	460v 3/3	0.75 HP	1	1.9 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 0.75HP, Limited IO, Open Chasis, No EMC
HVFDCD3C0007L01/U	460v 3/3	0.75 HP	1	1.9 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 0.75HP, Limited IO, Open Chasis, EMC
HVFDCD3C0010F00/U	460v 3/3	1 HP	1	2.4 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 1HP, Full IO, Open Chasis, No EMC
HVFDCD3C0010F01/U	460v 3/3	1 HP	1	2.4 A	Full	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 1HP, Full IO, Open Chasis, EMC
HVFDCD3C0010L00/U	460v 3/3	1 HP	1	2.4 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 1HP, Limited IO, Open Chasis, No EMC
HVFDCD3C0010L01/U	460v 3/3	1 HP	1	2.4 A	Limited	6.2 x 2.6 x 3.9	157 x 66 x 99	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 1HP, Limited IO, Open Chasis, EMC
HVFDCD3C0015F00/U	460v 3/3	1.5 HP	2	3.3 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 1.5HP, Full IO, Open Chasis, No EMC
HVFDCD3C0015F01/U	460v 3/3	1.5 HP	2	3.3 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 1.5HP, Full IO, Open Chasis, EMC
HVFDCD3C0015L00/U	460v 3/3	1.5 HP	2	3.3 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 1.5HP, Limited IO, Open Chasis, No EMC
HVFDCD3C0015L01/U	460v 3/3	1.5 HP	2	3.3 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.2 lb	0.54 kg	COMPACT VFD, 3 Phase in/out 460Vac, 1.5HP, Limited IO, Open Chasis, EMC
HVFDCD3C0020F00/U	460v 3/3	2 HP	2	4.3 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out 460Vac, 2HP, Full IO, Open Chasis, No EMC
HVFDCD3C0020F01/U	460v 3/3	2 HP	2	4.3 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out 460Vac, 2HP, Full IO, Open Chasis, EMC
HVFDCD3C0020L00/U	460v 3/3	2 HP	2	4.3 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out 460Vac, 2HP, Limited IO, Open Chasis, No EMC

Product Number	Voltage	Horse-power	Frame Type	Current Ratings	Soft-ware	Dimensions, Approximate		Weight		Description
						(inch)	(mm)	(lb)	(kg)	
HVFDCD3C0020L01/U	460v 3/3	2 HP	2	4.3 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out 460Vac, 2HP, Limited IO, Open Chasis, EMC
HVFDCD3C0030F00/U	460v 3/3	3 HP	2	5.6 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out 460Vac, 3HP, Full IO, Open Chasis, No EMC
HVFDCD3C0030F01/U	460v 3/3	3 HP	2	5.6 A	Full	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out 460Vac, 3HP, Full IO, Open Chasis, EMC
HVFDCD3C0030L00/U	460v 3/3	3 HP	2	5.6 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out 460Vac, 3HP, Limited IO, Open Chasis, No EMC
HVFDCD3C0030L01/U	460v 3/3	3 HP	2	5.6 A	Limited	7.7 x 3.5 x 4	196 x 90 x 102	1.5 lb	0.68 kg	COMPACT VFD, 3 Phase in/out 460Vac, 3HP, Limited IO, Open Chasis, EMC
HVFDCD3C0040F00/U	460v 3/3	4 HP	3	7.6 A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 4HP, Full IO, Open Chasis, No EMC
HVFDCD3C0040F01/U	460v 3/3	4 HP	3	7.6 A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 4HP, Full IO, Open Chasis, EMC
HVFDCD3C0040L00/U	460v 3/3	4 HP	3	7.6 A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 4HP, Limited IO, Open Chasis, No EMC
HVFDCD3C0040L01/U	460v 3/3	4 HP	3	7.6 A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 4HP, Limited IO, Open Chasis, EMC
HVFDCD3C0050F00/U	460v 3/3	5 HP	3	9.0 A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 5HP, Full IO, Open Chasis, No EMC
HVFDCD3C0050F01/U	460v 3/3	5 HP	3	9.0 A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 5HP, Full IO, Open Chasis, EMC
HVFDCD3C0050L00/U	460v 3/3	5 HP	3	9.0 A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 5HP, Limited IO, Open Chasis, No EMC
HVFDCD3C0050L01/U	460v 3/3	5 HP	3	9.0 A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 5HP, Limited IO, Open Chasis, EMC
HVFDCD3C0075F00/U	460v 3/3	7.5 HP	3	12.0 A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 7.5HP, Full-IO, Open Chasis, No EMC
HVFDCD3C0075F01/U	460v 3/3	7.5 HP	3	12.0 A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 7.5HP, Full IO, Open Chasis, EMC
HVFDCD3C0075L00/U	460v 3/3	7.5 HP	3	12.0 A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 7.5HP, Limited IO, Open Chasis, No EMC
HVFDCD3C0075L01/U	460v 3/3	7.5 HP	3	12.0 A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 460Vac, 7.5HP, Limited IO, Open Chasis, EMC
HVFDCD3D0010F00/U	575V 3/3	1 HP	3	2A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 1 HP, Full IO, Open Chassis, No EMC
HVFDCD3D0010L00/U	575V 3/3	1 HP	3	2A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 1 HP, Limited IO, Open Chassis, No EMC
HVFDCD3D0020F00/U	575V 3/3	2 HP	3	3.6A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 2 HP, Full IO, Open Chassis, No EMC
HVFDCD3D0020L00/U	575V 3/3	2 HP	3	3.6A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 2 HP, Limited IO, Open Chassis, No EMC
HVFDCD3D0030F00/U	575V 3/3	3 HP	3	5A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 3 HP, Full IO, Open Chassis, No EMC
HVFDCD3D0030L00/U	575V 3/3	3 HP	3	5A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 3 HP, Limited IO, Open Chassis, No EMC
HVFDCD3D0050F00/U	575V 3/3	5 HP	3	7.6A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 5 HP, Full IO, Open Chassis, No EMC
HVFDCD3D0050L00/U	575V 3/3	5 HP	3	7.6A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 5 HP, Limited IO, Open Chassis, No EMC
HVFDCD3D0075F00/U	575V 3/3	7.5 HP	3	10.4A	Full	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 7.5 HP, Full IO, Open Chassis, No EMC
HVFDCD3D0075L00/U	575V 3/3	7.5 HP	3	10.4A	Limited	9.9 x 3.9 x 4.3	251 x 100 x 109	2.2 lb	1 kg	COMPACT VFD, 3 Phase in/out 575Vac, 7.5 HP, Limited IO, Open Chassis, No EMC

SmartVFD HVAC

The Honeywell SmartVFD HVAC and BYPASS are designed specifically for commercial buildings to deliver the energy savings that building owners and facility managers need. The SmartVFD HVAC makes installation and commissioning easy for you and energy savings easy for your customers.

- Start-up Wizards—All you have to do is tell the VFD whether you have a pump or a fan, enter nominal motor information, and you are up and running
- Graphic Interface—The easy-to-use keypad and interface deliver menu-driven programming and monitoring for fast, uniform commissioning. It's also easy for the building owner or manager to learn and use, helping to reduce service calls. Plus, a manual is built into the keypad for easy access when needed
- Built-in Communications—With BACnet®, N2 and Modbus built in, your customers will enjoy a lower total installed cost and reliable communications with the building management system
- PC Software Wizards—Commissioning, programming and troubleshooting are all a snap thanks to these guided Startup and PID wizards
- Built-in PLC—Another reason why SmartVFD HVAC is a great value for your customer, the built-in PLC eliminates the need for an expensive external controller
- DC Choke for harmonic protection
- Standard RFI Filter—Ensures that EMC/RFI requirements are met
- Bypass Options—Meets specifications and system critical applications with a comprehensive bypass offering
- Real-Time Clock—Battery included
- Fire Mode for safe operation
- Motor Switch Ride-Through—easy, fault-free maintenance

Drive Family: SmartVFD HVAC
Acceleration time: 0.1 - 3000 sec
Deceleration time: .1 - 3000 sec
Analog Current Input: 0 (4) - 20 mA, 250 ohm differential
Analog Voltage Input: 0 - 10 Vdc, 200K ohm
Analog Current Output: 0 (4) - 20 mA, max 500 ohm
Digital Output: Open collector, max. load 48V/50mA
Continuous Output Current: overload 1.5 x High overload current (1min/10min); overload 1.1 x Low overload current (1min/10min)
Relay Output: Max. switching load: 250Vac/2A or 250Vdc/0,4A
Reference Output Voltage: Maximum Load 10mA
Auxiliary Voltage: ± 20%, max. load 50 mA
Starting Torque: Drive Input Disconnect: 510 x IN, 2 secs in every 20 sec period
Frequency (Hz): 0 Hz to 320 Hz
Operating Temperature: 14 to 114 F (-10 to 50 C)
Type of Enclosure: NEMA 1
Type of RFI Filter: EMC Filter
Configuration: Drive alone
Auto Bypass: No
Drive Input Disconnect: No

Product Number	Voltage	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
HVFDSD3A0007G100/U	208 Vac/230 Vac	0.75 HP	4	NEMA 1	3.7A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0007G200/U	208 Vac/230 Vac	0.75 HP	4	NEMA 12	3.7A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0007G300/U	208 Vac/230 Vac	0.75 HP	4	NEMA 3R	3.7A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3A0010G100/U	208 Vac/230 Vac	1 HP	4	NEMA 1	4.8A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0010G200/U	208 Vac/230 Vac	1 HP	4	NEMA 12	4.8A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0010G300/U	208 Vac/230 Vac	1 HP	4	NEMA 3R	4.8A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3A0015G100/U	208 Vac/230 Vac	1.5 HP	4	NEMA 1	6.6A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0015G200/U	208 Vac/230 Vac	1.5 HP	4	NEMA 12	6.6A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0015G300/U	208 Vac/230 Vac	1.5 HP	4	NEMA 3R	6.6A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3A0020G100/U	208 Vac/230 Vac	2 HP	4	NEMA 1	8A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0020G200/U	208 Vac/230 Vac	2 HP	4	NEMA 12	8A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0020G300/U	208 Vac/230 Vac	2 HP	4	NEMA 3R	8A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3A0030G100/U	208 Vac/230 Vac	3 HP	4	NEMA 1	11A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0030G200/U	208 Vac/230 Vac	3 HP	4	NEMA 12	11A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3A0030G300/U	208 Vac/230 Vac	3 HP	4	NEMA 3R	11A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3A0050G100/U	208 Vac/230 Vac	5 HP	5	NEMA 1	18A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3A0050G200/U	208 Vac/230 Vac	5 HP	5	NEMA 12	18A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3A0050G300/U	208 Vac/230 Vac	5 HP	5	NEMA 3R	18A	20.5 x 24 x 10	520.7 x 609.6 x 254	58 lb	26.3 kg
HVFDSD3A0075G100/U	208 Vac/230 Vac	7.5 HP	5	NEMA 1	24A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3A0075G200/U	208 Vac/230 Vac	7.5 HP	5	NEMA 12	24A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3A0075G300/U	208 Vac/230 Vac	7.5 HP	5	NEMA 3R	24A	20.5 x 24 x 10	520.7 x 609.6 x 254	58 lb	26.3 KG
HVFDSD3A0100G100/U	208 Vac/230 Vac	10 HP	5	NEMA 1	31A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3A0100G200/U	208 Vac/230 Vac	10 HP	5	NEMA 12	31A	5.7 x 16.5 x 8.4	144.78 x 419.1 x 213.36	22 lb	9.97 kg

Product Number	Voltage	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
HVFDSD3A0100G300/U	208 Vac/230 Vac	10 HP	5	NEMA 3R	31A	20.5 x 24 x 10	520.7 x 609.6 x 254	58 lb	26.3 kg
HVFDSD3A0150G100/U	208 Vac/230 Vac	15 HP	6	NEMA 1	48A	7.7 x 21.9 x 9	196 x 556 x 229	44.1 b	20 kg
HVFDSD3A0150G200/U	208 Vac/230 Vac	15 HP	6	NEMA 12	48A	7.7 x 21.9 x 9	196 x 556 x 229	44.1 b	20 kg
HVFDSD3A0150G300/U	208 Vac/230 Vac	15 HP	6	NEMA 3R	48A	28.5 x 36 x 10	723.9 x 914.4 x 254	80 lb	36.3 kg
HVFDSD3A0200G100/U	208 Vac/230 Vac	20 HP	6	NEMA 1	62A	7.7 x 21.9 x 9	196 x 556 x 229	44.1 b	20 kg
HVFDSD3A0200G200/U	208 Vac/230 Vac	20 HP	6	NEMA 12	62A	7.7 x 21.9 x 9	196 x 556 x 229	44.1 b	20 kg
HVFDSD3A0200G300/U	208 Vac/230 Vac	20 HP	6	NEMA 3R	62A	28.5 x 36 x 10	723.9 x 914.4 x 254	80 lb	36.3 kg
HVFDSD3A0250G100/U	208 Vac/230 Vac	25 HP	7	NEMA 1	75A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3A0250G200/U	208 Vac/230 Vac	25 HP	7	NEMA 12	75A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3A0250G300/U	208 Vac/230 Vac	25 HP	7	NEMA 3R	75A	28.5 x 48 x 12	723.9 x 1219.2x 304.8	130 b	59 kg
HVFDSD3A0300G100/U	208 Vac/230 Vac	30 HP	7	NEMA 1	88A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3A0300G200/U	208 Vac/230 Vac	30 HP	7	NEMA 12	88A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3A0300G300/U	208 Vac/230 Vac	30 HP	7	NEMA 3R	88A	28.5 x 48 x 12	723.9 x 1219.2x 304.8	130 b	59 kg
HVFDSD3A0400G100/U	208 Vac/230 Vac	40 HP	7	NEMA 1	105A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3A0400G200/U	208 Vac/230 Vac	40 HP	7	NEMA 12	105A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3A0400G300/U	208 Vac/230 Vac	40 HP	7	NEMA 3R	105A	28.5 x 48 x 12	723.9 x 1219.2x 304.8	130 b	59 kg
HVFDSD3A0500G100/U	208 Vac/230 Vac	50 HP	8	NEMA 1	140 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A0500G200/U	208 Vac/230 Vac	50 HP	8	NEMA 12	140 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A0500G300/U	208 Vac/230 Vac	50 HP	8	NEMA 3R	140 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A0600G100/U	208 Vac/230 Vac	60 HP	8	NEMA 1	170 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A0600G200/U	208 Vac/230 Vac	60 HP	8	NEMA 12	170 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A0600G300/U	208 Vac/230 Vac	60 HP	8	NEMA 3R	170 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A0750G100/U	208 Vac/230 Vac	75 HP	8	NEMA 1	205 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A0750G200/U	208 Vac/230 Vac	75 HP	8	NEMA 12	205 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A0750G300/U	208 Vac/230 Vac	75 HP	8	NEMA 3R	205 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3A1000G100/U	208 Vac/230 Vac	100 HP	9	NEMA 1	261 A	18.9 x 45.3 x 14.4	480 x 1150 x 366	238.1 lb	108 kg
HVFDSD3A1000G200/U	208 Vac/230 Vac	100 HP	9	NEMA 12	261 A	18.9 x 45.3 x 14.4	480 x 1150 x 366	238.1 lb	108 Kg
HVFDSD3A1250G100/U	208 Vac/230 Vac	125 HP	9	NEMA 1	310 A	18.9 x 45.3 x 14.4	480 x 1150 x 366	238.1 lb	108 Kg
HVFDSD3A1250G200/U	208 Vac/230 Vac	125 HP	9	NEMA 12	310 A	18.9 x 45.3 x 14.4	480 x 1150 x 366	238.1 lb	108 Kg
HVFDSD3C0015G100/U	460 Vac	1.5 HP	4	NEMA 1	3.4A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0015G200/U	460 Vac	1.5 HP	4	NEMA 12	3.4A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0015G300/U	460 Vac	1.5 HP	4	NEMA 3R	3.4A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3C0020G100/U	460 Vac	2 HP	4	NEMA 1	4.8A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0020G200/U	460 Vac	2 HP	4	NEMA 12	4.8A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0020G300/U	460 Vac	2 HP	4	NEMA 3R	4.8A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3C0030G100/U	460 Vac	3 HP	4	NEMA 1	5.6A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0030G200/U	460 Vac	3 HP	4	NEMA 12	5.6A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0030G300/U	460 Vac	3 HP	4	NEMA 3R	5.6A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3C0040G100/U	460 Vac	4 HP	4	NEMA 1	8A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0040G200/U	460 Vac	4 HP	4	NEMA 12	8A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0040G300/U	460 Vac	4 HP	4	NEMA 3R	8A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3C0050G100/U	460 Vac	5 HP	4	NEMA 1	9.6A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0050G200/U	460 Vac	5 HP	4	NEMA 12	9.6A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0050G300/U	460 Vac	5 HP	4	NEMA 3R	9.6A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3C0075G100/U	460 Vac	7.5 HP	4	NEMA 1	12A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0075G200/U	460 Vac	7.5 HP	4	NEMA 12	12A	5 x 12.9 x 7.5	127 x 327.66 x190.5	13.2 b	5.98 kg
HVFDSD3C0075G300/U	460 Vac	7.5 HP	4	NEMA 3R	12A	20.5 x 20 x 10	520.7 x 508 x 254	39 lb	17.7 kg
HVFDSD3C0100G100/U	460 Vac	10 HP	5	NEMA 1	16A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3C0100G200/U	460 Vac	10 HP	5	NEMA 12	16A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3C0100G300/U	460 Vac	10 HP	5	NEMA 3R	16A	20.5 x 24 x 10	520.7 x 609.6 x 254	58 lb	26.3 kg

SmartVFD HVAC

Product Number	Voltage	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
HVFDSD3C0150G100/U	460 Vac	15 HP	5	NEMA 1	23A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3C0150G200/U	460 Vac	15 HP	5	NEMA 12	23A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3C0150G300/U	460 Vac	15 HP	5	NEMA 3R	23A	20.5 x 24 x 10	520.7 x 609.6 x 254	58 lb	26.3 kg
HVFDSD3C0200G100/U	460 Vac	20 HP	5	NEMA 1	31A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3C0200G200/U	460 Vac	20 HP	5	NEMA 12	31A	5.7 x 16.5 x 8.4	144.78 x 419.1 x213.36	22 lb	9.97 kg
HVFDSD3C0200G300/U	460 Vac	20 HP	5	NEMA 3R	31A	20.5 x 24 x 10.5	520.7 x 609.6 x 254	58 lb	26.3 kg
HVFDSD3C0250G100/U	460 Vac	25 HP	6	NEMA 1	38A	7.7 x 21.9 x 9	196 x 556 x229	44.1 b	20 kg
HVFDSD3C0250G200/U	460 Vac	25 HP	6	NEMA 12	38A	7.7 x 21.9 x 9	196 x 556 x229	44.1 b	20 kg
HVFDSD3C0250G300/U	460 Vac	25 HP	6	NEMA 3R	38A	28.5 x 36 x 10.5	723.9 x 914.4 x 254	80 lb	36.3 kg
HVFDSD3C0300G100/U	460 Vac	30 HP	6	NEMA 1	46A	7.7 x 21.9 x 9	196 x 556 x229	44.1 b	20 kg
HVFDSD3C0300G200/U	460 Vac	30 HP	6	NEMA 12	46A	7.7 x 21.9 x 9	196 x 556 x229	44 lb	20 kg
HVFDSD3C0300G300/U	460 Vac	30 HP	6	NEMA 3R	46A	28.5 x 36 x 10.5	723.9 x 914.4 x 254	80 lb	36.3 kg
HVFDSD3C0400G100/U	460 Vac	40 HP	6	NEMA 1	61A	7.7 x 21.9 x 9	196 x 556 x229	44.1 b	20 kg
HVFDSD3C0400G200/U	460 Vac	40 HP	6	NEMA 12	61A	7.7 x 21.9 x 9	196 x 556 x229	44.1 b	20 kg
HVFDSD3C0400G300/U	460 Vac	40 HP	6	NEMA 3R	61A	28.5 x 36 x 10.5	723.9 x 914.4 x 254	80 lb	36.3 kg
HVFDSD3C0500G100/U	460 Vac	50 HP	7	NEMA 1	72A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3C0500G200/U	460 Vac	50 HP	7	NEMA 12	72A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3C0500G300/U	460 Vac	50 HP	7	NEMA 3R	72A	28.5 x 48 x 12.5	723.9 x 1219.2x 304.8	130 b	59 kg
HVFDSD3C0600G100/U	460 Vac	60 HP	7	NEMA 1	87A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3C0600G200/U	460 Vac	60 HP	7	NEMA 12	87A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3C0600G300/U	460 Vac	60 HP	7	NEMA 3R	87A	28.5 x 48 x 12.5	723.9 x 1219.2x 304.8	130 b	59 kg
HVFDSD3C0750G100/U	460 Vac	75 HP	7	NEMA 1	105A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3C0750G200/U	460 Vac	75 HP	7	NEMA 12	105A	9.3 x 26 x 10.2	236 x 660 x259	82.7 b	37.5 kg
HVFDSD3C0750G300/U	460 Vac	75 HP	7	NEMA 3R	105A	28.5 x 48 x 12.5	723.9 x 1219.2x 304.8	130 b	59 kg
HVFDSD3C1000G100/U	460 Vac	100 HP	8	NEMA 1	140 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3C1000G200/U	460 Vac	100 HP	8	NEMA 12	140 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3C1250G100/U	460 Vac	120 HP	8	NEMA 1	170 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3C1250G200/U	460 Vac	120 HP	8	NEMA 12	170 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3C1500G100/U	460 Vac	150 HP	8	NEMA 1	205 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3C1500G200/U	460 Vac	150 HP	8	NEMA 12	205 A	11.4 x 38 x 13.5	290 x 965 x 343	154.3 lb	70 kg
HVFDSD3C2000G100/U	460 Vac	200 HP	9	NEMA 1	261 A	18.9 x 45.3 x 14.4	480 x 1150 x 366	238.1 lb	108 Kg
HVFDSD3C2000G200/U	460 Vac	200 HP	9	NEMA 12	261 A	18.9 x 45.3 x 14.4	480 x 1150 x 366	238.1 lb	108 Kg
HVFDSD3C2500G100/U	460 Vac	250 HP	9	NEMA 1	310 A	18.9 x 45.3 x 14.4	480 x 1150 x 366	238.1 lb	108 Kg
HVFDSD3C2500G200/U	460 Vac	250 HP	9	NEMA 12	310 A	18.9 x 45.3 x 14.4	480 x 1150 x 366	238.1 lb	108 Kg

SmartVFD HVAC and SmartVFD BYPASS

HVAC makes installation and commissioning easy for you and energy savings easy for your customers.

- Start-up Wizards—All you have to do is tell the VFD whether you have a pump or a fan, enter nominal motor information, and you are up and running
- Graphic Interface—The easy-to-use keypad and interface deliver menu-driven programming and monitoring for fast, uniform commissioning. It's also easy for the building owner or manager to learn and use, helping to reduce service calls. Plus, a manual is built into the keypad for easy access when needed
- Built-in Communications—With BACnet®, N2 and Modbus built in, your customers will enjoy a lower total installed cost and reliable communications with the building management system
- PC Software Wizards—Commissioning, programming and troubleshooting are all a snap thanks to these guided Startup and PID wizards
- Built-in PLC—Another reason why SmartVFD HVAC is a great value for your customer, the built-in PLC eliminates the need for an expensive external controller
- DC Choke for harmonic protection
- Standard RFI Filter—Ensures that EMC/RFI requirements are met
- Bypass Options—Meets specifications and system critical applications with a comprehensive bypass offering
- Real-Time Clock—Battery included
- Fire Mode for safe operation
- Motor Switch Ride-Through—easy, fault-free maintenance

The Honeywell SmartVFD HVAC and BYPASS are designed specifically for commercial buildings to deliver the energy savings that building owners and facility managers need. The SmartVFD

Drive Family: SmartVFD HVAC
Acceleration time: 0.1 - 3000 sec
Deceleration time: .1 - 3000 sec
Analog Current Input: 0 (4) - 20 mA, 250 ohm differential
Analog Voltage Input: 0 - 10 Vdc, 200K ohm
Analog Current Output: 0 (4) - 20 mA, max 500 ohm
Digital Output: Open collector, max. load 48V/50mA
Continuous Output Current: overload 1.5 x High overload current (1min/10min); overload 1.1 x Low overload current (1min/10min)

Relay Output: Max. switching load: 250Vac/2A or 250Vdc/0,4A
Reference Output Voltage: Maximum Load 10mA
Auxiliary Voltage: ± 20%, max. load 50 mA
Starting Torque: Drive Input Disconnect: 510 x IN, 2 secs in every 20 sec period
Frequency (Hz): 0 Hz to 320 Hz
Operating Temperature: 14 to 114 F (-10 to 50 C)
Type of RFI Filter: EMC Filter

Voltage: 208 Vac

Configuration: Drive with Fused Disconnect
Auto Bypass: No

Disconnect Type: Fused
Pilot Lights: None

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3A0007G110/U	0.75 HP	4	NEMA 1	3.7A	Yes	Yes	8.6 x 31.9 x 9.6	227 x 811 x 245	33 lb	15 kg
HVFDSB3A0007G210/U	0.75 HP	4	NEMA 12	3.7A	No	—	12 x 36 x 8.8	305 x 914 x 224	40 lb	18.1 kg
HVFDSB3A0007G310/U	0.75 HP	4	NEMA 3R	3.7A	No	—	20.5 x 20 x 10	520.7 x 508 x 254	43 lb	19.5 kg
HVFDSB3A0010G110/U	1 HP	4	NEMA 1	4.8A	Yes	Yes	8.6 x 31.9 x 9.6	227 x 811 x 245	33 lb	15 kg
HVFDSB3A0010G210/U	1 HP	4	NEMA 12	4.8A	No	—	12 x 36 x 8.8	305 x 914 x 224	40 lb	18.1 kg
HVFDSB3A0010G310/U	1 HP	4	NEMA 3R	4.8A	No	—	20.5 x 20 x 10	520.7 x 508 x 254	43 lb	19.5 kg
HVFDSB3A0015G110/U	1.5 HP	4	NEMA 1	6.6A	Yes	Yes	8.6 x 31.9 x 9.6	227 x 811 x 245	33 lb	15 kg
HVFDSB3A0015G210/U	1.5 HP	4	NEMA 12	6.6A	No	—	12 x 37.5 x 11	304.8 x 952.5 x 279.4	40 lb	18.1 kg
HVFDSB3A0015G310/U	1.5 HP	4	NEMA 3R	6.6A	No	—	20.5 x 20 x 12	520.7 x 508 x 304.8	43 lb	19.5 kg
HVFDSB3A0020G110/U	2 HP	4	NEMA 1	8A	Yes	Yes	8.6 x 31.9 x 9.6	227 x 811 x 245	33 lb	15 kg
HVFDSB3A0020G210/U	2 HP	4	NEMA 12	8A	No	—	12 x 37.5 x 11	304.8 x 952.5 x 279.4	40 lb	18.1 kg
HVFDSB3A0020G310/U	2 HP	4	NEMA 3R	8A	No	—	20.5 x 20 x 12	520.7 x 508 x 304.8	43 lb	19.5 kg
HVFDSB3A0030G110/U	3 HP	4	NEMA 1	11A	Yes	Yes	8.6 x 31.9 x 9.6	2227 x 811 x 245	33 lb	15 kg
HVFDSB3A0030G210/U	3 HP	4	NEMA 12	11A	No	—	12 x 37.5 x 11	304.8 x 952.5 x 279.4	40 lb	18.1 kg
HVFDSB3A0030G310/U	3 HP	4	NEMA 3R	11A	No	—	20.5 x 20 x 12	520.7 x 508 x 304.8	43 lb	19.5 kg
HVFDSB3A0050G110/U	5 HP	5	NEMA 1	18A	Yes	Yes	8.9 x 34.7 x 19.6	226.06 x 881.38 x 261.62	43 lb	19.5 kg
HVFDSB3A0050G210/U	5 HP	5	NEMA 12	18A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.7 kg
HVFDSB3A0050G310/U	5 HP	5	NEMA 3R	18A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.7 kg
HVFDSB3A0075G110/U	7.5 HP	5	NEMA 1	24A	Yes	Yes	8.9 x 34.7 x 9.6	226.06 x 881.38 x 261.62	43 lb	19.5 kg
HVFDSB3A0075G210/U	7.5 HP	5	NEMA 12	24A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.7 kg
HVFDSB3A0075G310/U	7.5 HP	5	NEMA 3R	24A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.7 kg
HVFDSB3A0100G110/U	10 HP	5	NEMA 1	31A	Yes	Yes	8.9 x 34.7 x 10.3	226.06 x 881.38 x 261.62	43 lb	19.5 kg
HVFDSB3A0100G210/U	10 HP	5	NEMA 12	31A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.7 kg

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3A0100G310/U	10 HP	5	NEMA 3R	31A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.7 kg
HVFDSB3A0150G110/U	15 HP	6	NEMA 1	48A	Yes	Yes	12.4 x 45 x 10.1	315 x 1143 x 257	60 lb	27.68 kg
HVFDSB3A0150G210/U	15 HP	6	NEMA 12	48A	No	—	12 x 46.5 x 13	04.8 x 1181.1 x 330.2	120 lb	54.43 kg
HVFDSB3A0150G310/U	15 HP	6	NEMA 3R	48A	No	—	28.5 x 36 x 12	723.9 x 914.4 x 304.8	188 lb	39.92 kg
HVFDSB3A0200G110/U	20 HP	6	NEMA 1	62A	Yes	Yes	12.4 x 45 x 10.1	315 x 1143 x 257	60 lb	27.68 kg
HVFDSB3A0200G210/U	20 HP	6	NEMA 12	62A	No	—	12 x 46.5 x 13	304.8 x 1181.1 x 330.2	120 lb	54.43 kg
HVFDSB3A0200G310/U	20 HP	6	NEMA 3R	62A	No	—	28.5 x 36 x 12	723.9 x 914.4 x 304.8	88 ib	39.92 kg
HVFDSB3A0250G110/U	25 HP	7	NEMA 1	75A	Yes	Yes	20 8 x 51.7 x 13.3	529 x 1313 x 292	140 lb	63.5 kg
HVFDSB3A0250G210/U	25 HP	7	NEMA 12	75A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342.9	149 lb	67.59 kg
HVFDSB3A0250G310/U	25 HP	7	NEMA 3R	75A	No	—	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	242 lb	109.8 kg
HVFDSB3A0300G110/U	30 HP	7	NEMA 1	88A	Yes	Yes	20 8 x 51.7 x 13.3	529 x 1313 x 292	140 lb	63.5 kg
HVFDSB3A0300G210/U	30 HP	7	NEMA 12	88A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342.9	160 lb	72.57 kg
HVFDSB3A0300G310/U	30 HP	7	NEMA 3R	88A	No	—	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	149 lb	67.59 kg
HVFDSB3A0400G110/U	40 HP	7	NEMA 1	105A	Yes	Yes	20 8 x 51.7 x 13.3	529 x 1313 x 292	140 lb	63.5 kg
HVFDSB3A0400G210/U	40 HP	7	NEMA 12	105A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342.9	175 lb	79.38 kg
HVFDSB3A0400G310/U	40 HP	7	NEMA 3R	105A	No	—	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	149 lb	67.59 kg
HVFDSB3A0500G110/U	50 HP	8	NEMA 1	140 A	Yes	Yes	25 x 60 x 15.3	635 x 1524 x 388	250 lb	113.4 kg
HVFDSB3A0500G210/U	50 HP	8	NEMA 12	140 A	Yes	Yes	40.5 x 60 x 14	1028.7 x 1524 x 355.6	280 lb	127.01 kg
HVFDSB3A0500G310/U	50 HP	8	NEMA3R	140 A	Yes	Yes	48 x 36 x 16	1219 x 914 x 406	149 lb	67.59 Kg
HVFDSB3A0600G110/U	60 HP	8	NEMA 1	170 A	Yes	Yes	25 x 60 x 15.3	635 x 1524 x 388	250 lb	113.4 kg
HVFDSB3A0600G210/U	60 HP	8	NEMA 12	170 A	Yes	Yes	40.5 x 60 x 14	1028.7 x 1524 x 355.6	280 lb	127.01 kg
HVFDSB3A0600G310/U	60 HP	8	NEMA3R	170 A	Yes	Yes	48 x 36 x 16	1219 x 914 x 406	149 lb	67.59 Kg
HVFDSB3A0750G110/U	75 HP	8	NEMA 1	205 A	Yes	Yes	25 x 60 x 15.3	635 x 1524 x 388	250 lb	113.4 kg
HVFDSB3A0750G210/U	75 HP	8	NEMA 12	205 A	Yes	Yes	40.5 x 60 x 14	1028.7 x 1524 x 355.6	280 lb	127.01 kg
HVFDSB3A0750G310/U	75 HP	8	NEMA3R	205 A	Yes	Yes	48 x 36 x 16	1219 x 914 x 406	149 lb	67.59 Kg

Voltage: 208 Vac

Configuration: Drive with 2 Contactor Bypass
Auto Bypass: No
Disconnect Type: None
Pilot Lights: None

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3A0007G120/U	0.75 HP	4	NEMA 1	3.7A	No	—	8.9 x 31.9 x 10.4	226 x 811 x 263	38 lb	17.2 kg
HVFDSB3A0007G220/U	0.75 HP	4	NEMA 12	3.7A	Yes	Yes	16 x 36 x 8.8	406.4 x 914.4 x 223 52	64 lb	29 kg
HVFDSB3A0007G320/U	0.75 HP	4	NEMA 3R	3.7A	Yes	Yes	24.5 x 24 x 10	623 x 610 x 254	83 lb	37.7 kg
HVFDSB3A0010G120/U	1 HP	4	NEMA 1	4.8A	No	—	8.9 x 31.9 x 10.4	226 x 811 x 263	38 lb	17.2 kg
HVFDSB3A0010G220/U	1 HP	4	NEMA 12	4.8A	Yes	Yes	16 x 36 x 8.8	406.4 x 914.4 x 223 52	64 lb	29 kg
HVFDSB3A0010G320/U	1 HP	4	NEMA 3R	4.8A	Yes	Yes	24.5 x 24 x 10	623 x 610 x 254	83 lb	37.7 kg
HVFDSB3A0015G120/U	1.5 HP	4	NEMA 1	6.6A	No	—	8.9 x 31.7 x 10.7	226 x 805 x 272	38 lb	17.2 kg
HVFDSB3A0015G220/U	1.5 HP	4	NEMA 12	6.6A	Yes	Yes	16 x 37.5 x 11in.	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0015G320/U	1.5 HP	4	NEMA 3R	6.6A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.2 kg
HVFDSB3A0020G120/U	2 HP	4	NEMA 1	8A	No	—	8.9 x 31.7 x 10.7	226.06 x 810 26 x 243.84	38 lb	17.2 kg
HVFDSB3A0020G220/U	2 HP	4	NEMA 12	8A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0020G320/U	2 HP	4	NEMA 3R	8A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.2 kg
HVFDSB3A0030G120/U	3 HP	4	NEMA 1	11A	No	—	8.9 x 31.9 x 9.6	226.06 x 810 26 x 243.84	38 lb	17.2 kg
HVFDSB3A0030G220/U	3 HP	4	NEMA 12	11A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0030G320/U	3 HP	4	NEMA 3R	11A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.2 kg
HVFDSB3A0050G120/U	5 HP	5	NEMA 1	18A	No	—	8.9 x 34.7 x 10.4	226 x 881 x 263	50 lb	21.8 kg
HVFDSB3A0050G220/U	5 HP	5	NEMA 12	18A	Yes	Yes	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.6 kg
HVFDSB3A0050G320/U	5 HP	5	NEMA 3R	18A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.7 kg
HVFDSB3A0075G120/U	7.5 HP	5	NEMA 1	24A	No	—	8.9 x 34.7 x 10.4	226 x 881 x 263	50 lb	22.7 kg
HVFDSB3A0075G220/U	7.5 HP	5	NEMA 12	24A	Yes	Yes	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.8 kg

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
HVFDSB3A0075G320/U	7.5 HP	5	NEMA 3R	24A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.7 kg
HVFDSB3A0100G120/U	10 HP	5	NEMA 1	31A	No	—	8.9 x 34.7 x 10.5	226.06 x 881 38 x 266.7	50 lb	22.7 kg
HVFDSB3A0100G220/U	10 HP	5	NEMA 12	31A	Yes	Yes	16 x 45 x 11	406 x 1143 x 279.4	84 lb	38.1 kg
HVFDSB3A0100G320/U	10 HP	5	NEMA 3R	31A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.7 kg
HVFDSB3A0150G120/U	15 HP	6	NEMA 1	48A	No	—	12.4 x 45 x 11.3	314 x 1143 x 287	59 lb	27 kg
HVFDSB3A0150G220/U	15 HP	6	NEMA 12	48A	Yes	Yes	16 x 50.5 x 13	406.4 x 1282.7 x 256.54	125 lb	56.7 kg
HVFDSB3A0150G320/U	15 HP	6	NEMA 3R	48A	Yes	Yes	28.5 x 36 x 10.5	723.9 x 914.4 x 266.7	118 lb	53.52 kg
HVFDSB3A0200G120/U	20 HP	6	NEMA 1	62A	No	—	12.4 x 45 x 11.3	314 x 1143 x 287	59 lb	27 kg
HVFDSB3A0200G220/U	20 HP	6	NEMA 12	62A	Yes	Yes	20 x 54.5 x 13	508 x 1384.3 x 330.2	140 lb	63.5 kg
HVFDSB3A0200G320/U	20 HP	6	NEMA 3R	62A	Yes	Yes	28.5 x 36 x 10.5	723.9 x 914.4 x 266.7	118 lb	53.52 kg
HVFDSB3A0250G120/U	25 HP	7	NEMA 1	75A	No	—	20.9 x 51.7 x 13 3	530.86 x 1313.18 x 337	149 lb	68 kg
HVFDSB3A0250G220/U	25 HP	7	NEMA 12	75A	Yes	Yes	20 x 58.5 x 13.5	508 x1485.9 x 342.9	160 lb	72.57 kg
HVFDSB3A0250G320/U	25 HP	7	NEMA 3R	75A	Yes	Yes	28.5 x 48 x 12.5	711.2 x 1219.2 x 317.5	185 lb	83.91 kg
HVFDSB3A0300G120/U	30 HP	7	NEMA 1	88A	No	—	20.9 x 51.7 x 13 3	530.86 x 1313.18 x 337	149 lb	68 kg
HVFDSB3A0300G220/U	30 HP	7	NEMA 12	88A	Yes	Yes	24 x 65.5 x 13.5	609 x 1663.7 x 342.9	175 lb	79.38 kg
HVFDSB3A0300G320/U	30 HP	7	NEMA 3R	88A	Yes	Yes	28.5 x 48 x 12.5	711.2 x 1219.2 x 317.5	185 lb	83.91 kg
HVFDSB3A0400G120/U	40 HP	7	NEMA 1	105A	No	—	20.9 x 51.7 x 13 3	530.86 x 1313.18 x 337	149 lb	68 kg
HVFDSB3A0400G220/U	40 HP	7	NEMA 12	105A	Yes	Yes	30 x 70.5 x 13.5	762 x 1790.7 x 342.9	200 lb	90.72 kg
HVFDSB3A0400G320/U	40 HP	7	NEMA 3R	105A	Yes	Yes	28.5 x 48 x 12.5	711.2 x 1219.2 x 317.5	185 lb	83.91 kg
HVFDSB3A0500G120/U	50 HP	8	NEMA 1	140 A	No	—	25 x 60 x 15.2	635 x 1524 x 386.08	250 lb	113.4 kg
HVFDSB3A0500G220/U	50 HP	8	NEMA 12	140 A	No	—	40.5 x 60 x 12.5	1028.7 x 1524 x 317.5	350 lb	158.75 kg
HVFDSB3A0500G320/U	50 HP	8	NEMA3R	140 A	No	—	60 x 41 x 14	1524 x 1041 x 356	185 lb	83.91 kg
HVFDSB3A0600G120/U	60 HP	8	NEMA 1	170 A	No	—	25 x 60 x 16.2	635 x 1524 x 386.08	265 lb	120.2 kg
HVFDSB3A0600G220/U	60 HP	8	NEMA 12	170 A	No	—	40.5 x 60 x 12.5	1028.7 x 1524 x 317.5	350 lb	158.75 kg
HVFDSB3A0600G320/U	60 HP	8	NEMA3R	170 A	No	—	60 x 41 x 14	1524 x 1041 x 356	185 lb	83.91 kg
HVFDSB3A0750G120/U	75 HP	8	NEMA 1	205 A	No	—	25 x 60 x 15.2	635 x 1524 x 386.08	280 lb	127.01 kg
HVFDSB3A0750G220/U	75 HP	8	NEMA 12	205 A	No	—	40.5 x 60 x 12.5	1028.7 x 1524 x 317.5	350 lb	158.75 kg
HVFDSB3A0750G320/U	75 HP	8	NEMA3R	205 A	No	—	60 x 41 x 14	1524 x 1041 x 356	185 lb	83.91 kg

Voltage: 208 Vac

Configuration: Drive with 3 Contactor Bypass
Auto Bypass: No
Disconnect Type: Fused

Drive Input Fuses: Yes
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
HVFDSB3A0007G130/U	0.75 HP	4	NEMA 1	3.7A	8.9 x 38.7 x 10.4	226 x 988 x 264	46 lb	21 kg
HVFDSB3A0007G230/U	0.75 HP	4	NEMA 12	3.7A	16 x 36 x 8.8	406.4 x 914.4 x 223 52	66 lb	29.9 kg
HVFDSB3A0007G330/U	0.75 HP	4	NEMA 3R	3.7A	24.5 x 24 x 10	623 x 610 x 254	85 lb	38.6 kg
HVFDSB3A0010G130/U	1 HP	4	NEMA 1	4.8A	8.9 x 38.7 x 10.7	226 x 983 x 272	44 lb	20 kg
HVFDSB3A0010G230/U	1 HP	4	NEMA 12	4.8A	16 x 36 x 8.8	406.4 x 914.4 x 223 52	66 lb	29.9 kg
HVFDSB3A0010G330/U	1 HP	4	NEMA 3R	4.8A	24.5 x 24 x 10	623 x 610 x 254	85 lb	38.6 kg
HVFDSB3A0015G130/U	1.5 HP	4	NEMA 1	6.6A	8.9 x 38.7 x 10.4	226 x 988 x 264	46 lb	21 kg
HVFDSB3A0015G230/U	1.5 HP	4	NEMA 12	6.6A	16 x 37.5 x 11in.	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0015G330/U	1.5 HP	4	NEMA 3R	6.6A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.5 kg
HVFDSB3A0020G130/U	2 HP	4	NEMA 1	8A	8.9 x 38.7 x 10.4	226 x 988 x 264	46 lb	21 kg
HVFDSB3A0020G230/U	2 HP	4	NEMA 12	8A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0020G330/U	2 HP	4	NEMA 3R	8A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.5 kg
HVFDSB3A0030G130/U	3 HP	4	NEMA 1	11A	8.9 x 38.7 x 10.4	226 x 988 x 264	46 lb	21 kg
HVFDSB3A0030G230/U	3 HP	4	NEMA 12	11A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0030G330/U	3 HP	4	NEMA 3R	11A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.5 kg
HVFDSB3A0050G130/U	5 HP	5	NEMA 1	18A	8.9 x 41.7 x 10.4	226 x 1059 x 264	56 lb	25 kg

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3A0050G230/U	5 HP	5	NEMA 12	18A	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.8 kg
HVFDSB3A0050G330/U	5 HP	5	NEMA 3R	18A	28.5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.4 kg
HVFDSB3A0075G130/U	7.5 HP	5	NEMA 1	24A	8.9 x 41.7 x 10.4	226 x 1059 x 264	57 lb	26 kg
HVFDSB3A0075G230/U	7.5 HP	5	NEMA 12	24A	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.8 kg
HVFDSB3A0075G330/U	7.5 HP	5	NEMA 3R	24A	28.5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.4 kg
HVFDSB3A0100G130/U	10 HP	5	NEMA 1	31A	8.9 x 41.7 x 10.4	226 x 1059 x 264	60 lb	27 kg
HVFDSB3A0100G230/U	10 HP	5	NEMA 12	31A	16 x 45 x 11	406 x 1143 x 279.4	84 lb	38.1 kg
HVFDSB3A0100G330/U	10 HP	5	NEMA 3R	31A	28.5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.4 kg
HVFDSB3A0150G130/U	15 HP	6	NEMA 1	48A	12.4 x 55 x 11.3	315 x 1397 x 287	95 lb	43 kg
HVFDSB3A0150G230/U	15 HP	6	NEMA 12	48A	20 x 54 x 10.8	406.4 x 1282.7 x 256.54	125 lb	56.7 kg
HVFDSB3A0150G330/U	15 HP	6	NEMA 3R	48A	34.5 x 36 x 12	867.3 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3A0200G130/U	20 HP	6	NEMA 1	62A	12.4 x 55 x 11.3	315 x 1397 x 287	99 lb	45 kg
HVFDSB3A0200G230/U	20 HP	6	NEMA 12	62A	20 x 54.5 x 13	508 x 1384.3 x 330.2	140 lb	63.5 kg
HVFDSB3A0200G330/U	20 HP	6	NEMA 3R	62A	34.5 x 36 x 12	867.3 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3A0250G130/U	25 HP	7	NEMA 1	75A	20.8 x 59.2 x 13.3	530 x 1499 x 337	135 lb	61.3 kg
HVFDSB3A0250G230/U	25 HP	7	NEMA 12	75A	20 x 58.5 x 13.5	508 x1485.9 x 342.9	160 lb	72.57 kg
HVFDSB3A0250G330/U	25 HP	7	NEMA 3R	75A	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3A0300G130/U	30 HP	7	NEMA 1	88A	20.8 x 59.2 x 13.3	530 x 1499 x 337	150 lb	68.2 kg
HVFDSB3A0300G230/U	30 HP	7	NEMA 12	88A	24 x 65.5 x 13.5	609 x 1663.7 x 342.9	175 lb	79.38 kg
HVFDSB3A0300G330/U	30 HP	7	NEMA 3R	88A	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3A0400G130/U	40 HP	7	NEMA 1	105A	20.8 x 59.2 x 13.3	530 x 1499 x 337	170 lb	77.1 kg
HVFDSB3A0400G230/U	40 HP	7	NEMA 12	105A	30 x 70.5 x 13.5	762 x 1790.7 x 342.9	200 lb	90.72 kg
HVFDSB3A0400G330/U	40 HP	7	NEMA 3R	105A	40.4 x 48 x 12	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3A0500G130/U	50 HP	8	NEMA 1	140 A	25 x 70.01 x 16.2	635 x 1780 x 411	286 lb	130 kg
HVFDSB3A0500G230/U	50 HP	8	NEMA 12	140 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3A0500G330/U	50 HP	8	NEMA3R	140 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg
HVFDSB3A0600G130/U	60 HP	8	NEMA 1	170 A	25 x 70.01 x 16.2	635 x 1780 x 411	295 lb	134 kg
HVFDSB3A0600G230/U	60 HP	8	NEMA 12	170 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3A0600G330/U	60 HP	8	NEMA3R	170 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg
HVFDSB3A0750G130/U	75 HP	8	NEMA 1	205 A	25 x 70.01 x 16.2	635 x 1780 x 411	331 lb	150 kg
HVFDSB3A0750G230/U	75 HP	8	NEMA 12	205 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3A0750G330/U	75 HP	8	NEMA3R	205 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg

Voltage: 208 Vac

Configuration: Drive with 3 Contactor Bypass and Auto Bypass
Disconnect Type: Fused
Drive Input Disconnect: Yes
Drive Input Fuses: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3A0007G131/U	0.75 HP	4	NEMA 1	3.7A	8.9 x 38.9 x 10.4	226 x 988 x 264	46 lb	20.9 kg
HVFDSB3A0007G231/U	0.75 HP	4	NEMA 12	3.7A	16 x 36 x 8.8	406.4 x 914.4 x 223.52	66 lb	29.9 kg
HVFDSB3A0007G331/U	0.75 HP	4	NEMA 3R	3.7A	24.5 x 24 x 10	623 x 610 x 254	85 lb	38.6 kg
HVFDSB3A0010G131/U	1 HP	4	NEMA 1	4.8A	8.9 x 38.9 x 10.4	226 x 988 x 254	46 lb	20.9 kg
HVFDSB3A0010G231/U	1 HP	4	NEMA 12	4.8A	16 x 36 x 8.8	406.4 x 914.4 x 223.52	66 lb	29.9 kg
HVFDSB3A0010G331/U	1 HP	4	NEMA 3R	4.8A	24.5 x 24 x 10	623 x 610 x 254	85 lb	38.6 kg
HVFDSB3A0015G131/U	1.5 HP	4	NEMA 1	6.6A	8.9 x 38.9 x 10.4	226 x 988 x 264	46 lb	20.9 kg
HVFDSB3A0015G231/U	1.5 HP	4	NEMA 12	6.6A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0015G331/U	1.5 HP	4	NEMA 3R	6.6A	24.5 x 24 x 12i	622.3 x 609.6 x 304.8	54 lb	24.5 kg
HVFDSB3A0020G131/U	2 HP	4	NEMA 1	8A	8.9 x 38.9 x 10.4	226 x 988 x 264	46 lb	20.9 kg
HVFDSB3A0020G231/U	2 HP	4	NEMA 12	8A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0020G331/U	2 HP	4	NEMA 3R	8A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.5 kg

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3A0030G131/U	3 HP	4	NEMA 1	11A	8.9 x 38.9 x 10.4	226 x 988 x 264	46 lb	20.9 kg
HVFDSB3A0030G231/U	3 HP	4	NEMA 12	11A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	25 kg
HVFDSB3A0030G331/U	3 HP	4	NEMA 3R	11A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.5 kg
HVFDSB3A0050G131/U	5 HP	5	NEMA 1	18A	8.9 x 41.7 x 10.4	226 x 1059 x 264	56 lb	25.4 kg
HVFDSB3A0050G231/U	5 HP	5	NEMA 12	18A	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.8 kg
HVFDSB3A0050G331/U	5 HP	5	NEMA 3R	18A	28.5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.4 kg
HVFDSB3A0075G131/U	7.5 HP	5	NEMA 1	24A	8.9 x 38.9 x 10.4	226 x 988 x 264	58 lb	26 kg
HVFDSB3A0075G231/U	7.5 HP	5	NEMA 12	24A	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.8 kg
HVFDSB3A0075G331/U	7.5 HP	5	NEMA 3R	24A	28.5 x 24 x 10	724 x 610 x 254	125 lb	56.7 kg
HVFDSB3A0100G131/U	10 HP	5	NEMA 1	31A	8.9 x 38.9 x 10.4	226 x 988 x 264	60 lb	27.2 kg
HVFDSB3A0100G231/U	10 HP	5	NEMA 12	31A	16 x 45 x 11	406 x 1143 x 279.4	84 lb	38.1 kg
HVFDSB3A0100G331/U	10 HP	5	NEMA 3R	31A	28.5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.4kg
HVFDSB3A0150G131/U	15 HP	6	NEMA 1	48A	12.4 x 55 x 11.3	315 x 1397 x 287	95 lb	43 kg
HVFDSB3A0150G231/U	15 HP	6	NEMA 12	48A	16 x 50.5 x 13	406.4 x 1282.7 x 256.54	125 lb	56.7 kg
HVFDSB3A0150G331/U	15 HP	6	NEMA 3R	48A	34.5 x 36 x 12	867.3 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3A0200G131/U	20 HP	6	NEMA 1	62A	12.4 x 55 x 11.3	315 x 1397 x 287	99 lb	45 kg
HVFDSB3A0200G231/U	20 HP	6	NEMA 12	62A	20 x 54.5 x 13	508 x 1384.3 x 330.2	140 lb	63.5 kg
HVFDSB3A0200G331/U	20 HP	6	NEMA 3R	62A	34.5 x 36 x 12	867.3 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3A0250G131/U	25 HP	7	NEMA 1	75A	20.8 x 59 x 13.3	529 x 1499 x 337	135 lb	61 kg
HVFDSB3A0250G231/U	25 HP	7	NEMA 12	75A	20 x 58.5 x 13.5	508 x1485.9 x 342.9	160 lb	72.57 kg
HVFDSB3A0250G331/U	25 HP	7	NEMA 3R	75A	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3A0300G131/U	30 HP	7	NEMA 1	88A	20.8 x 59 x 13.3	529 x 1499 x 337	150 lb	68.2 kg
HVFDSB3A0300G231/U	30 HP	7	NEMA 12	88A	24 x 65.5 x 13.5	609 x 1663.7 x 342.9	175 lb	79.38 kg
HVFDSB3A0300G331/U	30 HP	7	NEMA 3R	88A	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3A0400G131/U	40 HP	7	NEMA 1	105A	20.8 x 59 x 13.3	529 x 1499 x 337	170 lb	77.1 kg
HVFDSB3A0400G231/U	40 HP	7	NEMA 12	105A	30 x 70.5 x 13.5	762 x 1790.7 x 342.9	200 lb	90.72 kg
HVFDSB3A0400G331/U	40 HP	7	NEMA 3R	105A	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	326 lb	87.54 kg
HVFDSB3A0500G131/U	50 HP	8	NEMA 1	140 A	25 x 70 x 16.2	635 x 1778 x 411	286 lb	130 kg
HVFDSB3A0500G231/U	50 HP	8	NEMA 12	140 A	40.5 x 60 x 14	028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3A0500G331/U	50 HP	8	NEMA3R	140 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg
HVFDSB3A0600G131/U	60 HP	8	NEMA 1	170 A	25 x 70 x 16.2	635 x 1778 x 411	295 lb	134 kg
HVFDSB3A0600G231/U	60 HP	8	NEMA 12	170 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3A0600G331/U	60 HP	8	NEMA3R	170 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg
HVFDSB3A0750G131/U	75 HP	8	NEMA 1	205 A	25 x 70 x 16.2	635 x 1778 x 411	331 lb	150 kg
HVFDSB3A0750G231/U	75 HP	8	NEMA 12	205 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3A0750G331/U	75 HP	8	NEMA3R	205 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg

Voltage: 230 Vac

Configuration: Drive with Fused Disconnect
Auto Bypass: No

Disconnect Type: Fused
Pilot Lights: None

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3B0007G110/U	0.75 HP	4	NEMA 1	3.7A	Yes	Yes	8.9 x 31.9 x 9.6	226 x 811 x 245	33 lb	15 kg
HVFDSB3B0007G210/U	0.75 HP	4	NEMA 12	3.7A	No	—	12 x 37.5 x 11	305 x 914 x 224	51 lb	23.1 kg
HVFDSB3B0007G310/U	0.75 HP	4	NEMA 3R	3.7A	No	—	20.5 x 20 x 12	520.7 x 508 x 304.8	43 lb	19.5 kg
HVFDSB3B0010G110/U	1 HP	4	NEMA 1	4.8A	Yes	Yes	8.9 x 31.9 x 9.6	226 x 811 x 245	33 lb	15 kg
HVFDSB3B0010G210/U	1 HP	4	NEMA 12	4.8A	No	—	12 x 37.5 x 11	304 8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3B0010G310/U	1 HP	4	NEMA 3R	4.8A	No	—	20.5 x 20 x 12	520.7 x 508 x 304.8	43 lb	19.5 kg
HVFDSB3B0015G110/U	1.5 HP	4	NEMA 1	6.6A	Yes	Yes	8.9 x 31.9 x 9.6	226 x 811 x 245	33 lb	15 kg
HVFDSB3B0015G210/U	1.5 HP	4	NEMA 12	6.6A	No	—	12 x 37.5 x 11	304 8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3B0015G310/U	1.5 HP	4	NEMA 3R	6.6A	No	—	20.5 x 20 x 12	520.7 x 508 x 304.8	43 lb	19.5 kg

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3B0020G110/U	2 HP	4	NEMA 1	8A	Yes	Yes	8.9 x 31.9 x 9.6	226 x 811 x 245	33 lb	15 kg
HVFDSB3B0020G210/U	2 HP	4	NEMA 12	8A	No	—	12 x 37.5 x 11.	304 8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3B0020G310/U	2 HP	4	NEMA 3R	8A	No	—	20.5 x 20 x 12	520.7 x 508 x 304.8	43 lb	19.5 kg
HVFDSB3B0030G110/U	3 HP	4	NEMA 1	11A	Yes	Yes	8.9 x 31.9 x 9.6	226 x 811 x 245	33 lb	15 kg
HVFDSB3B0030G210/U	3 HP	4	NEMA 12	11A	No	—	12 x 37.5 x 11	304 8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3B0030G310/U	3 HP	4	NEMA 3R	11A	No	—	20.5 x 20 x 12	520.7 x 508 x 304.8	43 lb	19.5 kg
HVFDSB3B0050G110/U	5 HP	5	NEMA 1	18A	Yes	Yes	8.9 x 34.5 x 9.6	226 x 876 x 245	43 lb	19.5 kg
HVFDSB3B0050G210/U	5 HP	5	NEMA 12	18A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.66 kg
HVFDSB3B0050G310/U	5 HP	5	NEMA 3R	18A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.67 kg
HVFDSB3B0075G110/U	7.5 HP	5	NEMA 1	24A	Yes	Yes	8.9 x 34.5 x 9.6	226 x 876 x 245	50 lb	23 kg
HVFDSB3B0075G210/U	7.5 HP	5	NEMA 12	24A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.66 kg
HVFDSB3B0075G310/U	7.5 HP	5	NEMA 3R	24A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.67 kg
HVFDSB3B0100G110/U	10 HP	5	NEMA 1	31A	Yes	Yes	8.9 x 34.5 x 9.6	226 x 876 x 245	50 lb	23 kg
HVFDSB3B0100G210/U	10 HP	5	NEMA 12	31A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.66 kg
HVFDSB3B0100G310/U	10 HP	5	NEMA 3R	31A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.67 kg
HVFDSB3B0150G110/U	15 HP	6	NEMA 1	48A	Yes	Yes	12.4 x 45 x 10.1	315 x 1143 x 257	55 lb	25 kg
HVFDSB3B0150G210/U	15 HP	6	NEMA 12	48A	No	—	12 x 46.5 x 13	304.8 x 1181.1 x 330.2	120 lb	54.43 kg
HVFDSB3B0150G310/U	15 HP	6	NEMA 3R	48A	No	—	28.5 x 36 x 12	723 9 x 914.4 x 304.8	88 lb	39.92 kg
HVFDSB3B0200G110/U	20 HP	6	NEMA 1	62A	Yes	Yes	12.4 x 45 x 10.1	315 x 1143 x 257	59 lb	27 kg
HVFDSB3B0200G210/U	20 HP	6	NEMA 12	62A	No	—	12 x 46.5 x 13	304.8 x 1181.1 x 330.2	120 lb	54.43 kg
HVFDSB3B0200G310/U	20 HP	6	NEMA 3R	62A	No	—	28.5 x 36 x 12	723 9 x 914.4 x 304.8	88 lb	39.92 kg
HVFDSB3B0250G110/U	25 HP	6	NEMA 1	75A	Yes	Yes	20 8 x 51.7 x 13.3	530 x 1313 x 326	140 lb	63.5 kg
HVFDSB3B0250G210/U	25 HP	6	NEMA 12	75A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342.9	145 lb	65.77 kg
HVFDSB3B0250G310/U	25 HP	6	NEMA 3R	75A	No	—	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	149 lb	67.59 kg
HVFDSB3B0300G110/U	30 HP	7	NEMA 1	88A	Yes	Yes	20 8 x 51.7 x 13.3	530 x 1313 x 326	140 lb	63.5 kg
HVFDSB3B0300G210/U	30 HP	7	NEMA 12	88A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342.9	160 lb	72.57 kg
HVFDSB3B0300G310/U	30 HP	7	NEMA 3R	88A	No	—	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	149 lb	67.59 kg
HVFDSB3B0400G110/U	40 HP	7	NEMA 1	105A	Yes	Yes	20 8 x 51.7 x 13.3	530 x 1313 x 326	140 lb	63.5 kg
HVFDSB3B0400G210/U	40 HP	7	NEMA 12	105A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342.9	175 lb	79.38 kg
HVFDSB3B0400G310/U	40 HP	7	NEMA 3R	105A	No	—	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	149 lb	67.59 kg
HVFDSB3B0500G110/U	50 HP	8	NEMA 1	140 A	Yes	Yes	25 x 60 x 15.3	635 x 1524 x 388	250 lb	113.4 kg
HVFDSB3B0500G210/U	50 HP	8	NEMA 12	140 A	Yes	Yes	40.5 x 60 x 14	1028.7 x 1524 x 355.6	280 lb	127.00 kg
HVFDSB3B0500G310/U	50 HP	8	NEMA3R	140 A	Yes	Yes	48 x 36 x 16	1219 x 914 x 406	149 lb	67.59 kg
HVFDSB3B0600G110/U	60 HP	8	NEMA 1	170 A	Yes	Yes	25 x 60 x 15.3	635 x 1524 x 388	265 lb	120 kg
HVFDSB3B0600G210/U	60 HP	8	NEMA 12	170 A	Yes	Yes	40.5 x 60 x 14	1028.7 x 1524 x 355.6	280 lb	127.00 kg
HVFDSB3B0600G310/U	60 HP	8	NEMA3R	170 A	Yes	Yes	48 x 36 x 16	1219 x 914 x 406	149 lb	67.59 kg
HVFDSB3B0750G110/U	75 HP	8	NEMA 1	205 A	Yes	Yes	25 x 60 x 15.3	635 x 1524 x 388	280 lb	127 kg
HVFDSB3B0750G210/U	75 HP	8	NEMA 12	205 A	Yes	Yes	40.5 x 60 x 14	1028.7 x 1524 x 355.6	280 lb	127.00 kg
HVFDSB3B0750G310/U	75 HP	8	NEMA3R	205 A	Yes	Yes	48 x 36 x 16	1219 x 914 x 406	149 lb	67.59 Kg

Voltage: 230 Vac

Configuration: Drive with 2 Contactor Bypass
Auto Bypass: No
Disconnect Type: None
Pilot Lights: None

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3B0007G120/U	0.75 HP	4	NEMA 1	3.7A	No	—	8.9 x 31.9 x 10.4	226 x 811 x 264	38 lb	17.2 kg
HVFDSB3B0007G220/U	0.75 HP	4	NEMA 12	3.7A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0007G320/U	0.75 HP	4	NEMA 3R	3.7A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3B0010G120/U	1 HP	4	NEMA 1	4.8A	No	—	8.9 x 31.9 x 10.4	226 x 811 x 264	38 lb	17.24 kg
HVFDSB3B0010G220/U	1 HP	4	NEMA 12	4.8A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0010G320/U	1 HP	4	NEMA 3R	4.8A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
HVFDSB3B0015G120/U	1.5 HP	4	NEMA 1	6.6A	No	—	8.9 x 31.9 x 10.4	226 x 811 x 264	38 lb	17.2 kg
HVFDSB3B0015G220/U	1.5 HP	4	NEMA 12	6.6A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0015G320/U	1.5 HP	4	NEMA 3R	6.6A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3B0020G120/U	2 HP	4	NEMA 1	8A	No	—	8.9 x 31.9 x 10.4	226 x 811 x 264	38 lb	17.2 kg
HVFDSB3B0020G220/U	2 HP	4	NEMA 12	8A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0020G320/U	2 HP	4	NEMA 3R	8A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3B0030G120/U	3 HP	4	NEMA 1	11A	No	—	8.9 x 31.9 x 10.4	226 x 811 x 264	38 lb	17.2 kg
HVFDSB3B0030G220/U	3 HP	4	NEMA 12	11A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0030G320/U	3 HP	4	NEMA 3R	11A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3B0050G120/U	5 HP	5	NEMA 1	18A	No	—	8.9 x 34.5 x 10.4	226 x 876 x 264	48 lb	21.7 kg
HVFDSB3B0050G220/U	5 HP	5	NEMA 12	18A	Yes	Yes	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.75 kg
HVFDSB3B0050G320/U	5 HP	5	NEMA 3R	18A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.66 kg
HVFDSB3B0075G120/U	7.5 HP	5	NEMA 1	24A	No	—	8.9 x 34.5 x10.4	226 x 876 x 264	50 lb	23 kg
HVFDSB3B0075G220/U	7.5 HP	5	NEMA 12	24A	Yes	Yes	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.75 kg
HVFDSB3B0075G320/U	7.5 HP	5	NEMA 3R	24A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.66 kg
HVFDSB3B0100G120/U	10 HP	5	NEMA 1	31A	No	—	8.9 x 34.5 x10.4	226 x 876 x 264	50 lb	23 kg
HVFDSB3B0100G220/U	10 HP	5	NEMA 12	31A	Yes	Yes	16 x 45 x 11	406 x 1143 x 279.4	84 lb	38.1 kg
HVFDSB3B0100G320/U	10 HP	5	NEMA 3R	31A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.66 kg
HVFDSB3B0150G120/U	15 HP	6	NEMA 1	48A	No	—	12.4 x 45 x 11.3	315 x 1143 x 287	60 lb	27.2 kg
HVFDSB3B0150G220/U	15 HP	6	NEMA 12	48A	Yes	Yes	16 x 50.5 x 13	406.4 x 1282.7 x 256.54	125 lb	56.7 kg
HVFDSB3B0150G320/U	15 HP	6	NEMA 3R	48A	Yes	Yes	28.5 x 36 x 10.5	723.9 x 914.4 x 266.7	118 lb	53.52 kg
HVFDSB3B0200G120/U	20 HP	6	NEMA 1	62A	No	—	12.4 x 45 x 11.3	315 x 1143 x 287	60 lb	27.2 kg
HVFDSB3B0200G220/U	20 HP	6	NEMA 12	62A	Yes	Yes	20 x 54.5 x 13	508 x 1384.3 x 330.2	140 lb	63.5 kg
HVFDSB3B0200G320/U	20 HP	6	NEMA 3R	62A	Yes	Yes	28.5 x 36 x 10.5	723.9 x 914.4 x 266.7	118 lb	53.52 kg
HVFDSB3B0250G120/U	25 HP	7	NEMA 1	75A	No	—	20.9 x 51.7 x 13.3	530.86 x 1313 x 338	149 lb	68 kg
HVFDSB3B0250G220/U	25 HP	7	NEMA 12	75A	Yes	Yes	24 x 64 x 13.3	508 x1485.9 x 342.9	160 lb	73 kg
HVFDSB3B0250G320/U	25 HP	7	NEMA 3R	75A	Yes	Yes	28.5 x 48 x 12.5	711.2 x 1219.2 x 317.5	185 lb	83.91 kg
HVFDSB3B0300G120/U	30 HP	7	NEMA 1	88A	No	—	20.9 x 51.7 x 13.3	530.86 x 1313 x 338	149 lb	68 kg
HVFDSB3B0300G220/U	30 HP	7	NEMA 12	88A	Yes	Yes	24 x 65.5 x 13.5	609 x 1663.7 x 342.9	175 lb	79.38 kg
HVFDSB3B0300G320/U	30 HP	7	NEMA 3R	88A	Yes	Yes	28.5 x 48 x 12.5	711.2 x 1219.2 x 317.5	185 lb	83.91 kg
HVFDSB3B0400G120/U	40 HP	7	NEMA 1	105A	No	—	20.9 x 51.7 x 13.3	530.86 x 1313 x 338	149 lb	68 kg
HVFDSB3B0400G220/U	40 HP	7	NEMA 12	105A	Yes	Yes	30 x 70.5 x 13.5	762 x 1790.7 x 342.9	200 lb	90.72 kg
HVFDSB3B0400G320/U	40 HP	7	NEMA 3R	105A	Yes	Yes	28.5 x 48 x 12.5	711.2 x 1219.2 x 317.5	185 lb	83.91 kg
HVFDSB3B0500G120/U	50 HP	8	NEMA 1	140 A	No	—	25 x 60 x 15.2	635 x 1524 x 386.08	250 lb	113.4 kg
HVFDSB3B0500G220/U	50 HP	8	NEMA 12	140 A	No	—	40.5 x 60 x 12.5	1028.7 x 1524 x 317.5	350 lb	158.76 kg
HVFDSB3B0500G320/U	50 HP	8	NEMA3R	140 A	No	—	60 x 41 x 14	1524 x 1041 x 356	185 lb	83.91 kg
HVFDSB3B0600G120/U	60 HP	8	NEMA 1	170 A	No	—	25 x 60 x 15.2	635 x 1524 x 386.08	265 lb	120.2 kg
HVFDSB3B0600G220/U	60 HP	8	NEMA 12	170 A	No	—	40.5 x 60 x 12.5	1028.7 x 1524 x 317.5	350 lb	158.76 kg
HVFDSB3B0600G320/U	60 HP	8	NEMA3R	170 A	No	—	60 x 41 x 14.	1524 x 1041 x 356	185 lb	83.91 kg
HVFDSB3B0750G120/U	75 HP	8	NEMA 1	205 A	No	—	25 x 60 x 15.2	635 x 1524 x 386.08	280 lb	127.01 kg
HVFDSB3B0750G220/U	75 HP	8	NEMA 12	205 A	No	—	40.5 x 60 x 12.5	1028.7 x 1524 x 317.5	350 lb	158.76 kg
HVFDSB3B0750G320/U	75 HP	8	NEMA3R	205 A	No	—	60 x 41 x 14	1524 x 1041 x 356	185 lb	83.91 kg

Voltage: 230 Vac

Configuration: Drive with 3 Contactor Bypass
Auto Bypass: No
Disconnect Type: Fused

Drive Input Disconnect: Yes
Drive Input Fuses: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
HVFDSB3B0007G130/U	0.75 HP	4	NEMA 1	3.7A	8.9 x 38.9 x 10.3	226.06 x 988.06 x 261.62	44 lb	19.96 kg
HVFDSB3B0007G230/U	0.75 HP	4	NEMA 12	3.7A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg

SmartVFD HVAC and SmartVFD BYPASS

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3B0007G330/U	0.75 HP	4	NEMA 3R	3.7A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0010G130/U	1 HP	4	NEMA 1	4.8A	8.9 x 38.9 x 10.3	226.06 x 988.06 x 261.62	44 lb	19.96 kg
HVFDSB3B0010G230/U	1 HP	4	NEMA 12	4.8A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0010G330/U	1 HP	4	NEMA 3R	4.8A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0015G130/U	1.5 HP	4	NEMA 1	6.6A	8.9 x 38.9 x 10.3	226.06 x 988.06 x 261.62	44 lb	19.96 kg
HVFDSB3B0015G230/U	1.5 HP	4	NEMA 12	6.6A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0015G330/U	1.5 HP	4	NEMA 3R	6.6A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0020G130/U	2 HP	4	NEMA 1	8A	8.9 x 38.9 x 10.3	226.06 x 988.06 x 261.62	44 lb	19.96 kg
HVFDSB3B0020G230/U	2 HP	4	NEMA 12	8A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0020G330/U	2 HP	4	NEMA 3R	8A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0030G130/U	3 HP	4	NEMA 1	11A	8.9 x 38.9 x 10.3	226.06 x 988.06 x 261.62	44 lb	19.96 kg
HVFDSB3B0030G230/U	3 HP	4	NEMA 12	11A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0030G330/U	3 HP	4	NEMA 3R	11A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0050G130/U	5 HP	5	NEMA 1	18A	8.9 x 41.7 x 10.3	226.06 x 1059.1 x 261.62	55 lb	24.95 kg
HVFDSB3B0050G230/U	5 HP	5	NEMA 12	18A	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.75 kg
HVFDSB3B0050G330/U	5 HP	5	NEMA 3R	18A	28.5 x 30 x 12	723.9 x 762 x 304 8	78 lb	35.38 kg
HVFDSB3B0075G130/U	7.5 HP	5	NEMA 1	24A	8.9 x 41.7 x 10.3	226.06 x 1059.1 x 261.62	57 lb	25.85 kg
HVFDSB3B0075G230/U	7.5 HP	5	NEMA 12	24A	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.75 kg
HVFDSB3B0075G330/U	7.5 HP	5	NEMA 3R	24A	28.5 x 30 x 12	723.9 x 762 x 304 8	78 lb	35.38 kg
HVFDSB3B0100G130/U	10 HP	5	NEMA 1	31A	8.9 x 41.7 x 10.8	226.06 x 1059.1 x 274.32	59.5 lb	26.99 kg
HVFDSB3B0100G230/U	10 HP	5	NEMA 12	31A	16 x 45 x 11	406 x 1143 x 279.4	84 lb	38.1 kg
HVFDSB3B0100G330/U	10 HP	5	NEMA 3R	31A	28.5 x 24 x 10	723.9 x 762 x 304 8	78 lb	35.38 kg
HVFDSB3B0150G130/U	15 HP	6	NEMA 1	48A	12.4 x 55 x 11.3	315 x 1397 x 287	98 lb	44.5 kg
HVFDSB3B0150G230/U	15 HP	6	NEMA 12	48A	16 x 50.5 x 13	406.4 x 1282.7 x 256.54	125 lb	56.7 kg
HVFDSB3B0150G330/U	15 HP	6	NEMA 3R	48A	34.5 x 36 x 12	867.3 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3B0200G130/U	20 HP	6	NEMA 1	62A	12.4 x 55 x 11.3	315 x 1397 x 287	98 lb	44.5 kg
HVFDSB3B0200G230/U	20 HP	6	NEMA 12	62A	20 x 54.5 x 13	508 x 1384 3 x 330.2	140 lb	63.5 kg
HVFDSB3B0200G330/U	20 HP	6	NEMA 3R	62A	34.5 x 36 x 12	867.3 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3B0250G130/U	25 HP	7	NEMA 1	75A	20.9 x 59.2 x 13.3	530 x 1503 x 338	135 lb	61.3 kg
HVFDSB3B0250G230/U	25 HP	7	NEMA 12	75A	20 x 58.5 x 13.5	508 x1485.9 x 342.9	160 lb	72.57 kg
HVFDSB3B0250G330/U	25 HP	7	NEMA 3R	75A	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3B0300G130/U	30 HP	7	NEMA 1	88A	20.9 x 59.2 x 13.3	530 x 1503 x 338	150 lb	68.2 kg
HVFDSB3B0300G230/U	30 HP	7	NEMA 12	88A	24 x 65.5 x 13.5	609 x 1663.7 x 342.9	175 lb	79.38 kg
HVFDSB3B0300G330/U	30 HP	7	NEMA 3R	88A	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3B0400G130/U	40 HP	7	NEMA 1	105A	20.9 x 59.2 x 13.3	530.86 x 1503 x 338	170 lb	77.1 kg
HVFDSB3B0400G230/U	40 HP	7	NEMA 12	105A	30 x 70.5 x 13.5	762 x 1790.7 x 342.9	200 lb	90.72 kg
HVFDSB3B0400G330/U	40 HP	7	NEMA 3R	105A	28.5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3B0500G130/U	50 HP	8	NEMA 1	140 A	25 x 70 x 16.2	635 x 1778 x 411	286 lb	130 kg
HVFDSB3B0500G230/U	50 HP	8	NEMA 12	140 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3B0500G330/U	50 HP	8	NEMA3R	140 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg
HVFDSB3B0600G130/U	60 HP	8	NEMA 1	170 A	25 x 70 x 16.2	635 x 1778 x 411	295 lb	134 kg
HVFDSB3B0600G230/U	60 HP	8	NEMA 12	170 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3B0600G330/U	60 HP	8	NEMA3R	170 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg
HVFDSB3B0750G130/U	75 HP	8	NEMA 1	205 A	25 x 70 x 16.2	635 x 1778 x 411	331 lb	150 kg
HVFDSB3B0750G230/U	75 HP	8	NEMA 12	205 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3B0750G330/U	75 HP	8	NEMA3R	205 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg

Voltage: 230 Vac

Configuration: Drive with 3 Contactor Bypass and Auto Bypass
Disconnect Type: Fused

Drive Input Disconnect: Yes
Drive Input Fuses: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3B0007G131/U	0.75 HP	4	NEMA 1	3.7A	8.9 x 38.7 x 10.4	226 x 983 x 264	44 lb	20 kg
HVFDSB3B0007G231/U	0.75 HP	4	NEMA 12	3.7A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0007G331/U	0.75 HP	4	NEMA 3R	3.7A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0010G131/U	1 HP	4	NEMA 1	4.8A	8.9 x 38.7 x 10.4	226 x 983 x 264	44 lb	20kg
HVFDSB3B0010G231/U	1 HP	4	NEMA 12	4.8A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0010G331/U	1 HP	4	NEMA 3R	4.8A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0015G131/U	1.5 HP	4	NEMA 1	6.6A	8.9 x 38.7 x 10.4	226 x 983 x 264	46 lb	20 kg
HVFDSB3B0015G231/U	1.5 HP	4	NEMA 12	6.6A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0015G331/U	1.5 HP	4	NEMA 3R	6.6A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0020G131/U	2 HP	4	NEMA 1	8A	8.9 x 38.7 x 10.4	226 x 983 x 264	44 lb	20 kg
HVFDSB3B0020G231/U	2 HP	4	NEMA 12	8A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0020G331/U	2 HP	4	NEMA 3R	8A	24 5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0030G131/U	3 HP	4	NEMA 1	11A	8.9 x 38.7 x 10.4	226 x 983 x 264	44 lb	20 kg
HVFDSB3B0030G231/U	3 HP	4	NEMA 12	11A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	55 lb	24.95 kg
HVFDSB3B0030G331/U	3 HP	4	NEMA 3R	11A	24 5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3B0050G131/U	5 HP	5	NEMA 1	18A	8.9 x 41.5 x 10.4	226 x 1054 x 264	55 lb	24.9 kg
HVFDSB3B0050G231/U	5 HP	5	NEMA 12	18A	16 x 44 x 8.8	406 x 1041.4 x 279.4	70 lb	31.75 kg
HVFDSB3B0050G331/U	5 HP	5	NEMA 3R	18A	28 5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3B0075G131/U	7.5 HP	5	NEMA 1	24A	8.9 x 41.5 x 10.4	226 x 1054 x 264	58 lb	26 kg
HVFDSB3B0075G231/U	7.5 HP	5	NEMA 12	24A	16 x 41 x 11	406 x 1041.4 x 279.4	70 lb	31.75 kg
HVFDSB3B0075G331/U	7.5 HP	5	NEMA 3R	24A	28 5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3B0100G131/U	10 HP	5	NEMA 1	31A	8.9 x 41.5 x 10.4	226 x 1054 x 264	60 lb	27.2 kg
HVFDSB3B0100G231/U	10 HP	5	NEMA 12	31A	16 x 45 x 11	406 x 1143 x 279.4	84 lb	38.1 kg
HVFDSB3B0100G331/U	10 HP	5	NEMA 3R	31A	28 5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3B0150G131/U	15 HP	6	NEMA 1	48A	12.4 x 55 x 11.3	315 x 1397 x 287	98 lb	44.5 kg
HVFDSB3B0150G231/U	15 HP	6	NEMA 12	48A	16 x 50.5 x 13	406.4 x 1282.7 x 256.54	125 lb	56.7 kg
HVFDSB3B0150G331/U	15 HP	6	NEMA 3R	48A	34 5 x 36 x 12	867.3 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3B0200G131/U	20 HP	6	NEMA 1	62A	12.4 x 55 x 11.3	315 x 1397 x 287	105 lb	47.6 kg
HVFDSB3B0200G231/U	20 HP	6	NEMA 12	62A	20 x 54.5 x 13	508 x 1384.3 x 330.2	140 lb	63.5 kg
HVFDSB3B0200G331/U	20 HP	6	NEMA 3R	62A	34 5 x 36 x 12	867.3 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3B0250G131/U	25 HP	7	NEMA 1	75A	20 9 x 59 2 x 13.3	530 x 1503 x 338	135 lb	61.3 kg
HVFDSB3B0250G231/U	25 HP	7	NEMA 12	75A	20 x 58.5 x 13.5	508 x1485.9 x 342.9	160 lb	72.57 kg
HVFDSB3B0250G331/U	25 HP	7	NEMA 3R	75A	28 5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3B0300G131/U	30 HP	7	NEMA 1	88A	20 9 x 59 2 x 13.3	530 x 1503 x 338	150 lb	68.2 kg
HVFDSB3B0300G231/U	30 HP	7	NEMA 12	88A	24 x 65.5 x 13.5	609 x 1663.7 x 342.9	175 lb	79.38 kg
HVFDSB3B0300G331/U	30 HP	7	NEMA 3R	88A	28 5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3B0400G131/U	40 HP	7	NEMA 1	105A	20 9 x 59 2 x 13.3	530.86 x 14503 x 338	170 lb	77.1 kg
HVFDSB3B0400G231/U	40 HP	7	NEMA 12	105A	30 x 70.5 x 13.5	762 x 1790.7 x 342.9	200 lb	90.72 kg
HVFDSB3B0400G331/U	40 HP	7	NEMA 3R	105A	28 5 x 48 x 14	711.2 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3B0500G131/U	50 HP	8	NEMA 1	140 A	25 x 70 x 16.2	635 x 1778 x 411	286 lb	130 kg
HVFDSB3B0500G231/U	50 HP	8	NEMA 12	140 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3B0500G331/U	50 HP	8	NEMA3R	140 A	60 x 41 x 14.	1524 x 1041 x 356	193 lb	87.54 kg
HVFDSB3B0600G131/U	60 HP	8	NEMA 1	170 A	25 x 70 x 16.2	635 x 1778 x 411	295 lb	134 kg
HVFDSB3B0600G231/U	60 HP	8	NEMA 12	170 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3B0600G331/U	60 HP	8	NEMA3R	170 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg
HVFDSB3B0750G131/U	75 HP	8	NEMA 1	205 A	25 x 70 x 16.2	635 x 1778 x 411	331 lb	150 kg
HVFDSB3B0750G231/U	75 HP	8	NEMA 12	205 A	40.5 x 60 x 14	1028.7 x 1524 x 355.6	369 lb	167.38 kg
HVFDSB3B0750G331/U	75 HP	8	NEMA3R	205 A	60 x 41 x 14	1524 x 1041 x 356	193 lb	87.54 kg

SmartVFD HVAC and SmartVFD BYPASS

Voltage: 460 Vac

Configuration: Drive with Fused Disconnect
Auto Bypass: No

Disconnect Type: Fused
Pilot Lights: None

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3C0015G110/U	1.5 HP	4	NEMA 1	3.4A	Yes	Yes	8.9 x 31.7 x 9.6	226 x 805 x 244	33 lb	15 kg
HVFDSB3C0015G210/U	1.5 HP	4	NEMA 12	3.4A	No	—	12 x 37.5 x 11	304.8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3C0015G310/U	1.5 HP	4	NEMA 3R	3.4A	No	—	20.5 x 20 x 12	520.7 x 208 x 304.8	43 lb	19.5 kg
HVFDSB3C0020G110/U	2 HP	4	NEMA 1	4.8A	Yes	Yes	8.9 x 31.9 x 10.3	226.06 x 810.26 x 261.62	33 lb	14.97 kg
HVFDSB3C0020G210/U	2 HP	4	NEMA 12	4.8A	No	—	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	40 lb	18.14 kg
HVFDSB3C0020G310/U	2 HP	4	NEMA 3R	4.8A	No	—	16 x 37.5 x 11	304.8 x 952.5 x 279.4	43 lb	19.5 kg
HVFDSB3C0030G110/U	3 HP	4	NEMA 1	5.6A	Yes	Yes	8.9 x 31.9 x 10.3	226.06 x 810.26 x 261.62	33 lb	14.97 kg
HVFDSB3C0030G210/U	3 HP	4	NEMA 12	5.6A	No	—	12 x 37.5 x 11	304.8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3C0030G310/U	3 HP	4	NEMA 3R	5.6A	No	—	20.5 x 20 x 12	520.7 x 208 x 304.8	43 lb	19.5 kg
HVFDSB3C0040G110/U	4 HP	4	NEMA 1	8A	Yes	Yes	8.9 x 31.9 x 10.3	226.06 x 810.26 x 261.62	33 lb	14.97 kg
HVFDSB3C0040G210/U	4 HP	4	NEMA 12	8A	No	—	12 x 37.5 x 11	304.8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3C0040G310/U	4 HP	4	NEMA 3R	8A	No	—	20.5 x 20 x 12	520.7 x 208 x 304.8	43 lb	19.5 kg
HVFDSB3C0050G110/U	5 HP	4	NEMA 1	9.6A	Yes	Yes	8.9 x 31.9 x 10.3	226.06 x 810.26 x 261.62	33 lb	14.97 kg
HVFDSB3C0050G210/U	5 HP	4	NEMA 12	9.6A	No	—	12 x 37.5 x 11	304.8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3C0050G310/U	5 HP	4	NEMA 3R	9.6A	No	—	20.5 x 20 x 12	520.7 x 208 x 304.8	43 lb	19.5 kg
HVFDSB3C0075G110/U	7.5 HP	4	NEMA 1	12A	Yes	Yes	8.9 x 31.9 x 10.3	226.06 x 810.26 x 261.62	33 lb	14.97 kg
HVFDSB3C0075G210/U	7.5 HP	4	NEMA 12	12A	No	—	12 x 37.5 x 11	304.8 x 952.5 x 279.4	40 lb	18.14 kg
HVFDSB3C0075G310/U	7.5 HP	4	NEMA 3R	12A	No	—	20.5 x 20 x 12	520.7 x 208 x 304.8	43 lb	19.5 kg
HVFDSB3C0100G110/U	10 HP	5	NEMA 1	16A	Yes	Yes	8.9 x 34.7 x 10.3	226.06 x 881.38 x 261.62	43 lb	19.5 kg
HVFDSB3C0100G210/U	10 HP	5	NEMA 12	16A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.66 kg
HVFDSB3C0100G310/U	10 HP	5	NEMA 3R	16A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.67 kg
HVFDSB3C0150G110/U	15 HP	5	NEMA 1	23A	Yes	Yes	8.9 x 34.7 x 10.3	6.06 x 881.38 x 261.62	43 lb	19.5 kg
HVFDSB3C0150G210/U	15 HP	5	NEMA 12	23A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.66 kg
HVFDSB3C0150G310/U	15 HP	5	NEMA 3R	23A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.67 kg
HVFDSB3C0200G110/U	20 HP	5	NEMA 1	31A	Yes	Yes	8.9 x 34.7 x 10.3	226.06 x 881.38 x 261.62	43 lb	19.5 kg
HVFDSB3C0200G210/U	20 HP	5	NEMA 12	31A	No	—	12 x 41 x 11	304.8 x 1041.4 x 279.4	72 lb	32.66 kg
HVFDSB3C0200G310/U	20 HP	5	NEMA 3R	31A	No	—	20.5 x 24 x 12	520.7 x 609.6 x 304.8	61 lb	27.67 kg
HVFDSB3C0250G110/U	25 HP	6	NEMA 1	38A	Yes	Yes	12.4 x 45.1 x 11.3	314.96 x 1145.5 x 287.02	50 lb	22.68 kg
HVFDSB3C0250G210/U	25 HP	6	NEMA 12	38A	No	—	12 x 46.5 x 13	304.8 x 1181.1 x 330 2	120 lb	54.43 kg
HVFDSB3C0250G310/U	25 HP	6	NEMA 3R	38A	No	—	28.5 x 36 x 10.5	723.9 x 914.4 x 266.7	118 lb	53.52 kg
HVFDSB3C0300G110/U	30 HP	6	NEMA 1	46A	Yes	Yes	12.4 x 45.1 x 11.3	314.96 x 1145.5 x 287.02	50 lb	22.68 kg
HVFDSB3C0300G210/U	30 HP	6	NEMA 12	46A	No	—	12 x 46.5 x 13	304.8 x 1181.1 x 330 2	120 lb	54.43 kg
HVFDSB3C0300G310/U	30 HP	6	NEMA 3R	46A	No	—	28.5 x 36 x 12	723.9 x 914.4 x 304.8	88 lb	39.92 kg
HVFDSB3C0400G110/U	40 HP	6	NEMA 1	61A	Yes	Yes	12.4 x 45.1 x 11.3	314.96 x 1145.5 x 287.02	50 lb	22.68 kg
HVFDSB3C0400G210/U	40 HP	6	NEMA 12	61A	No	—	12 x 46.5 x 13	304.8 x 1181.1 x 330 2	136 lb	61.69 kg
HVFDSB3C0400G310/U	40 HP	6	NEMA 3R	61A	No	—	28.5 x 36 x 12	723.9 x 914.4 x 304.8	88 lb	39.92 kg
HVFDSB3C0500G110/U	50 HP	7	NEMA 1	72A	Yes	Yes	20.8 x 51.5 x 13.2	528.32 x 1308.1 x 335.28	100 lb	45.36 kg
HVFDSB3C0500G210/U	50 HP	7	NEMA 12	72A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342 9	145 lb	65.77 kg
HVFDSB3C0500G310/U	50 HP	7	NEMA 3R	72A	No	—	28.5 x 48 x 14	723.9 x 1219.2 x 355.6	149 lb	67.59 kg
HVFDSB3C0600G110/U	60 HP	7	NEMA 1	87A	Yes	Yes	20.8 x 51.5 x 13.2	528.32 x 1308.1 x 335.28	100 lb	45.36 kg
HVFDSB3C0600G210/U	60 HP	7	NEMA 12	87A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342 9	160 lb	72.57 kg
HVFDSB3C0600G310/U	60 HP	7	NEMA 3R	87A	No	—	28.5 x 48 x 14	723.9 x 1219.2 x 355.6	149 lb	67.59 kg
HVFDSB3C0750G110/U	75 HP	7	NEMA 1	105A	Yes	Yes	20.8 x 51.5 x 13.2	528.32 x 1308.1 x 335.28	100 lb	45.36 kg
HVFDSB3C0750G210/U	75 HP	7	NEMA 12	105A	No	—	16 x 50.5 x 13.5	406.4 x 1282.7 x 342 9	193 lb	87.54 kg
HVFDSB3C0750G310/U	75 HP	7	NEMA 3R	105A	No	—	28.5 x 48 x 14	723.9 x 1219.2 x 355.6	149 lb	67.59 kg
HVFDSB3C1000G110/U	100 HP	8	NEMA 1	140 A	Yes	Yes	25 x 60 x 16 2	635 x 1524 x 411.48	200 lb	90.72 kg
HVFDSB3C1000G210/U	100 HP	8	NEMA 12	140 A	Yes	Yes	20 x 64 x 15.1	508 x 1625.6 x 383.5	280 lb	127.00 kg
HVFDSB3C1000G310/U	100 HP	8	NEMA3R	140 A	Yes	Yes	40.5 x 60 x 14	1028.7 x 1524 x 355.6	340 lb	154.22 Kg

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3C1250G110/U	120 HP	8	NEMA 1	170 A	Yes	Yes	25 x 60 x 16 2	635 x 1524 x 411.5	265 lb	120.2 kg
HVFDSB3C1250G210/U	120 HP	8	NEMA 12	170 A	Yes	Yes	20 x 64 x 15.1	508 x 1625.6 x 383.5	280 lb	127.00 kg
HVFDSB3C1250G310/U	120 HP	8	NEMA3R	170 A	Yes	Yes	48 x 36 x 16	1219 x 914 x 406	375 lb	170.1 Kg
HVFDSB3C1500G110/U	150 HP	8	NEMA 1	205 A	Yes	Yes	25 x 60 x 16 2	635 x 1524 x 411.5	280 lb	127 kg
HVFDSB3C1500G210/U	150 HP	8	NEMA 12	205 A	Yes	Yes	20 x 64 x 15.1	508 x 1625.6 x 383.5	280 lb	127.00 kg
HVFDSB3C1500G310/U	150 HP	8	NEMA3R	205 A	Yes	Yes	48 x 36 x 16	1219 x 914 x 406	375 lb	170.1 Kg

Voltage: 460 Vac

Configuration: Drive with 2 Contactor Bypass
Auto Bypass: No
Disconnect Type: None
Pilot Lights: None

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3C0015G120/U	1.5 HP	4	NEMA 1	3.4A	No	—	8.9 x 319. x 9.6	226.06 x 805.18 x 243 84	38 lb	17.24 kg
HVFDSB3C0015G220/U	1.5 HP	4	NEMA 12	3.4A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0015G320/U	1.5 HP	4	NEMA 3R	3.4A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3C0020G120/U	2 HP	4	NEMA 1	4.8A	No	—	8.9 x 319. x 9.6	226.06 x 805.18 x 243 84	38 lb	17.24 kg
HVFDSB3C0020G220/U	2 HP	4	NEMA 12	4.8A	Yes	Yes	12 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0020G320/U	2 HP	4	NEMA 3R	4.8A	Yes	Yes	20.5 x 20 x 12	520.7 x 208 x 304.8	49 lb	22.23 kg
HVFDSB3C0030G120/U	3 HP	4	NEMA 1	5.6A	No	—	8.9 x 319. x 9.6	226.06 x 805.18 x 243 84	38 lb	17.24 kg
HVFDSB3C0030G220/U	3 HP	4	NEMA 12	5.6A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0030G320/U	3 HP	4	NEMA 3R	5.6A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3C0040G120/U	4 HP	4	NEMA 1	8A	No	—	8.9 x 319. x 9.6	226.06 x 805.18 x 243 84	38 lb	17.24 kg
HVFDSB3C0040G220/U	4 HP	4	NEMA 12	8A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0040G320/U	4 HP	4	NEMA 3R	8A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3C0050G120/U	5 HP	4	NEMA 1	9.6A	No	—	8.9 x 319. x 9.6	226.06 x 805.18 x 243 84	38 lb	17.24 kg
HVFDSB3C0050G220/U	5 HP	4	NEMA 12	9.6A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0050G320/U	5 HP	4	NEMA 3R	9.6A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3C0075G120/U	7.5 HP	4	NEMA 1	12A	No	—	8.9 x 319. x 9.6	226.06 x 805.18 x 243 84	38 lb	17.24 kg
HVFDSB3C0075G220/U	7.5 HP	4	NEMA 12	12A	Yes	Yes	16 x 37.5 x 11	406.4 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0075G320/U	7.5 HP	4	NEMA 3R	12A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	49 lb	22.23 kg
HVFDSB3C0100G120/U	10 HP	4	NEMA 1	16A	No	—	8.9 x 34.7 x 9.6	226.06 x 876.3 x 243.84	48 lb	21.77 kg
HVFDSB3C0100G220/U	10 HP	5	NEMA 12	16A	Yes	Yes	16 x 44 x 8.8	406.4 x 1041.4 x 279.4	64 lb	29.03 kg
HVFDSB3C0100G320/U	10 HP	5	NEMA 3R	16A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.66 kg
HVFDSB3C0150G120/U	15 HP	5	NEMA 1	23A	No	—	8.9 x 34.7 x 9.6	226.06 x 876.3 x 243.84	50 lb	22.68 kg
HVFDSB3C0150G220/U	15 HP	5	NEMA 12	23A	Yes	Yes	16 x 41 x 11	406.4 x 1041.4 x 279.4	64 lb	29.03 kg
HVFDSB3C0150G320/U	15 HP	5	NEMA 3R	23A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.66 kg
HVFDSB3C0200G120/U	20 HP	5	NEMA 1	31A	No	—	8.9 x 34.7 x 9.6	226.06 x 876.3 x 243.84	50 lb	22.68 kg
HVFDSB3C0200G220/U	20 HP	5	NEMA 12	31A	Yes	Yes	16 x 45 x 11	406.4 x 1143 x 279.4	76 lb	34.47 kg
HVFDSB3C0200G320/U	20 HP	5	NEMA 3R	31A	Yes	Yes	24.5 x 24 x 10.5	622.3 x 609.6 x 266.7	72 lb	32.66 kg
HVFDSB3C0250G120/U	25 HP	6	NEMA 1	38A	No	—	12.4 x 45.1 x 10.1	314.96 x 1143 x 256.54	55 lb	24.95 kg
HVFDSB3C0250G220/U	25 HP	6	NEMA 12	38A	Yes	Yes	16 x 50.5 x 13	406.4 x 1282.7 x 330.2	120 lb	54.43 kg
HVFDSB3C0250G320/U	25 HP	6	NEMA 3R	38A	Yes	Yes	34.5 x 36 x 10	876.3 x 914.4 x 254	194 lb	88.2 kg
HVFDSB3C0300G120/U	30 HP	6	NEMA 1	46A	No	—	12.4 x 45.1 x 10.1	314.96 x 1143 x 256.54	59 lb	26.76 kg
HVFDSB3C0300G220/U	30 HP	6	NEMA 12	46A	Yes	Yes	16 x 50.5 x 13	406.4 x 1282.7 x 330.2	120 lb	54.43 kg
HVFDSB3C0300G320/U	30 HP	6	NEMA 3R	46A	Yes	Yes	28.5 x 36 x 10.5	723.9 x 914.4 x 266.7	118 lb	53.52 kg
HVFDSB3C0400G120/U	40 HP	6	NEMA 1	61A	No	—	12.4 x 45.1 x 10.1	314.96 x 1143 x 256.54	59 lb	26.76 kg
HVFDSB3C0400G220/U	40 HP	6	NEMA 12	61A	Yes	Yes	16 x 50.5 x 13	406.4 x 1282.7 x 330.2	136 lb	61.69 kg
HVFDSB3C0400G320/U	40 HP	6	NEMA 3R	61A	Yes	Yes	28.5 x 36 x 10.5	723.9 x 914.4 x 266.7	118 lb	53.52 kg
HVFDSB3C0500G120/U	50 HP	7	NEMA 1	72A	No	—	20.8 x 51.5 x 12.2	530.86 x 1313.18 x 309.88	169 lb	76.66 kg
HVFDSB3C0500G220/U	50 HP	7	NEMA 12	72A	Yes	Yes	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	150 lb	68.04 kg
HVFDSB3C0500G320/U	50 HP	7	NEMA 3R	72A	Yes	Yes	28.5 x 48 x 12.5	723.9 x 1219.2 x 317.5	185 lb	83.91 kg

SmartVFD HVAC and SmartVFD BYPASS

Product Number	Horse-power	Frame Type	Type of Enclosure	Current Ratings	Drive Input Disconnect	Drive Input Fuses	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
HVFDSB3C0600G120/U	60 HP	7	NEMA 1	87A	No	—	20.8 x 51.5 x 12.2	530.86 x 1313.18 x 309.88	179 lb	81.19 kg
HVFDSB3C0600G220/U	60 HP	7	NEMA 12	87A	Yes	Yes	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	165 lb	74.84 kg
HVFDSB3C0600G320/U	60 HP	7	NEMA 3R	87A	Yes	Yes	28.5 x 48 x 12.5	723.9 x 1219.2 x 317.5	185 lb	83.91 kg
HVFDSB3C0750G120/U	75 HP	7	NEMA 1	105A	No	—	20.8 x 51.5 x 12.2	530.86 x 1313.18 x 309.88	189 lb	85.73 kg
HVFDSB3C0750G220/U	75 HP	7	NEMA 12	105A	Yes	Yes	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	193 lb	87.54 kg
HVFDSB3C0750G320/U	75 HP	7	NEMA 3R	105A	Yes	Yes	28.5 x 48 x 12.5	723.9 x 1219.2 x 317.5	185 lb	83.91 kg
HVFDSB3C1000G120/U	100 HP	8	NEMA 1	140 A	No	—	25 x 60 x 15.2	635 x 1524 x 386.08	250 lb	113.4 kg
HVFDSB3C1000G220/U	100 HP	8	NEMA 12	140 A	No	—	56 x 48 x 15.1	1422 x 1219 x 384	350 lb	158.76 kg
HVFDSB3C1000G320/U	100 HP	8	NEMA3R	140 A	No	—	40.5 x 60 x 12.5	1028.7 x 1524 x 317.5	430 lb	195.04 kg
HVFDSB3C1250G120/U	120 HP	8	NEMA 1	170 A	No	—	25 x 60 x 16.2	635 x 1524 x 411.5	265 lb	120.2 kg
HVFDSB3C1250G220/U	120 HP	8	NEMA 12	170 A	No	—	56 x 48 x 15.1	1422 x 1219 x 384	350 lb	158.76 kg
HVFDSB3C1250G320/U	120 HP	8	NEMA3R	170 A	No	—	60 x 41 x 14	1524 x 1041 x 356	451 lb	204.6 kg
HVFDSB3C1500G120/U	150 HP	8	NEMA 1	205 A	No	—	25 x 60 x 16.2	635 x 1524 x 411.5	280 lb	127 kg
HVFDSB3C1500G220/U	150 HP	8	NEMA 12	205 A	No	—	56 x 48 x 15.1	1422 x 1219 x 384	350 lb	158.76 kg
HVFDSB3C1500G320/U	150 HP	8	NEMA3R	205 A	No	—	60 x 41 x 14	1524 x 1041 x 356	451 lb	204.6 kg

Voltage: 460 Vac

Configuration: Drive with 3 Contactor Bypass
Auto Bypass: No
Disconnect Type: Fused

Drive Input Disconnect: Yes
Drive Input Fuses: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3C0015G130/U	1.5 HP	4	NEMA 1	3.4A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	44 lb	19.96 kg
HVFDSB3C0015G230/U	1.5 HP	4	NEMA 12	3.4A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0015G330/U	1.5 HP	4	NEMA 3R	3.4A	24 5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0020G130/U	2 HP	4	NEMA 1	4.8A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	44 lb	19.96 kg
HVFDSB3C0020G230/U	2 HP	4	NEMA 12	4.8A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0020G330/U	2 HP	4	NEMA 3R	4.8A	24 5 x 24 x 10.5	622.3 x 609.6 x 266.7	54 lb	24.49 kg
HVFDSB3C0030G130/U	3 HP	4	NEMA 1	5.6A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	44 lb	19.96 kg
HVFDSB3C0030G230/U	3 HP	4	NEMA 12	5.6A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0030G330/U	3 HP	4	NEMA 3R	5.6A	24 5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0040G130/U	4 HP	4	NEMA 1	8A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	44 lb	19.96 kg
HVFDSB3C0040G230/U	4 HP	4	NEMA 12	8A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0040G330/U	4 HP	4	NEMA 3R	8A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0050G130/U	5 HP	4	NEMA 1	9.6A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	44 lb	19.96 kg
HVFDSB3C0050G230/U	5 HP	4	NEMA 12	9.6A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0050G330/U	5 HP	4	NEMA 3R	9.6A	24 5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0075G130/U	7.5 HP	4	NEMA 1	12A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	44 lb	19.96 kg
HVFDSB3C0075G230/U	7.5 HP	4	NEMA 12	12A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0075G330/U	7.5 HP	4	NEMA 3R	12A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0100G130/U	10 HP	5	NEMA 1	16A	8.9 x 41.7 x 10.3	226.06 x 881.38 x 261.62	55 lb	24.95 kg
HVFDSB3C0100G230/U	10 HP	5	NEMA 12	16A	16 x 41 x 11	406.4 x 1041.4 x 279.4	64 lb	29.03 kg
HVFDSB3C0100G330/U	10 HP	5	NEMA 3R	16A	28 5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3C0150G130/U	15 HP	5	NEMA 1	23A	8.9 x 41.7 x 10.3	226.06 x 881.38 x 261.62	57 lb	25.85 kg
HVFDSB3C0150G230/U	15 HP	5	NEMA 12	23A	16 x 41 x 11	406.4 x 1041.4 x 279.4	64 lb	29.03 kg
HVFDSB3C0150G330/U	15 HP	5	NEMA 3R	23A	28 5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3C0200G130/U	20 HP	5	NEMA 1	31A	8.9 x 41.7 x 10.8	226.06 x 881.38 x 274.32	59 lb	26.76 kg
HVFDSB3C0200G230/U	20 HP	5	NEMA 12	31A	16 x 45 x 11	406.4 x 1143 x 279.4	76 lb	34.47 kg
HVFDSB3C0200G330/U	20 HP	5	NEMA 3R	31A	28 5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3C0250G130/U	25 HP	6	NEMA 1	38A	12.4 x 55.2 x 11 3	314.96 x 1145.5 x 287.02	94.5 lb	42.86 kg
HVFDSB3C0250G230/U	25 HP	6	NEMA 12	38A	16 x 50.5 x 13	406.4 x 1282.7 x 330.2	120 lb	54.43 kg

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3C0250G330/U	25 HP	6	NEMA 3R	38A	34.5 x 36 x 12	723.9 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3C0300G130/U	30 HP	6	NEMA 1	46A	12.4 x 55 2 x 11 3	314.96 x 1145.5 x 287.02	98.5 lb	44.68 kg
HVFDSB3C0300G230/U	30 HP	6	NEMA 12	46A	16 x 50.5 x 13	406.4 x 1282.7 x 330 2	120 lb	54.43 kg
HVFDSB3C0300G330/U	30 HP	6	NEMA 3R	46A	34.5 x 36 x 12	723.9 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3C0400G130/U	40 HP	6	NEMA 1	61A	12.4 x 55.2 x 11.3	314.96 x 1145.5 x 287.02	105.5 lb	47.85 kg
HVFDSB3C0400G230/U	40 HP	6	NEMA 12	61A	16 x 50.5 x 13	406.4 x 1282.7 x 330 2	136 lb	61.69 kg
HVFDSB3C0400G330/U	40 HP	6	NEMA 3R	61A	34.5 x 36 x 12	723.9 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3C0500G130/U	50 HP	7	NEMA 1	72A	20.8 x 59 x 13.2	528.32 x 1308.1 x 335.28	175 lb	79.38 kg
HVFDSB3C0500G230/U	50 HP	7	NEMA 12	72A	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	150 lb	68.04 kg
HVFDSB3C0500G330/U	50 HP	7	NEMA 3R	72A	40.5 x 48 x 14	1028.7 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3C0600G130/U	60 HP	7	NEMA 1	87A	20.8 x 59 x 13.2	528.32 x 1308.1 x 335.28	184 lb	83.46 kg
HVFDSB3C0600G230/U	60 HP	7	NEMA 12	87A	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	165 lb	74.84 kg
HVFDSB3C0600G330/U	60 HP	7	NEMA 3R	87A	40.5 x 48 x 14	1028.7 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3C0750G130/U	75 HP	7	NEMA 1	105A	20.8 x 59 x 13.2	528.32 x 1308.1 x 335.28	195 lb	88.45 kg
HVFDSB3C0750G230/U	75 HP	7	NEMA 12	105A	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	193 lb	87.54 kg
HVFDSB3C0750G330/U	75 HP	7	NEMA 3R	105A	40.5 x 48 x 14	1028.7 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3C1000G130/U	100 HP	8	NEMA 1	140 A	25 x 70 x 16.2	635 x 1524 x 411.48	285 lb	129.27 kg
HVFDSB3C1000G230/U	100 HP	8	NEMA 12	140 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	158.76 kg
HVFDSB3C1000G330/U	100 HP	8	NEMA3R	140 A	40.4 x 60 x 12	1026 x 1524 x 304.8	470 lb	213.2 kg
HVFDSB3C1250G130/U	120 HP	8	NEMA 1	170 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	167.4 kg
HVFDSB3C1250G230/U	120 HP	8	NEMA 12	170 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	158.76 kg
HVFDSB3C1250G330/U	120 HP	8	NEMA3R	170 A	40.4 x 60 x 12	1026 x 1524 x 304.8	470 lb	213.2 kg
HVFDSB3C1500G130/U	150 HP	8	NEMA 1	205 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	167.4 kg
HVFDSB3C1500G230/U	150 HP	8	NEMA 12	205 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	158.76 kg
HVFDSB3C1500G330/U	150 HP	8	NEMA3R	205 A	40.4 x 60 x 12	1026 x 1524 x 304.8	470 lb	213.2 kg

Voltage: 460 Vac

Configuration: Drive with 3 Contactor Bypass and Auto Bypass
Disconnect Type: Fused
Drive Input Disconnect: Yes
Drive Input Fuses: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3C0015G131/U	1.5 HP	4	NEMA 1	3.4A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	46 lb	20.87 kg
HVFDSB3C0015G231/U	1.5 HP	4	NEMA 12	3.4A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0015G331/U	1.5 HP	4	NEMA 3R	3.4A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0020G131/U	2 HP	4	NEMA 1	8A	8.9 x 38.7 x 10.7	226.06 x 982.98 x 271.78	Contact Customer Care	
HVFDSB3C0020G231/U	2 HP	4	NEMA 12	4.8A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0020G331/U	2 HP	4	NEMA 3R	4.8A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0030G131/U	3 HP	4	NEMA 1	5.6A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	46 lb	20.87 kg
HVFDSB3C0030G231/U	3 HP	4	NEMA 12	5.6A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0030G331/U	3 HP	4	NEMA 3R	5.6A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0040G131/U	4 HP	4	NEMA 1	8A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	46 lb	20.87 kg
HVFDSB3C0040G231/U	4 HP	4	NEMA 12	8A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0040G331/U	4 HP	4	NEMA 3R	8A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0050G131/U	5 HP	4	NEMA 1	9.6A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	46 lb	20.87 kg
HVFDSB3C0050G231/U	5 HP	4	NEMA 12	9.6A	16 x 37.5 x 11	304.8 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0050G331/U	5 HP	4	NEMA 3R	9.6A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49 kg
HVFDSB3C0075G131/U	7.5 HP	4	NEMA 1	12A	8.9 x 38.9 x 10.3	226.06 x 810.26 x 261.62	46 lb	20.87 kg
HVFDSB3C0075G231/U	7.5 HP	4	NEMA 12	12A	16 x 37.5 x 11	406.4 x 952.5 x 279.4	53 lb	24.04 kg
HVFDSB3C0075G331/U	7.5 HP	4	NEMA 3R	12A	24.5 x 24 x 12	622.3 x 609.6 x 304.8	54 lb	24.49kg
HVFDSB3C0100G131/U	10 HP	5	NEMA 1	16A	8.9 x 41.7 x 10.3	226.06 x 881.38 x 261.62	55 lb	25.4 kg

SmartVFD HVAC and SmartVFD BYPASS

Product Number	Horsepower	Frame Type	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
HVFDSB3C0100G231/U	10 HP	5	NEMA 12	16A	16 x 41 x 11	406.4 x 1041.4 x 279.4	64 lb	29.03 kg
HVFDSB3C0100G331/U	10 HP	5	NEMA 3R	16A	28.5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3C0150G131/U	15 HP	5	NEMA 1	23A	8.9 x 41.7 x 10.3	226.06 x 881.38 x 261.62	56 lb	25.4 kg
HVFDSB3C0150G231/U	15 HP	5	NEMA 12	23A	16 x 41 x 11	406.4 x 1041.4 x 279.4	64 lb	29.03 kg
HVFDSB3C0150G331/U	15 HP	5	NEMA 3R	23A	28.5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3C0200G131/U	20 HP	5	NEMA 1	31A	8.9 x 41.7 x 10.8	226.06 x 881.38 x 274.32	60 lb	27.22 kg
HVFDSB3C0200G231/U	20 HP	5	NEMA 12	31A	16 x 45 x 11	406.4 x 1143 x 279.4	76 lb	34.47 kg
HVFDSB3C0200G331/U	20 HP	5	NEMA 3R	31A	28.5 x 30 x 12	723.9 x 762 x 304.8	78 lb	35.38 kg
HVFDSB3C0250G131/U	25 HP	6	NEMA 1	38A	12.4 x 55.2 x 11.3	314.96 x 1145.5 x 287.02	96.5 lb	43.77 kg
HVFDSB3C0250G231/U	25 HP	6	NEMA 12	38A	16 x 50.5 x 13	406.4 x 1282.7 x 330 2	120 lb	54.43 kg
HVFDSB3C0250G331/U	25 HP	6	NEMA 3R	38A	34.5 x 36 x 12	723.9 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3C0300G131/U	30 HP	6	NEMA 1	46A	12.4 x 55.2 x 11.3	314.96 x 1145.5 x 287.02	100.5 lb	45.59 kg
HVFDSB3C0300G231/U	30 HP	6	NEMA 12	46A	16 x 50.5 x 13	406.4 x 1282.7 x 330 2	120 lb	54.43 kg
HVFDSB3C0300G331/U	30 HP	6	NEMA 3R	46A	34.5 x 36 x 12	723.9 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3C0400G131/U	40 HP	6	NEMA 1	61A	12.4 x 55.2 x 11.3	314.96 x 1145.5 x 287.02	107.5 lb	48.76 kg
HVFDSB3C0400G231/U	40 HP	6	NEMA 12	61A	16 x 50.5 x 13	406.4 x 1282.7 x 330 2	136 lb	61.69 kg
HVFDSB3C0400G331/U	40 HP	6	NEMA 3R	61A	34.5 x 36 x 12	723.9 x 914.4 x 304.8	124 lb	56.25 kg
HVFDSB3C0500G131/U	50 HP	7	NEMA 1	72A	20.8 x 59 x 13.2	528.32 x 1308.1 x 335.28	177 lb	80.29 kg
HVFDSB3C0500G231/U	50 HP	7	NEMA 12	72A	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	150 lb	68.04 kg
HVFDSB3C0500G331/U	50 HP	7	NEMA 3R	72A	40.5 x 48 x 14	1028.7 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3C0600G131/U	60 HP	7	NEMA 1	87A	20.8 x 59 x 13.2	528.32 x 1308.1 x 335.28	186 lb	84.37 kg
HVFDSB3C0600G231/U	60 HP	7	NEMA 12	87A	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	165 lb	74.84 kg
HVFDSB3C0600G331/U	60 HP	7	NEMA 3R	87A	40.5 x 48 x 14	1028.7 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3C0750G131/U	75 HP	7	NEMA 1	105A	20.8 x 59 x 13.2	528.32 x 1308.1 x 335.28	197 lb	89.36 kg
HVFDSB3C0750G231/U	75 HP	7	NEMA 12	105A	20 x 58.5 x 13.5	508 x 1485.9 x 342.9	193 lb	87.54 kg
HVFDSB3C0750G331/U	75 HP	7	NEMA 3R	105A	40.5 x 48 x 14	1028.7 x 1219.2 x 355.6	193 lb	87.54 kg
HVFDSB3C1000G131/U	100 HP	8	NEMA 1	140 A	25 x 70 x 16.2	635 x 1524 x 411.48	287 lb	130.18 kg
HVFDSB3C1000G231/U	100 HP	8	NEMA 12	140 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	158.76 kg
HVFDSB3C1000G331/U	100 HP	8	NEMA3R	140 A	40.4 x 60 x 12	1026 x 1524 x 304.8	470 lb	213.2 kg
HVFDSB3C1250G131/U	120 HP	8	NEMA 1	170 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	167.4 kg
HVFDSB3C1250G231/U	120 HP	8	NEMA 12	170 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	158.76 kg
HVFDSB3C1250G331/U	120 HP	8	NEMA3R	170 A	40.4 x 60 x 12	1026 x 1524 x 304.8	470 lb	213.2 kg
HVFDSB3C1500G131/U	150 HP	8	NEMA 1	205 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	167.4 kg
HVFDSB3C1500G231/U	150 HP	8	NEMA 12	205 A	56 x 48 x 15.1	1422 x 1219 x 384	369 lb	158.76 kg
HVFDSB3C1500G331/U	150 HP	8	NEMA3R	205 A	40.4 x 60 x 12	1026 x 1524 x 304.8	470 lb	213.2 kg

SmartVFD COMPACT Accessories

Product Number	Description	Used With	
HVFDCABLE/U	SmartVFD HVAC and COMPACT USB Commissioning Cable	SmartVFD COMPACT	
HVFDCDMCA/U	COMPACT VFD Commissioning device	SmartVFD COMPACT	
HVFDCDMCAKIT/U	COMPACT VFD Commissioning kit	SmartVFD COMPACT	
HVFDCDNEMA1FR1/U	COMPACT VFD NEMA 1 kit - Frame size 1	SmartVFD COMPACT	
HVFDCDNEMA1FR2/U	COMPACT VFD NEMA 1 kit - Frame Size 2	SmartVFD COMPACT	
HVFDCDNEMA1FR3/U	COMPACT VFD NEMA 1 kit - Frame size 3	SmartVFD COMPACT	
HVFDCDTRAINER/U	COMPACT VFD Training Demonstration kit	SmartVFD COMPACT	

SmartVFD HVAC Accessories

Product Number	Description	Used With
32006630-001/U	Lon Communication Card (NXOPTC4)	SmartVFD HVAC
HFVDSDMOUNTKIT/U	SmartVFD HVAC panel mount kit for NEMA 12 Install, 3 meter cable	SmartVFD HVAC
HVFDSDBATTERY/U	Battery Package, 5 pcs, for Real Time Clock	SmartVFD HVAC
HVFDSDFANFR4/U	SmartVFD HVAC Frame 4 Replacement Fan	SmartVFD HVAC
HVFDSDFANFR5/U	SmartVFD HVAC Frame 5 Replacement Fan	SmartVFD HVAC
HVFDSDFANFR6/U	SmartVFD HVAC Frame 6 Replacement Fan	SmartVFD HVAC
HVFDSDFANFR7/U	SmartVFD HVAC Frame 7 Replacement Fan	SmartVFD HVAC
HVFDSDFLANGEFR4/U	SmartVFD HVAC Flange Mounting Kit for Frame 4	SmartVFD HVAC
HVFDSDFLANGEFR5/U	SmartVFD HVAC Flange Mounting Kit for Frame 5	SmartVFD HVAC
HVFDSDFLANGEFR6/U	SmartVFD HVAC Flange Mounting Kit for Frame 6	SmartVFD HVAC
HVFDSDFLANGEFR7/U	SmartVFD HVAC Flange Mounting Kit for Frame 7	SmartVFD HVAC
HVFDSDGRAPHICKP/U	SmartVFD HVAC Replacement Graphical Keypad	SmartVFD HVAC
HVFDSDINSTALLFR4/U	SmartVFD HVAC Replacement Installation Accessories Frame 4	SmartVFD HVAC
HVFDSDINSTALLFR5/U	SmartVFD HVAC Replacement Installation Accessories Frame 5	SmartVFD HVAC
HVFDSDINSTALLFR6/U	SmartVFD HVAC Replacement Installation Accessories Frame 6	SmartVFD HVAC
32006630-001/U	LON Communication Card (NXOPTC4)	SmartVFD HVAC
HVFSDMOUNTKIT/U	SmartVFD HVAC Panel Mount Kit for NEMA 12 Install; 3-meter cable	SmartVFD HVAC
HVFDSDNEMA12FR4/U	SmartVFD HVAC NEMA12 Kit Frame 4	SmartVFD HVAC
HVFDSDNEMA12FR5/U	SmartVFD HVAC NEMA12 Kit Frame 5	SmartVFD HVAC
HVFDSDNEMA12FR6/U	SmartVFD HVAC NEMA12 Kit Frame 6	SmartVFD HVAC
HVFDSDOPT1AI2AO/U	1 x AI, 2 x AO (isolated, D- and E-slot compatible)	SmartVFD HVAC
HVFDSDOPT1RO5DI/U	1 x RO, 5 x DI (42-240VAC, D- and E-slot compatible)	SmartVFD HVAC
HVFDSDOPT2RO1T/U	2 x RO + Thermistor (D- and E-slot compatible)	SmartVFD HVAC
HVFDSDOPT3RO/U	3 x RO (D- and E-slot compatible)	SmartVFD HVAC
HVFDSDOPT6DI/U	6 x DI / DO Programmable (D- and E-slot compatible)	SmartVFD HVAC
HVFDSDREP2RO1T/U	2 x RO + Thermistor (B-slot compatible)	SmartVFD HVAC
HVFDSDREP3RO/U	3 x RO (B-slot compatible)	SmartVFD HVAC
HVFDSDTRAINER/U	SmartVFD HVAC Training Demonstration Kit with 115V Transformer to 230V	SmartVFD HVAC

VFD Core

VFD CORE

VFD CORE addresses the need to save time for installation and provides the lower total installed costs. VFD CORE is rated for constant torque for industrial applications and variable torque for HVAC applications.

Drive Family: VFD CORE
Acceleration time: 0.0 - 600 sec
Deceleration time: 0.0 - 6000 sec
Analog Current Input: 0 (4) - 20 mA, 250 ohm differential
Analog Voltage Input: 0 - 10 Vdc, 200K ohm
Analog Current Output: 0 (4) - 20 mA, max 500 ohm
Digital Output: Open collector, max. load 48V/50mA
Continuous Output Current: Full Amp 1.2
Relay Output: Max. switching load: 250Vac/2A or 250Vdc/0,4A
Reference Output Voltage: Maximum Load 10mA
Auxiliary Voltage: ± 20%, max. load 50 mA
Starting Torque: Depends on the Motor
Peak Current: 20% of rated current for 1 minute
Frequency (Hz): 0 Hz to 600 Hz
Operating Temperature: 14 to 104 F (10 to 40 C)
Type of Enclosure: NEMA1
Configuration: Drive alone

Product Number	Voltage	Horsepower[1]	Frame Type	Variable Torque[2]	Constant Torque Current Ratings[3]	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
HCRDA0010A1000T/U	208 Vac/230 Vac	1 HP	A	5A	4.6A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDA0020A1000T/U	208 Vac/230 Vac	2 HP	A	7.5A	5A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDA0030A1000T/U	208 Vac/230 Vac	3 HP	A	10A	8A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDA0050A1000T/U	208 Vac/230 Vac	5 HP	A	15A	11A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDA0075A1000T/U	208 Vac/230 Vac	7.5 HP	A	21A	17A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDA0100B1000T/U	208 Vac/230 Vac	10 HP	B	31A	25A	7.5 x 12.6 x 7. 5	190 x 320 x 190	10.12	4.6
HCRDA0150B1000T/U	208 Vac/230 Vac	15 HP	B	46A	33A	7.5 x 12.6 x 7. 5	190 x 320 x 190	10.12	4.6
HCRDA0200B1000T/U	208 Vac/230 Vac	20 HP	B	61A	49A	7.5 x 12.6 x 7. 5	190 x 320 x 190	12.32	5.6
HCRDA0250C1000T/U	208 Vac/230 Vac	25 HP	C	75A	65A	9. 8 x 15.7 x 8.2	250 x 400 x 210	23.1	10.5
HCRDA0300C1000T/U	208 Vac/230 Vac	30 HP	C	90A	75A	9. 8 x 15.7 x 8.2	250 x 400 x 210	23.1	10.5
HCRDA0400C1000T/U	208 Vac/230 Vac	40 HP	C	105A	90A	9. 8 x 15.7 x 8.2	250 x 400 x 210	23.1	10.5
HCRDA0500D1000T/U	208 Vac/230 Vac	50 HP	D	146A	120A	13 x 27 x 10.8	330 x 688 x 275	78.1	35.5
HCRDA0600D1000T/U	208 Vac/230 Vac	60 HP	D	180A	146A	13 x 27 x 10.8	330 x 688 x 275	78.1	35.5
HCRDA0750E1000T/U	208 Vac/230 Vac	75 HP	E	215A	180A	14.5 x 28.2 x 11.9	370 x 716 x 300	100.54	45.7
HCRDA1000E1000T/U	208 Vac/230 Vac	100 HP	E	276A	215A	14.5 x 28.2 x 11.9	370 x 716 x 300	101.64	46.2
HCRDA1250E1000T/U	208 Vac/230 Vac	125 HP	E	322A	255A	14.5 x 28.2 x 11.9	370 x 716 x 300	120.34	54.7
HCRDC0010A1000T/U	460 Vac	1 HP	A	3A	2.8A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDC0020A1000T/U	460 Vac	2 HP	A	3.7A	3A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDC0030A1000T/U	460 Vac	3 HP	A	5A	4A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDC0050A1000T/U	460 Vac	5 HP	A	7.5A	6A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDC0075A1000T/U	460 Vac	7.5 HP	A	12A	10.5A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDC0100A1000T/U	460 Vac	10 HP	A	14A	12A	5.1 x 9.8 x 6.7	130 x 250 x 170	6.16	2.8
HCRDC0150B1000T/U	460 Vac	15 HP	B	22.5A	18A	7.5 x 12.6 x 7. 5	190 x 320 x 190	9.68	4.4
HCRDC0200B1000T/U	460 Vac	20 HP	B	30A	24A	7.5 x 12.6 x 7. 5	190 x 320 x 190	10.34	4.7
HCRDC0250B1000T/U	460 Vac	25 HP	B	36A	32A	7.5 x 12.6 x 7. 5	190 x 320 x 190	12.54	5.7
HCRDC0300C1000T/U	460 Vac	30 HP	C	45A	38A	9. 8 x 15.7 x 8.2	250 x 400 x 210	18.48	8.4
HCRDC0400C1000T/U	460 Vac	40 HP	C	56A	45A	9. 8 x 15.7 x 8.2	250 x 400 x 210	19.14	8.7
HCRDC0500C1000T/U	460 Vac	50 HP	C	72A	60A	9. 8 x 15.7 x 8.2	250 x 400 x 210	20.68	9.4
HCRDC0600D1000T/U	460 Vac	60 HP	D	91A	73A	13 x 27 x 10.8	330 x 688 x 275	78.1	35.5
HCRDC0750D1000T/U	460 Vac	75 HP	D	110A	91A	13 x 27 x 10.8	330 x 688 x 275	78.1	35.5
HCRDC1000D1000T/U	460 Vac	100 HP	D	144A	110A	13 x 27 x 10.8	330 x 688 x 275	89.1	40.5
HCRDC1250D1000T/U	460 Vac	125 HP	D	180A	150A	13 x 27 x 10.8	330 x 688 x 275	89.1	40.5

[1]Drives should be selected so that the rated output current in Amps of the drive meets or exceeds the full load amps (FLA) of the motor and not based on the motor horsepower.
[2]Variable Torque loads are loads that drive a variable speed motor where the torque decreases as the speed decreases, i.e. centrifugal pumps, fans.
[3]Constant Torque loads are loads where as the speed changes the torque remains constant, i.e. conveyors, positive displacement pumps.

VFD CORE Bypass Assemblies

VFD CORE addresses the need to save time for installation and provides the lower total installed costs. VFD CORE is rated for constant torque for industrial applications and variable torque for HVAC applications.

Drive Family: VFD CORE
Acceleration time: 0.0 - 600 sec
Deceleration time: 0.0 - 6000 sec
Analog Current Input: 0 (4) - 20 mA, 250 ohm differential
Analog Voltage Input: 0 - 10 Vdc, 200K ohm
Analog Current Output: 0 (4) - 20 mA, max 500 ohm
Digital Output: Open collector, max. load 48V/50mA
Continuous Output Current: Full Amp 1.2
Relay Output: Max. switching load: 250Vac/2A or 250Vdc/0,4A
Reference Output Voltage: Maximum Load 10mA
Auxiliary Voltage: ± 20%, max. load 50 mA

Starting Torque: Depends on the Motor
Peak Current: 20% of rated current for 1 minute
Drive Input Disconnect: Yes
Disconnect Type: Fused
Drive Input Fuses: Yes
Pilot Lights: Yes
Frequency (Hz): 0 Hz to 600 Hz
Operating Temperature: 14 to 104 F (10 to 40 C)
Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA1

NOTE: All VFD Core Drives with Bypass are configured with 3 contractors and a fused disconnect.

Product Number	Voltage	Horsepower[1]	Frame Type	Variable Torque[2]	Constant Torque Current Ratings[3]	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
HCRBA0010A1300T/U	208 Vac	1 HP	A	5A	4.6A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBA0020A1300T/U	208 Vac	2 HP	A	7.5A	5A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBA0030A1300T/U	208 Vac	3 HP	A	10A	8A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBA0050A1300T/U	208 Vac	5 HP	A	15A	11A	8.9 x 35.2 x 10.6	226 x 894 x 270	40	18
HCRBA0075A1300T/U	208 Vac	7.5 HP	A	21A	17A	8.9 x 35.2 x 10.6	226 x 894 x 270	63	29
HCRBA0100B1300T/U	208 Vac	10 HP	B	31A	25A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	67	30
HCRBA0150B1300T/U	208 Vac	15 HP	B	46A	33A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	75	34
HCRBA0200B1300T/U	208 Vac	20 HP	B	61A	49A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	79	36
HCRBA0250C1300T/U	208 Vac	25 HP	C	75A	65A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	83	38
HCRBA0300C1300T/U	208 Vac	30 HP	C	90A	75A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	166	75
HCRBA0400C1300T/U	208 Vac	40 HP	C	105A	90A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	176	80
HCRBA0500D1300T/U	208 Vac	50 HP	D	146A	120A	19.6 x 53.5 x 13.3	497.8 x 1359 x 337.8	193	88
HCRBA0600D1300T/U	208 Vac	60 HP	D	180A	146A	19.6 x 53.5 x 13.3	497.8 x 1359 x 337.8	255	116
HCRBA0750E1300T/U	208 Vac	75 HP	E	215A	180A	Contact Customer Care			
HCRBA1000E1300T/U	208 Vac	100 HP	E	276A	215A	Contact Customer Care			
HCRBA1250E1300T/U	208 Vac	125 HP	E	322A	255A	Contact Customer Care			
HCRBB0010A1300T/U	230 Vac	1 HP	A	5A	4.6A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBB0020A1300T/U	230 Vac	2 HP	A	7.5A	5A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBB0030A1300T/U	230 Vac	3 HP	A	10A	8A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBB0050A1300T/U	230 Vac	5 HP	A	15A	11A	8.9 x 35.2 x 10.6	226 x 894 x 270	40	18
HCRBB0075A1300T/U	230 Vac	7.5 HP	A	21A	17A	8.9 x 35.2 x 10.6	226 x 894 x 270	63	29
HCRBB0100B1300T/U	230 Vac	10 HP	B	31A	25A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	67	30
HCRBB0150B1300T/U	230 Vac	15 HP	B	46A	33A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	75	34
HCRBB0200B1300T/U	230 Vac	20 HP	B	61A	49A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	79	36

[1]Drives should be selected so that the rated output current in Amps of the drive meets or exceeds the full load amps (FLA) of the motor and not based on the motor horsepower.
[2]Variable Torque loads are loads that drive a variable speed motor where the torque decreases as the speed decreases, i.e. centrifugal pumps, fans.
[3]Constant Torque loads are loads where as the speed changes the torque remains constant, i.e. conveyors, positive displacement pumps.

VFD Core

Product Number	Voltage	Horsepower[1]	Frame Type	Variable Torque[2]	Constant Torque Current Ratings[3]	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
HCRBB0250C1300T/U	230 Vac	25 HP	C	75A	65A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	83	38
HCRBB0300C1300T/U	230 Vac	30 HP	C	90A	75A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	166	75
HCRBB0400C1300T/U	230 Vac	40 HP	C	105A	90A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	176	80
HCRBB0500D1300T/U	230 Vac	50 HP	D	146A	120A	19.6 x 53.5 x 13.3	497.8 x 1359 x 337.8	193	88
HCRBB0600D1300T/U	230 Vac	60 HP	D	180A	146A	19.6 x 53.5 x 13.3	497.8 x 1359 x 337.8	255	116
HCRBB0750E1300T/U	230 Vac	75 HP	E	215A	180A	Contact Customer Care			
HCRBB1000E1300T/U	230 Vac	100 HP	E	276A	215A	Contact Customer Care			
HCRBB1250E1300T/U	230 Vac	125 HP	E	322A	255A	Contact Customer Care			
HCRBC0010A1300T/U	460 Vac	1 HP	A	3A	2.8A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBC0020A1300T/U	460 Vac	2 HP	A	3.7A	3A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBC0030A1300T/U	460 Vac	3 HP	A	5A	4A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBC0050A1300T/U	460 Vac	5 HP	A	7.5A	6A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBC0075A1300T/U	460 Vac	7.5 HP	A	12A	10A	8.9 x 35.2 x 10.6	226 x 894 x 270	37	17
HCRBC0100A1300T/U	460 Vac	10 HP	A	14A	12A	8.9 x 35.2 x 10.6	226 x 894 x 270	40	18
HCRBC0150B1300T/U	460 Vac	15 HP	B	22.5A	18A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	63	29
HCRBC0200B1300T/U	460 Vac	20 HP	B	30A	24A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	67	30
HCRBC0250B1300T/U	460 Vac	25 HP	B	36A	32A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	71	32
HCRBC0300C1300T/U	460 Vac	30 HP	C	45A	38A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	75	34
HCRBC0400C1300T/U	460 Vac	40 HP	C	56A	45A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	79	36
HCRBC0500C1300T/U	460 Vac	50 HP	C	72A	60A	12.4 x 49.1 x 11.5	315 x 1247 x 292.1	83	38
HCRBC0600D1300T/U	460 Vac	60 HP	D	91A	73A	19.6 x 53.5 x 13.3	497.8 x 1359 x 337.8	166	75
HCRBC0750D1300T/U	460 Vac	75 HP	D	110A	91A	19.6 x 53.5 x 13.3	497.8 x 1359 x 337.8	176	80
HCRBC1000D1300T/U	460 Vac	100 HP	D	144A	110A	19.6 x 53.5 x 13.3	497.8 x 1359 x 337.8	193	88
HCRBC1250D1300T/U	460 Vac	125 HP	D	180A	150A	19.6 x 53.5 x 13.3	497.8 x 1359 x 337.8	255	116

[1]Drives should be selected so that the rated output current in Amps of the drive meets or exceeds the full load amps (FLA) of the motor and not based on the motor horsepower.

[2]Variable Torque loads are loads that drive a variable speed motor where the torque decreases as the speed decreases, i.e. centrifugal pumps, fans.

[3]Constant Torque loads are loads where as the speed changes the torque remains constant, i.e. conveyors, positive displacement pumps.

VFD Core Accessories

Product Number	Drive Family	Description
HCRDFANFRA1H/U	VFD CORE	VFD CORE Replacement Fan Frame A (Heat Sink Cooling Fan for 3-7.5HP 208/ 230 V and 5-10 HP 460 V)
HCRDFANFRB1B/U	VFD CORE	VFD CORE Replacement Fan Frame B (Board Cooling Fan for 10-20 HP 208/230 V and 15-25 HP 460 V)
HCRDFANFRB1H/U	VFD CORE	VFD CORE Replacement Fan Frame B (Heat Sink Cooling Fan for 10 HP 208/230 V and 15 HP 460 V)
HCRDFANFRB2H/U	VFD CORE	VFD CORE Replacement Fan Frame B (Heat Sink Cooling Fan for 15-20 HP 208/230 V and 20-25 HP 460V)
HCRDFANFRC1B/U	VFD CORE	VFD CORE Replacement Fan Frame C (Board Cooling Fan for 25-40 HP 208/230 V)
HCRDFANFRC2B/U	VFD CORE	VFD CORE Replacement Fan Frame C (Board Cooling Fan for 30-50 HP 460 V)
HCRDFANFRD1B/U	VFD CORE	VFD CORE Replacement Fan Frame D (Board Cooling Fan for 50-60 HP 208/230 V and 60-125 HP 460V)
HCRDFANFRD1H/U	VFD CORE	VFD CORE Replacement Fan Frame D (Heat Sink Cooling Fan for 50-60 HP 208/230 V and 60-125 HP 460V)
HCRDFANFRE1B/U	VFD CORE	VFD CORE Replacement Fan Frame E (Board Cooling Fan for 75- 125 HP 208/230V)
HCRDFANFRE1H/U	VFD CORE	VFD CORE Replacement Fan Frame E (Heat Sink Cooling Fan for 75- 100 HP 208/230 V)
HCRDFANFRE2H/U	VFD CORE	VFD CORE Replacement Fan Frame E (Heat Sink Cooling Fan for 125 HP 208/230 V)
HCRDKEYPAD/U	VFD CORE	VFD CORE Replacement Keypad
HCRDMOUNTKIT/U	VFD CORE	VFD CORE Keypad Mounting Kit
HCRDTRAINER/U	VFD CORE	VFD CORE Training Demonstration Kit

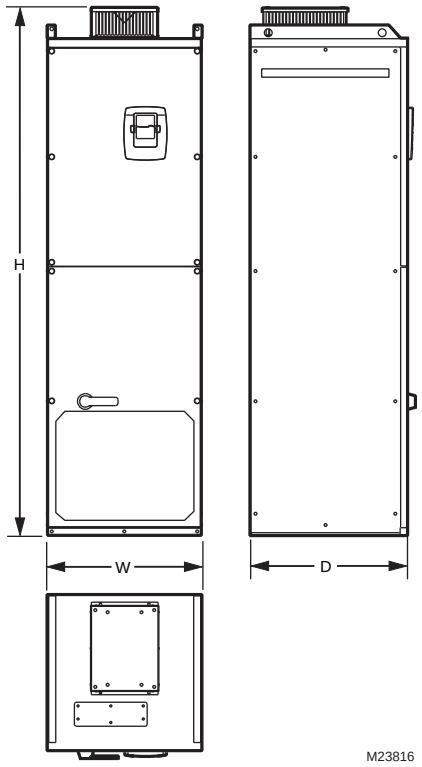
NXP Variable Frequency Drives

Variable Frequency Drives (VFD) accept a control input and then output tailored PWM control signal to operate (motors, fans, pumps, etc.) with maximum efficiency. The VFD can be field-programmed without any extra devices or computer connections

- Seven configurable applications built in
- Easy commissioning through software or control panel
- Devices are free-standing to ensure secure installation
- Insulated gate bi-polar transistor (IGBT) technology

Drive Family: NXP
Acceleration time: 0 - 3000 sec
Deceleration time: 0 - 3000 sec
Analog Current Input: 0 (4) - 20 mA, 250 ohm differential
Analog Voltage Input: 0 - 10 Vdc, 200K ohm
Analog Current Output: 0 (4) - 20 mA, max 500 ohm
Digital Output: 50 mA/48v open collector
Continuous Output Current: overload 1.5 x High overload current (1min/10min); overload 1.1 x Low overload current (1min/10min)
Relay Output: 24 Vdc/8A; 125 Vdc/0.4A; 250 Vac/8A
Reference Output Voltage: +10V, +3%, max 10mA
Auxiliary Voltage: 24V, +/- 15%, max 250 mA
Starting Torque: 200% High; 150% Low
Peak Current: 2 x high overload current, 2 seconds every 20 seconds
Voltage: 460 Vac
Frequency (Hz): 0 Hz to 320 Hz
Operating Temperature: High Overload 14 to 122; Low Overload 14 to 104 (High Overload -10 to 50; Low Overload -10 to 40)
Type of Enclosure: NEMA 1
Type of RFI Filter: Industrial filter
Layout: Stand-alone drive
Configuration: Drive alone

Dimensions in inches (millimeters)



Product Number	Horsepower	Frame Type	Current Ratings	Dimensions, Approximate		Weight	
				(inch)	(mm)	(lb)	(kg)
NXP3000A1003/U	300 HP	FR10	385A	23.4 x 79.5 x 23.7	595 x 2018 x 602	595 b	270 kg
NXP3500A1008/U	350 HP	FR10	460A	23.4 x 79.5 x 23.7	595 x 2018 x 602	595 b	270 kg
NXP4500A1006/U	450 HP	FR10	520A	23.4 x 79.5 x 23.7	595 x 2018 x 602	595 b	270 kg

Variable Frequency Drives

NXS Variable Frequency Drives

Variable Frequency Drives (VFD) accept a control input and then output tailored PWM control signal to operate (fans, pumps, etc.) with maximum efficiency. The VFD can be field-programmed without any extra devices or computer connections.

- Seven configurable applications built in
- Easy commissioning through software or control panel
- Devices can be wall-mounted or panel-mounted
- Eleven protective functions (see Form 63-2600, Users Manual, Technical Data sections)
- Compact Size
- Insulated gate bi-polar transistor (IGBT) technology
- Modbus, BACnet, Device Net, Prof bus, LobBus, NS available as options cards

Drive Family: NXS
Acceleration time: 0 - 3000 sec
Deceleration time: 0 - 3000 sec
Analog Current Input: 0 (4) - 20 mA, 250 ohm differential
Analog Voltage Input: 0 - 10 Vdc, 200K ohm
Analog Current Output: 0 (4) - 20 mA, max 500 ohm
Digital Output: 50 mA/48v open collector
Continuous Output Current: overload 1.5 x High overload current (1min/10min); overload 1.1 x Low overload current (1min/10min)
Relay Output: 24 Vdc/8A; 125 Vdc/0.4A; 250 Vac/8A

Reference Output Voltage: +10V, +3%, max 10mA
Auxiliary Voltage: 24V, +/- 15%, max 250 mA
Starting Torque: 200% High; 150% Low
Peak Current: 2 x high overload current, 2 seconds every 20 seconds
Frequency (Hz): 0 Hz to 320 Hz
Operating Temperature: High Overload 14 to 122; Low Overload 14 to 104 (High Overload -10 to 50; Low Overload -10 to 40)
Type of RFI Filter: Industrial filter
Configuration: Drive alone

Voltage: 208 Vac; 230 Vac

Product Number	Horse-power	Frame Type	Layout	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
NXS0010B1000/U	1 HP	FR4	Stand-alone drive	NEMA 1	4.8A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 lb	5.0 kg
NXS0010B1208/U	1 HP	FR4	Stand-alone drive	NEMA 12	4.8A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 lb	5.0 kg
NXS0015B1005/U	1.5 HP	FR4	Stand-alone drive	NEMA 1	6.6A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 lb	5.0 kg
NXS0015B1203/U	1.5 HP	FR4	Stand-alone drive	NEMA 12	6.6A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 lb	5.0 kg
NXS0020B1008/U	2 HP	FR4	Stand-alone drive	NEMA 1	7.8A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 lb	5.0 kg
NXS0020B1206/U	2 HP	FR4	Stand-alone drive	NEMA 12	7.8A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 lb	5.0 kg
NXS0030B1006/U	3 HP	FR4	Stand-alone drive	NEMA 1	11A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 lb	5.0 kg
NXS0030B1204/U	3 HP	FR4	Stand-alone drive	NEMA 12	11A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 lb	5.0 kg
NXS0040B1004/U	4 HP	FR4	Stand-alone drive	NEMA 1	12.5A	5.4 x 11.5 x 7.5	137 x 292 x 191	17.9 lb	8.1 kg
NXS0040B1202/U	4 HP	FR4	Stand-alone drive	NEMA 12	12.5A	5.4 x 11.5 x 7.5	137 x 292 x 191	17.9 lb	8.1 kg
NXS0050B1001/U	5 HP	FR5	Stand-alone drive	NEMA 1	17.5A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0050B1209/U	5 HP	FR5	Stand-alone drive	NEMA 12	17.5A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0075B1002/U	7.5 HP	FR5	Stand-alone drive	NEMA 1	25A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0075B1200/U	7.5 HP	FR5	Stand-alone drive	NEMA 12	25A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0100B1001/U	10 HP	FR5	Stand-alone drive	NEMA 1	31A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	40.8 lb	18.5 kg
NXS0100B1209/U	10 HP	FR5	Stand-alone drive	NEMA 12	31A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	40.8 lb	18.5 kg
NXS0150B1000/U	15 HP	FR6	Stand-alone drive	NEMA 1	48A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 lb	18.5 kg
NXS0150B1208/U	15 HP	FR6	Stand-alone drive	NEMA 12	48A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 lb	18.5 kg
NXS0200B1000/U	20 HP	FR6	Stand-alone drive	NEMA 1	61A	7.7 x 20.4 x 9.3	196 x 518 x 236	77.2 lb	35 kg
NXS0200B1208/U	20 HP	FR6	Stand-alone drive	NEMA 12	61A	7.7 x 20.4 x 9.3	196 x 518 x 236	77.2 lb	35 kg
NXS0250B1009/U	25 HP	FR7	Stand-alone drive	NEMA 1	75A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0250B1207/U	25 HP	FR7	Stand-alone drive	NEMA 12	75A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0300B1009/U	30 HP	FR7	Stand-alone drive	NEMA 1	88A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0300B1207/U	30 HP	FR7	Stand-alone drive	NEMA 12	88A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0400B1008/U	40 HP	FR8	Stand-alone drive	NEMA 1	114A	9.3 x 23.3 x 10.1	236 x 520 x 257	127.9 lb	58.0 kg
NXS0400B1206/U	40 HP	FR8	Stand-alone drive	NEMA 12	114A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS0500B1007/U	50 HP	FR8	Stand-alone drive	NEMA 1	140A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS0500B1205/U	50 HP	FR8	Stand-alone drive	NEMA 12	140A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS0600B1006/U	60 HP	FR8	Stand-alone drive	NEMA 1	169A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS0600B1204/U	60 HP	FR8	Stand-alone drive	NEMA 12	169A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg

Product Number	Horse-power	Frame Type	Layout	Type of Enclosure	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXS0750B1004/U	75 HP	FR8	Stand-alone drive	NEMA 1	205A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS0750B1202/U	75 HP	FR8	Stand-alone drive	NEMA 12	205A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg

Voltage: 460 Vac

Product Number	Horse-power	Frame Type	Layout	Type of Enclosure	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXS0015A1007/U	1.5 HP	FR4	Stand-alone drive	NEMA 1	3.3A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0015A1205/U	1.5 HP	FR4	Stand-alone drive	NEMA 12	3.3A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0020A1000/U	2 HP	FR4	Stand-alone drive	NEMA 1	4.3A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0020A1208/U	2 HP	FR4	Stand-alone drive	NEMA 12	4.3A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0030A1008/U	3 HP	FR4	Stand-alone drive	NEMA 1	5.6A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0030A1206/U	3 HP	FR4	Stand-alone drive	NEMA 12	5.6A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0040A1006/U	4 HP	FR4	Stand-alone drive	NEMA 1	7.6A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0040A1204/U	4 HP	FR4	Stand-alone drive	NEMA 12	7.6A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0050A1003/U	5 HP	FR4	Stand-alone drive	NEMA 1	9A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0050A1201/U	5 HP	FR4	Stand-alone drive	NEMA 12	9A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0075A1004/U	7.5 HP	FR4	Stand-alone drive	NEMA 1	12A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0075A1202/U	7.5 HP	FR4	Stand-alone drive	NEMA 12	12A	5.4 x 11.5 x 7.5	137 x 292 x 191	11 b	5.0 kg
NXS0100A1003/U	10 HP	FR5	Stand-alone drive	NEMA 1	16A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0100A1201/U	10 HP	FR5	Stand-alone drive	NEMA 12	16A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0150A1002/U	15 HP	FR5	Stand-alone drive	NEMA 1	23A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0150A1200/U	15 HP	FR5	Stand-alone drive	NEMA 12	23A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0200A1002/U	20 HP	FR5	Stand-alone drive	NEMA 1	31A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0200A1200/U	20 HP	FR5	Stand-alone drive	NEMA 12	31A	5.7 x 15.4 x 8.4	144.8 x 391.2 x 213.4	17.9 lb	8.1 kg
NXS0250A1001/U	25 HP	FR6	Stand-alone drive	NEMA 1	38A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 lb	18.5 kg
NXS0250A1209/U	25 HP	FR6	Stand-alone drive	NEMA 12	38A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 lb	18.5 kg
NXS0300A1001/U	30 HP	FR6	Stand-alone drive	NEMA 1	46A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 lb	18.5 kg
NXS0300A1209/U	30 HP	FR6	Stand-alone drive	NEMA 12	46A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 lb	18.5 kg
NXS0400A1000/U	40 HP	FR6	Stand-alone drive	NEMA 1	61A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 lb	18.5 kg
NXS0400A1208/U	40 HP	FR6	Stand-alone drive	NEMA 12	61A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 lb	18.5 kg
NXS0500A1009/U	50 HP	FR7	Stand-alone drive	NEMA 1	72A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0500A1207/U	50 HP	FR7	Stand-alone drive	NEMA 12	72A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0600A1008/U	60 HP	FR7	Stand-alone drive	NEMA 1	87A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0600A1206/U	60 HP	FR7	Stand-alone drive	NEMA 12	87A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0750A1006/U	75 HP	FR7	Stand-alone drive	NEMA 1	105A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS0750A1204/U	75 HP	FR7	Stand-alone drive	NEMA 12	105A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 lb	35 kg
NXS1000A1002/U	100 HP	FR8	Stand-alone drive	NEMA 1	140A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS1000A1200/U	100 HP	FR8	Stand-alone drive	NEMA 12	140A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS1250A1009/U	125 HP	FR8	Stand-alone drive	NEMA 1	170A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS1250A1207/U	125 HP	FR8	Stand-alone drive	NEMA 12	170A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS1500A1007/U	150 HP	FR8	Stand-alone drive	NEMA 1	205A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS1500A1205/U	150 HP	FR8	Stand-alone drive	NEMA 12	205A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 lb	58.0 kg
NXS2000A1000/U	200 HP	FR9	Stand-alone drive	NEMA 1	261A	18.9 x 45.3 x 14.3	480 x 1150 x 362	321.9 lb	146 kg
NXS2500A1005/U	250 HP	FR9	Stand-alone drive	NEMA 1		Call Customer Care			

Voltage: 575 Vac

Product Number	Horse-power	Frame Type	Layout	Type of Enclosure	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXS0030C1004/U	3 HP	FR6	Stand-alone drive	NEMA 1	4.5A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0030C1202/U	3 HP	FR6	Stand-alone drive	NEMA 12	4.5A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0040C1002/U	4 HP	FR6	Stand-alone drive	NEMA 1	5.5A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg

Variable Frequency Drives

Product Number	Horse-power	Frame Type	Layout	Type of Enclosure	Current Ratings	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
NXS0040C1200/U	4 HP	FR6	Stand-alone drive	NEMA 12	5.5A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0050C1009/U	5 HP	FR6	Stand-alone drive	NEMA 1	7.5A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0050C1207/U	5 HP	FR6	Stand-alone drive	NEMA 12	7.5A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0075C1000/U	7.5 HP	FR6	Stand-alone drive	NEMA 1	10A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0075C1208/U	7.5 HP	FR6	Stand-alone drive	NEMA 12	10A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0100C1009/U	10 HP	FR6	Stand-alone drive	NEMA 1	13.5A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0100C1207/U	10 HP	FR6	Stand-alone drive	NEMA 12	13.5A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0150C1008/U	15 HP	FR6	Stand-alone drive	NEMA 1	18A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0150C1206/U	15 HP	FR6	Stand-alone drive	NEMA 12	18A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0200C1008/U	20 HP	FR6	Stand-alone drive	NEMA 1	22A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0200C1206/U	20 HP	FR6	Stand-alone drive	NEMA 12	22A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0250C1007/U	25 HP	FR6	Stand-alone drive	NEMA 1	27A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0250C1205/U	25 HP	FR6	Stand-alone drive	NEMA 12	27A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0300C1007/U	30 HP	FR6	Stand-alone drive	NEMA 1	34A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0300C1205/U	30 HP	FR6	Stand-alone drive	NEMA 12	34A	7.7 x 20.4 x 9.3	196 x 518 x 236	40.8 b	18.5 kg
NXS0400C1006/U	40 HP	FR7	Stand-alone drive	NEMA 1	41A	16 x 62 x 12	406 x 1575 x 330	77.2 b	35 kg
NXS0400C1204/U	40 HP	FR7	Stand-alone drive	NEMA 12	41A	9.3 x 23.3 x 10.1	236 x 520 x 257	77.2 b	35 kg
NXS0500C1005/U	50 HP	FR7	Stand-alone drive	NEMA 1	52A	16 x 62 x 12	406 x 1575 x 330	77.2 b	35 kg
NXS0500C1203/U	50 HP	FR7	Stand-alone drive	NEMA 12	52A	16 x 62 x 12	406 x 1575 x 330	77.2 b	35 kg
NXS0600C1004/U	60 HP	FR8	Stand-alone drive	NEMA 1	62A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 b	58.0 kg
NXS0600C1202/U	60 HP	FR8	Stand-alone drive	NEMA 12	62A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 b	58.0 kg
NXS0750C1002/U	75 HP	FR8	Stand-alone drive	NEMA 1	80A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 b	58.0 kg
NXS0750C1200/U	75 HP	FR8	Stand-alone drive	NEMA 12	80A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 b	58.0 kg
NXS1000C1008/U	100 HP	FR8	Stand-alone drive	NEMA 1	100A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 b	58.0 kg
NXS1000C1206/U	100 HP	FR8	Stand-alone drive	NEMA 12	100A	11.2 x 28.4 x 12.3	285 x 721 x 312	127.9 b	58.0 kg
NXS1250C1005/U	125 HP	FR9	Stand-alone drive	NEMA 1	125A	18.9 x 45.3 x 14.3	480 x 1150 x 362	321.9 b	146 kg
NXS1250C1203/U	125 HP	FR9	Stand-alone drive	NEMA 12	125A	18.9 x 45.3 x 14.3	480 x 1150 x 362	321.9 b	146 kg
NXS1500C1003/U	150 HP	FR9	Stand-alone drive	NEMA 1	144A	18.9 x 45.3 x 14.3	480 x 1150 x 362	321.9 b	146 kg
NXS1500C1201/U	150 HP	FR9	Stand-alone drive	NEMA 12	144A	18.9 x 45.3 x 14.3	480 x 1150 x 362	321.9 b	146 kg
NXS2000C1006/U	200 HP	FR9	Stand-alone drive	NEMA 1	208A	18.9 x 45.3 x 14.3	480 x 1150 x 362	321.9 b	146 kg
NXS2000C1204/U	200 HP	FR9	Stand-alone drive	NEMA 12	208A	18.9 x 45.3 x 14.3	480 x 1150 x 362	321.9 b	146 kg

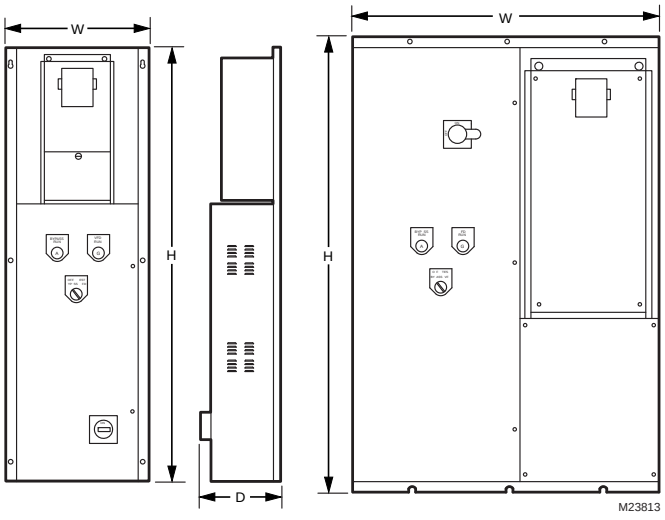
NXS Variable Frequency Drives with Cool Blue bypass

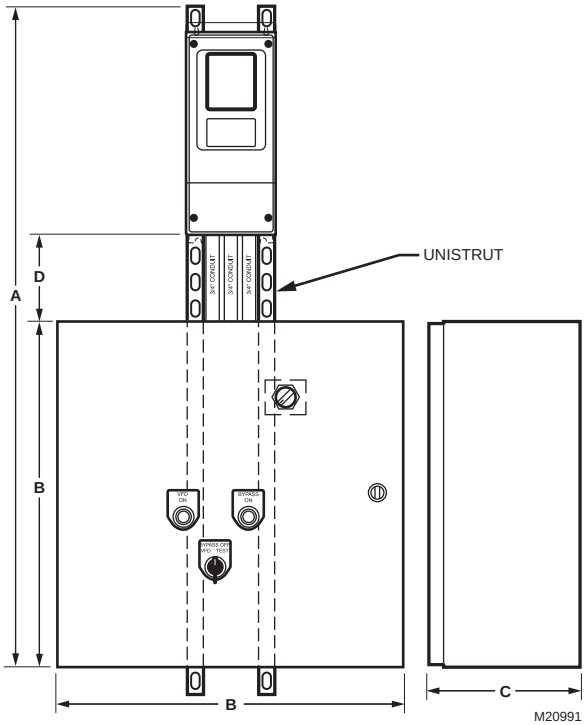
Variable Frequency Drives (VFD) accept a control input and then output tailored PWM control signal to operate (motors, fans, pumps, etc.) with maximum efficiency. The VFD can be field-programmed without any extra devices or computer connections.

- Seven configurable applications built in
- Easy commissioning through software or control panel
- Devices can be wall-mounted or panel-mounted
- Eleven protective functions (see Form 63-2600, Users Manual, Technical Data sections)
- Insulated gate bi-polar transistor (IGBT) technology
- Modbus, BACnet, Device Net, Prof bus, LobBus, NS available as options cards

Drive Family: NXS
Acceleration time: 0 - 3000 sec
Deceleration time: 0 - 3000 sec
Analog Current Input: 0 (4) - 20 mA, 250 ohm differential
Analog Voltage Input: 0 - 10 Vdc, 200K ohm
Analog Current Output: 0 (4) - 20 mA, max 500 ohm
Digital Output: 50 mA/48v open collector
Continuous Output Current: overload 1.5 x High overload current (1min/10min); overload 1.1 x Low overload current (1min/10min)
Relay Output: 24 Vdc/8A; 125 Vdc/0.4A; 250 Vac/8A
Reference Output Voltage: +10V, +3%, max 10mA
Auxiliary Voltage: 24V, +/- 15%, max 250 mA
Starting Torque: 200% High; 150% Low
Peak Current: 2 x high overload current, 2 seconds every 20 seconds
Frequency (Hz): 0 Hz to 320 Hz
Operating Temperature: High Overload 14 to 122; Low Overload 14 to 104 (High Overload -10 to 50; Low Overload -10 to 40)
Type of RFI Filter: Industrial filter
Drive Input Fuses: No

Dimensions in inches (millimeters)





Variable Frequency Drives

Voltage: 208 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 1
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBK0010CS10200000	1 HP	FR4	Vertical	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0015CS10200000	1.5 HP	FR4	Vertical	6.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0020CS10200000	2 HP	FR4	Vertical	7.8A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0030CS10200000	3 HP	FR4	Vertical	0.46A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0040CS10200000	4 HP	FR4	Vertical	12.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0050CS10200000	5 HP	FR5	Vertical	17.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0075CS10200000	7.5 HP	FR5	Vertical	25A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0100CS10200000	10 HP	FR5	Vertical	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0150CS10200000	15 HP	FR6	Vertical	48A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBK0200CS10200000	20 HP	FR6	Vertical	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBK0250CS10200000	25 HP	FR7	Vertical	75A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBK0300CS10200000	30 HP	FR7	Vertical	88A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBK0400CS10200000	40 HP	FR8	Side by Side	114A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0500CS10200000	50 HP	FR8	Side by Side	140A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0600CS10200000	60 HP	FR8	Side by Side	170A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0750CS10200000	75 HP	FR8	Side by Side	205A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg

Voltage: 208 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 1
Control Transformer: Yes

Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBK0010CS103F1110	1 HP	FR4	Vertical	No	—	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0010CS113F1110	1 HP	FR4	Vertical	Yes	—	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0010CS133F1110	1 HP	FR4	Vertical	Yes	Hand Off Auto	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0015CS103F1110	1.5 HP	FR4	Vertical	No	—	6.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0015CS113F1110	1.5 HP	FR4	Vertical	Yes	—	6.6A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0015CS133F1110	1.5 HP	FR4	Vertical	Yes	Hand Off Auto	6.6A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0020CS103F1110	2 HP	FR4	Vertical	No	—	7.8A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0020CS113F1110	2 HP	FR4	Vertical	Yes	—	7.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0020CS133F1110	2 HP	FR4	Vertical	Yes	Hand Off Auto	7.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0030CS103F1110	3 HP	FR4	Vertical	No	—	0.46A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0030CS113F1110	3 HP	FR4	Vertical	Yes	—	11A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0030CS133F1110	3 HP	FR4	Vertical	Yes	Hand Off Auto	11A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0040CS103F1110	4 HP	FR4	Vertical	No	—	12.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0040CS113F1110	4 HP	FR4	Vertical	Yes	—	12.5A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0040CS133F1110	4 HP	FR4	Vertical	Yes	Hand Off Auto	12.5A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0050CS103F1110	5 HP	FR5	Vertical	No	—	17.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0050CS113F1110	5 HP	FR5	Vertical	Yes	—	17.5A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBK0050CS133F1110	5 HP	FR5	Vertical	Yes	Hand Off Auto	17.5A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBK0075CS103F1110	7.5 HP	FR5	Vertical	No	—	25A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0075CS113F1110	7.5 HP	FR5	Vertical	Yes	—	25A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBK0075CS133F1110	7.5 HP	FR5	Vertical	Yes	Hand Off Auto	25A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBK0100CS103F1110	10 HP	FR5	Vertical	No	—	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0100CS113F1110	10 HP	FR5	Vertical	Yes	—	31A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBK0100CS133F1110	10 HP	FR5	Vertical	Yes	Hand Off Auto	31A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBK0150CS103F1110	15 HP	FR6	Vertical	No	—	48A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBK0150CS113F1110	15 HP	FR6	Vertical	Yes	—	48A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBK0150CS133F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	48A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBK0200CS103F1110	20 HP	FR6	Vertical	No	—	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBK0200CS113F1110	20 HP	FR6	Vertical	Yes	—	61A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBK0200CS133F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	61A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBK0250CS103F1110	25 HP	FR7	Vertical	No	—	75A	16 x 62 x 12	400 x 1550 x 300	154 b	69.8 kg
NXBK0250CS113F1110	25 HP	FR7	Vertical	Yes	—	75A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBK0250CS133F1110	25 HP	FR7	Vertical	Yes	Hand Off Auto	75A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBK0300CS103F1110	30 HP	FR7	Vertical	No	—	88A	16 x 62 x 12	400 x 1550 x 300	154 b	69.8 kg
NXBK0300CS113F1110	30 HP	FR7	Vertical	Yes	—	88A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBK0300CS133F1110	30 HP	FR7	Vertical	Yes	Hand Off Auto	88A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBK0400CS103F1110	40 HP	FR8	Side by Side	No	—	114A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0400CS113F1110	40 HP	FR7	Vertical	Yes	—	114A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBK0400CS133F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	114A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBK0500CS103F1110	50 HP	FR8	Side by Side	No	—	140A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0500CS113F1110	50 HP	FR8	Side by Side	Yes	—	140A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBK0500CS133F1110	50 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBK0600CS103F1110	60 HP	FR8	Side by Side	No	—	170A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0600CS113F1110	60 HP	FR8	Side by Side	Yes	—	170A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBK0600CS133F1110	60 HP	FR8	Side by Side	Yes	Hand Off Auto	170A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBK0750CS103F1110	75 HP	FR8	Side by Side	No	—	205A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0750CS113F1110	75 HP	FR8	Side by Side	Yes	—	205A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBK0750CS133F1110	75 HP	FR8	Side by Side	Yes	Hand Off Auto	205A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg

Voltage: 208 Vac

Configuration: Drive with fused disconnect
Type of Enclosure: NEMA 1
Auto Bypass: No
Control Transformer: No

Disconnect Type: Fused Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBK0010DS100F0000	1 HP	FR4	Vertical	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBK0015DS100F0000	1.5 HP	Call Customer Care	Vertical	6.6A	Call Customer Care			
NXBK0020DS100F0000	2 HP		Vertical	7.8A	Call Customer Care			
NXBK0030DS100F0000	3 HP		Vertical	0.46A	Call Customer Care			
NXBK0040DS100F0000	4 HP		Vertical	12.5A	Call Customer Care			
NXBK0050DS100F0000	5 HP		Vertical	17.5A	Call Customer Care			
NXBK0075DS100F0000	7.5 HP	FR5	Vertical	25A	11 in. x 46 in. x 10.5 in.	275 x 1150 x 262	62 lb	28.1 kg
NXBK0100DS100F0000	10 HP	Call Customer Care	Vertical	31A	Call Customer Care			
NXBK0150DS100F0000	15 HP		Vertical	48A	Call Customer Care			
NXBK0200DS100F0000	20 HP		Vertical	61A	Call Customer Care			
NXBK0250DS100F0000	25 HP		Vertical	75A	Call Customer Care			
NXBK0300DS100F0000	30 HP		Vertical	88A	Call Customer Care			
NXBK0400DS100F0000	40 HP		Side by Side	114A	Call Customer Care			
NXBK0500DS100F0000	50 HP		Side by Side	140A	Call Customer Care			
NXBK0600DS100F0000	60 HP		Side by Side	170A	Call Customer Care			
NXBK0750DS100F0000	75 HP		Side by Side	205A	Call Customer Care			

Variable Frequency Drives

Voltage: 208 Vac

Configuration: Drive alone
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBK0010CS30000000	1 HP	FR4	Vertical	4.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBK0015CS30000000	1.5 HP	FR4	Vertical	6.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBK0020CS30000000	2 HP	FR4	Vertical	7.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBK0030CS30000000	3 HP	FR4	Vertical	11A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBK0040CS30000000	4 HP	FR4	Vertical	12.5A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBK0050CS30000000	5 HP	FR5	Vertical	17.5A	30H x 10D x 24W	735H x 245D x 588W	78 lb	171.6 kg
NXBK0075CS30000000	7.5 HP	FR5	Vertical	25A	30H x 10D x 24W	735H x 245D x 588W	78 lb	171.6 kg
NXBK0100CS30000000	10 HP	FR5	Vertical	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	171.6 kg
NXBK0150CS30000000	15 HP	FR6	Vertical	48A	36H x 12D x 30W	882H x 294D x 735W	124 lb	272.8 kg
NXBK0200CS30000000	20 HP	FR6	Vertical	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	272.8 kg
NXBK0250CS30000000	25 HP	FR7	Vertical	75A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	424.6 kg
NXBK0300CS30000000	30 HP	FR7	Vertical	88A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	424.6 kg
NXBK0400CS30000000	40 HP	FR7	Vertical	114A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	424.6 kg
NXBS0150CS30000000	15 HP	FR6	Vertical	48A	36H x 12D x 30W	882H x 294D x 735W	124 lb	272.8 kg

Voltage: 208 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBK0010CS30200000	1 HP	FR4	Vertical	4.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBK0020CS30200000	2 HP	FR4	Vertical	7.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBK0075CS30200000	7.5 HP	FR5	Vertical	25A	30H x 10D x 24W	735H x 245D x 588W	78 lb	171.6 kg
NXBK0250CS30200000	25 HP	FR7	Vertical	75A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	424.6 kg
NXBK0600CS30200000	60 HP	FR8	Side by Side	170A	60H x 14D x 36W	1470H x 343D x 882W	440 lb	968 kg

Voltage: 208 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 3R
Disconnect Type: Fused Disconnect

Product Number	Horse-power	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Control Trans-former	Drive Input Disconnect	Pilot Lights	Dimensions, Approximate		Weight	
										(inch)	(mm)	(lb)	(kg)
NXBK0010CS303F1110	1 HP	FR4	Vertical	No	—	4.8A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0010CS313F1110	1 HP	FR4	Vertical	Yes	—	4.8A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0010CS333F1110	1 HP	FR4	Vertical	Yes	Hand Off Auto	4.8A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0015CS303F1110	1.5 HP	FR4	Vertical	No	—	6.6A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0015CS313F1110	1.5 HP	FR4	Vertical	Yes	—	6.6A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0015CS333F1110	1.5 HP	FR4	Vertical	Yes	Hand Off Auto	6.6A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0020CS303F1110	2 HP	FR4	Vertical	No	—	7.8A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0020CS313F1110	2 HP	FR4	Vertical	Yes	—	7.8A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0020CS333F1110	2 HP	FR4	Vertical	Yes	Hand Off Auto	7.8A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0030CS303F1110	3 HP	FR4	Vertical	No	—	11A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0030CS313F1110	3 HP	FR4	Vertical	Yes	—	11A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0030CS333F1110	3 HP	FR4	Vertical	Yes	Hand Off Auto	11A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg

Product Number	Horse-power	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Control Trans-former	Drive Input Disconnect	Pilot Lights	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBK0040CS303F1110	4 HP	FR4	Vertical	No	—	12.5A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0040CS313F1110	4 HP	FR4	Vertical	Yes	—	12.5A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0040CS333F1110	4 HP	FR4	Vertical	Yes	Hand Off Auto	12.5A	Yes	Yes	Yes	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0050CS303F1110	5 HP	FR5	Vertical	No	—	17.5A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0050CS313F1110	5 HP	FR5	Vertical	Yes	—	17.5A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0050CS333F1110	5 HP	FR5	Vertical	Yes	Hand Off Auto	17.5A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0075CS303F1110	7.5 HP	FR5	Vertical	No	—	25A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0075CS313F1110	7.5 HP	FR5	Vertical	Yes	—	25A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0075CS333F1110	7.5 HP	FR5	Vertical	Yes	Hand Off Auto	25A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0100CS303F1110	10 HP	FR5	Vertical	No	—	31A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0100CS313F1110	10 HP	FR5	Vertical	Yes	—	31A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0100CS333F1110	10 HP	FR5	Vertical	Yes	Hand Off Auto	31A	Yes	Yes	Yes	30 x 10 x 24	735 x 245 x 588	78 lb	171.6 kg
NXBK0150CS313F1110	15 HP	FR6	Vertical	Yes	—	48A	Yes	Yes	Yes	36 x 12 x 30	882 x 294 x 735	124 lb	272.8 kg
NXBK0150CS333F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	48A	Yes	Yes	Yes	36 x 12 x 30	882 x 294 x 735	124 lb	272.8 kg
NXBK0200CS303F1110	20 HP	FR6	Vertical	No	—	61A	Yes	Yes	Yes	36 x 12 x 30	882 x 294 x 735	124 lb	272.8 kg
NXBK0200CS313F1110	20 HP	FR6	Vertical	Yes	—	61A	Yes	Yes	Yes	36 x 12 x 30	882 x 294 x 735	124 lb	272.8 kg
NXBK0200CS333F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	61A	Yes	Yes	Yes	36 x 12 x 30	882 x 294 x 735	124 lb	272.8 kg
NXBK0250CS303F1110	25 HP	FR7	Vertical	No	—	75A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0250CS313F1110	25 HP	FR7	Vertical	Yes	—	75A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0250CS333F1110	25 HP	FR7	Vertical	Yes	Hand Off Auto	75A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0300CS303F1110	30 HP	FR7	Vertical	No	—	88A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0300CS313F1110	30 HP	FR7	Vertical	Yes	—	88A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0300CS333F1110	30 HP	FR7	Vertical	Yes	Hand Off Auto	88A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0400CS303F1110	40 HP	FR7	Vertical	No	—	114A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0400CS313F1110	40 HP	FR7	Vertical	Yes	—	114A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0400CS333F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	114A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0400CS603F1110	40 HP	FR7	Vertical	No	—	114A	Yes	Yes	Yes	48 x 12 x 36	1176 x 294 x 882	193 lb	424.6 kg
NXBK0500CS303F1110	50 HP	FR8	Side by Side	No	—	140A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0500CS313F1110	50 HP	FR8	Side by Side	Yes	—	140A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0500CS333F1110	50 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0600CS303F1110	60 HP	FR8		No	—	170A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0600CS313F1110	60 HP	FR8		Yes	—	170A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0600CS333F1110	60 HP	FR8		Yes	Hand Off Auto	170A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0750CS303F1110	75 HP	FR8		No	—	205A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0750CS313F1110	75 HP	FR8		Yes	—	205A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0750CS333F1110	75 HP	FR8		Yes	Hand Off Auto	205A	Yes	Yes	Yes	60 x 14 x 36	1470 x 343 x 882	440 lb	968 kg
NXBK0010DS300F0000	1 HP	FR4	Vertical	No	—	4.8A	No	No	No	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg

Variable Frequency Drives

Product Number	Horse-power	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Control Trans-former	Drive Input Disconnect	Pilot Lights	Dimensions, Approximate		Weight	
										(inch)	(mm)	(lb)	(kg)
NXBK0015DS300F0000	1.5 HP	Call Customer Care	Vertical	No	—	6.6A	No	No	No	Contact Customer Care			
NXBK0020DS300F0000	2 HP		Vertical	No	—	7.8A	No	No	No	Contact Customer Care			
NXBK0030DS300F0000	3 HP		Vertical	No	—	0.46A	No	No	No	Contact Customer Care			
NXBK0040DS300F0000	4 HP		Vertical	No	—	12.5A	No	No	No	Contact Customer Care			
NXBK0050DS300F0000	5 HP		Vertical	No	—	17.5A	No	No	No	Contact Customer Care			
NXBK0075DS300F0000	7.5 HP		Vertical	No	—	25A	No	No	No	Contact Customer Care			
NXBK0100DS300F0000	10 HP		Vertical	No	—	31A	No	No	No	Contact Customer Care			
NXBK0150DS300F0000	15 HP		Vertical	No	—	48A	No	No	No	Contact Customer Care			
NXBK0200DS300F0000	20 HP		Vertical	No	—	61A	No	No	No	Contact Customer Care			
NXBK0250DS300F0000	25 HP		Vertical	No	—	75A	No	No	No	Contact Customer Care			
NXBK0300DS300F0000	30 HP		Vertical	No	—	88A	No	No	No	Contact Customer Care			
NXBK0400DS300F0000	40 HP		Side by Side	No	—	114A	No	No	No	Contact Customer Care			
NXBK0500DS300F0000	50 HP			No	—	140A	No	No	No	Contact Customer Care			
NXBK0600DS300F0000	60 HP			No	—	170A	No	No	No	Contact Customer Care			
NXBK0750DS300F0000	75 HP			No	—	205A	No	No	No	Contact Customer Care			

Voltage: 208 Vac

Configuration: Drive with Fused Disconnect
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBK0010DS300F0000	1 HP	FR4	Vertical	4.8A	24 x 10 x 20	588 x 245 x 490	54 lb	118.8 kg
NXBK0015DS300F0000	1.5 HP	Call Customer Care	Vertical	6.6A	Contact Customer Care			
NXBK0020DS300F0000	2 HP	Call Customer Care	Vertical	7.8A	Contact Customer Care			
NXBK0030DS300F0000	3 HP	Call Customer Care	Vertical	0.46A	Contact Customer Care			
NXBK0040DS300F0000	4 HP	Call Customer Care	Vertical	12.5A	Contact Customer Care			
NXBK0050DS300F0000	5 HP	Call Customer Care	Vertical	17.5A	Contact Customer Care			
NXBK0075DS300F0000	7.5 HP	Call Customer Care	Vertical	25A	Contact Customer Care			
NXBK0100DS300F0000	10 HP	Call Customer Care	Vertical	31A	Contact Customer Care			
NXBK0150DS300F0000	15 HP	Call Customer Care	Vertical	48A	Contact Customer Care			
NXBK0200DS300F0000	20 HP	Call Customer Care	Vertical	61A	Contact Customer Care			
NXBK0250DS300F0000	25 HP	Call Customer Care	Vertical	75A	Contact Customer Care			
NXBK0300DS300F0000	30 HP	Call Customer Care	Vertical	88A	Contact Customer Care			
NXBK0400DS300F0000	40 HP	Call Customer Care	Side by Side	114A	Contact Customer Care			
NXBK0500DS300F0000	50 HP	Call Customer Care	Side by Side	140A	Contact Customer Care			
NXBK0600DS300F0000	60 HP	Call Customer Care	Side by Side	170A	Contact Customer Care			
NXBK0750DS300F0000	75 HP	Call Customer Care	Side by Side	205A	Contact Customer Care			

Voltage: 208 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 12
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Current Ratings	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
NXBK0010CS20200000	1 HP	FR4	Vertical	No	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 b	116.6 kg
NXBK0015CS20200000	1.5 HP	FR4	Vertical	No	6.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBK0020CS20200000	2 HP	FR4	Vertical	No	7.8A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBK0030CS20200000	3 HP	FR4	Vertical	No	0.46A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBK0040CS20200000	4 HP	FR4	Vertical	No	12.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBK0050CS20200000	5 HP	FR5	Vertical	No	17.5A	11 x 46 x 10.5	275 x 1150 x 262	62 b	28.1 kg

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Current Ratings	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
NXBK0075CS20200000	7.5 HP	FR5	Vertical	No	25A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0100CS20200000	10 HP	FR5	Vertical	No	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0150CS20200000	15 HP	FR6	Vertical	No	48A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBK0200CS20200000	20 HP	FR6	Vertical	No	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBK0250CS20200000	25 HP	FR7	Vertical	No	75A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBK0300CS20200000	30 HP	FR7	Vertical	No	88A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBK0400CS20200000	40 HP	FR8	Side by Side	No	114A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0500CS20200000	50 HP	FR8	Side by Side	No	140A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0600CS20200000	60 HP	FR8	Side by Side	No	170A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0750CS20200000	75 HP	FR8	Side by Side	No	205A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBK0750CS21200000	75 HP	FR8	Side by Side	Yes	205A	48H x 14D x 36W	1176H x 343D x 882W	350 b	158.8 kg

Voltage: 208 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 12
Control Transformer: Yes
Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBK0010CS203F1110	1 HP	FR4	Vertical	No	—	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0010CS213F1110	1 HP	FR4	Vertical	Yes	—	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0010CS233F1110	1 HP	FR4	Vertical	Yes	Hand Off Auto	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0015CS203F1110	1.5 HP	FR4	Vertical	No	—	6.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0015CS213F1110	1.5 HP	FR4	Vertical	Yes	—	6.6A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0015CS233F1110	1.5 HP	FR4	Vertical	Yes	Hand Off Auto	6.6A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0020CS203F1110	2 HP	FR4	Vertical	No	—	7.8A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0020CS213F1110	2 HP	FR4	Vertical	Yes	—	7.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0020CS233F1110	2 HP	FR4	Vertical	Yes	Hand Off Auto	7.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0030CS203F1110	3 HP	FR4	Vertical	No	—	0.46A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0030CS213F1110	3 HP	FR4	Vertical	Yes	—	11A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0030CS233F1110	3 HP	FR4	Vertical	Yes	Hand Off Auto	11A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0040CS203F1110	4 HP	FR4	Vertical	No	—	12.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBK0040CS213F1110	4 HP	FR4	Vertical	Yes	—	12.5A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0040CS233F1110	4 HP	FR4	Vertical	Yes	Hand Off Auto	12.5A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0050CS203F1110	5 HP	FR5	Vertical	No	—	17.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0050CS213F1110	5 HP	FR5	Vertical	Yes	—	17.5A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg
NXBK0050CS233F1110	5 HP	FR5	Vertical	Yes	Hand Off Auto	17.5A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg
NXBK0075CS203F1110	7.5 HP	FR5	Vertical	No	—	25A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0075CS213F1110	7.5 HP	FR5	Vertical	Yes	—	25A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg
NXBK0075CS233F1110	7.5 HP	FR5	Vertical	Yes	Hand Off Auto	25A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg
NXBK0100CS203F1110	10 HP	FR5	Vertical	No	—	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBK0100CS213F1110	10 HP	FR5	Vertical	Yes	—	31A	44H x 10D x 16W	1078H x 245D x 392W	70 lb	31.7 kg
NXBK0100CS233F1110	10 HP	FR5	Vertical	Yes	Hand Off Auto	31A	44H x 10D x 16W	1078H x 245D x 392W	70 lb	31.7 kg
NXBK0150CS203F1110	15 HP	FR6	Vertical	No	—	48A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBK0150CS213F1110	15 HP	FR6	Vertical	Yes	—	48A	50H x 10D x 16W	1225H x 245D x 392W	120 lb	54.5 kg
NXBK0150CS233F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	48A	50H x 10D x 16W	1225H x 245D x 392W	120 lb	54.5 kg
NXBK0200CS203F1110	20 HP	FR6	Vertical	No	—	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBK0200CS213F1110	20 HP	FR6	Vertical	Yes	—	61A	54H x 10D x 20W	1323H x 245D x 490W	136 lb	61.7 kg
NXBK0200CS233F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	61A	54H x 10D x 20W	1323H x 245D x 490W	136 lb	61.7 kg
NXBK0250CS213F1110	25 HP	FR7	Vertical	Yes	—	75A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBK0250CS233F1110	25 HP	FR7	Vertical	Yes	Hand Off Auto	75A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBK0300CS213F1110	30 HP	FR7	Vertical	Yes	—	88A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg

Variable Frequency Drives

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBK0300CS233F1110	30 HP	FR7	Vertical	Yes	Hand Off Auto	88A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBK0400CS213F1110	40 HP	FR7	Vertical	Yes	—	114A	64 x 12 x 24	1568 x 294 x 588mm	200 lb	90.7 kg
NXBK0400CS233F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	114A	64 x 12 x 24	1568 x 294 x 588mm	200 lb	90.7 kg
NXBK0500CS213F1110	50 HP	FR8	Side by Side	Yes	—	140A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBK0500CS233F1110	50 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBK0600CS213F1110	60 HP	FR8	Side by Side	Yes	—	170A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBK0600CS233F1110	60 HP	FR8	Side by Side	Yes	Hand Off Auto	170A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBK0750CS213F1110	75 HP	FR8	Side by Side	Yes	—	205A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBK0750CS233F1110	75 HP	FR8	Side by Side	Yes	Hand Off Auto	205A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg

Voltage: 208 Vac

Configuration: Drive with Fused Disconnect
Type of Enclosure: NEMA 12
Auto Bypass: No
Control Transformer: No

Disconnect Type: Fused Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Contactor	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
NXBK0010DS200F0000	1 HP	FR4	Vertical	4.8A	—	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBK0015DS200F0000	1.5 HP	Call Customer Care	Vertical	6.6A	—	Call Customer Care			
NXBK0020DS200F0000	2 HP	Call Customer Care	Vertical	7.8A	—	Call Customer Care			
NXBK0030DS200F0000	3 HP	Call Customer Care	Vertical	0.46A	—	Call Customer Care			
NXBK0040DS200F0000	4 HP	Call Customer Care	Vertical	12.5A	—	Call Customer Care			
NXBK0050DS200F0000	5 HP	Call Customer Care	Vertical	17.5A	—	Call Customer Care			
NXBK0075DS200F0000	7.5 HP	Call Customer Care	Vertical	25A	—	Call Customer Care			
NXBK0100DS200F0000	10 HP	Call Customer Care	Vertical	31A	—	Call Customer Care			
NXBK0150DS200F0000	15 HP	Call Customer Care	Vertical	48A	—	Call Customer Care			
NXBK0200DS200F0000	20 HP	Call Customer Care	Vertical	61A	—	Call Customer Care			
NXBK0250DS200F0000	25 HP	Call Customer Care	Vertical	75A	—	Call Customer Care			
NXBK0300DS200F0000	30 HP	Call Customer Care	Vertical	88A	—	Call Customer Care			
NXBK0400DS200F0000	40 HP	Call Customer Care	Side by Side	114A	—	Call Customer Care			
NXBK0500DS200F0000	50 HP	Call Customer Care	Side by Side	140A	—	Call Customer Care			
NXBK0600DS200F0000	60 HP	Call Customer Care	Side by Side	170A	—	Call Customer Care			
NXBK0750DS200F0000	75 HP	Call Customer Care	Side by Side	205A	—	Call Customer Care			

Voltage: 230 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 1
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBS0010CS10200000	1 HP	FR4	Vertical	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0015CS10200000	1.5 HP	FR4	Vertical	6.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0020CS10200000	2 HP	FR4	Vertical	7.8A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0030CS10200000	3 HP	FR4	Vertical	11A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0040CS10200000	4 HP	FR4	Vertical	12.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0050CS10200000	5 HP	FR5	Vertical	17.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0075CS10200000	7.5 HP	FR5	Vertical	25A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0100CS10200000	10 HP	FR5	Vertical	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0150CS10200000	15 HP	FR6	Vertical	48A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0200CS10200000	20 HP	FR6	Vertical	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0250CS10200000	25 HP	FR7	Vertical	75A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBS0300CS10200000	30 HP	FR7	Vertical	88A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBS0400CS10200000	40 HP	FR8	Side by Side	114A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBS0500CS10200000	50 HP	FR8	Side by Side	140A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBS0600CS10200000	60 HP	FR8	Side by Side	170A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg
NXBS0750CS10200000	75 HP	FR8	Side by Side	205A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 b	163.3 kg

Voltage: 230 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 1
Control Transformer: Yes

Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBS0010CS103F1110	1 HP	FR4	Vertical	No	—	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0010CS113F1110	1 HP	FR4	Vertical	Yes	—	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0010CS133F1110	1 HP	FR4	Vertical	Yes	Hand Off Auto	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0015CS103F1110	1.5 HP	FR4	Vertical	No	—	6.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0015CS113F1110	1.5 HP	FR4	Vertical	Yes	—	6.6A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0015CS133F1110	1.5 HP	FR4	Vertical	Yes	Hand Off Auto	6.6A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0020CS103F1110	2 HP	FR4	Vertical	No	—	7.8A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0020CS113F1110	2 HP	FR4	Vertical	Yes	—	7.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0020CS133F1110	2 HP	FR4	Vertical	Yes	Hand Off Auto	7.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0030CS103F1110	3 HP	FR4	Vertical	No	—	11A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0030CS113F1110	3 HP	FR4	Vertical	Yes	—	11A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0030CS133F1110	3 HP	FR4	Vertical	Yes	Hand Off Auto	11A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0040CS103F1110	4 HP	FR4	Vertical	No	—	12.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0040CS113F1110	4 HP	FR4	Vertical	Yes	—	12.5A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0040CS133F1110	4 HP	FR4	Vertical	Yes	Hand Off Auto	12.5A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0050CS103F1110	5 HP	FR5	Vertical	No	—	17.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0050CS113F1110	5 HP	FR5	Vertical	Yes	—	17.5A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBS0050CS133F1110	5 HP	FR5	Vertical	Yes	Hand Off Auto	17.5A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBS0075CS103F1110	7.5 HP	FR5	Vertical	No	—	25A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0075CS113F1110	7.5 HP	FR5	Vertical	Yes	—	25A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBS0075CS133F1110	7.5 HP	FR5	Vertical	Yes	Hand Off Auto	25A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBS0100CS103F1110	10 HP	FR5	Vertical	No	—	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0100CS113F1110	10 HP	FR5	Vertical	Yes	—	31A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBS0100CS133F1110	10 HP	FR5	Vertical	Yes	Hand Off Auto	31A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBS0150CS103F1110	15 HP	FR6	Vertical	No	—	48A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0150CS113F1110	15 HP	FR6	Vertical	Yes	—	48A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBS0150CS133F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	48A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBS0200CS103F1110	20 HP	FR6	Vertical	No	—	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0200CS113F1110	20 HP	FR6	Vertical	Yes	—	61A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBS0200CS133F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	61A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBS0250CS103F1110	25 HP	FR7	Vertical	No	—	75A	16 x 62 x 12	400 x 1550 x 300	154 lb	69.8 kg
NXBS0250CS113F1110	25 HP	FR7	Vertical	Yes	—	75A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBS0250CS133F1110	25 HP	FR7	Vertical	Yes	Hand Off Auto	75A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBS0300CS103F1110	30 HP	FR7	Vertical	No	—	88A	16 x 62 x 12	400 x 1550 x 300	154 lb	69.8 kg
NXBS0300CS113F1110	30 HP	FR7	Vertical	Yes	—	88A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBS0300CS133F1110	30 HP	FR7	Vertical	Yes	Hand Off Auto	88A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBS0400CS103F1110	40 HP	FR8	Side by Side	No	—	114A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 lb	163.3 kg
NXBS0400CS113F1110	40 HP	FR7	Vertical	Yes	—	114A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBS0400CS133F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	114A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBS0500CS103F1110	50 HP	FR8	Side by Side	No	—	140A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 lb	163.3 kg
NXBS0500CS113F1110	50 HP	FR8	Side by Side	Yes	—	140A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBS0500CS133F1110	50 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg

Variable Frequency Drives

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBS0600CS103F1110	60 HP	FR8	Side by Side	No	—	170A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 lb	163.3 kg
NXBS0600CS113F1110	60 HP	FR8	Side by Side	Yes	—	170A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBS0600CS133F1110	60 HP	FR8	Side by Side	Yes	Hand Off Auto	170A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBS0750CS103F1110	75 HP	FR8	Side by Side	No	—	205A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 lb	163.3 kg
NXBS0750CS113F1110	75 HP	FR8	Side by Side	Yes	—	205A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBS0750CS133F1110	75 HP	FR8	Side by Side	Yes	Hand Off Auto	205A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg

Voltage: 230 Vac

Configuration: Drive with Fused Disconnect
Type of Enclosure: NEMA 1
Auto Bypass: No
Control Transformer: No

Disconnect Type: Fused Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBS0010DS100F0000	1 HP	FR4	Vertical	4.8A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBS0015DS100F0000	1.5 HP	Call Customer Care	Vertical	6.6A	Call Customer Care			
NXBS0020DS100F0000	2 HP		Vertical	7.8A	Call Customer Care			
NXBS0030DS100F0000	3 HP	FR4	Vertical	11A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0040DS100F0000	4 HP	Call Customer Care	Vertical	12.5A	Call Customer Care			
NXBS0050DS100F0000	5 HP		Vertical	17.5A	Call Customer Care			
NXBS0075DS100F0000	7.5 HP		Vertical	25A	Call Customer Care			
NXBS0100DS100F0000	10 HP		Vertical	31A	Call Customer Care			
NXBS0150DS100F0000	15 HP		Vertical	48A	Call Customer Care			
NXBS0200DS100F0000	20 HP	FR5	Vertical	61A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0250DS100F0000	25 HP	Call Customer Care	Vertical	75A	Call Customer Care			
NXBS0300DS100F0000	30 HP		Vertical	88A	Call Customer Care			
NXBS0400DS100F0000	40 HP		Vertical	114A	Call Customer Care			
NXBS0500DS100F0000	50 HP		Side by Side	140A	Call Customer Care			
NXBS0600DS100F0000	60 HP		Side by Side	170A	Call Customer Care			
NXBS0750DS100F0000	75 HP		Side by Side	205A	Call Customer Care			

Voltage: 230 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 12
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBS0010CS20200000	1 HP	FR4	Vertical	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0015CS20200000	1.5 HP	FR4	Vertical	6.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0020CS20200000	2 HP	FR4	Vertical	7.8A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0030CS20200000	3 HP	FR4	Vertical	11A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0040CS20200000	4 HP	FR4	Vertical	12.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0050CS20200000	5 HP	FR5	Vertical	17.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0075CS20200000	7.5 HP	FR5	Vertical	25A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0100CS20200000	10 HP	FR5	Vertical	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0150CS20200000	15 HP	FR6	Vertical	48A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0200CS20200000	20 HP	FR6	Vertical	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0250CS20200000	25 HP	FR7	Vertical	75A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBS0300CS20200000	30 HP	FR7	Vertical	88A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBS0400CS20200000	40 HP	FR8	Side by Side	114A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 lb	163.3 kg
NXBS0500CS20200000	50 HP	FR8	Side by Side	140A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 lb	163.3 kg
NXBS0600CS20200000	60 HP	FR8	Side by Side	170A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 lb	163.3 kg
NXBS0750CS20200000	75 HP	FR8	Side by Side	205A	36 x 54 x 16	914.4 x 1371.6 x 406.4	360 lb	163.3 kg

Voltage: 230 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 12
Control Transformer: Yes
Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBS0010CS203F1110	1 HP	FR4	Vertical	No	—	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0010CS213F1110	1 HP	FR4	Vertical	Yes	—	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0010CS233F1110	1 HP	FR4	Vertical	Yes	Hand Off Auto	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0015CS203F1110	1.5 HP	FR4	Vertical	No	—	6.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0015CS213F1110	1.5 HP	FR4	Vertical	Yes	—	6.6A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0015CS233F1110	1.5 HP	FR4	Vertical	Yes	Hand Off Auto	6.6A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0020CS203F1110	2 HP	FR4	Vertical	No	—	7.8A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0020CS213F1110	2 HP	FR4	Vertical	Yes	—	7.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0020CS233F1110	2 HP	FR4	Vertical	Yes	Hand Off Auto	7.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0030CS203F1110	3 HP	FR4	Vertical	No	—	11A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0030CS213F1110	3 HP	FR4	Vertical	Yes	—	11A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0030CS233F1110	3 HP	FR4	Vertical	Yes	Hand Off Auto	11A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0040CS203F1110	4 HP	FR4	Vertical	No	—	12.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0040CS213F1110	4 HP	FR4	Vertical	Yes	—	12.5A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0040CS233F1110	4 HP	FR4	Vertical	Yes	Hand Off Auto	12.5A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0050CS203F1110	5 HP	FR5	Vertical	No	—	17.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0050CS213F1110	5 HP	FR5	Vertical	Yes	—	17.5A	36H x 10D x 16W	882H x 245D x 392W	64 lb	29 kg
NXBS0050CS233F1110	5 HP	FR5	Vertical	Yes	Hand Off Auto	17.5A	36H x 10D x 16W	882H x 245D x 392W	64 lb	29 kg
NXBS0075CS203F1110	7.5 HP	FR5	Vertical	No	—	25A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0075CS213F1110	7.5 HP	FR5	Vertical	Yes	—	25A	36H x 10D x 16W	882H x 245D x 392W	64 lb	29 kg
NXBS0075CS233F1110	7.5 HP	FR5	Vertical	Yes	Hand Off Auto	25A	36H x 10D x 16W	882H x 245D x 392W	64 lb	29 kg
NXBS0100CS203F1110	10 HP	FR5	Vertical	No	—	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBS0100CS213F1110	10 HP	FR5	Vertical	Yes	—	31A	44H x 10D x 16W	1078H x 245D x 392W	70 lb	31.7 kg
NXBS0100CS233F1110	10 HP	FR5	Vertical	Yes	Hand Off Auto	31A	44H x 10D x 16W	1078H x 245D x 392W	70 lb	31.7 kg
NXBS0150CS203F1110	15 HP	FR6	Vertical	No	—	48A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0150CS213F1110	15 HP	FR6	Vertical	Yes	—	48A	50H x 10D x 16W	1225H x 245D x 392W	120 lb	54.5 kg
NXBS0150CS233F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	48A	50H x 10D x 16W	1225H x 245D x 392W	120 lb	54.5 kg
NXBS0200CS203F1110	20 HP	FR6	Vertical	No	—	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBS0200CS213F1110	20 HP	FR6	Vertical	Yes	—	61A	54H x 10D x 20W	1323H x 245D x 490W	136 lb	61.7 kg
NXBS0200CS233F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	61A	54H x 10D x 20W	1323H x 245D x 490W	136 lb	61.7 kg
NXBS0250CS213F1110	25 HP	FR7	Vertical	Yes	—	75A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBS0250CS233F1110	25 HP	FR7	Vertical	Yes	Hand Off Auto	75A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBS0300CS213F1110	30 HP	FR7	Vertical	Yes	—	88A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBS0300CS233F1110	30 HP	FR7	Vertical	Yes	Hand Off Auto	88A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBS0400CS213F1110	40 HP	FR7	Vertical	Yes	—	114A	64 x 12 x 24	1568 x 294 x 588mm	200 lb	90.7 kg
NXBS0400CS233F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	114A	64 x 12 x 24	1568 x 294 x 588mm	200 lb	90.7 kg
NXBS0500CS213F1110	50 HP	FR8	Side by Side	Yes	—	140A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBS0500CS233F1110	50 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBS0600CS213F1110	60 HP	FR8	Side by Side	Yes	—	170A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBS0600CS233F1110	60 HP	FR8	Side by Side	Yes	Hand Off Auto	170A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBS0750CS213F1110	75 HP	FR8	Side by Side	Yes	—	205A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBS0750CS233F1110	75 HP	FR8	Side by Side	Yes	Hand Off Auto	205A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg

Variable Frequency Drives

Voltage: 230 Vac

Configuration: Drive with Fused Disconnect
Type of Enclosure: NEMA 12
Auto Bypass: No
Control Transformer: No

Disconnect Type: Fused Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBS0010DS200F0000	1 HP	FR4	Vertical	4.8A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBS0015DS200F0000	1.5 HP	Call Customer Care	Vertical	6.6A	Call Customer Care			
NXBS0020DS200F0000	2 HP		Vertical	7.8A	Call Customer Care			
NXBS0030DS200F0000	3 HP		Vertical	11A	Call Customer Care			
NXBS0040DS200F0000	4 HP		Vertical	12.5A	Call Customer Care			
NXBS0050DS200F0000	5 HP		Vertical	17.5A	Call Customer Care			
NXBS0075DS200F0000	7.5 HP		Vertical	25A	Call Customer Care			
NXBS0100DS200F0000	10 HP		Vertical	31A	Call Customer Care			
NXBS0150DS200F0000	15 HP		Vertical	48A	Call Customer Care			
NXBS0200DS200F0000	20 HP		Vertical	61A	Call Customer Care			
NXBS0250DS200F0000	25 HP		Vertical	75A	Call Customer Care			
NXBS0300DS200F0000	30 HP		Vertical	88A	Call Customer Care			
NXBS0400DS200F0000	40 HP		Vertical	114A	Call Customer Care			
NXBS0500DS200F0000	50 HP		Side by Side	140A	Call Customer Care			
NXBS0600DS200F0000	60 HP		Side by Side	170A	Call Customer Care			
NXBS0750DS200F0000	75 HP		Side by Side	205A	Call Customer Care			

Voltage: 230 Vac

Configuration: Drive alone
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBS0010CS30000000	1 HP	FR4	Vertical	4.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0015CS30000000	1.5 HP	FR4	Vertical	6.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0020CS30000000	2 HP	FR4	Vertical	7.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0030CS30000000	3 HP	FR4	Vertical	11A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0040CS30000000	4 HP	FR4	Vertical	12.5A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0050CS30000000	5 HP	FR5	Vertical	17.5A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0075CS30000000	7.5 HP	FR5	Vertical	25A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0100CS30000000	10 HP	FR5	Vertical	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0200CS30000000	20 HP	FR6	Vertical	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBS0250CS30000000	25 HP	FR7	Vertical	75A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0300CS30000000	30 HP	FR7	Vertical	88A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0400CS30000000	40 HP	FR7	Vertical	114A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg

Voltage: 230 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBS0010CS30200000	1 HP	FR4	Vertical	4.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0015CS30200000	1.5 HP	FR4	Vertical	6.6A	20 x 24 x 10	500 x 600 x 250	54 lb	24.5 kg
NXBS0020CS30200000	2 HP	FR4	Vertical	7 8A	20 x 24 x 10	500 x 600 x 250	54 lb	24.5 kg
NXBS0030CS30200000	3 HP	FR4	Vertical	11A	20 x 24 x 10	500 x 600 x 250	54 lb	24.5 kg
NXBS0100CS30200000	10 HP	FR5	Vertical	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0300CS30200000	30 HP	FR7	Vertical	88A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0750CS30200000	75 HP	FR8	Side by Side	205A	60 x 12 x 34	1524 x 305 x 864	440 lb	199.6 kg

Voltage: 230 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 3R
Control Transformer: Yes
Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horse-power	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBS0010CS303F1110	1 HP	FR4	Vertical	No	—	4.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0010CS313F1110	1 HP	FR4	Vertical	Yes	—	4.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0010CS333F1110	1 HP	FR4	Vertical	Yes	Hand Off Auto	4.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0015CS303F1110	1.5 HP	FR4	Vertical	No	—	6.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0015CS313F1110	1.5 HP	FR4	Vertical	Yes	—	6.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0015CS333F1110	1.5 HP	FR4	Vertical	Yes	Hand Off Auto	6.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0020CS303F1110	2 HP	FR4	Vertical	No	—	7.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0020CS313F1110	2 HP	FR4	Vertical	Yes	—	7.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0020CS333F1110	2 HP	FR4	Vertical	Yes	Hand Off Auto	7.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0030CS203F1110	3 HP	FR4	Vertical	No	—	11A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBS0030CS303F1110	3 HP	FR4	Vertical	No	—	11A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0030CS313F1110	3 HP	FR4	Vertical	Yes	—	11A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0030CS333F1110	3 HP	FR4	Vertical	Yes	Hand Off Auto	11A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0040CS303F1110	4 HP	FR4	Vertical	No	—	12.5A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0040CS313F1110	4 HP	FR4	Vertical	Yes	—	12.5A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0040CS333F1110	4 HP	FR4	Vertical	Yes	Hand Off Auto	12.5A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0050CS303F1110	5 HP	FR5	Vertical	No	—	17.5A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0050CS313F1110	5 HP	FR5	Vertical	Yes	—	17.5A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0050CS333F1110	5 HP	FR5	Vertical	Yes	Hand Off Auto	17.5A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0075CS303F1110	7.5 HP	FR5	Vertical	No	—	25A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0075CS313F1110	7.5 HP	FR5	Vertical	Yes	—	25A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0075CS333F1110	7.5 HP	FR5	Vertical	Yes	Hand Off Auto	25A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0100CS303F1110	10 HP	FR5	Vertical	No	—	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0100CS313F1110	10 HP	FR5	Vertical	Yes	—	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0100CS333F1110	10 HP	FR5	Vertical	Yes	Hand Off Auto	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBS0150CS303F1110	15 HP	FR6	Vertical	No	—	48A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBS0150CS313F1110	15 HP	FR6	Vertical	Yes	—	48A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBS0150CS333F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	48A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBS0200CS303F1110	20 HP	FR6	Vertical	No	—	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBS0200CS313F1110	20 HP	FR6	Vertical	Yes	—	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBS0200CS333F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBS0250CS303F1110	25 HP	FR7	Vertical	No	—	75A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0250CS313F1110	25 HP	FR7	Vertical	Yes	—	75A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0250CS333F1110	25 HP	FR7	Vertical	Yes	Hand Off Auto	75A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0300CS303F1110	30 HP	FR7	Vertical	No	—	88A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0300CS313F1110	30 HP	FR7	Vertical	Yes	—	88A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0300CS333F1110	30 HP	FR7	Vertical	Yes	Hand Off Auto	88A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0400CS303F1110	40 HP	FR7	Vertical	No	—	114A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0400CS313F1110	40 HP	FR7	Vertical	Yes	—	114A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0400CS333F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	114A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBS0500CS303F1110	50 HP	FR8	Side by Side	No	—	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBS0500CS313F1110	50 HP	FR8	Side by Side	Yes	—	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBS0500CS333F1110	50 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBS0600CS303F1110	60 HP	FR8	Side by Side	No	—	170A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBS0600CS313F1110	60 HP	FR8	Side by Side	Yes	—	170A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBS0600CS333F1110	60 HP	FR8	Side by Side	Yes	Hand Off Auto	170A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBS0750CS303F1110	75 HP	FR8	Side by Side	No	—	205A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBS0750CS313F1110	75 HP	FR8	Side by Side	Yes	—	205A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBS0750CS333F1110	75 HP	FR8	Side by Side	Yes	Hand Off Auto	205A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg

Variable Frequency Drives

Voltage: 230 Vac

Configuration: Drive with Fused Disconnect
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: Fused Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBS0010DS300F0000	1 HP	FR4	Vertical	4.8A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBS0015DS300F0000	1.5 HP	Call Customer Care	Vertical	6.6A	Call Customer Care			
NXBS0020DS300F0000	2 HP	Call Customer Care	Vertical	7.8A	Call Customer Care			
NXBS0030DS300F0000	3 HP	Call Customer Care	Vertical	11A	Call Customer Care			
NXBS0040DS300F0000	4 HP	Call Customer Care	Vertical	12.5A	Call Customer Care			
NXBS0050DS300F0000	5 HP	Call Customer Care	Vertical	17.5A	Call Customer Care			
NXBS0075DS300F0000	7.5 HP	Call Customer Care	Vertical	25A	Call Customer Care			
NXBS0100DS300F0000	10 HP	Call Customer Care	Vertical	31A	Call Customer Care			
NXBS0150DS300F0000	15 HP	Call Customer Care	Vertical	48A	Call Customer Care			
NXBS0200DS300F0000	20 HP	Call Customer Care	Vertical	61A	Call Customer Care			
NXBS0250DS300F0000	25 HP	Call Customer Care	Vertical	75A	Call Customer Care			
NXBS0300DS300F0000	30 HP	Call Customer Care	Vertical	88A	Call Customer Care			
NXBS0400DS300F0000	40 HP	Call Customer Care	Vertical	114A	Call Customer Care			
NXBS0500DS300F0000	50 HP	Call Customer Care	Side by Side	140A	Call Customer Care			
NXBS0600DS300F0000	60 HP	Call Customer Care	Side by Side	170A	Call Customer Care			
NXBS0750DS300F0000	75 HP	Call Customer Care	Side by Side	205A	Call Customer Care			

Voltage: 460 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 1
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBJ0015CS10200000	1.5 HP	FR4	Vertical	3.3A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0020CS10200000	2 HP	FR4	Vertical	4.3A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0030CS10200000	3 HP	FR4	Vertical	5.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0040CS10200000	4 HP	FR4	Vertical	7.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0050CS10200000	5 HP	FR4	Vertical	0.37A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0075CS10200000	7.5 HP	FR4	Vertical	—	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0100CS10200000	10 HP	FR5	Vertical	16A	11 x 46 x 10 5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0150CS10200000	15 HP	FR5	Vertical	23A	11 x 46 x 10 5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0150CS12200000	15 HP	FR5	Vertical	23A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBJ0200CS10200000	20 HP	FR5	Vertical	31A	11 x 46 x 10 5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0200CS12200000	20 HP	FR5	Vertical	31A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBJ0250CS10200000	25 HP	FR6	Vertical	38A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0250CS12200000	25 HP	FR6	Vertical	38A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBJ0300CS10200000	30 HP	FR6	Vertical	46A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0400CS10200000	40 HP	FR6	Vertical	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0500CS10200000	50 HP	FR7	Vertical	72A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBJ0600CS10200000	60 HP	FR7	Vertical	87A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBJ0750CS10200000	75 HP	FR7	Vertical	105A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBJ1000CS10200000	100 HP	FR8	Side by Side	140A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg
NXBJ1250CS10200000	125 HP	FR8	Side by Side	170A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg
NXBJ1500CS10200000	150 HP	FR8	Side by Side	205A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg

Voltage: 460 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 3R
Control Transformer: Yes

Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Layout	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
NXBJ0015CS103F1110	1.5 HP	FR4	Vertical	—	3.3A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0015CS113F1110	1.5 HP	FR4	Vertical	—	3.3A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0015CS133F1110	1.5 HP	FR4	Vertical	Hand Off Auto	3.3A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0020CS103F1110	2 HP	FR4	Vertical	—	4.3A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0020CS113F1110	2 HP	FR4	Vertical	—	4.3A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0020CS133F1110	2 HP	FR4	Vertical	Hand Off Auto	4.3A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0030CS103F1110	3 HP	FR4	Vertical	—	5.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0030CS113F1110	3 HP	FR4	Vertical	—	5.6A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0030CS133F1110	3 HP	FR4	Vertical	Hand Off Auto	5.6A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0040CS103F1110	4 HP	FR4	Vertical	—	7.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0040CS113F1110	4 HP	FR4	Vertical	—	7.6A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0040CS133F1110	4 HP	FR4	Vertical	Hand Off Auto	7.6A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0050CS103F1110	5 HP	FR4	Vertical	—	0.37A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0050CS113F1110	5 HP	FR4	Vertical	—	9A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0050CS133F1110	5 HP	FR4	Vertical	Hand Off Auto	9A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0075CS103F1110	7.5 HP	FR4	Vertical	—	—	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0075CS113F1110	7.5 HP	FR4	Vertical	Auto-Bypass	—	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0075CS133F1110	7.5 HP	FR4	Vertical	Hand Off Auto	12A	40H x 9.5D x 9.5W	1016H x 241D x 231W	43 lb	19.5 kg
NXBJ0100CS103F1110	10 HP	FR5	Vertical	—	16A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0100CS113F1110	10 HP	FR5	Vertical	Auto-Bypass	16A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0100CS133F1110	10 HP	FR5	Vertical	Hand Off Auto	16A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBJ0150CS103F1110	15 HP	FR5	Vertical	—	23A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0150CS113F1110	15 HP	FR5	Vertical	Auto-Bypass	23A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0150CS133F1110	15 HP	FR5	Vertical	Hand Off Auto	23A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBJ0200CS103F1110	20 HP	FR5	Vertical	—	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0200CS113F1110	20 HP	FR5	Vertical	—	31A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBJ0200CS133F1110	20 HP	FR5	Vertical	Hand Off Auto	31A	46H x 10.5D x 11W	1168H x 257D x 279W	62 lb	28.1 kg
NXBJ0250CS103F1110	25 HP	FR6	Vertical	—	38A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0250CS113F1110	25 HP	FR6	Vertical	—	38A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBJ0250CS133F1110	25 HP	FR6	Vertical	Hand Off Auto	38A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBJ0300CS103F1110	30 HP	FR6	Vertical	—	46A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0300CS113F1110	30 HP	FR6	Vertical	—	46A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBJ0300CS133F1110	30 HP	FR6	Vertical	Hand Off Auto	46A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBJ0400CS103F1110	40 HP	FR6	Vertical	—	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0400CS113F1110	40 HP	FR6	Vertical	—	61A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBJ0400CS123F1110	40 HP	FR6	Vertical	—	61A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBJ0400CS133F1110	40 HP	FR6	Vertical	Hand Off Auto	61A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBJ0500CS103F1110	50 HP	FR7	Vertical	—	72A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBJ0500CS113F1110	50 HP	FR7	Vertical	—	72A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBJ0500CS133F1110	50 HP	FR7	Vertical	Hand Off Auto	72A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBJ0600CS103F1110	60 HP	FR7	Vertical	—	87A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBJ0600CS113F1110	60 HP	FR7	Vertical	—	87A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBJ0600CS133F1110	60 HP	FR7	Vertical	Hand Off Auto	87A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBJ0750CS103F1110	75 HP	FR7	Vertical	—	105A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBJ0750CS113F1110	75 HP	FR7	Vertical	—	105A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBJ0750CS123F1110	75 HP	FR7	Vertical	—	105A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg
NXBJ0750CS133F1110	75 HP	FR7	Vertical	Hand Off Auto	105A	62 x 13 x 16	1574 x 339 x 406	154 b	69.8 kg

Variable Frequency Drives

Product Number	Horsepower	Frame Type	Layout	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
						(inch)	(mm)	(lb)	(kg)
NXBJ1000CS103F1110	100 HP	FR8	Side by Side	—	140A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBJ1000CS113F1110	100 HP	FR8	Side by Side	—	140A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ1000CS133F1110	100 HP	FR8	Side by Side	Hand Off Auto	140A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ1250CS103F1110	125 HP	FR8	Side by Side	—	170A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBJ1250CS113F1110	125 HP	FR8	Side by Side	—	170A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ1250CS133F1110	125 HP	FR8	Side by Side	Hand Off Auto	170A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ1500CS103F1110	150 HP	FR8	Side by Side	—	205A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBJ1500CS113F1110	150 HP	FR8	Side by Side	—	205A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ1500CS133F1110	150 HP	FR8	Side by Side	Hand Off Auto	205A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ2000CS103F1110	200 HP	Call Customer Care	Side by Side	—	261A	Call Customer Care			
NXBJ2000CS113F1110	200 HP	FR9	Free standing Drive	—	261A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ2000CS133F1110	200 HP	FR9	Free standing Drive	Hand Off Auto	261A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ2500CS103F1110	250 HP	Call Customer Care	Side by Side	—	300A	Call Customer Care			
NXBJ2500CS113F1110	250 HP	FR9	Free standing Drive	—	300A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg
NXBJ2500CS133F1110	250 HP	FR9	Free standing Drive	Hand Off Auto	300A	54H x 16D x 36W	1350H x 400D x 900W	360 b	163.3 kg

Voltage: 460 Vac

Configuration: Drive with Fused Disconnect
Type of Enclosure: NEMA 1
Auto Bypass: No
Control Transformer: No

Disconnect Type: Fused Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBJ0015DS100F0000	1.5 HP	Call Customer Care	Vertical	3 3A	Call Customer Care			
NXBJ0020DS100F0000	2 HP		Vertical	4 3A	Call Customer Care			
NXBJ0030DS100F0000	3 HP		Vertical	5.6A	Call Customer Care			
NXBJ0040DS100F0000	4 HP	Call Customer Care	Vertical	7.6A	Call Customer Care			
NXBJ0050DS100F0000	5 HP		Vertical	0 37A	Call Customer Care			
NXBJ0075DS100F0000	7.5 HP		Vertical	—	Call Customer Care			
NXBJ0100DS100F0000	10 HP		Vertical	16A	Call Customer Care			
NXBJ0150DS100F0000	15 HP		Vertical	23A	Call Customer Care			
NXBJ0200DS100F0000	20 HP		Vertical	31A	Call Customer Care			
NXBJ0250DS100F0000	25 HP		Vertical	38A	Call Customer Care			
NXBJ0300DS100F0000	30 HP		Vertical	46A	Call Customer Care			
NXBJ0400DS100F0000	40 HP	FR4	Vertical	61A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBJ0500DS100F0000	50 HP	Call Customer Care	Vertical	72A	Call Customer Care			
NXBJ0600DS100F0000	60 HP	FR7	Vertical	87A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBJ0750DS100F0000	75 HP	FR7	Vertical	105A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBJ1000DS100F0000	100 HP	Call Customer Care	Side by Side	140A	Call Customer Care			
NXBJ1250DS100F0000	125 HP		Side by Side	170A	Call Customer Care			
NXBJ1500DS100F0000	150 HP		Side by Side	205A	Call Customer Care			

Voltage: 460 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 12
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBJ0015CS20200000	1.5 HP	FR4	Vertical	3.3A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0020CS20200000	2 HP	FR4	Vertical	4.3A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0030CS20200000	3 HP	FR4	Vertical	5.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0040CS20200000	4 HP	FR4	Vertical	7.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0050CS20200000	5 HP	FR4	Vertical	0.37A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0075CS20200000	7.5 HP	FR4	Vertical	—	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0100CS20200000	10 HP	FR5	Vertical	16A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0150CS20200000	15 HP	FR5	Vertical	23A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0200CS20200000	20 HP	FR5	Vertical	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0250CS20200000	25 HP	FR6	Vertical	38A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0300CS20200000	30 HP	FR6	Vertical	46A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0400CS20200000	40 HP	FR6	Vertical	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0500CS20200000	50 HP	FR7	Vertical	72A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBJ0600CS20200000	60 HP	FR7	Vertical	87A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBJ0750CS20200000	75 HP	FR7	Vertical	105A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBJ1000CS20200000	100 HP	FR8	Side by Side	140A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBJ1250CS20200000	125 HP	FR8	Side by Side	170A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBJ1500CS20200000	150 HP	FR8	Side by Side	205A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg

Voltage: 460 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 12
Control Transformer: Yes

Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horse-power	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBJ0015CS203F1110	1.5 HP	FR4	Vertical	No	—	3.3A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0015CS213F1110	1.5 HP	FR4	Vertical	Yes	—	3.3A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0015CS233F1110	1.5 HP	FR4	Vertical	Yes	Hand Off Auto	3.3A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0020CS203F1110	2 HP	FR4	Vertical	No	—	4.3A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0020CS213F1110	2 HP	FR4	Vertical	Yes	—	4.3A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0020CS233F1110	2 HP	FR4	Vertical	Yes	Hand Off Auto	4.3A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0030CS203F1110	3 HP	FR4	Vertical	No	—	5.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0030CS213F1110	3 HP	FR4	Vertical	Yes	—	5.6A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0030CS233F1110	3 HP	FR4	Vertical	Yes	Hand Off Auto	5.6A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0040CS203F1110	4 HP	FR4	Vertical	No	—	7.6A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0040CS213F1110	4 HP	FR4	Vertical	Yes	—	7.6A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0040CS233F1110	4 HP	FR4	Vertical	Yes	Hand Off Auto	7.6A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0050CS203F1110	5 HP	FR4	Vertical	No	—	0.37A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0050CS213F1110	5 HP	FR4	Vertical	Yes	—	9A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0050CS233F1110	5 HP	FR4	Vertical	Yes	Hand Off Auto	9A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0075CS203F1110	7.5 HP	FR4	Vertical	No	—	—	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBJ0075CS213F1110	7.5 HP	FR4	Vertical	Yes	—	12A	36H x 10D x 16W	882H x 245D x 392W	53 lb	116.6 kg
NXBJ0075CS233F1110	7.5 HP	FR5	Vertical	Yes	Hand Off Auto	12A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg
NXBJ0100CS203F1110	10 HP	FR5	Vertical	No	—	16A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0100CS213F1110	10 HP	FR5	Vertical	Yes	—	16A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg
NXBJ0100CS233F1110	10 HP	FR5	Vertical	Yes	Hand Off Auto	16A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg
NXBJ0150CS203F1110	15 HP	FR5	Vertical	No	—	23A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0150CS213F1110	15 HP	FR5	Vertical	Yes	—	23A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg
NXBJ0150CS233F1110	15 HP	FR5	Vertical	Yes	Hand Off Auto	23A	36H x 10D x 16W	882H x 245D x 392W	64 lb	140.8 kg

Variable Frequency Drives

Product Number	Horse-power	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBJ0200CS203F1110	20 HP	FR5	Vertical	No	—	31A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBJ0200CS213F1110	20 HP	FR5	Vertical	Yes	—	31A	44H x 10D x 16W	1078H x 245D x 392W	70 lb	31.7 kg
NXBJ0200CS233F1110	20 HP	FR5	Vertical	Yes	Hand Off Auto	31A	44H x 10D x 16W	1078H x 245D x 392W	70 lb	31.7 kg
NXBJ0250CS203F1110	25 HP	FR6	Vertical	No	—	38A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0250CS213F1110	25 HP	FR6	Vertical	Yes	—	38A	50H x 10D x 16W	1225H x 245D x 392W	120 lb	54.5 kg
NXBJ0250CS233F1110	25 HP	FR6	Vertical	Yes	Hand Off Auto	38A	50H x 10D x 16W	1225H x 245D x 392W	120 lb	54.5 kg
NXBJ0300CS203F1110	30 HP	FR6	Vertical	No	—	46A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0300CS213F1110	30 HP	FR6	Vertical	Yes	—	46A	50H x 10D x 16W	1225H x 245D x 392W	120 lb	54.5 kg
NXBJ0300CS233F1110	30 HP	FR6	Vertical	Yes	Hand Off Auto	46A	50H x 10D x 16W	1225H x 245D x 392W	120 lb	54.5 kg
NXBJ0400CS203F1110	40 HP	FR6	Vertical	No	—	61A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBJ0400CS213F1110	40 HP	FR6	Vertical	Yes	—	61A	54H x 10D x 20W	1323H x 245D x 490W	136 lb	61.7 kg
NXBJ0400CS233F1110	40 HP	FR6	Vertical	Yes	Hand Off Auto	61A	54H x 10D x 20W	1323H x 245D x 490W	136 lb	61.7 kg
NXBJ0500CS203F1110	50 HP	FR7	Vertical	No	—	72A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBJ0500CS213F1110	50 HP	FR7	Vertical	Yes	—	72A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBJ0500CS233F1110	50 HP	FR7	Vertical	Yes	Hand Off Auto	72A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBJ0600CS203F1110	60 HP	FR7	Vertical	No	—	87A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBJ0600CS213F1110	60 HP	FR7	Vertical	Yes	—	87A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBJ0600CS233F1110	60 HP	FR7	Vertical	Yes	Hand Off Auto	87A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBJ0750CS203F1110	75 HP	FR7	Vertical	No	—	105A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBJ0750CS213F1110	75 HP	FR7	Vertical	Yes	—	105A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBJ0750CS233F1110	75 HP	FR7	Vertical	Yes	Hand Off Auto	105A	58 x 10 x 20	1421 x 245 x 490	150 lb	68.2 kg
NXBJ1000CS203F1110	100 HP	FR8	Side by Side	No	—	140A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg
NXBJ1000CS213F1110	100 HP	FR8	Side by Side	Yes	—	140A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBJ1000CS233F1110	100 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBJ1250CS203F1110	125 HP	FR8	Side by Side	No	—	170A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg
NXBJ1250CS213F1110	125 HP	FR8	Side by Side	Yes	—	170A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBJ1250CS233F1110	125 HP	FR8	Side by Side	Yes	Hand Off Auto	170A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBJ1500CS203F1110	150 HP	FR8	Side by Side	No	—	205A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg
NXBJ1500CS213F1110	150 HP	FR8	Side by Side	Yes	—	205A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg
NXBJ1500CS233F1110	150 HP	FR8	Side by Side	Yes	Hand Off Auto	205A	48H x 14D x 36W	1176H x 343D x 882W	350 lb	158.8 kg

Voltage: 460 Vac

Configuration: Drive with Fused Disconnect
Type of Enclosure: NEMA 12
Auto Bypass: No
Control Transformer: No

Disconnect Type: Fused Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBJ0015DS200F0000	1.5 HP	Call Customer Care	Vertical	3.3A	Call Customer Care			
NXBJ0020DS200F0000	2 HP		Vertical	4.3A	Call Customer Care			
NXBJ0030DS200F0000	3 HP		Vertical	5.6A	Call Customer Care			
NXBJ0040DS200F0000	4 HP		Vertical	7.6A	Call Customer Care			
NXBJ0050DS200F0000	5 HP		Vertical	0.37A	Call Customer Care			
NXBJ0075DS200F0000	7.5 HP		Vertical	—	Call Customer Care			
NXBJ0100DS200F0000	10 HP		Vertical	16A	Call Customer Care			
NXBJ0150DS200F0000	15 HP		Vertical	23A	Call Customer Care			
NXBJ0200DS200F0000	20 HP		Vertical	31A	Call Customer Care			
NXBJ0250DS200F0000	25 HP		Vertical	38A	Call Customer Care			
NXBJ0300DS200F0000	30 HP		Vertical	46A	Call Customer Care			
NXBJ0400DS200F0000	40 HP		Vertical	61A	Call Customer Care			
NXBJ0500DS200F0000	50 HP		Vertical	72A	Call Customer Care			
NXBJ0600DS200F0000	60 HP		Vertical	87A	Call Customer Care			
NXBJ0750DS200F0000	75 HP	FR7	Vertical	105A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBJ1000DS200F0000	100 HP	Call Customer Care	Side by Side	140A	Call Customer Care			
NXBJ1250DS200F0000	125 HP		Side by Side	170A	Call Customer Care			
NXBJ1500DS200F0000	150 HP		Side by Side	205A	Call Customer Care			

Voltage: 460 Vac

Configuration: Drive alone
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBJ0015CS30000000	1.5 HP	FR4	Vertical	3.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0015CS60000000	1.5 HP	FR4	Vertical	3.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0020CS30000000	2 HP	FR4	Vertical	4.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0030CS30000000	3 HP	FR4	Vertical	5.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0040CS30000000	4 HP	FR4	Vertical	7.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0050CS30000000	5 HP	FR4	Vertical	9A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0075CS30000000	7.5 HP	FR4	Vertical	12A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0100CS30000000	10 HP	FR5	Vertical	16A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0150CS30000000	15 HP	FR5	Vertical	23A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0200CS30000000	20 HP	FR5	Vertical	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0250CS30000000	25 HP	FR6	Vertical	38A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBJ0300CS30000000	30 HP	FR6	Vertical	46A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBJ0400CS30000000	40 HP	FR6	Vertical	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBJ0500CS30000000	50 HP	FR7	Vertical	72A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBJ0600CS30000000	60 HP	FR7	Vertical	87A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBJ0750CS30000000	75 HP	FR7	Vertical	105A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg

Voltage: 460 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Additional Features	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBJ0050CS30200000	5 HP	FR4	Vertical	—	0.37A	20 x 24 x 10	500 x 600 x 250	54 lb	24.5 kg
NXBJ0150CS30200000	15 HP	FR5	Vertical	—	23A	24 x30 x 10	610 x 762 x 254	78 lb	35.4 kg
NXBJ0200CS60200000	20 HP	FR5	Vertical	with Cooling Fan and Heat Strip	31A	24 x30 x 10	610 x 762 x 254	78 lb	35.4 kg
NXBJ0300CS30200000	30 HP	FR6	Vertical	—	46A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBJ0600CS30200000	60 HP	FR7	Vertical	—	87A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBJ0750CS602F0000	75 HP	FR7	Vertical	—	105A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBJ1500CS30200000	150 HP	FR8	Side by Side	—	205A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg

Voltage: 460 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 3R
Control Transformer: Yes

Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBJ0015CS303F1110	1.5 HP	FR4	Vertical	No	—	3.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0015CS313F1110	1.5 HP	FR4	Vertical	Yes	—	3.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0015CS333F1110	1.5 HP	FR4	Vertical	Yes	Hand Off Auto	3.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0020CS303F1110	2 HP	FR4	Vertical	No	—	4.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg

Variable Frequency Drives

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBJ0020CS313F1110	2 HP	FR4	Vertical	Yes	—	4.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0020CS333F1110	2 HP	FR4	Vertical	Yes	Hand Off Auto	4.3A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0030CS303F1110	3 HP	FR4	Vertical	No	—	5.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0030CS313F1110	3 HP	FR4	Vertical	Yes	—	5.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0030CS333F1110	3 HP	FR4	Vertical	Yes	Hand Off Auto	5.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0040CS303F1110	4 HP	FR4	Vertical	No	—	7.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0040CS313F1110	4 HP	FR4	Vertical	Yes	—	7.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0040CS333F1110	4 HP	FR4	Vertical	Yes	Hand Off Auto	7.6A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0050CS303F1110	5 HP	FR4	Vertical	No	—	9A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0050CS313F1110	5 HP	FR4	Vertical	Yes	—	9A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0050CS333F1110	5 HP	FR4	Vertical	Yes	Hand Off Auto	9A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0075CS303F1110	7.5 HP	FR4	Vertical	No	—	12A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0075CS313F1110	7.5 HP	FR4	Vertical	Yes	—	12A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0075CS333F1110	7.5 HP	FR4	Vertical	Yes	Hand Off Auto	12A	24H x 10D x 20W	588H x 245D x 490W	54 lb	118.8 kg
NXBJ0100CS303F1110	10 HP	FR5	Vertical	No	—	16A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0100CS313F1110	10 HP	FR5	Vertical	Yes	—	16A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0100CS333F1110	10 HP	FR5	Vertical	Yes	Hand Off Auto	16A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0100CS603F1110	10 HP	FR5	Vertical	No	—	16A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0150CS313F1110	15 HP	FR5	Vertical	Yes	—	23A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0150CS333F1110	15 HP	FR5	Vertical	Yes	Hand Off Auto	23A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0150CS603F1110	15 HP	FR5	Vertical	No	—	23A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0200CS303F1110	20 HP	FR5	Vertical	No	—	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0200CS313F1110	20 HP	FR5	Vertical	Yes	—	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0200CS333F1110	20 HP	FR5	Vertical	Yes	Hand Off Auto	31A	30H x 10D x 24W	735H x 245D x 588W	78 lb	35.4 kg
NXBJ0250CS303F1110	25 HP	FR6	Vertical	No	—	38A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0250CS313F1110	25 HP	FR6	Vertical	Yes	—	38A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0250CS333F1110	25 HP	FR6	Vertical	Yes	Hand Off Auto	38A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0300CS303F1110	30 HP	FR6	Vertical	No	—	46A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0300CS313F1110	30 HP	FR6	Vertical	Yes	—	46A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0300CS333F1110	30 HP	FR6	Vertical	Yes	Hand Off Auto	46A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0400CS303F1110	40 HP	FR6	Vertical	No	—	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0400CS313F1110	40 HP	FR6	Vertical	Yes	—	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0400CS333F1110	40 HP	FR6	Vertical	Yes	Hand Off Auto	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0400CS623F1100	40 HP	FR6	Vertical	No	—	61A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56 2 kg
NXBJ0500CS303F1110	50 HP	FR7	Vertical	No	—	72A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87 5 kg
NXBJ0500CS313F1110	50 HP	FR7	Vertical	Yes	—	72A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87 5 kg
NXBJ0500CS333F1110	50 HP	FR7	Vertical	Yes	Hand Off Auto	72A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBJ0600CS303F1110	60 HP	FR7	Vertical	No	—	87A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87 5 kg
NXBJ0600CS313F1110	60 HP	FR7	Vertical	Yes	—	87A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87 5 kg
NXBJ0600CS333F1110	60 HP	FR7	Vertical	Yes	Hand Off Auto	87A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBJ0750CS303F1110	75 HP	FR7	Vertical	No	—	105A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87 5 kg
NXBJ0750CS313F1110	75 HP	FR7	Vertical	Yes	—	105A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBJ0750CS333F1110	75 HP	FR7	Vertical	Yes	Hand Off Auto	105A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBJ1000CS303F1110	100 HP	FR8	Side by Side	No	—	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBJ1000CS313F1110	100 HP	FR8	Side by Side	Yes	—	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBJ1000CS333F1110	100 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBJ1250CS303F1110	125 HP	FR8	Side by Side	No	—	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBJ1250CS313F1110	125 HP	FR8	Side by Side	Yes	—	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBJ1250CS333F1110	125 HP	FR8	Side by Side	Yes	Hand Off Auto	140A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBJ1500CS303F1110	150 HP	FR8	Side by Side	No	—	205A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBJ1500CS313F1110	150 HP	FR8	Side by Side	Yes	—	205A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBJ1500CS333F1110	150 HP	FR8	Side by Side	Yes	Hand Off Auto	205A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg

Voltage: 460 Vac

Configuration: Drive with Fused Disconnect
Type of Enclosure: NEMA 3R
Auto Bypass: No
Control Transformer: No

Disconnect Type: Fused Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBJ0015DS300F0000	1.5 HP	Call Customer Care	Vertical	3.3A	Call Customer Care			
NXBJ0020DS300F0000	2 HP		Vertical	4.3A	Call Customer Care			
NXBJ0030DS300F0000	3 HP		Vertical	5.6A	Call Customer Care			
NXBJ0040DS300F0000	4 HP		Vertical	7.6A	Call Customer Care			
NXBJ0050DS300F0000	5 HP		Vertical	0.37A	Call Customer Care			
NXBJ0075DS300F0000	7.5 HP		Vertical	—	Call Customer Care			
NXBJ0100DS300F0000	10 HP		Vertical	16A	Call Customer Care			
NXBJ0150DS300F0000	15 HP		Vertical	23A	Call Customer Care			
NXBJ0200DS300F0000	20 HP		Vertical	31A	Call Customer Care			
NXBJ0250DS300F0000	25 HP		Vertical	38A	Call Customer Care			
NXBJ0250DS400F0000	25 HP	FR6	Vertical	38A	36H x 12D x 30W	882H x 294D x 735W	124 b	56.2 kg
NXBJ0300DS300F0000	30 HP	Call Customer Care	Vertical	46A	Call Customer Care			
NXBJ0400DS300F0000	40 HP		Vertical	61A	Call Customer Care			
NXBJ0500DS300F0000	50 HP		Vertical	72A	Call Customer Care			
NXBJ0600DS300F0000	60 HP		Vertical	87A	Call Customer Care			
NXBJ0750DS300F0000	75 HP	FR7	Vertical	105A	36 x 48 x 12	900 x 1250 x 300	193 b	87.5 kg
NXBJ1000DS300F0000	100 HP	Call Customer Care	Side by Side	140A	Call Customer Care			
NXBJ1250DS300F0000	125 HP		Side by Side	170A	Call Customer Care			
NXBJ1500DS300F0000	150 HP		Side by Side	205A	Call Customer Care			

Voltage: 575 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 1
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate		Weight	
					(inch)	(mm)	(lb)	(kg)
NXBL0030CS10200000	3 HP	FR4	Vertical	4.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0040CS10200000	4 HP	FR4	Vertical	5.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0050CS10200000	5 HP	FR4	Vertical	7.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0075CS10200000	7.5 HP	FR4	Vertical	0.42A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0100CS10200000	10 HP	FR5	Vertical	13 5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0150CS10200000	15 HP	FR5	Vertical	18A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0200CS10200000	20 HP	FR5	Vertical	22A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0250CS10200000	25 HP	FR6	Vertical	27A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0300CS10200000	30 HP	FR6	Vertical	34A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0400CS10200000	40 HP	FR6	Vertical	41A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0500CS10200000	50 HP	FR7	Vertical	52A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBL0600CS10200000	60 HP	FR7	Vertical	62A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBL0750CS10200000	75 HP	FR7	Vertical	80A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBL1000CS10200000	100 HP	FR8	Side by Side	100A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBL1250CS10200000	125 HP	FR8	Side by Side	125A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBL1500CS10200000	150 HP	FR8	Side by Side	144A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg

Variable Frequency Drives

Voltage: 575 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 1
Control Transformer: Yes

Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horse-power	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBL0030CS103F1110	3 HP	FR4	Vertical	No	—	4.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0030CS113F1110	3 HP	FR6	Vertical	Yes	—	4.5A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0030CS133F1110	3 HP	FR6	Vertical	Yes	Hand Off Auto	4.5A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0040CS103F1110	4 HP	FR4	Vertical	No	—	5.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0040CS113F1110	4 HP	FR6	Vertical	Yes	—	5.5A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0040CS133F1110	4 HP	FR6	Vertical	Yes	Hand Off Auto	5.5A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0050CS103F1110	5 HP	FR4	Vertical	No	—	7.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0050CS113F1110	5 HP	FR6	Vertical	Yes	—	7.5A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0050CS133F1110	5 HP	FR6	Vertical	Yes	Hand Off Auto	7.5A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0075CS103F1110	7.5 HP	FR4	Vertical	No	—	0.42A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0075CS113F1110	7.5 HP	FR6	Vertical	Yes	—	10A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0075CS133F1110	7.5 HP	FR6	Vertical	Yes	Hand Off Auto	10A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0100CS103F1110	10 HP	FR5	Vertical	No	—	13.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0100CS113F1110	10 HP	FR6	Vertical	Yes	—	13.5A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0100CS133F1110	10 HP	FR6	Vertical	Yes	Hand Off Auto	13.5A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0150CS103F1110	15 HP	FR5	Vertical	No	—	18A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0150CS113F1110	15 HP	FR6	Vertical	Yes	—	18A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0150CS133F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	18A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0200CS103F1110	20 HP	FR5	Vertical	No	—	22A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0200CS113F1110	20 HP	FR6	Vertical	Yes	—	22A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0200CS133F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	22A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0250CS103F1110	25 HP	FR6	Vertical	No	—	27A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0250CS113F1110	25 HP	FR6	Vertical	Yes	—	27A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0250CS133F1110	25 HP	FR6	Vertical	Yes	Hand Off Auto	27A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0300CS103F1110	30 HP	FR6	Vertical	No	—	34A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0300CS113F1110	30 HP	FR6	Vertical	Yes	—	34A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0300CS133F1110	30 HP	FR6	Vertical	Yes	Hand Off Auto	34A	53H x 12D x 14W	1298H x 294D x 343W	99 lb	44.9 kg
NXBL0400CS103F1110	40 HP	FR6	Vertical	No	—	41A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0400CS113F1110	40 HP	FR7	Vertical	Yes	—	41A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBL0400CS133F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	41A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBL0500CS103F1110	50 HP	FR7	Vertical	No	—	52A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBL0500CS113F1110	50 HP	FR7	Vertical	Yes	—	52A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBL0500CS133F1110	50 HP	FR7	Vertical	Yes	Hand Off Auto	52A	62 x 13 x 16	1574 x 339 x 406	154 lb	69.8 kg
NXBL0600CS103F1110	60 HP	FR7	Vertical	No	—	62A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBL0600CS113F1110	60 HP	FR8	Side by Side	Yes	—	62A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBL0600CS133F1110	60 HP	FR8	Side by Side	Yes	Hand Off Auto	62A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBL0750CS103F1110	75 HP	FR7	Vertical	No	—	80A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBL0750CS113F1110	75 HP	FR8	Side by Side	Yes	—	80A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBL0750CS133F1110	75 HP	FR8	Side by Side	Yes	Hand Off Auto	80A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBL1000CS103F1110	100 HP	FR8	Side by Side	No	—	100A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg
NXBL1000CS113F1110	100 HP	FR8	Side by Side	Yes	—	100A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBL1000CS133F1110	100 HP	FR8	Side by Side	Yes	Hand Off Auto	100A	54H x 16D x 36W	1350H x 400D x 900W	360 lb	163.3 kg
NXBL1250CS103F1110	125 HP	FR8	Side by Side	No	—	125A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg
NXBL1500CS103F1110	150 HP	FR8	Side by Side	No	—	144A	36 x 54 x 16	900 x 1350 x 400	360 lb	163.3 kg

Voltage: 575 Vac

Configuration: Drive with 2 contactor bypass
Type of Enclosure: NEMA 12
Auto Bypass: No
Control Transformer: No

Disconnect Type: No Disconnect
Drive Input Disconnect: No
Pilot Lights: No

Product Number	Horsepower	Frame Type	Layout	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBL0030CS20200000	3 HP	FR4	Vertical	4.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBL0040CS20200000	4 HP	FR4	Vertical	5.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBL0050CS20200000	5 HP	FR4	Vertical	7.5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBL0075CS20200000	7.5 HP	FR4	Vertical	0.42A	9.5 x 40 x 9.5	241 x 1016 x 241	43 b	19.5 kg
NXBL0100CS20200000	10 HP	FR5	Vertical	13.5A	11 x 46 x 10.5	275 x 1150 x 262	62 b	28.1 kg
NXBL0150CS20200000	15 HP	FR5	Vertical	18A	11 x 46 x 10.5	275 x 1150 x 262	62 b	28.1 kg
NXBL0200CS20200000	20 HP	FR5	Vertical	22A	11 x 46 x 10.5	275 x 1150 x 262	62 b	28.1 kg
NXBL0250CS20200000	25 HP	FR6	Vertical	27A	14 x 53 x 12	350 x 1325 x 300	99 b	44.9 kg
NXBL0300CS20200000	30 HP	FR6	Vertical	34A	14 x 53 x 12	350 x 1325 x 300	99 b	44.9 kg
NXBL0400CS20200000	40 HP	FR6	Vertical	41A	14 x 53 x 12	350 x 1325 x 300	99 b	44.9 kg
NXBL0500CS20200000	50 HP	FR7	Vertical	52A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBL0600CS20200000	60 HP	FR7	Vertical	62A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBL0750CS20200000	75 HP	FR7	Vertical	80A	16 x 62 x 13	400 x 1550 x 325	154 b	69.8 kg
NXBL1000CS20200000	100 HP	FR8	Side by Side	100A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBL1250CS20200000	125 HP	FR8	Side by Side	125A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg
NXBL1500CS20200000	150 HP	FR8	Side by Side	144A	36 x 54 x 16	900 x 1350 x 400	360 b	163.3 kg

Voltage: 575 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 12
Control Transformer: Yes

Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Weight (lb)	Weight (kg)
NXBL0030CS203F1110	3 HP	FR4	Vertical	No	—	4 5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0030CS213F1110	3 HP	FR6	Vertical	Yes	—	4 5A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0030CS233F1110	3 HP	FR6	Vertical	Yes	Hand Off Auto	4 5A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0040CS203F1110	4 HP	FR4	Vertical	No	—	5 5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0040CS213F1110	4 HP	FR6	Vertical	Yes	—	5 5A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0040CS233F1110	4 HP	FR6	Vertical	Yes	Hand Off Auto	5 5A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0050CS203F1110	5 HP	FR4	Vertical	No	—	7 5A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0050CS213F1110	5 HP	FR6	Vertical	Yes	—	7 5A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0050CS233F1110	5 HP	FR6	Vertical	Yes	Hand Off Auto	7 5A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0075CS203F1110	7.5 HP	FR4	Vertical	No	—	0.42A	9.5 x 40 x 9.5	241 x 1016 x 241	43 lb	19.5 kg
NXBL0075CS213F1110	7.5 HP	FR6	Vertical	Yes	—	10A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0075CS233F1110	7.5 HP	FR6	Vertical	Yes	Hand Off Auto	10A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0100CS203F1110	10 HP	FR5	Vertical	No	—	13.5A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0100CS213F1110	10 HP	FR6	Vertical	Yes	—	13.5A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0100CS233F1110	10 HP	FR6	Vertical	Yes	Hand Off Auto	13.5A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0150CS203F1110	15 HP	FR5	Vertical	No	—	18A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0150CS213F1110	15 HP	FR6	Vertical	Yes	—	18A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0150CS233F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	18A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0200CS203F1110	20 HP	FR5	Vertical	No	—	22A	11 x 46 x 10.5	275 x 1150 x 262	62 lb	28.1 kg
NXBL0200CS213F1110	20 HP	FR6	Vertical	Yes	—	22A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0200CS233F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	22A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0250CS203F1110	25 HP	FR6	Vertical	No	—	27A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0250CS213F1110	25 HP	FR6	Vertical	Yes	—	27A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0250CS233F1110	25 HP	FR6	Vertical	Yes	Hand Off Auto	27A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg

Variable Frequency Drives

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBL0300CS203F1110	30 HP	FR6	Vertical	No	—	34A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0300CS213F1110	30 HP	FR6	Vertical	Yes	—	34A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0300CS233F1110	30 HP	FR6	Vertical	Yes	Hand Off Auto	34A	48H x 14D x 36W	1176H x 343D x 882W	99 lb	44.9 kg
NXBL0400CS203F1110	40 HP	FR6	Vertical	No	—	41A	14 x 53 x 12	350 x 1325 x 300	99 lb	44.9 kg
NXBL0400CS213F1110	40 HP	FR7	Vertical	Yes	—	41A	48H x 14D x 36W	1176H x 343D x 882W	154 lb	69.8 kg
NXBL0400CS233F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	41A	48H x 14D x 36W	1176H x 343D x 882W	154 lb	69.8 kg
NXBL0500CS203F1110	50 HP	FR7	Vertical	No	—	52A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBL0500CS213F1110	50 HP	FR7	Vertical	Yes	—	52A	48H x 14D x 36W	1176H x 343D x 882W	154 lb	69.8 kg
NXBL0500CS233F1110	50 HP	FR7	Vertical	Yes	Hand Off Auto	52A	48H x 14D x 36W	1176H x 343D x 882W	154 lb	69.8 kg
NXBL0600CS203F1110	60 HP	FR7	Vertical	No	—	62A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBL0600CS213F1110	60 HP	FR8	Side by Side	Yes	—	62A	48H x 14D x 36W	1176H x 343D x 882W	360 lb	163 3 kg
NXBL0600CS233F1110	60 HP	FR8	Side by Side	Yes	Hand Off Auto	62A	48H x 14D x 36W	1176H x 343D x 882W	360 lb	163 3 kg
NXBL0750CS203F1110	75 HP	FR7	Vertical	No	—	80A	16 x 62 x 13	400 x 1550 x 325	154 lb	69.8 kg
NXBL0750CS213F1110	75 HP	FR8	Side by Side	Yes	—	80A	48H x 14D x 36W	1176H x 343D x 882W	360 lb	163 3 kg
NXBL0750CS233F1110	75 HP	FR8	Side by Side	Yes	Hand Off Auto	80A	48H x 14D x 36W	1176H x 343D x 882W	360 lb	163 3 kg
NXBL1000CS203F1110	100 HP	FR8	Side by Side	No	—	100A	36 x 54 x 16	900 x 1350 x 400	360 lb	163 3 kg
NXBL1000CS213F1110	100 HP	FR8	Side by Side	Yes	—	100A	48H x 14D x 36W	1176H x 343D x 882W	360 lb	163 3 kg
NXBL1000CS233F1110	100 HP	FR8	Side by Side	Yes	Hand Off Auto	100A	48H x 14D x 36W	1176H x 343D x 882W	360 lb	163 3 kg
NXBL1250CS203F1110	125 HP	FR8	Side by Side	No	—	125A	36 x 54 x 16	900 x 1350 x 400	360 lb	163 3 kg
NXBL1500CS203F1110	150 HP	FR8	Side by Side	No	—	144A	36 x 54 x 16	900 x 1350 x 400	360 lb	163 3 kg

Voltage: 575 Vac

Configuration: Drive with 3 contactor bypass
Type of Enclosure: NEMA 3R
Control Transformer: Yes
Disconnect Type: Fused Disconnect
Drive Input Disconnect: Yes
Pilot Lights: Yes

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBL0030CS303F1110	3 HP	FR6	Vertical	No	—	4.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0030CS313F1110	3 HP	FR6	Vertical	Yes	—	4.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0030CS333F1110	3 HP	FR6	Vertical	Yes	Hand Off Auto	4.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0040CS303F1110	4 HP	FR6	Vertical	No	—	5.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0040CS313F1110	4 HP	FR6	Vertical	Yes	—	5.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0040CS333F1110	4 HP	FR6	Vertical	Yes	Hand Off Auto	5.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0050CS303F1110	5 HP	FR6	Vertical	No	—	7.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0050CS313F1110	5 HP	FR6	Vertical	Yes	—	7.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0050CS333F1110	5 HP	FR6	Vertical	Yes	Hand Off Auto	7.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0075CS303F1110	7.5 HP	FR6	Vertical	No	—	10A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0075CS313F1110	7.5 HP	FR6	Vertical	Yes	—	10A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0075CS333F1110	7.5 HP	FR6	Vertical	Yes	Hand Off Auto	10A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0100CS303F1110	10 HP	FR6	Vertical	No	—	13.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0100CS313F1110	10 HP	FR6	Vertical	Yes	—	13.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0100CS333F1110	10 HP	FR6	Vertical	Yes	Hand Off Auto	13.5A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0150CS303F1110	15 HP	FR6	Vertical	No	—	18A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0150CS313F1110	15 HP	FR6	Vertical	Yes	—	18A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0150CS333F1110	15 HP	FR6	Vertical	Yes	Hand Off Auto	18A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0200CS303F1110	20 HP	FR6	Vertical	No	—	22A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0200CS313F1110	20 HP	FR6	Vertical	Yes	—	22A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0200CS333F1110	20 HP	FR6	Vertical	Yes	Hand Off Auto	22A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0250CS303F1110	25 HP	FR6	Vertical	No	—	27A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0250CS313F1110	25 HP	FR6	Vertical	Yes	—	27A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0250CS333F1110	25 HP	FR6	Vertical	Yes	Hand Off Auto	27A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg

Product Number	Horsepower	Frame Type	Layout	Auto Bypass	Additional Features	Current Ratings	Dimensions, Approximate		Weight	
							(inch)	(mm)	(lb)	(kg)
NXBL0300CS303F1110	30 HP	FR6	Vertical	No	—	34A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0300CS313F1110	30 HP	FR6	Vertical	Yes	—	34A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0300CS333F1110	30 HP	FR6	Vertical	Yes	Hand Off Auto	34A	36H x 12D x 30W	882H x 294D x 735W	124 lb	56.2 kg
NXBL0400CS303F1110	40 HP	FR7	Vertical	No	—	41A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBL0400CS313F1110	40 HP	FR7	Vertical	Yes	—	41A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBL0400CS333F1110	40 HP	FR7	Vertical	Yes	Hand Off Auto	41A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBL0500CS303F1110	50 HP	FR7	Vertical	No	—	52A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBL0500CS313F1110	50 HP	FR7	Vertical	Yes	—	52A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBL0500CS333F1110	50 HP	FR7	Vertical	Yes	Hand Off Auto	52A	48H x 12D x 36W	1176H x 294D x 882W	193 lb	87.5 kg
NXBL0600CS303F1110	60 HP	FR8	Side by Side	No	—	62A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBL0600CS313F1110	60 HP	FR8	Side by Side	Yes	—	62A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg
NXBL0600CS333F1110	60 HP	FR8	Side by Side	Yes	Hand Off Auto	62A	60 x 14 x 36	1470 x 343 x 882	440 lb	199.6 kg

Variable Frequency Drive Accessories

Product Number	Description	Used With
32004193-002	CX Series Keypad Display, Alphanumeric Display	CX Series VFD
32006628-001	Panel mount kit, NEMA 12, 6 ft	NXS
32006629-001	Blank display	NXS
32006629-002	Alphanumeric Display	NXS
32006629-003	7 segment display for NXL	NXL
32006629-004	Variable Frequency Drive RS232 Adapter	—
32006629-010	2m RS232 Serial Link Cable	NXS/NXL
32006629-011	1,5M RS232 PC-Cable for NXS/NXL Models	NXS/NXL
32006630-001	Lonbus Card	NXS/NXL
32006630-002	Modbus Card	NXS/NXL
32006630-003	2 RO (NO/NC)	NXS/NXL
32006630-004	6DI/DO Programmable	NXS/NXL
32006630-005	6DI, 1DO, 2AI, 1AO	NXS/NXL
32006630-006	1RO (NO/NC), 1RO (NO)	NXS/NXL
32006630-007	3RO (NO)	NXS/NXL
32006630-008	1AI (mA), 2AO (mA)	NXS/NXL
32006630-013	BACnet card	NXS/NXL
32006662-002	NXS demo	NXS
HVFDSDMOUNTKIT	SmartVFD HVAC Panel mount kit, NEMA 12, 6 ft	SmartVFD HVAC

Variable Frequency Drive Replacement Parts

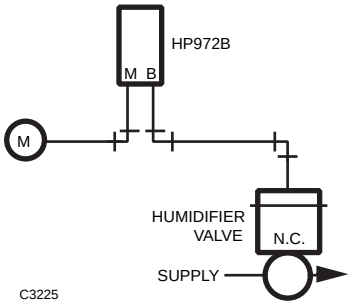
Product Number	Description	Horsepower	Used With
32006803-001	Control Module NXS	—	NXS
32006803-002	Fan assembly up to 7.5HP	up to 7.5 HP	NXS
32006803-003	Fan assembly 10 - 20 HP	10 - 20 HP	NXS
32006803-004	Fan assembly 25 - 40 HP	25 - 40 HP	NXS
32006803-005	Fan assembly 50 - 75HP	50 - 75 HP	NXS
32006803-006	Fan assembly 100 - 150HP	100 - 150 HP	NXS
32006803-005	Fan assembly 175 - 250HP FR9	175 - 250 HP	NXS

HP970 Pneumatic Humidistat

Two-pipe, single setpoint, pneumatic humidistat used to provide proportional control of pneumatic valves on humidification or dehumidification systems.

- Durable HP970 series humidistat.
- Pilot operated for high capacity.
- Direct Acting (DA) and Reverse Acting (RA) models are available.
- Vertical or horizontal mounting.
- Backplate has molded air connections; no separate fittings needed.
- Variety of cover finishes and display styles available.

HP970 Typical Piping



Application: Humidity
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (83 mm high x 51 mm wide x 41 mm deep)
Airflow Usage: 0.011 scfm (5.2 mL/s)
Maximum Operating Temperature: 45 F to 125 F (7 C to 52 C)
Maximum Storage Temperature: -30 to +150 F (-34 to +66 C)
Maximum Operating Pressure: 25 psi (170 kPa)
-

Accessories:
AK3863-Honeywell Thermostat Tool Kit, TP970/TP900
CCT729A-Gauge Adapter for Calibration. Add 305965 0 to 30 psi gauge for Complete Tool.
CCT735A-Thermostat Cal bration Tool includes Allen wrench for cover installation.
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
14002430-001-Thermostat Guard
14003192-001-Wallplate adapter kit. Adapts HP970 or TP970 series humidistats to HP900 and TP900 flush mounted and TP910 series flush or surface mounted installations
14004406-124-Humidistat Cover assembly Satin Chrome with setpoint display and Honeywell logo for vertical mounting, scale range 15 to 75% RH

Replacement Parts:
14001865-001-Filter Cartridge Assembly
14002053-001-Back Plate Assembly
14002573-001-Modernization Kit to convert all 1 & 2 pipe Honeywell & competitive pneumatic humidistats to TP970, TP971A, TP972, TP973, TP974, TP9600 family; HP970, HP971 and HP972

Product Number	Action	Number of Pipes	Scale Range (% RH)	Throttling Range (% RH)	Setpoint	Comments
HP970A1009/U	Direct Acting	2	15 to 75% RH	3 to 15% RH	Single	Order Cover Separately
HP970B1007/U	Reverse Acting	2	15 to 75% RH	3 to 15% RH	Single	Order Cover Separately
HP970B1015/U	Reverse Acting	2	65 to 95% RH	3 to 15% RH	Single	Order Cover Separately

Pneumatic Humidstats

HP972 Pneumatic Humidistat

A proportioning pneumatic humidistat used on one- or two-pipe installations for controlling actuators on valves and dampers in air conditioning systems for humidification or dehumidification control.

- Durable HP970 series humidistat.
- Snap-on mounting to backplate.
- Vertical or horizontal mounting.
- Backplate has molded air connections; no separate fittings needed.
- Variety of cover finishes and display styles available.
- Wide throttling range.

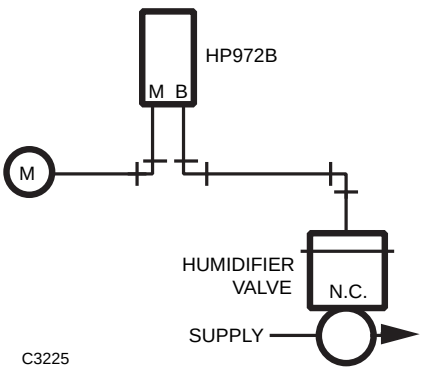
Application: Humidity
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (83 mm high x 51 mm wide x 41 mm deep)
Airflow Usage: 0.011 scfm (5.2 mL/s)
Maximum Operating Temperature: 45 F to 125 F (7 C to 52 C)
Maximum Storage Temperature: -30 to +150 F (-34 to +66 C)
Maximum Operating Pressure: 25 psi (170 kPa)

Accessories:
AK3863-Honeywell Thermostat Tool Kit, TP970/TP900
CCT729A-Gauge Adapter for Calibration. Add 305965 0 to 30 psi gauge for Complete Tool.
CCT735A-Thermostat Calibration Tool includes Allen wrench for cover installation.
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
14002430-001-Thermostat Guard
14002362-001-Duct Sampling Chamber
14003192-001-Wallplate adapter kit. Adapts HP970 or TP970 series humidistats to HP900 and TP900 flush mounted and TP910 series flush or surface mounted installations
14004406-124-Humidistat Cover assembly Satin Chrome with setpoint display and Honeywell logo for vertical mounting, scale range 15 to 75% RH

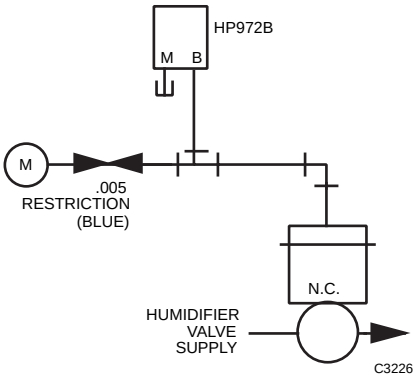
Replacement Parts:
14001865-001-Filter Cartridge Assembly
14002053-001-Back Plate Assembly
14002374-004-Restrictor Block Assembly, 0.005 in., For TP970A-D; TP971A-E except C; TP972A; TP973A-B; TP9600 family; HP970A-B; and HP972B
14002496-003-Nylon element assembly, with Spring
14002573-001-Modernization Kit to convert all 1 & 2 pipe Honeywell & competitive pneumatic humidistats to TP970, TP971A, TP972, TP973, TP974, TP9600 family; HP970, HP971 and HP972

Product Number	Action	Number of Pipes	Scale Range (% RH)	Throttling Range (% RH)	Setpoint	Description	Comments
HP972B1005/U	Reverse Acting	1 or 2	15 to 75% RH	7 to 35% RH	Single	Pneumatic Humidity Controller, number of pipes: 1 or 2, Action: Reverse	Order Cover Separately

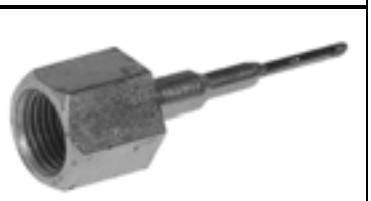
Typical Two-Pipe HP972B Hook-up



Typical One-pipe HP972B Hook-up



Humidistat Accessories

Product Number	Description	Used With	
CCT729A/U	Gauge Adapter for Cal bration. Add 305965 0 to 30 psi gauge for Complete Tool.	HP970, HP972;	
CCT735A/U	Thermostat Calibration Tool includes Allen wrench for cover installation.	HP970, HP972;	

Humidistat Cover Assemblies

Application: Accessory or Replacement Part

Product Number	Scale Range (% RH)	Description	Used With
14004406-910H/U	15 to 75% RH	Humidistat Satin Chrome Cover Kit with setpoint display and Honeywell logo for vertical and horizontal mounting, scale range 15 to 75% RH. Includes the Setpoint Knob Insert	HP970; HP972

Replacement Parts

Product Number	Description	Used With
14002496-003/U	Nylon element assembly, with Spring	HP970B1015; HP972B

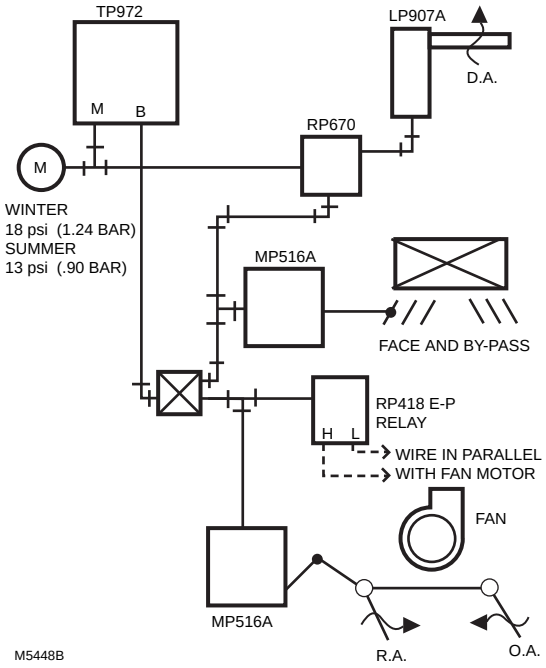
Pneumatic Thermostats

LP907 Airstream Insertion Pneumatic Thermostat

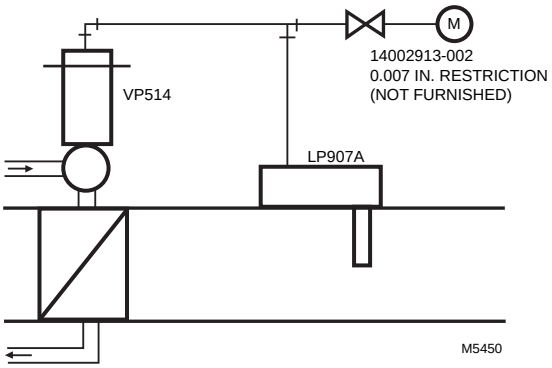
One-pipe, single setpoint, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Commonly used as discharge controllers for unit ventilators.

- Rod and tube insertion sensing element.
- Wide throttling range.
- Gage tee and tank valve facilitate checking line pressures.

Typical Heating/Cooling Application



Typical Duct Mounted Application



Application Type: Low Limit controller
Dimensions, Approximate: 5 7/16 in. high x 1 1/16 in. wide x 2 1/4 in. deep (138 mm high x 27 mm wide x 57 mm deep)
Airflow Usage: 0.011 scfm (5.2 mL/s)
Air Connections: Barb fittings 1/4 in. (6 mm) poly tubing
Number of Pipes: 1
Mounting: Insertion with locknut on boss of insertion shank
Operating Temperature: 40 F to 140 F (4 C to 60 C)
Storage Temperature: 150 F maximum (66 C maximum)
Remote Bulb: Yes
Sensor Element: Invar rod and seamless brass tube, 18 3/4 in. (476 mm) long and 11/32 in. (9 mm) diameter
Maximum Operating Pressure: 25 psi (170 kPa)
Includes: Fittings for mounting on sheet metal duct. Order restrictor separately.

Accessories:
CCT2085-Pneumatic Fitting - Gauge Adapter fits any standard 1/8 in. NPT gauge,
14002913-002-.007 in. Red in-line Filtered Restriction Assembly; Inlet: 1/4 in., Outlets: 1/4 in. Order in Quantities of 10
14002913-003-External Restriction Assembly. 0.007 in. Restriction, Red, Inlet 1/4 in; Outlet 1/4 in. and 5/32 in.

Product Number	Action	Setpoint	Setpoint Temperature Range		Capacity	Throttling Range	
			(F)	(C)		(F)	(C)
LP907A1002/U	Direct Acting	Single	40 F to 140 F	4 C to 60 C	Low	10 F to 70 F	6 C to 39 C
LP907A1044/U	Direct Acting	Single	40 F to 140 F	4 C to 60 C	Low	5 F to 35 F	3 C to 19 C

LP916 Pneumatic Thermostat

Two-pipe, single temperature, unit mounted, remote bulb pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems.

- Liquid filled remote bulb.
- Direct Acting (DA), Reverse Acting (RA) and Heating/Cooling (DA/RA) models are available.

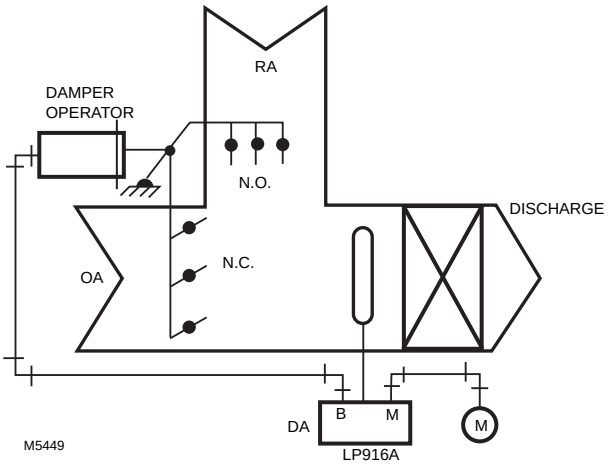
Application Type: Unit Ventilator
Dimensions, Approximate: 4 3/4 in. high x 3 3/4 in. wide x 3 in. deep (121 mm high x 95 mm wide x 76 mm deep)
Airflow Usage: 0.022 scfm (10.4 mL/s) with 0.007 in. restriction
Air Connections: Barb fittings 1/4 in. (6 mm)
Number of Pipes: 2
Mounting: In compartment of a unit ventilator
Operating Temperature: 135 F maximum (57 C maximum)
Storage Temperature: 150 F maximum (66 C maximum)
Setpoint: Single
Remote Bulb: Yes
Maximum Operating Pressure: 25 psi (170 kPa)

Accessories:
107324A-Capillary Holder Assembly for duct insertion, 8 3/8 in. long

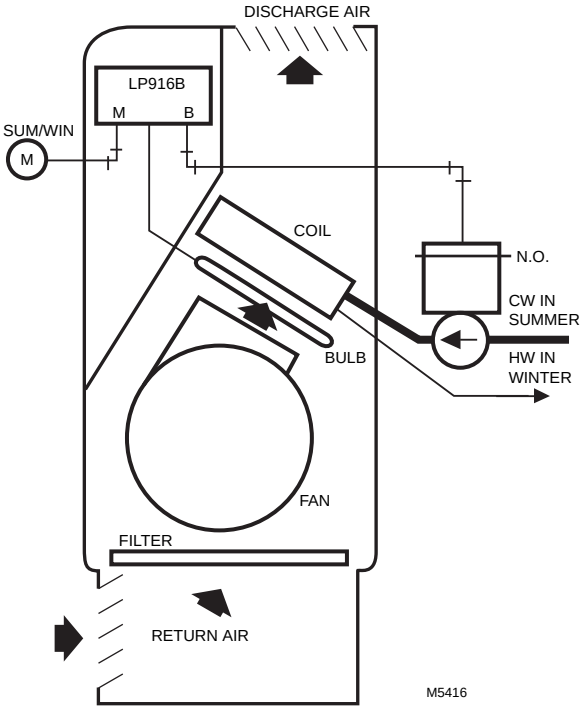
Replacement Parts:
14003113-002-Repair kit containing 0.007 in. restrictor plate, filters, and gaskets

Product Number	Action	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Changeover (psi)	Changeover (kPa)	Throttling Range (F)	Throttling Range (C)	Scale Markings	Includes	Comments	Sensor Element
LP916A1019/U	Direct Acting	65 F to 85 F	19 C to 30 C	—	—	3.5 F	2 C	Warmer / Cooler	Integral Mounting Bracket and 304528A Bag Assembly (mounting hardware). Order bu b hangers (316297-00021) separately.	—	Bu b 1/2 x 5 7/8 in., capillary 36 in. (914 mm) long
LP916A1134/U	Direct Acting	65 F to 85 F	19 C to 30 C	—	—	3.5 F	2 C	Warmer / Cooler	Integral Mounting Bracket, (2) 316297-00021 Bulb Hangers and 304528A Bag Assembly (mounting hardware).	—	Bu b 3/8 x 7 in., capillary 36 in. (914 mm) long
LP916A1175/U	Direct Acting	40 F to 80 F	4 C to 26 C	—	—	7 F	ñ13 C	40 F to 80 F		—	Bu b 3/8 x 7 in., capillary 36 in. (914 mm) long
LP916B1017/U	Direct Acting Heating, Reverse Acting Cooling	65 F to 85 F	19 C to 30 C	Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	3.5 F	2 C	Warmer / Cooler	Integral Mounting Bracket and 304528A Bag Assembly (mounting hardware). Order bu b hangers (316297-00021) separately.	—	Bu b 1/2 x 5 7/8 in., capillary 36 in. (914 mm) long
LP916B1058/U	Direct Acting Heating, Reverse Acting Cooling	65 F to 85 F	19 C to 30 C	Heat 18 psi, Cool 9 psi	Heat 124 kPa, Cool 62 kPa	3.5 F	2 C	Warmer / Cooler		—	Bu b 1/2 x 5 7/8 in., capillary 36 in. (914 mm) long
LP916B1074/U	Direct Acting Heating, Reverse Acting Cooling	65 F to 85 F	19 C to 30 C	Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	3.5 F	2 C	Warmer / Cooler	Order Mounting Bracket, Knob, Bulb Hangers, and Scale Plate separately.	—	Bu b 3/8 x 7 in., capillary 36 in. (914 mm) long
LP916B1082/U	Direct Acting Heating, Reverse Acting Cooling	65 F to 85 F	19 C to 30 C	Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	3.5 F	2 C	Warmer / Cooler	Integral Mounting Bracket, (2) 316297-00021 Bulb Hangers and 304528A Bag Assembly (mounting hardware).	New installation model	Bu b 3/8 x 7 in., capillary 36 in. (914 mm) long
LP916B1090/U	Direct Acting Heating, Reverse Acting Cooling	65 F to 85 F	19 C to 30 C	Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	3.5 F	2 C	Warmer / Cooler		—	Bu b 3/8 x 9 in., capillary 36 in. (914 mm) long
LP916C1023/U	Reverse Acting	60 F to 80 F	15 C to 26 C	—	—	3.5 F	2 C	60 F to 80 F		—	Bu b 3/8 x 9 in., capillary 36 in. (914 mm) long

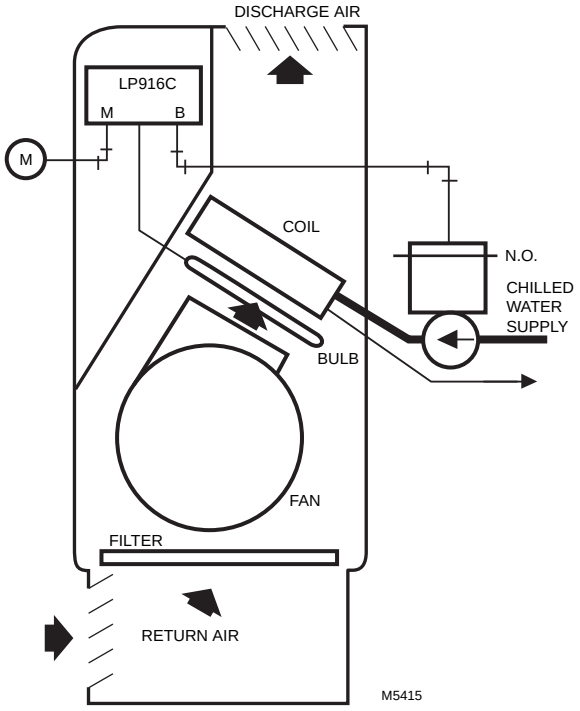
Typical LP916A Mixed Air Application



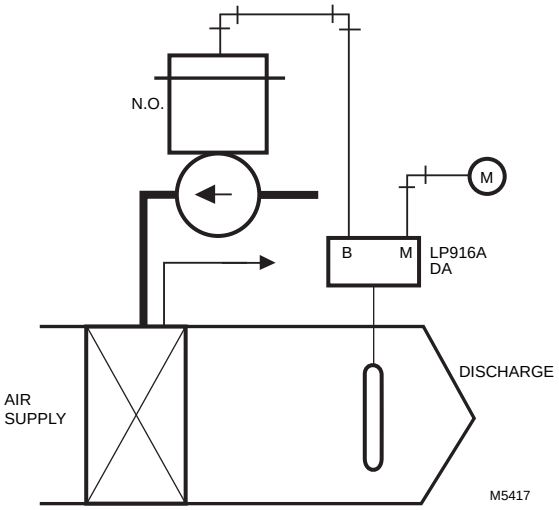
Typical LP916B Fan Coil Application, Heating/Cooling with Seasonal Changeover



Typical LP916C Fan Coil Application, Cooling Only



Typical LP916A Duct Mounted Heating Application



TP9600 Pneumatic Thermostat

Pneumatic thermostat for proportional control of pneumatic valves and actuators with one- or two-pipe systems. Available with two cover options, the TP9600 is not only affordable and easy to install, but it controls temperature with the reliability that only Honeywell can provide.

- TP9600 delivers the Honeywell TP970s unparalleled sensing and control.
- Redesigned models fit your high-volume pneumatic applications.
- Backplate mounts quickly.
- Thermostat snaps onto backplate.
- Cover is mounted and locked into place with concealed setscrews.
- Attractive Euro-contoured design comes with choice of two cover options.
- Neutral taupe color blends with today's commercial interiors.
- Adapter kits are available to retrofit most pneumatic jobs.
- Branch line capacity Low for TP9630 and TP9633 Branch line capacity High for TP9600, TP9610, TP9603, TP9620.

Application Type: Wall Thermostat
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (83 mm high x 51 mm wide x 41 mm deep)
Airflow Usage: 0.011 scfm (5.2 mL/s)
Air Connections: Barb fittings 5/32 in. (4 mm)
Mounting: Vertical Wall Mounting
Operating Temperature: 50 F to 100 F (10 C to 38 C)
Storage Temperature: 150 F maximum (66 C maximum)
Remote Bulb: No
Throttling Range: 2 F to 10 F (1 C to 5 C)
Sensor Element: Bimetal
Maximum Operating Pressure: 25 psi (170 kPa)

Accessories:
AK3863-Honeywell Thermostat Tool Kit, TP970/TP900
CCT729A-Gauge Adapter for Calibration. Add 305965 0 to 30 psi gauge for Complete Tool.
CCT735A-Thermostat Calibration Tool includes Allen wrench for cover installation.
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
14002362-001-Duct Sampling Chamber
14002430-001-Thermostat Guard
14002913-001-.005 in. Blue Filter Restriction Assembly; Inlet: 1/4 in., Outlets: 1/4 in. and 5/32 in.; Order in Quantities of 10
14002913-004-External Restriction Assembly. 0.005 in. Restriction, Blue Inlet 1/4 in; Outlet 5/32 in. and 5/32 in.
14003192-001-Wallplate adapter kit. Adapts HP970 or TP970 series thermostats to HP900 and TP900 flush mounted and TP910 series flush or surface mounted installations
14004439-001-Setpoint Extension
14004911-001-Taupe Convertastat wall plate with 2 screws

Replacement Parts:
14001865-001-Filter Cartridge Assembly
14002053-001-Back Plate Assembly
14002573-001-Modernization Kit to convert all 1 & 2 pipe Honeywell & competitive pneumatic thermostats to TP970, TP971A, TP972, TP973, TP974, TP9600 family; HP970, HP971 and HP972
14003192-001-Wallplate adapter kit. Adapts HP970 or TP970 series thermostats to HP900 and TP900 flush mounted and TP910 series flush or surface mounted installations

Product Number	Action	Number of Pipes	Setpoint	Setpoint Temperature Range		Changeover		Includes
				(F)	(C)	(psi)	(kPa)	
TP9600A1007/U	Direct Acting	2	Single	59 F to 90 F	15 C to 32 C	—	—	Cover, Setpoint, and Thermometer are Visible
TP9600B1006/U	Reverse Acting	2	Single	59 F to 90 F	15 C to 32 C	—	—	Cover, Setpoint, and Thermometer are Visible
TP9603A1001/U	Direct Acting	2	Single	59 F to 90 F	15 C to 32 C	—	—	Blank Cover, Setpoint, and Thermometer are Not Visible
TP9610A1006/U	Direct Acting	2	Day/Night	Day: 59 F to 90 F, Night: 50 F to 75 F	Day: 15 C to 30 C, Night: 10 C to 27 C	Day 13 psi, Night 18 psi	Day 90 kPa, Night 124 kPa	Cover, Setpoint, and Thermometer are Visible
TP9620A1005/U	Direct Acting Heating, Reverse Acting Cooling	2	Single	60 F to 90 F	16 C to 32 C	Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	Cover, Setpoint, and Thermometer are Visible
TP9630A1004/U	Direct Acting	1 or 2	Single	60 F to 90 F	16 C to 32 C	—	—	Cover, Setpoint, and Thermometer are Visible
TP9630B1003/U	Reverse Acting	1 or 2	Single	60 F to 90 F	16 C to 32 C	—	—	Cover, Setpoint, and Thermometer are Visible

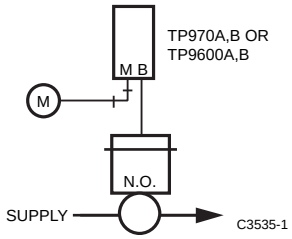
Pneumatic Thermostats

TP970 Pneumatic Thermostat

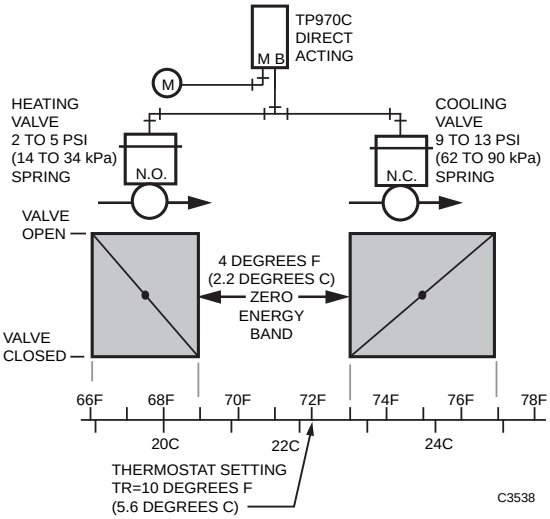
Two-pipe, single setpoint, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell two-pipe pneumatic thermostats.

- Honeywell's best pneumatic thermostat-TP970 series.
- Shock-resistant, suspension-mounted thermostats provide dependable performance and responsiveness year in and year out.
- Pilot operated for high capacity.
- Direct Acting (DA) and Reverse Acting (RA) models are available.
- Wide throttling range models for Zero Energy Band (ZEB) operation are available.
- Adapter plate in Convertastat and Modernization kits covers existing thermostat wall mark.
- Backplate has molded air connections-no separate fittings needed.
- Universal locking cover with satin chrome finish and horizontal, vertical, or blank window options.
- Typical Wide Throttling Range Application.

Typical Standard Throttling Range Piping



Typical Wide Throttling Range Piping



Application Type: Heating
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (83 mm high x 51 mm wide x 41 mm deep)
Airflow Usage: 0.011 scfm (5.2 mL/s)
Number of Pipes: 2
Mounting: Wall mount
Operating Temperature: 100 F maximum
Storage Temperature: 150 F maximum (66 C maximum)
Remote Bulb: No
Setpoint: Single
Sensor Element: Bimetal
Maximum Operating Pressure: 25 psi (170 kPa)

Accessories:

AK3863-Honeywell Thermostat Tool Kit, TP970/TP900
CCT729A-Gauge Adapter for Calibration. Add 305965 0 to 30 psi gauge for Complete Tool.
CCT735A-Thermostat Cal bration Tool includes Allen wrench for cover installation.
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
14002362-001-Duct Sampling Chamber
14002430-001-Thermostat Guard
14004439-001-Setpoint Extension
14004447-001-Setpoint Cam Assembly for TP970A1004, A1012, A1020, A1038, A1046, A1053, A1095, A2004, A2012, A2020, A2038
AK3863-Honeywell Thermostat Tool Kit, TP970/TP900
CCT729A-Gauge Adapter for Calibration. Add 305965 0 to 30 psi gauge for Complete Tool.
CCT735A-Thermostat Cal bration Tool includes Allen wrench for cover installation.
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
14002362-001-Duct Sampling Chamber
14002430-001-Thermostat Guard
14004439-001-Setpoint Extension
14004447-001-Setpoint Cam Assembly for TP970A1004, A1012, A1020, A1038, A1046, A1053, A1095, A2004, A2012, A2020, A2038, A2053, A2095; TP970C; TP972A1143, A2143; TP973A1001, A1019, A1127
14004447-002-Setpoint Cam Assembly for TP970B1002, B1010, B1028, B1036, B2002, B2010, B2028, B2036; TP970D; TP972A1002, A1010, A1028, A1044, A2002, A2010, A2028, A2044; TP973B1009, B1017, B1025, B1108
14004447-005-Setpoint Cam Assembly for TP970B1044; TP972A1051, A1101
14004459-001-Repair kit consisting of a thermometer assembly, a thermometer post and a 60 to 90F aluminum scaleplate

Replacement Parts:

14001865-001-Filter Cartridge Assembly
14002053-001-Back Plate Assembly
14002573-001-Modernization Kit to convert all 1 & 2 pipe Honeywell & competitive pneumatic thermostats to TP970, TP971A, TP972, TP973, TP974, TP9600 family; HP970, HP971 and HP972
14004459-001-Repair kit consisting of a thermometer assembly, a thermometer post and a 60 to 90F aluminum scaleplate

Product Number	Action	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Throttling Range (F)	Throttling Range (C)	Includes	Comments**
TP970A2004/U	Direct Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Order Cover Separately	—
TP970A2012/U	Direct Acting	40 F to 70 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Order Cover Separately	—
TP970A2020/U	Direct Acting		15 C to 30 C	33 F to 41 F (factory set 35 C)	1 C to 5 C (factory set 2 C)	Order Cover Separately	—
TP970A2038/U	Direct Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Thermostat, large wall plate and satin chrome cover.	Modernization kit used to convert older Honeywell Thermostats.
TP970A2145/U	Direct Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Thermostat, small wall plate and satin chrome cover.	Convertastat Kit
TP970A2234/U	Direct Acting		15 C to 30 C	33 F to 41 F (factory set 35 C)	1 C to 5 C (factory set 2 C)	Thermostat, small wall plate and satin chrome cover.	Convertastat Kit
TP970A2242/U	Direct Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Thermostat, small wall plate and beige cover.	Convertastat Kit
TP970A2259/U	Direct Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Thermostat and satin chrome cover.	Tradeline Kit
TP970B2002/U	Reverse Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Order Cover Separately	—
TP970B2010/U	Reverse Acting		15 C to 30 C	33 F to 41 F (factory set 35 C)	1 C to 5 C (factory set 2 C)	Order Cover Separately	—
TP970B2077/U	Reverse Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Thermostat, small wall plate and satin chrome cover.	Convertastat Kit
TP970B2150/U	Reverse Acting		15 C to 30 C	33 F to 41 F (factory set 35 C)	1 C to 5 C (factory set 2 C)	Thermostat, small wall plate and satin chrome cover.	Convertastat Kit
TP970B2166/U	Reverse Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	1 C to 5 C (factory set 2 C)	Thermostat, small wall plate and beige cover.	Convertastat Kit
TP970B2182/U	Reverse Acting	59 F to 90 F		2 F to 10 F (factory set 4 F)	-16 C to -12 C (factory set -15 C)	Thermostat and satin chrome cover.	Tradeline Kit
TP970C2000/U	Direct Acting	59 F to 90 F		5 F to 25 F	-15 C to -3 C	Order Cover Separately	Wide Throttling Range 5-25 F

A **Tradeline Kit includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal (F), vertical (F) and blank) for new installations or to convert newer, small size Honeywell or competitor thermostat, not requiring a wall plate adapter.

A **Convertastat Kit™** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal (F), vertical (F) and blank) and a small Universal Wall Plate Adapter to convert newer, small size Honeywell or competitor thermostats.

A **Modernization Kit** includes a TP970 Series thermostat with Satin Chrome Universal Cover, Windows (horizontal (F), vertical (F) and blank) and a large Universal Wall Plate Adapter to convert older thermostats.

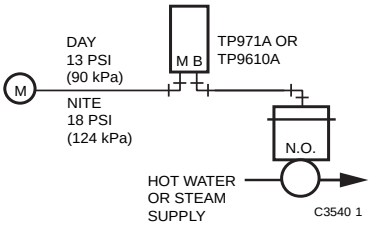
Pneumatic Thermostats

TP971 Pneumatic Day/Night Thermostat

Pneumatic thermostat with night setback used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell two-pipe pneumatic thermostats.

- Durable TP970 series thermostat Pilot operated for high capacity.
- Direct Acting (DA) and Reverse Acting (RA) models are available.
- Three-pipe thermostats are available for unit ventilator applications where the outdoor damper must operate when the thermostat is manually set to day operation.
- Adapter plate in thermostat kits covers existing thermostat watermark.
- Backplate has molded air connections-no separate fittings needed.
- Universal Locking cover with satin chrome finish and horizontal, vertical, or blank window options-other covers available.

TP971 Typical Piping



Application Type: Wall Thermostat, Day/Night operation
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (83 mm high x 51 mm wide x 41 mm deep)
Airflow Usage: 0.011 scfm (5.2 mL/s)
Mounting: Wall mount
Operating Temperature: 100 F maximum
Storage Temperature: 150 F maximum (66 C maximum)
Remote Bulb: No
Setpoint: Day/Night
Sensor Element: Bimetal
Maximum Operating Pressure: 25 psi (170 kPa)

Accessories:
CCT729A-Gauge Adapter for Calibration. Add 305965 0 to 30 psi gauge for Complete Tool.
CCT735A-Thermostat Cal bration Tool includes Allen wrench for cover installation.
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
14002362-001-Duct Sampling Chamber
14002430-001-Thermostat Guard
14003192-001-Wallplate adapter kit. Adapts HP970 or TP970 series thermostats to HP900 and TP900 flush mounted and TP910 series flush or surface mounted installations
14004439-001-Setpoint Extension
14004447-003-Setpoint Cam Assembly for TP971A, C, D; TP972A1168, A2168, A2176

Replacement Parts:
14001865-001-Filter Cartridge Assembly

Product Number	Action	Number of Pipes	Setpoint Temperature Range		Changeover		Throttling Range		Includes	Comments**
			(F)	(C)	(psi)	(kPa)	(F)	(C)		
TP971A2003/U	Direct Acting Heating, two temp.	2	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 13 psi, Night 18 psi	Day 90 kPa, Night 124 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP971A2011/U	Direct Acting Heating, two temp.	2		Day: 15 C to 30 C, Night: 10 C to 27 C	Day 13 psi, Night 18 psi	Day 90 kPa, Night 124 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP971A2029/U	Direct Acting Heating, two temp.	2	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 16 psi, Night 21 psi	Day 110 kPa, Night 144 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP971A2052/U	Direct Acting Heating, two temp.	2		Day: 15 C to 30 C, Night: 10 C to 27 C	Day 16 psi, Night 21 psi	Day 110 kPa, 144 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP971A2086/U	Direct Acting Heating, two temp.	2	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 20 psi, Night 25 psi	Day 137 kPa, Night 172 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP971A2102/U	Direct Acting Heating, two temp.	2	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 13 psi, Night 18 psi or 16-20 psi	Day 90 kPa, Night 124 kPa	2 F to 10 F	1 C to 5 C	Thermostat, small wall plate and satin chrome cover.	Convertastat Kit
TP971B2001/U	Reverse Acting Heating, two temp.	2	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 13 psi, Night 18 psi	Day 90 kPa, Night 124 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—

Product Number	Action	Number of Pipes	Setpoint Temperature Range		Changeover		Throttling Range		Includes	Comments**
			(F)	(C)	(psi)	(kPa)	(F)	(C)		
TP971B2019/U	Reverse Acting Heating, two temp.	2	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 16 psi, Night 21 psi	Day 110 kPa, Night 144 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP971B2043/U	Reverse Acting Heating, two temp.	2	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 20 psi, Night 25 psi	Day 137 kPa, Night 172 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP971C2009/U	Direct Acting Heating, two temp.	3	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 13 psi, Night 18 psi	Day 90 kPa, Night 124 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	Has secondary branch line
TP971C2017/U	Direct Acting Heating, two temp.	3		Day: 15 C to 30 C, Night: 10 C to 27 C	Day 13 psi, Night 18 psi	Day 90 kPa, Night 124 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	Has secondary branch line
TP971C2025/U	Direct Acting Heating, two temp.	3	Day: 59 F to 90 F, Night: 50 F to 80 F		Day 16 psi, Night 21 psi	Day 110 kPa, Night 144 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	Has secondary branch line

A **Tradeline Kit includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal (F), vertical (F) and blank) for new installations or to convert newer, small size Honeywell or competitor thermostat, not requiring a wall plate adapter.

A **Convertastat Kit**™ includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal (F), vertical (F) and blank) and a small Universal Wall Plate Adapter to convert newer, small size Honeywell or competitor thermostats.

A **Modernization Kit** includes a TP970 Series thermostat with Satin Chrome Universal Cover, Windows (horizontal (F), vertical (F) and blank) and a large Universal Wall Plate Adapter to convert older thermostats.

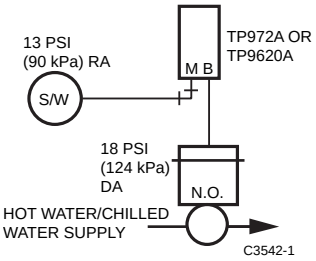
Pneumatic Thermostats

TP972 Pneumatic Heating/Cooling Thermostat

Two-pipe, one- or two-temperature, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell two-pipe pneumatic thermostats.

- Durable TP970 Series Thermostat. Pilot operated for high capacity.
- Two-temperature energy conservation model available.
- Adapter plate in Convertastat kits covers existing thermostat wall mark.
- Backplate has molded air connections-no separate fittings needed.
- Universal locking cover with satin chrome finish and horizontal, vertical, or blank window options with Tradeline model-other covers available.

TP972 Typical Piping



Application Type: Wall Thermostat, Heat/Cool Operation
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (83 mm high x 51 mm wide x 41 mm deep)
Action: Direct Acting Heating, Reverse Acting Cooling
Airflow Usage: 0.011 scfm (5.2 mL/s)
Number of Pipes: 2
Mounting: Wall mount
Operating Temperature: 100 F maximum
Storage Temperature: 150 F maximum (66 C maximum)
Remote Bulb: No
Sensor Element: Bimetal
Maximum Operating Pressure: 25 psi (170 kPa)

Accessories:
AK3863-Honeywell Thermostat Tool Kit, TP970/TP900
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
14002362-001-Duct Sampling Chamber
14002430-001-Thermostat Guard
14003192-001-Wallplate adapter kit. Adapts HP970 or TP970 series thermostats to HP900 and TP900 flush mounted and TP910 series flush or surface mounted installations
14004439-001-Setpoint Extension
14004447-001-Setpoint Cam Assembly for TP970A1004, A1012, A1020, A1038, A1046, A1053, A1095, A2004, A2012, A2020, A2038, A2053, A2095; TP970C; TP972A1143, A2143; TP973A1001, A1019, A1127
14004447-002-Setpoint Cam Assembly for TP970B1002, B1010, B1028, B1036, B2002, B2010, B2028, B2036; TP970D; TP972A1002, A1010, A1028, A1044, A2002, A2010, A2028, A2044; TP973B1009, B1017, B1025, B1108
14004447-003-Setpoint Cam Assembly for TP971A, C, D; TP972A1168, A2168, A2176
14004447-005-Setpoint Cam Assembly for TP970B1044; TP972A1051, A1101

Replacement Parts:
14001865-001-Filter Cartridge Assembly
14002573-001-Modernization Kit to convert all 1 & 2 pipe Honeywell & competitive pneumatic thermostats to TP970, TP971A, TP972, TP973, TP974, TP9600 family; HP970, HP971 and HP972

Product Number	Setpoint	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Changeover (psi)	Changeover (kPa)	Throttling Range (F)	Throttling Range (C)	Includes	Comments**
TP972A2002/U	Single	59 F to 90 F		Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP972A2010/U	Single		15 C to 30 C	Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP972A2036/U	Dual	Heating 50 F to 75 F, Cooling 60 F to 90 F		Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	2 F to 10 F	1 C to 5 C	Energy Conservation Model, Order Cover Separately	Two concealed setpoint knobs
TP972A2143/U	Single	59 F to 90 F		Heat 14 psi, Cool 19 psi	Heat 96 kPa, Cool 131 kPa	2 F to 10 F	1 C to 5 C	Order Cover Separately	—
TP972A2192/U	Single	59 F to 90 F		Heat 18 psi, Cool 13 psi	Heat 124 kPa, Cool 90 kPa	2 F to 10 F	1 C to 5 C	Thermostat, small wall plate and satin chrome cover	Convertastat Kit

A **Tradeline Kit includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal (F), vertical (F) and blank) for new installations or to convert newer, small size Honeywell or competitor thermostat, not requiring a wall plate adapter.

A **Convertastat Kit**™ includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal (F), vertical (F) and blank) and a small Universal Wall Plate Adapter to convert newer, small size Honeywell or competitor thermostats.

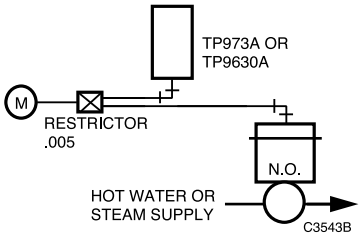
A **Modernization Kit** includes a TP970 Series thermostat with Satin Chrome Universal Cover, Windows (horizontal (F), vertical (F) and blank) and a large Universal Wall Plate Adapter to convert older thermostats.

TP973 Pneumatic Thermostat

One- or two-pipe, single temperature, low capacity, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell pneumatic thermostats.

- Durable TP970 Series Thermostat. Direct Acting (DA) and Reverse Acting (RA) models are available.
- Backplate has molded air connections-no separate fittings needed.
- Universal locking cover with satin chrome finish and horizontal, vertical, or blank window options available.
- Other Covers Available.
- Low capacity thermostat.
- Built in restrictor for two-pipe applications.

TP973 Typical Piping (One-pipe)



Application Type: Wall Thermostat, Single Temperature
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (83 mm high x 51 mm wide x 41 mm deep)
Airflow Usage: 0.011 scfm (5.2 mL/s)
Number of Pipes: 1 or 2
Mounting: Wall mount
Operating Temperature: 100 F
Storage Temperature: 150 F maximum (66 C maximum)
Remote Bulb: No
Sensor Element: Bimetal
Maximum Operating Pressure: 25 psi (170 kPa)

Accessories:
AK3863-Honeywell Thermostat Tool Kit, TP970/TP900
CCT729A-Gauge Adapter for Calibration. Add 305965 0 to 30 psi gauge for Complete Tool.:
CCT735A-Thermostat Cal bration Tool includes Allen wrench for cover installation.
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
14002362-001-Duct Sampling Chamber
14002430-001-Thermostat Guard
14002913-004-External Restriction Assembly. 0.005 in. Restriction, Blue Inlet 1/4 in; Outlet 5/32 in. and 5/32 in.
14003192-001-Wallplate adapter kit. Adapts HP970 or TP970 series thermostats to HP900 and TP900 flush mounted and TP910 series flush or surface mounted installations
14004439-001-Setpoint Extension
14004447-001-Setpoint Cam Assembly for TP970A1004, A1012, A1020, A1038, A1046, A1053, A1095, A2004, A2012, A2020, A2038, A2053, A2095; TP970C; TP972A1143, A2143; TP973A1001, A1019, A1127
14004447-002-Setpoint Cam Assembly for TP970B1002, B1010, B1028, B1036, B2002, B2010, B2028, B2036; TP970D; TP972A1002, A1010, A1028, A1044, A2002, A2010, A2028, A2044; TP973B1009, B1017, B1025, B1108

Replacement Parts:
14001865-001-Filter Cartridge Assembly
14002573-001-Modernization Kit to convert all 1 & 2 pipe Hone

Product Number	Action	Setpoint	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Throttling Range (F)	Throttling Range (C)	Includes	Comments**
TP973A2076/U	Direct Acting	Single	59 F to 90 F		2 F to 10 F	1 C to 5 C	Order Cover Separately	For one-pipe order an external 0.005 in. restriction
TP973A2084/U	Direct Acting	Single		15 C to 30 C	2 F to 10 F	1 C to 5 C	Order Cover Separately	For one-pipe order an external 0.005 in. restriction
TP973A2209/U	Direct Acting	Single	59 F to 90 F		2 F to 10 F	1 C to 5 C	Thermostat and Satin Chrome Cover	Tradeline Kit. For one-pipe application-order an external 0.005 in. restriction
TP973B2066/U	Reverse Acting	Single	59 F to 90 F		2 F to 10 F	1 C to 5 C	Order Cover Separately	For one-pipe order an external 0.005 in. restriction
TP973B2074/U	Reverse Acting	Single		15 C to 30 C	2 F to 10 F	1 C to 5 C	Order Cover Separately	For one-pipe order an external 0.005 in. restriction
TP973B2171/U	Reverse Acting	Single	59 F to 90 F		2 F to 10 F	1 C to 5 C	Thermostat and Satin Chrome Cover	Tradeline Kit. For one-pipe application-order an external 0.005 in. restriction

A **Tradeline Kit includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal (F), vertical (F) and blank) for new installations or to convert newer, small size Honeywell or competitor thermostat, not requiring a wall plate adapter.

A **Convertastat Kit™** includes a TP970 Series thermostat with either a Satin Chrome or Beige Universal Cover, Windows (horizontal (F), vertical (F) and blank) and a small Universal Wall Plate Adapter to convert newer, small size Honeywell or competitor thermostats.

A **Modernization Kit** includes a TP970 Series thermostat with Satin Chrome Universal Cover, Windows (horizontal (F), vertical (F) and blank) and a large Universal Wall Plate Adapter to convert older thermostats.

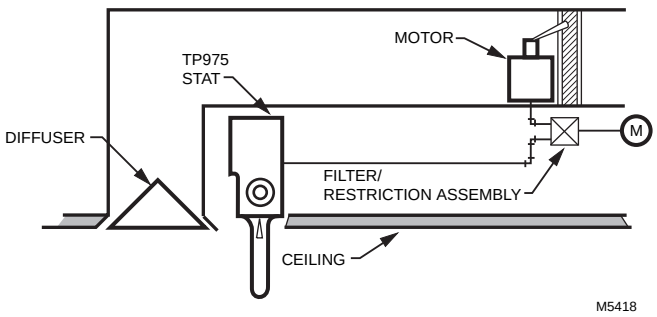
Pneumatic Thermostats

TP975 Pneumatic Diffuser Thermostat

One-pipe, single temperature, low-capacity pneumatic thermostat used to provide proportional control of pneumatic valves and mixing boxes in heating and air conditioning systems. It mounts in a slot or light troffer diffuser or a return air grill.

- Two-way setpoint indicator for vertical or horizontal mounting.
- Detents in 1 F (0.5 C) increments for blind operation.

TP975 Typical Piping



Application Type: Single temperature, low capacity, pneumatic thermostat
Dimensions, Approximate: 1 in. high x 2 1/2 in. wide x 1 1/8 in. deep (25 mm high x 63 mm wide x 27 mm deep)
Airflow Usage: 0.011 scfm (5.2 mL/s)
Number of Pipes: 1
Mounting: Wall mount
Operating Temperature: 110 F maximum (43 C maximum)
Storage Temperature: 150 F maximum (66 C maximum)
Remote Bulb: No
Sensor Element: Bimetal
Maximum Operating Pressure: 30 psi (207 kPa)

Accessories:
14002913-001-.005 in. Blue Filter Restriction Assembly; Inlet: 1/4 in., Outlets: 1/4 in. and 5/32 in.; Order in Quantities of 10
14002913-004-External Restriction Assembly. 0.005 in. Restriction, Blue Inlet 1/4 in; Outlet 5/32 in. and 5/32 in.

Product Number	Action	Setpoint	Setpoint Temperature Range (F)	Throttling Range (F)	Throttling Range (C)	Comments
TP975A1009/U	Direct Acting	Single	67 F to 83 F	2 F to 10 F	1 C to 5 C	Requires external 0.005 in. restrictor

TP9600 Series Standard Covers

Product Number	Description	Used With	
14004910-001/U	Fahrenheit scale (60 to 90 F) Taupe Thermostat Cover Kit with thermometer and setpoint display vis ble and Honeywell logo for vertical mounting.	TP9600	
14004910-004/U	Taupe Thermostat Cover with setpoint and thermometer concealed with Honeywell logo, for vertical mounting	TP9600	

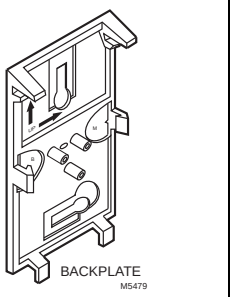
TP970 Series Standard Covers

Product Number	Description	Comments	Used With	
14004406-910/U	Thermostat Cover Kit - Satin Chrome includes window inserts for 60 to 90 F setpoint display for vertical and horizontal mounting, or 60 to 90 F thermometer display and setpoint display for vertical and horizontal mounting.	—	TP970; TP971; TP972; TP973	
14004407-910/U	Thermostat Cover Kit - Beige includes window inserts for 60 to 90 F setpoint display for vertical and horizontal mounting, or 60 to 90 F thermometer display and setpoint display for vertical and horizontal mounting.	See Specification Data sheet, Form No. 77-1003 for details	TP970; TP971; TP972; TP973	
14004787-910/U	Thermostat Cover Kit - Bright Chrome includes window inserts for 60 to 90 F setpoint display for vertical and horizontal mounting, or 60 to 90 F thermometer display and setpoint display for vertical and horizontal mounting	—	TP970, TP971, TP972, TP973	
14004878-910/U	Thermostat Cover Kit - Premier White includes window inserts for 60 to 90 F setpoint display for vertical and horizontal mounting, or 60 to 90 F thermometer display and setpoint display for vertical and horizontal mounting	—	TP970, TP971, TP972, TP973	

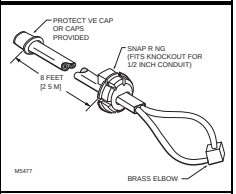
Pneumatic Thermostat Replacement Parts

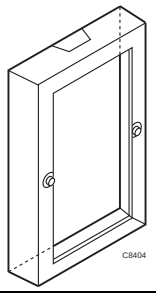
Product Number	Description	Used With	
14000742-002/U	Two-pipe straight red connector	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14001865-001/U	Filter Cartridge Assembly	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14001957-001/U	Plug, BLP Tap,	TP970	

Pneumatic Thermostats

Product Number	Description	Used With	
14002053-001/U	Back Plate Assembly	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14002573-001/U	Modernization Kit to convert all 1 & 2 pipe Honeywell & competitive pneumatic stats to TP970, TP971A, TP972, TP973, TP974, TP9600 family; HP970, HP971 and HP972	TP970, TP9600, TP972, HP970, HP971, TP971A, HP972, TP973, TP974	
14003192-001/U	Wallplate adapter kit. Adapts HP970 or TP970 series stats to HP900 and TP900 flush mounted and TP910 series flush or surface mounted installations	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14004405-005/U	Window thermostat with scale indicator of 60 to 90 F, two clear windows, gray background, Honeywell logo in middle.	TP970	
14004406-901/U	Thermostat Cover Assembly satin chrome with assembly-cover [chrome] (14004402-001), window thermostat (14004405-020)	TP970	
14004447-007/U	assembly Cam with cam (14004429-002), Bushing (14002025-001), Screw (14004444-001)	TP970	
14004459-003/U	Repair plate package assembly includes: thermostat assembly - 14004440-001, pointer - 144002124-001, scale plate - 14004434-003, post, thermostat assembly - 14004436-001, box, plastic - 14004645-002.	TP970	
14004610-001/U	Zinc plate metal stud Adapter	TP970	

Pneumatic Thermostat Accessories

Product Number	Description	Used With	
14001491-002/U	Two-Pipe Airhead, tubing assembly for wall box	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14001494-002/U	2 Pipe Airhead Assembly	—	
14001496-001/U	Mounting Plate for TP970 to 2" x 4" Electrical Box	TP970	
14001614-001/U	Shallow wall plate assembly	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14001615-002/U	Two-pipe plastic tube assembly for shallow wall	TP97, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14001616-002/U	Thermostat fitting plastic	—	
14001918-001/U	Branchline Pressure plug	TP970, TP972, nTP971, TP973, TP9600 Family, HP970 Family	
14002136-004/U	Black Trim plate	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14002136-005/U	Beige Trim plate	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14002136-006	Premier White Trim Plate	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14002136-007/U	Taupe Trim Plate	TP9600 Family	
14002172-001/U	Gage Tap repair plug	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14002362-001/U	Duct Sampling Chamber	TP970, TP972, TP971, TP973, TP974, TP9600 Family, HP970 Family	

Product Number	Description	Used With	
14002430-001/U	Thermostat Guard	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14002573-002/U	Modernization Kit to convert 3 pipe Honeywell TP911C & competitive three pipe pneumatic	TP971C	
14002636-001/U	Base for 14002362-001 Sampling Chamber	14002362-001	
14002913-001/U	.005 in. Blue Filter Restriction Assembly; Inlet: 1/4 in., Outlets: 1/4 in. and 5/32 in.; Order in Quantities of 10	—	
14002913-002/U	.007 in. Red in-line Filtered Restriction Assembly; Inlet: 1/4 in., Outlets: 1/4 in. Order in Quantities of 10	—	
14003113-002/U	Repair kit containing 0.007 in. restrictor plate, filters, and gaskets	LP916	
14003203-001/U	Bag assembly	—	
14004068-001/U	Mounting Hardware	—	
14004401-002/U	Convertastat Wall Plate	—	
14004401-004/U	Adaptor plate for Convertastat, beige	—	
14004438-001/U	Insert Cover with Setpoint slot; Satin Chrome	—	
14004438-002/U	Insert Cover with Setpoint slot; Beige	—	
14004439-001/U	Setpoint Extension	—	
14004447-001/U	Setpoint Cam Assembly for TP970A1004, A1012, A1020, A1038, A1046, A1053, A1095, A2004, A2012, A2020, A2038, A2053, A2095; TP970C; TP972A1143, A2143; TP973A1001, A1019, A1127	TP970A, TP970C, TP972A2143, TP979A	
14004447-002/U	Setpoint Cam Assembly for TP970B1002, B1010, B1028, B1036, B2002, B2010, B2028, B2036; TP970D; TP972A1002, A1010, A1028, A1044, A2002, A2010, A2028, A2044; TP973B1009, B1017, B1025, B1108	TP970B, TP970D, TP972A2002, TP972A2010, TP973B2108, TP979B	
14004447-003/U	Setpoint Cam Assembly for TP971A, C, D; TP972A1168, A2168, A2176	TP971A, TP971C, TP971D	
14004447-005/U	Setpoint Cam Assembly for TP970B1044; TP972A1051, A1101	TP970B, TP972A	
14004458-001/U	Stand-Off Ring for surface or flush mounting	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14004459-001/U	Repair kit consisting of a thermometer assembly, a thermometer post and a 60 to 90F aluminum scaleplate	TP970 Family	
14004505-001/U	Twin elbow connector	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14004558-001/U	Six inch main branch tube-spring assembly	TP970, TP972, TP971, TP973, TP9600 Family, HP970 Family	
14004911-001/U	Taupe Convertastat wall plate with 2 screws	TP9600 Family	
311699/U	6 inch long anti-kink spring used with 5/32 inch OD plastic tubing	LP916	
316016A/U	General purpose mounting assembly, includes 3 3/4 in. mounting bracket, scale plate, knob, bulb hangers, screws, and nuts	LP916	
316016C/U	Knob and scale plate assembly with screws	LP916	
316016M/U	Knob, large scale plate and hanger assembly with screws	LP916	
AK3863/U	Honeywell Thermostat Tool Kit, TP970/TP900	HP970, HP972, TP970	

Pneumatic Transducers

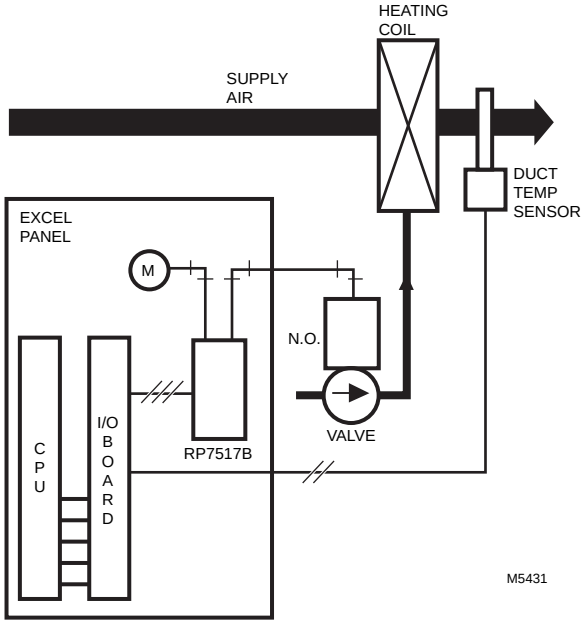
RP7517 Electronic-Pneumatic Transducer

Electronic-Pneumatic Transducers are used in electronic-pneumatic control systems to convert a proportional electric output signal from a controller into a direct-acting, proportional pneumatic signal.

- Screw mounting or snap rail (models with cover).
- Factory calibrated.
- Dual barb fittings.
- High accuracy.

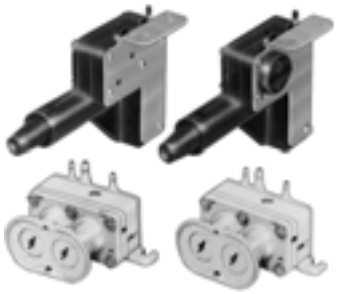
Application: Electric to pneumatic Transducer
Action: Direct Acting
Airflow Usage: 0.025 scfm (117mL/s)
Connections: Dual barb-fittings for 1/4 in. or 5/32 in. O.D. plastic tubing
Current: 16 mA
Maximum Operating Temperature: 131 F (55 C)
Maximum Operating Pressure: 30 psi (205 kPa)
Pressure Ranges: 0 to 18 psi (0 to 125 kPa)
Nominal High End: 16 psi with 18 psi main pressure at 12 Vdc (110 kPa with 125 kPa main pressure at 12 Vdc)
Nominal Low End: 0.5 psi at 0 Vdc (3.5 kPa at 0 Vdc)
Output Pressure Range: 3 to 15 psi (21 to 103 kPa)
Humidity Ratings: 5 to 95% RH
Capacity: 0.45 scfm (211 mL/s)

RP7517 Typical Piping/Wiring



Product Number	Electrical Connections	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Input Signal	Voltage	Includes
RP7517A1009	30 in. (762 mm) lead wire	2 7/16 in. wide x 3 5/8 in. high x 2 in. deep	62 mm wide x 92 mm high x 52 mm deep	2 to 10 Vdc	Powered by Control signal	With cover, without internal power supply (2-wire)
RP7517A1017	screw terminals for 14 to 22 gage wire	2 7/16 in. wide x 3 3/8 in. high x 1 7/8 in. deep	62 mm wide x 86 mm high x 48 mm deep	2 to 10 Vdc	Powered by Control signal	Without cover, without internal power supply for panel mounting (2 wire)
RP7517B1016	30 in. (762 mm) lead wire	2 7/16 in. wide x 3 5/8 in. high x 2 in. deep	62 mm wide x 92 mm high x 52 mm deep	2 to 10 Vdc at 0.1 mA max	24 Vac external transformer	With cover, external transformer required, 24 Vac, 50/60 Hz, (3 wire)
RP7517B1024	screw terminals for 14 to 22 gage wire	2 7/16 in. wide x 3 3/8 in. high x 1 7/8 in. deep	62 mm wide x 86 mm high x 48 mm deep	2 to 10 Vdc at 0.1 mA max	24 Vac external transformer	Without cover, external transformer required, 24 Vac, 50/60 Hz, (3 wire)

CP980 Velocitrol Velocity Sensor/Controller



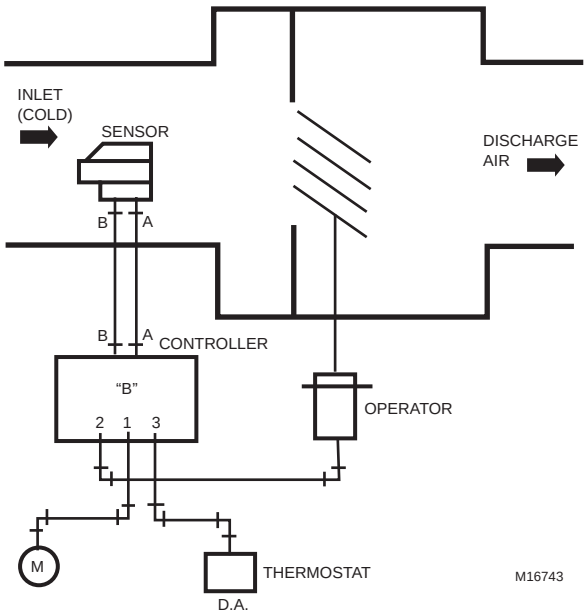
An ultra-sensitive air velocity sensor and pneumatic controller, control pneumatic damper actuators in heating and air conditioning systems to provide constant air velocity in the duct regardless of the static pressure.

- State-of-the-art design provides reliable operation.
- Not position sensitive.
- Direct Acting (DA) and Reverse Acting (RA) models are available.
- Insensitive to static pressure changes.
- Accurate control throughout entire velocity range.
- Graduated scales for minimum and maximum velocity adjustments.
- Velocity reset by thermostat demand.
- Adaptable to many terminal unit control strategies.

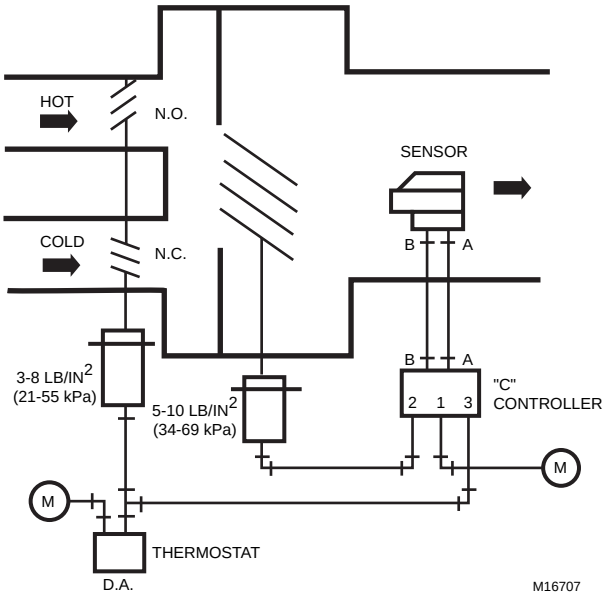
Application: Velocitrol Air Velocity Sensor
Dimensions, Approximate: Controller: 1 3/4 in. high x 3 1/4 in. wide x 2 3/8 in. deep / Sensor: 3 3/16 in. high x 1 3/4 in. wide x 4 3/16 in. long with orifice and 3 3/8 in. long without orifice (Controller: 44 mm high x 83 mm wide x 60 mm deep / Sensor: 81 mm high x 45 mm wide x 107 mm long with orifice and 86 mm long without orifice.)
Control Range: 500 fpm up to 3500 fpm by changing orifice (2.5 m/s up to 17.8 m/s by changing orifice)
Airflow Usage: 0.029 scfm (13.7 mL/s), includes supply for bleed type thermostats for type B, does not include thermostat air for type C controller
Humidity Ratings: 5 to 95% RH
Temperature Range: 40 F to 130 F (5 C to 55 C)
Maximum Safe Operating Pressure: 30 psi (207 kPa)
Mainline Air Pressure (min.): 18 psi (124 kPa)
Nominal Mainline Air Pressure: 20 psi (138 kPa)

Product Number	Remote Sensor	Reset Pressure Range (psi)	Reset Pressure Range (kPa)	Description	Comments
CP980C1065/U	Yes	1 to 15 psi	7 to 103 kPa	Direct acting Pneumatic Velocity Controller, uses “B” type supply unit	For normally open damper and one-pipe thermostat
CP980D1063/U	Yes	1 to 15 psi	7 to 103 kPa	Reverse acting Pneumatic Velocity Controller, uses “B” type supply unit	For normally closed damper and one-pipe thermostat
CP980E1060/U	Yes	9 to 15 psi	62 to 103 kPa	Direct acting Pneumatic Velocity Controller for reheat sequencing, uses “C” type supply unit	For normally open damper and two-pipe thermostat
CP980F1068/U	Yes	9 to 15 psi	62 to 103 kPa	Reverse acting Pneumatic Velocity Controller for reheat sequencing, uses “C” type supply unit	For normally closed damper and two-pipe thermostat

Single Duct, Variable Constant Volume Application



Dual Duct, Variable Constant Volume Application



Pneumatic Velocity Sensors/Controllers

CP980C,D,E, and F Cross-Reference Table

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Current Order Number (Less Orifice)	Orifice Order No.	Velocity Range ft/min (m/s)	Orifice Set	Replaces Honeywell		
				Original Set Less Orifice	Interim Matched Set (Less Orifice)	Matched Set (Includes Orifice)
CP980C1065	None	500 (2.5)	None	—	—	—
	14003642-002	750 (3.8)	Green			CP980C1016
	14003642-003	1500 (7.6)	White			CP980C1024
	14003642-004	2000 (10.2)	Blue			CP980C1032
	14003749-001	2500 (12.7)	Black			CP980C1040
	14003749-002	3500 (17.8)	Gray			CP980C1057
CP980D1063	None	500 (2.5)	None	CP980A1002/	CP980B1000	—
	14003642-002	750 (3.8)	Green	RP980A1006	or	CP980D1014
	14003642-003	1500 (7.6)	White	or	CP980B1018	CP980D1022
	14003642-004	2000 (10.2)	Blue	CP980A1002/		CP980D1030
	14003749-001	2500 (12.7)	Black	RP980B1004		CP980D1048
	14003749-002	3500 (17.8)	Gray		CP980B1034	CP980D1055
			RP980A1006	CP980A1010/		
			or	or		
			RP980A1010/	CP980B1042		
			RP980B1004			
CP980E1060	None	500 (2.5)	None	—	—	—
	14003642-002	750 (3.8)	Green			CP980E1011
	14003642-003	1500 (7.6)	White			CP980E1029
	14003642-004	2000 (10.2)	Blue			CP980E1037
	14003749-001	2500 (12.7)	Black			CP980E1045
	14003749-002	3500 (17.8)	Gray			CP980E1052
CP980F1068-	None	500 (2.5)	None	CP980A1002/	CP980B1026	—
	14003642-002	750 (3.8)	Green	RP980C1002		CP980F1019
	14003642-003	1500 (7.6)	White	CP980A1010/	CP980B1059[a]	CP980F1027
	14003642-004	2000 (10.2)	Blue	RP980C1002[a]		CP980F1035
	14003749-001	2500 (12.7)	Black			CP980F1043
	14003749-002	3500 (17.8)	Gray			CP980F1050

[a] Valid with green (1500 ft/min), red (2500 ft/min), white (3500 ft/min) or blue (4250 ft/min) orifices only.

Pneumatic Velocity Control Accessories and Replacement Parts

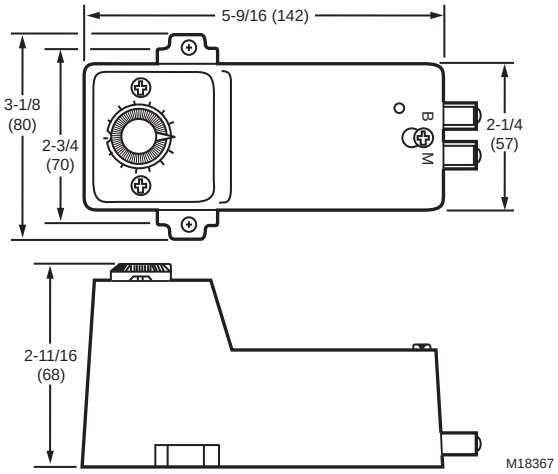
Product Number	Description	Used With
14003642-002/U	Orifice Green, Velocity Range 750 ft/min (3.8 m/s)	CP980;
14003642-003/U	Orifice White, Velocity Range 1500 ft/min (7.6 m/s)	CP980;
14003642-004/U	Orifice Blue, Velocity Range 2000 ft/min (10.2 m/s)	CP980;
14003749-001/U	Orifice Black, Velocity Range 2500 ft/min (12.7 m/s)	CP980;
14003749-002/U	Orifice Gray, Velocity Range 3500 ft/min (17.8 m/s)	CP980;
14003749-003/U	Orifice Yellow	CP980;
14003931-006/U	Stainless steel SCCM flow Restriction of 120-160 at 100 kPa	CP980E, CP980C;
316155A/U	Cover Assembly, RP908	RP908;

LP920 Remote Bulb Temperature Controllers

Two-pipe, single temperature, pneumatic temperature controller used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell two-pipe pneumatic temperature controller.

- Fahrenheit or Celsius scales for all adjustments.
- Pilot operated for high capacity.
- Direct Acting (DA) and Reverse Acting (RA) models are available.
- Adjustable setpoint and throttling ranges.
- Scales in bold type for high visibility.
- Replaceable filter cartridge.
- Single point or averaging elements.

Dimensions Diagram in inches (millimeters)

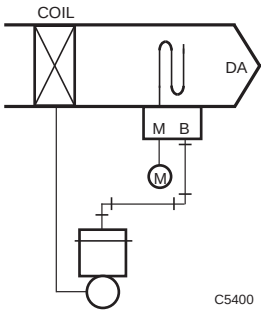


Airflow Usage: 0.011 scfm (5.2 mL/s)
Maximum Operating Temperature: Element: 230 F, Controller: 150 F (Element: 110 C, Controller: 66 C)
Maximum Storage Temperature: 150 F (66 C)
Maximum Safe Operating Pressure: 30 psi (207 kPa)
Throttling Range: Factory set at 10 F with adjustment range of 5 to 25 F (Factory set at 6K with adjustment range of 3 to 15 K)
Remote Bulb Sensor: yes
Comments: Scale plate is revers ble for F and C applications

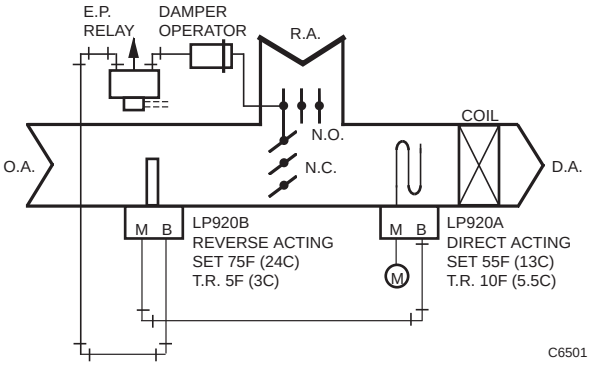
Accessories:
315046B-Well, 1/2 NPT Copper, 7 1/2 in. (191 mm) long
315904B-1/2 in. NPT stainless steel Well, 7 5/16 in. (186 mm) long
14001865-001-Filter Cartridge Assembly
14002172-001-Gage Tap repair plug

Product Number	Action	Number of Pipes	Scale Range (F)	Scale Range (C)	Includes
LP920A1005/U	Direct Acting	2	30 F to 150 F	-1 C to +66 C	8 ft (2.4 m) averaging element for duct mounting
LP920A1013/U	Direct Acting	2	30 F to 150 F	-1 C to +66 C	3/8 x 5 1/4 in. (10 x 133 mm) bulb with 3 in. (76 mm) capillary, well mount
LP920A1021/U	Direct Acting	2	30 F to 150 F	-1 C to +66 C	3/8 x 5 1/4 in. (10 x 133 mm) bulb with 10 in. (254 mm) capillary, integral duct mount
LP920A1039/U	Direct Acting	2	30 F to 150 F	-1 C to +66 C	3/8 x 5 1/4 in. (10 x 133 mm) bulb with 5 ft. (1.5 m) capillary, remote duct mount
LP920B1037/U	Reverse Acting	2	30 F to 150 F	-1 C to +66 C	3/8 x 5 1/4 in. (10 x 133 mm) bulb with 5 ft. (1.5 m) capillary, remote duct mount

Typical coil discharge control

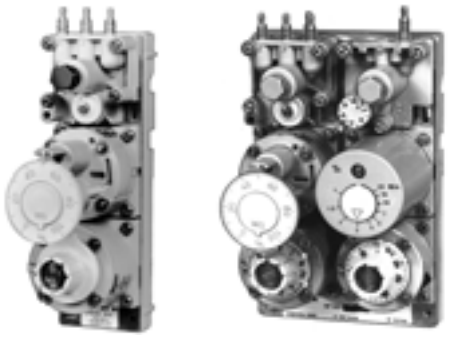


Typical mixed air control



Pneumatic Temperature Controllers

RP920 Pneumatic Controller



Proportional, high capacity, single or dual input pneumatic controller used in conjunction with remote sensors to provide proportional (P) or proportional plus integral (P+I) control of temperature, humidity, pressure, or dew point for heating and air conditioning systems. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell controllers.

- Proportional plus integral control option minimizes offset.
- Miniature diaphragm technology provides high degree of accuracy and reliability.
- Direct Acting models can be converted to Reverse Acting (RA) function in field.
- Field adjustable compensation start point.
- Local or remote setpoint field option. Integral action cut-off provides trouble-free automatic startup.
- Transparent cover (optional) provides protection while allowing easy reading of settings and gages.
- Corrosion resistant construction.

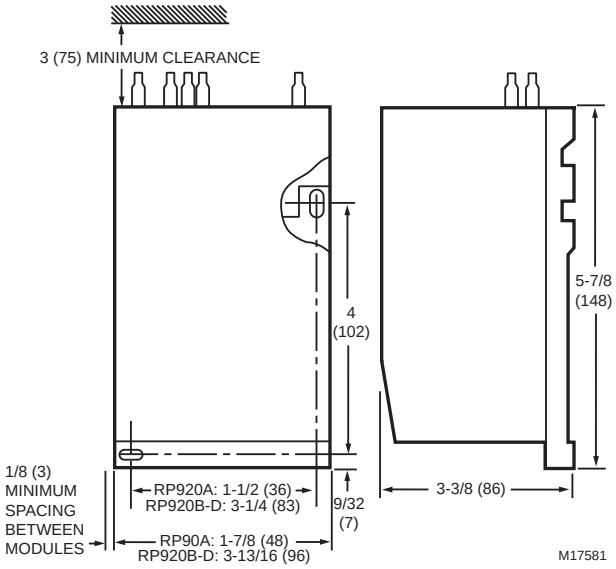
Airflow Usage: 0.07 scfm (33.0 mL/s) with 1 psi (7kPa) pressure drop at 18 psi (124 kPa) main air supply
Connections: Air: Combination 5/32 in. by 1/4 in. barb.
Input Signal: 3 to 15 psi (21 to 103 kPa)
Maximum Operating Temperature: 130 F (54 C)
Temperature Range: 40 F to 130 F (5 C to 55 C)
Humidity Ratings: 5 to 95% RH
Maximum Safe Operating Pressure: 30 psi (207 kPa)
Mainline Pressure Range: 17 to 21 psi (115 to 145 kPa)
Output Pressure Range: 3 to 13 psi, output signal maximum is Mainline Pressure minus 1/2 psi (21 to 90 kPa, output signal maximum is Mainline Pressure minus 7 kPa)
Maximum Safe Mainline Pressure: 30 psi (205 kPa)
Remote Bulb Sensor: no
Remote Control Point Adjustment: Yes
Comments: All RP920s can be converted to reverse acting in the field. For additional technical information see literature Form no. 85-0224 and 95-7392EF.
Comments on Pressure: The controller is capable of operating with the MLP (Mainline pressure) as low as 15 psi (100 kPa) or as high as 23 psi (160 kPa), however recalibration may be required.

Accessories:
305616-1-1/2 in. diameter, 1/8 NPT center stem back mount Receiver gauge (0 to 2 in. w.c. scale) with ±2% accuracy
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
305929-1-1/2 in. diameter, 1/8 NPT center back stem mount Receiver gauge (-40 to +160 F scale) with ±2% accuracy
305930-1-1/2 in. diameter, 1/8 NPT center back stem mount Receiver gauge (0 to 200 F scale) with ±2% accuracy
305931-1-1/2 in. diameter, 1/8 NPT center back stem mount Receiver gauge (40 to 240 F scale) with ±2% accuracy
305972-Receiver gauge, 1-1/2 in. 1/8 NPT center back, temperature 50 to 100F
305986-Receiver Gauge. -20 to 80 F scale 1-1/2 in. diameter,1/2 NPT connection
14000786-001-Receiver Gauge, 25 F-125 F scale, 1 1/2 in. diameter, 1/8 in. NPT connection
14000786-002-Receiver Gauge, -5 to 55 C scale, 1 1/2 in. diameter, 1/8 in. NPT connection
14000786-003-Receiver Gauge, 15 to 75% RH scale, 1 1/2 in. diameter, 1/8 in. NPT connection
14000786-004-Receiver Gauge, 65 to 95% RH scale, 1 1/2 in. diameter, 1/8 in. NPT connection
14000786-005-Receiver Gauge, 15 to 85% RH scale, 1 1/2 in. diameter, 1/8 in. NPT connection
14004267-001-Temperature and Humidity scaleplate insert for setpoint knob for all RP920
14505694-004-17 3/4 inch (450 mm) long mounting rail for RP920
43188057-010-Clear plastic cover for all RP920A pneumatic controllers
43188123-010-Clear plastic cover for all RP920B, RP920C, RP920D pneumatic controllers

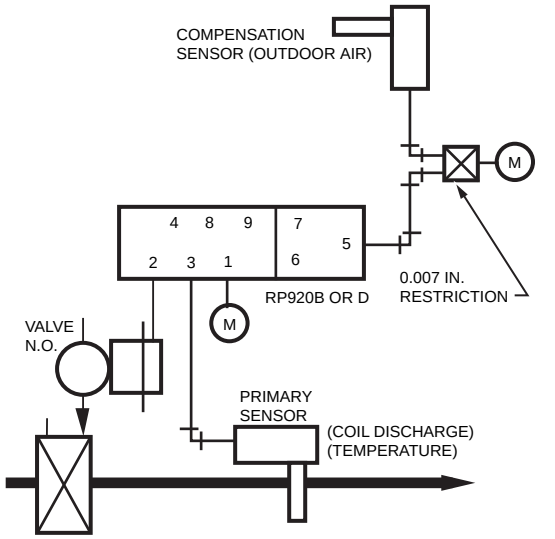
Replacement Parts:
14004277-003-Setpoint module with gasket with CPA for RP920
14004278-002-Compensation module with gasket for RP920B and RP920D
14003757-001-Seal screw for port 8 and O-ring repair parts for RP920
43915905-110-O-ring for filter in RP920
43188059-001-Setpoint knob for all RP920 pneumatic controllers
14002172-001-Gage Tap repair plug
14001865-001-Filter Cartridge Assembly

Product Number	Action	Capacity	Number of Sensors	Includes
RP920A1025/U	Direct Acting	at 18 psi (124 kPa) MLP and 8.5 psi (59 kPa) BLP (does not include sensor usage): 0.021 scfm (10 mL/s)	single	With remote control point adjustment capability.
RP920A1033/U	Direct Acting	at 18 psi (124 kPa) MLP and 8.5 psi (59 kPa) BLP (does not include sensor usage): 0.021 scfm (10 mL/s)	single	Without remote control point adjustment capability.
RP920B1023/U	Direct Acting	at 18 psi (124 kPa) MLP and 8.5 psi (59 kPa) BLP (does not include sensor usage): 0.046 scfm (21.7 mL/s)	dual	With remote control point adjustment capability.
RP920B1031/U	Direct Acting	at 18 psi (124 kPa) MLP and 8.5 psi (59 kPa) BLP (does not include sensor usage): 0.046 scfm (21.7 mL/s)	dual	Without remote control point adjustment capability.
RP920C1021/U	Direct Acting	at 18 psi (124 kPa) MLP and 8.5 psi (59 kPa) BLP (does not include sensor usage): 0.021 scfm (10 mL/s)	single	With remote control point adjustment capability.
RP920C1039/U	Direct Acting	at 18 psi (124 kPa) MLP and 8.5 psi (59 kPa) BLP (does not include sensor usage): 0.021 scfm (10 mL/s)	single	Without remote control point adjustment capability.
RP920D1029/U	Direct Acting	at 18 psi (124 kPa) MLP and 8.5 psi (59 kPa) BLP (does not include sensor usage): 0.046 scfm (21.7 mL/s)	dual	With remote control point adjustment capability.

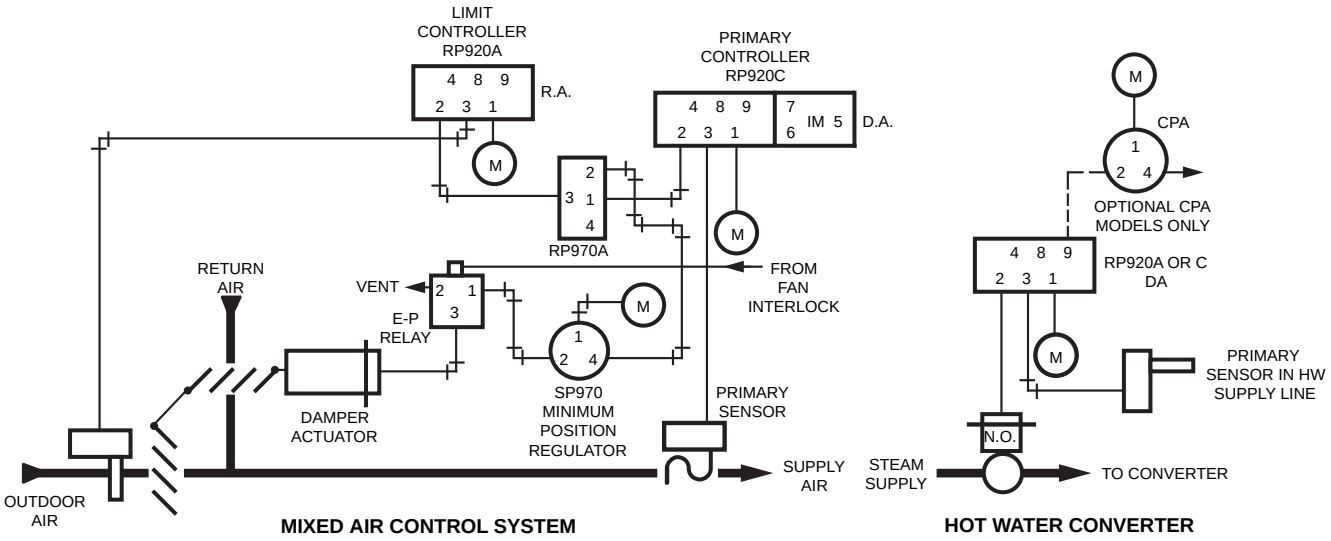
Dimensions Diagram in inches (millimeters)



Typical Dual-Input Control System



Typical Single-Input Control System



Pneumatic Temperature Controllers

Pneumatic Temperature Controller Accessories

Product Number	Description	Used With
14000786-001/U	Receiver Gauge, 25 F-125 F scale, 1 1/2 in. diameter, 1/8 in. NPT connection	RP920;
14000786-002/U	Receiver Gauge, -5 to 55 C scale, 1 1/2 in. diameter, 1/8 in. NPT connection	RP920;
14000786-003/U	Receiver Gauge, 15 to 75% RH scale, 1 1/2 in. diameter, 1/8 in. NPT connection	RP920;
14000786-005/U	Receiver Gauge, 15 to 85% RH scale, 1 1/2 in. diameter, 1/8 in. NPT connection	RP920;
14002696-001/U	Repair kit including filters, screens, washers, gaskets, O-rings, and restrictors for RP908A and RP908B controllers	RP908;
14004278-002/U	Compensation module with gasket for RP920B and RP920D	RP920;
14505694-004/U	17 3/4 inch (450 mm) long mounting rail for RP920	RP920;
305616/U	1-1/2 in. diameter, 1/8 NPT center stem back mount Receiver gauge (0 to 2 in. w.c. scale) with ±2% accuracy	RP920;
305617/U	1-1/2 in. diameter, 1/8 NPT center stem back mount Receiver gauge (1.0 to 3.0 in. w.c. scale) with ±2% accuracy	RP920;
305929/U	1-1/2 in. diameter, 1/8 NPT center back stem mount Receiver gauge (-40 to +160 F scale) with ±2% accuracy	RP920;
305930/U	1-1/2 in. diameter, 1/8 NPT center back stem mount Receiver gauge (0 to 200 F scale) with ±2% accuracy	RP920;
305931/U	1-1/2 in. diameter, 1/8 NPT center back stem mount Receiver gauge (40 to 240 F scale) with ±2% accuracy	RP920;
305932/U	Receiver gauge, 1-1/2 in. 1/8 NPT center back, temperature 40 to 60 C	RP920A, B
305965/U	1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy	RP920;
305972/U	Receiver gauge, 1-1/2 in. 1/8 NPT center back, temperature 50 to 100F	RP920
43188057-010	Clear plastic cover for all RP920A pneumatic controllers	RP920;
43188123-010/U	Clear plastic cover for all RP920B, RP920C, RP920D pneumatic controllers	RP920;
CCT813/U	Slide Rule for Calculating Pneumatic Controller Settings for all RP908 and RP920's.	RP908; RP920;

Pneumatic Temperature Controller Replacement Parts

Product Number	Description	Used With
14003757-001/U	Seal screw for port 8 and O-ring repair parts for RP920	RP920;
14004277-003/U	Setpoint module with gasket with CPA for RP920	RP920;
43188059-001/U	Setpoint knob for all RP920 pneumatic controllers	RP920;

PP901; PP902 Pressure Reducing Valves

Used to control the pressure of the air delivered to pneumatic control systems. Models available for single-pressure systems or two-pressure systems (Day/Night or Summer/Winter) requiring two independently regulated pressure settings. Dual-pressure units switch from the lower settings to the higher settings when main air is applied to the pilot port. Models also available including a sub-micron filter assembly and pressure gauges. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman and older Honeywell pressure reducing valves.

- Built-in adjustable safety relief valve for limiting downstream pressure.
- For two-pressure models: Pressure changes accomplished with manual switch or automatically with electric pneumatic switch.
- Adjustable stops for desired settings.

Application Type: Pressure Reducing
Connection Size: Inlet and out air: 1/4 in. NPT (female) Air gage: 1/8 in. NPT (female)
Mounting: Bracket furnished

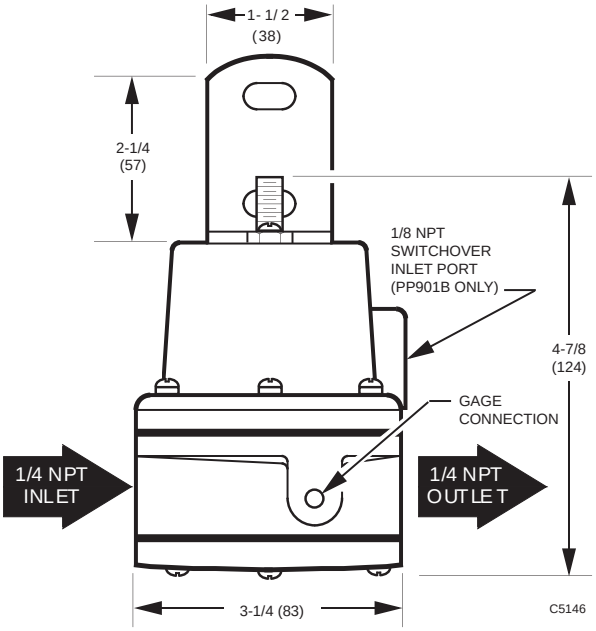
Accessories:
305917-2 in. diameter, 1/4 NPT center stem back mount Pressure Indicating gauge (0 to 160 psi scale) with ±3% accuracy
804191E-2-1/2 in. diameter, panel-mounted Pneumatic Pressure Indicating Gauge (0 to 160 psi), 1/8 in. NPT connection, +/-3% accuracy
305965-1-1/2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy

Replacement Parts:
316203A-Pressure Regulator Valve Assembly for PP901A; PP902A, C
316134B-PP901A & B Diaphragm Repair Kit
14004203-001-Filter cartridge kit for PP902C and PP902D.
14004205-002-Filter Station Assembly for PP901, PP902A or B
14003121-002-Filter for PP902A or B

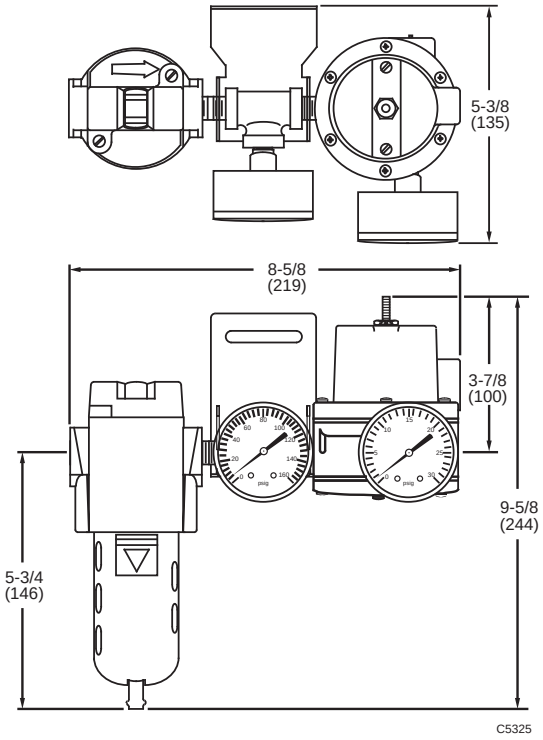
Product Number	Inlet Pressure Range (psi)	Inlet Pressure Range (kPa)	Output Pressure Range (psi)	Output Pressure Range (kPa)	Description	Includes
PP901A1004/U	45 to 150 psi	310 to 1034 kPa	primary pressure: adj.0 to 25 psi.	primary pressure: adj.0 to 172 kPa.	High Pressure Diaphragm Operated Reducing Valve with Built-in Adjustable Relief Valve for Single Pressure Systems. Includes Mounting Bracket and Gage Taps But No Gages.	Gage tapping to measure the regulated pressure.
PP901B1002/U	45 to 150 psi	310 to 1034 kPa	primary pressure: adj.0 to 25 psi; secondary pressure: adj. 0 to 5 psi above primary rating	primary pressure: adj.0 to 172 kPa; secondary pressure: adj. 0 to 34kPa above primary setting.	High Pressure Diaphragm Operated Reducing Valve with Built-in Adjustable Relief Valve for Dual Pressure Systems. Includes Mounting Bracket and Gage Taps But No Gages.	Gage tapping to measure the regulated pressure.
PP902C1009/U	45 to 150 psi	310 to 1034 kPa	primary pressure: adj.0 to 25 psi	primary pressure: adj.0 to 172 kPa.	Pressure Reducing Valve for Single Pressure Systems, consists of a PP901A Valve, a sub-micron filter station, 2 psig gages, Interconnecting Pipe Fittings, and a Mounting Bracket	Submicron filter assembly and two psig gages.
PP902D1007/U	45 to 150 psi	310 to 1034 kPa	primary pressure: adj.0 to 25 psi; secondary pressure: adj. 0 to 5 psi above primary rating	primary pressure: adj.0 to 172 kPa; secondary pressure: adj. 0 to 34kPa above primary setting.	Pressure Reducing Valve for Dual Pressure Systems, consists of a PP901B Valve, a sub-micron filter station, 2 psig gages, Interconnecting Pipe Fittings, and a Mounting Bracket	Submicron filter assembly and two psig gages.

Pneumatic Pressure Controllers

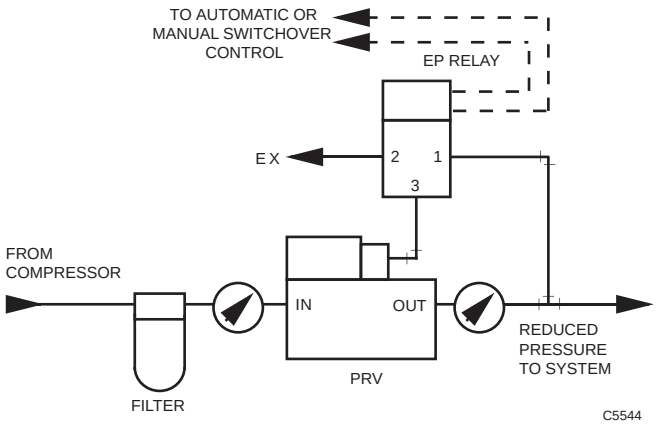
PP901 Dimensions in inches (millimeters)



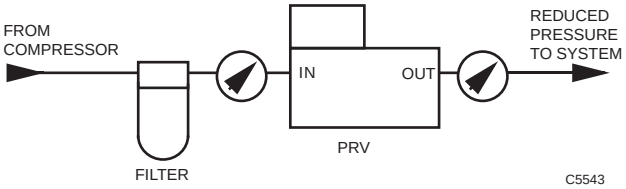
PP902 Dimensions in inches (millimeters)



PP902D Typical Operation



PP902C Typical Operation

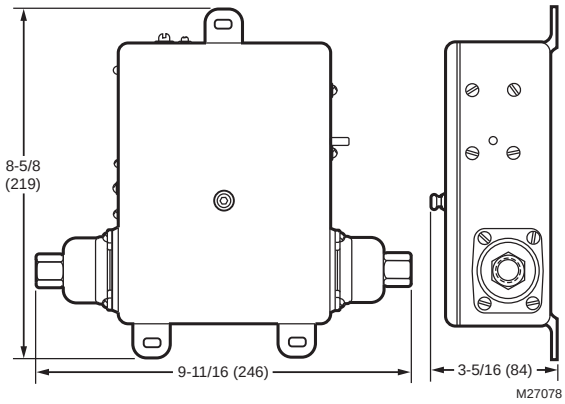


PP903 Pneumatic Differential Pressuretrol

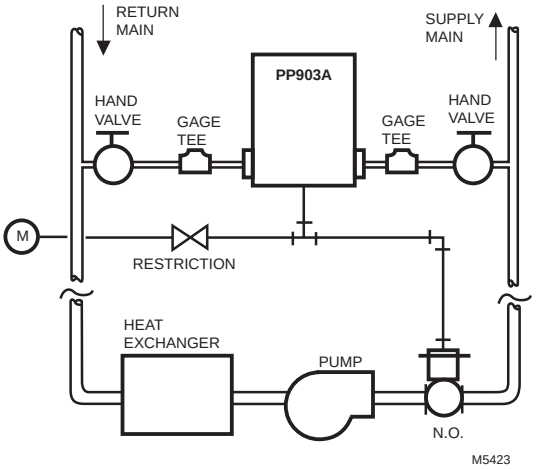
One-pipe, pressure operated device used to provide proportional control of pneumatic valve or damper actuators by varying the pressure to the actuators in relation to the pressure difference between two separate water pressures. Replacement devices are available for Johnson, Powers, Robertshaw, and older Honeywell pneumatic pressure controllers.

- Easily accessible adjustments.
- Direct Acting (DA) or Reverse Acting (RA) setting.
- Mounting lugs for quick mounting.

Dimensions Diagram



PP903A Typical Piping



Application Type: Differential Pressure
Action: Reverse Acting, Direct Acting
Connection Size: Input: 1/4 in. NPT; Branch Line: 1/8 in. NPT
Pressure Range: 0 to 300 psi (0 to 2068 kPa)
Approximate Throttling Range, Midscale (max.): 25 psi (172 kPa)
Mounting: Lugs for 3-point surface mounting

	Actuator Force		Maximum Operating Pressure		Differential Pressure Range	
Product Number	**(psi)**	**(kPa)**	**(psi)**	**(kPa)**	**(psi)**	**(kPa)**
PP903A1036/U	7.5 psi	52 kPa	18 psi	124 kPa	5 to 65 psi	34 to 448 kPa

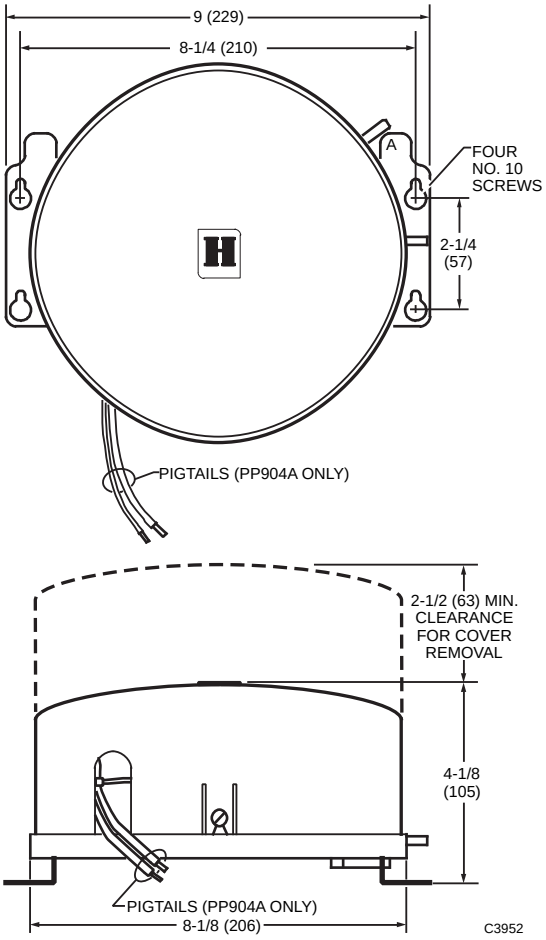
Pneumatic Pressure Controllers

PP904 Static Pressure Regulators

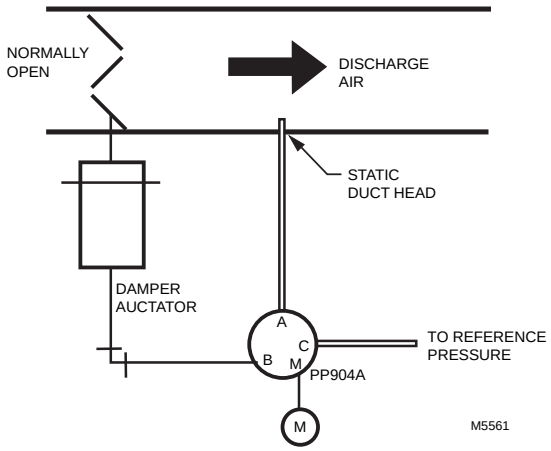
One- or two-pipe, direct- or reverse-acting, low- or high-capacity controller used with pneumatic actuators to regulate static or differential pressure in central fan installations. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Adjustable setpoint and throttling range (Zero and span).
- Direct Acting (DA) and Reverse Acting (RA).
- Sharp-barb, push-on connectors for plastic tubing.
- Field calibration poss ble.

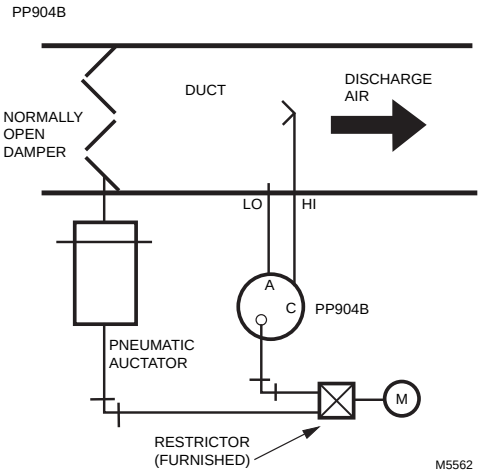
Dimensions Diagram



PP904A Typical Piping



PP904B Typical Piping



Application Type: Static or Differential Pressure
Action: Reverse Acting, Direct Acting
Airflow Usage: 0.022 scfm (10.0 mL/s) at 18 psi (124 kPa)
Connections: Main: Sharp-barbed fittings for 1/4 in. diameter tubing; Branch: Sharp-barbed fittings for 5/32 in. diameter tubing
Mainline Air Pressure (min.): 16 psi (112 kPa)
Mainline Air Pressure (max.): 25 psi (175 kPa)
Throttling Range (in. wc): 0.03 to 0.5 in wc (adjustable)
Maximum Safe Static Pressure: 28 in. wc (7 kPa)
Mounting: Duct mount
Temperature Range: 40 F to 120 F (5 C to 50 C)

Accessories:
14004238-001-Static Pressure Duct Head for 1/4 in., 6 mm diameter Plastic Tubing
301298B-Outdoor Static Pressure Head

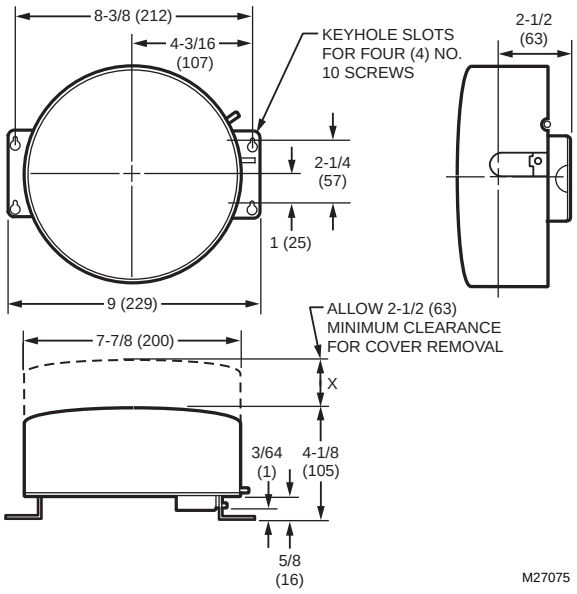
Product Number	Number of Pipes	Maximum Operating Pressure (psi)	Maximum Operating Pressure (kPa)	Setpoint Range (in. wc)	Setpoint Range (kPa)	Throttling Range (in. wc)	Comments
PP904A1035/U	2	25 psi	170 kPa	0 to +/-8 in. wc (adjustable)	0 to +/-2 kPa (adjustable)	0.03 to 0.5 in wc (adjustable)	High capacity branchline pressure
PP904B1009/U	1	25 psi	170 kPa	0 to +/-8 in. wc (adjustable)	0 to +/-2 kPa (adjustable)	0.06 to 0.5 in. wc (adjustable)	Low capacity branchline pressure

PP905 Static Pressure Sensor

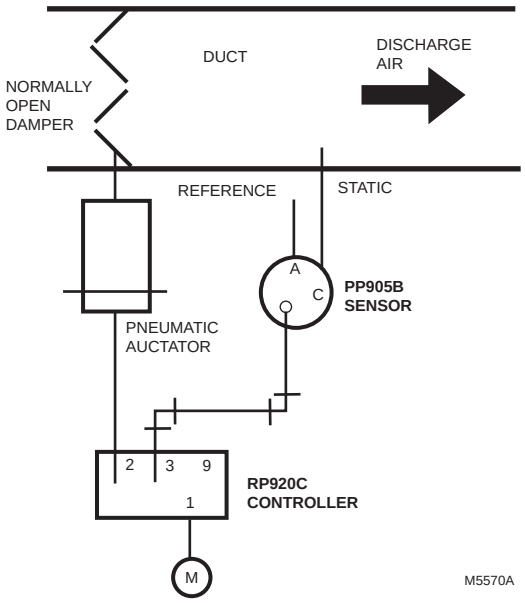
One-pipe, direct-or reverse-acting pressure sensor used with RP908/RP920 Controllers to provide control of duct static, velocity, or differential pressure in airflow applications. Replacement devices available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Three-diaphragm design minimizes cal bration shift with static pressure changes in velocity pressure applications.
- Not sensitive to normal supply air variations.
- Continuous static, total, velocity, or differential pressure indication available by using differential pressure gage.

Dimensions Diagram



PP905 in Pneumatic Static Pressure Application



Application Type: Static Pressure
Action: Can be set for Direct Acting or Reverse Acting
Airflow Usage: 0.021 cfm (9.9 ml/s)
Connections: Push-on barb for 1/4 in (6 mm) Diameter tubing
Mainline Air Pressure (min.): 16 psi (112 kPa)
Mainline Air Pressure (max.): 25 psi (175 kPa)
Pressure Range: 2 in. wc (0.5 kPa)
Maximum Safe Static Pressure: 28 in. wc (7 kPa)
Mounting: Duct mount
Temperature Range: 40 F to 120 F (4 C to 50 C)

Accessories:
14004238-001-Static Pressure Duct Head for 1/4 in., 6 mm diameter Plastic Tubing

Product Number	Maximum Operating Pressure (psi)	Maximum Operating Pressure (kPa)	Output Pressure Range (psi)	Output Pressure Range (kPa)	Setpoint Range (in. wc)	Setpoint Range (kPa)	Span (Non-Adjustable) (in. wc)	Span (Non-Adjustable) (kPa)	Comments
PP905B1008/U	25 psi	172 kPa	3 psi to 15 psi	21 kPa to 103 kPa	0 in. wc. to 7 in. wc. (Adjustable)	0 kPa to 1.7 kPa (Adjustable)	2 in. wc.	0.5 kPa	The setpoint determines the midpoint of the span.

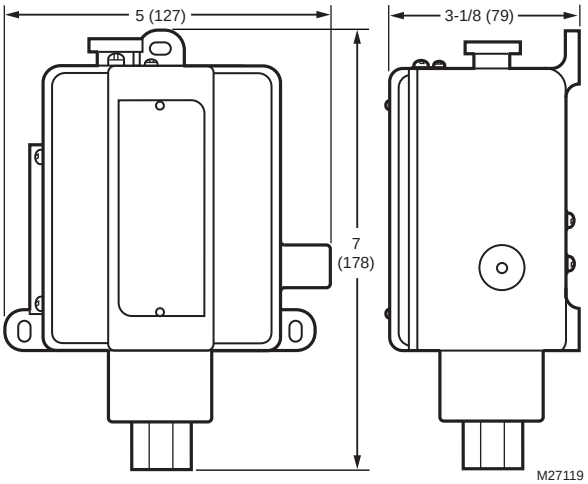
Pneumatic Pressure Controllers

PP97 Pneumatic Pressure Control

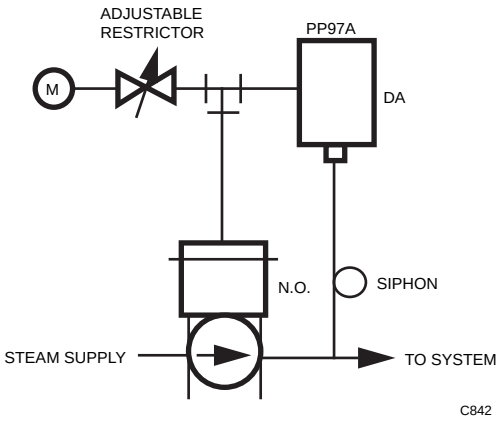
One-pipe, pressure operated device that provides proportional control of pneumatic valves to control steam, air, noncorrosive gas, or noncorrosive liquid pressure. Replacement devices are available for Johnson, Powers, Robertshaw, and older Honeywell pneumatic pressure controllers.

- Easily accessible adjustments.
- Direct Acting (DA) or Reverse Acting (RA) setting.

Dimensions Diagram



PP97A Typical Piping



Application Type: Proportional Pressure
Action: Reverse Acting, Direct Acting
Connection Size: Bellows: 1/4 in., NPT; Air: 1/8 in. NPT
Approximate Throttling Range, Midscale (max.): 1.5 psi (10 kPa)
Mounting: Lugs for 3-point surface mounting

Product Number	Maximum Operating Pressure (psi)	Maximum Operating Pressure (kPa)	Setpoint Range (psi)	Setpoint Range (kPa)	Description
PP97A1035/U	25 psi	172 kPa	0 to 15 psi	0 to 103 kPa	Pneumatic Pressure Controller, Proportional Pressure, Action: Direct or Reverse, Output: Proportional Pressure, 0 to 15 psi pressure range
PP97A1076/U	350 psi	2413 kPa	10 to 300 psi	69 to 2068 kPa	Pneumatic Pressure Controller, Proportional Pressure, Action: Direct or Reverse, Output: Proportional Pressure, 10 to 300 psi pressure range

UEC24014 Differential Pressure Switch

Differential pressure switches open or close a switch contact in response to a change in sensed differential pressure.

- NEMA Enclosures.
- UL and CSA Listed.
- Gold Clad Contacts.
- Brass Pipe Connection.
- Pipe or Surface Mount.

Dimensions, Approximate: 3 1/2 in. high x 2 3/8 in. wide (89 mm high x 58 mm wide)
Connection Size: Pipe connection: Brass, 1/4 in. NPT
Electric connection: terminal strip, 16 AWG max.
Pressure Range: 150 psi at either port (1034 kPa at either port)
Mounting: Pipe or surface
Temperature Range: 30 F to 160 F (-1 C to +71 C)

Approvals:
Canadian Standards Association: Approved
Factory Mutual: Approved
NEMA Standard: NEMA 1
Underwriters Laboratories, Inc: Certified

Product Number	Differential Pressure Range (psi)	Differential Pressure Range (kPa)	Description
UEC24014M262/U	4 to 45 psi	28 to 310 kPa	Pneumatic, Type of control: Pneumatic, NEMA 1, 150 psi at either end
UEC24014M262M900/U	4 to 45 psi	28 to 310 kPa	Pneumatic, Type of control: Pneumatic, NEMA 4, 150 psi at either end

Pneumatic Pressure Controller Accessories and Replacement Parts

Product Number	Description	Used With
14003121-002/U	Filter for PP902A or B	PP902A,B;
14004203-001/U	Filter cartridge kit for PP902C and PP902D.	PP902C,D;
14004205-002/U	Filter Station Assembly for PP901, PP902A or B	PP901; PP902A,B;
14004238-001/U	Static Pressure Duct Head for 1/4 in., 6 mm diameter Plastic Tubing	PP904;
301298B/U	Outdoor Static Pressure Head	PP904;
316203A/U	Pressure Regulator Valve Assembly for PP901A; PP902A, C	PP901A; PP902A, C;

Pneumatic Humidity Sensors

HP971 Pneumatic Humidity Sensor

One- or two-pipe, direct-acting humidity sensor used with RP908/ RP920 Controllers to provide proportional control of pneumatic valve or damper actuators in systems requiring humidification or dehumidification control.

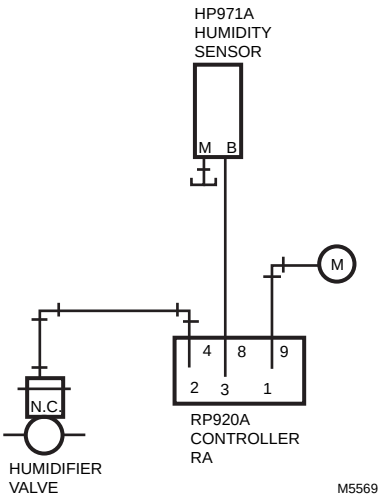
- Corrosion resistant materials.
- Simple plug-in air head connections.
- Factory calibrated.
- Continuous relative humidity indication available by using receiver gage.
- Integral or external restriction can be used.

Application Type: Humidity Sensor
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (88 mm high x 51 mm wide x 41 mm deep)
Action: Direct Acting
Airflow Usage: 0.022 scfm (10.4 mL/s)
Connections: Push-on barb for 5/32 in. (4 mm) O.D. tubing

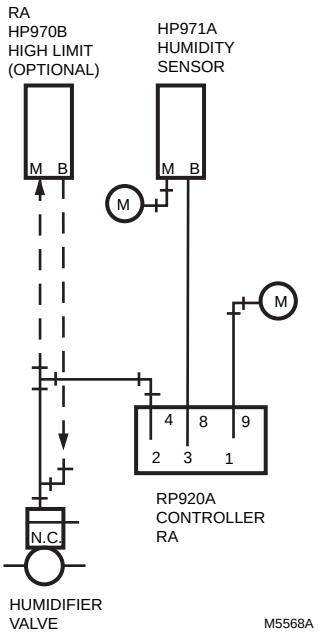
Maximum Operating Temperature: 125 F (52 C)
Maximum Operating Pressure: 25 psi (172 kPa)
Output Pressure Range: 3 psi to 15 psi (21 kPa to 103 kPa)
Supply Pressure: 16-21 psi (110-145 kPa)
Mounting: Vertical or Horizontal Wall Mounting or Mounted in Duct Sampling Chamber

Product Number	Number of Pipes	Sensor Range	Comments
HP971A1008/U	1 or 2	15 to 75% RH	Order Cover Separately
HP971A1024/U	1 or 2	15 to 85% RH	Order Cover Separately

HP971A One-Pipe Application



HP971A Two-Pipe Application



LP914 Pneumatic Temperature Sensor

One-pipe, direct-acting temperature sensor used with RP908/ RP920 Controllers to provide proportional control of pneumatic valve or damper actuators. Rod and tube insertion element for duct, well, or through-the-wall mounting.

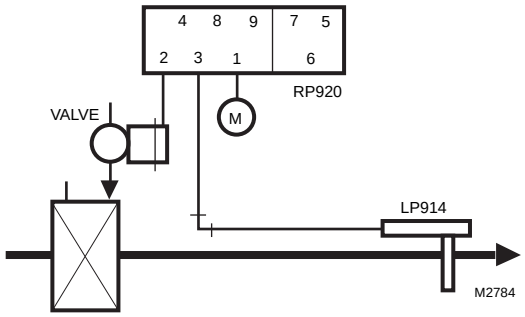
- Corrosion resistant.
- Continuous temperature indication available by using receiver gage.

Application Type: Temperature Sensor
Dimensions, Approximate: Body: 2 in. high x 2 1/2 in. wide (Body: 51 mm high x 64 mm wide)
Action: Direct Acting
Airflow Usage: 0.019 scfm (540 sccm)
Connections: Push-on barb for 5/32 in. (4 mm) and 1/4 in. (6 mm) O.D. tubing
Maximum Operating Temperature: 265 F (129 C)
Maximum Operating Pressure: 25 psi (172 kPa)
Output Pressure Range: 3 psi to 15 psi (21 kPa to 103 kPa)
Supply Pressure: 18 psi (124 kPa)

Accessories:
315046A-Well, 1/2 NPT Copper, 15 1/2 in. (392 mm) long
315046B-Well, 1/2 NPT Copper, 7 1/2 in. (191 mm) long
315904A-Well, 1/2 NPT Stainless Steel, 15 7/16 in., 394 mm
315904B-1/2 in. NPT stainless steel Well, 7 5/16 in. (186 mm) long
311085/0107-Sunshield for LP914A1011

Replacement Parts:
315602-Inner Filter
14004664-001-0.36 inch diameter Wool felt filter

LP914 Typical Piping Duct-Mounted Applications



Product Number	Number of Pipes	Sensor Element	Element Length		Temperature Sensing Range		Mounting
			sq in.	sq cm	(F)	(C)	
LP914A1003/U	1	Rod and tube	15 in.	381 mm	-40 F to +160 F	-40 C to +71 C	Duct mount
LP914A1011/U	1	Rod and tube	27 in.	686 mm	-40 F to +160 F	-40 C to +71 C	Wall mount
LP914A1029/U	1	Rod and tube	15 in.	381 mm	40 F to 240 F	5 C to 115 C	Well
LP914A1045/U	1	Rod and tube	7 in.	178 mm	-40 F to +160 F	-40 C to +71 C	Duct mount
LP914A1052/U	1	Rod and tube	7 in.	178 mm	40 F to 240 F	5 C to 115 C	Well
LP914A1060/U	1	Rod and tube	7 in.	178 mm	-40 F to +160 F	-40 C to +71 C	Well
LP914A1144/U	1	Rod and tube	15 in.	381 mm	25 F to 125 F	-4 C to +52 C	Duct mount
LP914A1268/U	1	Rod and tube	15 in.	381 mm	40 F to 240 F	5 C to 115 C	Duct or Well mount

Pneumatic Temperature Sensors

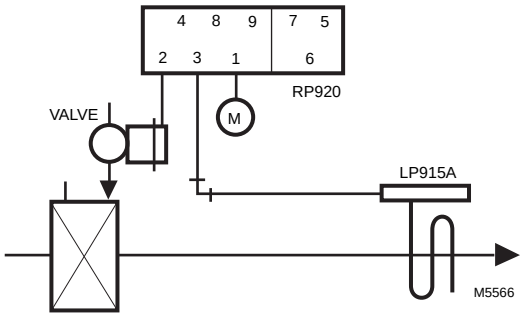
LP915 Pneumatic Temperature Sensor

One-pipe, direct-acting temperature sensor used with RP908/ RP920 Controllers to provide proportional control of pneumatic valve or damper actuators. Averaging, liquid-filled element for duct mounting.

- Easily formed into variety of configurations to assure sensing of average temperatures.
- Continuous temperature indication available by using receiver gage.

Application Type: Temperature Sensor
Dimensions, Approximate: 3 in. high x 1 7/8 in. wide x 1 1/2 in. deep (76 mm high x 44 mm wide x 33 mm deep)
Action: Direct Acting
Airflow Usage: 0.019 scfm (540 sccm)
Connections: Push-on barb for 5/32 in. (4 mm) and 1/4 in. (6 mm) O.D. tubing
Maximum Operating Temperature: 225 F
Maximum Operating Pressure: 25 psi (172 kPa) (118 C)
Output Pressure Range: 3 psi to 15 psi (21 kPa to 103 kPa)
Supply Pressure: 18 psi (124 kPa)

LP915A Typical Piping Duct-Mounted Application



Product Number	Number of Pipes	Sensor Element	Element Length		Temperature Sensing Range		Mounting
			sq in.	sq cm	(F)	(C)	
LP915A1044/U	1	Liquid-filled	18 1/2 ft	5.6m	0 F to 200 F	-18 C to +93 C	Duct mount
LP915A1051/U	1	Liquid-filled	8 7/8 ft	2.7m	0 F to 200 F	-18 C to +93 C	Duct mount
LP915A1077/U	1	Liquid-filled	18 1/2 ft	5.6m	25 F to 125 F	-4 C to +52 C	Duct mount

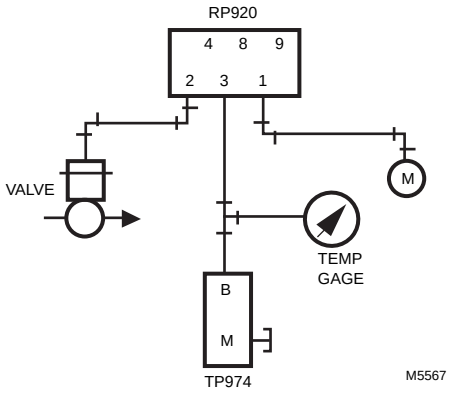
TP974 Pneumatic Temperature Sensor

One- or two-pipe direct-acting temperature sensor used with RP908/RP920 Controllers to provide proportional control of pneumatic valve and damper actuators.

- Plug-in air connections.
- High efficiency air filter.
- Bimetal element.
- Continuous temperature indication available by using receiver gage.

Application Type: Temperature Sensor
Dimensions, Approximate: 3 1/4 in. high x 2 in. wide x 1 5/8 in. deep (83 mm high x 51 mm wide x 41 mm deep)
Action: Direct Acting
Airflow Usage: 0.019 scfm (9 mL/s)
Maximum Operating Temperature: 110 F (43 C)
Maximum Operating Pressure: 25 psi (170 kPa)
Output Pressure Range: 3 psi to 15 psi (21 kPa to 103 kPa)
Supply Pressure: 16 to 25 psi (110 to 172 kPa)

TP974A Typical Piping



Product Number	Number of Pipes	Sensor Element	Temperature Sensing Range (F)	Temperature Sensing Range (C)	Mounting	Comments
TP974A2000/U	1 or 2	Bimetal	50 F to 100 F	10 C to 38 C	Vertical or Horizontal Wall Mounting	Order Cover Separately

Pneumatic Sensor Accessories

Product Number	Description	Used With
309379/U	Screen for LP914	LP914
311085/0107/U	Sunshield for LP914A1011	LP914A1011
314439/U	Duct Mounting Clip for Averaging capillary	LP915
315046A/U	Well, 1/2 NPT Copper, 15 1/2 in. (392 mm) long	LP914
315046B/U	Well, 1/2 NPT Copper, 7 1/2 in. (191 mm) long	LP914
315602/U	Inner Filter	LP914, LP915, LP907
315904A/U	Well, 1/2 NPT Stainless Steel, 15 7/16 in., 394 mm	LP914
315904B/U	1/2 in. NPT stainless steel Well, 7 5/16 in. (186 mm) long	LP914

Pneumatic Sensor Replacement Parts

Product Number	Description	Used With
14004664-001/U	0.36 inch diameter Wool felt filter	LP915A

Pneumatic Relays

RP418, RP818 Electric/Pneumatic Relay

Electrically operated pneumatic switches used to interlock an electrical system and a pneumatic control system. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

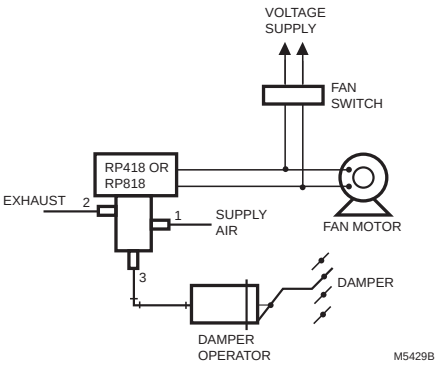
- Usable as a diverting relay, a selector relay, or a stop and bleed relay.
- Mount and operate in any position.
- Available with lead wires or junction box.
- Line or low voltage models available.

Type: Electric / Pneumatic Relay
Dimensions, Approximate: 2 7/8 in. high x 3 13/16 in. wide x 1 1/4 in. deep (73 mm high x 97 mm wide x 32 mm deep)
Airflow Usage: 0.42 scfm (200 mL/s) at 20 psi (138 kPa) supply with 1 psi (7 kPa) pressure drop
Air Connections: Barbed fitting for 1/4 in. O.D. plastic tubing
Capacity: 0.075 Cv minimum
Operating Humidity Range: 5 to 95% RH
Temperature Range: 0 F to 100 F (-18 C to +38 C)
Maximum Safe Operating Pressure: 50 psi (340 kPa)

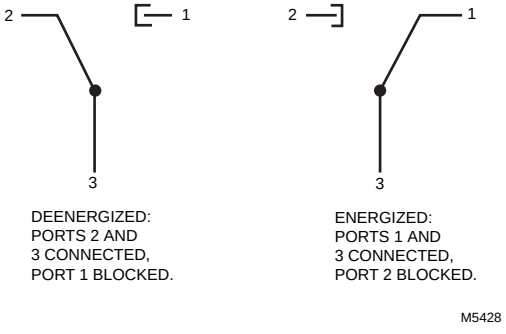
Approvals:
Canadian Standards Association: Listed: File No. LR50900
Canadian Underwriters Laboratories, Inc: Listed: File No. LR50900
Underwriters Laboratories, Inc: Component Recognized File: MP1502, Vol. 11, Sec. 1; UL Listed: Guide Y10Z

Product Number	Operation	Electrical Connections	Mounting	Voltage rating at 50 Hz	Voltage rating at 60 Hz	Frequency	Includes
RP418A1008/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	Junction Box and 15 in. (380 mm) leads	Surface	208 Vac	—	50 Hz	Junction Box
RP418A1057/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	Junction Box and 15 in. (380 mm) leads	Surface	120 Vac	—	50 Hz	Junction Box
RP418A1065/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	Junction Box and 15 in. (380 mm) leads	Surface	440 Vac	480 Vac	50 Hz; 60 Hz	Junction Box
RP418A1073/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	Junction Box and 15 in. (380 mm) leads	Surface	—	277 Vac	60 Hz	Junction Box
RP418A1081/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	Junction Box and 15 in. (380 mm) leads	Surface	—	208 Vac	60 Hz	Junction Box
RP418A1099/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	Junction Box and 15 in. (380 mm) leads	Surface	220 Vac	240 Vac	50 Hz; 60 Hz	Junction Box
RP418A1107/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	Junction Box and 15 in. (380 mm) leads	Surface	110 Vac	120 Vac	50 Hz; 60 Hz	Junction Box
RP418B1022/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	15 in. (380 mm) leads	Panel mount	240 Vac	—	50 Hz	—
RP418B1030/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	15 in. (380 mm) leads	Panel mount	120 Vac	—	50 Hz	—
RP418B1048/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	15 in. (380 mm) leads	Panel mount	440 Vac	480 Vac	50 Hz; 60 Hz	—
RP418B1055/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	15 in. (380 mm) leads	Panel mount	—	208 Vac	60 Hz	—
RP418B1071/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	15 in. (380 mm) leads	Panel mount	110 Vac	120 Vac	50 Hz; 60 Hz	—
RP818A1004/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	Junction Box and 15 in. (380 mm) leads	Surface	—	24 Vac	60 Hz	Junction Box
RP818B1002/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	15 in. (380 mm) leads	Panel mount	—	24 Vac	60 Hz	—
RP818B1010/U	De-energized: ports 2 and 3 connected, port 1 blocked; Energized: ports 1 and 3 connected, port 2 blocked	15 in. (380 mm) leads	Panel mount	24 Vac	—	50 Hz	—

RP418 & RP818 Typical Piping and Wiring



Internal Connections



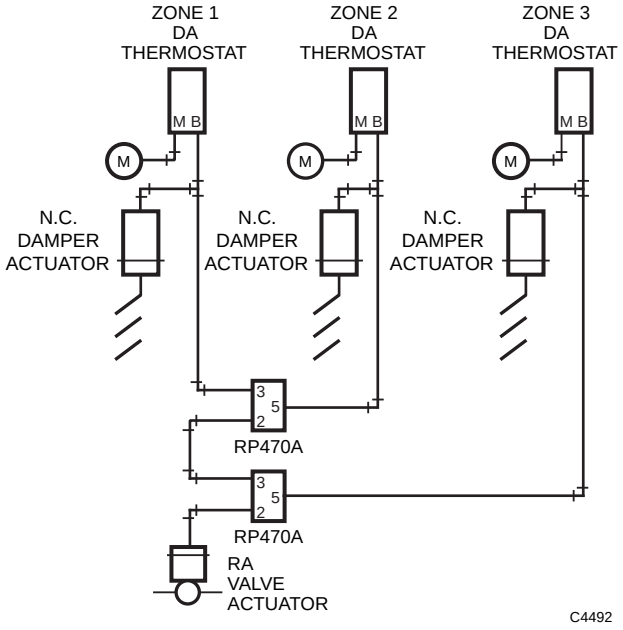
RP470 Pneumatic Selector Relay

Three-port relays used in HVAC systems to perform a variety of relay functions; transmit the higher of two input signals, lock out one pressure signal when a second signal is higher, or transmit the lower of two pressure signals. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Uses diaphragm-logic technology.
- In-line, wall, or panel mounted.
- Sharp-barb air connections.
- Molded plastic construction.

Type: Pneumatic Three-port Selector Relay
Dimensions, Approximate: 1 1/2 in. diameter x 1 in. deep (38 mm diameter x 25 mm deep)
Mounting: Wall or In-line or panel
Air Connections: Barb fittings 5/32 in. (4 mm) O.D. plastic tubing
Capacity: 0.039 scfm at 1 psi differential (18 mL/s at 5 kPa differential)
Operating Humidity Range: 5 to 95% RH
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Safe Operating Pressure: 30 psi (205 kPa)

RP470A Higher-of-Two Pressures Application



Product Number	Operation	Normal Operating Input Pressure (psi)	Normal Operating Input Pressure (kPa)	Includes
RP470A1003/U	Higher-of-two-pressures selector relay	0 to 20 psi	0 to 138 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel
RP470B1001/U	repeater relay; Lower-of-two pressures; Lockout	0 to 20 psi	0 to 138 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel

Pneumatic Relays

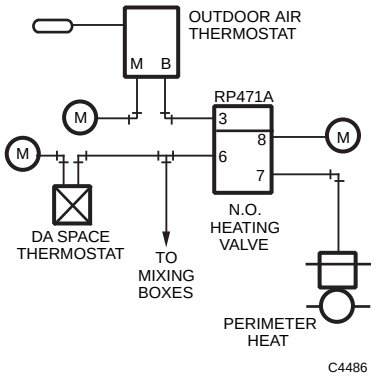
RP471 Snap-Acting Pneumatic Relay

The four port, snap acting relay converts a proportional air pressure change from a controller to a positive (two-position) pressure change. It can also divert a supply line to one of two branches. Replacement device is available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Manually adjustable switching pressure.
- Sharp barb connections for 5/32 inch (4 mm) O.D. plastic tubing.
- Molded plastic construction with neoprene diaphragms and stainless steel lever.
- Mounts in any position with mounting clip.

Type: Pneumatic, four-port, snap acting relay
Dimensions, Approximate: 1 1/2 in. diameter x 2 3/4 in. deep (38 mm diameter x 70 mm deep)
Mounting: Wall or Panel
Air Connections: Barb fittings 5/32 in. (4 mm) O.D. plastic tubing
Capacity: 0.039 scfm at 1 psi differential (18 mL/s at 5 kPa differential)
Operating Humidity Range: 5 to 95% RH
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Safe Operating Pressure: 30 psi (205 kPa)
Setpoint Range: Adjustable between 3 to 15 psi (Adjustable between 21 to 103 kPa)
Nominal Switch Differential: 0.5 psi (3 kPa)

RP471A Typical Piping



Product Number	Operation	Differential Pressure Range (psi)	Differential Pressure Range (kPa)	Includes
RP471A1002/U	Proportional to 2-position converter	1 psi maximum	7 kPa maximum	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel

RP670 Pneumatic Switching Relay

Pneumatic switching relays block, divert, or bleed pneumatic air lines when pilot pressure is changed from one specific value to another. Commonly applied in Day-Night, Summer-Winter, Start-Stop, On-Off-Auto and other multiple condition systems where control sequence is changed as conditions change. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

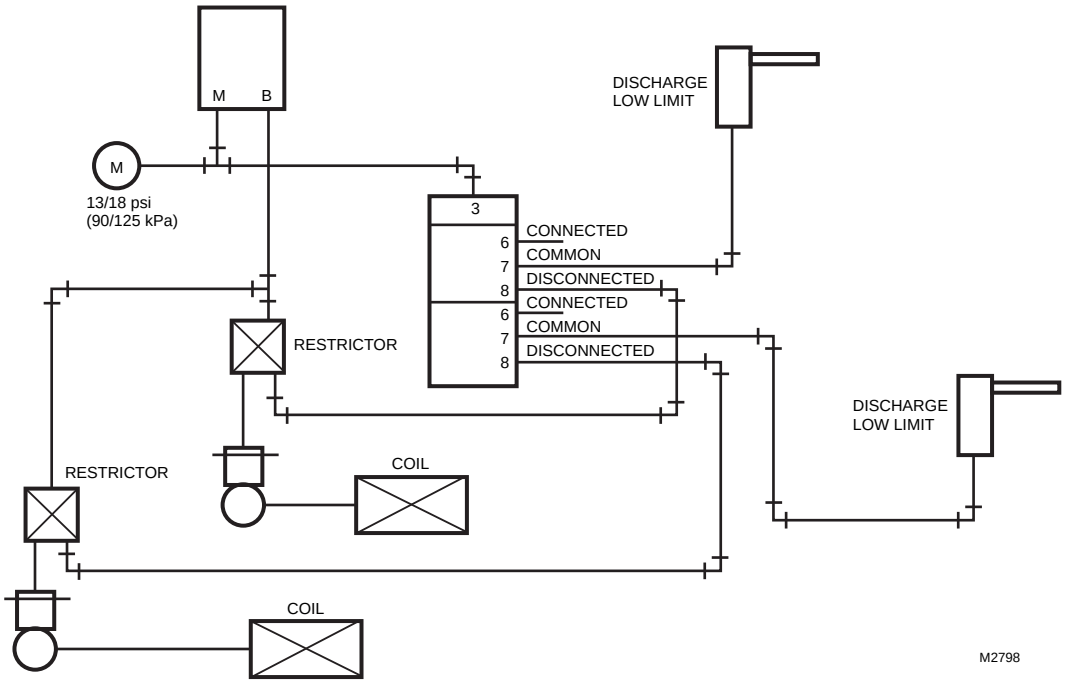
- Available with either single-pole, double-throw (SPDT) or double-pole, double-throw (DPDT) switching action.
- Second switch on DPDT (RP670B) models molded in natural color for identification.
- Air connections for 5/32 in. (4 mm) O.D. plastic tubing.
- Molded plastic construction with neoprene diaphragms, stainless steel lever.
- In-line mounting, or wall or panel mounting with provided metal spring clip.

Type: Pneumatic Switching Relay
Dimensions, Approximate: 1 1/2 in. diameter x 2 1/4 in. deep (38 mm diameter x 56 mm deep)
Air Connections: Barb fittings 5/32 in. (4 mm) O.D. plastic tubing

Capacity: 0.039 scfm at 1 psi differential (18 mL/s at 5 kPa differential)
Operating Humidity Range: 5 to 95% RH
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Safe Operating Pressure: 30 psi (205 kPa)

Product Number	Operation	Switching Occurs Between Pressures (psi)	Switching Occurs Between Pressures (kPa)	Includes
RP670A1001/U	SPDT relay	3 and 7 psi	20 and 50 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel
RP670A1019/U	SPDT relay	13 and 17 psi	90 and 120 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel
RP670B1009/U	DPDT relay	3 and 7 psi	20 and 50 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel
RP670B1017/U	DPDT relay	13 and 17 psi	90 and 120 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel
RP670B1066/U	DPDT relay	18 and 22 psi	124 and 152 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel
RP670B1074/U	DPDT relay	20 and 25 psi	140 and 175 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel

RP670 Typical Piping



Pneumatic Relays

RP913 Pneumatic Load Analyzer

A diaphragm logic pressure selector selects the highest and/or lowest branch pressure input from zone thermostats to operate final control elements in pneumatic control applications.

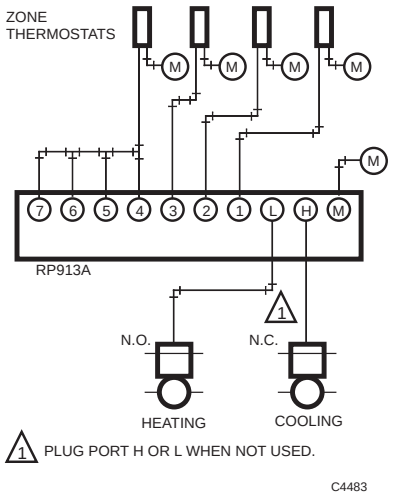
Replacement devices are available for Johnson, Powers, Robertshaw, and Barber-Colman devices.

- Seven input manifold containing logic diaphragm, air filter, and restrictions.
- Ten sharp barb connectors for all piping requirements.
- Large integral filter assures clean air to the manifold.
- Requires no field adjustment, and plastic construction results in minimum maintenance.
- Two analyzers can be connected together to increase inputs to twelve.

Type: Load Analyzer Relay, 7 input
Dimensions, Approximate: 3/4 in. high x 6 1/2 in. long x 2 1/16 in. deep (19 mm high x 165 mm long x 52 mm deep)
Mounting: Wall or In-line or panel
Airflow Usage: 0.04 scfm (0.019 mL/s)
Air Connections: Barb fittings (10) for 1/4 in. (6 mm) O.D. plastic tubing
Capacity: 0.039 scfm at 1 psi differential (18 mL/s at 5 kPa differential)
Operation: Selects highest and/or lowest branch pressure input to operate final control elements
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Safe Operating Pressure: 25 psi (172 kPa)

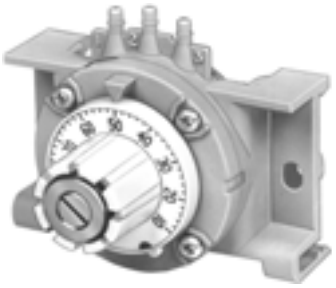
Replacement Parts:
14001865-001-Filter Cartridge Assembly

RP913A Typical Piping



Product Number	Operation
RP913A1008/U	Selects highest and/or lowest branch pressure input to operate final control elements

RP922 Pneumatic Potentiometer

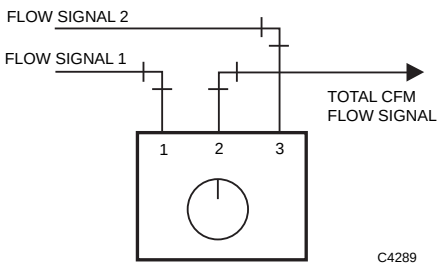


A three-port pneumatic potentiometer can sum two input pressures, average two input pressures, be an adjustable flow restriction, or be an adjustable pressure supply. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- High efficiency integral filters for all ports.
- High reliability, no internal moving parts.
- Compact size.
- High accuracy.

Type: Pneumatic Averaging / Ratio Relay
Dimensions, Approximate: 2 7/16 in. wide x 1 5/8 in. deep x 2 7/8 in. high (62 mm wide x 42 mm deep x 73 mm high)
Mounting: Wall or panel or Snap onto DIN rail
Airflow Usage: Average of two input pressures
Air Connections: Barb fittings 5/32 in. (4 mm) O.D. plastic tubing
Operating Humidity Range: 5 to 95% RH
Maximum Safe Operating Pressure: 30 psi (205 kPa)

Typical Wiring Diagram for RP922



Product Number	Operation
RP922A1007/U	Can sum two input pressures, average two input pressures, be adjustable flow restriction or be an adjustable pressure supply.

RP970 Pneumatic Capacity Relay

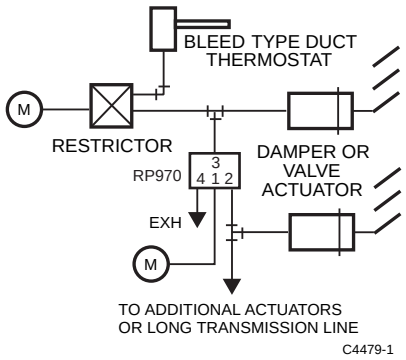
Direct acting, modulating relay provides increased capacity of the branchline pressure to the final control device. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- In-line, wall, or panel mounted.
- Sharp-barb air connections.
- Molded plastic construction with neoprene diaphragms.
- Mounting clip provided.

Type: Pneumatic Capacity Relay
Dimensions, Approximate: 1 1/2 in. diameter, 1 1/2 in. deep (38 mm dia., 38 mm deep)
Action: Direct Acting
Mounting: Wall or In-line or panel
Airflow Usage: 0.002 scfm (1.0 mL/s) maximum
Air Connections: Barb fittings, Port 1: 1/4 in. (6 mm) O.D. plastic tubing; Other Ports: 5/32 in. (4 mm) O.D. plastic tubing
Capacity: 0.039 scfm at 1 psi differential (18 mL/s at 5 kPa differential)
Operating Humidity Range: 5 to 95% RH
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Safe Operating Pressure: 30 psi (205 kPa)

Accessories:
14003203-003-Conversion Kit to convert Johnson, Powers, Robertshaw, Barber Coleman and older Honeywell switches

RP970 Typical Piping



Product Number	Operation	Normal Operating Input Pressure (psi)	Normal Operating Input Pressure (kPa)	Includes
RP970A1008/U	Provides increased capacity of branchline pressure to final control device	0 to 20 psi	0 to 138 kPa	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel

Pneumatic Relays

RP971 Pneumatic Ratio Relay

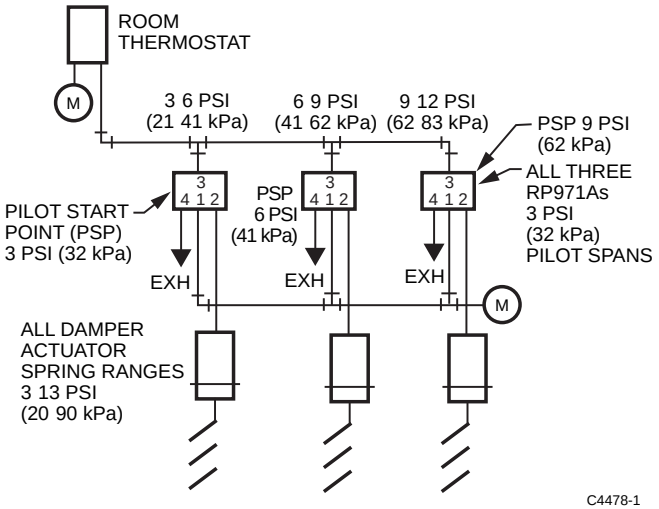
A four port non-bleed pneumatic relay which produces a modulating pressure output, proportional in a fixed ratio to pilot input changes. It is used to control pneumatic valve or damper actuators in sequence from a single thermostat. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Adjustable pilot start point pressures.
- Two pilot pressure spans available.
- Four sharp-barb air connections.
- Molded plastic construction with neoprene.
- Mounting clip provided.

Type: Pneumatic, Four Port Ratio Relay
Dimensions, Approximate: 2 in. diameter x 2 5/8 in. deep (52 mm dia. x 67 mm deep)
Action: Direct Acting
Mounting: Wall or In-line or panel
Airflow Usage: 0.002 scfm (1.0 mL/s) maximum
Air Connections: Barb fittings, Port 1: 1/4 in. (6 mm) O.D. plastic tubing; Other Ports: 5/32 in. (4 mm) O.D. plastic tubing
Capacity: 0.039 scfm at 1 psi differential (18 mL/s at 5 kPa differential)
Operating Humidity Range: 5 to 95% RH
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Safe Operating Pressure: 30 psi (205 kPa)
Pilot Start Pressure: Adjustable 0 to 10 psi (Adjustable 0 to 69 kPa)

Accessories:
801629T-Clip for surface mounting
14003203-003-Conversion Kit to convert Johnson, Powers, Robertshaw, Barber Coleman and older Honeywell switches

RP971A Typical Piping



Product Number	Operation	Pilot Input Span (psi)	Pilot Input Span (kPa)	Output Span (psi)	Output Span (kPa)	Includes
RP971A1007/U	Produces modulating pressure output proportional to pilot pressure input changes	3 psi input span for 3 to 13 psi output	—	3 to 13 psi	21 to 90 kPa	14003030-002 Mounting Clip and scaleplate with psi markings
RP971A1015/U	Produces modulating pressure output proportional to pilot pressure input changes	5 psi input span for 3 to 13 psi output	—	3 to 13 psi	21 to 90 kPa	14003030-002 Mounting Clip and scaleplate with psi markings
RP971A1023/U	Produces modulating pressure output proportional to pilot pressure input changes	—	21 kPa input span for 21 to 90 kPa output	3 to 13 psi	21 to 90 kPa	14003030-002 Mounting Clip and scaleplate with kPa markings
RP971A1031/U	Produces modulating pressure output proportional to pilot pressure input changes	—	34 kPa input span for 34 to 90 kPa output	3 to 13 psi	21 to 90 kPa	14003030-002 Mounting Clip and scaleplate with kPa markings

RP972 Pneumatic Reversing Relay

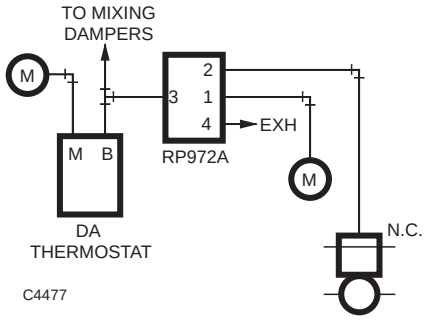
A modulating relay suitable for all types of heating and air conditioning control systems to reverse and increase the capacity of the branchline pressure to the final control element. The output varies inversely with the input with an adjustable offset. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Reverse acting.
- In-line mounting or can be wall or panel mounted with mounting clip provided.
- Molded plastic construction with neoprene diaphragms.

Type: Pneumatic Reversing Relay
Dimensions, Approximate: 1 1/2 in. diameter x 2 1/4 in. deep (38 mm diameter x 57 mm deep)
Action: Reverse Acting
Mounting: Wall or In-line or panel
Airflow Usage: 0.002 scfm (1.0 mL/s) maximum
Air Connections: Barb fittings for three 5/32 in. (4 mm) and one 1/4 in. (6 mm) O.D. plastic tubing
Capacity: 0.039 scfm at 1 psi differential (18 mL/s at 5 kPa differential)
Operation: Output varies inversely with input with an adjustable offset
Operating Humidity Range: 5 to 95% RH
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Safe Operating Pressure: 30 psi (205 kPa)

Accessories:
14003203-003-Conversion Kit to convert Johnson, Powers, Robertshaw, Barber Coleman and older Honeywell switches

RP972A Typical Piping



Product Number	Operation	Includes
RP972A1006/U	Output varies inversely with input with an adjustable offset	14003030-001, 1 1/2 in. Mounting Clip for Mounting relay to wall or panel

Pneumatic Relays

RP973 Pneumatic Averaging Relay

A three-port relay used in HVAC systems averages the signals from two thermostats to control a single device such as a heating coil valve for a multizone unit. The pneumatic averaging relay provides an output pressure equal to the average of two input pressures. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

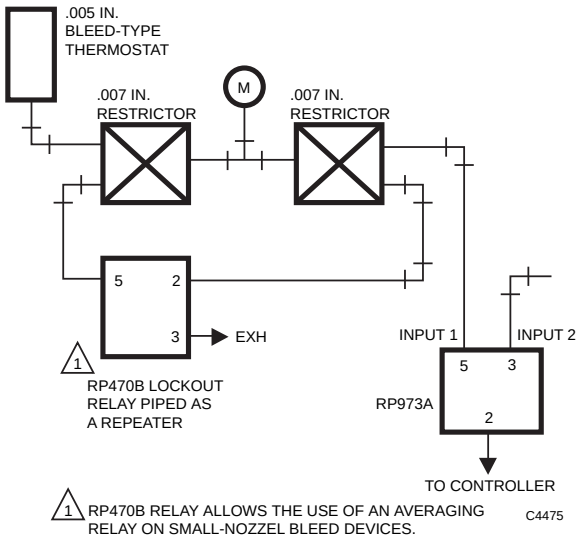
- In-line, wall or panel mounted.
- Sharp-barb air connections.
- Molded plastic construction.

Type: Pneumatic Three-Port Averaging Relay
Dimensions, Approximate: 1 1/2 in. high x 7/8 in. wide x 15/16 in. deep (38 mm high x 22 mm wide x 24 mm deep)
Mounting: Wall or In-line or panel
Airflow Usage: 0.007 scfm (3.303 mL/s) maximum
Air Connections: Barb fittings 5/32 in. (4 mm) O.D. plastic tubing

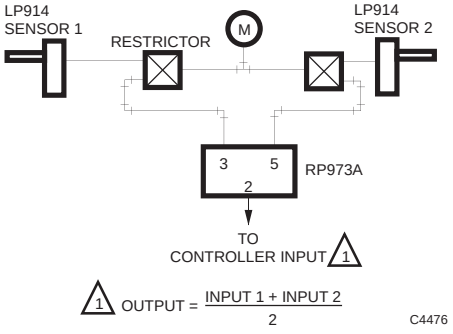
Capacity: 0.039 scfm at 1 psi differential (18 mL/s at 5 kPa differential)
Operation: Output pressure equals average of two input pressures
Operating Humidity Range: 5 to 95% RH
Temperature Range: 32 F to 125 F (0 C to 52 C)
Maximum Safe Operating Pressure: 30 psi (205 kPa)

Product Number	Operation	Normal Operating Output Pressure (psi)	Normal Operating Output Pressure (kPa)
RP973A1005/U	Output pressure equals average of two input pressures	3 to 15 psi	21 to 103 kPa

RP973A Typical Piping



Typical Averaging Application



RP975 Pneumatic Hesitation Relay

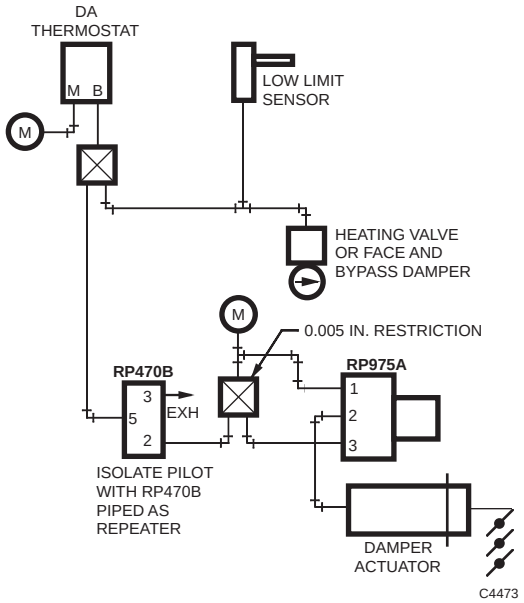
A three-port hesitation relay provides minimum outside air damper position plus controlled ventilation for large volume unit ventilators. Replacement devices are available for Johnson, Powers, and Barber-Colman devices.

- Manually adjustable minimum position. In-line, wall or panel mounted.
- Sharp-barb air connections.
- Molded plastic construction.

Type: Pneumatic Three-Port Hesitation relay
Dimensions, Approximate: 2 1/4 in. high x 2 1/2 in. wide x 3 3/4 in. deep (57 mm high x 63 mm wide x 96 mm deep)
Mounting: Wall or In-line or panel
Airflow Usage: 0.022 scfm (10 mL/s)
Air Connections: Barb fittings 5/32 in. (4 mm) O.D. plastic tubing
Capacity: 0.003 scfm (1.65 mL/s)
Knob Rotation: Knob has two (2) internal breakaway stops that limit rotation to 188 degrees. Each stop, when removed, adds 56 degrees of rotation. Maximum rotation is 300 degrees.
Operating Humidity Range: 5 to 95% RH
Temperature Range: 32 F to 125 F (0 C to 52 C)
Maximum Safe Operating Pressure: 30 psi (205 kPa)

Replacement Parts:
14003203-003-Conversion Kit to convert Johnson, Powers, Robertshaw, Barber Coleman and older Honeywell switches

Typical Piping With Isolation Circuit



Product Number	Operation	Includes
RP975A1003/U	Provides minimum outside air damper position	14003030-001, 1 1/2 in. Mounting Clip for mounting relay to wall or panel. Also includes scaleplate and knob, factory mounted and calibrated. Use with MP909 or MP918 Damper Actuator having a 7 to 13 psi (50 to 90 kPa) spring range

Pneumatic Relay Accessories and Replacement Parts

Product Number	Description	Used With
14003030-001/U	Mounting Clip	RP470, RP471, SP970;
14003638-001/U	Bag Assembly, Mounting Hardware for RP418	RP418;

Pneumatic Switches

CLEPAS Air Pressure Switch

Senses differential air pressure in HVAC systems and provides and on/off output. A typical application is sensing fan shutdown in a unit ventilator to close the outdoor air damper.

- Reliable pneumatic operation.
- Adjustable setpoint (switching pressure).
- Eliminates electrical interlock wiring.

Dimensions, Approximate: 6 1/8 in. high x 4 1/8 in. wide x 2 13/16 in. deep (156 mm high x 105 mm wide x 72 mm deep)
Air Connections: Sensing Inputs: 1/4 in. compression fittings; Control Air: Barb for 1/4 in. (6 mm) or 3/8 in. (10 mm) O.D. plastic tubing
Temperature Range: 0 F to 135 F (-18 C to +57 C)
Switch Type: On/Off Pneumatic Airflow Switch
Switching Action: On/Off
Mounting: Vertical Mount

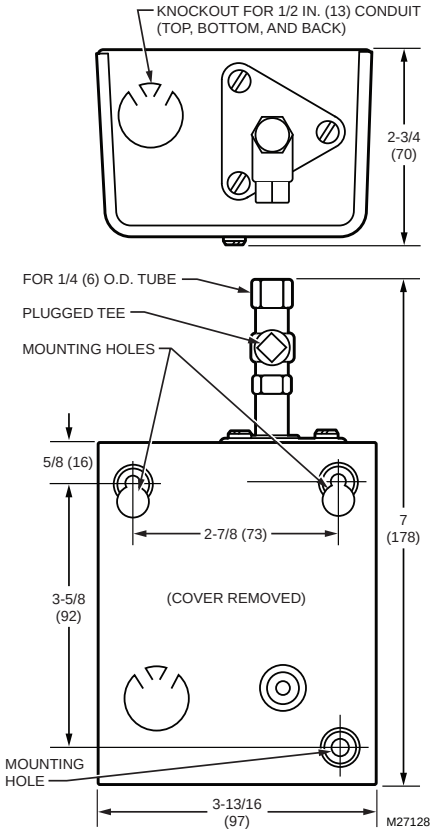
	Switching Pressures		
Product Number	**(psi)**	**(kPa)**	**Description**
CLEPAS2100/U	0.15 to 2.0 in. w.c. 0.15 to 12.0 in. w.c.	0.037 to 0.50 kPa 0.037 to 2.99 kPa	Pneumatic Airflow Differential Pressure Switch, Low Setpoint Range
CLEPAS2200/U	0.15 to 12.0 in. w.c.	0.037 to 2.99 kPa	Pneumatic Airflow Differential Pressure Switch, High Setpoint Range

P643 Pneumatic/Electric Switch

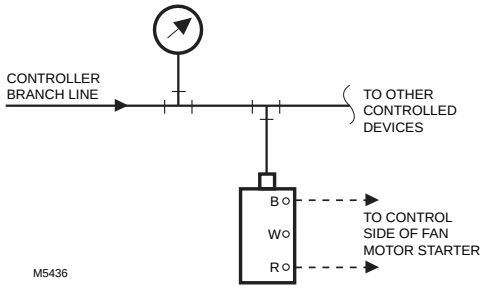
Used to convert a pneumatic signal from a controller to an electrical switching action to provide start and stop control of equipment such as fans and pumps. Replacement devices available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell pneumatic/electric switches. Adjustable setpoint.

- Adjustable differential.
- Externally visible scales.
- Heavy-duty switch.
- Integral gage connection.

Dimensions in inches (millimeters)



P643A Typical Piping



Air Connections: Compression fitting 1/4 in. (6 mm) O.D. tubing
Current: 120 Vac: 8.0 AFL, 48.0 LRA, 17.0 A resistive; 208/240 Vac: 5.1 AFL, 30.6 ALR, 17.0 A resistive; 270 Vac: 17.0 A resistive; 480 Vac: 3.5 AFL, 21.0 ALR, 10.0 A resistive
Frequency: 50 Hz; 60 Hz
Temperature Range: -30 F to +125 F (-34 C to +52 C)
Maximum Safe Operating Pressure: 25 psi (170 kPa)
Switch Operation: Converts pneumatic signal to electrical switching action
Switch Type: Pneumatic/Electric Switch
Mounting: Holes in back of case

Approvals:
Underwriters Laboratories, Inc: Listed SDFY

Product Number	Electrical Connections	Differential Pressure Range (psi)	Differential Pressure Range (kPa)	Switching Pressures (psi)	Switching Pressures (kPa)	Includes
P643A1007/U	Knockouts (3) for 1/2 in. conduit	3 to 13 psi adjustable	20 to 90 kPa adjustable	0 to 22.5 psi	0 to 155 kPa	SPDT switch

Pneumatic Switches

P658 Pneumatic/Electric Switch

Pneumatic-electric switches (P658A,B,E and F) used to convert a pneumatic signal from a controller to an electrical switching action (SPDT) to provide start and stop control of equipment such as fans and pumps. Replacement devices available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell pneumatic/electric switches.

- Models available for surface or panel mounting.
- Barb protected by open cage.
- All ferrous parts plated to prevent corrosion.
- Factory calibrated setpoint field adjustable to meet job requirements.
- Neoprene diaphragm element.

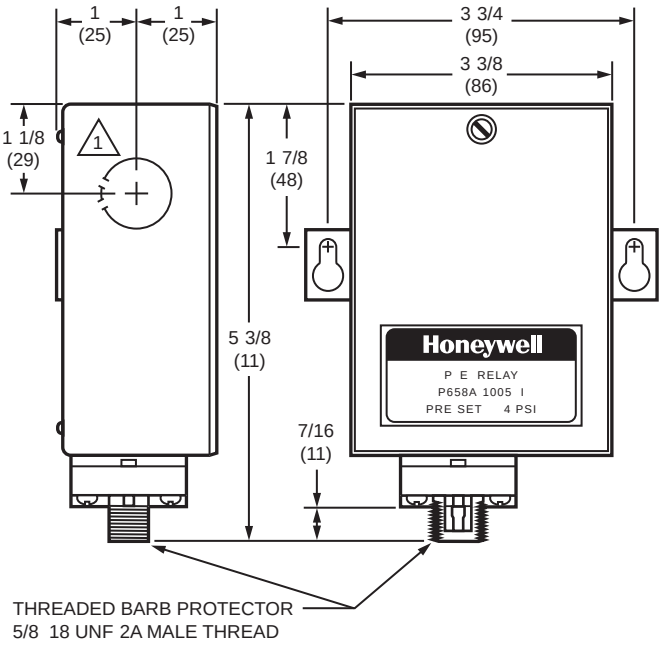
Air Connections: Barb fitting for 1/4 in. (6 mm) O.D. plastic tubing
Frequency: 60 Hz
Operating Humidity Range: 5 to 95% RH, 80 F (27C) max wet bu b
Temperature Range: 40 F to 140 F (4 C to 66 C)
Maximum Safe Operating Pressure: 30 psi (207 kPa)
Pilot Duty Ratings: 750 VA @ 125, 250 or 277 Vac
Switch Operation: Converts pneumatic signal to electrical switching action (SPDT)

Switch Type: Pneumatic/Electric Switch
Switching Action:
P658A,B: Make R-W on pressure rise to setpoint plus differential; Make R-B on pressure fall to setpoint
P658E,F: Make COM-NC on pressure fall to setpoint; Make COM-NO on pressure rise to setpoint plus differential

Approvals:
Underwriters Laboratories, Inc: Category SDFY or SDFY2

Product Number	Mounting	Electrical Connections	Differential Pressure Range (psi)	Differential Pressure Range (kPa)	Setpoint Range (Field Adjustable) (psi)	Setpoint Range (Field Adjustable) (kPa)	Motor Load	Resistive Load	Calibration	Includes
P658A1013/U	Surface (includes case)	Screw terminals	2 psi	14 kPa	2 to 24 psi	14 to 165 kPa	1 hp @ 125 Vac, 2 hp @ 250 or 277 Vac	25A @ 125, 250 or 480 Vac	Factory Cal brated at 10 psi	Case
P658B1012/U	Panel mount	Screw terminals	2 psi	14 kPa	2 to 24 psi	14 to 165 kPa	1 hp @ 125 Vac, 2 hp @ 250 or 277 Vac	25A @ 125, 250 or 480 Vac	Factory Cal brated at 10 psi	—
P658E1001/U	Panel mount	1/4 in. quick-connect male terminals	1 psi	7 kPa	2 to 17 psi	14 to 117 kPa	3/4 hp @ 125, 250 or 277 Vac	25A @ 125, 250 or 277 Vac; 10A @ 480 Vac	No Factory Cal bration	—
P658E1167/U	Panel mount	1/4 in. quick-connect male terminals	1 psi	7 kPa	2 to 25 psi	14 to 172 kPa	3/4 hp @ 125, 250 or 277 Vac	25A @ 125, 250 or 277 Vac; 10A @ 480 Vac	No Factory Cal bration	—
P658F1000/U	Panel, through double D hole secured with hex nut	1/4 in. quick-connect male terminals	1 psi	7 kPa	2 to 17 psi	14 to 117 kPa	3/4 hp @ 125, 250 or 277 Vac	25A @ 125, 250 or 277 Vac; 10A @ 480 Vac	No Factory Cal bration	—

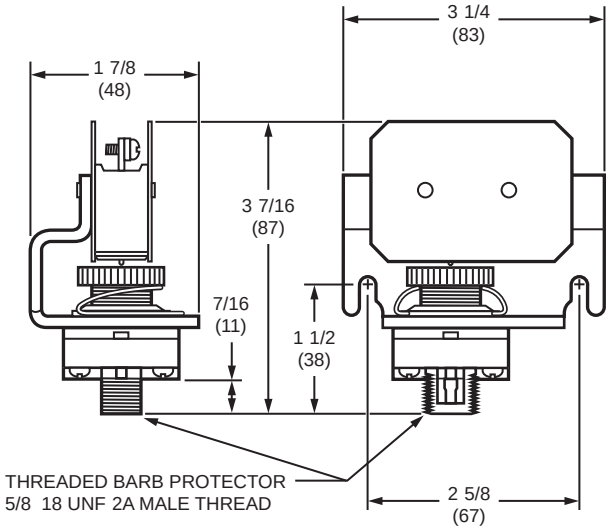
P658A Dimensions in inches (millimeters)



1 KNOCKOUT ON ONE SIDE FOR 3/4 1NCH CONDUIT. KNOCKOUTS ON OPPOSITE SIDE, TOP, AND BACK FOR 1/2 INCH CONDUIT.

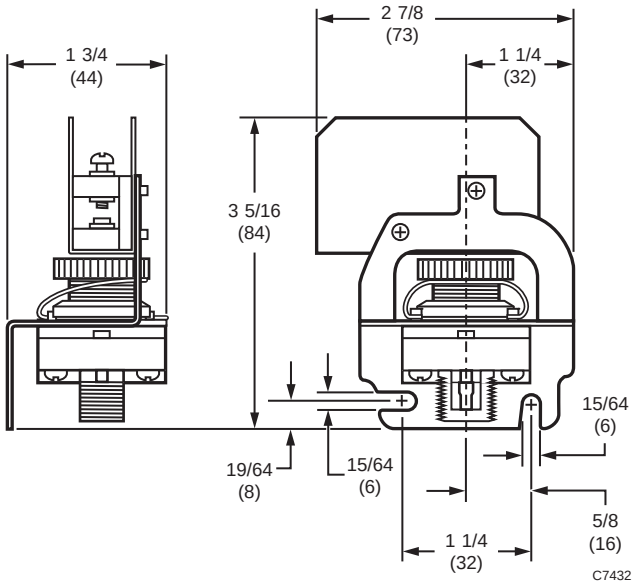
C7435

P658B Dimensions in inches (millimeters)



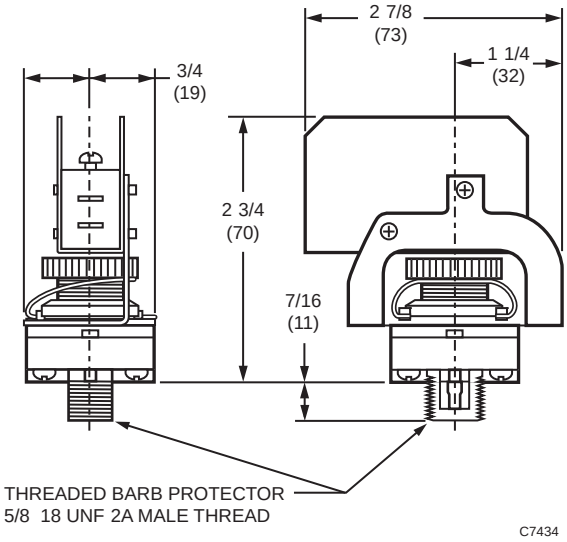
C7431

P658E Dimensions in inches (millimeters)



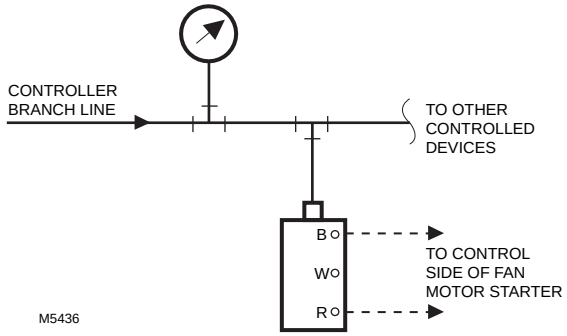
C7432

P658F Dimensions in inches (millimeters)



C7434

P658 Typical Piping



M5436

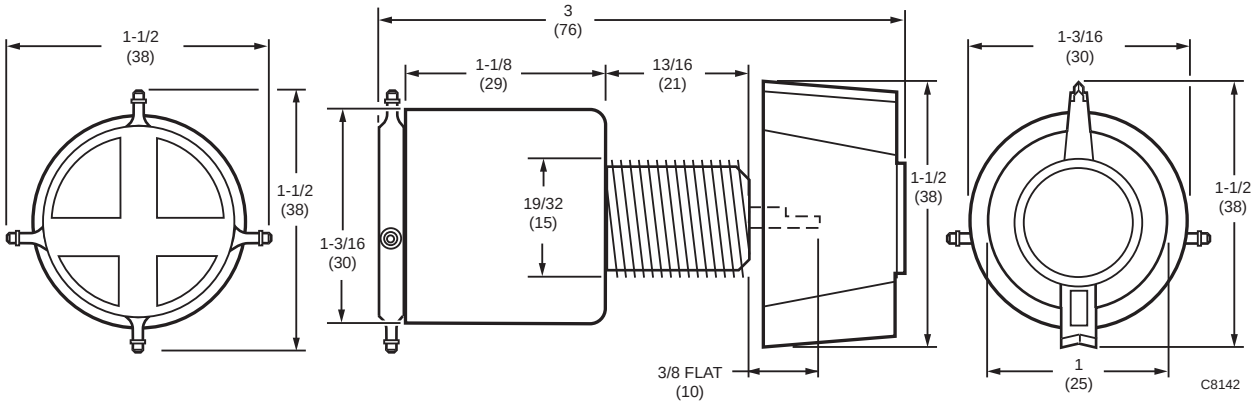
Pneumatic Switches

SP470 Pneumatic Diverting Switches

Pneumatic diverting switch used to manually divert, block, or bleed air in pneumatic air lines to revise control sequence with a change in conditions. Commonly applied on Day-Night, Summer-Winter, On-Off-Auto, or Start-Stop functions. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell switches.

- Available in two-position or three-position devices.
- Mountable on a panel up to 7/16 in. (11 mm) thick.
- Complete with knob and scaleplate.

Dimensions in inches (millimeters)

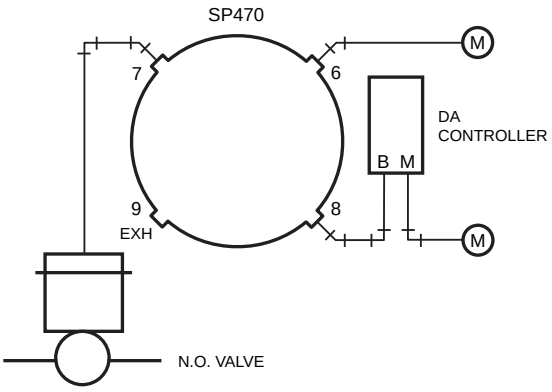


Air Connections: Barb fitting for 5/32 in. (4 mm) O.D. plastic tubing
Airflow Usage: 0.175 scfm (82.6 mL/s) minimum at 1 psi pressure drop
Operating Humidity Range: 5 to 95% RH
Temperature Range: 20 F to 140 F (-7 C to +60 C)
Maximum Safe Operating Pressure: 30 psi (207 kPa)

Switch Operation: Used to manually divert, block or bleed pneumatic air lines
Switch Type: Two or Three Position Pneumatic Diverting Switch
Mounting: Panel mount

Product Number	Description	Includes
SP470A1000/U	Pneumatic Manual Switch, 4 port, 2-position interchange	Mounting nuts, knob, and two-position scaleplate
SP470A1018/U	Pneumatic Manual Switch, 4 port, 3-position, Port 7 is common	Mounting nuts, knob, and three-position scaleplate

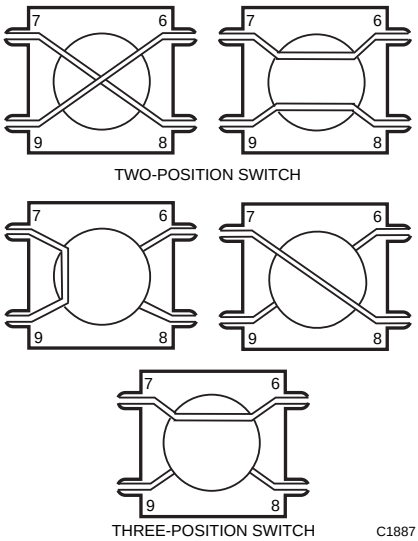
SP470A Typical three-position application



NOTES:
POSITION 1, VALVES OPEN: PORTS 7 AND 9 CONNECTED, PORTS 6 AND 8 BLOCKED
POSITION 2, VALVE AUTO: PORTS 7 AND 8 CONNECTED, PORTS 6 AND 9 BLOCKED
POSITION 3, VALVE CLOSED: PORTS 7 AND 6 CONNECTED, PORTS 8 AND 9 BLOCKED

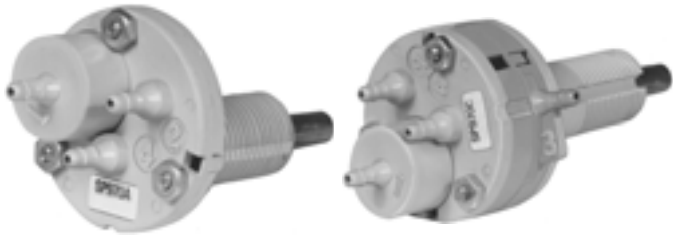
C4290

SP470A Switches



C1887

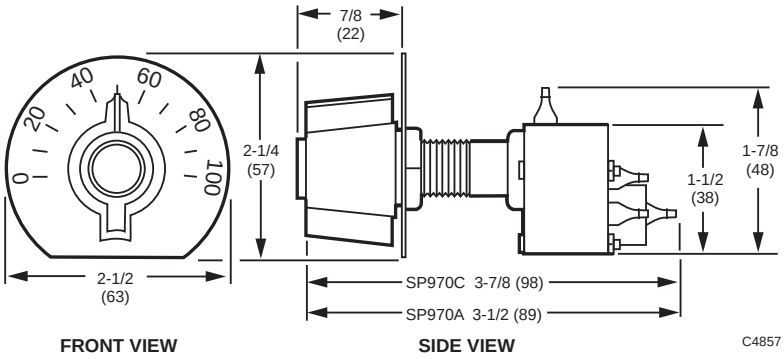
SP970 Pneumatic Manual or Minimum Position Switches



Used to manually position a remote damper actuator or to reset the setpoint of a pneumatic controller. They can also provide minimum damper position by setting a minimum pressure limit in the branch line to the damper actuator. Replacement kits are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell switches.

- Two spans available as shipped. Six spans with breakaway stops on knob.
- Pilot bleed and isolated pilot models available.
- Wall or panel mounting.

Dimensions in inches (millimeters)



Air Connections: Barb fitting for 5/32 in. (4 mm) O.D. plastic tubing
Airflow Usage: 0.022 scfm (9.8 mL/s)
Capacity: 0.021 scfm (9.4 mL/s) below minimum position. Above minimum position, device feeding pilot determines capacity
Operating Humidity Range: 5 to 95% RH
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Safe Operating Pressure: 30 psi (207 kPa)

Switch Operation: Used to manually position a remote damper actuator or reset setpoint of pneumatic controller
Switch Type: Three-port pneumatic manual or minimum position switch
Mounting: Panel or Wall
Comments: The setpoint knob normally rotates 188 degrees. Two breakaway stops on the knob allow rotation of 244 degrees and 300 degrees.

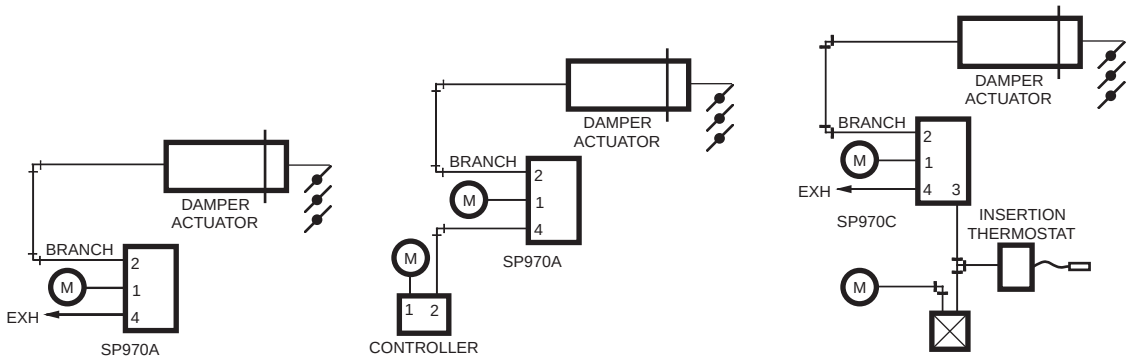
Product Number	Output Span (psi)	Output Span (kPa)	Includes
SP970A1005/U	10 psi (with 188 degree knob rotation) 16 psi (with 300 degree knob rotation) 13 psi (with 244 degree knob rotation)	69 kPa (with 188 degree knob rotation) 110 kPa (with 300 degree knob rotation) 90 kPa (with 244 degree knob rotation)	Knob, 0 to 100% scale plate and locknuts
SP970A1013/U	5 psi (with 188 degree knob rotation) 8 psi (with 300 degree knob rotation) 6.5 psi (with 244 degree knob rotation)	34 kPa (with 188 degree knob rotation) 56 kPa (with 300 degree knob rotation) 45 kPa (with 244 degree knob rotation)	Knob, 0 to 100% scale plate and locknuts
SP970C1001/U	10 psi (with 188 degree knob rotation) 16 psi (with 300 degree knob rotation) 13 psi (with 244 degree knob rotation)	69 kPa (with 188 degree knob rotation) 110 kPa (with 300 degree knob rotation) 90 kPa (with 244 degree knob rotation)	Knob, 0 to 100% scale plate and locknuts
SP970C1043/U	5 psi (with 188 degree knob rotation) 8 psi (with 300 degree knob rotation) 6.5 psi (with 244 degree knob rotation)	34 kPa (with 188 degree knob rotation) 56 kPa (with 300 degree knob rotation) 45 kPa (with 244 degree knob rotation)	Knob, 0 to 100% scale plate and locknuts

Pneumatic Switch Replacement Parts

Product Number	Description	Used With
14003022-003/U	Final Assembly, manual and minimum position switch, 10 psi span	SP970A
14003199-002/U	Bag assembly with two scale plates, knob assembly and nuts for SP470A	SP470A
176112023	Pneumatic 2-Position Switch	SP470A

SP970 Operation

SP970 Typical Piping



A. MANUAL POSITION APPLICATION

B. MINIMUM POSITION APPLICATION WITH CONTROLLER INPUT

C. MINIMUM POSITION APPLICATION WITH BLEED TYPE THERMOSTAT INPUT (LP916)

C4471A

Operation

SP970A Three Port Switches

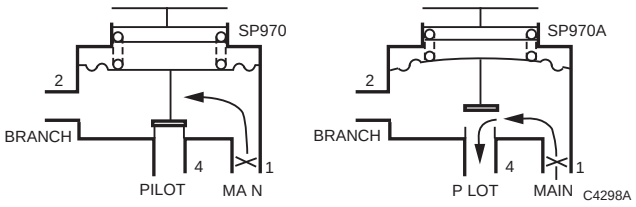
PRESSURE REGULATOR OPERATION

Main line air flows through the restriction into the branchline chamber and out the nozzle. Branchline pressure increases until it is strong enough to compress the spring and lift the diaphragm off the nozzle. Air flow out the nozzle is controlled by the balance between the branchline pressure and spring force. See Typical Piping Diagram A Above.

MINIMUM POSITION OPERATION

See Typical Piping Diagram B above. An external signal is connected to Port 4 (Exhaust Port). When the external signal is greater than the spring load, the nozzle opens and branchline pressure is the same as the external signal. When the external signal is less than the spring load, branchline pressure is controlled as described above. See Operation Diagram below.

SP970A Operation

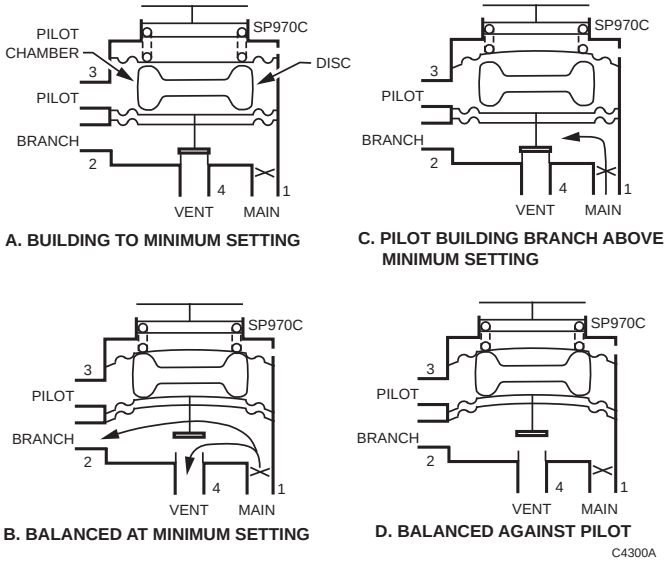


SP970C Four Port Switches

These minimum position devices have a separate dead-ended chamber connected to Port 3 to receive an external signal. When the external signal is less than the spring load, the signal has no effect and functions similar to the SP970A as a pressure regulator. When the external signal is greater than the spring load, the spring load is isolated and the device duplicates the input signal. See Operation Diagram below.

Piping Diagram C above shows a typical four-port SP970C application. The minimum-position switch keeps the pneumatic actuator at a minimum position until the thermostat pressure is greater than the minimum position valves. The thermostat then controls the actuator.

SP970C Operation



A. BUILDING TO MINIMUM SETTING

C. PILOT BUILDING BRANCH ABOVE MINIMUM SETTING

B. BALANCED AT MINIMUM SETTING

D. BALANCED AGAINST PILOT

C4300A

Pneumatic Damper Actuator Torque Ratings

TORQUE (LB-IN.) DELIVERED TO A 90-DEGREE STROKE DAMPER SHAFT:

Actuator	Spring Range Psi (kPa)	Stroke in. (mm)	Delivered Torque lb-in. (N•m)				
			Shaft Retracted	Midstroke[a]	Shaft Extended		
					13 psi (90 kPa) main	18 psi (129 kPa) main	20 psi (138 kPa) main
MP913	10-15 (69-103)	1 (25)	11 (1.243)	2 (0.226)	0 (0)	3 (3.339)	5 (0.565)
	5-10 (34-69)	1 (25)	6 (0.678)	2 (0.226)	3 (0.339)	9 (1.017)	13 (1.469)
MP916	3-12 (21-83)	2-1/4 (57)	41 (4.632)	26 (2.937)	14 (1.582)	138 (15.6)	109 (12.315)
	4-8 (27-55)	2-1/4 (57)	51 (6.214)	26 (2.937)	69 (7.796)	138 (15.6)	166 (18.755)
	5-12 (34-83)	2-1/4 (57)	69 (7.796)	26 (2.937)	14 (1.582)	82 (9.264)	109 (12.315)
MP909D	3-8 (21-55)	2-3/8 (60)	10.7 (1.209)	7.6 (0.859)	17.9 (2.023)	35.7 (4.034)	42.8 (4.836)
	5-10 (34-70)	2-3/8 (60)	17.9 (1.98)	7.6 (0.859)	10.7 (1.209)	28.6 (3.232)	35.7 (4.034)
	8-13 55-90)	2-3/8 (60)	28.6 (3.232)	7.6 (0.859)	0 (0)	17.9 (2.023)	25.0 (2.825)
	5-10 (34-70)	3 (76)	22.5 (2.543)	9.5 (1.974)	13.5 (1.526)	36 (4.008)	45 (5.085)
MP909E	2.5-6.5 (17-45)	3.1 (79)	25.6 (2.893)	22 (2.486)	66.5 (7.515)	118 (13.33)	138 (15.59)
	3-13 (21-90)	4 (101)	39.6 (4.475)	28 (3.164)	0 (0)	66 (7.058)	92.4 (10.44)
	5-10 (34-70)	4 (101)	66 (7.458)	28 (3.164)	39.6 (4.475)	105.6 (11.93)	132 (14.92)
	5-10 (34-70)	3.1 (79)	51.2 (5.786)	22 (2.486)	30.7 (3.469)	81.8 (9.243)	102 (11.53)
	9-13 (62-90)	3.1 (79)	92.1 (10.41)	22 (2.486)	0 (0)	51.2 (5.786)	71.7 (8.102)
MP909H	9-13 (62-90) plus positioner	3.1 (79)	92.1 (10.41)	[b]	0 (0)	66 (7.1)	92.4 (10.44)
MP918A	8-13 (55-90) plus positioner	3-1/2 (89)	333 (37.63)	[b]	0 (0)	208 (23.5)	292 (33)
MP918B	3-7 (21-49)	3-1/2 (89)	125 (14.3)	88 (9.944)	250 (28.25)	458 (51.53)	541 (61.3)
	3-13 (21-90)	3-1/2 (89)	125 (14.3)	88 (9.944)	0 (0)	208 (23.5)	292 (33)
	5-10 (34-70)	3-1/2 (89)	208 (23.5)	88 (9.944)	125 (14.3)	333 (37.63)	416 (47.01)
	8-13 (55-90)	3-1/2 (89)	333 (37.63)	88 (9.944)	0 (0)	208 (23.5)	292 (33)
MP920	7-13 (34-90)	6 (152)	520 (58.75)	158 (17.85)	0 (0)	372 (42.03)	521 (58.86)

[a] Torque in this column is for modulating service only.

[b] The lesser of retracted or extended shaft torque.

The following reference formulas are valid for actuators mounted on fixed brackets only.

Most dampers operate through a 90-degree arc. The amount of torque that a pneumatic actuator can deliver to the damper shaft may be calculated from the net force delivered and the length of stroke of the actuator using the following equations:

$$T_R = \frac{F_R \times S}{2}$$

$$T_E = \frac{F_E \times S}{2}$$

$$T_M = 1.5 \times A \times 0.707S$$

T_R = Torque with actuator shaft retracted.

T_E = Torque with actuator shaft extended.

T_M = Midstroke torque.

F_R = Force exerted by actuator with shaft retracted.

F_E = Force exerted by actuator with shaft extended.

A = Effective area of actuator diaphragm.

S = Actuator stroke.

The midstroke is significant only for modulating service and is based on the premise that an input pressure change no greater than 1.5 psi (10 kPa) should cause the actuator to reposition the damper.

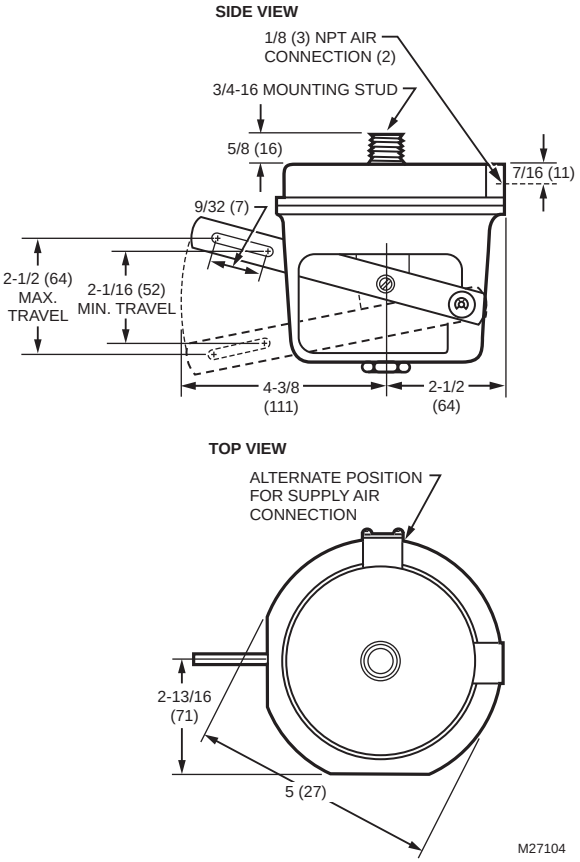
Pneumatic Damper Actuators

MP516 Pneumatic Unit Ventilator Damper Actuator

Used to control the damper on unit ventilators. Can be adapted to various unit ventilator control cycles. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell unit ventilator damper actuators.

- Constructed of strong zinc die castings.
- Hesitation feature available for unit ventilator cycles requiring a minimum percentage of outdoor air.

Dimensions in inches (millimeters)



Actuator Type: Damper
Actuator Force: Medium
Fail Safe Mode: Spring Return
Air Connections: 1/8 in. NPT
Stroke: 2-1/8 in. to 2-1/2 in. (54 mm to 63 mm)
Diaphragm Effective Area: 11 sq in. (71 sq cm)
Temperature Range: -20 F to +160 F (-29 C to +71 C)
Maximum Operating Pressure: 25 psi (172 kPa)
Humidity Range: 5 to 95% RH

Accessories:

26025B-Damper crank arm for 3/8 in. (9.5 mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 40-50-60-75-90 degrees.
27174B-Damper crank arm for 7/16 in. (11.1 mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 40-50-60-75-90 degrees.
27520C-Push Rod (5/16 in. dia., 12 in. length)
27520G-Push Rod (5/16 in. dia., 24 in. length)
27520K-Push Rod (5/16 in. dia., 36 in. length)
27520L-Push Rod (5/16 in. dia., 48 in. length)
309389J-Mounting Bracket and Linkage
312867C-Damper Crank Arm for 1/2 in. (12.7mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 45-60-75-90 degrees
315321-Crankarm Balljoint (with 1/4 in male threads), fits 5/16 in. diameter pushrod

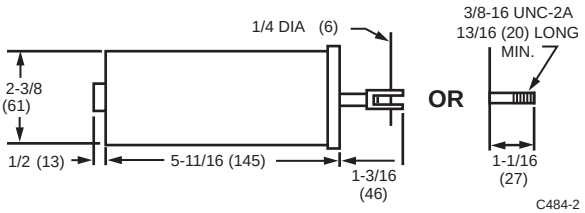
Product Number	Spring Range (psi)	Spring Range (kPa)	Comments
MP516A1087/U	3 psi to 12 psi	21 kPa to 83 kPa	The lever arm moves to the desired minimum position as air pressure increases from 0 to 3 psi, hesitates from 3 to 8 psi, and completes its stroke from 8-12 psi.
MP516A1095/U	4 psi to 8 psi	28 kPa to 55 kPa	No hesitation.
MP516A1103/U	5 psi to 12 psi	34 kPa to 83 kPa	No hesitation.

MP909D Pneumatic Damper Actuator

Used for pneumatic proportional control of variable volume terminal units and small damper. Available in various operating ranges for either individual or sequence operation with other actuators. Replacement devices are available for Johnson, Powers, Robertshaw, and older Honeywell actuator models.

- Rugged ribbed aluminum body.
- Low-friction shaft bearing.
- Close tolerance on operating range and stroke.
- Protected barb connector.
- Versatile mounting and connecting hardware options.
- Positive leakproof seal.

Dimensions in inches (millimeters)



Actuator Type: Damper
Actuator Force: Low
Fail Safe Mode: Spring Return
Diaphragm Effective Area: 3 sq in. (19.4 sq cm)
Temperature Range: 50 F to 140 F (10 C to 60 C)
Maximum Operating Pressure: 30 psi (207 kPa)
Humidity Range: 5 to 95% RH

Approvals:
Underwriters Laboratories, Inc: Components Recognized: Report R18118

Accessories:
14002850-001-Angle Bracket 5 3/8 in, 137 mm, long, 5 in, 127 mm, wide
14003640-001-Angle Bracket 3 in. (76 mm) long, 3 3/4 in. (95 mm) wide, 2 3/4 in. (70 mm) high
312867C-Damper Crank Arm for 1/2 in. (12.7mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 45-60-75-90 degrees
315321-Crankarm Balljoint (with 1/4 in male threads), fits 5/16 in. diameter pushrod
315781-Motor shaft balljoint with 3/8 - 16 UNC female threads, fits 5/16 inch diameter pushrods.
26025B-Damper crank arm for 3/8 in. (9.5 mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 40-50-60-75-90 degrees.
27174B-Damper crank arm for 7/16 in. (11.1 mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 40-50-60-75-90 degrees.
27520C-Push Rod (5/16 in. dia., 12 in. length)
27520G-Push Rod (5/16 in. dia., 24 in. length)
27520K-Push Rod (5/16 in. dia., 36 in. length)
27520L-Push Rod (5/16 in. dia., 48 in. length)
27520K-Push Rod (5/16 in. dia., 36 in. length)
27520L-Push Rod (5/16 in. dia., 48 in. length)

Product Number	Air Connections	Spring Range (psi)	Spring Range (kPa)	Stroke (inch)	Stroke (mm)	Includes
MP909D1201/U	Barbed fitting for 3/32 in. O.D. tubing	3 psi to 8 psi	21 kPa to 55 kPa	2.4 in.	61 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket or Ball Joint
MP909D1219/U	Barbed fitting for 3/32 in. O.D. tubing	8 psi to 13 psi	55 kPa to 90 kPa	2.4 in.	61 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket or Ball Joint
MP909D1227/U	Barbed fitting for 3/32 in. O.D. tubing	5 psi to 10 psi	34 kPa to 69 kPa	2.4 in.	61 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket or Ball Joint
MP909D1318/U	Barbed fitting for 3/32 in. O.D. tubing	8 psi to 13 psi	55 kPa to 90 kPa	2.4 in.	61 mm	14002850-001 - External Mounting Bracket with Balljoint
MP909D1334/U	Barbed fitting for 3/32 in. O.D. tubing	5 psi to 10 psi	34 kPa to 69 kPa	2.4 in.	61 mm	14003640-001 - 90 degree Angled Mounting Bracket with Ball Joint
MP909D1367/U	Barbed fitting for 3/32 in. O.D. tubing	5 psi to 10 psi	34 kPa to 69 kPa	3 in.	76 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket or Ball Joint
MP909D1441/U	Barbed fitting for 3/32 in. O.D. tubing	5 psi to 10 psi	34 kPa to 69 kPa	3 in.	76 mm	Small clevis on shaft. No mounting bracket or ball joint
MP909D1474/U	Barbed fitting for 1/4 in. O.D. tubing	5 psi to 10 psi	34 kPa to 69 kPa	2.4 in.	61 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket or Ball Joint
MP909D1508/U	Barbed fitting for 1/4 in. O.D. tubing	8 psi to 13 psi	55 kPa to 90 kPa	2.4 in.	61 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket or Ball Joint
MP909D1516/U	Barbed fitting for 1/4 in. O.D. tubing	5 psi to 10 psi	34 kPa to 69 kPa	2.4 in.	61 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket or Ball Joint
MP909D1524/U	Barbed fitting for 1/4 in. O.D. tubing	5 psi to 10 psi	34 kPa to 69 kPa	3 in.	76 mm	31578 ball joint and 14003640-001 - 90 degree Angled Mounting Bracket

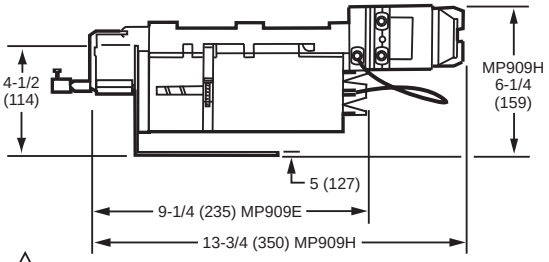
Pneumatic Damper Actuators

MP909E,H Pneumatic Damper Actuators

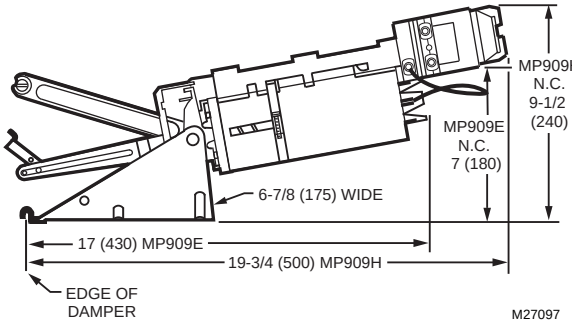
These actuators are used for proportional control of variable volume terminal units, mixing boxes, and small to medium sized dampers. They are available in various operating ranges for either independent operation or sequence operation with other actuators. The MP909E has an optional adjustable stroke feature. The MP909H includes a positive positioner. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell actuator models.

- Rolling diaphragm operated.
- Low friction shaft bearing.
- Close tolerance on operating range and stroke.
- Non-overlapping spring ranges for sequencing.
- Corrosion resistant materials.
- Reliable long life.

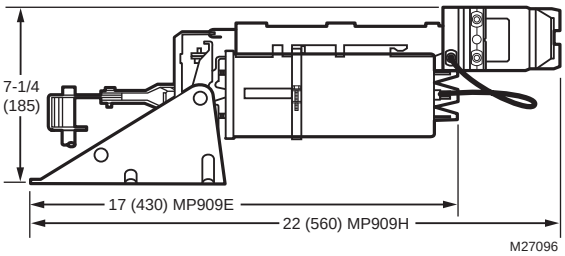
Dimensions in inches (millimeters)
Actuator with Fixed External Mounting Bracket



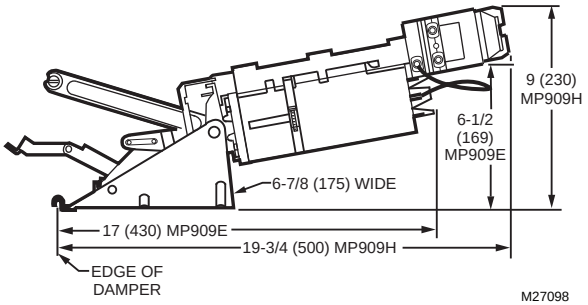
Actuator with Internal N.C. Trunnion Mounting Bracket



Actuator with External Trunnion Mounting Bracket



Actuator with Internal N.O. Trunnion Mounting Bracket



Actuator Type: Damper
Actuator Force: Medium
Fail Safe Mode: Spring Return
Air Connections: Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing
Diaphragm Effective Area: 6.6 sq in. (43 sq cm)
Temperature Range: -28 F to +160 F (-33 C to +71 C)
Humidity Range: 5 to 95% RH

Approvals:
Underwriters Laboratories, Inc: Components Recognized: Report R18118

Accessories:
27518-Crankarm balljoint with 1/4 - 28 UNF male threads, fits 5-16 inch diameter push rods
26025B-Damper crank arm for 3/8 in. (9.5 mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 40-50-60-75-90 degrees.
27520C-Push Rod (5/16 in. dia., 12 in. length)
27520G-Push Rod (5/16 in. dia., 24 in. length)
27520K-Push Rod (5/16 in. dia., 36 in. length)
27520L-Push Rod (5/16 in. dia., 48 in. length)
312867C-Damper Crank Arm for 1/2 in. (12.7mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 45-60-75-90 degrees
312867H-Externally mounted Linkage Kit
314440A-MP909 - Clevis, Clevis Pin and Cotter Pin Assembly
315321-Crankarm Balljoint (with 1/4 in male threads), fits 5/16 in. diameter pushrod
315781-Motor shaft balljoint with 3/8 - 16 UNC female threads, fits 5/16 inch diameter pushrods.
14002850-001-Angle Bracket 5 3/8 in, 137 mm, long, 5 in, 127 mm, wide
14003640-001-Angle Bracket 3 in. (76 mm) long, 3 3/4 in. (95 mm) wide, 2 3/4 in. (70 mm) high
14004062-001-External Trunnion Mounting Bracket
14004062-002-Internal N.C. Trunnion Mounting Bracket
14004062-003-Internal N.O. Trunnion Mounting Bracket
14004106-001-Actuator pushrod for conversion of internal N.C. to external
14004107-001-Crankarm Assembly for conversion from internal N.C. to external Trunnion mounting
14004210-001-Feedback Spring Kit includes orange spring (3 psi [21kPa]), yellow spring (5 psi [34 kPa]), and blue spring (10 psi [69 kPa]).
14004236-001-Coupler, actuator shaft to 5/16 in, 8 mm, pushrod
14004241-002-Hitch Pin (Six Sets)
14004242-001-MP918 Top Mount Operator Assembly
14004667-001-Offset Crank arm assembly with 2 screws (304725-062), nuts (14004102-001), crank arm (14004655-001) for 1/2 in. Drive Axle

Replacement Parts:
14004137-001-Retrofit Kit for adding positive positioner to MP909E or repair of MP909H

Product Number	Air Connections	Maximum Operating Pressure (psi)	Maximum Operating Pressure (kPa)	Spring Range (psi)	Spring Range (kPa)	Stroke (inch)	Stroke (mm)	Includes
MP909E1018/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	3 psi to 13 psi	21 kPa to 90 kPa	4 in.	102 mm	315781 Balljoint, Linkage Kit 14002061-006 and 14002850-001 Fixed External Mounting Bracket with Balljoint
MP909E1034/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	5 psi to 10 psi	34 kPa to 69 kPa	4 in.	102 mm	315781 Balljoint, Linkage Kit 14002061-006 and 14002850-001 Fixed External Mounting Bracket with Balljoint
MP909E1059/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	5 psi to 10 psi	34 kPa to 69 kPa	2 3/4 in.	70 mm	Actuator only. 3/8 in.-16 Threaded Shaft with stroke stops. No Mounting Bracket
MP909E1067/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	5 psi to 10 psi	34 kPa to 69 kPa	3 in.	79 mm	Fixed external unitary mounting bracket and clevis shaft with stroke stops
MP909E1083/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	2.5 psi to 6.5 psi	17 kPa to 45 kPa	3 in.	79 mm	315781 Balljoint, Linkage Kit 14002061-006 and 14002850-001 Fixed External Mounting Bracket with Balljoint
MP909E1109/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	2.5 psi to 6.5 psi	17 kPa to 45 kPa	2 3/4 in.	70 mm	Actuator only. 3/8 in.-16 Threaded Shaft with stroke stops. No Mounting Bracket
MP909E1158/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	9 psi to 13 psi	62 kPa to 90 kPa	3 in.	79 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket
MP909E1174/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	9 psi to 13 psi	62 kPa to 90 kPa	3 in.	70 mm	14002850-001 - Fixed External Mounting Bracket with 315781 Balljoint
MP909E1240/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	5 psi to 10 psi	34 kPa to 69 kPa	3 in.	79 mm	Actuator only. 3/8 in.-16 Threaded Shaft. No Mounting Bracket
MP909E1349/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	3 psi to 13 psi	21 kPa to 90 kPa	4 in.	102 mm	Internal N.C. trunnion mounting bracket
MP909E1356/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	3 psi to 13 psi	21 kPa to 90 kPa	4 in.	102 mm	External trunnion mounting bracket
MP909E1364/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	5 psi to 10 psi	34 kPa to 69 kPa	4 in.	102 mm	External trunnion mounting bracket
MP909E1372/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	2.5 psi to 6.5 psi	17 kPa to 45 kPa	3 in.	70 mm	External trunnion mounting bracket
MP909E1380/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	9 psi to 13 psi	62 kPa to 90 kPa	3 in.	79 mm	External trunnion mounting bracket
MP909E1398/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	9 psi to 13 psi	62 kPa to 90 kPa	3 in.	79 mm	Internal N.C. trunnion mounting bracket
MP909E1422/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	5 psi to 10 psi	34 kPa to 69 kPa	4 in.	102 mm	14004062-003 Internal N.O. Mounting Bracket with crankarm and pushrod assembly
MP909E1463/U	Dual Barbed fitting for 5/32 in. or 1/4 in. O.D. tubing	29 psi	200 kPa	5 psi to 10 psi	34 kPa to 69 kPa	4 in.	102 mm	14002850-001 - Fixed External Mounting Bracket
MP909H1331/U	Positioner: Pilot 5/32 in. barb, Main 1/4 in. barb, Branch 1/4 in. barb. Actuator: combination 5/32 in. and 1/4 in. barb	25 psi	172 kPa	Positive positioner 10 psi span (5 psi spring included)	Positive positioner 69 kPa span (34 kPa spring included)	4 in.	102 mm	315781 Balljoint, Positive Positioner, and 14002850-001 - Fixed External Mounting Bracket with Balljoint
MP909H1368/U	Positioner: Pilot 5/32 in. barb, Main 1/4 in. barb, Branch 1/4 in. barb. Actuator: combination 5/32 in. and 1/4 in. barb	25 psi	172 kPa	Positive positioner 10 psi span (5 psi spring included)	Positive positioner 69 kPa span (34 kPa spring included)	4 in.	102 mm	External Trunnion Bracket, Positive Positioner
MP909H1392/U	Positioner: Pilot 5/32 in. barb, Main 1/4 in. barb, Branch 1/4 in. barb. Actuator: combination 5/32 in. and 1/4 in. barb	25 psi	172 kPa	Positive positioner 10 psi span (5 psi spring included)	Positive positioner 69 kPa span (34 kPa spring included)	4 in.	102 mm	Mounting bracket for internal N.C. Trunnion mounting, positive positioner

Pneumatic Damper Actuators

MP913 Pneumatic Variable Volume Damper Actuator

Provides proportional control of variable volume dampers in small high velocity mixing boxes. Replacement devices are available for Johnson and Robertshaw devices. Suitable for direct replacement only, do not attempt to replace larger damper actuators with this unit.

- Compact in size.
- Neoprene rolling diaphragm.
- The MP913 Operator can be used with or without a crankarm.

Actuator Type: Damper
Dimensions, Approximate: 2 5/8 in. high (add 3/4 in. for shaft) x 2 1/4 in. diameter (67 mm high (add 19 mm for shaft) x 57 mm diameter)
Actuator Force: Low
Fail Safe Mode: Spring Return
Air Connections: Barbed fitting for 1/4 in. O.D. plastic tubing
Stroke: 1 in. (25 mm)
Diaphragm Effective Area: 2.2 sq in. (14 sq cm)
Temperature Range: 50 F to 140 F (10 C to 60 C)
Maximum Operating Pressure: 30 psi (207 kPa)
Humidity Range: 5 to 95% RH

Accessories:
27520C-Push Rod (5/16 in. dia., 12 in. length)
27520G-Push Rod (5/16 in. dia., 24 in. length)
27520K-Push Rod (5/16 in. dia., 36 in. length)
27520L-Push Rod (5/16 in. dia., 48 in. length)
315321-Crankarm Balljoint (with 1/4 in male threads), fits 5/16 in. diameter pushrod
315781-Motor shaft balljoint with 3/8 - 16 UNC female threads, fits 5/16 inch diameter pushrods.

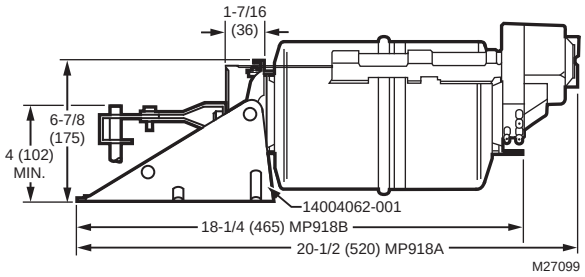
Product Number	Spring Range (psi)	Spring Range (kPa)	Includes
MP913A1003/U	10 psi to 15 psi	69 kPa to 103 kPa	14002808-001 - Flat Mounting Bracket. Shaft has 1/8 in. diameter hole for a roll pin.
MP913A1011/U	10 psi to 15 psi	69 kPa to 103 kPa	14003640-001 - 90 degree Angled Mounting Bracket and 3/8 in.-16 Threaded Shaft
MP913A1029/U	5 psi to 10 psi	34 kPa to 69 kPa	14003640-001 - 90 degree Angled Mounting Bracket and 3/8 in.-16 Threaded Shaft
MP913A1037/U	5 psi to 10 psi	34 kPa to 69 kPa	14003640-001 - 90 degree Angled Mounting Bracket. Shaft has 1/8 in. diameter hole for a roll pin.
MP913A1177/U	3 psi to 13 psi	21 kPa to 90 kPa	14002809-001 - 90 degree Angled Mounting Bracket (3-point attachment) and 3/8 inch - 16 threaded shaft

MP918A,B Pneumatic Damper Actuators

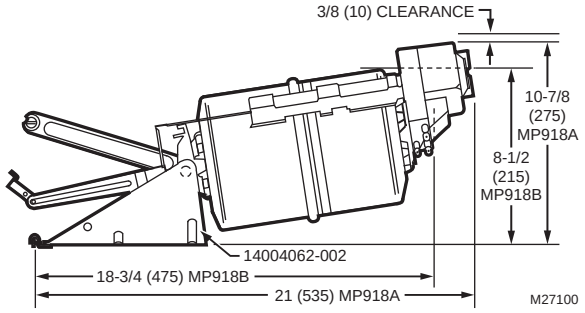
Used for proportional control of medium- to large-size dampers in HVAC systems. The MP918A,B are rolling diaphragm, piston-type actuators. The MP918A has a positive positioner. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell actuator models.

- Rolling diaphragm operated.
- Low friction shaft bearing.
- Close tolerance on operating range and stroke.
- Versatile mounting and connecting hardware.
- Non-overlapping spring ranges for sequencing.
- Reliable-long life.

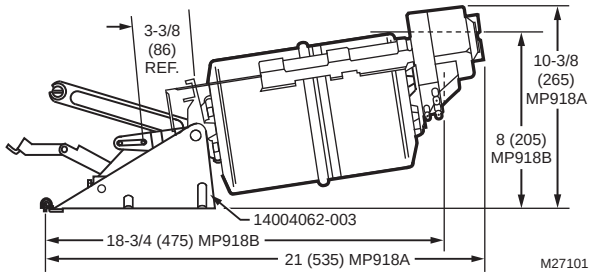
Dimensions in inches (millimeters)
Actuator with External Trunnion Mounting Bracket



Actuator with Internal N.C. Trunnion Mounting Bracket



Actuator with Internal N.O. Trunnion Mounting Bracket



Actuator Type: Damper
Actuator Force: High
Fail Safe Mode: Spring Return
Stroke: 3 1/2 in. (90 mm)
Diaphragm Effective Area: 23.8 sq in. (154 sq cm)
Humidity Range: 5 to 95% RH

Approvals:
Underwriters Laboratories, Inc: Components Recognized: Report R18118

Accessories:
CCT2718-Threaded rod for shaft extension
CCT2725-Rod coupling for shaft extension
14004062-001-External Trunnion Mounting Bracket
14004062-002-Internal N.C. Trunnion Mounting Bracket
14004062-003-Internal N.O. Trunnion Mounting Bracket
14004106-001-Actuator pushrod for conversion of internal N.C. to external
14004107-001-Crankarm Assembly for conversion from internal N.C. to external Trunnion mounting
14004210-001-Feedback Spring Kit includes orange spring (3 psi [21kPa]), yellow spring (5 psi [34 kPa]), and blue spring (10 psi [69 kPa]).
14004236-001-Coupler, actuator shaft to 5/16 in, 8 mm, pushrod
14004241-002-Hitch Pin (Six Sets)
14004242-001-MP918 Top Mount Operator Assembly
14004667-001-Offset Crank arm assembly with 2 screws (304725-062), nuts (14004102-001), crank arm (14004655-001) for 1/2 in. Drive Axle

Replacement Parts:
14004264-001-MP918 Repair kit including Positive Positioner, bracket assembly and fittings
14004264-002-MP918 Positive Positioner Retrofit Kit - includes 10 psi feedback spring

Pneumatic Damper Actuators

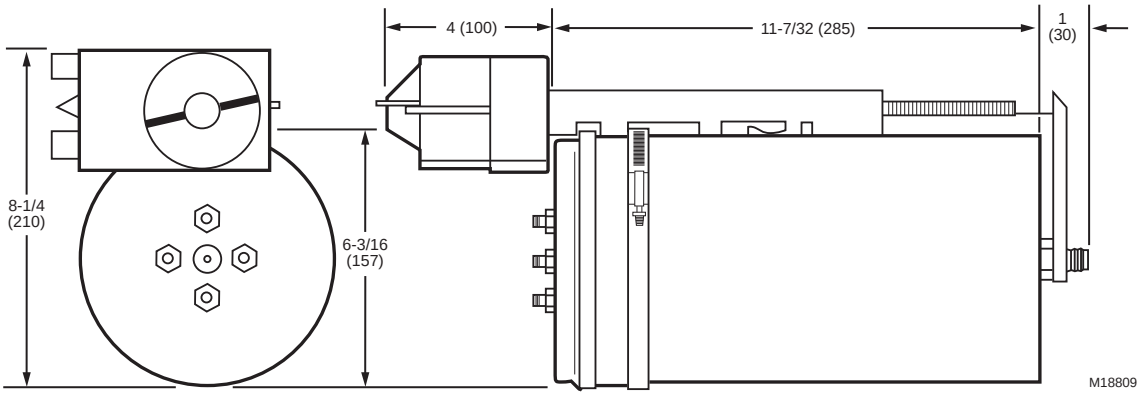
Product Number	Temperature Range		Maximum Operating Pressure		Air Connections	Spring Range		Includes
	(F)	(C)	(psi)	(kPa)		(psi)	(kPa)	
MP918A1024/U	-20 F to +158 F	-29 C to +70 C	25 psi	172 kPa	5/32 in. push-on barb (Pilot), 1/4 in. push-on barb (main.)	Positive positioner 10 psi span (5 psi spring included)	Positive positioner 69 kPa span (34 kPa spring included)	14004062-001 - External Trunnion Mounting Bracket with crankarm assembly. Positive Positioner
MP918A1057/U	-20 F to +158 F	-29 C to +70 C	25 psi	172 kPa	5/32 in. push-on barb (Pilot), 1/4 in. push-on barb (main.)	Positive positioner 10 psi span (5 psi spring included)	Positive positioner 69 kPa span (34 kPa spring included)	14004062-002 - Internal N.C. Trunnion Mounting Bracket with pushrod assembly. Positive Positioner
MP918A1081/U	-20 F to +158 F	-29 C to +70 C	25 psi	172 kPa	5/32 in. push-on barb (Pilot), 1/4 in. push-on barb (main.)	Positive positioner 10 psi span (5 psi spring included)	Positive positioner 69 kPa span (34 kPa spring included)	14004062-003 - Internal N.O. Trunnion Mounting Bracket with pushrod assembly. Positive Positioner
MP918B1006/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	3 psi to 13 psi	20 kPa to 90 kPa	14004062-001 - External Trunnion Mounting Bracket with crankarm assembly
MP918B1014/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	3 psi to 13 psi	20 kPa to 90 kPa	14004062-001 - Internal N.C. Trunnion Mounting Bracket with pushrod assembly
MP918B1022/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	3 psi to 13 psi	20 kPa to 90 kPa	14004062-003 Internal N.O. Trunnion Mounting Bracket with pushrod assembly
MP918B1030/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	3 psi to 13 psi	20 kPa to 90 kPa	Actuator only. No Mounting Bracket
MP918B1048/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	5 psi to 10 psi	34 kPa to 69 kPa	14004062-001 - External Trunnion Mounting Bracket with crankarm assembly
MP918B1063/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	3 psi to 7 psi	20 kPa to 48 kPa	14004062-001 - External Trunnion Mounting Bracket with crankarm assembly
MP918B1071/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	3 psi to 7 psi	20 kPa to 48 kPa	14004062-002 Internal N.C. Trunnion Mounting Bracket with pushrod assembly
MP918B1089/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	8 psi to 13 psi	55 kPa to 90 kPa	14004062-001 - External Trunnion Mounting Bracket with crankarm assembly
MP918B1097/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	8 psi to 13 psi	55 kPa to 90 kPa	14004062-002 Internal N.C. Trunnion Mounting Bracket with pushrod assembly
MP918B1105/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	8 psi to 13 psi	55 kPa to 90 kPa	14004062-003 Internal N.O. Trunnion Mounting Bracket with pushrod assembly
MP918B1113/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	8 psi to 13 psi	55 kPa to 90 kPa	Actuator only. No Mounting Bracket
MP918B1196/U	-40 F to +158 F	-40 C to +70 C	29 psi	200 kPa	Barbed fitting for 1/4 in. O.D. plastic tubing	8 psi to 13 psi	55 kPa to 90 kPa	14004062-001 - External Trunnion Mounting Bracket with crankarm assembly

MP920 Pneumatic Damper Actuator

Provides proportional control of large dampers in HVAC systems or inlet vanes on a VAV fan. Positive positioner available separately. Replacement devices are available for Robertshaw actuator models.

- Rolling diaphragm operated.
- Fail safe on over pressure.
- Actuator can be swivel mounted from either end to pipe, floor, or wall surface.
- Optional positive positioner provides accurate positioning under varying load conditions.

Dimensions in inches (millimeters)



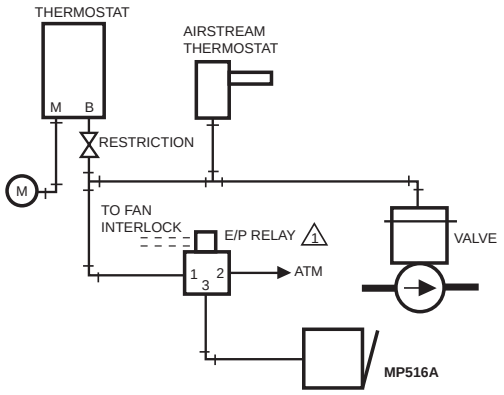
Actuator Type: Damper
Actuator Force: High
Fail Safe Mode: Spring Return
Diaphragm Effective Area: 24.8 sq in. (160 sq cm)
Temperature Range: -20 F to +158 F (-30 C to +70 C)
Maximum Operating Pressure: 29 psi (200 kPa)
Humidity Range: 5 to 95% RH

Accessories:
AK3557-Short Clevis Bag Assembly for 3/8-16 threaded rod
AK3558-Swivel Bracket Bag Assembly
AK3560-Balljoint, 3/8-24 threaded stud with couplings for 5/8-11 threaded rod and actuator shaft
AK3561-Balljoint, 3/8-24 threaded stud with couplings for 3/8-16 threaded rod
14004062-001-External Trunnion Mounting Bracket
14004241-002-Hitch Pin (Six Sets)
14004345-001-Positive Positioner Kit, 10 psi feedback spring

Product Number	Air Connections	Spring Range (psi)	Spring Range (kPa)	Stroke (inch)	Stroke (mm)	Includes
MP920B1002/U	Barbed fitting for 1/4 in. O.D. plastic tubing	7.25 psi to 13 psi	50 kPa to 90 kPa	6 in.	150 mm	Actuator only. No Bracket. Order positive positioner, mounting and connecting hardware separately. See Installation Instructions form no. 95-6053

Pneumatic Damper Actuator Piping Diagrams

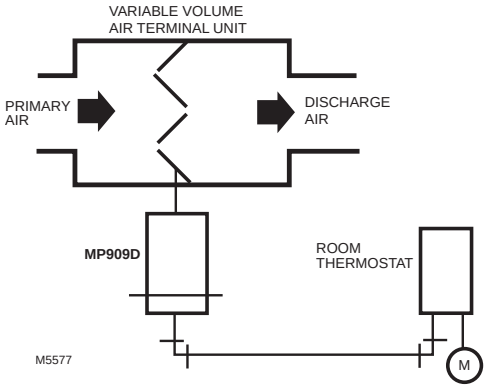
MP516A Typical Piping



1 MAY BE SURFACE MOUNTED OR ATTACHED TO MP516A.

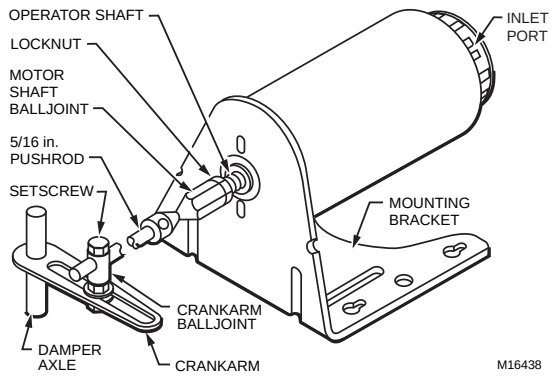
M5440A

MP909D Piping Diagram



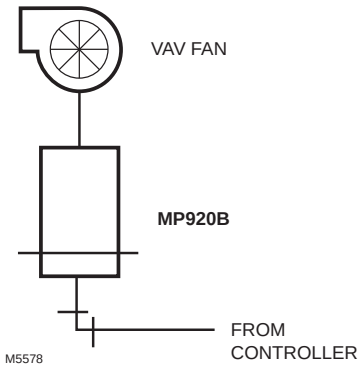
M5577

MP909D Ball Joint Linkage



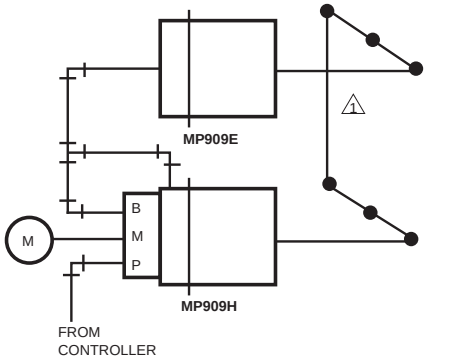
M16438

MP920B Typical Piping



M5578

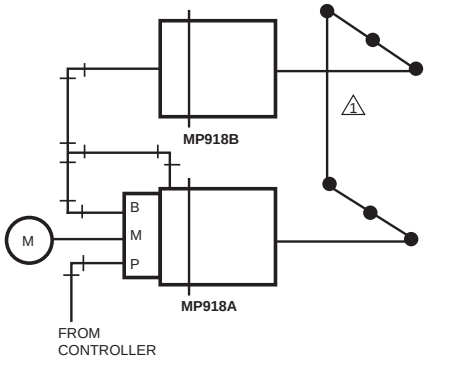
MP909E,H Piping Diagram



1 SECTIONS OF LARGE DAMPER REQUIRING MORE THAN ONE OPERATOR MUST BE LINKED

M5575

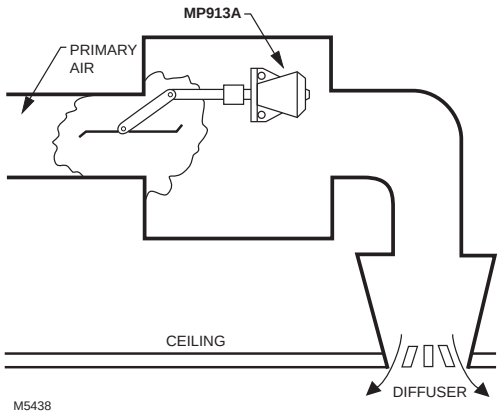
MP918A and B Typical Piping



1 SECTIONS OF LARGE DAMPER REQUIRING MORE THAN ONE OPERATOR MUST BE LINKED

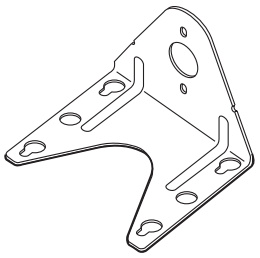
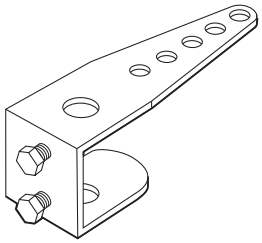
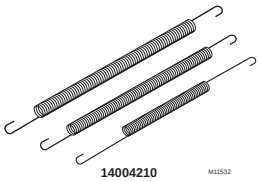
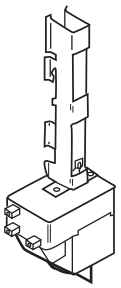
M5576

MP913A Typical Piping

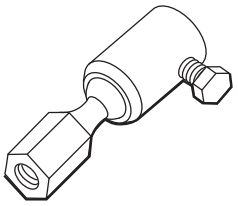
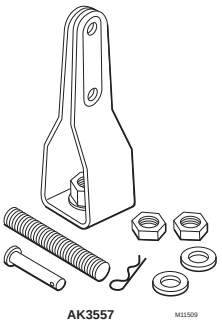
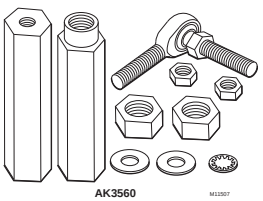
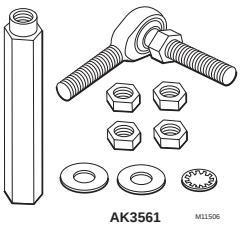


M5438

Pneumatic Damper Actuator Parts and Accessories

Product Number	Description	Used With	
14001213-001/U	MP904A and B Diaphragm	MP904A,B	
14002061-001/U	Damper Linkage Kit w/ Template	MP909E,F	
14002061-006/U	Mounting Hardware Kit for External Duct Mounting of MP909 models	MP909	
14002850-001/U	Angle Bracket 5 3/8 in, 137 mm, long, 5 in, 127 mm, wide	MP909D,E	
14003640-001/U	Angle Bracket 3 in. (76 mm) long, 3 3/4 in. (95 mm) wide, 2 3/4 in. (70 mm) high	MP913; MP909D	 **14003640** M11504
14004062-001/U	External Trunnion Mounting Bracket	MP918A,B; MP909E,H	
14004062-002/U	Internal N.C. Trunnion Mounting Bracket	MP918A,B; MP909E,H	
14004062-003/U	Internal N.O. Trunnion Mounting Bracket	MP918A,B; MP909E,H	
14004106-001/U	Actuator pushrod for conversion of internal N.C. to external	MP918A,B; MP909E,H	
14004106-002/U	Push rod assembly for internal N.C.	MP918A,B; MP909E,H	
14004107-001/U	Crankarm Assembly for conversion from internal N.C. to external Trunnion mounting	MP918A,B; MP909E,H	 **14004107** M11530
14004136-001/U	MP904 Positive Positioner Retrofit Kit	MP904A	
14004137-001/U	Retrofit Kit for adding positive positioner to MP909E or repair of MP909H	MP909E; MP909H	
14004210-001/U	Feedback Spring Kit includes orange spring (3 psi [21kPa]), yellow spring (5 psi [34 kPa]), and blue spring (10 psi [69 kPa]).	MP909H; MP918A	 **14004210** M11532
14004236-001/U	Coupler, actuator shaft to 5/16 in, 8 mm, pushrod	MP918	
14004237-002/U	Bag assembly including 4 hex head slotted drill point screws (14004513-001)	MP918A,B; MP909E,H	
14004241-002/U	Hitch Pin (Six Sets)	MP918A,B; MP909E,H	
14004242-001/U	MP918 Top Mount Operator Assembly	MP918A,B	
14004264-001/U	MP918 Repair kit including Positive Positioner, bracket assembly and fittings	MP918A	
14004264-002/U	MP918 Positive Positioner Retrofit Kit - includes 10 psi feedback spring	MP918B	
14004324-001/U	Kit for Alternate External Top-Mount, MP909E,H MP918A,B	MP918A,B; MP909E,H	
14004345-001/U	Positive Positioner Kit, 10 psi feedback spring	MP920B	 **14004345-001 POSITIONER KIT** M34708

Pneumatic Damper Actuators

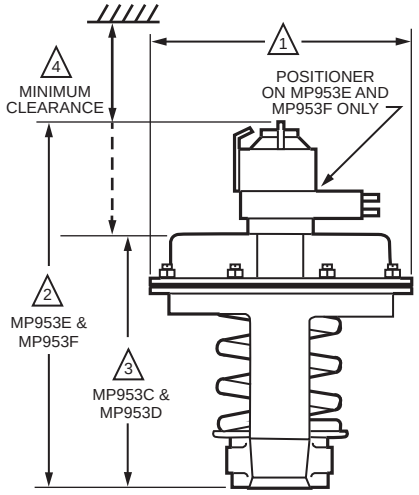
Product Number	Description	Used With	
14004350-001/U	Steel Clevis Pin (1/4 x 7/8)	MP918	
14004577-001/U	MP953 A, C, and E (Direct Acting, 5 in. diameter) Yoke/Base Assembly	MP953A,C,E	
26025B/U	Damper crank arm for 3/8 in. (9.5 mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 40-50-60-75-90 degrees.	MP516; MP909D; MP909E, H	
27174B/U	Damper crank arm for 7/16 in. (11.1 mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 40-50-60-75-90 degrees.	MP516; MP513	
309292/U	MP516A Diaphragm	MP516	
309389J/U	Mounting Bracket and Linkage	MP516	
312809C/U	MP904A and B Tube and Diaphragm Assembly	MP904A,B	
312817/U	MP953C (5 in. diameter) Cover	MP953C (5 in.)	
312867C/U	Damper Crank Arm for 1/2 in. (12.7mm) diameter axle. Elongated slot for linkage connection. Slot scaled for 45-60-75-90 degrees	MP516; MP909D; MP909E; MP909H	
312867H/U	Externally mounted Linkage Kit	MP516; MP909D,E,H	
314100/U	MP909A Replacement Diaphragm	MP909A	
314316A/U	Crank Arm Assembly	MP516	
314440A/U	MP909 - Clevis, Clevis Pin and Cotter Pin Assembly	MP909	
315321/U	Crankarm Balljoint (with 1/4 in male threads), fits 5/16 in. diameter pushrod	MP516; MP909D,E,H; MP913	
315321G/U	Crankarm and Linkage	MP909A,D	
315439/0062/U	Clevis	MP909D	
315781/U	Motor shaft balljoint with 3/8 - 16 UNC female threads, fits 5/16 inch diameter pushrods.	MP909D,E,H; MP913	 **315781** M11503
315782/U	Balljoint (9/16 in.-18 UNC) accepts 5/16 in. Pushrod	MP920B	
AK3557/U	Short Clevis Bag Assembly for 3/8-16 threaded rod	MP920B	 **AK3557** M11509
AK3558/U	Swivel Bracket Bag Assembly	MP920B	
AK3560/U	Balljoint, 3/8-24 threaded stud with couplings for 5/8-11 threaded rod and actuator shaft	MP920B	 **AK3560** M11507
AK3561/U	Balljoint, 3/8-24 threaded stud with couplings for 3/8-16 threaded rod	MP920B	 **AK3561** M11506
CCT2718/U	Threaded rod for shaft extension	MP918	
CCT2725/U	Rod coupling for shaft extension	MP918	

MP953C,D Pneumatic Coil Valve Actuators

Pneumatic actuators provide proportional control of steam or hot or cold liquids in HVAC systems by operating V5011, V5013, and VGF valve assemblies. Replacement devices are available for older Honeywell actuators.

- Rolling diaphragm for long life and low hysteresis.
- Easily attached to valve.
- Can be installed after piping valve.
- Slide lock feature permits simple engagement to valve stem.
- Direct- or reverse-action control.
- Does not include positive positioner.

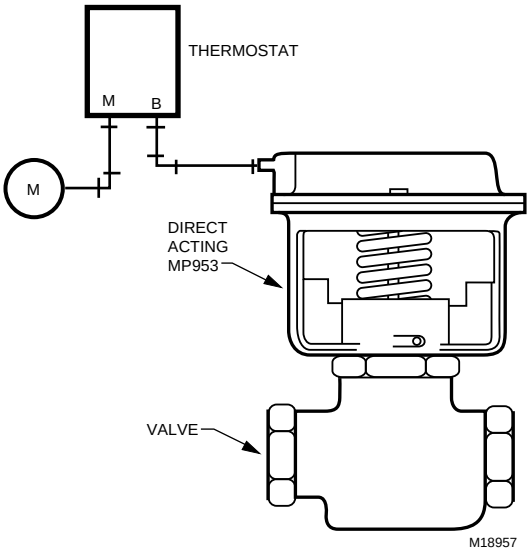
Dimensions in inches (millimeters)



OPERATION SIZE NOMINAL DIA.	1	2	3	4
5 INCH	5-1/8 (130)	9-1/4 (235)	4-5/8 (117)	4-3/8 (111)
7-1/8 INCH	7-1/8 (181)	10-1/2 (267)	5-5/8 (143)	4-3/8 (111)
8 INCH	8-1/4 (210)	11-1/8 (283)	6-1/2 (165)	5-3/8 (137)
13 INCH	13-1/2 (343)	18-1/8 (460)	10 (254)	7-11/16 (195)

M13903

Typical MP953C,D Operation



M18957

Actuator Type: Valve
Fail Safe Mode: Spring Return
Air Connections: Dual barbed fitting for 5/32 in. O.D. and 1/4 in. O.D. plastic tubing
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Operating Pressure: 25 psi (172 kPa)
Humidity Range: 5 to 95% RH

Product Number	Action	Actuator Force	Spring Range (psi)	Spring Range (kPa)	Stroke (inch)	Stroke (mm)	Comments	Includes
MP953C1000/U	Direct Acting	Low	2 psi to 7 psi	14 kPa to 48 kPa	3/4 in.	19 mm	—	—
MP953C1018/U	Direct Acting	Low	8 psi to 12 psi	55 kPa to 83 kPa	3/4 in.	19 mm	—	—
MP953C1026/U	Direct Acting	Low	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	—	—
MP953C1067/U	Direct Acting	Medium	2 psi to 7 psi	14 kPa to 48 kPa	3/4 in.	19 mm	—	311851-062 Stem Extension Assembly
MP953C1075/U	Direct Acting	Medium	8 psi to 12 psi	55 kPa to 83 kPa	3/4 in.	19 mm	—	311851-062 Stem Extension Assembly
MP953C1083/U	Direct Acting	Medium	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	—	311851-062 Stem Extension Assembly
MP953C1471/U	Direct Acting	High	2 psi to 7 psi	14 kPa to 48 kPa	1 1/2 in.	38 mm	—	312466-605 Stem Extension Assembly
MP953C1489/U	Direct Acting	High	4 psi to 11 psi	28 kPa to 76 kPa	1 1/2 in.	38 mm	—	312466-605 Stem Extension Assembly
MP953C1547/U	Direct Acting	Medium	3 psi to 15 psi	21 kPa to 104 kPa	1 1/2 in.	38 mm	—	—
MP953C1554/U	Direct Acting	High	2 psi to 7 psi	14 kPa to 48 kPa	3/4 in.	19 mm	13 in. diameter Actuator for 2-1/2 in. and 3 in. valves	14004697-001 Stem Extension Assembly
MP953C1562/U	Direct Acting	High	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	13 in. diameter Actuator for 2-1/2 in. and 3 in. valves	14004697-001 Stem Extension Assembly
MP953D1107/U	Reverse Acting	Medium	8 psi to 13 psi	55 kPa to 90 kPa	3/4 in.	19 mm	—	—
MP953D1131/U	Reverse Acting	Medium	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	—	—
MP953D1172/U	Reverse Acting	Medium	3 psi to 7 psi	21 kPa to 48 kPa	3/4 in.	19 mm	—	—

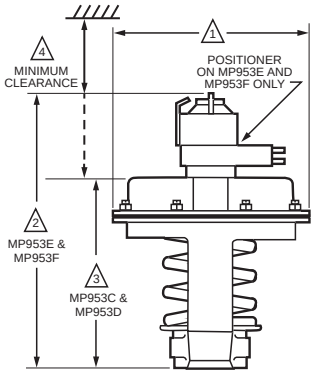
Pneumatic Valve Actuators

MP953E,F Pneumatic Coil Valve Actuators

Pneumatic actuators provide proportional control of steam or hot or cold liquids in HVAC systems by operating V5011, V5013, and VGF valve assemblies. Replacement devices are available for older Honeywell actuators.

- Rolling diaphragm for long life and low hysteresis.
- Easily attached to valve.
- Can be installed after piping valve.
- Slide lock feature permits simple engagement to valve stem.
- Direct- or reverse-action control.
- Integral positive positioner relay provides positive positioning under varying load conditions.

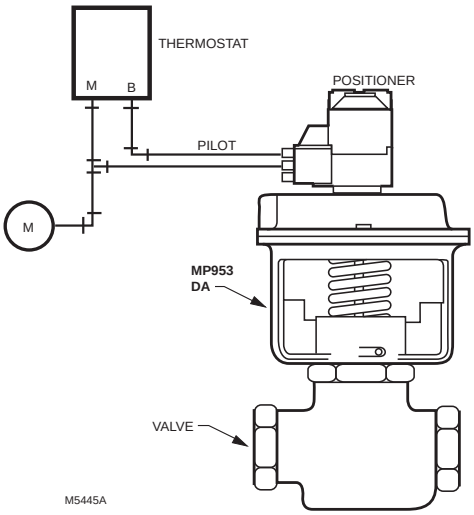
Dimensions in inches (millimeters)



OPERATION SIZE NOMINAL DIA	1	2	3	4
5 INCH	5 1/8 (130)	9 1/4 (235)	4 5/8 (117)	4 3/8 (111)
7 1/8 INCH	7 1/8 (181)	10 1/2 (267)	5 5/8 (143)	4 3/8 (111)
8 INCH	8 1/4 (210)	11 1/8 (283)	6 1/2 (165)	5 3/8 (137)
13 INCH	13 1/2 (343)	18 1/8 (460)	10 (254)	7 11/16 (195)

M13903

Typical Piping for MP953E,F Pneumatic Valve Actuator Wiring



Actuator Type: Valve
Temperature Range: 0 F to 140 F (-18 C to +60 C)
Maximum Operating Pressure: 25 psi (172 kPa)
Humidity Range: 5 to 95% RH

Product Number	Action	Actuator Force	Spring Range (psi)	Spring Range (kPa)	Stroke (inch)	Stroke (mm)	Includes
MP953E1285/U	Direct Acting	Medium	4 psi to 11 psi	28 kPa to 76 kPa	1 1/2 in.	38 mm	Positive Positioner with 5 psi (35 kPa) range
MP953E1301/U	Direct Acting	Low	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	Positive Positioner with 3 psi range (21kPa)
MP953E1319/U	Direct Acting	Low	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	Positive Positioner with 5 psi range (35 kPa)
MP953E1327/U	Direct Acting	Low	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	Positive Positioner with 10 psi range (70 kPa)
MP953E1368/U	Direct Acting	Medium	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	311851-062 Stem Extension Assembly and Positive Positioner with 3 psi range
MP953E1376/U	Direct Acting	Medium	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	311851-062 Stem Extension Assembly and Positive Positioner with 5 psi range
MP953E1384/U	Direct Acting	Medium	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	311851-062 Stem Extension Assembly and Positive Positioner with 10 psi range
MP953E1400/U	Direct Acting	High	4 psi to 11 psi	28 kPa to 76 kPa	1 1/2 in.	38 mm	312466-605 Stem Extension Assembly and Positive Positioner with 5 psi range
MP953E1418/U	Direct Acting	High	4 psi to 11 psi	28 kPa to 76 kPa	1 1/2 in.	38 mm	312466-605 Stem Extension Assembly and Positive Positioner with 10 psi range
MP953E1435/U	Direct Acting	High	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	14004697-001 Stem Extension Assembly and Positive Positioner with 5 psi range (35 kPa)
MP953E1443/U	Direct Acting	High	4 psi to 11 psi	28 kPa to 76 kPa	3/4 in.	19 mm	Positive Positioner with 10 psi range and 14004697-001 Stem Extension Assembly
MP953F1093/U	Reverse Acting	Medium	8 psi to 13 psi	55 kPa to 90 kPa	3/4 in.	19 mm	Positive Positioner with 3 psi range and EPDM diaphragm
MP953F1101/U	Reverse Acting	Medium	8 psi to 13 psi	55 kPa to 90 kPa	3/4 in.	19 mm	Positive Positioner with 5 psi range and EPDM diaphragm
MP953F1119/U	Reverse Acting	Medium	8 psi to 13 psi	55 kPa to 90 kPa	3/4 in.	19 mm	Positive Positioner with 10 psi range and EPDM diaphragm

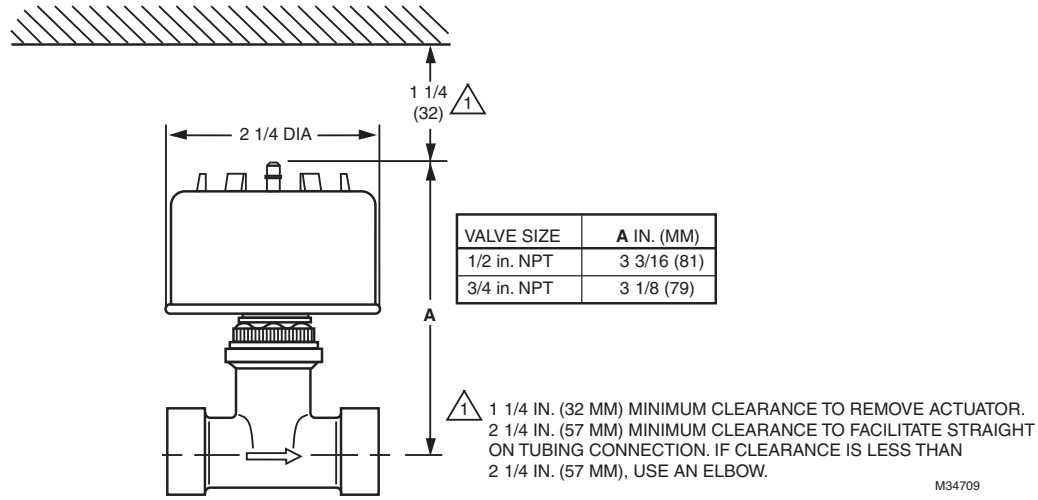
MP958 Pneumatic Valve Actuators

The MP958 Pneumatic Valve Actuator is direct-acting and used only with Honeywell V5852A2xx, V5862A2xx, V5853A2xx, and V5863A2xx Terminal Unit Valves to control hot and/or chilled water.

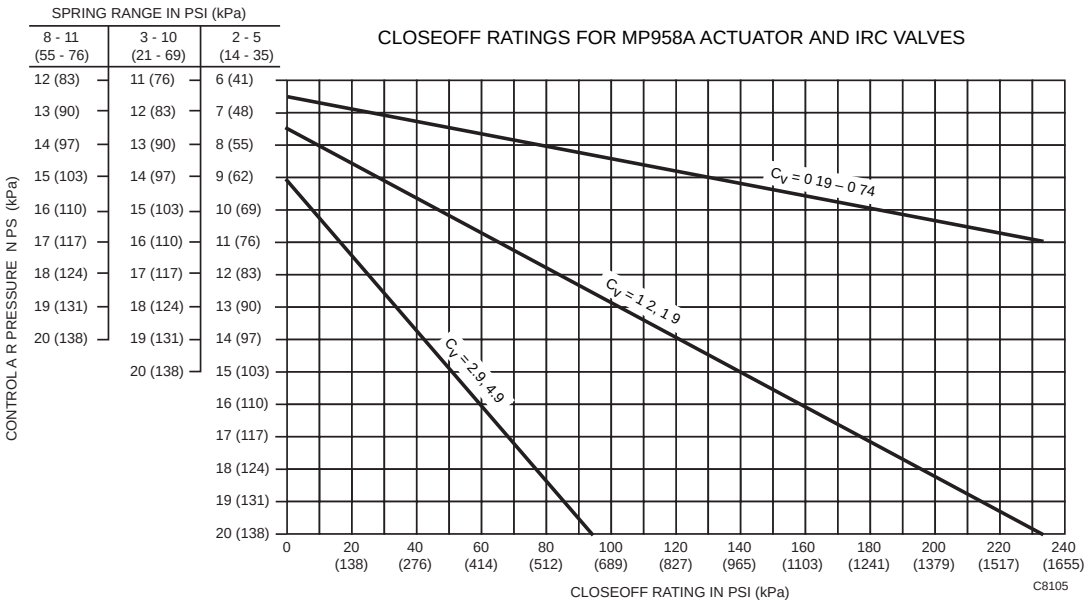
Actuator Type: Valve
Action: Direct Acting
Actuator Force: Low
Fail Safe Mode: Spring Return
Air Connections: Barbed fitting for 1/4 in. O.D. plastic tubing
Maximum Operating Pressure: 30 psi

Product Number	Spring Range (psi)	Spring Range (kPa)	Comments
MP958A1009/U	2 psi to 5 psi	14 kPa to 35 kPa	Only works with V5852A2xx, V5862A2xx, V5853A2xx, V5863A2xx
MP958A1017/U	3 psi to 10 psi	21 kPa to 69 kPa	Only works with V5852A2xx, V5862A2xx, V5853A2xx, V5863A2xx
MP958A1025/U	8 psi to 11 psi	55 kPa to 76 kPa	Only works with V5852A2xx, V5862A2xx, V5853A2xx, V5863A2xx

Dimensions in inches (millimeters)



Close-off ratings



Pneumatic Valve Actuator Parts and Accessories

Product Number	Description	Used With
14002039-001/U	MP953D Diaphragm Sleeve	MP953B,D,F
14002040-002/U	MP953D Diaphragm	MP953B,D,F
14003124-002/U	MP953B,D,F Diaphragm Repair Kit (includes 14002039-001 and 14002040-002)	MP953B,D,F
14004138-001/U	MP953B,F (Reverse Acting) Positive Positioner Retrofit Kit	MP953B,F
14004139-001/U	MP953A,E (Direct Acting, 8 in. and 13 in. diameter, 3/4 in. stroke) Positive Positioner Retrofit Kit	MP953A,E
14004140-001/U	MP953A,E (Direct Acting, 8 in. and 13 in. diameter, 1-1/2 in. stroke) Positive Positioner Retrofit Kit	MP953A,E
14004211-001/U	MP953E (8 in. and 13 in. diameter, 3/4 in. stroke) Feedback Spring Kit	MP953E
14004212-001/U	MP953E (8 in. and 13 in. diameter, 1-1/2 in. stroke) Feedback Spring Kit	MP953E
14004213-001/U	MP953F (Reverse Acting) Feedback Spring Kit	MP953F
14004214-001/U	MP953A,E (5 in. diameter) 3/4 inch stroke Positive Positioner Retrofit Kit	MP953A,E
14004298-001/U	Thread forming Screw, Size 4-40	MP953D,F
14004298-003/U	MP953C,E (5 in. dia.) and MP953B,D,F (7-1/8 in. dia.) Actuator Base Screw, size 1/4-20	MP953B,D,F; MP953C,E (5 in.)
14004578-001/U	MP953 B, D, and F (Reverse Acting, 7-1/8 in. diameter) Yoke/Base Assembly	MP953B,D,F
14004660-001/U	Cup, aluminum die cast alloy 7 1/64 inch	MP953D
14004667-001/U	Offset Crank arm assembly with 2 screws (304725-062), nuts (14004102-001), crank arm (14004655-001) for 1/2 in. Drive Axle	Pneumatic Actuators
14004697-001/U	Stem extension for 13 in. MP953C,E with 3/4 in. Stroke	MP953C,E
310664/U	MP953A, C and E (5 in. and 8 in. models only) Tension Spring	MP953A,C,E
310665/0062/U	Spring Support for MP953	MP953A,C,E (5 in.)
310668/U	MP953A, C and E (5 in. diameter) High Temperature Silicone Diaphragm - Old Style	MP953A,C,E
311393/U	White Spring, 4-11 psi	MP953C,E
311616/U	MP953A, C and E (5 in. diameter) Main Spring (2-7 psi spring range - Brown)	MP953A,C,E (5 in.)
311618/U	MP953A, C and E (5 in. diameter) Main Spring (8-12 psi spring range - Gray)	MP953A,C,E (5 in.)
311749/0605/U	Cup diaphragm, 8 in. for MP953A, C, E	MP953A,C,E (8 in.)
311750/U	MP953A, C and E (8 in. diameter) Regular Temperature Neoprene Diaphragm - New Style	MP953A,C,E
311851/0062/U	Stem extension for 8 in. dia. 3/4 in. stroke MP953A,C,E	MP953A,C,E (8 in.)
311852/U	Brown Spring for MP953A,C 3/4 inch stroke (8 inch diameter), 2-7 psi range	MP953A,C (8 in., 2-7 psi)
311855/U	Gray spring for MP953C (8 inch diameter), 8-12 psi range	MP953C
311863/U	Stem Retainer for the MP953C,E (8 in. diameter)	MP953C,E
312099/U	1-1/2 in. stroke Spider for 13 in. MP953C and E	MP953C,E
312203/U	Black Spring for MP953D,F for 8-13 psi range	MP953D,F
312466/0605/U	Stem Extension for MP953C1489, MP953C1471, MP953E1392, MP953E1400, and MP953E1418	MP953C,E
312471/U	White Spring for MP953C,E (13 in. dia. 1-1/2 in. stroke)	MP953C,E (13 in.)
312505/U	MP953A,C,E (13 in. diameter) regular temperature Neoprene diaphragm - new style	MP953A,C,E
312760/U	MP953A,C,E (5 in. diameter) regular temperature Neoprene diaphragm - new style	MP953A,C,E
313745/U	MP953A, C and E (5 in. diameter) High Temperature Silicone Diaphragm - New Style	MP953A,C,E
314153/U	MP953A, C and E (8 in. diameter) High Temperature Silicone Diaphragm - New Style	MP953A,C,E
314646A/0062/U	Plate, Spring for 13 in. diameter MP953A,C,E	MP953A,C,E
314650A/U	MP953B, D and F (Reverse Acting) Support Assembly (for Series-2 actuators only, use this Support Assembly and 316059A Yoke Assembly to Convert Series-1 MO/MP953)	MP953B,D,F
314651A/U	MP953B,D,F (Reverse Acting) yoke assembly for support assembly- with nylon insert for use with old style actuators not made with a Helicoil insert in yoke	MP953B,D,F
314683/0062/U	Stem Retainer for 13 in. diameter MP953A,C,E (Latches on Stem Button)	MP953A,C,E (13 in.)
315020/U	Cup for MP953C,E (13 inch diameter)	MP593C,E (13 in.)
316059A/U	MP953B, D and F (Reverse Acting) Yoke Assembly for Support Assembly- with helicoil insert	MP953B,D,F

VP512 Unit Vent Pneumatic Control Valve

A normally open, single seated, straight-through or angle globe valve used for proportional control of steam or hot water in unit ventilator applications. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Equal percentage, high lift throttling guide provides accurate control over wide load variations.
- Molded replaceable composition disc for tight shut-off.
- Replaceable brass seat.
- Self-adjusting, spring-loaded Teflon® packing.
- Back-seating allows repacking without shutting down or draining system.
- Rotatable actuator for aligning air connection with control air piping.
- Integral union connection to simplify installation and service.

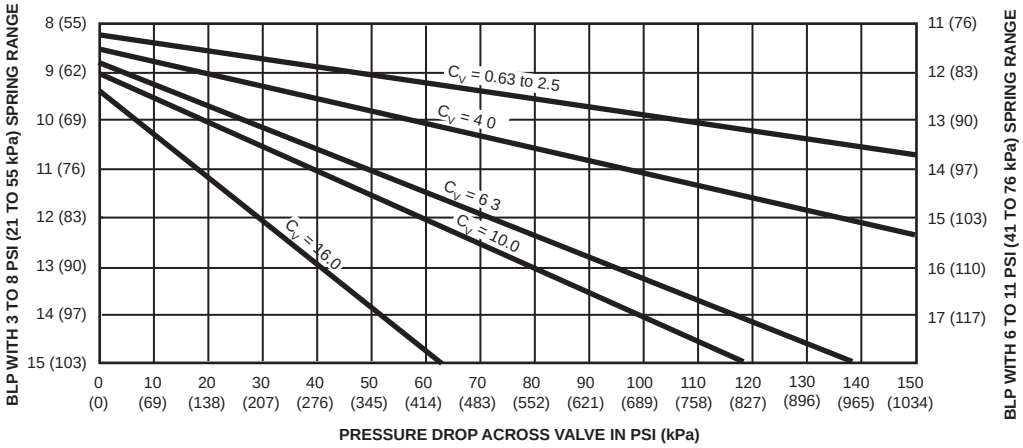
Valve Type: Globe Valve
Body Pressure: 150 psi
Air Connections: Dual barbed for 5/32 in. or 1/4 in. plastic tubing
Valve Action: Proportional Normally Open
Controlled Medium: Steam; Water
Type of End Connection: Outlet - External NPT Union; Inlet - Internal NPT
Operating Humidity Range (% RH): 5 to 95% RH
Temperature Range: For Water: 115 F to 240 F; For Steam: 212 F to 275 F
Maximum Temperature Differential: For Water: 140 F
Maximum Actuator Temperature: 160 F
Maximum Diaphragm Pressure: 25 psi (172 kPa)

Accessories:
312817AA-Actuator Assembly, 3 to 8 psi, 21 to 55 kPa, and 1/2 in. stroke.
312817AB-Actuator Assembly, 6 to 11 psi, 41 to 76 kPa and 1/2 in. stroke.

Replacement Parts:
14002863-001-Valve rebuild kit for 3/4 to 1 1/4 in valves with Cv of 6.3 or 10

Product Number	End Connection Size (inch)	End Connection Size (mm)	Capacity (Cv)	Capacity (Kv)	Close-off Ratings at Branch Line Pressure	Spring Range (psi)	Spring Range (kPa)	Body Pattern
VP512A1726/U	1 in.	25 mm	10 Cv	8.57 Kv	78 psi at 13 psi	3 psi to 8 psi	21 kPa to 55 kPa	Two-way, Straight-through
VP512A1742/U	1 in.	25 mm	10 Cv	8.57 Kv	78 psi at 13 psi	3 psi to 8 psi	21 kPa to 55 kPa	Two-way, Right Angle
VP512A1767/U	1 1/4 in.	32 mm	16 Cv	13.7 Kv	40 psi at 13 psi	3 psi to 8 psi	21 kPa to 55 kPa	Two-way, Straight-through
VP512A1783/U	1 1/4 in.	32 mm	16 Cv	13.7 Kv	40 psi at 13 psi	3 psi to 8 psi	21 kPa to 55 kPa	Two-way, Right Angle

Close-off Ratings at various Branchline Pressures



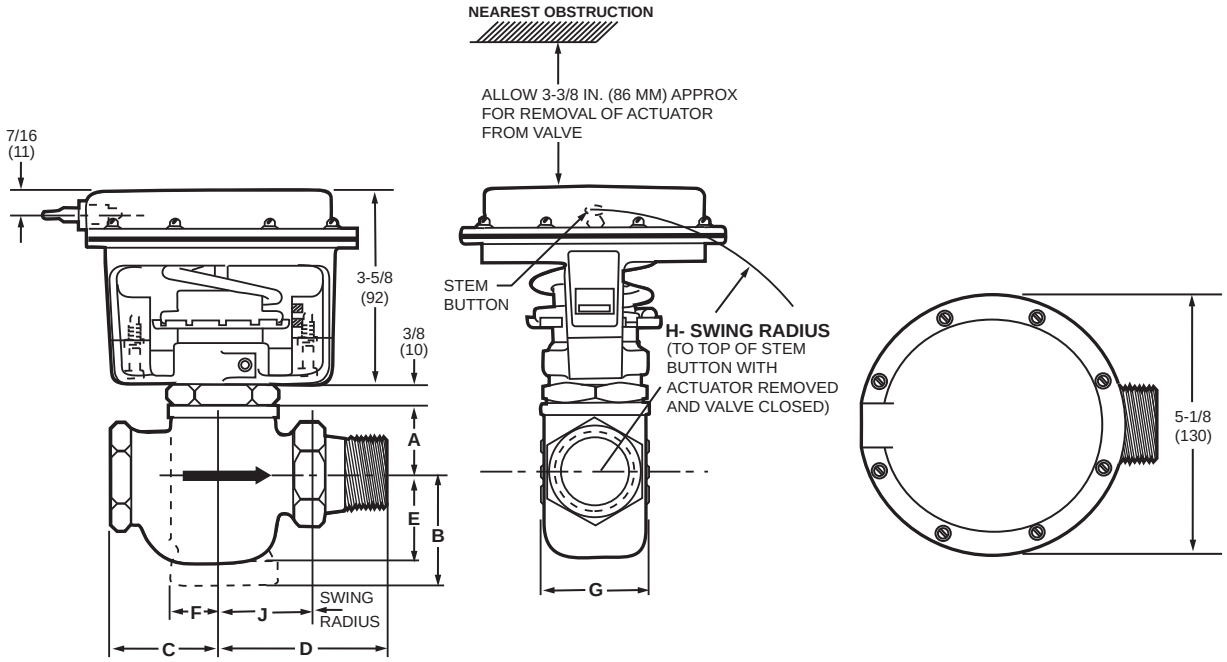
CLOSE-OFF RATINGS AT VARIOUS BRANCH LINE PRESSURES

M18956B

Pneumatic Controls

Pneumatic Valves

Dimensions in inches (millimeters)



VALVE SIZE	BODY TYPE	A	B	C	D	E	F	G	H	J
1	STRAIGHT	1-3/8 (35)	---	2-1/4 (57)	3 (76)	1-5/8 (41)	---	1-31/32 (50)	4-1/2 (114)	---
	ANGLE	1-3/8 (35)	2-1/8 (54)	---	3 (76)	---	1-1/16 (27)	1-31/32 (50)	---	1-29/32 (48)
1 1/4	STRAIGHT	1-9/16 (40)	---	2-1/2 (64)	3-3/4 (95)	1-1/2 (38)	---	2-9/16 (65)	4-13/16 (122)	---
	ANGLE	1-9/16 (40)	2-1/8 (54)	---	3-3/4 (95)	---	1-3/16 (30)	2-9/16 (65)	---	2-15/32 (63)
1 1/2	STRAIGHT	1-11/16 (43)	---	2-7/8 (73)	4-1/4 (108)	1-3/8 (35)	---	3-9/32 (83)	5-5/32 (131)	---
	ANGLE	1-11/16 (43)	2-1/8 (54)	---	4-1/4 (108)	---	1-3/8 (35)	3-9/32 (83)	---	2-15/16 (75)

M18805A

VP513 Pneumatic Water Valve

Single-seated, straight-through, pneumatic valves used for proportional control of unit air conditioners using hot and/or chilled water. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Available in normally-open (A models) or normally-closed models (B models).
- Straight-through pattern.
- Rotating actuator for aligning air connection with control air piping.
- Molded replaceable composition disc for tight shut-off.
- Flare tube connections.
- Small physical size.

Valve Type: Unitary
Body Pressure: 250 psi (1724 kPa)
Air Connections: 1/8 in. NPT
Valve Action: Proportional Normally Open
Controlled Medium: Water
Type of End Connection: 45 degree. SAE flare
Operating Humidity Range (% RH): 5 to 95% RH
Temperature Range: 35 F to 250 F (2 C to 121 C)
Maximum Actuator Temperature: 160 F (71 C)
Maximum Diaphragm Pressure: 25 psi (172 kPa)

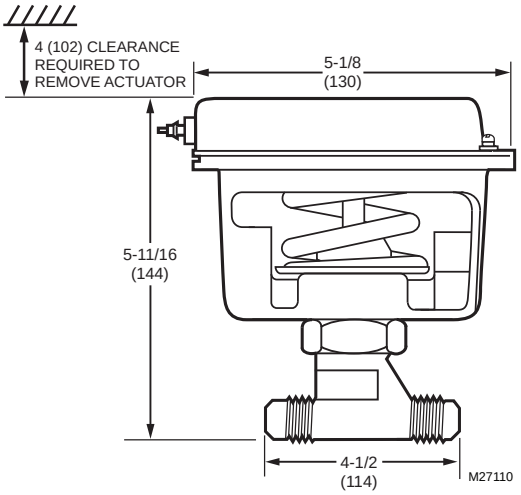
Accessories:
312817T-Actuator assembly, 3 to 10 psi, 21 to 69 kPa, and 1/2 in. stroke.
312817U-Actuator Assembly, 3 to 7 psi, 21 to 48 kPa, and 1/2 in. stroke.
312817V-Actuator Assembly, 8 to 12 psi, 55 to 83 kPa, and 1/2 in. stroke.

Replacement Parts:
310143-Black Packing, 3 required
310135-Packing Spring, 1 Required
312760-MP953A,C,E (5 in. diameter) regular temperature Neoprene diaphragm - new style
14002734-002-Lubricant, packing, AMOCO H-100

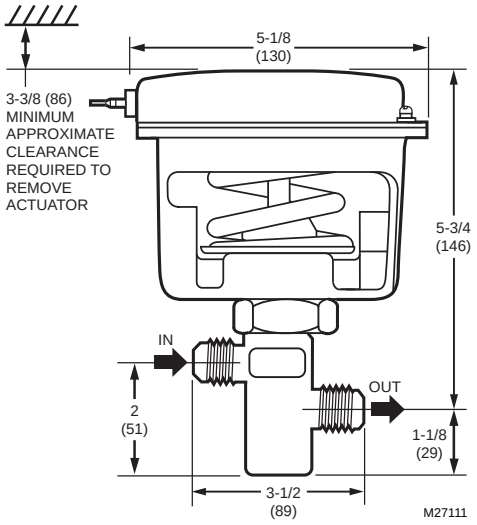
Product Number	End Connection Size (inch)	End Connection Size (mm)	Capacity (Cv)	Capacity (Kv)	Close-off Ratings at Branch Line Pressure	Spring Range (psi)	Spring Range (kPa)	Body Pattern
VP513A1048/U	O.D.: 7/8 in.; Nominal: 3/4 in.	O.D.: 22.2 mm; Nominal: 19.1 mm	2.5 Cv	2.16 Kv	79 psid (545 kPa) at 13 psi (90 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Two-way, Straight-through
VP513A1055/U	O.D.: 7/8 in.; Nominal: 3/4 in.	O.D.: 22.2 mm; Nominal: 19.1 mm	4 Cv	3.46 Kv	79 psid (545 kPa) at 13 psi (90 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Two-way, Straight-through
VP513A1188/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	2.5 Cv	2.16 Kv	79 psid (545 kPa) at 13 psi (90 kPa)	3 psi to 7 psi	21 kPa to 48 kPa	Two-way, Straight-through
VP513A1204/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	2.5 Cv	2.16 Kv	79 psid (545 kPa) at 13 psi (90 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Two-way, Straight-through
VP513B1012/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	1.0 Cv	0.86 Kv	50 psid (345 kPa) at 7 psi (48 kPa)	9 psi to 13 psi	62 kPa to 90 kPa	Two-way, Straight-through, Offset
VP513B1038/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	1.6 Cv	1.38 Kv	50 psid (345 kPa) at 7 psi (48 kPa)	9 psi to 13 psi	62 kPa to 90 kPa	Two-way, Straight-through, Offset
VP513B1053/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	2.5 Cv	2.16 Kv	50 psid (345 kPa) at 7 psi (48 kPa)	9 psi to 13 psi	62 kPa to 90 kPa	Two-way, Straight-through, Offset

Pneumatic Valves

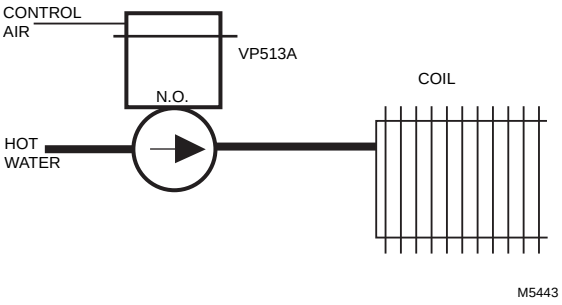
Straight-through valve dimensions in inches (millimeters)



Offset valve dimensions in inches (millimeters)



VP513 Typical Piping Diagram

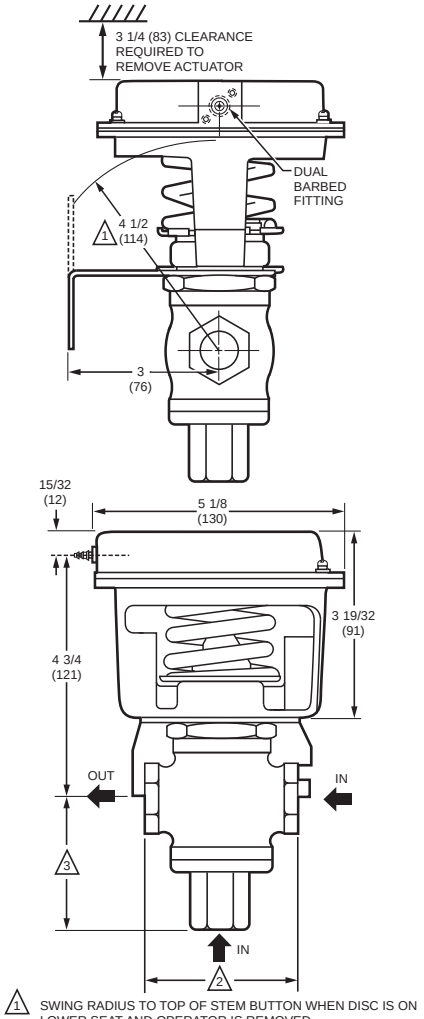


VP519 Two-Position Three-Way Air Valve

Two-position, three-way, pneumatic air valve used to control main airflow in large Day-Nite or Summer-Winter pneumatic control systems. Replacement device is available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Spring-loaded, self-adjusting Teflon® cone packing.
- Removable composition upper and lower discs.
- Actuator can be rotated on valve bonnet for alignment with air piping.
- Right-angle mounting bracket permits mounting on a wall or panel.
- Cast bronze body, 1/4" stroke.

Dimensions in inches (millimeters)



1 SWING RADIUS TO TOP OF STEM BUTTON WHEN DISC IS ON LOWER SEAT AND OPERATOR IS REMOVED

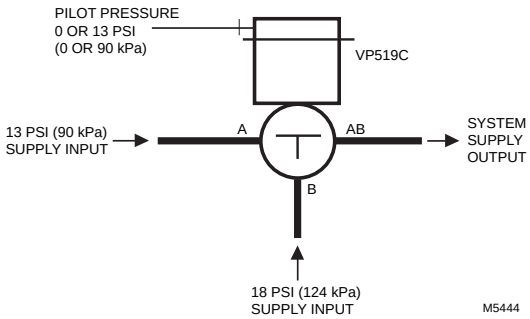
VALVE SIZE	2	3
1/2 INCH	3 1/8 (79)	2 3/4 (70)
3/4 INCH	3 3/8 (86)	2 19/32 (66)

M27109

Valve Type: Globe Valve
Body Pressure: 150 psi (1034 kPa)
Air Connections: Dual barbed for 5/32 in. or 1/4 in. plastic tubing
Valve Action: Two Position
Type of End Connection: NPT
Operating Humidity Range (% RH): 5 to 95% RH
Temperature Range: 35 F to 115 F (2 C to 46 C)
Maximum Actuator Temperature: 160 F (71 C)
Maximum Diaphragm Pressure: 25 psi (172 kPa)

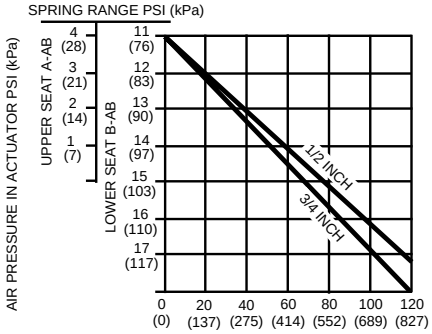
Replacement Parts:
312760-MP953A,C,E (5 in. diameter) regular temperature Neoprene diaphragm - new style
313744A-Actuator Replacement Assembly for the VP519 Valve
14003294-002-Valve Repack Kit, Steam or water application

VP519 Typical Piping Diagram



M5444

Close-off Ratings for the VP519



M18958

Product Number	End Connection Size (inch)	End Connection Size (mm)	Capacity (Cv)	Capacity (Kv)	Close-off Ratings at Branch Line Pressure	Spring Range (psi)	Spring Range (kPa)	Body Pattern
VP519C1006/U	1/2 in.	12.7 mm	5.5 Cv	4.75 Kv	120 psid at 18 psi	6 psi to 9 psi	41 kPa to 62 kPa	Three-way

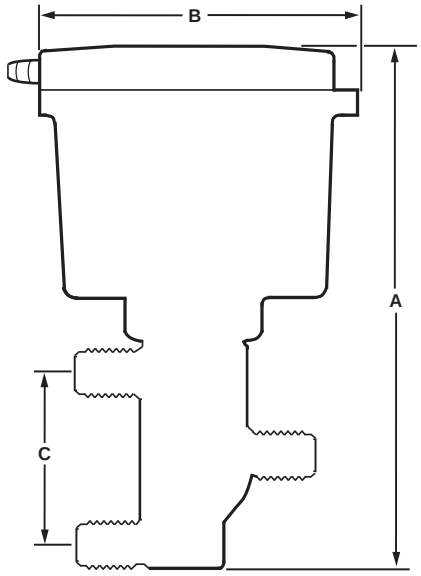
Pneumatic Valves

VP522 Pneumatic Sequencing Water Valve

Three-pipe, sequencing, pneumatically operated water valve for controlling both hot and cold water flow in fan-coil and induction units. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Corrosion resistant.
- Molded-in composition discs for tight shutoff.
- Flare connections for easy installation.
- Operator rotates 360 degrees for convenient air piping alignment.

Dimensions in inches (millimeters)



VALVE SIZE	A IN INCHES (mm)	B IN INCHES (mm)	C IN INCHES (mm)
3/8 IN.	9-13/16 (249)	5-1/8 (130)	3-5/8 (92)
1/2 IN.	9-15/16 (252)	5-1/8 (130)	3-5/32 (80)
3/4 IN.	9-15/16 (252)	5-1/8 (130)	3-5/32 (80)

C4671A

Valve Type: Unitary
Body Pattern: Three-way
Body Pressure: 250 psi (1724 kPa)
Air Connections: 1/8 in. NPT
Controlled Medium: Water
Type of End Connection: 45 degree. SAE flare
Operating Humidity Range (% RH): 5 to 95% RH
Temperature Range: 35 F to 250 F (2 C to 121 C)
Maximum Actuator Temperature: 160 F (71 C)
Maximum Diaphragm Pressure: 25 psi (172 kPa)

Accessories:
312817Y-Actuator assembly for VP522B1011 andVP522B1029

Replacement Parts:
312760-MP953A,C,E (5 in. diameter) regular temperature Neoprene diaphragm - new style
312817S-Actuator for VP522A1039, VP522A1047, VP522A1237
312817W-Actuator for VP522B1003
312817Y-Actuator assembly for VP522B1011 andVP522B1029
313824A-Rebuild kit, include Stem and Disc holder, button with screw, packing and instruction, VP522A1005
314459A-Rebuild kit, include Stem and Disc holder, button with screw, packing and instruction, VP522A1039
314459B-Rebuild kit, includes stem and disc holder, Button with screw, packing and instructions, VP522A1047
315407A-Rebuild kit, include Stem and Disc holder, button with screw, packing and instruction for the VP522B1003

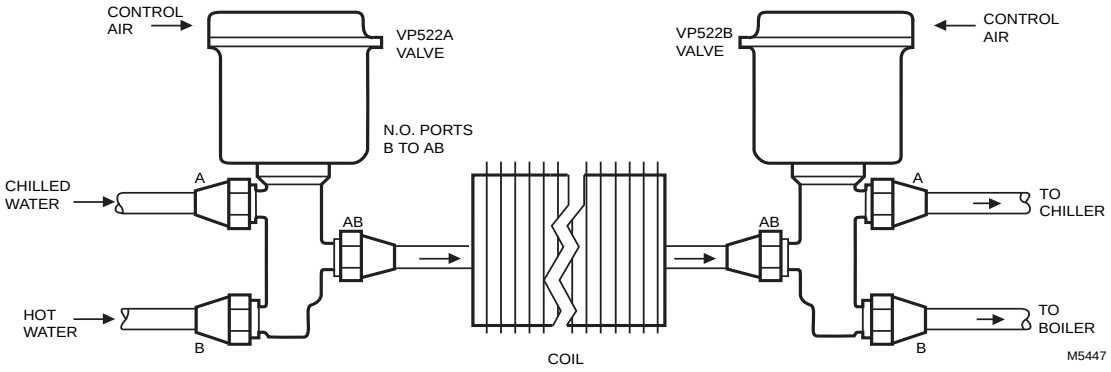
Product Number	End Connection Size (inch)	End Connection Size (mm)	Capacity (Cv)	Capacity (Kv)	Close-off Ratings at Branch Line Pressure	Valve Action	Spring Range (psi)	Spring Range (kPa)
VP522A1005/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	Port A: 1.5 Cv, Port B: 1.5 Cv	Port A: 1.3 Kv, Port B: 1.3 Kv	50 psid at 13 psi	Proportional/ Sequencing; Mixing	3 psi to 11.5 psi	21 kPa to 79 kPa
VP522A1039/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	Port A: 2.5 Cv, Port B: 1.6 Cv	Port A: 2.2 Kv, Port B: 1.4 Kv	50 psid at 13 psi	Proportional/ Sequencing; Mixing	2 psi to 13 psi	14 kPa to 90 kPa
VP522A1047/U	O.D.: 7/8 in.; Nominal: 3/4 in.	O.D.: 22.2 mm; Nominal: 19.1 mm	Port A: 4 Cv, Port B: 2.5 Cv	Port A: 3.5 Kv, Port B: 2.2 Kv	45 psid at 13 psi	Proportional/ Sequencing; Mixing	2 psi to 13 psi	14 kPa to 90 kPa
VP522B1003/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	Port A: 1.5 Cv, Port B: 1.5 Cv	Port A: 1.3 Kv, Port B: 1.3 Kv	15 psid at 13 psi	Diverting/Sequencing	Adjustable	
VP522B1011/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	Port A: 2.5 Cv, Port B: 2.5 Cv	Port A: 2.2 Kv, Port B: 2.2 Kv	15 psid at 13 psi	Diverting/Sequencing	Adjustable	
VP522B1029/U	O.D.: 7/8 in.; Nominal: 3/4 in.	O.D.: 22.2 mm; Nominal: 19.1 mm	Port A: 4 Cv, Port B: 3.5 Cv	Port A: 3.5 Kv, Port B: 3.0 Kv	15 psid at 13 psi	Diverting/Sequencing	Adjustable	

Operating Sequence on Control Air Pressure Increase

VP522A		AIR PRESSURE	VP522B
3/8 IN.	1/2 IN. & 3/4 IN.	psi (kPa)	ALL SIZES
HOT PORT OPEN 100%	HOT PORT OPEN 100%	0 (0)	HOT PORT OPEN 100%
		1 (7)	
		2 (14)	
HOT PORT CLOSES	HOT PORT CLOSES	3 (21)	
		4 (28)	
		5 (34)	HOT PORT CLOSES
BOTH PORTS CLOSED	BOTH PORTS CLOSED	6 (41)	
		7 (48)	
		8 (55)	BOTH PORTS CLOSED
		9 (62)	COLD PORT OPENS
COLD PORT OPENS		10 (69)	
	COLD PORT OPENS	11 (76)	
		12 (83)	
		13 (90)	COLD PORT OPEN 100%
COLD PORT OPEN 100%		14 (97)	
	COLD PORT OPEN 100%	15 (103)	

M13864

Typical VP522 Operation Diagram



Pneumatic Valves

VP525C Pneumatic Radiator Valve

Normally-open, single-seated pneumatic radiator valve with straight through or angle body construction provides proportional control of two-pipe, hot water or steam systems. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Available in several capacities and spring ranges for various application requirements.
- Easily replaceable actuator assembly for convenience of service.
- Compact size for installation where space is limited.
- Can be repacked without shutting down system.

Valve Type: Unitary
Body Pattern: Two-way
Body Pressure: 150 psi (1034 kPa)
Air Connections: Push on for 1/4 in. O.D. plastic tubing
Valve Action: Proportional Normally Open
Controlled Medium: Steam; Water
Operating Humidity Range (% RH): 5 to 95% RH
Temperature Range: 40 F to 240 F (4 C to 116 C)
Maximum Safe Actuator Diaphragm Temperature: 230 F (110 C)
Maximum Diaphragm Pressure: 30 psi (205 kPa)

Accessories:

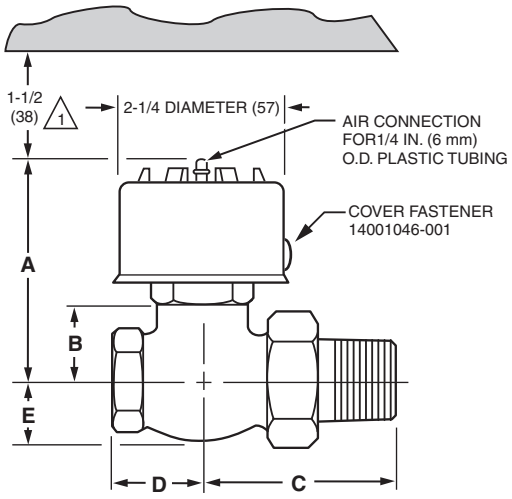
14003648-001-Vandalism Resistant Assembly, Cover assembly with 1/8 in NPT air Connection and push-in retainer to replace standard Cover
14004932-001-Pneumatic Valve Adapter (M6410/M7410 linkage and a green main spring to allow to retrofit an electric actuator)

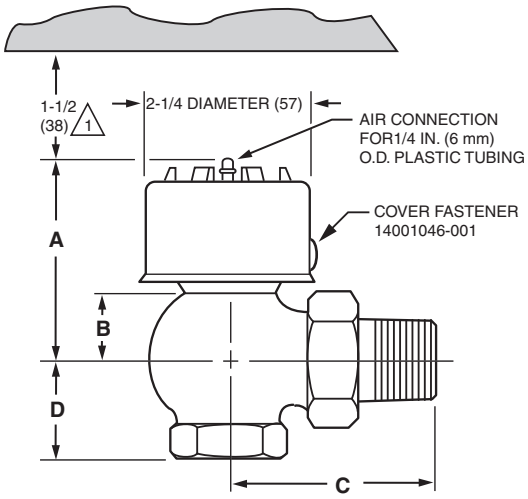
Replacement Parts:

316027/0042-Green Spring, 2 to 5 psi
14001046-004-Cover fastener for VP525A,C; VP526A; VP527A; or VP531A,C
14003300-001-Repair Top & Insert for 7/8 in. OD, 2.5 Cv VP525A solder body
310208-White Packing
14002560-013-Repair stem assembly for 1/2 inch, 0.63 Cv VP525C or to Upgrade, 0.63 Cv VP525A
14002560-007-Repair stem assembly for 1/2 inch, 2.0 Cv VP525C or to Upgrade, 2.0 Cv VP525A
14002560-008-Repair stem assembly for 1/2 and 3/4 inch, 3.0 Cv VP525C or to Upgrade 1/2 and 3/4 inch, 3.0 Cv VP525A
14002560-009-Repair stem assembly for 3/4 inch, 5.0 Cv VP525C or to Upgrade, 5.0 Cv VP525A
14003299-001-Repair Top & Insert for 5/8 in. OD, 1.6 Cv VP525A solder body
14003300-001-Repair Top & Insert for 7/8 in. OD, 2.5 Cv VP525A solder body
14004897-001-Repair Top & Insert for 1/2 inch NPT, 0.63 Cv VP525C or to upgrade 1/2 NPT, 0.63 Cv VP525A
14004897-002-Repair Top & Insert for 1/2 inch NPT, 2.0 Cv VP525C or to upgrade 1/2 NPT, 2.0 Cv VP525A
14004897-003-Repair Top & Insert for 3/4 inch NPT, 3.0 Cv VP525C or to upgrade 3/4 NPT, 3.0 Cv VP525A
14004897-004-Repair Top & Insert for 3/4 inch NPT, 5.0 Cv VP525C or to upgrade 3/4 NPT, 5.0 Cv VP525A

Product Number	End Connection Size		Type of End Connection	Capacity		Close-off Ratings at Branch Line Pressure	Spring Range		Comments	Includes
	(inch)	(mm)		(Cv)	(Kv)		(psi)	(kPa)		
VP525C1008/U	1/2 in.	12.7 mm	NPT- Straight Male Union	0.63 Cv	0.54 Kv	150 psid (1034 kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1408	2-5 psi spring is packed in box
VP525C1016/U	1/2 in.	12.7 mm	NPT- Straight Male Union	2 Cv	1.73 Kv	110 psid (759 kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1077 and VP525A1416	2-5 psi spring is packed in box
VP525C1024/U	3/4 in.	19.1 mm	NPT- Straight Male Union	3 Cv	2.59 Kv	55 psid (379 kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1150	2-5 psi spring is packed in box
VP525C1032/U	3/4 in.	19.1 mm	NPT- Straight Male Union	5 Cv	4.32 Kv	42 psid (290 kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1192 and VP525A1200	2-5 psi spring is packed in box
VP525C1040/U	1/2 in.	12.7 mm	NPT- Angle Male union	2 Cv	1.73 Kv	110 psid (759kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1085	2-5 psi spring is packed in box
VP525C1057/U	3/4 in.	19.1 mm	NPT- Angle Male union	3 Cv	2.59 Kv	55 psid (379 kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1168	2-5 psi spring is packed in box
VP525C1065/U	3/4 in.	19.1 mm	NPT- Angle Male union	5 Cv	4.32 Kv	42 psid (290 kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1218 and VP525A1226	2-5 psi spring is packed in box
VP525C1073/U	1/2 in.	12.7 mm	NPT- Straight Male Union	3 Cv	2.59 Kv	55 psid (379 kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1101 and VP525A1119	2-5 psi spring is packed in box
VP525C1081/U	1/2 in.	12.7 mm	NPT- Angle Male union	3 Cv	2.59 Kv	55 psid (379 kPa) at 20 psi (138 kPa)	3 psi to 10 psi	21 kPa to 69 kPa	Replacement for VP525A1127 and VP525A1135	2-5 psi spring is packed in box

Dimensions in inches (millimeters)



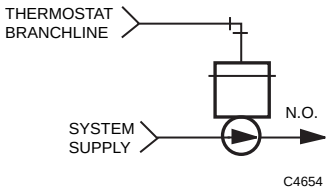


1 1-1/2 in. (38 mm) MINIMUM CLEARANCE TO REMOVE ACTUATOR. 2 1/2 in. (63 mm) MINIMUM CLEARANCE TO FACILITATE STRAIGHT ON TUBING CONNECTION. IF CLEARANCE IS LESS THAN 2 1/2 in. (63 mm) USE AN ELBOW.

BODY STYLE	SIZE NPT	A	B	C	D	E
STRAIGHT THRU – MALE UNION OUTLET	1/2	3-1/2 (90)	1-3/8 (35)	2-1/2 (63)	1-3/8 (35)	3/4 (19)
	3/4	3-1/2 (90)	1-3/8 (35)	3 (76)	1-5/8 (41)	1-1/8 (29)
ANGLE – MALE UNION OUTLET	1/2	3-1/4 (83)	1 (25)	2-5/8 (66)	1-1/8 (29)	
	3/4	3-1/8 (80)	1 (25)	3 (76)	1-1/4 (32)	

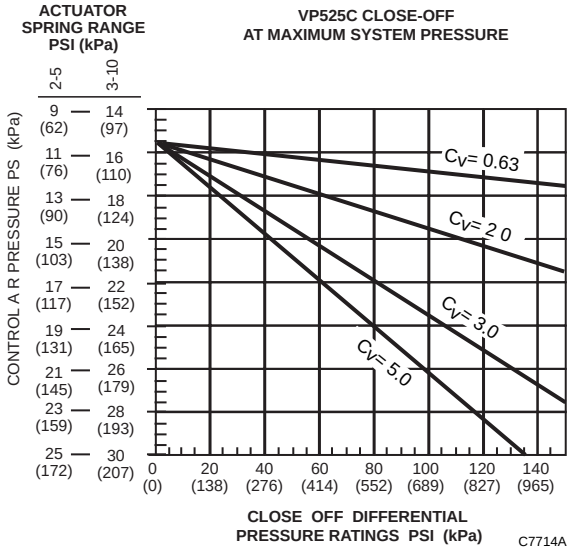
M16449B

VP525C Typical Piping Diagram



C4654

Close-off Ratings at various Control Air Pressures



C7714A

Pneumatic Controls

Pneumatic Valves

VP526 Three-Way High Pressure Water Valve

Three-way pneumatic mixing valve provides proportional control of hot and/or cold water in unit air conditioners and fan coil systems. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Small size permits installation where space is limited.
- Direct-acting, rolling diaphragm actuator with integral high temperature plastic air connector for 1/4 in. (6-mm) O.D. plastic tubing.
- Spring loaded, self-adjusting Buna-N “V”-ring packing replaceable.
- Brass seats (integral lower, removable upper) and contoured plug provide metal-to-metal seating.
- Stainless steel stem.
- Linear and constant total flow throughout full plug travel.

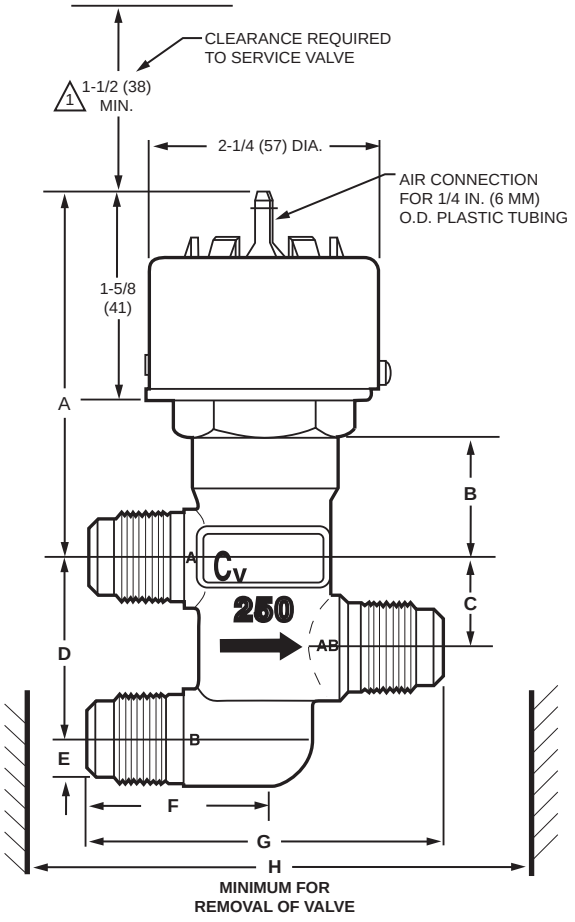
Valve Type: Unitary
Body Pattern: Three-way Mixing
Body Pressure: 250 psi (1724 kPa)
Air Connections: Push on for 1/4 in. O.D. plastic tubing
Valve Action: Proportional Normally Open Ports B to AB
Controlled Medium: Water
Type of End Connection: 45 degree. SAE flare
Operating Humidity Range (% RH): 5 to 95% RH
Temperature Range: 35 F to 250 F (2 C to 121 C)
Maximum Safe Actuator Diaphragm Temperature: 230 F (110 C)
Maximum Diaphragm Pressure: 29 psi (200 kPa)

Accessories:
14003648-001-Vandalism Resistant Assembly, Cover assembly with 1/8 in NPT air Connection and push-in retainer to replace standard Cover

Replacement Parts:
315917-Diaphragm
14001046-004-Cover fastener for VP525A,C; VP526A; VP527A; or VP531A,C
14003297-001-Valve repack kit for VP526A, VP527A, or VP531A valves with 3/16 inch stem
14003102-001-Replacement top assembly

	End Connection Size		Capacity		Close-off Ratings at Branch Line Pressure		Spring Range	
Product Number	(inch)	(mm)	(Cv)	(Kv)	Port A	Port B	(psi)	(kPa)
VP526A1001/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	1.6 Cv	1.38 Kv	14 psid at 0 psi	50 psid at 17 psi	3 psi to 10 psi	21 kPa to 69 kPa
VP526A1019/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	2.5 Cv	2.16 Kv	14 psid at 0 psi	50 psid at 17 psi	3 psi to 10 psi	21 kPa to 69 kPa
VP526A1027/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	1.6 Cv	1.38 Kv	5 psid at 0 psi	50 psid at 12 psi	2 psi to 5 psi	14 kPa to 34 kPa
VP526A1035/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	2.5 Cv	2.16 Kv	5 psid at 0 psi	50 psid at 12 psi	2 psi to 5 psi	14 kPa to 34 kPa
VP526A1043/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	1.6 Cv	1.38 Kv	58 psid at 0 psi	50 psid at 18 psi	8 psi to 11 psi	55 kPa to 76 kPa
VP526A1050/U	O.D.: 5/8 in.; Nominal: 1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	2.5 Cv	2.16 Kv	58 psid at 0 psi	50 psid at 18 psi	8 psi to 11 psi	55 kPa to 76 kPa
VP526A1068/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.0 Cv	0.86 Kv	14 psid at 0 psi	50 psid at 17 psi	3 psi to 10 psi	21 kPa to 69 kPa
VP526A1076/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.6 Cv	1.38 Kv	14 psid at 0 psi	50 psid at 17 psi	3 psi to 10 psi	21 kPa to 69 kPa
VP526A1084/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.0 Cv	0.86 Kv	5 psid at 0 psi	50 psid at 12 psi	2 psi to 5 psi	14 kPa to 34 kPa
VP526A1092/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.6 Cv	1.38 Kv	5 psid at 0 psi	50 psid at 12 psi	2 psi to 5 psi	14 kPa to 34 kPa
VP526A1100/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.0 Cv	0.86 Kv	58 psid at 0 psi	50 psid at 18 psi	8 psi to 11 psi	55 kPa to 76 kPa
VP526A1118/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.6 Cv	1.38 Kv	58 psid at 0 psi	50 psid at 18 psi	8 psi to 11 psi	55 kPa to 76 kPa

Dimensions in inches (millimeters)

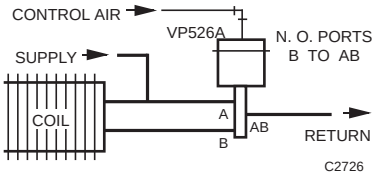


VALVE SIZE	COPPER TUBING (O.D.)	IN. (MM)							
		A	B	C	D	E	F	G	H
3/8	1/2	3-1/16 (78)	7/8 (22)	13/16 (20)	1-1/2 (38)	3/8 (10)	1-1/2 (38)	3 (76)	5-3/4 (146)
1/2	5/8	3-3/8 (85)	1-3/16 (30)	7/8 (22)	1-3/4 (44)	7/16 (11)	1-11/16 (43)	3-7/16 (87)	6-1/4 (159)

1 ALLOW 1-1/2 IN. (38 MM) MINIMUM CLEARANCE FOR REMOVING ACTUATOR. ALLOW 2-1/2 IN. (63 MM) TO FACILITATE STRAIGHT ON TUBING. IF CLEARANCE IS LESS THAN 2-1/2 IN. (63 MM), USE AN ELBOW.

M18807A

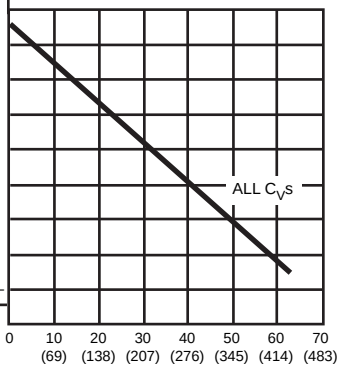
VP526 Typical Piping Diagram



C2726

Close-off Ratings for the VP526

PORTS	2-5 PS SPR NG (14-34 kPa)		3-10 PS SPR NG (21-69 kPa)		8-11 PS SPR NG (55-76 kPa)	
	B	A	B	A	B	A
	5	2	10	3	11	8
	6	1	11	2	12	7
	7	0	12	1	13	6
	8	—	13	0	14	5
	9	—	14	—	15	4
	10	—	15	—	16	3
	11	—	16	—	17	2
	12	—	17	—	18	1
	13	—	18	—	—	0
	14	—	—	—	—	—



C493-1

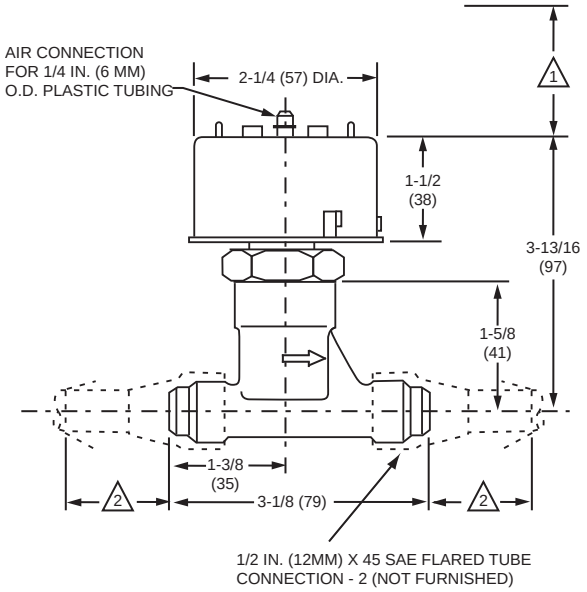
Pneumatic Valves

VP527 Pneumatic Water Valve

Normally open, single-seated, high pressure valve provides proportional control of hot and/or cold water in unit air conditioners and fan coil units. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Small size permits installation where space is limited.
- Forged brass, straight-through body with end connections threaded for 45 degrees SAE flare fitting nuts.
- Spring-loaded, self-adjusting, Buna-N “V”-ring packing is replaceable without shutting system down.
- High-temperature rolling diaphragm actuator (aluminum cover) and high-temperature plastic diaphragm retaining cup with integral air connection for 1/4 in. (6 mm) O.D. plastic tubing.
- Integral seat and brass plug with removable composition disc provides equal percentage flow.
- Stainless steel stem, 3/16 in. (5 mm) diameter.

Dimensions in inches (millimeters)



1 ALLOW 1-1/2 IN. (38 MM) MINIMUM CLEARANCE TO SERVICE VALVE, 2-1/2 IN. (63 MM) CLEARANCE TO CONNECT TUBING STRAIGHT TO CONNECTOR. IF CLEARANCE IS LESS THAN 2-1/2 IN. (63 MM), USE AN ELBOW CONNECTOR.

2 ALLOW 1-3/8 IN. (35 MM) MINIMUM CLEARANCE TO REMOVE VALVE.

M18348A

Valve Type: Unitary
Body Pattern: Two-way
Body Pressure: 250 psi (1724 kPa)
Air Connections: Push on for 1/4 in. O.D. plastic tubing
Valve Action: Proportional Normally Open
Controlled Medium: Water
Type of End Connection: 45 degree. SAE flare
Operating Humidity Range (% RH): 5 to 95% RH
Temperature Range: 35 F to 250 F (2 C to 121 C)
Maximum Safe Actuator Diaphragm Temperature: 230 F (110 C)
Maximum Diaphragm Pressure: 30 psi (205 kPa)

Accessories:

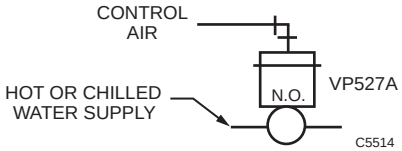
14003648-001-Vandalism Resistant Assembly, Cover assembly with 1/8 in NPT air Connection and push-in retainer to replace standard Cover
14004932-001-Pneumatic Valve Adapter (M6410/M7410 linkage and a green main spring to allow to retrofit an electric actuator)

Replacement Parts:

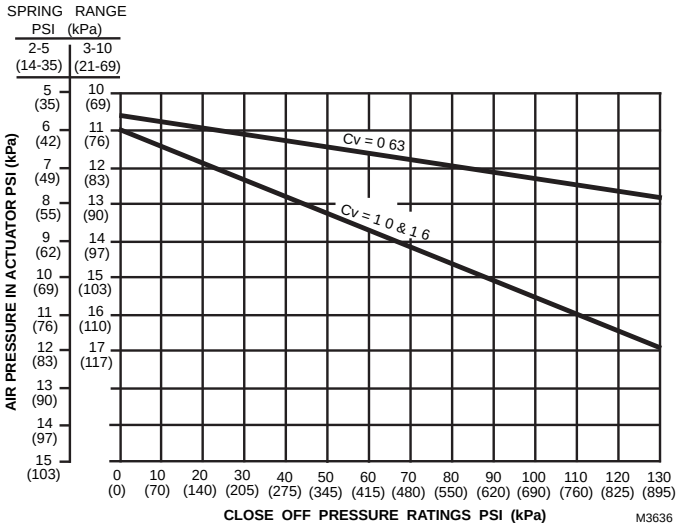
14001046-004-Cover fastener for VP525A,C; VP526A; VP527A; or VP531A,C
14003102-001-Replacement top assembly
14003297-001-Valve repack kit for VP526A, VP527A, or VP531A valves with 3/16 inch stem
14003475-001-Valve Rebuild Kit for 1/2 in. valve with 0.4 or 0.63 Cv
14003476-001-Valve Rebuild Kit for 1/2 in. valve with 1 or 1.6 Cv
315917-Diaphragm

Product Number	End Connection Size (inch)	End Connection Size (mm)	Capacity (Cv)	Capacity (Kv)	Close-off Ratings at Branch Line Pressure	Spring Range (psi)	Spring Range (kPa)
VP527A1018/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	0.63 Cv	0.54 Kv	130 psid at 13 psi	3 psi to 10 psi	21 kPa to 69 kPa
VP527A1026/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.0 Cv	0.86 Kv	45 psid at 13 psi	3 psi to 10 psi	21 kPa to 69 kPa
VP527A1034/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.6 Cv	1.38 Kv	45 psid at 13 psi	3 psi to 10 psi	21 kPa to 69 kPa
VP527A1059/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	0.63 Cv	0.54 Kv	130 psid at 8 psi	2 psi to 5 psi	14 kPa to 34 kPa
VP527A1067/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.0 Cv	0.86 Kv	45 psid at 8 psi	2 psi to 5 psi	14 kPa to 34 kPa
VP527A1075/U	O.D.: 1/2 in.; Nominal: 3/8 in.	O.D.: 12.7 mm; Nominal: 9.5 mm	1.6 Cv	1.38 Kv	45 psid at 8 psi	2 psi to 5 psi	14 kPa to 34 kPa

VP527 Typical Piping Diagram



Close-off Ratings vs. Control Air Pressure



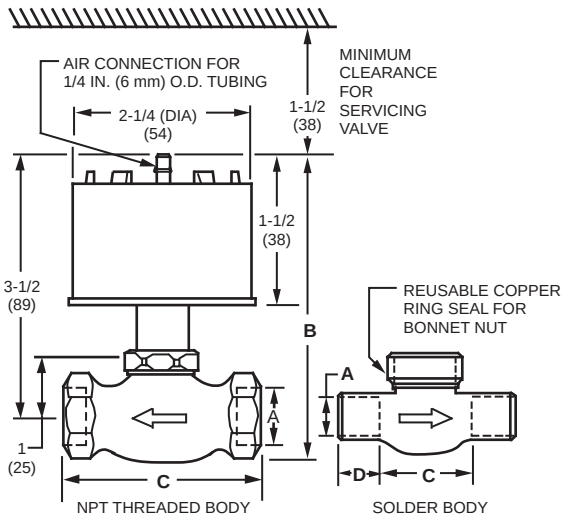
Pneumatic Valves

VP531C Pneumatic Terminal Unit Valve

Normally-open, single-seated valve provides proportional control of steam or hot or cold water in terminal units. Replacement devices are available for Johnson, Powers, Robertshaw, Barber-Colman, and older Honeywell devices.

- Available in several capacities and spring ranges for various application requirements.
- Easily replaceable actuator assembly for convenience of service.
- Compact size for use inside most unit enclosures.

Dimensions in inches (millimeters)



BODY SIZE	A	B	C	D
1/2 IN. NPT (1.6 OR 2.3 CV)	1/2 IN. PIPE	4-1/8 IN. (104 MM)	2-9/32 IN. (58 MM)	–
3/4 IN. NPT (2.6 OR 3.3 CV)	3/4 IN. PIPE	4-3/16 IN. (106 MM)	2-7/16 IN. (61 MM)	–
1/2 IN. SOLDER (1.6 CV)	5/8 IN. (16 MM) O.D. COPPER TUBING	4-1/8 IN. (104 MM)	1-5/8 IN. (41 MM)	1/2 IN. (13 MM)
3/4 IN. SOLDER (2.6 OR 3.3 CV)	7/8 IN. (22 MM) O.D. COPPER TUBING	4-3/16 IN. (106 MM)	1-1/2 IN. (38 MM)	3/4 IN. (19 MM)

C7987B

Valve Type: Unitary
Body Pattern: Two-way
Body Pressure: 150 psi (1034 kPa)
Air Connections: Push on for 1/4 in. O.D. plastic tubing
Valve Action: Proportional Normally Open
Controlled Medium: Steam; Water
Operating Humidity Range (% RH): 5 to 95% RH
Temperature Range: 40 F to 240 F (140 F max difference, alternating hot and cold water service) (4 C to 116 C (78 K max difference, alternating hot and cold water service))
Close-off Ratings at Branch Line Pressure: 70 psid at 20 psi (with 2 to 5 psi spring)
Maximum Safe Actuator Diaphragm Temperature: 230 F (110 C)
Maximum Diaphragm Pressure: 30 psi (205 kPa)
Includes: 3-10 psi spring is packed in box

Accessories:

14003648-001-Vandalism Resistant Assembly, Cover assembly with 1/8 in NPT air Connection and push-in retainer to replace standard Cover
14004932-001-Pneumatic Valve Adapter (M6410/M7410 linkage and a green main spring to allow to retrofit an electric actuator)

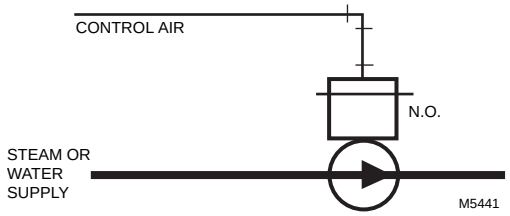
Replacement Parts:

315913/0041-Orange Spring, 3 to 10 psi for VP525, VP526, VP527, VP531
316026-Yellow Spring, 8-11 psi
316027/0042-Green Spring, 2 to 5 psi
14001046-004-Cover fastener for VP525A,C; VP526A; VP527A; or VP531A,C
14002560-010-Repair stem assembly, 1.6 Cv VP531C or to Upgrade, 1.6 Cv VP531A
14002560-011-Repair stem assembly for 2.6 Cv VP531C or to Upgrade 2.6 Cv VP531A
14002560-012-Repair stem assembly for 3.3 Cv VP531C or to Upgrade 3.3 Cv VP531A
14003102-001-Replacement top assembly
14003297-002-Teflon packing kit for VP531C or VP531A upgrade valves
14004898-001-Repair Top & Insert for NPT and Solder body, 1.6 Cv VP531C or to upgrade NPT and solder body, 1.6 Cv VP531A
14004898-002-Repair Top & Insert for NPT and Solder body, 2.3 and 2.6 Cv VP531C or to upgrade NPT and solder body, 2.3 and 2.6 Cv VP531A
14004898-003-Repair Top & Insert for NPT and Solder body, 3.3 Cv

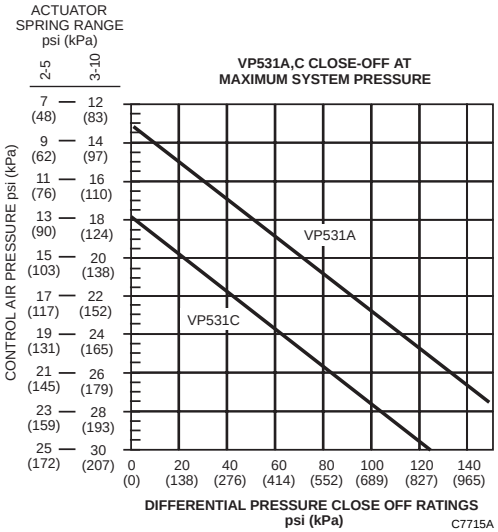
Product Number	End Connection Size (inch)	End Connection Size (mm)	Type of End Connection	Capacity (Cv)	Capacity (Kv)	Spring Range (psi)	Spring Range (kPa)	Comments
VP531C1000/U	1/2 in.	12.7 mm	NPT	1.6 Cv	1.38 Kv	2 psi to 5 psi	14 kPa to 34 kPa	Replacement for VP531A1004 and VP531A1012
VP531C1018/U	3/4 in.	19.1 mm	NPT	2.6 Cv	2.24 Kv	2 psi to 5 psi	14 kPa to 34 kPa	Replacement for VP531A1046 and VP531A1053
VP531C1026/U	3/4 in.	19.1 mm	NPT	3.3 Cv	2.85 Kv	2 psi to 5 psi	14 kPa to 34 kPa	Replacement for VP531A1061 and VP531A1079
VP531C1034/U	1/2 in.	O.D.: 15.9 mm; Nominal: 12.7 mm	Solder	1.6 Cv	1.38 Kv	2 psi to 5 psi	14 kPa to 34 kPa	Replacement for VP531A1087 and VP531A1095
VP531C1042/U	3/4 in.	O.D.: 22.2 mm; Nominal: 19.1 mm	Solder	2.6 Cv	2.24 Kv	2 psi to 5 psi	14 kPa to 34 kPa	Replacement for VP531A1103 and VP531A1111

Product Number	End Connection Size (inch)	End Connection Size (mm)	Type of End Connection	Capacity (Cv)	Capacity (Kv)	Spring Range (psi)	Spring Range (kPa)	Comments
VP531C1059/U	3/4 in.	O.D.: 22.2 mm; Nominal: 19.1 mm	Solder	3.3 Cv	2.85 Kv	2 psi to 5 psi	14 kPa to 34 kPa	Replacement for VP531A1129 and VP531A1137
VP531C1067/U	1/2 in.	12.7 mm	NPT	2.3 Cv	1.99 Kv	2 psi to 5 psi	14 kPa to 34 kPa	Replacement for VP531A1020 and VP531A1038

VP531C Typical Piping Diagram



Close-off Ratings for the VP531C



Pneumatic Valve Accessories

Product Number	Description	Used With
14002864-001/U	Valve rebuild kit for 1/2 to 3/4 in valves with Cv of 4 or less	VP512
14003102-001/U	Replacement top assembly	VP526; VP525; VP527; VP531
14003115-001/U	Valve rebuild kit for 1/2 in. valves with 2 Cv or less. Not for Solder Bodies.	VP525A
14003116-001/U	Valve rebuild kit for 3/4 in. valves with 2 Cv or less valves. Not for Solder Bodies.	VP525A
14003117-001/U	Valve rebuild kit for 3/4 in. valves with 3 Cv. Not for Solder Bodies.	VP525A
14003118-001/U	Valve rebuild kit for 3/4 in. valves with 5 Cv. Not for solder bodies.	VP525A
14003119-001/U	Valve rebuild kit for 1/2 in. valves with 3 Cv. Not for solder bodies.	VP525A
14003313-001/U	Base	VP526A; VP527A; VP525A,C; VP531A,C
14003315-001/U	Gland	VP526A; VP527A; VP525A,C; VP531A,C
14003373-001/U	Rep Bonnet Assembly	VP513A
14003381-001/U	Brass Hex Bonnet, 1 3/8 diameter	VP526A; VP527A
14003648-001/U	Vandalism Resistant Assembly, Cover assembly with 1/8 in NPT air Connection and push-in retainer to replace standard Cover	VP526A; VP527A; VP525A,C; VP531A,
14003873-001/U	Red Spring, 2 to 5 psi	VP526A
14004932-001/U	Pneumatic Valve Adapter (M6410/M7410 linkage and a green main spring to allow to retrofit an electric actuator)	VP525; VP527; VP531
312817AA/U	Actuator Assembly, 3 to 8 psi, 21 to 55 kPa, and 1/2 in. stroke.	VP513; VP517; VP512
312817AB/U	Actuator Assembly, 6 to 11 psi, 41 to 76 kPa and 1/2 in. stroke.	VP513; VP517; VP512
312817T/U	Actuator assembly, 3 to 10 psi, 21 to 69 kPa, and 1/2 in. stroke.	VP517A; VP513A
312817U/U	Actuator Assembly, 3 to 7 psi, 21 to 48 kPa, and 1/2 in. stroke.	VP517A; VP513A
312817V/U	Actuator Assembly, 8 to 12 psi, 55 to 83 kPa, and 1/2 in. stroke.	VP513
312817W/U	Actuator for VP522B1003	VP522B1003
312817Y/U	Actuator assembly	VP522B1011; VP522B1029
313241A/U	Disc holder for VP513A	VP513A
313824A/U	Rebuild kit, include Stem and Disc holder, button with screw, packing and instructions	VP522A1005
314459A/U	Rebuild kit, include Stem and Disc holder, button with screw, packing and instructions	VP522A1039
314459B/U	Rebuild kit, includes stem and disc holder, Button with screw, packing and instructions	VP522A1047
315407A/U	Rebuild kit, include Stem and Disc holder, button with screw, packing and instructions	VP522B1003
316027/0042/U	Green Spring, 2 to 5 psi	VP525; VP527; VP531
CCT3833/U	Valve Seat Removal Wrench for 5/8 in. OD (1/2 in. nominal) and 7/8 in. OD (3/4 in.nominal)	VP513B; VP517A; VP522A, B; VP526
CCT3843/U	Valve Seat Removal Wrench for 1/2 in. OD (3/8 in. nominal)	VP526; VP522

Pneumatic Valve Replacement Parts

Product Number	Description	Used With
14000639-001/U	Washer	VP526
14001046-004/U	Fastener	VP526A; VP527A; VP525A,C; VP531A,C
14002560-002/U	Stem and Disk Assembly	VP527A1018; VP527A1059
14002560-004/U	Stem and Disk Assembly	VP527A1034; VP527A1075
14002560-006/U	Stem and Disk Holder Assembly. For 0.63 Cv VP525 Valve	VP525;
14002560-007/U	Repair stem assembly for 1/2 inch, 2.0 Cv VP525C or to Upgrade, 2.0 Cv VP525A	VP525A; VP525C
14002560-008/U	Repair stem assembly for 1/2 and 3/4 inch, 3.0 Cv VP525C or to Upgrade 1/2 and 3/4 inch, 3.0 Cv VP525A	VP525A; VP525C
14002560-009/U	Repair stem assembly for 3/4 inch, 5.0 Cv VP525C or to Upgrade, 5.0 Cv VP525A	VP525A; VP525C
14002560-010/U	Repair stem assembly, 1.6 Cv VP531C or to Upgrade, 1.6 Cv VP531A	VP531A; VP531C
14002560-011/U	Repair stem assembly for 2.6 Cv VP531C or to Upgrade 2.6 Cv VP531A	VP531A; VP531C
14002560-012/U	Repair stem assembly for 3.3 Cv VP531C or to Upgrade 3.3 Cv VP531A	VP531A; VP531C
14002560-013/U	Repair stem assembly for 1/2 inch, 0.63 Cv VP525C or to Upgrade, 0.63 Cv VP525A	VP525A; VP525C
14002863-001/U	Valve rebuild kit for 3/4 to 1 1/4 in valves with Cv of 6.3 or 10	VP512
14003297-001/U	Valve repack kit for VP526A, VP527A, or VP531A valves with 3/16 inch stem	VP526A; VP527A; VP531A
14003297-002/U	Teflon packing kit for VP531C or VP531A upgrade valves	VP531A; VP531C
14003299-001/U	Repair Top & Insert for 5/8 in. OD, 1.6 Cv VP525A solder body	VP525A
14003300-001/U	Repair Top & Insert for 7/8 in. OD, 2.5 Cv VP525A solder body	VP525A
14003308-001/U	Valve Bonnet	VP531A; VP531C
14003314-001/U	1 1/4 inch hex stainless steel Bonnet nut, Finish zinc plate with Dichromate treatment.	VP531A; VP531C
14003352-001/U	Seal washer, 1 1/64 outside diameter X 7/8 inside diameter	VP531A; VP531C
14003382-001/U	Brass Hex Bonnet 1-1/2 in. diameter	VP526A; VP525C
14003475-001/U	Valve Rebuild Kit for 1/2 in. valve with 0.4 or 0.63 Cv	VP527A
14003476-001/U	Valve Rebuild Kit for 1/2 in. valve with 1 or 1.6 Cv	VP527A
14004897-001/U	Repair Top & Insert for 1/2 inch NPT, 0.63 Cv VP525C or to upgrade 1/2 NPT, 0.63 Cv VP525A	VP525A; VP525C
14004897-002/U	Repair Top & Insert for 1/2 inch NPT, 2.0 Cv VP525C or to upgrade 1/2 NPT, 2.0 Cv VP525A	VP525A; VP525C
14004897-003/U	Repair Top & Insert for 3/4 inch NPT, 3.0 Cv VP525C or to upgrade 3/4 NPT, 3.0 Cv VP525A	VP525A; VP525C
14004897-004/U	Repair Top & Insert for 3/4 inch NPT, 5.0 Cv VP525C or to upgrade 3/4 NPT, 5.0 Cv VP525A	VP525A; VP525C
14004898-001/U	Repair Top & Insert for NPT and Solder body, 1.6 Cv VP531C or to upgrade NPT and solder body, 1.6 Cv VP531A	VP531A; VP531C
14004898-002/U	Repair Top & Insert for NPT and Solder body, 2.3 and 2.6 Cv VP531C or to upgrade NPT and solder body, 2.3 and 2.6 Cv VP531A	VP531A; VP531C
14004898-003/U	Repair Top & Insert for NPT and Solder body, 3.3 Cv VP531C or to upgrade NPT and solder body, 3.3 Cv VP531A	VP531A; VP531C
310135/U	Packing Spring, 1 Required	VP513A,B; VP522A,B
310137/U	Spacer for VP513 or VP517 Valves	VP513A,B; VP522A,B
310143/U	Black Packing, 3 required	VP513A,B; VP522A,B
310208/U	White Packing, 3 required per valve	VP525C; VP531C
312826/U	O-Ring	—
313102/U	Disc for VP513A Valves	VP513A
313744A/U	Actuator Replacement Assembly for the VP519 Valve	VP519C
314526/U	Orange Spring with Blue stripe, 3 to 10 psi, 1/2 in. stroke	VP517A; VP513A; 312817T
315911/0021/2	Cup with keyhole for VP525, VP526, VP527, VP531	VP526A; VP527A; VP525A,C; VP531A,C
315913/0041/U	Orange Spring, 3 to 10 psi for VP525, VP526, VP527, VP531	VP526A; VP527A; VP525A,C; VP531A,C
315917/U	Diaphragm	VP526A; VP527A; VP525A,C; VP531A,C
315939/U	Spring	VP513B
316026/U	Yellow Spring, 8-11 psi	VP526A
316207/U	Stem for VP526A	VP526A
316208/U	Valve Seat	VP526A
316209/U	Plug 1.0 Cv	VP526A
316210/U	Plug for VP526	VP526A1118, VP526A1076, VP526A1092
316336/U	Disc	VP527A1026; VP527A1067
320047/U	Retaining Ring	VP526A

Gauges for Pneumatics

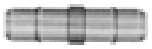
Product Number	Description
14004904-001/U	2-1/2 in. diameter, typical panel mount Pneumatic Receiver gauge (-40 to 160 F), ±2% accuracy. Replaces 14506495-001(gauge) + 14505846-001
14004904-002/U	2-1/2 in. diameter, typical panel mount Pneumatic Receiver gauge (0 to 200 F), ±2% accuracy. Replaces 4506495-001(gauge) + 14505846-002
14004904-003/U	2-1/2 in. diameter, typical panel mount Pneumatic Receiver gauge (40 to 240 F), ±2% accuracy, Replaces 14506495-001(gauge) + 14505846-003
14004904-005/U	2-1/2 in. diameter, typical panel mount Pneumatic Receiver gauge (0 to 20 psi), ±2% accuracy, Replaces 14506495-001(gauge) + 14505846-023
14004904-006/U	2-1/2 in. diameter, typical panel mount Pneumatic Receiver gauge (25 to 125 F), ±2% accuracy, Replaces 14506495-001(gauge) + 14505846-004
14004904-007/U	2-1/2 in. diameter, typical panel mount Pneumatic Receiver gauge (50 to 100 F), ±2% accuracy, Replaces 14506495-001(gauge) + 14505846-005
14004904-008/U	2-1/2 in. diameter, Pneumatic Receiver gauge (-20 to 80 F), ±2% accuracy
14004904-011/U	2-1/2 in. diameter, Pneumatic Receiver gauge (15 to 75% RH), ±2% accuracy
14004904-101/U	2-1/2 in. diameter, Pneumatic Receiver gauge (-40 to 160 F), ±1% accuracy. Replaces 14506495-101(gauge) + 14505846-001
14004904-102/U	2-1/2 in. diameter, Pneumatic Receiver gauge (0 to 200 F), ±1% accuracy. Replaces 14506495-101(gauge) + 14505846-002
14004904-103/U	2-1/2 in. diameter, Pneumatic Receiver gauge (40 to 240 F), ±1% accuracy. Replaces 14506495-101(gauge) + 14505846-003
14004904-104/U	2-1/2 in. diameter, Pneumatic Receiver gauge (3 to 15 psi), ±1% accuracy. Replaces 14506495-101(gauge) + 14505846-022
14004904-105/U	2-1/2 in. diameter, Pneumatic Receiver gauge (0 to 20 psi), ±1% accuracy. Replaces 14506495-101(gauge) + 14505846-023
14004905-001/U	3-1/2 in. diameter, Pneumatic Receiver gauge (-40 to 160 F), ±2% accuracy
14004905-002/U	3-1/2 in. diameter, Pneumatic Receiver gauge (0 to 200 F), ±2% accuracy. Replaces 14506496-001(gauge) + 14505846-102
14004905-003/U	3-1/2 in. diameter, Pneumatic Receiver gauge (40 to 240 F), ±2% accuracy. Replaces 14506496-001(gauge) + 14505846-103
14004905-006/U	3-1/2 in. diameter, Pneumatic Receiver gauge (25 to 125 F), ±2% accuracy. Replaces 14506496-001(gauge) + 14505846-104
14004905-009/U	3-1/2 in. diameter, Pneumatic Receiver gauge (0 to 2 in. wc), ±2% accuracy
14004905-010/U	3-1/2 in. diameter, Pneumatic Receiver gauge (15 to 85% RH), ±2% accuracy
14004905-011/U	3-1/2 in. diameter, Pneumatic Receiver gauge (15 to 75% RH), ±2% accuracy
14004905-101/U	3-1/2 in. diameter, Pneumatic Receiver gauge (-40 to 160 F), ±1% accuracy. Replaces 14506496-101(gauge) + 14505846-101
14004905-102/U	3-1/2 in. diameter, Pneumatic Receiver gauge (0 to 200 F), ±1% accuracy. Replaces 14506496-101(gauge) + 14505846-102
14004905-103/U	3-1/2 in. diameter, Pneumatic Receiver gauge (40 to 240 F), ±1% accuracy. Replaces 14506496-101(gauge) + 14505846-103
14004905-105/U	3-1/2 in. diameter, Pneumatic Receiver gauge (0 to 20 psi), ±1% accuracy. Replaces 14506496-101(gauge) + 14505846-123
14004905-106/U	3-1/2 in. diameter, Pneumatic Receiver gauge (25 to 125 F), ±1% accuracy. Replaces 14506496-101(gauge) + 14505846-104
14004905-107/U	3-1/2 in. diameter, Pneumatic Receiver gauge (50 to 100 F), ±1% accuracy. Replaces 14506496-101(gauge) + 14505846-105
305911/U	Gauge, 2 in., 0-160PSI, 1/8 in. NPT
305912/U	Gauge, 0-100PSI, 2 in., 1/8 in. NPT
305914/U	2 in. diameter, 1/8 NPT center stem back mount Pressure Indicating gauge (0 to 30 psi scale) with ±3% accuracy
305917/U	2 in. diameter, 1/4 NPT center stem back mount Pressure Indicating gauge (0 to 160 psi scale) with ±3% accuracy
305923/U	1-1/2 in. diameter, 1/8 NPT stem on bottom mount Pressure Indicating gauge (0 to 30 psi scale) with ±4% accuracy
305925/U	Gauge, 0-30 PSI, 2 in., 1/8 in. NPT
305935/U	3-1/2 in. diameter, surface mounted 1/8 NPT stem on bottom Receiver gauge (-40 to +160 F scale) with ±2% accuracy
305986/U	Receiver Gauge. -20 to 80 F scale 1-1/2 in. diameter,1/2 NPT connection
804191B/U	2-1/2 in. diameter, panel-mounted Pneumatic Pressure Indicating Gauge (0 to 30 psi), 1/4 in. barbed connection, +/-3% accuracy
804191C/U	2-1/2 in. diameter, panel-mounted Pneumatic Pressure Indicating Gauge (0 to 60 psi), 1/8 in. NPT connection, +/-3% accuracy
804191E/U	2-1/2 in. diameter, panel-mounted Pneumatic Pressure Indicating Gauge (0 to 160 psi), 1/8 in. NPT connection, +/-3% accuracy

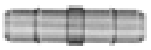
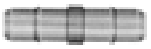
Pneumatic Accessories

Product Number	Description	Used With
14002913-003/U	External Restriction Assembly. 0.007 in. Restriction, Red, Inlet 1/4 in; Outlet 1/4 in. and 5/32 in.	LP907
14002913-004/U	External Restriction Assembly. 0.005 in. Restriction, Blue Inlet 1/4 in; Outlet 5/32 in. and 5/32 in.	—
14002913-005/U	External Restriction Assembly. 0.007 in. Restriction, Red Inlet 1/4 in; Outlet 5/32 in. and 5/32 in.	—
14002913-007	External Restriction Assembly. 0.013 in. Restriction, Gray and Red, Inlet 1/4 in; Outlet 1/4 in. and 1/4 in.	—
14002914-001	Internal Restriction Assembly, 0.005 in. Restriction, Blue	RP975, SP970
14003428-001/U	Amber tint filter bowl 4 1/64 inch long x 2 59/64 inch diameter including Bushing (313003)	WP251A
14003519-001/U	0-30 psi Gauge Kit with Fittings for Copper or Poly Tubing	—
14004239-001/U	Total air flow pick-up Tube assembly	PP904A
14004441-003/U	Bag assembly, with Spring [silver] (14001992-001) window [vertical. Logo] (14004405-001), window [horizontal. Logo] (14004405-002), window [vertical. 60-90] (14004405-005),1 window [horizontal. 60-90] (14004405-014)	—
14004559-001	Adaptor assemblies consisting of 5/32 in. tube and 5/32 to 1/4 barb fitting for TP970 connections	Pneumatic Fittings
14501547-001/U	ISD Central relay panel	—
14501600-001/U	Resistor Assembly PPK, End of Line Resistor, 1.91K Ohms Single Zone Fire Alarm Panels	—
14501600-003/U	Resistor Assembly PPK, End of Line Resistor, 1.91K Ohms Single Zone Fire Alarm Panels	—
14502412-005/U	Lightning Suppressor for Lighting Products	—
14502412-006/U	Lightning Suppressor for Lighting Products	—
14502412-009/U	Lightning Suppressor for Lighting Products	—
14502412-010/U	Lightning Suppressor for Lighting Products	—
14502412-011/U	Lightning Suppressor for Lighting Products	—
14502412-012/U	Lightning Suppressor for Lighting Products	—
14502412-014/U	Lightning Suppressor for Lighting Products	—
14505159-001/U	Tamper Switch for Cabinet	—
14505393-001/U	Isolation Transformer, 24V / 50-60 Hz	—
14505928-001/U	Lock & Key for Cabinet	—
14506587-004/U	Base for TC804, TC805 Smoke Detector	—
14506635-001/U	Rough-in Ring, for Half-sized (18 in. x 18 in.) Standard Cabinet (19 in. x 24 in. x 9 in.).	—
14506635-002/U	Rough-in Ring for Full-sized (36 in. x 36 in.) Standard Cabinet (38 in. x 24 in. x 9 in.).	—
14506636-001/U	Door with Lock for Half-sized (18 in. x 18 in.) Standard Cabinet.	—
14506636-002/U	Door with Lock for Full-sized (36 in. x 36 in.) Standard Cabinet.	—
15753207-004/U	Back Coverplate for Half-sized (18 in. x 18 in.) Standard Cabinet.	—
176112024	Three position switch, same as SP470A1018 without the scaleplate	SP470A1018
186115138	Internal Restriction Assembly, 0.013 in. Restriction, Gray	—
301572A/0767/U	Thermostat Key	—
310418A/U	Pneumatic External Adjustable Restrictor	—
310543/U	Seat, Valve, Removable, V5005	—
314316A/U	Crank Arm Assembly, MP516	—
315559E/U	Pneumatic “Tee” Restrictor	—
316134B/U	PP901A & B Diaphragm Repair Kit	PP901A,B
802550/U	Toggle Switch	—

Product Number	Description	Used With	
AK3052W1C/U	Pneumatic Tubing, Polyethylene Flame Retardant Plastic (5/32 in. O.D. x 0.030 in. wall thickness), Carton quantity = 3000 ft	—	
AK3053W1C/U	Pneumatic Tubing, Polyethylene Flame Retardant Plastic (1/4 in. O.D. x 0.040 in. wall thickness), Black with Colored Markings, without Fittings, Carton quantity = 1500 ft	—	
AK3056C/U	Pneumatic Tubing, Polyethylene Flame Retardant Plastic (3/8 in. O.D. x 0.062 in. wall thickness), Black with 1 through 2 White Markings, without Fittings, Carton quantity = 1000 ft	—	
AK3061C/U	Pneumatic Tubing, Polyethylene Flame Retardant Plastic (1/2 in. O.D. x 0.062 in. wall thickness), Black with 1 through 2 White Markings, without Fittings, Carton quantity = 500 ft	—	
AK3470B/U	Condensate Trap, 1/2 in., for 1 h.p. or larger compressors	—	
AK3470C/U	Condensate Trap, 3/8 in., for 3/4 h.p. or smaller compressors	—	
AK3486/U	Coalescing In-line Pneumatic Filter Kit includes Two Filters with integral barbed fitting for individual devices	—	
AK3997/U	Free Standing Mounting Kit for one General Purpose Cabinet	—	
ARR262/U	Miniature Pressure Regulator (0-125 psi Range), no gauge	—	
ARR262-S31/U	Miniature Pressure Regulator (0-125 psi Range), includes 0-160 psi gauge	—	
ARR262-S32/U	Miniature Pressure Regulator (0-60 psi Range), includes 0-60 psi gauge	—	
ARR262-S34/U	Arrow PRV 0-60	—	
ARR262I/U	Miniature Pressure Regulator (0-20 psi Range), no gauge	—	
ARRBK1611/U	Arrow PRV	—	
CCT1421/U	1/4 in. Brass Compression Union	—	
CCT1435T/U	Pneumatic Fitting - 1/4 in. x 1/8 in. NPT Brass Compression Adapter to NPT,	—	
CCT1529/U	Pneumatic Fitting - 1/4 in. Brass Compression Tee,	—	
CCT1531/U	Pneumatic Fitting - 3/8 in. Brass Compression Tee,	—	
CCT1532/U	Pneumatic Fitting - 1/2 in. Brass Compression Tee,	—	
CCT1571/U	Pneumatic Fitting - 1/4 in. Plastic Ferrule (white) for use with plastic tubing and standard compression fittings,	—	
CCT1572/U	Pneumatic Fitting - 3/8 in. Plastic Ferrule (white) for use with plastic tubing and standard compression fittings,	—	
CCT1573/U	Pneumatic Fitting - 1/2 in. Plastic Ferrule (white) for use with plastic tubing and standard compression fittings,	—	
CCT1575/U	Pneumatic Fitting - 1/4 in. Brass Insert for Plastic Tubing,	—	
CCT1576/U	Pneumatic Fitting - 3/8 in. Brass Insert for Plastic Tubing,	—	
CCT1577/U	Pneumatic Fitting - 1/2 in. Brass Insert for Plastic Tubing,	—	

Pneumatic Accessories

Product Number	Description	Used With	
CCT1589B/U	Pneumatic Fitting - 1/4 in.x1/8 in. FPT 90 Barbed Female Street Ells,	—	
CCT1590BT/U	Pneumatic Fitting - 1/4 in. Barbed x 1/8 in. NPT Male Adapter, Taped,	—	
CCT1594B/U	Pneumatic Fitting - 1/4 in. Barbed x 1/8 in. FPT Female Adapter,	—	
CCT1595BT/U	Pneumatic Fitting - 1/4 in. barbed x 1/8 in. NPT 90 Barbed Male Street Ells,	—	
CCT1598B/U	Pneumatic Fitting - 3/8 in. barbed x 3/8 in. barbed 90 E bow	—	
CCT1599BT/U	Pneumatic Fitting - combination 5/32 in. and 1/4 in. Barbed x 1/8 in. NPT Male Adapter,	—	
CCT1602/U	Pneumatic Fitting - In-line gauge Tee (5/32 in. barbed x 5/32 in. barbed x 1/8 in. FPT),	—	
CCT1606B/U	Pneumatic Fitting - 5/32 in. barbed x 1/4 in. barbed (brass) plastic tubing coupling, reducing,	—	
CCT1607B/U	Pneumatic Fitting - 1/4 in. barbed x 1/4 in. barbed (brass) plastic tubing coupling,	—	
CCT1608B/U	Pneumatic Fitting - 3/8 in. barbed x 3/8 in. barbed (brass) plastic tubing coupling,	—	
CCT1610B/U	Pneumatic Fitting - 3/8 in. barbed x 1/4 in. barbed (brass) plastic tubing coupling,	—	
CCT1611B/U	Pneumatic Fitting - 1/2 in. barbed x 3/8 in. barbed (brass) plastic tubing coupling,	—	
CCT1612B/U	Pneumatic Fitting - 1/4 in. barbed x 1/4 in. barbed x 1/4 in. barbed (brass) Straight Tee,	—	
CCT1613B/U	Pneumatic Fitting - 3/8 in. barbed x 3/8 in. barbed x 3/8 in. barbed (brass) Straight Tee,	—	
CCT1614B/U	Pneumatic Fitting - 1/4 in. barbed x 1/4 in. barbed x 1/8 in. FPT In-line gauge Tee,	—	
CCT1615B/U	Pneumatic Fitting - 3/8 in. barbed x 3/8 in. barbed x 1/4 in. barbed Reducing Tee,	—	
CCT1616B/U	Pneumatic Fitting - 1/2 in. barbed x 1/2 in. barbed x 1/4 in. barbed Reducing Tee,	—	

Product Number	Description	Used With	
CCT1617B/U	Pneumatic Fitting - 1/2 in. barbed x 1/2 in. barbed (brass) plastic tubing coupling,	—	
CCT1618B/U	Pneumatic Fitting - 1/2 in. barbed x 1/2 in. barbed x 3/8 in. barbed Reducing Tee,	—	
CCT1619B/U	Pneumatic Fitting - Bulkhead Barb, 1/4 in. barbed x 1/4 in. Compression Nuts (for panels 5/16 in. thick),	—	
CCT1620B/U	Pneumatic Fitting - 1/2 in. barbed x 1/2 in. barbed x 1/2 in. barbed (brass) Straight Tee,	—	
CCT1622/U	Pneumatic Fitting - 1/4 in. barbed x 1/4 in. barbed x 1/8 in. FPT In-line gauge Tee with mounting tabs,	—	
CCT1623/U	Pneumatic Fitting - 1/4 in. Spring Clamp for Pneumatic Tubing,	—	
CCT1628B/U	Pneumatic Fitting - 5/32 in. barbed x 5/32 in. barbed (brass) plastic tubing coupling,	—	
CCT1629B/U	Pneumatic Fitting - 1/2 in. barbed x 1/4 in. barbed (brass) plastic tubing coupling,	—	
CCT1630B/U	Pneumatic Fitting - 1/4 in. barbed x 1/4 in. barbed x 5/32 in. barbed Reducing Tee,	—	
CCT1631B/U	Pneumatic Fitting - 3/8 in. barbed x 3/8 in. barbed x 5/32 in. barbed Reducing Tee,	—	
CCT1633BT/U	Pneumatic Fitting - 1/4 in. Barbed x 1/4 in. NPT Male Adapter,	—	
CCT1635B/U	Pneumatic Fitting - 1/4 in. barbed x 1/4 in. Compression Adapter,	—	
CCT1637B/U	Pneumatic Fitting - 5/32 in. barbed x 5/32 in. barbed x 5/32 in. barbed (brass) Straight Tee,	—	
CCT1640/U	Pneumatic Fitting - 1/4 in. Tubing Plug,	—	

Pneumatic Accessories

Product Number	Description	Used With	
CCT1641/U	Pneumatic Fitting - 5/32 in. barbed x 5/32 in. Brass barbed 90 Elbow,	—	
CCT1642/U	Pneumatic Fitting - 1/4 in. barbed x 1/4 in. barbed 90 E bow,	—	
CCT1643/U	Pneumatic Fitting - 1/4 in. barbed x 5/32 in. barbed 90 Elbow	—	
CCT1692T/U	Pneumatic Fitting - 1/4 in. NPT x 1/8 in. FPT (brass) Pipe Bushing Taped,	—	
CCT1694T/U	Pneumatic Fitting - 3/8 in. NPT x 1/4 in. FPT Brass Reducing Pipe Bushing, Taped,	—	
CCT1696T/U	Pneumatic Fitting - 1/2 in. NPT x 1/4 in. FPT Brass Reducing Pipe Bushing, Taped,	—	
CCT1801/U	Pneumatic Fitting - Rubber Cap for 1/4 in. O.D. Pneumatic Tubing,	—	
CCT1802/U	Pneumatic Fitting - Rubber Grommet for 1/4 in. hole used to install capillary in duct	—	
CCT1807A/U	Plastic Cap for 3/8 in. Tubing.	—	
CCT1815/U	Pneumatic Fitting - Aluminum Barb Plug for 5/32 in. x 5/32 in. O.D. Pneumatic Tubing (no air passage),	—	
CCT1820/U	Plastic Bushing for 1/2 in. EMP or K.O.,.	—	
CCT2083T/U	Pneumatic Fitting - Tank Valve with CCT2084 Cap, 1/8 in. NPT,	—	
CCT2085/U	Pneumatic Fitting - Gauge Adapter fits any standard 1/8 in. NPT gauge,	LP907	
CCT2090A/U	Air Check Diode Valve 1/4 in. O.D. Brass, 1.2 SCFM.	—	
CCT2091/U	Pneumatic Fitting - Air Check Diode Valve FPT for 1/4 in. O.D. Pneumatic Tubing (4.4 scfm)	—	
CCT2127B/U	Pneumatic Fittings - 1/4 in. barbed x 1/4 in. barbed Pneumatic Needle Valve,	—	
CCT2564/U	Pneumatic Fittings - Plated Single Straps for 1/4 in. O.D. Copper Tubing,	—	
CCT2565/U	Pneumatic Fittings - Plated Single Straps for 3/8 in. O.D. Copper Tubing,	—	
CCT2566/U	Pneumatic Fittings - Plated Single Straps for 1/2 in. O.D. Copper Tubing,	—	
CCT2626/U	Pneumatic Fittings - Copper Gang Straps (6 in. wide) for 1/4 in. or 3/8 in. O.D. Copper Tubing,	—	
CCT2627/U	Pneumatic Fittings - Copper Gang Straps (36 in. wide) for 1/4 in. or 3/8 in. O.D. Copper Tubing,	—	
CCT2628/U	Pneumatic Fittings - Zinc-plated Steel Universal Gang Straps (24 in. wide) for 1/8 in. through 3/4 in. O.D. Copper Tubing,	—	
CCT2630/U	Pneumatic Fittings - Aluminum Universal Gang Straps (24 in. wide) for 1/8 in. through 3/4 in. O.D. Copper Tubing,	—	
CCT2762/U	Pneumatic Fittings - Adhesive Straps (1 in. wide) for 3/8 in. O.D. Tubing,	—	

Product Number	Description	Used With	
CCT720B/U	Tubing Bender for 1/4 in. O.D. Pneumatic Tubing	—	
CCT722B/U	Tubing Bender for 3/8 in. O.D. Pneumatic Tubing	—	
CCT814/U	Slide Rule for Calculating Pneumatic Valve and Main Air Sizing	—	
CCT817C/U	Replacement gauge for the DSP3356 Pneumatic Control Calibration Kit	—	
CCT819/U	Proportional Band and Authority Setting Adjustment Tool for all RP920's	—	
CCT852/U	Pressure Bulb Assembly	—	
CCT853/U	Pneumatic Tubing for Test Equipment, 11/32 in. O.D. x 5/32 in. Latex Tubing (10 ft lengths)	—	
CCT948/U	Valve Seat Removal Wrench, 2 5/8 in. for V5011 and V5013 (2-1/2 in. Valves)	—	
CCT950/U	Tubing holder. This tubing holder is used in combination with CCT951 to insert 5/32 in. and 1/4 in. fittings in plastic tubing.	—	
CCT951/U	Fitting holder: This fitting holder is used in combination with CCT950 to insert 5/32 in. and 1/4 in. fittings in plastic tubing.	—	
DSP3356/U	Calibration Training Kit	—	
HKN05417007/U	Drain Snap-Trap #05.4170-07	—	
HKN07132/U	Filter Cartridge for HKN13023 Oil Removal Filter	—	
HKN07341/U	Filter Sleeve Kit (for HKN8005, HKN8010 & HKN8210)	HKN8005, HKN8010, HKN8210	
HKN07444101/U	Separator/Drain. Cartridge (for HKN8005, HKN8010 & HKN8210)	HKN8005, HKN8010, HKN8210	
HKN44604363/U	Filter Element, 40 microns with gaskets (for HKN8010, HKN8210, HKN8015, HKN8025 & HKN8210)	HKN8010, HKN8210, HKN8015, HKN8025	
HKNRDMK1/U	Maintenance Kit, Hankison Part No.RDMK1	—	
MJK100/U	Pneumatic Fittings Kit - Includes an assortment of fittings most often required for replacement or repair of pneumatic devices.	—	
MQP800/U	Pneumatic Cal bration Kit with two 0-30 psi gauges	—	
P246A1009/U	Static Pressure Regulator	—	

Pneumatic Definitions and Abbreviations

Definitions and Abbreviations

Actuator (Damper)— A mechanical device that operates a final control element (e.g., valve, damper). Actuator (Valve)—The part of an automatic control valve that moves the stem up and down based on an electric, electronic, or pneumatic signal from a controller. For butterfly or other rotary valves, the actuator rotates the stem. The actuator and valve can be two separate devices or together they can be one device.

BLP—See Branchline pressure.

Body rating (actual)—The correlation between safe, permissible flowing fluid pressure and flowing fluid temperature of the valve body (exclusive of the packing, disc, etc.). The nominal valve body rating is the permiss ble pressure at a specific temperature.

EXAMPLE:

A cast iron, screwed-end valve has a 125 psi nominal body rating. The actual valve body ratings may be 125 psi at 380 F and 175 psi at 175 F.

Body rating (nominal)—The theoretical pressure rating, expressed in psi, of the valve body exclusive of packing, disc, etc. The nominal rating is often cast on the valve body and provides a way to classify the valve by pressure. A valve of specified body material and nominal body rating often has characteristics such as pressure-temperature ratings, wall thickness, and end connections which are determined by a society such as ANSI (American National Standards Institute). Figure 2 shows typical ANSI pressure-temperature ratings for valves. Note that the nominal body rating is not the same as the actual body rating.

Body—The valve casting through which the controlled fluid flows.

Bonnet—The part that screws to the top of the valve body and contains the packing that seals and guides the valve stem.

Branch line—The air line from a controller to the controlled device.

Branchline pressure (BLP)—A varying air pressure signal from a controller to an actuator, carried by the branch line. Can go from zero to full main line pressure.

British thermal unit (Btu)—The amount of heat required to raise one pound of water one degree Fahrenheit.

Btu—See British thermal unit.

Close-off rating of three-way valves—The maximum pressure difference between either of the two inlet ports and the outlet port for mixing valves, or the pressure difference between the inlet port and either of the two outlet ports for diverting valves.

Close-off rating—The maximum pressure drop that a valve can withstand without leakage while in the full closed position. The close-off rating is a function of actuator power to hold the valve closed against pressure drop, but structural parts such as the stem can be the limiting factor.

EXAMPLE:

A valve with a close-off rating of 10 psi could have 40 psi upstream pressure and 30 psi downstream pressure. Note that in applications where failure of the valve to close is hazardous, the maximum upstream pressure must not exceed the valve close-off rating, regardless of the downstream pressure.

The valve close-off rating is independent of the actual valve body rating. See definition of BODY RATING (ACTUAL) in this section.

Control point—The actual value of the controlled variable (setpoint plus or minus offset).

Control valve—A device used to control the flow of fluids such as steam, water, or air.

Controlled variable—The quantity or condition that is measured and controlled (e.g., temperature, relative humidity, pressure).

Controller—A device that senses the controlled variable (or receives an input signal from a remote sensing element), compares the signal with the setpoint, and outputs a control signal (branchline pressure) to an actuator.

Cv—See Flow coefficient.

DA—See Direct acting or Discharge air.

Damper—A device used to control the flow of air in a duct or through a wall louver.

Dew-point temperature—The temperature at which water vapor from the air begins to form droplets and settles or condenses on surfaces that are colder than the air. The more moisture the air contains, the higher its dew point temperature. When dry-bu b and wet-bulb temperatures of the air are known, the dew-point temperature can be plotted on the psychrometric chart.

Differential—A term that applies to two-position devices. The range through which the controlled variable must pass in order to move the final control element from one to the other of its two possible positions. The difference between cut-in and cut-out temperatures, pressures, etc.

Direct acting (DA)—A direct-acting thermostat or controller increases the branchline pressure on an increase in the measured variable and decreases the branchline pressure on a decrease in the variable. A direct-acting actuator extends on an increase in branchline pressure and retracts on a decrease in pressure.

Direction of flow—The correct flow of the controlled fluid through the valve is usually indicated on the valve body. If the flow of the fluid goes against the indicated direction, the disc can slam into the seat as it approaches the closed position. The result is excessive valve wear, hammering, and oscillations. In addition, the actuator must work harder to reopen the closed valve since it must overcome the pressure exerted by the fluid on top of the disc rather than have the fluid assist in opening the valve by exerting pressure under the disc.

Discharge air (DA)—Conditioned air that has passed through a coil. Also, air discharged from a supply duct outlet into a space.

Disc—The part of the plug assembly that contacts the valve seat to close off flow of the controlled fluid. Certain valve plug assemblies are built so the part of the assembly contacting the seat is replaceable. This type of plug is called a renewable disc plug assembly. Renewable discs are usually made of a composition material softer than metal. Valves with all metal or nonrenewable discs may have to be “ground in” to restore a damaged seating surface. Note that the term disc can mean both the plug and disc together.

Dry-bulb temperature—The temperature read directly on an ordinary thermometer as degrees Fahrenheit (F) or degrees Celsius (C).

Equal percentage—A valve which changes the existing flow an equal percentage (regardless of flow rate) for similar movements in stem travel (at any point in the flow range).

Final control element—A device such as a valve or damper that acts to change the value of the manipulated variable. Positioned by an actuator.

Flow coefficient (capacity index)—Used to state the flow capacity of a control valve for specified conditions. Currently, in this catalog, two flow coefficients Kv, or Cv are used. The flow coefficients have the following relationships:

Av = 0.0000240 Cv

Kv = 0.865 Cv

The flow coefficient Kv is water flow in cubic meters per hour with a static pressure loss across the valve of 10^5 pascals (1 bar) within the temperature range of 5 to 40 C and can be determined from the formula:

$$Kv = Q\sqrt{\frac{\Delta p_{Kv}}{\Delta p} \bullet \frac{\rho}{\rho_W}}$$ M2807

Where:

Q = volumetric flow in cubic meters per hour.

ρ = fluid density in kilograms per cubic meter.

ρ_W = density of water in kilograms per cubic meter.

Δp_{Kv} = static pressure loss of 10^5 pascals.

Δp = static pressure loss across the valve in pascals.

The flow coefficient Cv is water flow in gallons per minute with a pressure loss across the valve of one pound per square inch within the temperature range of 40 to 100 F and can be determined for other conditions from the formula:

$$Cv = Q\sqrt{\frac{1}{\Delta P} \bullet \frac{\rho}{\rho_W}}$$ M2810

Where:

Q = volumetric flow in US gallons per minute.

ρ = fluid density in pounds per cubic foot.

ρ_W = density of water in pounds per cubic foot within the temperature range of 40 to 100 F.

Δp = static pressure loss across the valve in pounds per square inch.

K—Kelvin used in Standard International Units (SI) to express a temperature range.

Kv—See Flow coefficient.

Linear—A valve which provides a flow-to-lift relationship that is directly proportional. It provides equal flow changes for equal lift changes, regardless of percentage of valve opening. When plotted on rectilinear coordinates, the relationship approximates a straight diagonal line.

Linkage—A device which connects an actuator to a damper or control valve. To open and close a damper, the typical linkage consists of an actuator crankarm, balljoints, pushrod, and damper crank arm. In a valve application, the linkage connects the actuator to the valve and translates the rotary output of the actuator to the linear action of the valve stem.

M—See Main line**.**

MA—See Mixed air.

Main line (M)—The air line from the air supply system to controllers and other devices. Usually plastic or copper tubing.

Maximum pressure and temperature—The maximum pressure and temperature limitations of fluid flow that a valve can withstand. These ratings may be due to valve packing, body, or disc material or actuator limitations. The actual valve body ratings are exclusively for the valve body and the maximum pressure and temperature ratings are for the complete valve (body and trim). Note that the maximum pressure and temperature ratings may be less than the actual valve body ratings.

EXAMPLE:

The body of a valve, exclusive of packing, disc, etc., has a pressure and temperature rating of 125 psi at 380 F. If the valve contains a composition disc that can withstand a temperature of only 115 C, then the temperature limit of the disc becomes the maximum temperature rating for the valve.

Measuring element—Same as sensing element.

Mixed air (MA)—Typically a mixture of outdoor air and return air from the space.

mL/s—milliliters per second.

Modulating—Varying or adjusting by small increments. Also called “proportioning”.

Offset—A sustained deviation between the actual system control point and its controller setpoint under stable operating conditions. Usually applies to proportional (modulating) control.

Plug—The part that varies the opening for the fluid to flow through the valve body. The following describes the three most common types of plugs:

— A contoured plug has a shaped end that is usually end-guided at the top or bottom (or both) of the valve body. The shaped end controls fluid flow through the valve.

— A quick-opening plug is flat and is either end-guided or guided by wings riding in the valve seat ring. The flat plug provides maximum flow soon after it lifts from the valve seat.

— A V-port plug has a cylinder, called a skirt, that rides up and down in the valve seat ring. The skirt guides the plug and varies the flow area via its shaped openings.

Port—The opening in the valve seat.

Pressure drop (critical)—The flow of a gaseous controlled fluid through the valve increases as the pressure drop increases until reaching a critical point. This point is the critical pressure drop, denoted $\Delta P_{Critical}$.

$\Delta P_{Critical}$ = 50% x P_1 (Absolute upstream pressure)

When critical pressure is reached, any increase in pressure is dissipated in noise and cavitation rather than increase in flow. The noise and cavitation can destroy valve and adjacent piping components.

Pressure drop—The difference in upstream and downstream pressures of the fluid flowing through the valve. Pressure drop is denoted ΔP.

Proportional band—As applied to pneumatic control systems, the change in the controlled variable required to change the controller output pressure from 3 to 13 psi. Usually expressed as a percentage of sensor span.

Quick-opening—A valve which provides maximum possible flow as soon as the stem starts to lift the disc from the valve seat.

RA—See Reverse acting and Return air.

Relative humidity—The ratio of the measured amount of moisture in the air to the maximum amount of moisture the air can hold at the same temperature and pressure. Relative humidity is expressed in percent of saturation. Air with a relative humidity of 35, for example, is holding 35 percent of the moisture that it is capable of holding at that temperature and pressure.

Pneumatic Definitions and Abbreviations

Restrictor—A device in an air line that limits the flow of air.

Return air (RA)—Air from the conditioned space which is passed through the air handling unit and returned to the conditioned space.

Reverse acting (RA)—A reverse-acting thermostat or controller decreases the branchline pressure on an increase in the measured variable and increases the branchline pressure on a decrease in the variable. A reverse-acting valve actuator retracts on an increase in branchline pressure and extends on a decrease in pressure.

scfm—standard cubic feet per minute.

Seat—The stationary part of the valve body that has a raised lip to contact the valve disc when closing off flow of the controlled fluid.

Sensing element—A device that detects and measures the controlled variable (e.g., temperature, humidity).

Setpoint—The value on the controller scale at which the controller is set (e.g., the desired room temperature set on a thermostat). The desired control point.

Sling psychrometer—A device commonly used to measure the wet-bulb temperature. It consists of two identical thermometers mounted on a common base. The base is pivoted on a handle so it can be whirled through the air. One thermometer measures dry-bulb temperature. The bulb of the other thermometer is encased in a water-soaked wick. This thermometer measures wet-bulb temperature. Some models provide slide rule construction which allows converting the dry-bulb and wet-bulb readings to relative humidity.

Although commonly used, sling psychrometers can cause inaccurate readings, especially at low relative humidities, because of factors such as inadequate air flow past the wet-bulb wick, too much wick wetting from a continuous water feed, thermometer calibration error, and human error. To take more accurate readings, especially in low relative humidity conditions, motorized psychrometers are recommended.

Stem—The shaft that runs through the valve bonnet and connects an actuator to the valve plug.

Thermostat—A device that responds to changes in temperature and outputs a control signal (branchline pressure). Usually mounted on a wall in the controlled space.

Throttling range—Same as proportional band, except expressed in values of the controlled variable (e.g., degrees, percent relative humidity, pounds per square inch) rather than in percent.

Tight shut-off/close-off—A valve condition in which virtually no leakage of the controlled fluid occurs in the closed position. Generally, only single-seated valves provide tight shut-off. Double-seated valves typically have a one to three percent leakage in the closed position.

Trim—All parts of the valve that contact the controlled fluid. Trim includes the stem, packing, plug, disc, and seat; it does *not* include the valve body.

Wet-bulb temperature—The temperature read on a thermometer with the mercury bulb encased in a wet wick (stocking or sock) and with an air flow of 900 feet per minute across the wick. Water evaporation causes the temperature reading to be lower than the ambient dry-bulb temperature by an amount proportional to the moisture content of the air. The temperature reduction is sometimes called the evaporative effect. When the reading stops falling, the value read is the wet-bu b temperature.

The wet-bulb and dry-bulb temperatures are the easiest air properties to measure. When they are known, they can be used to determine other air properties on a psychrometric chart.

Product Selection Matrix for CE Sequence Primary/Programmer Relay Modules:

For 230 Vac nominal applications —

Fuel	Burner Type	Relay Module Type
Single	Atmospheric with fan	EC7820
Combination or single	On/Off Controlled Power Burner	EC7830
Combination or single	Full Modulation Power Burner	EC7850

For 120 Vac nominal applications —

Fuel	Burner Type	Relay Module Type
Combination or single	On/Off Controlled Power Burner	RM7830
Combination or single	Full Modulation Power Burner	RM7850

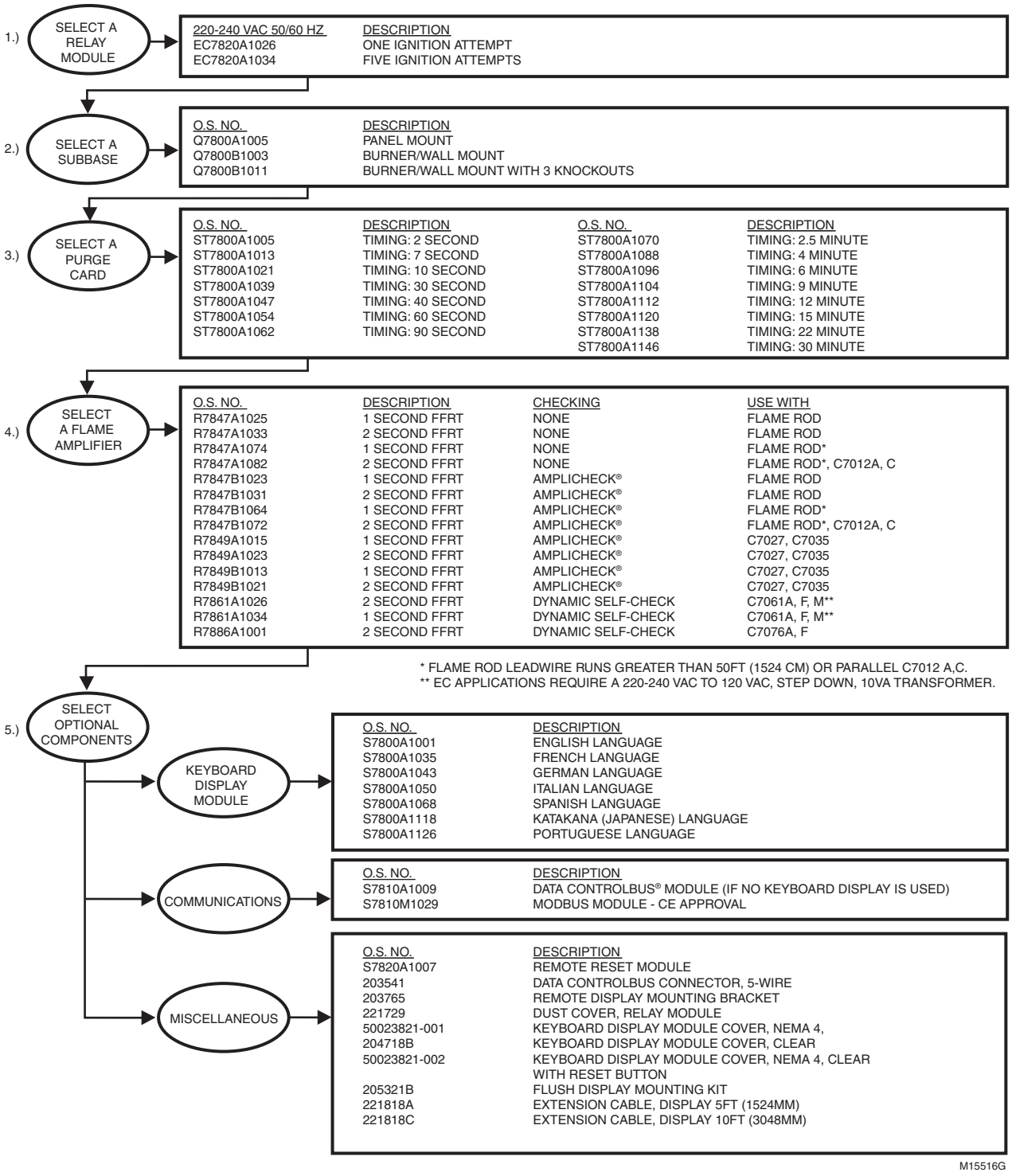
Use the following pages to select the following *required* devices:
Relay Module, 1 per burner
Subbase, 1 per relay module
Purge Timer Card, 1 per relay module
Flame Amplifier, 1 per relay module

Some products are available only through Authorized Flame Safeguard Wholesalers and/or Distr butors.

Use the following pages to select the following *optional* devices:
Keyboard Display module, up to 1 mounted to relay module, remote as desired network and ControlBus™ modules to service selected relays
Miscellaneous, as required to complete installation

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR EC7820 PROGRAMMER RELAY MODULES:



220-240 VAC 50/60 HZ	DESCRIPTION
EC7820A1026	ONE IGNITION ATTEMPT
EC7820A1034	FIVE IGNITION ATTEMPTS

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	1 SECOND FFRT	NONE	FLAME ROD
R7847A1033	2 SECOND FFRT	NONE	FLAME ROD
R7847A1074	1 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	2 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	1 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	2 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	1 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	2 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7849A1015	1 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849A1023	2 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1013	1 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	2 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7861A1026	2 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7861A1034	1 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7886A1001	2 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, F

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012 A,C.
** EC APPLICATIONS REQUIRE A 220-240 VAC TO 120 VAC, STEP DOWN, 10VA TRANSFORMER.

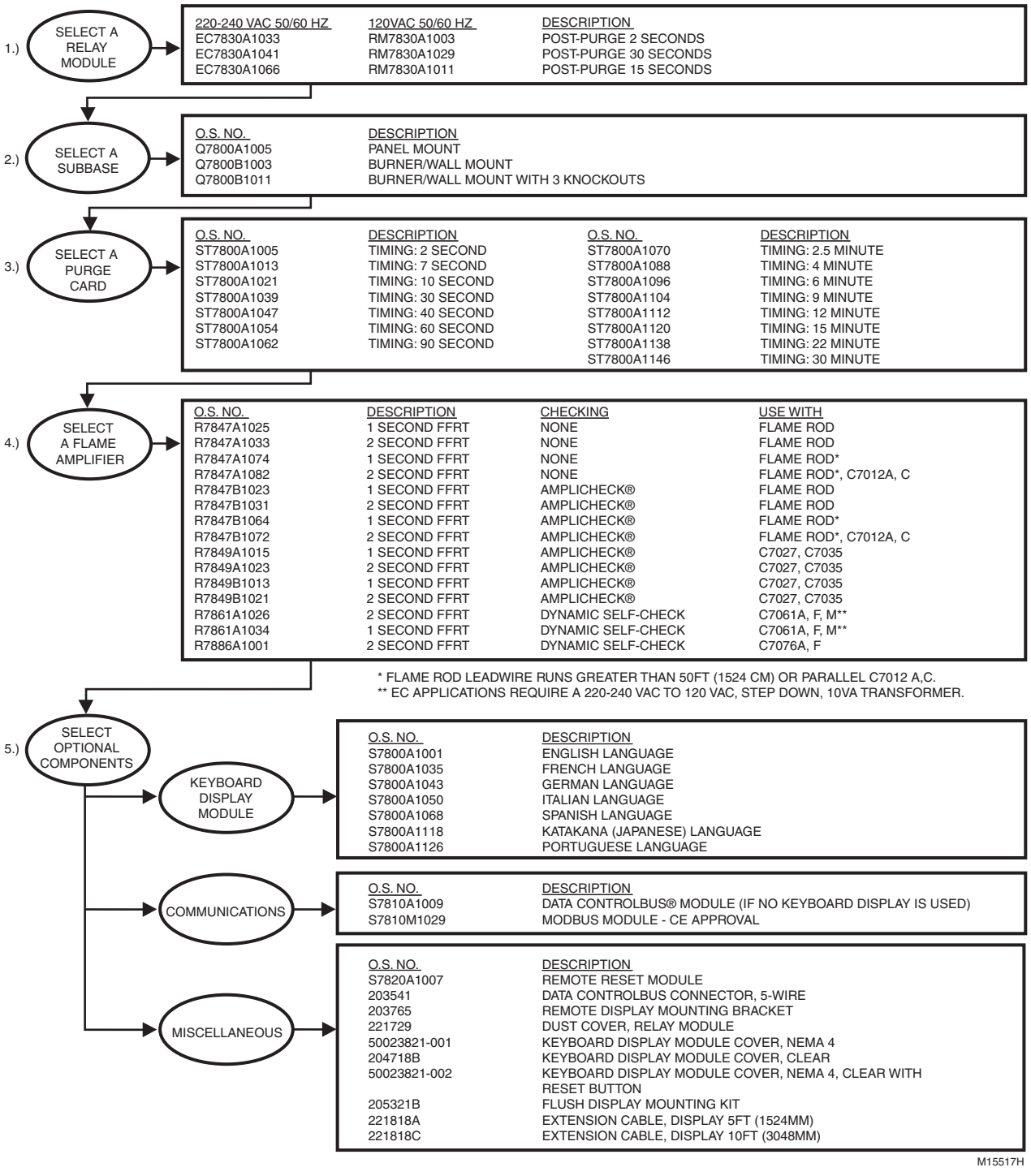
O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE

O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1029	MODBUS MODULE - CE APPROVAL

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4,
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15516G

PRODUCT SELECTION MATRIX FOR EC/RM7830 PROGRAMMER RELAY MODULES:



220-240 VAC 50/60 HZ	120VAC 50/60 HZ	DESCRIPTION
EC7830A1033	RM7830A1003	POST-PURGE 2 SECONDS
EC7830A1041	RM7830A1029	POST-PURGE 30 SECONDS
EC7830A1066	RM7830A1011	POST-PURGE 15 SECONDS

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	1 SECOND FFRT	NONE	FLAME ROD
R7847A1033	2 SECOND FFRT	NONE	FLAME ROD
R7847A1074	1 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	2 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	1 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	2 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	1 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	2 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7849A1015	1 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849A1023	2 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1013	1 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	2 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7861A1026	2 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7861A1034	1 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7886A1001	2 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, F

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012 A,C.
** EC APPLICATIONS REQUIRE A 220-240 VAC TO 120 VAC, STEP DOWN, 10VA TRANSFORMER.

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE

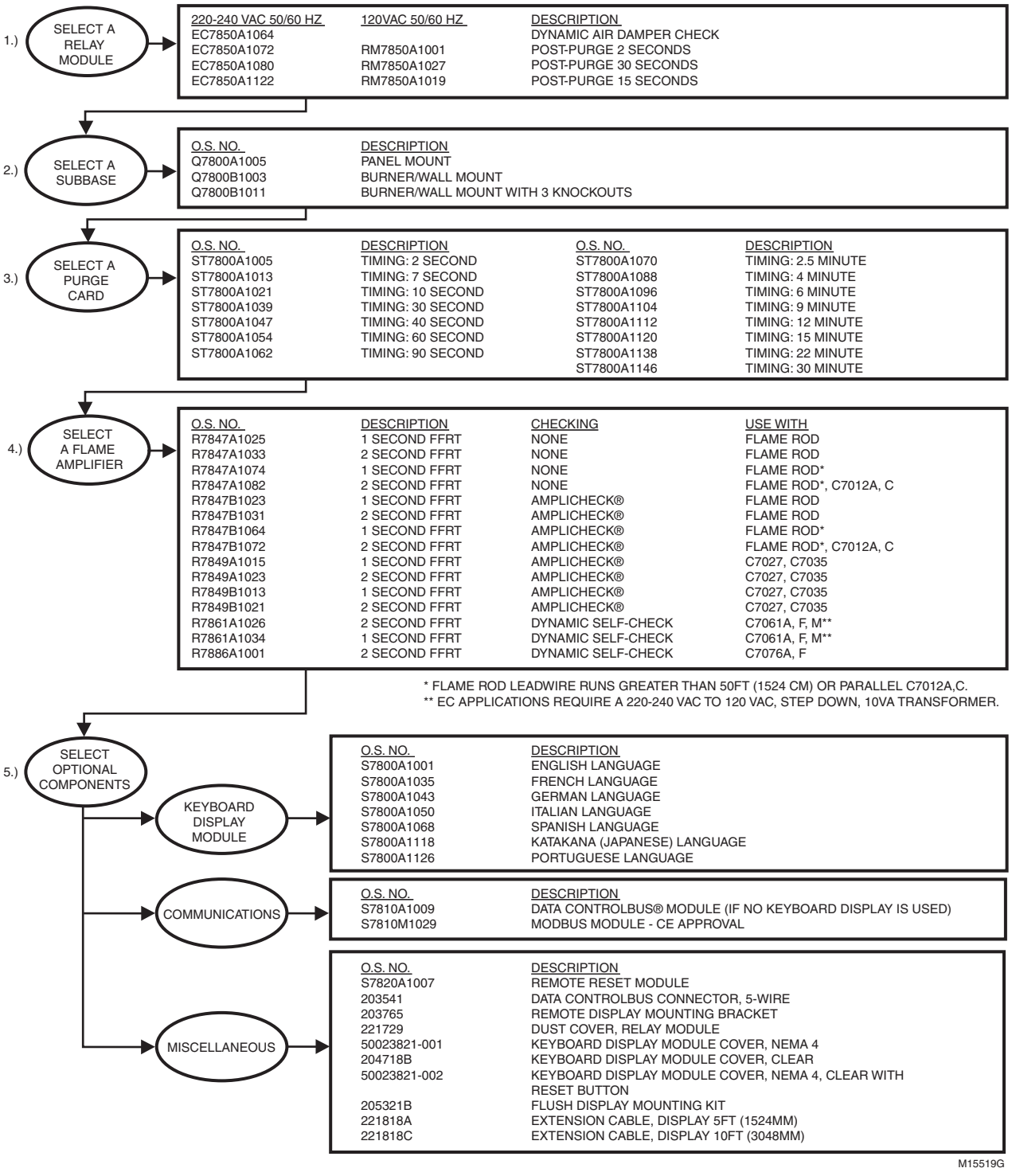
O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1029	MODBUS MODULE - CE APPROVAL

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15517H

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR EC/RM7850 PROGRAMMER RELAY MODULES:



220-240 VAC 50/60 HZ	120VAC 50/60 HZ	DESCRIPTION
EC7850A1064		DYNAMIC AIR DAMPER CHECK
EC7850A1072	RM7850A1001	POST-PURGE 2 SECONDS
EC7850A1080	RM7850A1027	POST-PURGE 30 SECONDS
EC7850A1122	RM7850A1019	POST-PURGE 15 SECONDS

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	1 SECOND FFRT	NONE	FLAME ROD
R7847A1033	2 SECOND FFRT	NONE	FLAME ROD
R7847A1074	1 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	2 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	1 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	2 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	1 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	2 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7849A1015	1 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849A1023	2 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1013	1 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	2 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7861A1026	2 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7861A1034	1 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7886A1001	2 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, F

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.
** EC APPLICATIONS REQUIRE A 220-240 VAC TO 120 VAC, STEP DOWN, 10VA TRANSFORMER.

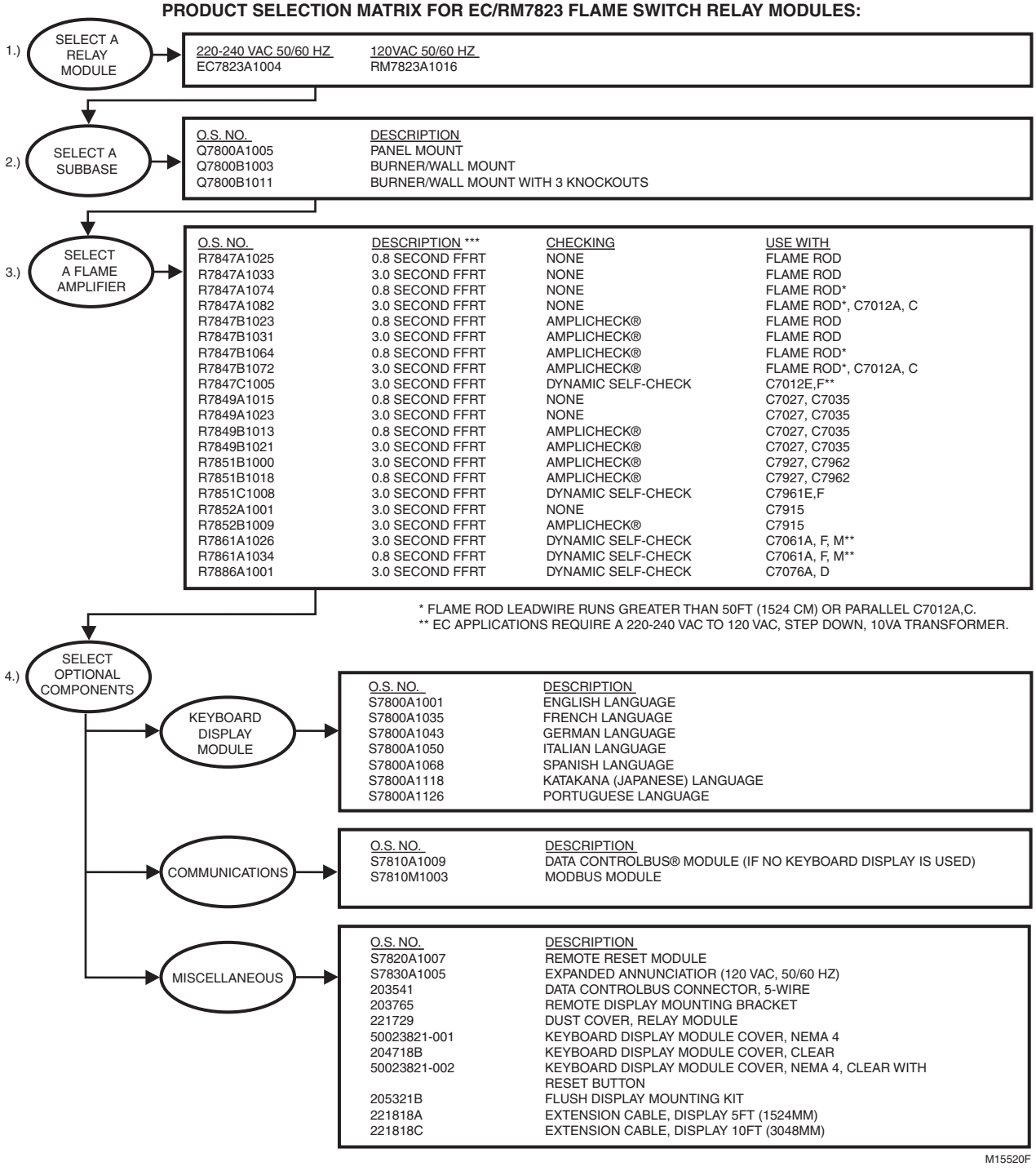
O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE

O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1029	MODBUS MODULE - CE APPROVAL

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15519G

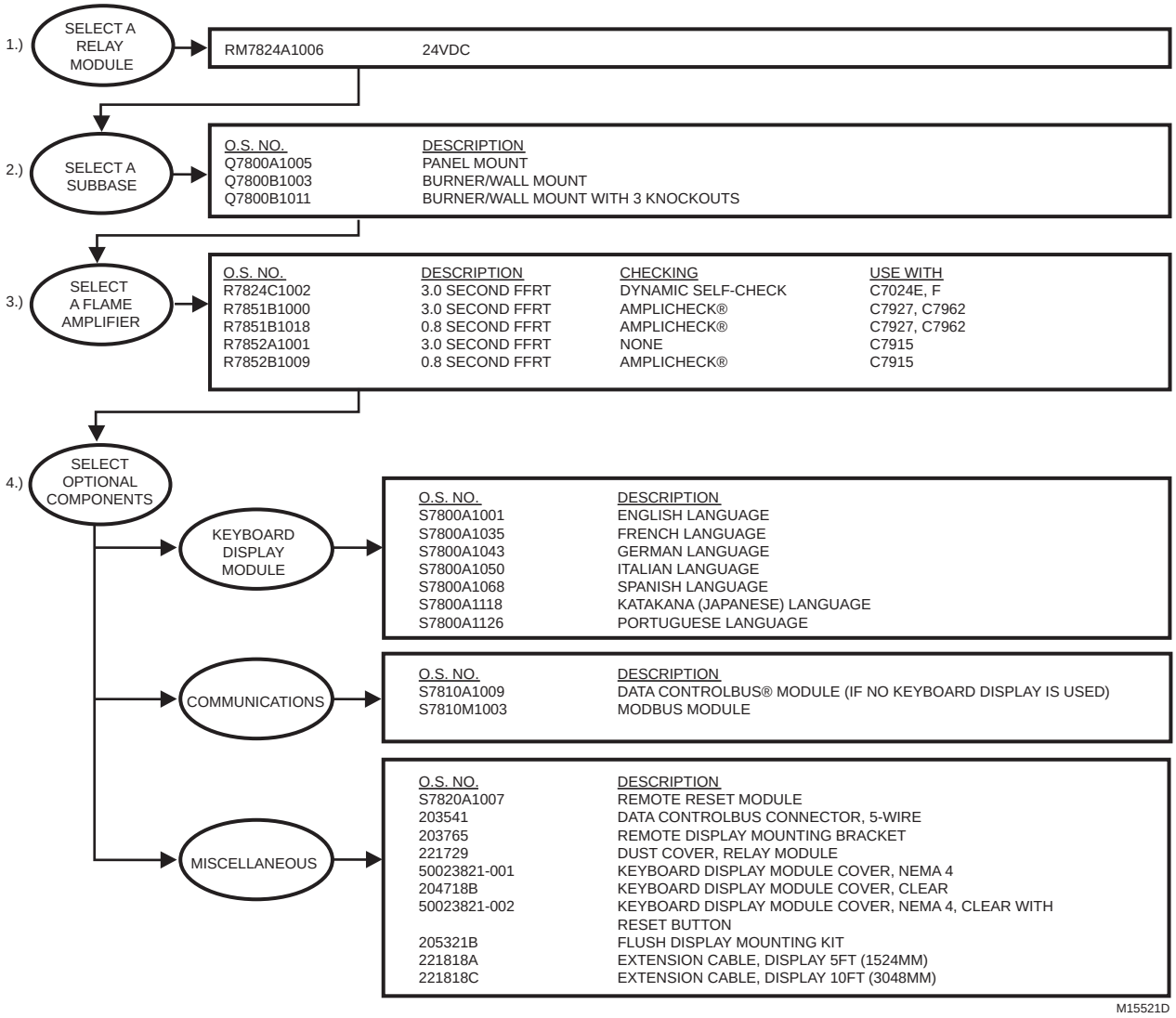
PRODUCT SELECTION MATRIX FOR EC/RM7823 FLAME SWITCH RELAY MODULES:



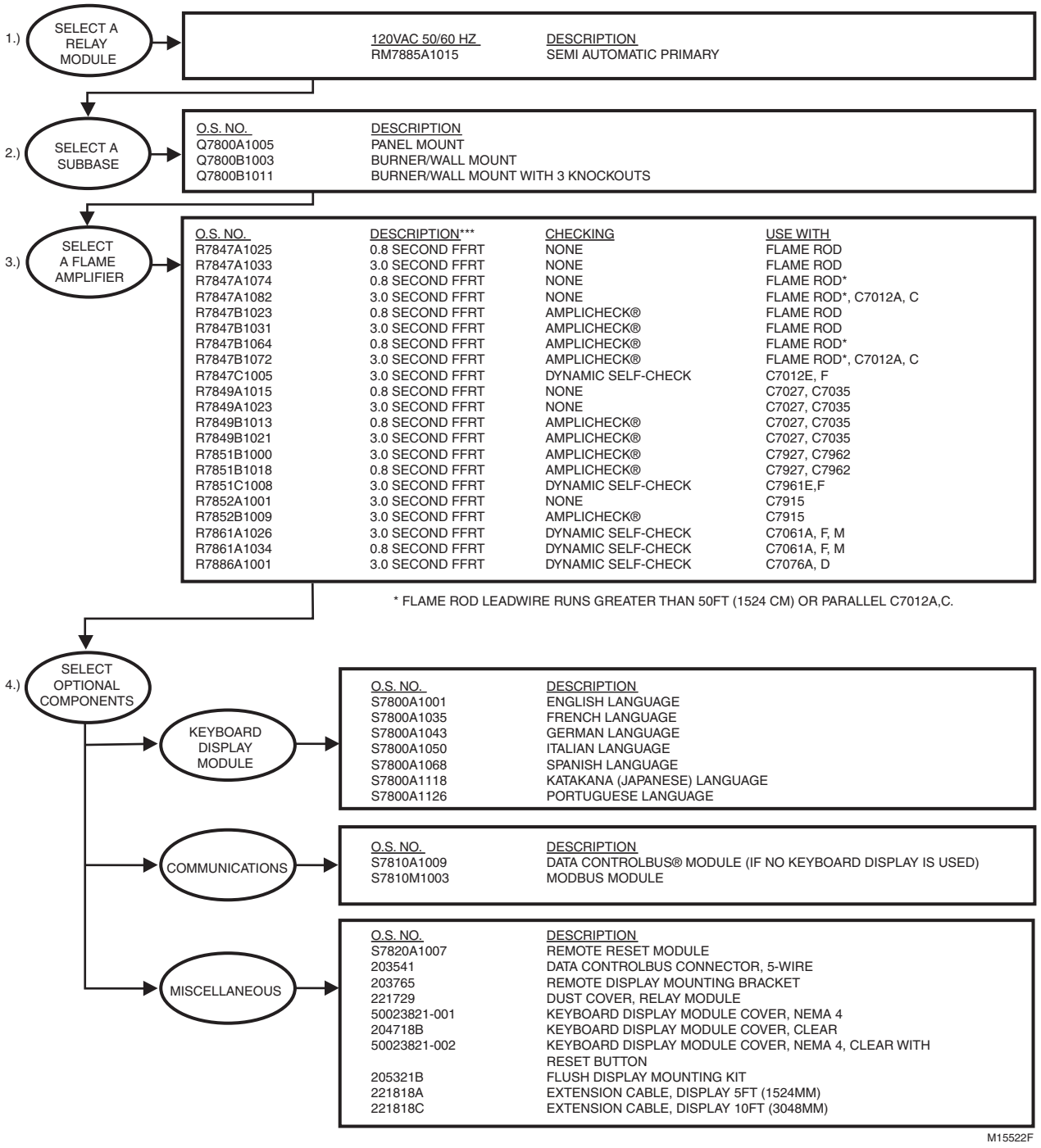
M15520F

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR RM7824A 24VDC PRIMARY CONTROL RELAY MODULES:



PRODUCT SELECTION MATRIX FOR RM7885 MANUAL START PRIMARY RELAY MODULES:



120VAC 50/60 HZ	DESCRIPTION
RM7885A1015	SEMI AUTOMATIC PRIMARY

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION***	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E,F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE

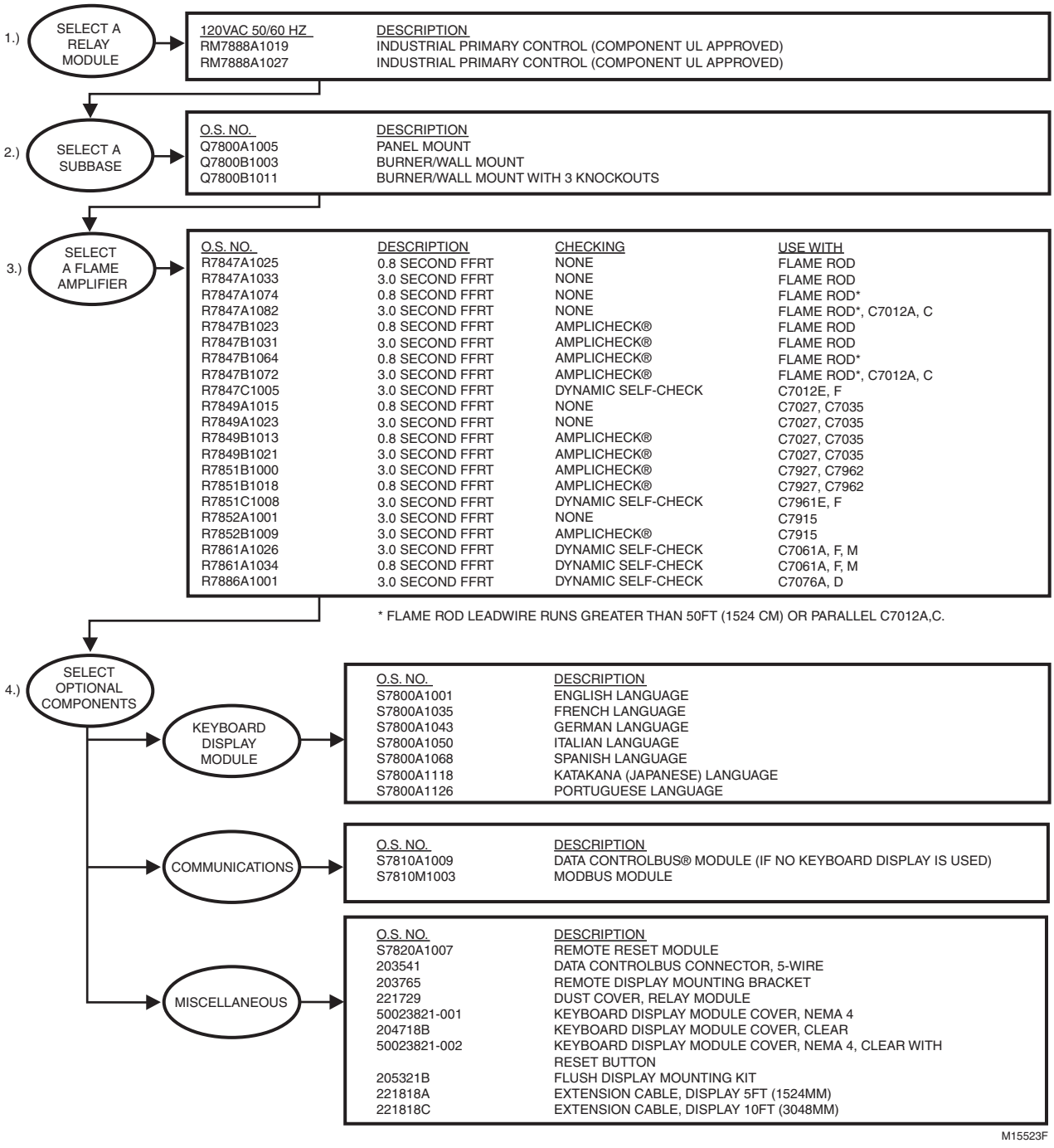
O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15522F

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR RM7888A SPECIAL FUNCTION PRIMARY CONTROL RELAY MODULES:



120VAC 50/60 HZ	DESCRIPTION
RM7888A1019	INDUSTRIAL PRIMARY CONTROL (COMPONENT UL APPROVED)
RM7888A1027	INDUSTRIAL PRIMARY CONTROL (COMPONENT UL APPROVED)

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E, F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

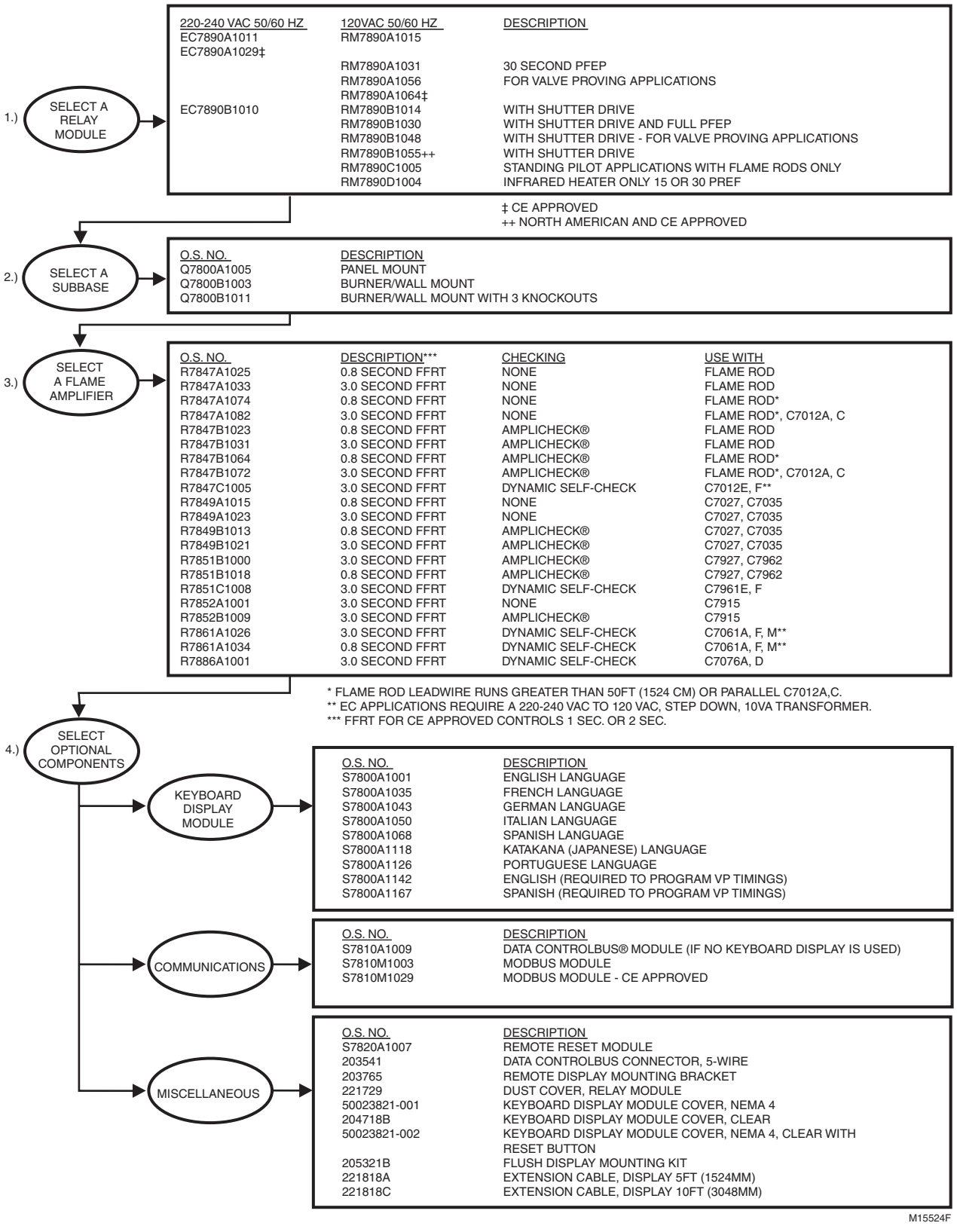
O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE

O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15523F

PRODUCT SELECTION MATRIX FOR EC/RM7890 ON/OFF PRIMARY CONTROL RELAY MODULES:



220-240 VAC 50/60 HZ	120VAC 50/60 HZ	DESCRIPTION
EC7890A1011	RM7890A1015	
EC7890A1029‡		
	RM7890A1031	30 SECOND PFEP
	RM7890A1056	FOR VALVE PROVING APPLICATIONS
	RM7890A1064‡	
EC7890B1010	RM7890B1014	WITH SHUTTER DRIVE
	RM7890B1030	WITH SHUTTER DRIVE AND FULL PFEP
	RM7890B1048	WITH SHUTTER DRIVE - FOR VALVE PROVING APPLICATIONS
	RM7890B1055++	WITH SHUTTER DRIVE
	RM7890C1005	STANDING PILOT APPLICATIONS WITH FLAME RODS ONLY
	RM7890D1004	INFRARED HEATER ONLY 15 OR 30 PREF

‡ CE APPROVED
++ NORTH AMERICAN AND CE APPROVED

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION***	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F**
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E, F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.
** EC APPLICATIONS REQUIRE A 220-240 VAC TO 120 VAC, STEP DOWN, 10VA TRANSFORMER.
*** FFRT FOR CE APPROVED CONTROLS 1 SEC. OR 2 SEC.

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE
S7800A1142	ENGLISH (REQUIRED TO PROGRAM VP TIMINGS)
S7800A1167	SPANISH (REQUIRED TO PROGRAM VP TIMINGS)

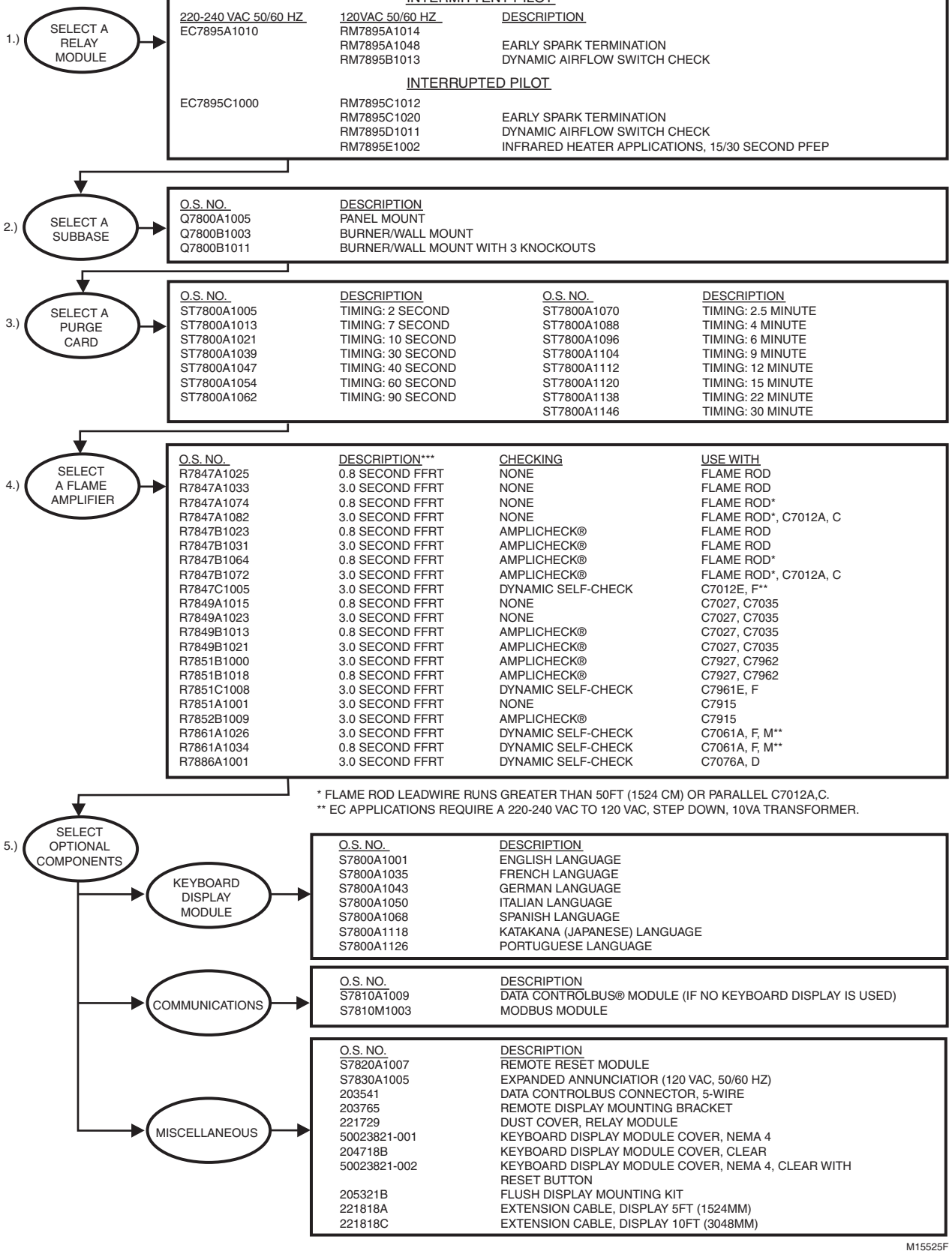
O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE
S7810M1029	MODBUS MODULE - CE APPROVED

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15524F

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR EC/RM7895 ON/OFF WITH PURGE PRIMARY RELAY MODULES:



1.) SELECT A RELAY MODULE

INTERMITTENT PILOT

220-240 VAC 50/60 HZ	120VAC 50/60 HZ	DESCRIPTION
EC7895A1010	RM7895A1014	
	RM7895A1048	EARLY SPARK TERMINATION
	RM7895B1013	DYNAMIC AIRFLOW SWITCH CHECK

INTERRUPTED PILOT

EC7895C1000	RM7895C1012	
	RM7895C1020	EARLY SPARK TERMINATION
	RM7895D1011	DYNAMIC AIRFLOW SWITCH CHECK
	RM7895E1002	INFRARED HEATER APPLICATIONS, 15/30 SECOND PFEP

2.) SELECT A SUBBASE

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

3.) SELECT A PURGE CARD

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

4.) SELECT A FLAME AMPLIFIER

O.S. NO.	DESCRIPTION***	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F**
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E, F
R7851A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M**
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.
** EC APPLICATIONS REQUIRE A 220-240 VAC TO 120 VAC, STEP DOWN, 10VA TRANSFORMER.

5.) SELECT OPTIONAL COMPONENTS

KEYBOARD DISPLAY MODULE

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE

COMMUNICATIONS

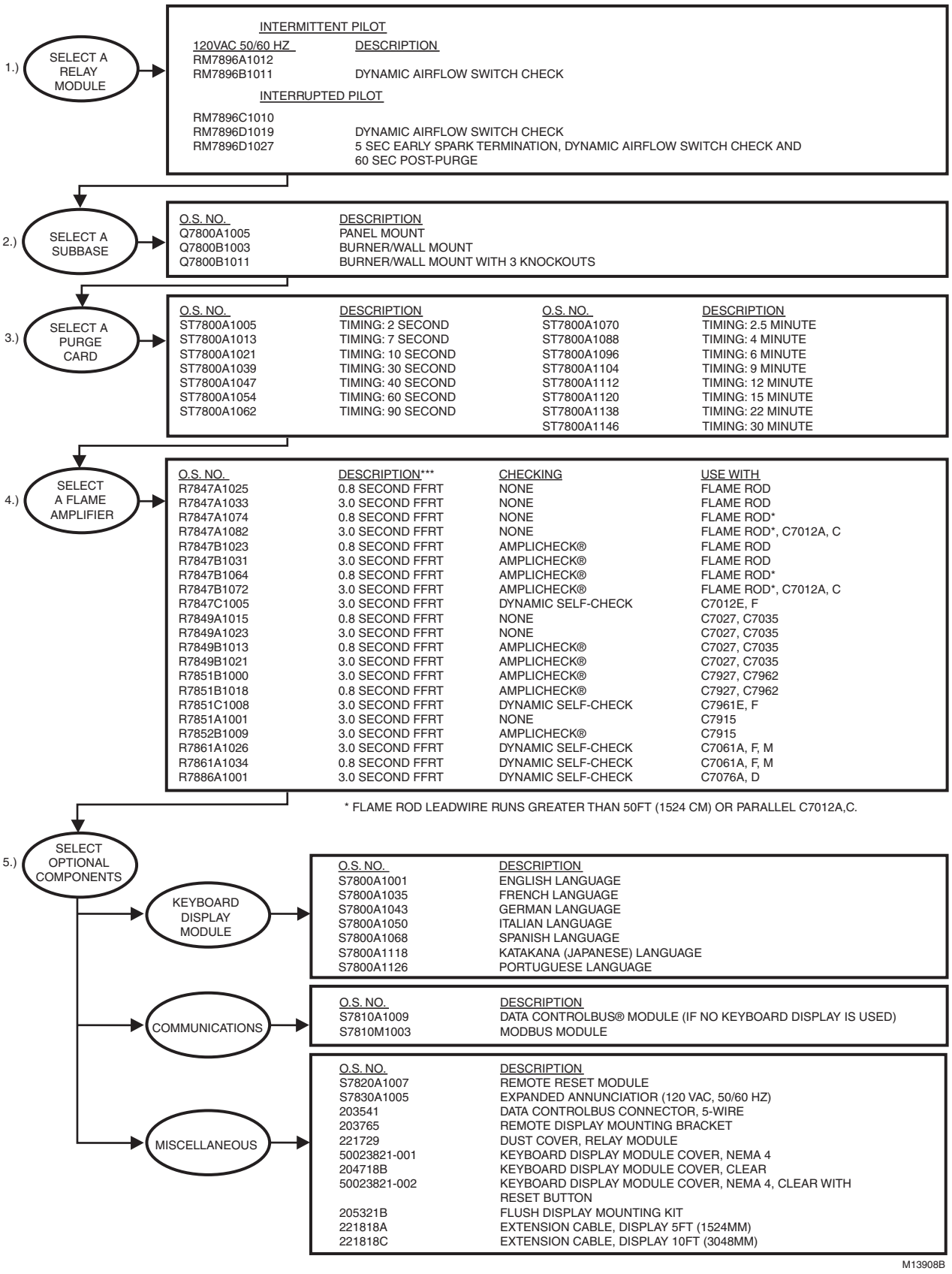
O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

MISCELLANEOUS

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15525F

PRODUCT SELECTION MATRIX FOR RM7896 ON/OFF WITH PRE- AND POST-PURGE PRIMARY RELAY MODULES:



1.) SELECT A RELAY MODULE

INTERMITTENT PILOT

120VAC 50/60 HZ	DESCRIPTION
RM7896A1012	
RM7896B1011	DYNAMIC AIRFLOW SWITCH CHECK

INTERRUPTED PILOT

RM7896C1010	
RM7896D1019	DYNAMIC AIRFLOW SWITCH CHECK
RM7896D1027	5 SEC EARLY SPARK TERMINATION, DYNAMIC AIRFLOW SWITCH CHECK AND 60 SEC POST-PURGE

2.) SELECT A SUBBASE

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

3.) SELECT A PURGE CARD

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

4.) SELECT A FLAME AMPLIFIER

O.S. NO.	DESCRIPTION***	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E, F
R7851A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

5.) SELECT OPTIONAL COMPONENTS

KEYBOARD DISPLAY MODULE

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE

COMMUNICATIONS

O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

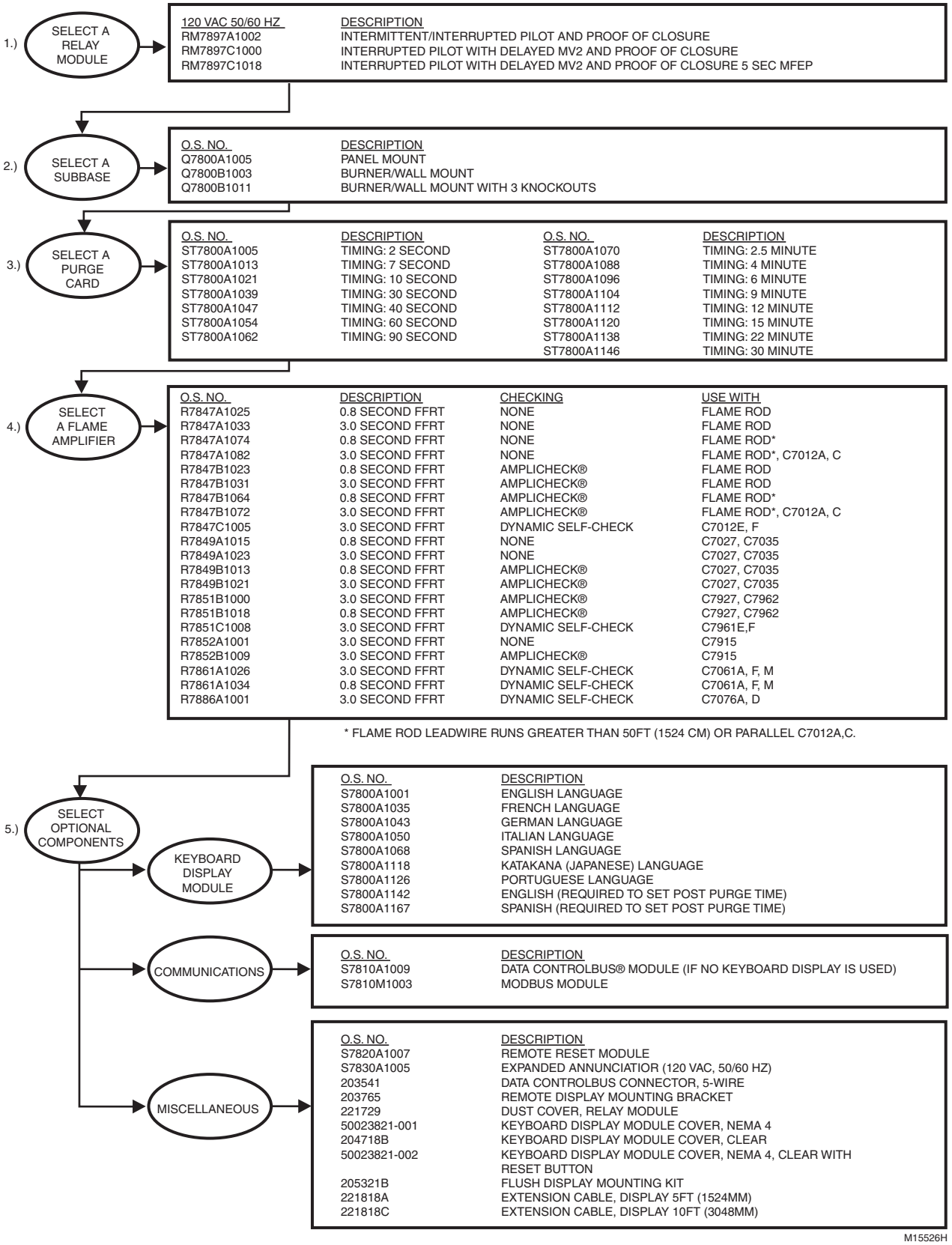
MISCELLANEOUS

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M13908B

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR RM7897 ON/OFF WITH PRE- AND PROGRAMMABLE POST-PURGE PRIMARY RELAY MODULES:



120 VAC 50/60 HZ	DESCRIPTION
RM7897A1002	INTERMITTENT/INTERRUPTED PILOT AND PROOF OF CLOSURE
RM7897C1000	INTERRUPTED PILOT WITH DELAYED MV2 AND PROOF OF CLOSURE
RM7897C1018	INTERRUPTED PILOT WITH DELAYED MV2 AND PROOF OF CLOSURE 5 SEC MFEP

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E,F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

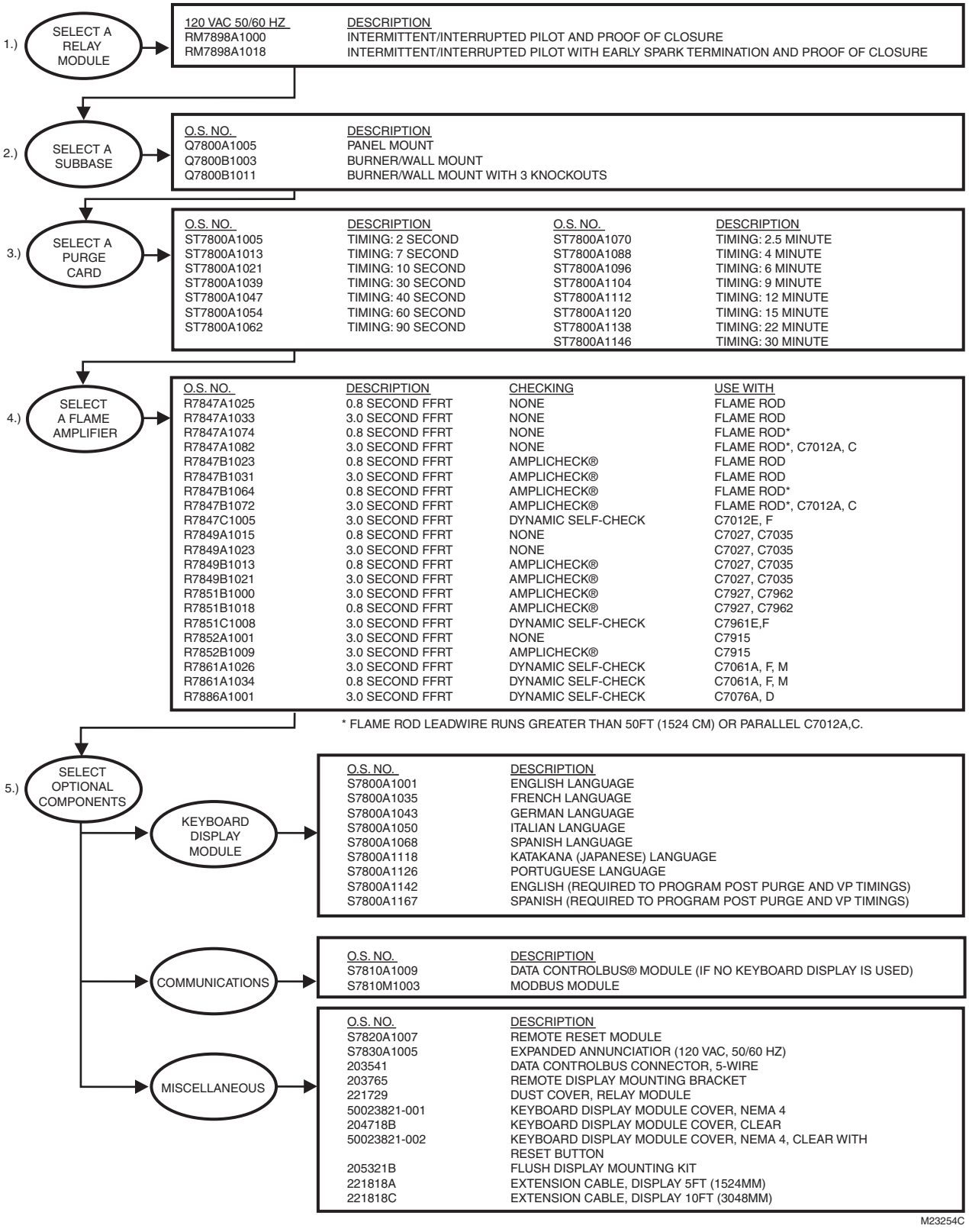
O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE
S7800A1142	ENGLISH (REQUIRED TO SET POST PURGE TIME)
S7800A1167	SPANISH (REQUIRED TO SET POST PURGE TIME)

O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15526H

PRODUCT SELECTION MATRIX FOR RM7898 ON/OFF WITH PRE- AND PROGRAMMABLE POST-PURGE PRIMARY RELAY MODULES FOR VALVE PROVING APPLICATIONS:



120 VAC 50/60 HZ	DESCRIPTION
RM7898A1000	INTERMITTENT/INTERRUPTED PILOT AND PROOF OF CLOSURE
RM7898A1018	INTERMITTENT/INTERRUPTED PILOT WITH EARLY SPARK TERMINATION AND PROOF OF CLOSURE

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E,F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE
S7800A1142	ENGLISH (REQUIRED TO PROGRAM POST PURGE AND VP TIMINGS)
S7800A1167	SPANISH (REQUIRED TO PROGRAM POST PURGE AND VP TIMINGS)

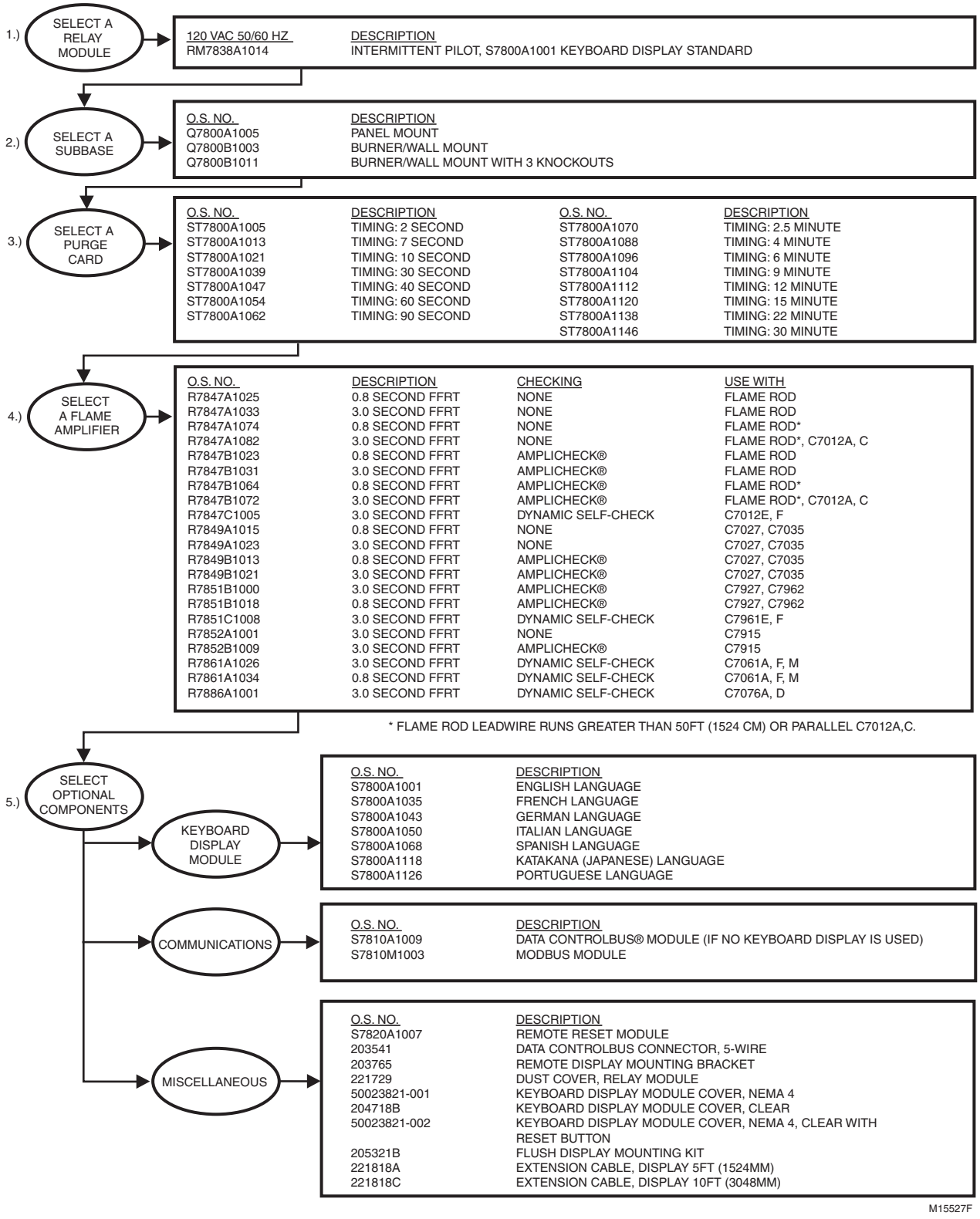
O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

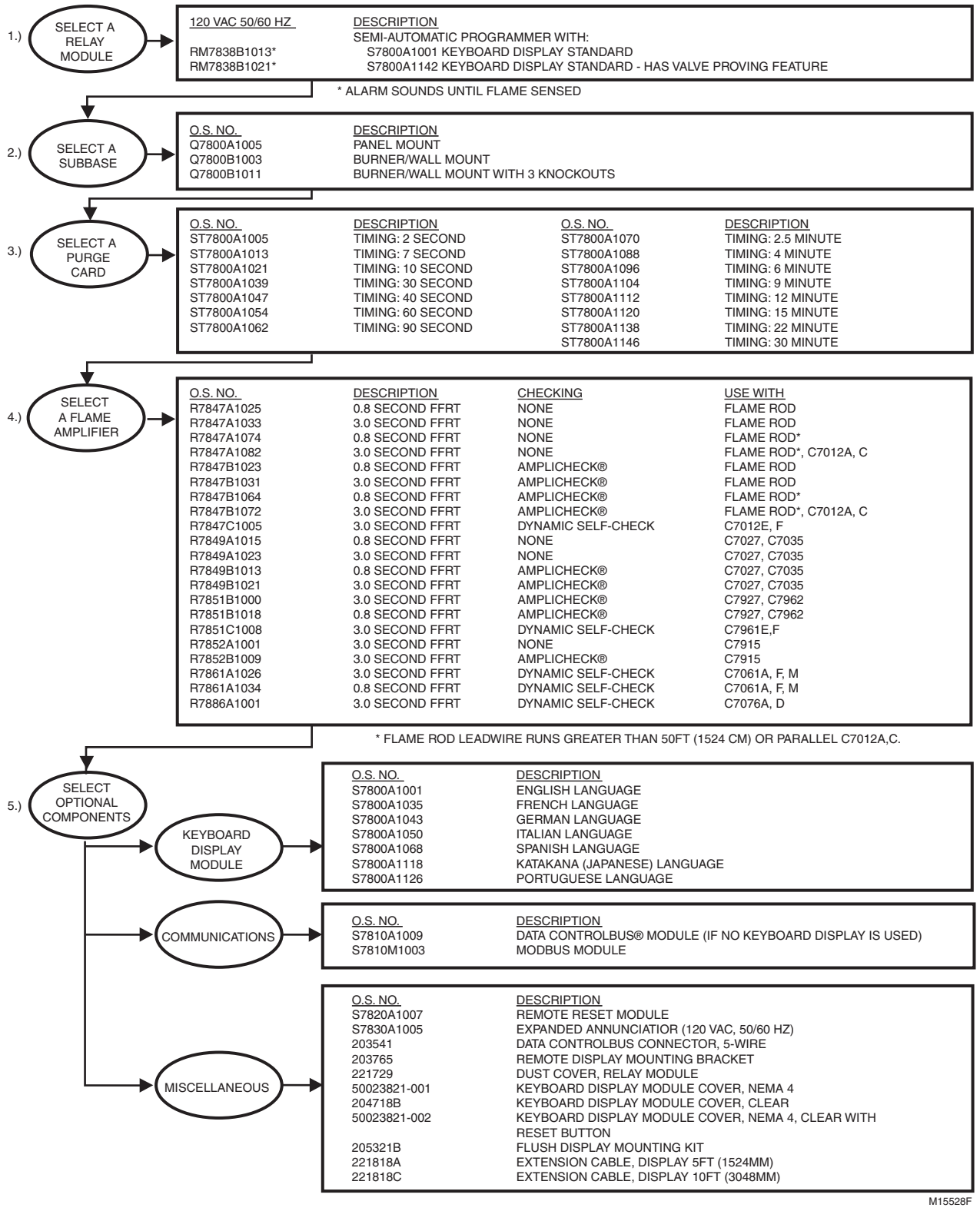
M23254C

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR RM7838A MANUAL START WITH PURGE INDUSTRIAL PRIMARY RELAY MODULE:



PRODUCT SELECTION MATRIX FOR RM7838B MANUAL START INDUSTRIAL PROGRAMMER RELAY MODULE:



120 VAC 50/60 HZ	DESCRIPTION
	SEMI-AUTOMATIC PROGRAMMER WITH:
RM7838B1013*	S7800A1001 KEYBOARD DISPLAY STANDARD
RM7838B1021*	S7800A1142 KEYBOARD DISPLAY STANDARD - HAS VALVE PROVING FEATURE

* ALARM SOUNDS UNTIL FLAME SENSED

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E,F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE

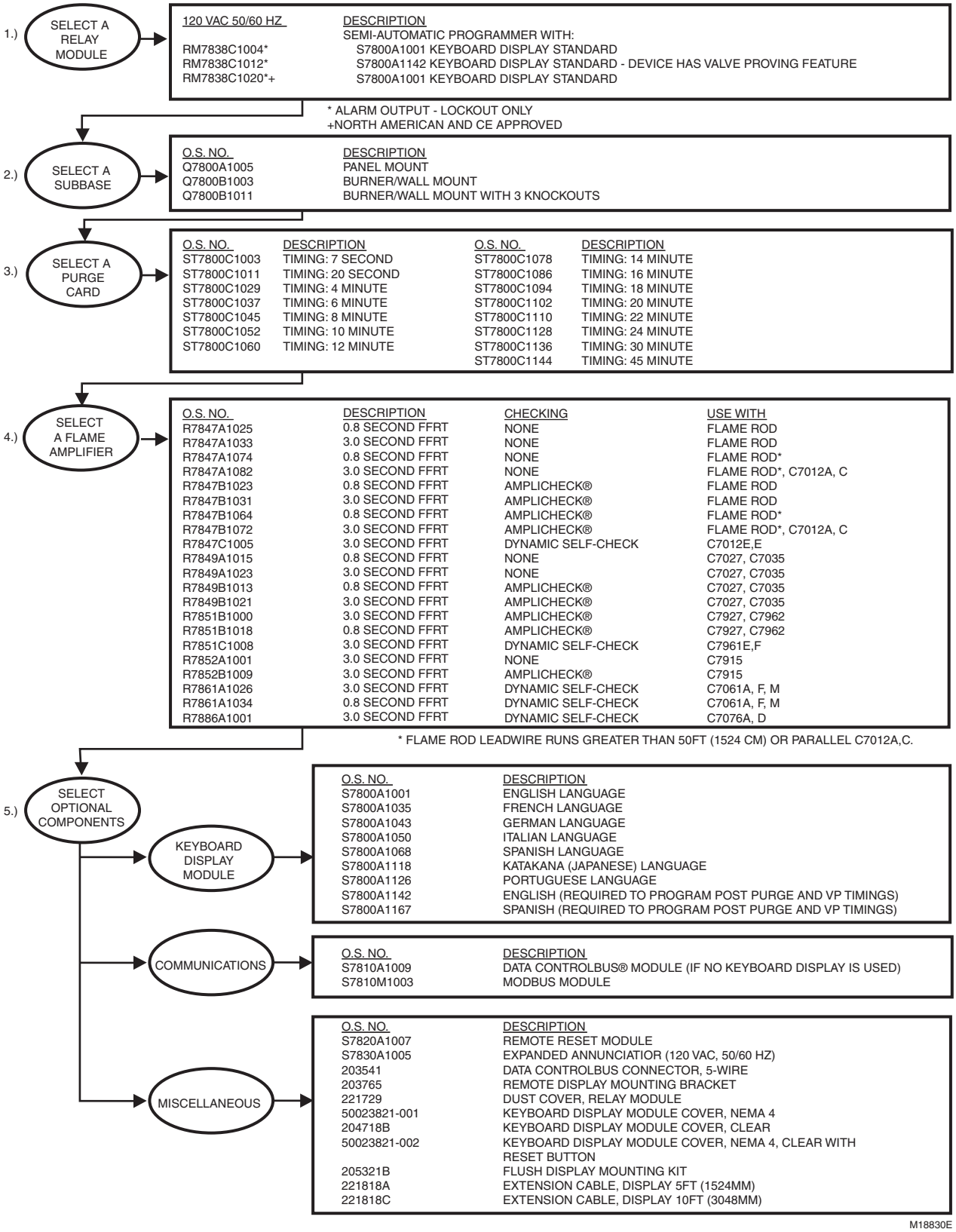
O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15528F

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR RM7838C MANUAL START INDUSTRIAL PROGRAMMER RELAY MODULE:



120 VAC 50/60 HZ	DESCRIPTION
	SEMI-AUTOMATIC PROGRAMMER WITH:
RM7838C1004*	S7800A1001 KEYBOARD DISPLAY STANDARD
RM7838C1012*	S7800A1142 KEYBOARD DISPLAY STANDARD - DEVICE HAS VALVE PROVING FEATURE
RM7838C1020*+	S7800A1001 KEYBOARD DISPLAY STANDARD

* ALARM OUTPUT - LOCKOUT ONLY
+NORTH AMERICAN AND CE APPROVED

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800C1003	TIMING: 7 SECOND	ST7800C1078	TIMING: 14 MINUTE
ST7800C1011	TIMING: 20 SECOND	ST7800C1086	TIMING: 16 MINUTE
ST7800C1029	TIMING: 4 MINUTE	ST7800C1094	TIMING: 18 MINUTE
ST7800C1037	TIMING: 6 MINUTE	ST7800C1102	TIMING: 20 MINUTE
ST7800C1045	TIMING: 8 MINUTE	ST7800C1110	TIMING: 22 MINUTE
ST7800C1052	TIMING: 10 MINUTE	ST7800C1128	TIMING: 24 MINUTE
ST7800C1060	TIMING: 12 MINUTE	ST7800C1136	TIMING: 30 MINUTE
		ST7800C1144	TIMING: 45 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E,E
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E,F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

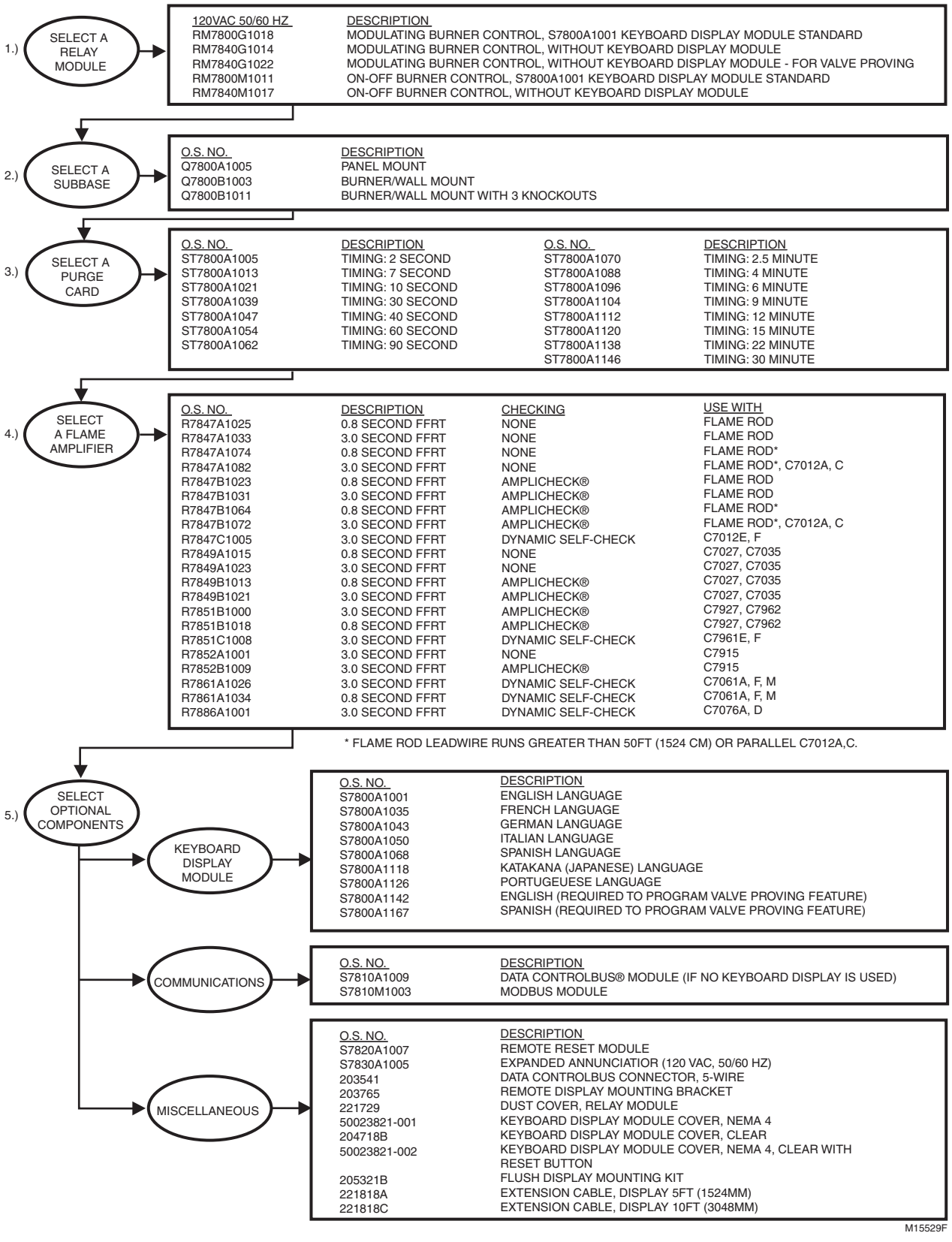
O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE
S7800A1142	ENGLISH (REQUIRED TO PROGRAM POST PURGE AND VP TIMINGS)
S7800A1167	SPANISH (REQUIRED TO PROGRAM POST PURGE AND VP TIMINGS)

O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M18830E

PRODUCT SELECTION MATRIX FOR UL/CSA RM78XXG,M PROGRAMMER RELAY MODULE:



120VAC 50/60 HZ	DESCRIPTION
RM7800G1018	MODULATING BURNER CONTROL, S7800A1001 KEYBOARD DISPLAY MODULE STANDARD
RM7840G1014	MODULATING BURNER CONTROL, WITHOUT KEYBOARD DISPLAY MODULE
RM7840G1022	MODULATING BURNER CONTROL, WITHOUT KEYBOARD DISPLAY MODULE - FOR VALVE PROVING
RM7800M1011	ON-OFF BURNER CONTROL, S7800A1001 KEYBOARD DISPLAY MODULE STANDARD
RM7840M1017	ON-OFF BURNER CONTROL, WITHOUT KEYBOARD DISPLAY MODULE

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E, F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGEUESE LANGUAGE
S7800A1142	ENGLISH (REQUIRED TO PROGRAM VALVE PROVING FEATURE)
S7800A1167	SPANISH (REQUIRED TO PROGRAM VALVE PROVING FEATURE)

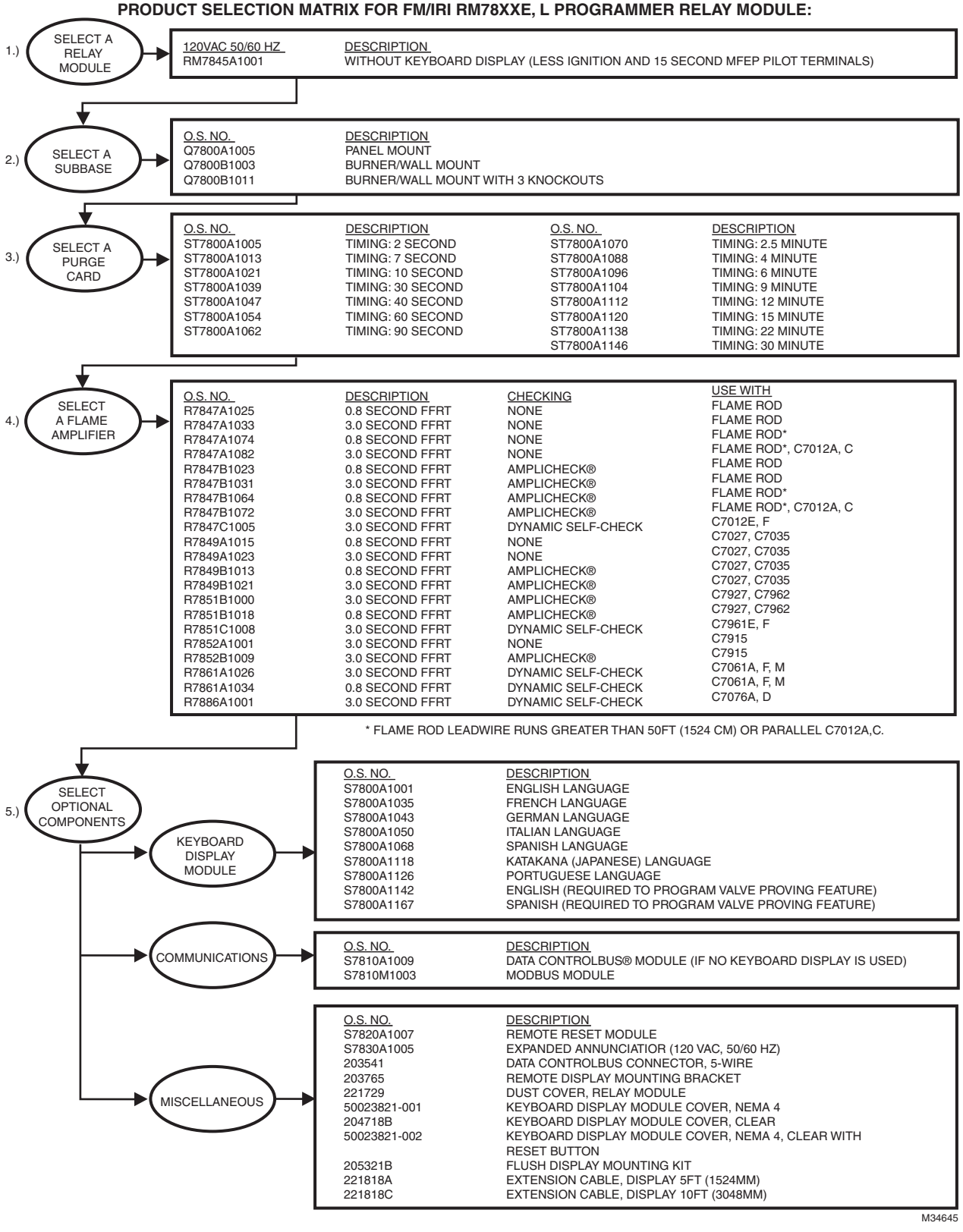
O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15529F

Product Selection Matrix

PRODUCT SELECTION MATRIX FOR FM/IRI RM78XXE, L PROGRAMMER RELAY MODULE:



120VAC 50/60 HZ	DESCRIPTION
RM7845A1001	WITHOUT KEYBOARD DISPLAY (LESS IGNITION AND 15 SECOND MFEP PILOT TERMINALS)

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E, F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

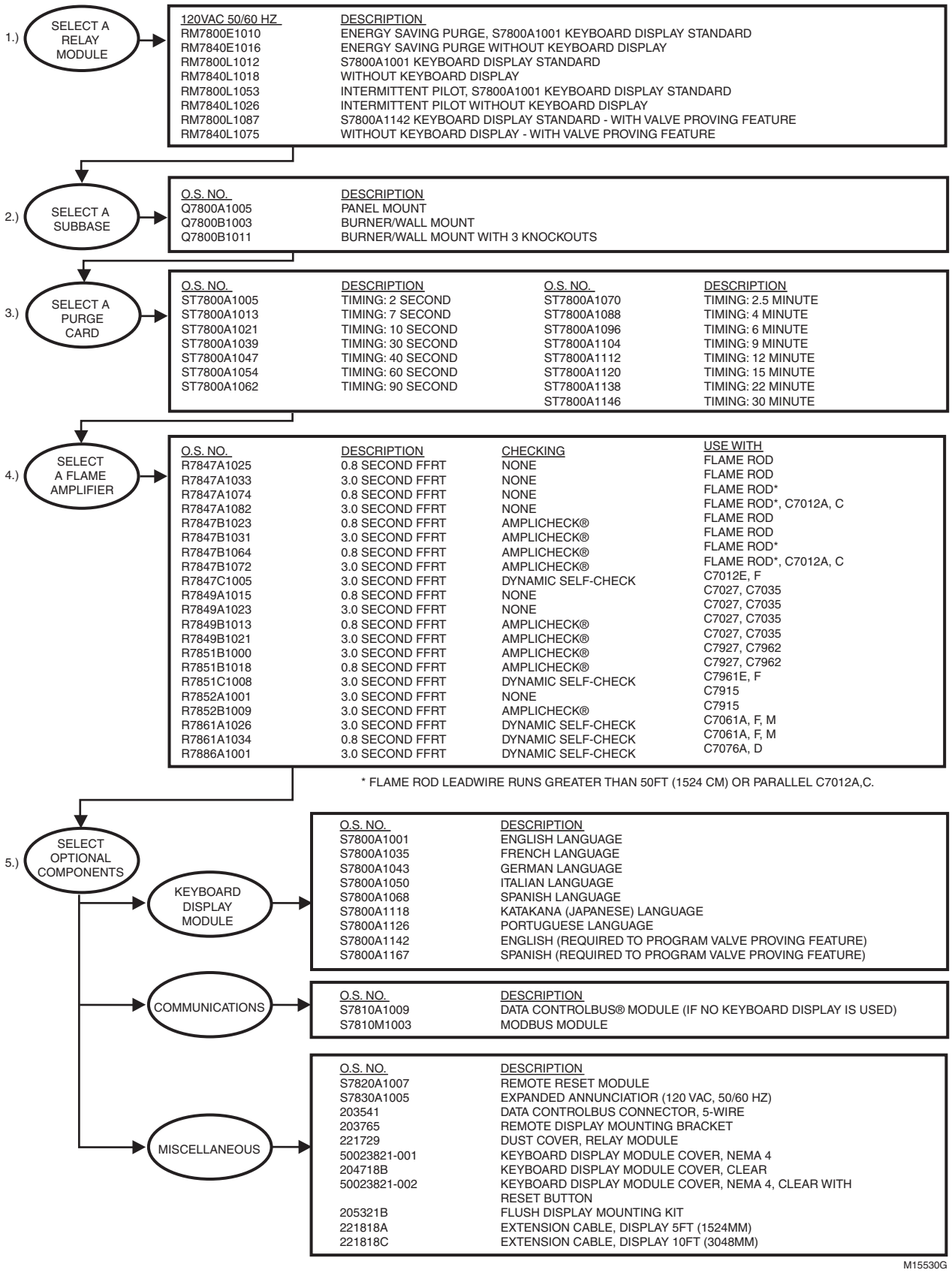
O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE
S7800A1142	ENGLISH (REQUIRED TO PROGRAM VALVE PROVING FEATURE)
S7800A1167	SPANISH (REQUIRED TO PROGRAM VALVE PROVING FEATURE)

O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M34645

PRODUCT SELECTION MATRIX FOR FM/IRI RM78XXE, L PROGRAMMER RELAY MODULE:



120VAC 50/60 HZ	DESCRIPTION
RM7800E1010	ENERGY SAVING PURGE, S7800A1001 KEYBOARD DISPLAY STANDARD
RM7840E1016	ENERGY SAVING PURGE WITHOUT KEYBOARD DISPLAY
RM7800L1012	S7800A1001 KEYBOARD DISPLAY STANDARD
RM7840L1018	WITHOUT KEYBOARD DISPLAY
RM7800L1053	INTERMITTENT PILOT, S7800A1001 KEYBOARD DISPLAY STANDARD
RM7840L1026	INTERMITTENT PILOT WITHOUT KEYBOARD DISPLAY
RM7800L1087	S7800A1142 KEYBOARD DISPLAY STANDARD - WITH VALVE PROVING FEATURE
RM7840L1075	WITHOUT KEYBOARD DISPLAY - WITH VALVE PROVING FEATURE

O.S. NO.	DESCRIPTION
Q7800A1005	PANEL MOUNT
Q7800B1003	BURNER/WALL MOUNT
Q7800B1011	BURNER/WALL MOUNT WITH 3 KNOCKOUTS

O.S. NO.	DESCRIPTION	O.S. NO.	DESCRIPTION
ST7800A1005	TIMING: 2 SECOND	ST7800A1070	TIMING: 2.5 MINUTE
ST7800A1013	TIMING: 7 SECOND	ST7800A1088	TIMING: 4 MINUTE
ST7800A1021	TIMING: 10 SECOND	ST7800A1096	TIMING: 6 MINUTE
ST7800A1039	TIMING: 30 SECOND	ST7800A1104	TIMING: 9 MINUTE
ST7800A1047	TIMING: 40 SECOND	ST7800A1112	TIMING: 12 MINUTE
ST7800A1054	TIMING: 60 SECOND	ST7800A1120	TIMING: 15 MINUTE
ST7800A1062	TIMING: 90 SECOND	ST7800A1138	TIMING: 22 MINUTE
		ST7800A1146	TIMING: 30 MINUTE

O.S. NO.	DESCRIPTION	CHECKING	USE WITH
R7847A1025	0.8 SECOND FFRT	NONE	FLAME ROD
R7847A1033	3.0 SECOND FFRT	NONE	FLAME ROD
R7847A1074	0.8 SECOND FFRT	NONE	FLAME ROD*
R7847A1082	3.0 SECOND FFRT	NONE	FLAME ROD*, C7012A, C
R7847B1023	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1031	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD
R7847B1064	0.8 SECOND FFRT	AMPLICHECK®	FLAME ROD*
R7847B1072	3.0 SECOND FFRT	AMPLICHECK®	FLAME ROD*, C7012A, C
R7847C1005	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7012E, F
R7849A1015	0.8 SECOND FFRT	NONE	C7027, C7035
R7849A1023	3.0 SECOND FFRT	NONE	C7027, C7035
R7849B1013	0.8 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7849B1021	3.0 SECOND FFRT	AMPLICHECK®	C7027, C7035
R7851B1000	3.0 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851B1018	0.8 SECOND FFRT	AMPLICHECK®	C7927, C7962
R7851C1008	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7961E, F
R7852A1001	3.0 SECOND FFRT	NONE	C7915
R7852B1009	3.0 SECOND FFRT	AMPLICHECK®	C7915
R7861A1026	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7861A1034	0.8 SECOND FFRT	DYNAMIC SELF-CHECK	C7061A, F, M
R7886A1001	3.0 SECOND FFRT	DYNAMIC SELF-CHECK	C7076A, D

* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.

O.S. NO.	DESCRIPTION
S7800A1001	ENGLISH LANGUAGE
S7800A1035	FRENCH LANGUAGE
S7800A1043	GERMAN LANGUAGE
S7800A1050	ITALIAN LANGUAGE
S7800A1068	SPANISH LANGUAGE
S7800A1118	KATAKANA (JAPANESE) LANGUAGE
S7800A1126	PORTUGUESE LANGUAGE
S7800A1142	ENGLISH (REQUIRED TO PROGRAM VALVE PROVING FEATURE)
S7800A1167	SPANISH (REQUIRED TO PROGRAM VALVE PROVING FEATURE)

O.S. NO.	DESCRIPTION
S7810A1009	DATA CONTROLBUS® MODULE (IF NO KEYBOARD DISPLAY IS USED)
S7810M1003	MODBUS MODULE

O.S. NO.	DESCRIPTION
S7820A1007	REMOTE RESET MODULE
S7830A1005	EXPANDED ANNUNCIATIOR (120 VAC, 50/60 HZ)
203541	DATA CONTROLBUS CONNECTOR, 5-WIRE
203765	REMOTE DISPLAY MOUNTING BRACKET
221729	DUST COVER, RELAY MODULE
50023821-001	KEYBOARD DISPLAY MODULE COVER, NEMA 4
204718B	KEYBOARD DISPLAY MODULE COVER, CLEAR
50023821-002	KEYBOARD DISPLAY MODULE COVER, NEMA 4, CLEAR WITH RESET BUTTON
205321B	FLUSH DISPLAY MOUNTING KIT
221818A	EXTENSION CABLE, DISPLAY 5FT (1524MM)
221818C	EXTENSION CABLE, DISPLAY 10FT (3048MM)

M15530G

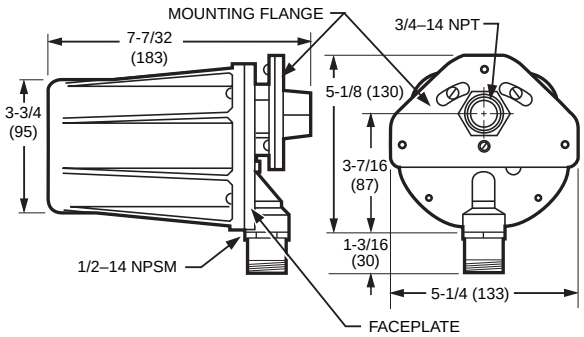
Microprocessor Burner Controls

CR7890 Integrated Burner Control

The CR7890B Integrated Burner Control consists of a self contained relay module, amplifier and a shutter type solid state Ultraviolet Detector for sensing the ultraviolet radiation generated by the combustion of gas, oil, or other fuels.

- Oscillating shutter interrupts ultraviolet radiation reaching the UV sensor to provide the UV sensor checking function
- Amplifier circuitry components are checked from the microprocessor in the CR7890B Control
- Device can be mounted horizontally, vertically or at any other angle
- The device has faceplate alignment and integral locating reference points to assure proper shutter mechanism operation
- Quartz viewing window is field replaceable
- CR7890B1019 uses Brad Harrison® 3R9006A20A120 connector
- A swivel mount is available to facilitate flame sighting
- -40 F (-40 C) rated ultraviolet sensing tube
- High pressure 50 psi (345 kPa) quartz viewing window, magnifying lens and anti-v bration mount are available as accessories
- Housing meets NEMA 4 enclosure standards (NEMA 1 when access cover is used)
- Protective heat block built into mounting flange
- Power LED blinks a fault code when device is in ALARM state
- Optional Keyboard Display Module (KDM)

Dimensions in inches (millimeters)



CR7890A

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Main: Intermittent
Pilot: 10 sec
Weight: 3.78 b (1.71 kg)

Approvals
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Canadian Standards Association: Certified
Swiss RE (formerly IRI): Acceptable
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class A, Emissions.
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.

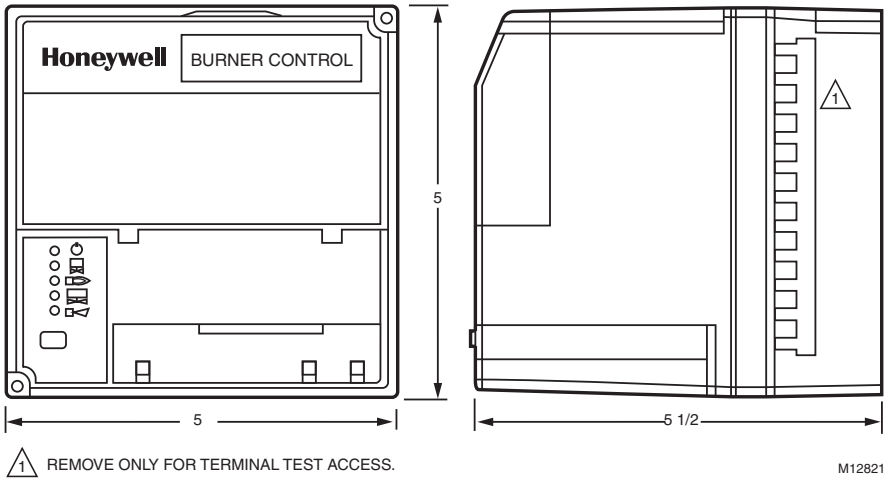
Product Number	Voltage	Pilot Type	Flame Establishing Period		Application
			Main	Pilot	
CR7890B1019/U	120 Vac (+10, -15%)	intermittent	Intermittent	10 sec	On-Off Primary Control with 9 pin connector

EC7820 Primary Control Meeting European Community Timings

Microprocessor-based integrated burner control for automatically fired gas, oil, or combination fuel single burner atmospheric with fan applications. Provides automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics, and troubleshooting.

- Access for external electrical voltage checks
- Application flexibility and communication interface capability through Modbus™
- Five LEDs provide sequence information
- Five function Run/Test Switch. Interchangeable plug-in amplifiers
- Local or remote annunciation of operation and fault information (optional)
- Non-volatile memory retains history files and lockout status after loss of power
- Compat ble with existing Honeywell flame detectors
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Dimensions in inches (millimeters)



Application: Primary Control
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: 5 sec
Interlocks: Lockout
AirFlow Check: User selectable
Second Stage Pilot Valve: Intermittent
Weight: 1 lb 10 oz (0.7 kg)

Approvals
Factory Mutual: Report No. 1V9AO.AF.
Gastec/European: GASTEC: CE-63AP3070/1, Approved to EN298.
Swiss RE (formerly IRI): Acceptable
Required Components: Q7800A,B Universal Wiring Subbases, R7847, R7849, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Pilot Type	Flame Establishing Period		Comments
			Main	Pilot	
EC7820A1026/U	220 to 240 Vac (+10, -15%)	interrupted	5 sec, or 8 sec, or Intermittent	5 sec or 10 sec	1 ignition attempt, Includes Modulation w/ Fan Output
EC7820A1034/U	220 to 240 Vac (+10, -15%)	interrupted	5 sec, or 8 sec, or Intermittent	5 sec or 10 sec	5 ignition attempts, Includes Modulation w/ Fan Output

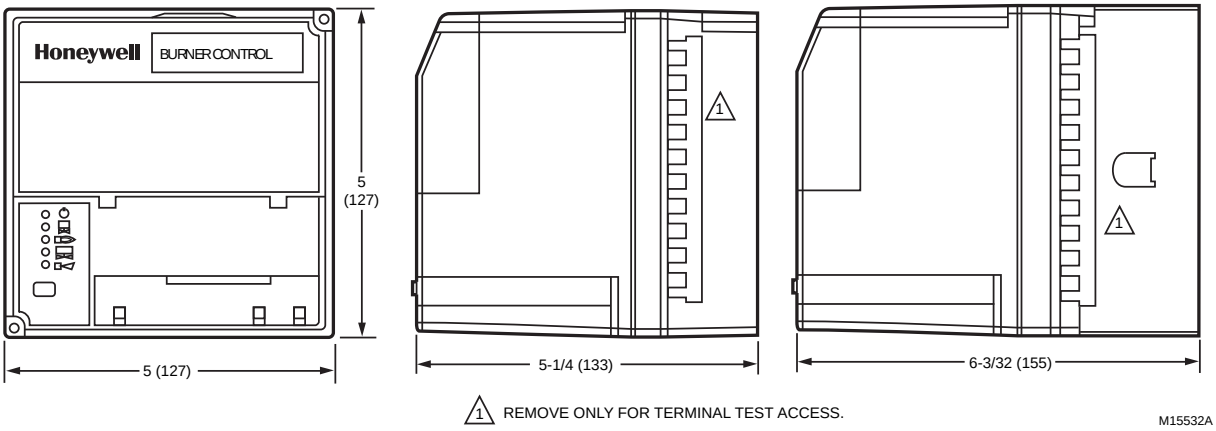
Microprocessor Burner Controls

EC7830; EC7850; RM7830; RM7850
Programming Control Meeting European Community Timings

Microprocessor-based integrated burner control for full modulation applications. Provides automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics, and troubleshooting.

- Access for external electrical voltage checks
- Application flexibility and communication interface capability through Modbus™
- Five LEDs provide sequence information
- Five function Run/Test Switch
- Interchangeable plug-in amplifiers
- Local or remote annunciation of operation and fault information (optional)
- Nonvolatile memory retains history files and lockout status after loss of power
- Compat ble with existing Honeywell flame detectors
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Dimensions in inches (millimeters)



Application: Programming Control
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
Interlocks: Lockout
AirFlow Check: User selectable
Second Stage Pilot Valve: Intermittent
Weight: 1 lb 10 oz (0.7 kg)

Approvals
Factory Mutual: Report No. 1V9AO.AF.
Gastec/European: GASTEC: CE-63AP3070/1, Approved to EN298.
Swiss RE (formerly IRI): Acceptable
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Pilot Type	Flame Establishing Period		PostPurge	Comments
			Main	Pilot		
EC7830A1033/U	220 to 240 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	2 sec	On/Off Power Burner
EC7830A1041/U	220 to 240 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	30 sec	On/Off Power Burner
EC7830A1066/U	220 to 240 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	15 sec	On/Off Power Burner
EC7850A1064/U	220 to 240 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	30 sec	LHL-LF&HF Proven; Dynamic damper check
EC7850A1072/U	220 to 240 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	2 sec	LHL-LF&HF Proven
EC7850A1080/U	220 to 240 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	30 sec	LHL-LF&HF Proven
EC7850A1122/U	220 to 240 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	15 sec	LHL-LF&HF Proven
RM7830A1003/U	120 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	2 sec	On/Off Power Burner
RM7830A1011/U	120 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	15 sec	On/Off Power Burner
RM7830A1029/U	120 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	30 sec	On/Off Power Burner
RM7850A1001/U	120 Vac +10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	2 sec	LHL-LF&HF Proven
RM7850A1019/U	120 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	15 sec	LHL-LF&HF Proven
RM7850A1027/U	120 Vac (+10, -15%)	interrupted	3 sec, or 5 sec, or Intermittent	3 sec or 5 sec	30 sec	LHL-LF&HF Proven

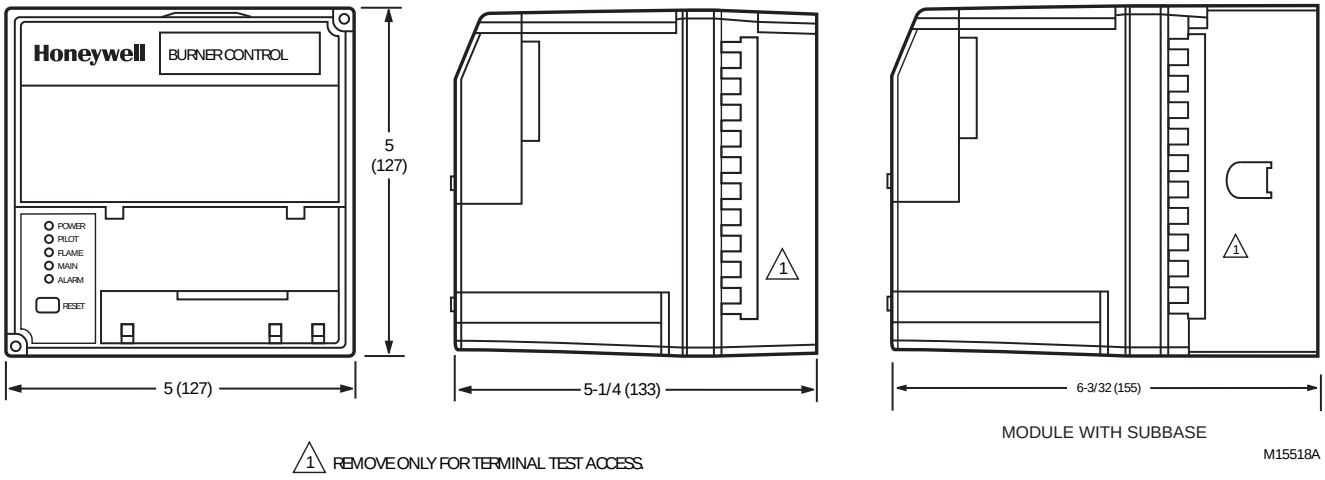
RM7800 Programmers

Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications.

Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting
- Access for external electrical voltage checks
- Application flexibility and communication interface capability through Modbus™
- Five LEDs provide sequence information
- Five function Run/Test Switch
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation of operation and fault information (optional)
- Nonvolatile memory retains history files and lockout status after loss of power
- Compat ble with existing Honeywell flame detectors
- Includes Keyboard Display Module
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Dimensions in inches (millimeters)



Application: Programming Control
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: 15 sec
AirFlow Check: User selectable
Weight: 1 lb 10 oz (0.7 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3.
Federal Communications Commission: FCC Part 15, Class A, Emissions.
Factory Mutual: Report No. 1V9AO.AF.
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Flame Establishing Period		Second Stage Pilot Valve	Interlocks	Comments
		Main	Pilot			
RM7800E1010/U	120 Vac (+10, -15%)	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Lockout	Includes S7800 Display, LHL-LF&HF Proven
RM7800G1018/U	120 Vac (+10, -15%)	10 sec, or 15 sec, or 30 sec, or Intermittent	4 sec or 10 sec	selectable	Running	Includes S7800 Display, LHL-LF Proven
RM7800L1012/U	120 Vac (+10, -15%)	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Lockout	Includes S7800 Display, LHL-LF&HF Proven
RM7800L1053/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Intermittent	Lockout	Includes S7800 Display, LHL-LF&HF Proven
RM7800M1011/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Intermittent	Running	Includes S7800 Display, On/Off-LF proven

Microprocessor Burner Controls

RM7800 Programmers with VPS

Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls. With Valve Proving Feature. RM7800L comes standard with S7800A1142 Keyboard Display.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting
- Access for external electrical voltage checks
- Application flexibility and communication interface capability
- Five LEDs provide sequence information
- Power LED blinks fault code on Lockout
- Five function Run/Test Switch
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation of operation and fault information (optional)
- Nonvolatile memory retains history files and lockout status after loss of power
- Compat ble with existing Honeywell flame detectors
- RM7800 comes with S7800A1142 Keyboard Display Module
- Keyboard required to setup Valve Proving Feature and change post purge time
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Application: Programming Control w/VPS
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: programmed with S7800A1142 display
Interlocks: Lockout
AirFlow Check: User selectable

Weight: 1 lb 10 oz (0.7 kg)
Approvals
Federal Communications Commission: FCC Part 15, Class A, Emissions.
Factory Mutual: Report No. 1V9AO.AF.
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

SIL3 Capable

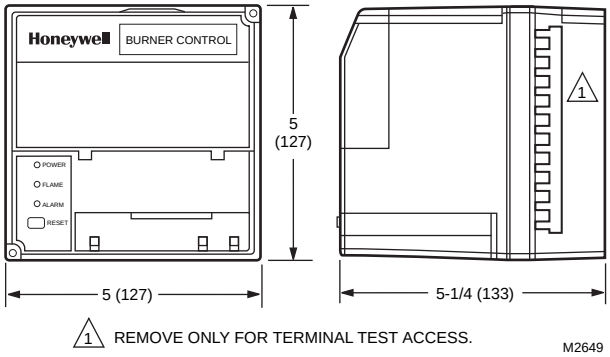
Product Number	Voltage	Flame Establishing Period		Second Stage Pilot Valve	Comments
		Main	Pilot		
RM7800L1087/U	120 Vac (+10, -15%)	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Includes S7800A1142 Display, LHL-LF&HF Proven

RM7823; EC7823 Flame Switch

Microprocessor-based integrated flame switch for detecting a flame using rectification, ultraviolet (UV) or infrared (IR) source. Provides level of safety, functional capability and features beyond conventional controls.

- Can be fitted with any 7800 Series Amplifier to provide relay action from two single pole, double throw (SPDT) relays when flame is present or not present
- RM7823A and EC7823 are a flame detector relays only
- Suitable primary control must be used to provide safe-start check, safety lockout, load switching and other functions required in flame safeguard systems
- Three LEDs to indicate power, flame and alarm
- Access for external electrical voltage checks
- Nonvolatile memory
- Shutter drive output
- Compat ble with existing Honeywell flame detectors

Dimensions in inches (millimeters)



Application: Flame Switch
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Weight: 1 lb 13 oz (0.8 kg)
Approvals
Canadian Standards Association: See table.
Factory Mutual: Report No. OY0A9.AF.
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: See table.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Product Number	Voltage	Comments	Canadian Standards Association	Underwriters Laboratories, Inc
EC7823A1004/U	220 to 240 Vac (+10, -15%)	two SPDT outputs	—	—
RM7823A1016/U	120 Vac (+10, -15%)	two SPDT outputs	Certified, File No. LR95329-3	Component Recognized, File No. MP268; Guide No. MCCZ

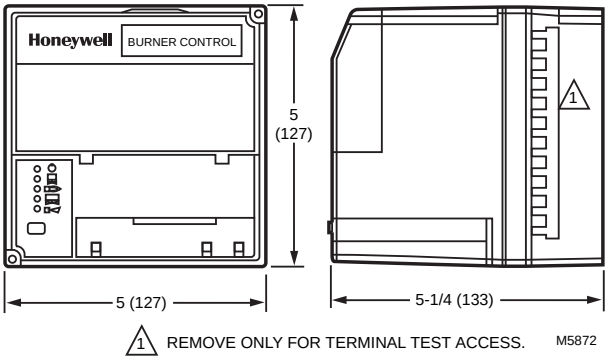
Microprocessor Burner Controls

RM7824 On-Off Primary Control

24 Vdc microprocessor-based integrated burner control for automatically fired gas, oil or combination fuel single burner applications. Provides level of safety, functional capability and features beyond the capacity of conventional controls.

- For use with R7824C Amplifier with C7024E,F Flame Detectors; R7851B with C7927, C7962 Flame Detectors; or R7852A,B with C7915 Flame Detectors
- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting
- Five LEDs provide sequence information
- Selectable recycle or lockout on loss of flame
- Shutter drive output for use with dynamic self-check flame detectors
- Access for external electrical voltage checks
- Plug-in flame amplifier
- Nonvolatile memory retains history files and lockout status after loss of power

Dimensions in inches (millimeters)



Application: Primary Control 24 Vdc
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Pilot Type: intermittent
Weight: (0.8 kg)
1 lb 13 oz

Approvals
Canadian Standards Association: Certified, File No. LR95329-3.
Federal Communications Commission: FCC Part 15, Class A, Emissions.
Factory Mutual: Report No. OX4A5.AF.
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7824, R7851 or R7852 Flame Signal Amplifier.

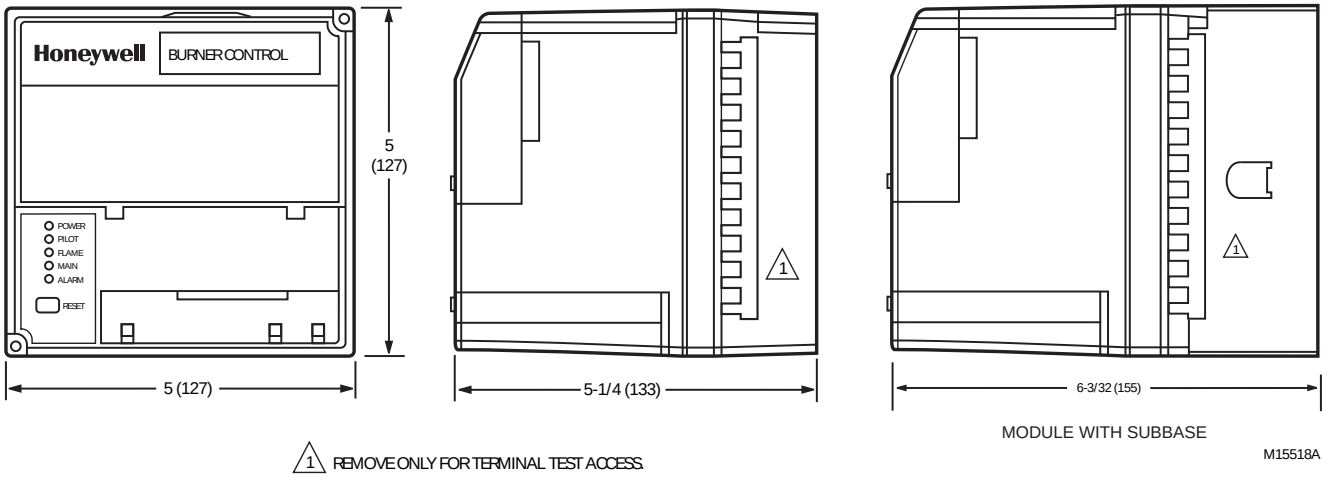
		Flame Establishing Period	
Product Number	**Voltage**	**Main**	**Pilot**
RM7824A1006/U	24 Vdc (+10, -15%)	Intermittent	4 sec or 10 sec

RM7838A Manual Start Industrial Primary Control with Purge

Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication
- Includes Keyboard Display Module
- Five LEDs provide sequence information
- Intermittent pilot valve
- Interchangeable plug-in flame amplifier
- Access for external electrical voltage checks
- Nonvolatile memory retains history files and lockout status after loss of power
- Selectable pilot flame establishing period
- Provides application flexibility and optional communication interface capability through Modbus™
- Compat ble with existing Honeywell flame detectors
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Dimensions in inches (millimeters)



Application: Semi Automatic Primary Control with Purge
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: intermittent
PrePurge: Determined by ST7800A Purge Timer Card
Interlocks: Running
Weight: 1 lb 10 oz (0.7 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3.
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. OX4A5.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Flame Establishing Period		Comments
		Main	Pilot	
RM7838A1014/U	120 Vac (+10, -15%)	Intermittent	4 sec or 10 sec	Includes S7800 Display

Microprocessor Burner Controls

RM7838B,C Manual Start Industrial Programmers

Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication
- Includes Keyboard Display Module
- Five LEDs provide sequence information
- Intermittent pilot valve
- Interchangeable plug-in flame amplifier
- Access for external electrical voltage checks
- Nonvolatile memory retains history files and lockout status after loss of power
- Selectable pilot flame establishing period
- Provides application flexibility and optional communication interface capability through Modbus™
- Compat ble with existing Honeywell flame detectors
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Application: Semi Automatic Programming Control
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card; RM7838C requires ST7800C Purge Timer Card
Interlocks: Lockout
Weight: 1 lb 10 oz (0.7 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. OX4A5.AF
Gastec/European: See table
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A (ST7800C for RM7838C) Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Flame Establishing Period		Comments	Gastec/European
		Main	Pilot		
RM7838B1013/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Includes S7800 Display	—
RM7838C1004/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Includes S7800 Display	—
RM7838C1020/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Includes S7800 Display	Gastec EN268 Report 1156791

RM7838B,C Manual Start Industrial Programmers with VPS

Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls. Includes Valve Proving Feature.

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication
- Includes S7800A1142 Keyboard Display Module
- Five LEDs provide sequence information
- Intermittent pilot valve
- Interchangeable plug-in flame amplifier
- Access for external electrical voltage checks
- Nonvolatile memory retains history files and lockout status after loss of power
- Selectable pilot flame establishing period
- Provides application flexibility and optional communication interface capability through Modbus™
- Compat ble with existing Honeywell flame detectors
- With Valve Proving Feature and Programmable Post Purge Time
- Power LED blinks a fault code on system lockout
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Application: Semi Automatic Programming Control w/VPS
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A (ST7800C for RM7838C) Purge Timer Card; RM7838C requires ST7800C Purge Timer Card
PostPurge: programmed with S7800A1142 display
Interlocks: Lockout
Weight: 1 lb 10 oz (0.7 kg)

Approvals
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. OX4A5.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A (ST7800C for RM7838C) Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Flame Establishing Period		Comments
		Main	Pilot	
RM7838B1021/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation
RM7838C1012/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation

Microprocessor Burner Controls

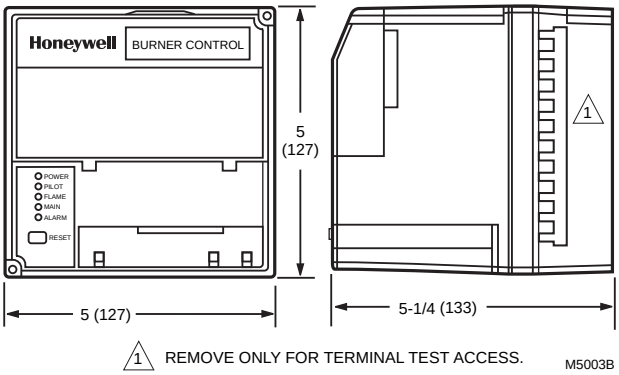
RM7840 Programmers

Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications.

Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Access for external electrical voltage checks
- Application flexibility and communication interface capability through Modbus™
- Five LEDs provide sequence information
- Five function Run/Test Switch
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation of RM7840 operation and fault information using the S7800 Keyboard Display Module (not included)
- Nonvolatile memory retains history files and lockout status after loss of power
- Compat ble with existing Honeywell flame detectors
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Dimensions in inches (millimeters)



Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: 15 sec
AirFlow Check: User selectable
Weight: 1 lb 13 oz (0.8 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. OX4A5.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, RR7849, 7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Application: Programming Control
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted

SIL3 Capable

Product Number	Voltage	Flame Establishing Period		Second Stage Pilot Valve	Interlocks	Comments
		Main	Pilot			
RM7840E1016/U	120 Vac (+10, -15%)	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Lockout	LHL-LF&HF Proven
RM7840G1014/U	120 Vac (+10, -15%)	10 sec, or 15 sec, or 30 sec, or Intermittent	4 sec or 10 sec	selectable	Running	LHL-LF Proven
RM7840L1018/U	120 Vac (+10, -15%)	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Lockout	LHL-LF&HF Proven
RM7840L1026/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Intermittent	Lockout	LHL-LF&HF Proven
RM7840M1017/U	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	Intermittent	Running	On/Off-LF Proven

RM7840 Programmers with VPS

Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls. With Valve Proving Feature. S7800A1142

Keyboard Display required to program VPS and change postpurge required to program VPS and change postpurge.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting
- Access for external electrical voltage checks
- Application flexibility and communication interface capability through Modbus™
- Five LEDs provide sequence information
- Power LED blinks fault code on Lockout
- Five function Run/Test Switch
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation of operation and fault information using the S7800 Keyboard Display (optional)
- Nonvolatile memory retains history files and lockout status after loss of power
- Compat ble with existing Honeywell flame detectors
- S7800A1142 Keyboard required to setup Valve Proving Feature and change post purge time
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Application: Programming Control w/VPS
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: programmed with S7800A1142 display
AirFlow Check: User selectable
Second Stage Pilot Valve: selectable

Weight: 1 lb 10 oz (0.7 kg)
Approvals
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: See table
Underwriters Laboratories, Inc: See table
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Flame Establishing Period		Interlocks	Comments	Factory Mutual	Underwriters Laboratories, Inc
		Main	Pilot				
EC7840L1014/U	220 to 240 Vac (+10, -15%)	10 sec or 15 sec	4 sec or 10 sec	Lockout	Requires S7800A1142 Display, LHL-LF&HF Proven	—	—
RM7840G1022/U	120 Vac (+10, -15%)	10 sec, or 15 sec, or 30 sec, or Intermittent	4 sec or 10 sec	Running	Requires S7800A1142 Display, LHL-LF Proven	Report No. 1V9AO.AF	Component Recognized, File No. MP268; Guide No. MCCZ
RM7840L1075/U	120 Vac (+10, -15%)	10 sec or 15 sec	4 sec or 10 sec	Lockout	Requires S7800A1142 Display, LHL-LF&HF Proven	Report No. 1V9AO.AF	Component Recognized, File No. MP268; Guide No. MCCZ

Microprocessor Burner Controls

RM7845 Programmers

Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications.

Application: Programming Control
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Voltage: 120 Vac (+10, -15%)
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: Interrupted
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: 15 sec
Interlocks: Lockout

Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Access for external electrical voltage checks
- Application flexibility and communication interface capability through Modbus™
- Five LEDs provide sequence information
- Five function Run/Test Switch
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation operation and fault information using the S7800 Keyboard Display (optional)
- Nonvolatile memory retains history files and lockout status after loss of power
- Compat ble with existing Honeywell flame detectors
- Same as RM7840L; less ignition and 2nd pilot valve output terminals

AirFlow Check: User selectable
Weight: 1 lb 13 oz (0.8 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. 1V9AO.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

	Flame Establishing Period		
Product Number	**Main**	**Pilot**	**Comments**
RM7845A1001/U	10 sec	4 sec or 10 sec	LHL-LF&HF Proven

RM7885 Manual Start Industrial Primary Control

Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal, or combination fuel single

Application: Semi Automatic Primary Control
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Weight: 1 lb 13 oz (0.8 kg)

burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Adaptable to continuous firing, high-low or modulating firing rate for semi-automatic burner sequencing
- Operates with the following: Torch-ignited main burner or torch-ignited pilot using a Start-Stop Station, or conventional knee or foot operated station
- Direct-ignition oil burner or electrically ignited pilot, using a Start-Stop Station
- Five LEDs provide sequence information
- Nonvolatile memory
- Flame signal check during standby
- Shutter drive output
- Compat ble with existing Honeywell flame detectors

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. OX4A5.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

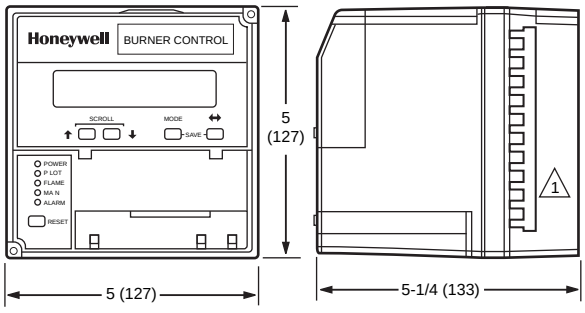
			Flame Establishing Period	
Product Number	**Voltage**	**Pilot Type**	**Main**	**Pilot**
RM7885A1015/U	120 Vac (+10, -15%)	intermittent	Intermittent	15 min

RM7888 PLC Adaptable Primary Control

Microprocessor-based integrated burner control for industrial process semi-automatically fired gas, oil, coal, or combination fuels for single and multiple burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner startup sequencing, five user selectable run sequences, four line-voltage sequence control inputs, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Requires a relay module, subbase, and amplifier for operation
- Options include Modbus™ interface, keyboard display module, remote display mounting
- Use with master system control which determines purge timing and confirms air supply and air flow
- Nonvolatile memory retains history files and sequencing status after power loss
- Five LEDs provide sequence information
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation of operation and fault information using the S7800 Keyboard Display Module

Dimensions in inches (millimeters)



Application: Primary Control - PLC Adaptable
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Voltage: 120 Vac (+10, -15%)
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: selectable
Weight: 1 lb 10 oz (0.7 kg)
Approvals
Canadian Standards Association: Certified
Factory Mutual: Approved.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier

Product Number	Flame Establishing Period		Comments
	Main	Pilot	
RM7888A1019/U	15 sec	4 sec	Selectable sequences
RM7888A1027/U	15 sec	10 sec	For 10 sec DSI applications, selectable sequences

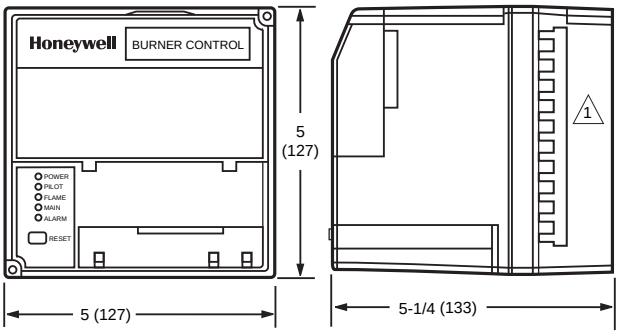
Microprocessor Burner Controls

RM7890 On-Off Primary Control with VPS

Microprocessor-based integrated primary burner control for automatically fired gas, oil or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting
- Subbase and amplifier are required for operation
- Power LED blinks Fault Code on lockout
- Options include Modbus™ interface, keyboard display module, remote display module
- Five LEDs provide sequence information
- Interchangeable plug-in flame amplifiers
- Optional local or remote annunciation of operation and fault information using the S7800 Keyboard Display Module
- Nonvolatile memory retains history files and sequencing status after power loss
- Selectable relight or lockout on loss of flame
- Contains Valve Proving Feature - require S7800A1142 Keyboard Display (not provided) to set up
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Dimensions in inches (millimeters)



Application: On-Off Primary Control w/VPS
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Preignition: Yes
Weight: 1 lb 13 oz (0.8 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. OX4A5.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

SIL3 Capable

Product Number	Flame Establishing Period		Comments
	Main	Pilot	
RM7890A1056/U	Intermittent	4 sec or 10 sec	Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation
RM7890B1048/U	Intermittent	4 sec or 10 sec	Includes Shutter Drive Capability, VPS (Valve Proving Switch) check and blinking LED fault annunciation

RM7890; EC7890 On-Off Primary Controls

Microprocessor-based integrated primary burner control for automatically fired gas, oil or combination fuel single burner

Application: On-Off Primary Control
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Weight: 1 lb 13 oz (0.8 kg)

applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting
- Subbase and amplifier are required for operation
- Options include Modbus™ interface, keyboard display module, remote display module
- Five LEDs provide sequence information
- Interchangeable plug-in flame amplifiers
- Optional local or remote annunciation of operation and fault information
- Nonvolatile memory retains history files and sequencing status after power loss
- Selectable relight or lockout on loss of flame
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Approvals
Gastec/European: See table
Canadian Standards Association: See table
Factory Mutual: See table
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: See table
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

SIL3 Capable

Product Number	Voltage	Pilot Type	Flame Establishing Period		Comments	Gastec/ European	Canadian Standards Association	Factory Mutual	Underwriters Laboratories, Inc
EC7890A1011/U	220 to 240 Vac (+10, -15%)	intermittent	Intermittent	4 sec or 10 sec	—	—	—	Report No. 1D0A1.AF	—
EC7890A1029/U	220 to 240 Vac (+10, -15%)	intermittent	Intermittent	4 sec or 10 sec	—	GASTEC: CE-63AP3070/1, Approved to EN298	—	Report No. 1D0A1.AF	—
EC7890B1010/U	220 to 240 Vac (+10, -15%)	intermittent	Intermittent	4 sec or 10 sec	Includes Shutter Drive Capability	—	—	Report No. 1D0A1.AF	—
EC7890B1028/U	220 to 240 Vac (+10, -15%)	intermittent	Intermittent	4 sec or 10 sec	Includes Shutter Drive Capability	—	—	Report No. 1V9AO.AF.	—
RM7890A1015/U	120 Vac (+10, -15%)	intermittent	Intermittent	4 sec or 10 sec	—	—	Certified, File No. LR95329-3	Report No. OX4A5.AF.	Component Recognized, File No. MP268; Guide No. MCCZ.
RM7890A1031/U	120 Vac (+10, -15%)	intermittent	Intermittent	30 sec fixed	—	—	Certified, File No. LR95329-3	Report No. OX4A5.AF.	
RM7890A1064/U	120 Vac (+10, -15%)	intermittent	Intermittent	4 sec or 10 sec	—	GASTEC: CE-63AP3070/1, Approved to EN298	—	Report No. 1D0A1.AF	—
RM7890B1014/U	120 Vac (+10, -15%)	intermittent	Intermittent	4 sec or 10 sec	Includes Shutter Drive Capability	—	Certified, File No. LR95329-3	Report No. OX4A5.AF.	Component Recognized, File No. MP268; Guide No. MCCZ.
RM7890B1030/U	120 Vac (+10, -15%)	intermittent	Intermittent	Fixed 4 sec or 10 sec PFEP	Includes Shutter Drive Capability, Alarm sounds when Reset pushed	—	Certified, File No. LR95329-3	Report No. OX4A5.AF.	
RM7890B1055/U	120 Vac (+10, -15%)	intermittent	Intermittent	4 sec or 10 sec	Includes Shutter Drive Capability	Gastec EN268 Report 1156791	Certified, File No. LR95329-3	Report No. OX4A5.AF.	
RM7890C1005/U	120 Vac (+10, -15%)	Standing Pilot	Intermittent	—	Standing Pilot Applications	—	Certified, File No. LR95329-3	Report No. OX4A5.AF.	
RM7890D1004/U	120 Vac (+10, -15%)	intermittent	Intermittent	15 sec or 30 sec	Higher Flame Sensor Voltage for Infra Red Heater Applications	—	Certified, File No. LR95329-3	Report No. OX4A5.AF.	

Microprocessor Burner Controls

RM7895; EC7895 On-Off Primary Control with Prepurge

Microprocessor-based integrated primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Subbase, amplifier, and prepurge timer are required for operation
- Options include Modbus™ interface, keyboard display module, remote display module and first-out expanded annunciator
- Five LEDs provide sequence information
- Interchangeable plug-in flame amplifiers
- Optional local or remote annunciation of operation and fault information using the S7800 Keyboard Display Module
- Nonvolatile memory retains history files and sequencing status after power loss
- Selectable relight or lockout on loss of flame
- Dynamic airflow switch check

Application: On-Off Primary Control with Prepurge
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
PrePurge: Determined by ST7800A Purge Timer Card
Interlocks: Selectable

Weight: 1 lb 15 oz (0.9 kg)
Approvals
Canadian Standards Association: See table
Factory Mutual: See table
Swiss RE (formerly IRI): Acceptable
Control Safety Devices: See table
Underwriters Laboratories, Inc: See table
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Voltage	Pilot Type	AirFlow Check	Flame Establishing Period		Delayed Main Valve	Comments	Used With	Canadian Standards Association	Factory Mutual	Control Safety Devices	Underwriters Laboratories, Inc.
				Main	Pilot							
EC7895A1010/U	220 to 240 Vac (+10, -15%)	intermittent	—	Intermittent	4 sec or 10 sec	No	—	7800 Series Amplifiers	—	Report No. 1D0A1.AF	—	—
EC7895C1000/U		interrupted	—	10 sec	4 sec or 10 sec	Yes	—	7800 Series Amplifiers	—		—	—
RM7895A1014/U	120 Vac (+10, -15%)	intermittent	—	Intermittent	4 sec or 10 sec	No	—	7800 Series Amplifiers	Certified, File No. LR95329-3	Report No. OX4A5.AF	Acceptable: CSD-1	Component Recognized, File No. MP268; Guide No. MCCZ.
RM7895A1048/U		intermittent	—	Intermittent	4 sec or 10 sec	No	Includes ignition cut-out during PFEP	7800 Series Amplifiers				
RM7895B1013/U		intermittent	Dynamic	Intermittent	4 sec to 10 sec	No	—	7800 Series Amplifiers				
RM7895C1012/U		interrupted	—	10 sec	4 sec or 10 sec	Yes	—	7800 Series Amplifiers				
RM7895C1020/U		interrupted	—	10 sec	10 sec	Yes	Includes ignition cut-out during PFEP	7800 Series Amplifiers				
RM7895D1011/U		interrupted	Dynamic	10 sec	4 sec or 10 sec	Yes	—	7800 Series Amplifiers				
RM7895E1002/U		intermittent	—	Intermittent	15 sec or 30 sec	No	Higher Flame Sensor Voltage for Infra Red Heater Applications	R7847 only				
RM7895E1010/U		intermittent	—	Intermittent	15 sec or 30 sec	No		R7847 only				

RM7896 On-Off Primary Control with Pre- and Post-Purge

Microprocessor-based integrated full-function primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Subbase, amplifier and purge card are required for operation
- Options include Modbus™ interface, keyboard display module, remote display module and first-out expanded annunciator
- 15 second postpurge
- Five LEDs provide sequence information
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation of operation and fault information using the S7800 Keyboard Display Module
- Nonvolatile memory retains history files and sequencing status after power loss
- Selectable recycle or lockout on loss of airflow or flame
- Shutter drive output
- Dynamic airflow switch check
- Delayed main valve

Application: On-Off Primary Control with Pre and Post purge
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Voltage: 120 Vac (+10, -15%)
Frequency: 50 Hz; 60 Hz (±10%)
PrePurge: Determined by ST7800A Purge Timer Card
Interlocks: Selectable
Weight: 1 lb 15 oz (0.9 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. OX4A5.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Pilot Type	AirFlow Check	Flame Establishing Period		Delayed Main Valve	PostPurge	Comments
			Main	Pilot			
RM7896A1012/U	intermittent	—	Intermittent	4 sec or 10 sec	No	15 sec	Includes Pre- and Post -Purge
RM7896C1010/U	interrupted	—	10 sec	4 sec or 10 sec	Yes	15 sec	Includes Pre- and Post -Purge
RM7896D1019/U	interrupted	Dynamic	10 sec	4 sec or 10 sec	Yes	15 sec	Includes Pre- and Post -Purge
RM7896D1027/U	interrupted	Dynamic	10 sec	4 sec or 10 sec	Yes	60 sec	Blinking Fault code LED, early spark termination when flame sensed, pre and post purge

Microprocessor Burner Controls

RM7897 Automatic Primary Control with Programmable Post-Purge

Microprocessor-based integrated full-function primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls. Along with Programmable Post Purge.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Subbase, amplifier and purge card are required for operation
- Options include Modbus™ interface, keyboard display module, remote display module and first-out expanded annunciator
- Five LEDs provide sequence information
- Power LED blinks fault code on Safety Shutdown
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation of operation and fault information using the S7800 Keyboard Display Module.
- Nonvolatile memory retains history files and sequencing status after power loss
- Selectable recycle or lockout on loss of airflow or flame
- Shutter drive output
- Delayed main valve
- Programmable post purge using S7800A1142 Keyboard Display (not provided)
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Application: On-Off Primary Control with Pre and Programmable Post purge
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: programmed with S7800A1142 display
Interlocks: Selectable

Flame Establishing Period
Pilot: 4 sec or 10 sec
Weight: 1 lb 15 oz (0.9 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class A Emissions
Factory Mutual: Report No. OX4A5.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Pilot Type	Delayed Main Valve	Comments	Used With
RM7897A1002/U	120 Vac (+10, -15%)	selectable	—	Includes blinking LED fault annunciation feature	7800 Series Amplifiers
RM7897C1000/U	120 Vac (+10, -15%)	selectable	Yes	Includes blinking LED fault annunciation feature and 5 sec MFEP	7800 Series Amplifiers
RM7897A1018/U	120 Vac (+10, -15%)	selectable	Yes	Includes blinking LED fault annunciation feature and 5 sec MFEP	7800 Series Amplifiers

RM7898 On-Off Primary Control with VPS

Microprocessor-based integrated full-function primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls. Include Programmable Post Purge and Valve Proving Feature.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Subbase, amplifier and purge card are required for operation
- Options include Modbus™ interface, keyboard display module, remote display module, and first-out expanded annunciator
- Five LEDs provide sequence information
- Power LED Blinks a Fault code on safety shutdown
- Interchangeable plug-in flame amplifiers
- Local or remote annunciation of operation and fault information using the S7800 Keyboard Display Module.
- Nonvolatile memory retains history files and sequencing status after power loss
- Selectable recycle or lockout on loss of airflow or flame
- Shutter drive output
- Programmable post purge and Valve Proving feature with S7800A1142 Keyboard Display (not supplied)
- SIL3 Capable in a properly designed Safety Instrumental System when using amplifiers R7847B,C; R7849B; R7851B,C; R7852B; R7861A and R7886 with their appropriate flame detectors

Application: On-Off Primary Control w/VPS
Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: selectable
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: programmed with S7800A1142 display
Interlocks: Selectable
Flame Establishing Period Pilot: 4 sec or 10 sec
Weight: 1 lb 15 oz (0.9 kg)

Approvals
Canadian Standards Association: Pending
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. OX4A5.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

SIL3 Capable

Product Number	Voltage	Comments	Used With
RM7898A1000/U	120 Vac (+10, -15%)	Includes blinking LED fault annunciation feature	7800 Series Amplifiers
RM7898A1018/U	120 Vac (+10, -15%)	Includes blinking LED fault annunciation feature, with early spark termination	7800 Series Amplifiers

Microprocessor Burner Controls

R7120M Fireye M Series Replacement Control

The Honeywell R7120M Burner Control Modules are microprocessor-based integrated burner controls. It is a plug in replacement of Fireye M series controls for automatically fired gas, oil or combination fuel on/off single burner applications.

- Functions provided by the R7120M include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Plug in replacement for Fireye M series controls using the existing Fireye wiring subbase
- Require ST7800 Purge Timer and appropriate R78XX Amplifier to complete the replacement

Application: Replacement Primary Control for Fireye M Series
Dimensions, Approximate: 7 in. wide x 6 5/32 high x 5 3/4 in. deep (177 mm wide x 156 mm high x 146 mm deep)
Ambient Temperature Range: -40 F to +135 F (-40 C to +57 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: programmed with S7800A1142 display

Interlocks: Running
Weight: 3 lb 1 oz (1.4 kg)
Approvals
Federal Communications Commission: FCC Part 15, Class A, Emissions
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ
Required Components: R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800 Plug-in Purge Timer Card.

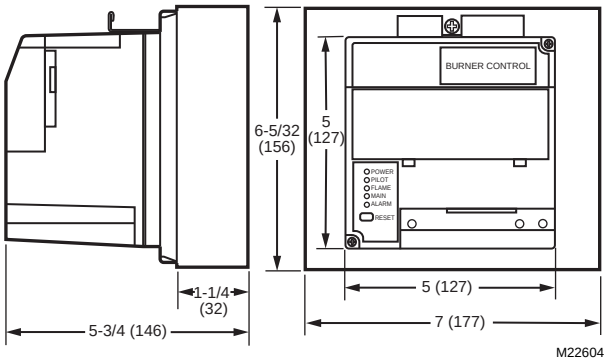
				Flame Establishing Period		
Product Number	**Voltage**	**Pilot Type**	**AirFlow Check**	**Main**	**Pilot**	**Comments**
R7120M1001/U	120 Vac (+10, -15%)	intermittent	User selectable	Intermittent	4 sec or 10 sec	On/Off
R7120M1019/U	120 Vac (+10, -15%)	interrupted	User selectable	10 sec	4 sec or 10 sec	On/Off

R7140 Programmers

The Honeywell R7140G, L, M Burner Control Modules are microprocessor-based integrated burner control for automatically fired gas, oil or combination fuel single burner applications.

- Functions provided by the R7140G,L,M include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Upgrade replacement for BC7000 or R4140 legacy Programmer controls
- Require ST7800 Purge Timer and appropriate R78XX Amplifier to complete the replacement

Dimensions in inches (millimeters)



Application: Upgrade Replacement Programming Control for R4140 or BC7000
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Voltage: 120 Vac (+10, -15%)
Frequency: 50 Hz, 60 Hz (±10%)
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: 15 sec
AirFlow Check: User selectable
Weight: 3 lb 1 oz (1.4 kg)

Approvals
Federal Communications Commission: FCC Part 15, Class A, Emissions
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ
Required Components: R7847, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800 Plug-in Purge Timer Card.

Product Number	Pilot Type	Flame Establishing Period		Second Stage Pilot Valve	Interlocks	Comments
		Main	Pilot			
R7140G1000/U	Interrupted or Intermittent	10 sec, or 15 sec, or 30 sec, or Intermittent	4 sec or 10 sec	selectable	Running	LHL-LF Proven for R4140G applications
R7140G2008/U	Interrupted or Intermittent	10 sec, or 15 sec, or 30 sec, or Intermittent	4 sec or 10 sec	—	Running	LHL-LF Proven for BC with PM720G applications
R7140L1009/U	interrupted	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Lockout	LHL-LF&HF Proven for R4140L applications
R7140L2007/U	interrupted	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Lockout	LHL-LF&HF Proven for BC with PM720L applications
R7140M1007/U	Interrupted or Intermittent	10 sec or Intermittent	4 sec or 10 sec	Intermittent	Running	On/Off-LF Proven for R4140 and BC with PM720M applications

Microprocessor Burner Controls

Q7800 22 Terminal Universal Wiring Subbases

Q7800F

Q7800A

Q7800B

Burner, panel or wall mount subbases for 7800 SERIES relay modules and S7830A Expanded Annunciator.

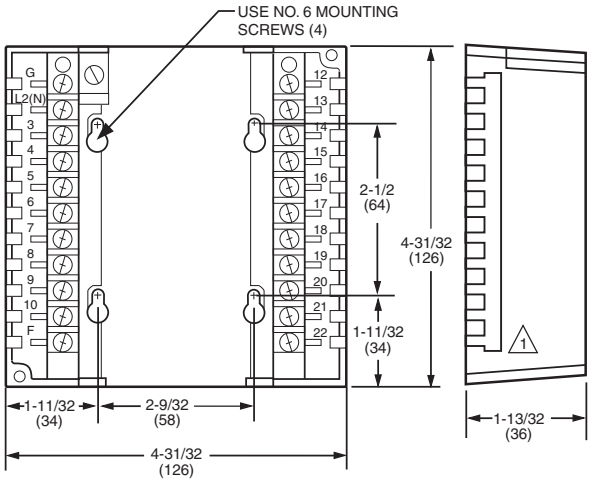
- Makes electrical connections for 7800 SERIES relay modules or S7830A Expanded Annunciator through bifurcated contacts
- Provides terminals for field wiring
- Twenty-two terminals

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Weight: 7 oz (0.20 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ2

Product Number	Application	Comments	Used With
Q7800A1005/U	Wiring Subbase	Panel mount	—
Q7800B1003/U	Wiring Subbase	Burner/wall mount 2 knockouts each end	—
Q7800B1011/U	Wiring Subbase	Burner/wall mount 3 knockouts each end	—
Q7800F1004/U	Wiring Adapter Subbase	Burner/wall mount adapter subbase for RA890	RM7890
Q7800F1012/U	Wiring Adapter Subbase	Burner/wall mount adapter subbase for R4795	RM7895

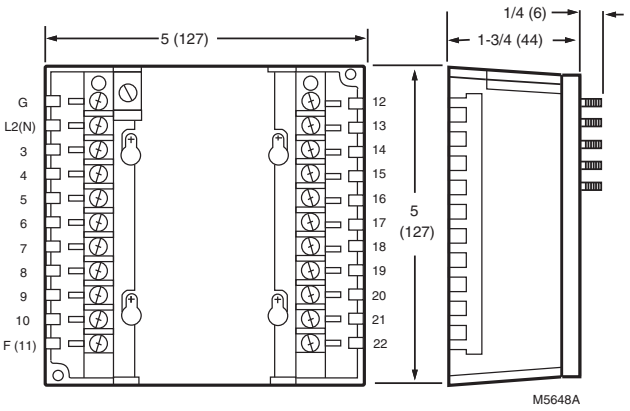
Q7800A dimensions in inches (millimeters)



1 OPTIONAL TERMINAL TEST ACCESS COVER.

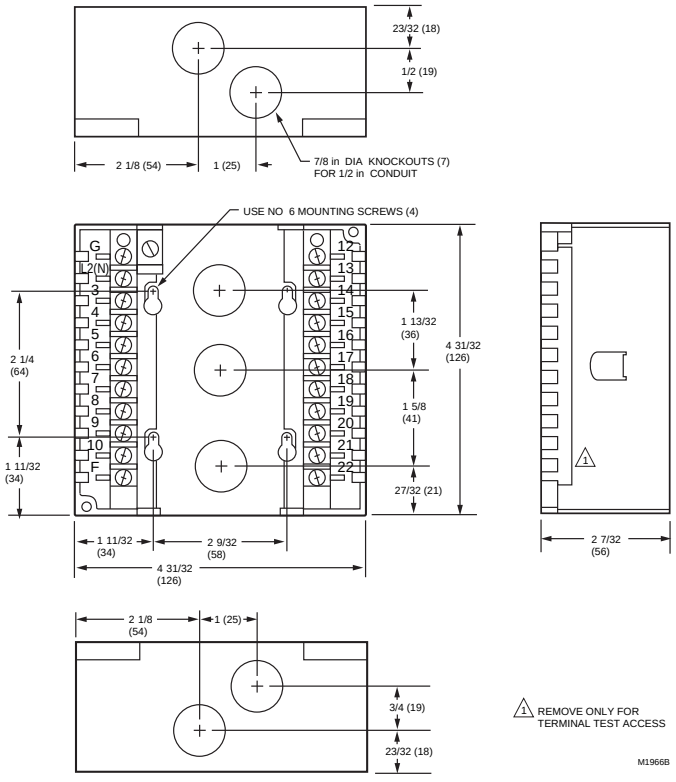
M1968D

Q7800F dimensions in inches (millimeters)

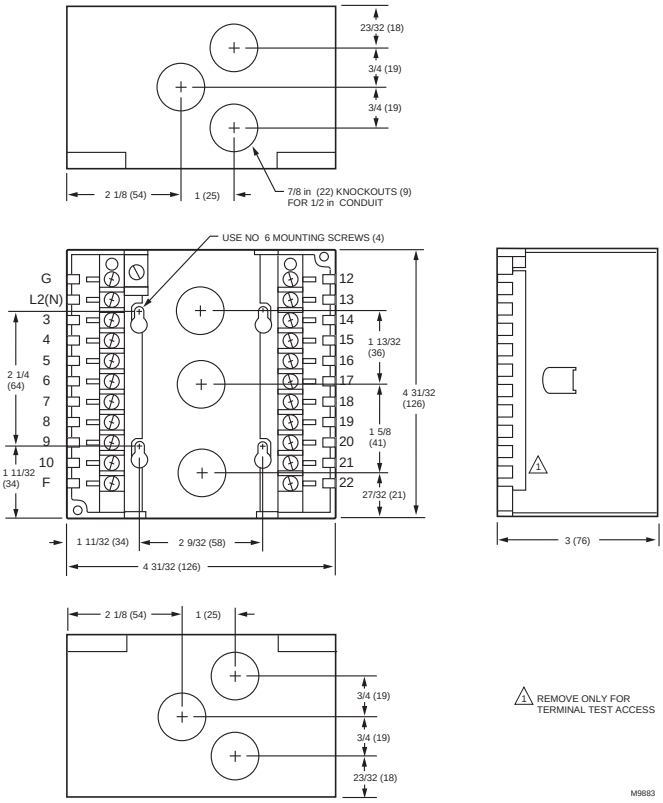


M5648A

Q7800B1003 dimensions in inches (millimeters)



Q7800B1011 dimensions in inches (millimeters)



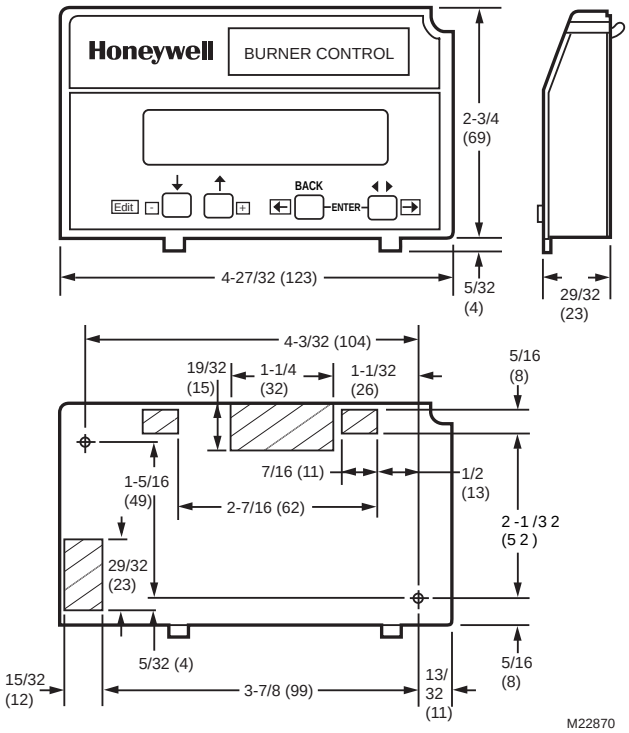
Microprocessor Burner Controls

S7800 Keyboard Display Module

Provides current status of burner sequence, timing information, hold information and lockout information, as well as selectable or preemptive messages.

- Application flexibility
- First-out annunciation and system diagnostics provided by 2 row by 20 column Vacuum Fluorescent Display (VFD)
- S7800A1001 offers “Call Service” (Business Card) programmable message displayed when system lockout occurs
- S7800A1001 series 5 and greater has selectable ModBus Feature
- Provides local or remote annunciation of operation and fault information
- Displays first out S7830 expanded annunciation of 24 limit and interlock LEDs to enhance keyboard display module information
- Remote reset

Dimensions in inches (millimeters)



Application: Keyboard Display
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Weight: 4 oz (0.11 kg)
Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. 1V9AO.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ

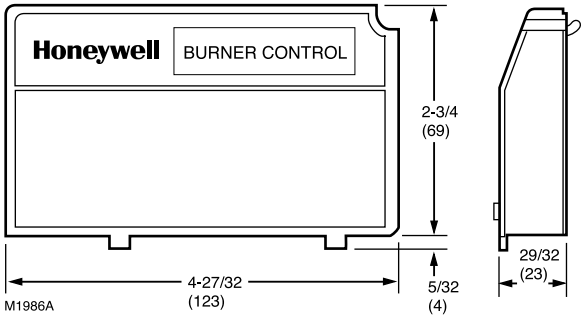
Product Number	Voltage	Comments
S7800A1001/U	13 Vdc peak fullwave rectified (+20/-15%)	English Language
S7800A1035/U	13 Vdc peak fullwave rectified (+20/-15%)	French Language
S7800A1043/U	13 Vdc peak fullwave rectified (+20/-15%)	German Language
S7800A1050/U	13 Vdc peak fullwave rectified (+20/-15%)	Italian Language
S7800A1068/U	13 Vdc peak fullwave rectified (+20/-15%)	Spanish Language
S7800A1118/U	13 Vdc peak fullwave rectified (+20/-15%)	Japanese Language
S7800A1126/U	13 Vdc peak fullwave rectified (+20/-15%)	Portuguese Language
S7800A1142/U	13 Vdc peak fullwave rectified (+20/-15%)	English Language, Capable of displaying special “Call Service” messages, allows setup of S7830A1005 Expanded Annunciator messages, used for VPS programming, and programming Post Purge on select 7800 Devices
S7800A1167/U	13 Vdc peak fullwave rectified (+20/-15%)	Spanish Language with Valve Proving, Postpurge, “Call Service”, and Expanded Annunciator programming ability

S7810A Data ControlBus Module

Supports remote mounting of S7800 Keyboard Display Module and remote reset.

- Use with remotely mounted S7800 Keyboard Display Module
- Installs directly on the front of 7800 SERIES Relay Modules
- Provides communications bus interface to remote mount the S7800 Keyboard Display and remote reset

Dimensions in inches (millimeters)



Application: ControlBus™ Module
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Weight: 4 oz (0.11 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Factory Mutual: Report No. 1V9AO.AF
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ2

Product Number	Voltage	Comments
S7810A1009/U	13 Vdc peak fullwave rectified (+20/-15%)	Includes 203541 5-wire Connector

S7810M ModBus™ Module

S7810M ModBus Module™ operates as ModBus RTU slave device.

- Provides ability to remotely mount the S7800 Keyboard Display Module
- Installs directly on the front of 7800 SERIES Relay Modules
- Provides ModBus communications bus interface
- Remote reset

Dimensions, Approximate: 4 27/32 in. wide x 2 29/32 in. high x 29/32 in. deep (123 mm wide x 73 mm high x 23 mm deep)
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Voltage: 13 Vdc peak fullwave rectified (+20/-15%)
Weight: 4 oz (0.11 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Factory Mutual: Report No. 1V9AO.AF
Gastec/European: See table
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ2

Product Number	Voltage	Application	Comments	Gastec/European
S7810M1003/U	13 Vdc peak fullwave rectified (+20/-15%)	ControlBus™ Module-MODBUS	Includes 208727 8 pin electrical connector	—
S7810M1029/U	13 Vdc peak fullwave rectified (+20/-15%)	ControlBus™ Module-MODBUS - CE Certified (no reset allowed)	Includes 208727 8 pin electrical connector	Gastec EN268 Report 1156791

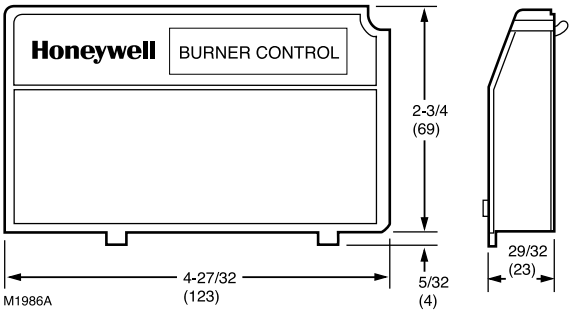
Microprocessor Burner Controls

S7820 Remote Reset Module

Serves as link between remote reset push button and relay module. Allows 7800 SERIES relay module to be reset from a remote location.

- Reset button can be installed up to 1000 feet away
- Installs directly on the front of 7800 SERIES relay module

Dimensions in inches (millimeters)



Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Weight: 3 oz (0.09 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Factory Mutual: Report No. 1V9AO.AF
Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ2

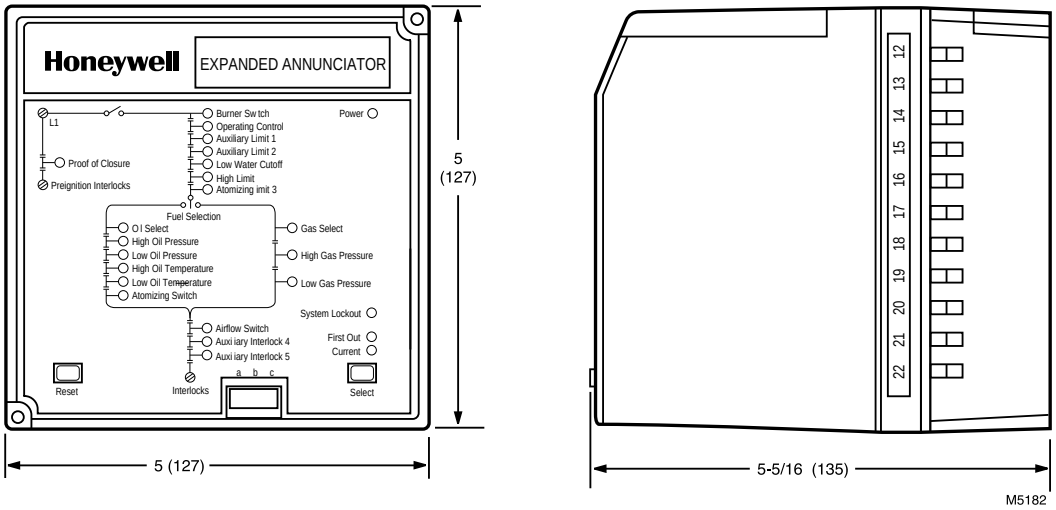
Product Number	Application	Comments
S7820A1007/U	Remote Reset Module	Includes 203541 5-wire Connector

S7830 First Out Expanded Annunciator

Microprocessor-based expanded annunciator to support the 7800 SERIES relay modules for first-out annunciation, sequencing, system or self-diagnostics and troubleshooting.

- Twenty-six status LEDs
- Front panel LED array-arranged to indicate flow of line-voltage through string of limits, controls and interlocks
- Selectable current and first-out LED array display status
- Twenty-one monitored contact points
- Access for external electrical voltage checks

Dimensions in inches (millimeters)



Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Weight: 1 lb 6 oz (0.62 kg)

Approvals
Canadian Standards Association: Certified, File No. LR95329
Federal Communications Commission: FCC Part 15, Class A, Emissions
Factory Mutual: Report No. 1V9AO.AF
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Component Recognized, File No. MH17367; Guide No. MJAT
Required Components: 7800 Series Relay Modules and Q7800A, B Subbases

Product Number	Voltage	Application
S7830A1005/U	120 Vac (+10, -15%)	Expanded Annunciator

Microprocessor Burner Controls

ST7800 Plug In Purge Timer

Provides the prepurge timing for select 7800 SERIES relay modules. ST7800C used with the RM7838C only.

Approvals
Canadian Standards Association: Certified, File No. LR95329-3
Factory Mutual: Approved: Report No. 2X0A1.AF

Underwriters Laboratories, Inc: Component Recognized, File No. MP268; Guide No. MCCZ2

Product Number	PrePurge	Application
ST7800A1005/U	2 seconds	Purge Timer
ST7800A1013/U	7 seconds	Purge Timer
ST7800A1021/U	10 seconds	Purge Timer
ST7800A1039/U	30 seconds	Purge Timer
ST7800A1047/U	40 seconds	Purge Timer
ST7800A1054/U	60 seconds	Purge Timer
ST7800A1062/U	90 seconds	Purge Timer
ST7800A1070/U	2.5 minutes	Purge Timer
ST7800A1088/U	4.0 minutes	Purge Timer
ST7800A1096/U	6.0 minutes	Purge Timer
ST7800A1104/U	9.0 minutes	Purge Timer
ST7800A1112/U	12.0 minutes	Purge Timer
ST7800A1120/U	15.0 minutes	Purge Timer
ST7800A1138/U	22.0 minutes	Purge Timer
ST7800A1146/U	30.0 minutes	Purge Timer
ST7800C1003/U	7 seconds	Purge Timer for RM7838C Only
ST7800C1011/U	20 seconds	Purge Timer for RM7838C Only
ST7800C1029/U	4.0 minutes	Purge Timer for RM7838C Only
ST7800C1037/U	6.0 minutes	Purge Timer for RM7838C Only
ST7800C1045/U	8.0 minutes	Purge Timer for RM7838C Only
ST7800C1052/U	10.0 minutes	Purge Timer for RM7838C Only
ST7800C1060/U	12.0 minutes	Purge Timer for RM7838C Only
ST7800C1078/U	14.0 minutes	Purge Timer for RM7838C Only
ST7800C1086/U	16.0 minutes	Purge Timer for RM7838C Only
ST7800C1094/U	18.0 minutes	Purge Timer for RM7838C Only
ST7800C1102/U	20.0 minutes	Purge Timer for RM7838C Only
ST7800C1110/U	22.0 minutes	Purge Timer for RM7838C Only
ST7800C1128/U	24.0 minutes	Purge Timer for RM7838C Only
ST7800C1136/U	30.0 minutes	Purge Timer for RM7838C Only
ST7800C1144/U	45.0 minutes	Purge Timer for RM7838C Only

7800 Series Accessories or Parts

Application: Accessory or Replacement Part

Product Number	Comments	Used With
203541/U	5 wire Connector for S7800 Display	S7800 Display
203765/U	Remote Mounting Bracket for S7800 Display (wall mounting).Includes 203541 5-wire Connector	S7800 Display
204718B/U	Nema I Cover Assembly for Panel Mounting S7800 (series 1-4) displays. Includes 203541 5-wire Connector	S7800 Display
205321B/U	Mounting Bracket - Flush mounting the S7800 Display for panel mounting. Includes 203541 5-wire Connector	S7800 Display
206311/U	Carrying Case for S7800 Display	S7800 Display
208727/U	Connector, 8 pin for S7810B or M	S7810B, S7810M
221729A/U	Dust Cover for 7800 Relay Modules - Honeywell Logo	7800 Relay Modules
221818A/U	Display Extension Cable - 60 inch for S7800 Display	S7800 Display
221818C/U	Display Extension Cable - 120 inch for S7800 Display	S7800 Display
32005580-001/U	Cable for connecting the S7800 Keyboard Display to the CR7890	CR7890
32007181-001/U	Wiring Harness with 9 pin connector for wiring CR7890, length 6 fee	CR7890
50023821-001/U	Nema 4 Cover Assembly for Panel Mounting the S7800 Display. Includes 203541 5-wire Connector	S7800 Display
50023821-002/U	Nema 4 Cover Assembly with Reset Button for Panel Mounting the S7800 Display. Includes 203541 5-wire Connector	S7800 Display

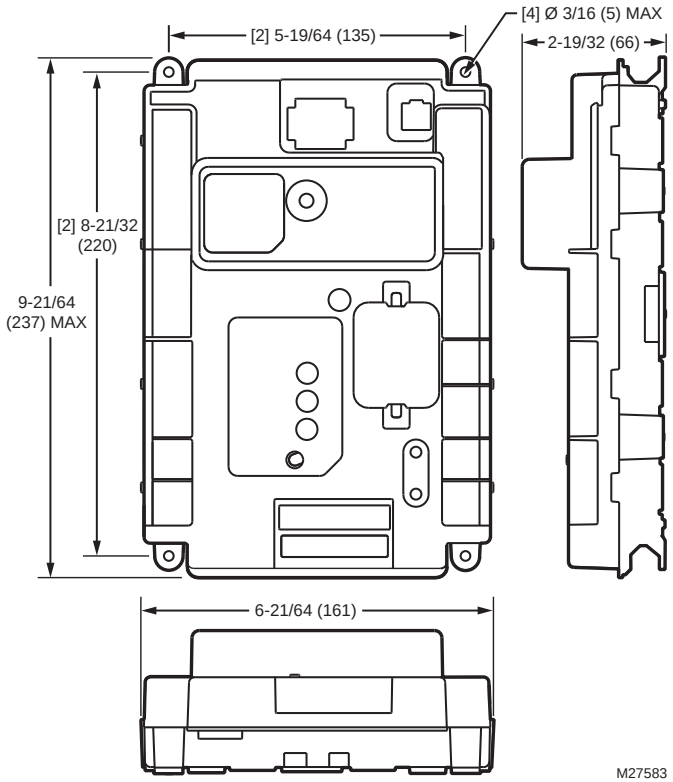
SOLA Controllers

R7910 SOLA Hydronic Control

The R7910A SOLA HC is a hydronic boiler control system that provides heat control, flame supervision, circulation pump control, fan control, boiler control, and electric ignition function. It will also provide boiler status and error reporting.

- Frost Protection, Slow Start, Anti-condensate, Boiler Delta-T, Stack Limit, Boiler Limit, DHW Limit, Outlet T-Rise Limit
- Primary Flame Safeguard Control
- Internal or external spark generator
- Analog NTC Sensor Inputs (10kohm or 12kohm)
- Other Analog Inputs
- PID Load Control
- Digital Inputs
- Digital Outputs
- Analog Outputs
- Algorithm Prioritization
- Two Temperature Loops of Control (CH and DHW)
- High Limit Control-CH, DHW, & Stack (Meets UL 353) using dual 10kohm NTC sensors
- Fifteen Item Fault Code History including equipment status at time of lockout
- Fifteen Item Alert Code Status including equipment status at time of internal alerts
- 24Vac Device Power
- 24 or 120Vac Digital I/O models available
- Flame Signal test jacks (Vdc)
- Three Status LEDs
- UV or Flame rod Flame Sensing

Dimensions in inches (millimeters)



Application: Hydronic
Comments: Includes Programmable features
Frequency (Hz): 60 Hz ± 5%
Approvals
Control Safety Devices: Acceptable
Federal Communications Commission: Part 15, Class B Emissions
Underwriters Laboratories, Inc: UL, cUL Component File No. MH20613 (MCCZ)

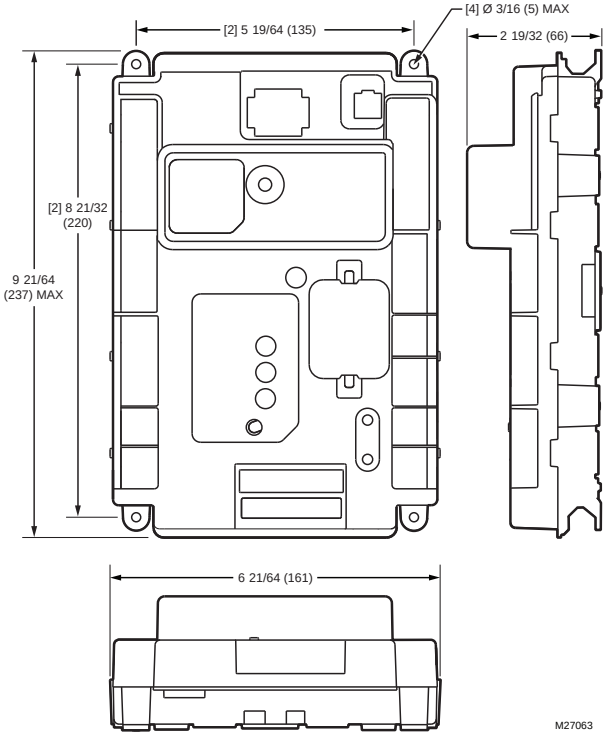
Product Number	Enclosure Rating	Firing Rate Switch	Flame Sensor Type	Modulation Output			Load Voltage	Operating Voltage
				(0-10 Vdc)	(4-20 mA)	(PWM)		
R7910A1001/U	NEMA I/IP 40	—	FR/UV	Yes	Yes	Yes	24 Vac	24 Vac
R7910A1019/U	NEMA I/IP 40	Low Fire Switch; High Fire Switch	FR/UV	Yes	Yes	Yes	120 Vac	24 Vac
R7910A1027/U	NEMA I/IP 40	—	FR/UV	Yes	Yes	Yes	120 Vac	24 Vac
R7910A1084/U	NEMA I/IP 40	—	FR; Stat	Yes	Yes	Yes	24 Vac	24 Vac

R7911 SOLA Steam Control

The R7911A SOLA SC is a steam boiler control system that provides heat control, flame supervision, fan control, boiler control, and electric ignition function. It will also provide boiler status and error reporting.

- Slow Start, Stack Limit, Boiler Limit
- Primary Flame Safeguard Control
- Internal or external spark generator
- Analog Stack Temp NTC Sensor Inputs (10kohm or 12kohm)
- Other Analog Inputs
- PID Load Control
- Digital Inputs
- Digital Outputs
- Analog Outputs
- Algorithm Prioritization
- High Limit Control- Stack (Meets UL 353) using dual 10kohm NTC sensors
- Fifteen Item Fault Code History including equipment status at time of lockout
- Fifteen Item Alert Code Status including equipment status at time of internal alerts
- 24Vac Device Power
- 24 or 120Vac Digital I/O models available
- Flame Signal test jacks (Vdc)
- Three Status LEDs
- UV or Flame rod Flame Sensing

Dimensions in inches (millimeters)



Application: Steam
Comments: Includes Programmable features
Frequency (Hz): 60 Hz ± 5%
Flame Sensor Type: FR/UV
Approvals
Control Safety Devices: Acceptable
Federal Communications Commission: Part 15, Class B Emissions
Underwriters Laboratories, Inc: UL, cUL Component File No. MH20613 (MCCZ)

Product Number	Enclosure Rating	Firing Rate Switch	Flame Sensor Type	Modulation Output			Load Voltage	Operating Voltage
				(0-10 Vdc)	(4-20 mA)	(PWM)		
R7911A1000/U	NEMA I/IP 40	—	FR/UV	Yes	Yes	Yes	120 Vac	24 Vac
R7911A1026/U	NEMA I/IP 40	Low Fire Switch; High Fire Switch	FR/UV	Yes	Yes	No	120 Vac	24 Vac

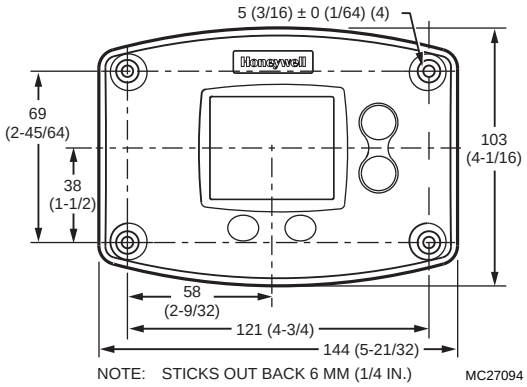
SOLA Displays

S7910 SOLA Keyboard Display

The S7910 Local Keyboard display interface provides setpoint and control adjustments to parameters of the R7910 SOLA Hydronic Control. All data is displayed on an LCD with backlight. The S7910 has four function buttons. The function of the bottom two buttons varies according to the operation mode and screen displayed. The right two buttons are used to adjust settings and navigate up and down the displayed data.

- Burner control state, sequence
- Rate control manual adjustment
- Lockout code
- Alert and Hold Reason
- CH, CH TOD, DHW, and DHW TOD set points
- Communication interface with R7910
- First out and system status and diagnostics provided through the LCD
- Local communication of operation and fault information
- Control DHW, Inlet, Outlet, Delta T (Outlet-Inlet), and Stack Temperatures
- Set-up
- Diagnostics
- Blue, includes (future feature: TOD), only “talks” to Commercial R7910A, Flame Signal Vdc, pilot hold function, screw mounting

Dimensions in inches (millimeters)



Ambient Temperature Range: 32 F to 120 F (0 C to 49 C)
Temperature Range, Storage: -60 F to +150 F (-51 C to +66 C)
Operating Humidity Range (% RH): 85% relative humidity continuous, non-condensing
Weight: 4 oz (124 g)

Approvals
Federal Communications Commission: Part 15, Class B emissions
Underwriters Laboratories, Inc: Listed: File No. MH20613 (MCCZ)
Canadian Underwriters Laboratories, Inc: Listed: File No. MH20613 (MCCZ)

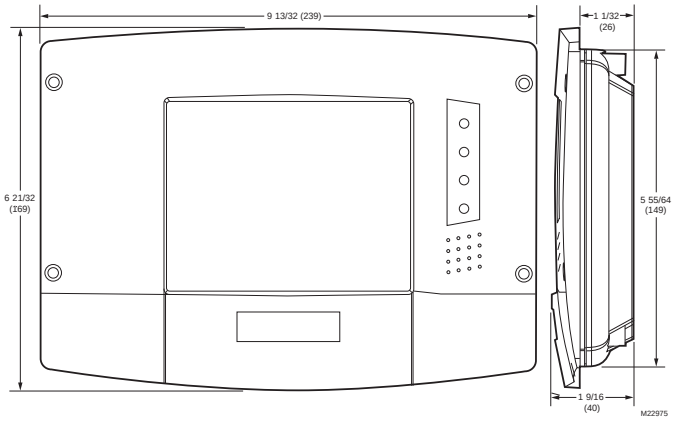
Product Number	Electrical Ratings	Vibration	Description	Used With
S7910A1008/U	24 VAC powered from R7910A/R7911A	0.5G environment	Keyboard Display Module	R7910/R7911

S7999D SOLA System Operator Interface

The S7999D can be used to monitor an individual boiler and also used for multiple boiler applications in a lead/lag arrangement. It consists of 2 RS485 ports and a USB port. The S7999D display can be flush front or mounted behind in a panel cutout. Wiring connections are through a removable 8-pin wiring connector.

- Individual boiler status, configuration, history and diagnostics
- Allows configuration and monitoring of the Sola Controls (R7910 Hydronic Controls or R7911 Steam Control) burner control sequence, flame signal, diagnostics, historical files, and faults
- Allows switching view between multiple boilers and lead-lag master/slaves
- Real-time data trending analysis and transferring saved trend data to Excel spreadsheet
- 7 in. 800 x 480, 24 bit high resolution color LCD touch screen for clarity
- Audio output with integral speaker for sound output.
- Adjustable backlight control
- Real time clock with coin-cell battery back up (CR2032)
- Volume control
- Screen Capture function to capture screen images
- USB port for file transfers and software updates
- 2 RS-485 (COM1 & 2) ports for Modbus™ interface to Sola controls and BAS Gateway.
- Windows® CE 6.0 Operating System
- 8-pin connector, back-up battery and mounting hardware are provided

Dimensions in inches (millimeters)



Application: Interface Display
Ambient Temperature Range: 14 F to 122 F (-10 C to 50 C)
Shipping, Storage Temperature Range: -13 F to 155 F (-25 C to 60 C)
Operating Humidity Range (% RH): 85% RH continuous, non-condensing
Approvals
Federal Communications Commission: FCC Part 15, Class A digital device
Underwriters Laboratories, Inc: cULus Component Recognized: File Number MH20613 (MCCZ)

Product Number	Voltage	Description	Used With
S7999D1006/U	24 Vac	System Operator Interface with Black Plastic Border	R7910/R7911

SOLA Program Module

PM7910 Program Module

The PM7910 Program Module is an optional plug-in device for the R7910 SOLA HC (Hydronic Control) and R7911 Sola SC (Steam Control). From the system level the S7999 System Operator Interface can direct the R7910/R7911 to transfer or retrieve parameter information with the Program Module.

- Can be removed or installed while the R7910 or R7911 is powered
- Facilitate multiple controller setups
- Backup and restore the R7910 programmable data including:
  - — Non-safety parameter values
  - — Parameter Control Blocks (information on how the parameter values may be modified7

Product Number	Application	Comments
PM7910A1013/U	Support backup and restore	Indicator LEDs - One (Status LED) Blinking LED indicated the Program Module is properly seated and powered from the R7910/R7911

SOLA Accessories or Parts

Application: Single element sensor with 6" leadwire with Socket

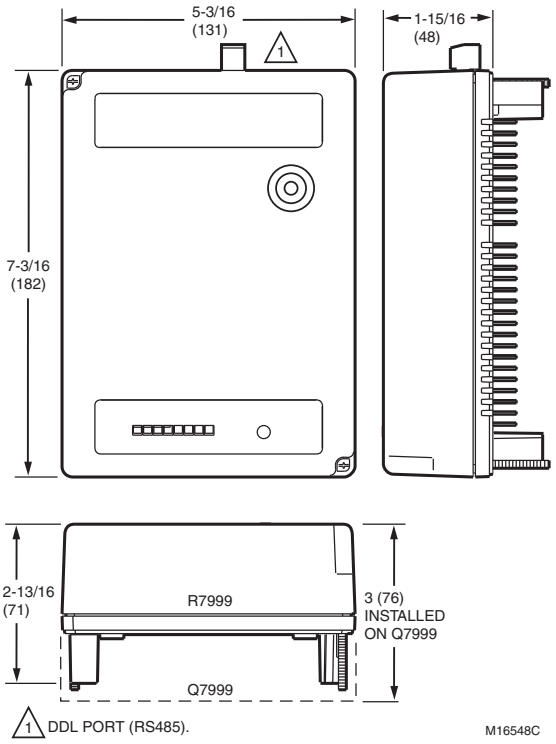
Product Number	Application
32003971-002/U	Single element sensor with 6 in. leadwire with Socket
32003971-003/U	Single element sensor with 42 in. leadwire, includes wire nuts (2), #8 mounting screws (3), anchors (2), sensor clip (1), tie strap (2)
50001464-006/U	Dual Element Sensor with 6 in. leadwire with Female Socket
50001464-007/U	Dual Element Sensor with 42 in. leadwire without connector
50032893-001/U	Bag of connectors for R7910 and R7911 Controllers
121371B/U	Water Temperature Immersion Well 3 in. insertions, 3/4 in. spud
50044082-001	12 vdc (Meanwell brand) for S7999B and C

R7999A ControLinks™ Fuel Air Controller

Uses microprocessor-based technology to control the ML7999 Universal Parallel Positioning Actuators This represents a value-added replacement of mechanical cam and linkage assembly controlling the relationship between fuel, airflow and flue gas recirculation (if used) on a power burner. The ControLinks Fuel Air Control System consists of the R7999 Fuel Air Controller, Q7999 Wiring Subbase, ML7999 Universal Parallel Positioning Actuator and ZM7999 Configuration Software. The R7999, with one communications port, provides communications capabilities similar to those found in the 7800 SERIES controls.

- Fast burner setup via PC or laptop
- Fuel, air, FGR profile download capability
- Two independent fuel profiles with or without FGR
- 7 to 24 point profiles
- Programmable behaviors of all actuators during Purge and Standby
- Programmable behavior of non-selected fuel actuator
- Independent light off and minimum modulation positions
- Wide power voltage input range (100 to 120 Vac, 50/60 Hz. Auto/Manual input
- Manual mode firing rate input
- Pluggable controller to wiring subbase
- Multipurpose communications port
- Field-configurable device
- Integrated boiler shock protection algorithms: Water temperature low fire hold
- Stack temperature low fire hold. FGR and low fire hold
- Selectable FGR hold based on stack temperature
- Programmable behavior of FGR actuator during purge
- Maximum modulation limit capability
- Remote reset input
- Automated actuator endpoint seeking process
- CSD-1 and NFPA acceptable

Dimensions in inches (millimeters)



Vibration: 0.0 to 0.5g continuous
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Operating Humidity Range (% RH): 90% RH maximum, non-condensing

Approvals
Underwriters Laboratories, Inc: Listed: Report No. MH17367

Replacement Parts:
32002515-001-3 pin electrical connector, for R7999

Product Number	Electrical Ratings	Frequency	Description
R7999A1005/U	100 to 120 Vac	50 Hz60 Hz	Fuel Air Ratio Controller, 100 to 120 Vac, 50/60 Hz

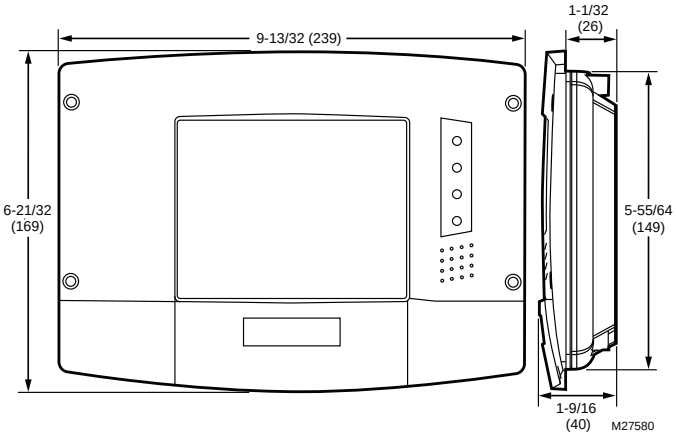
ControLinks Fuel Air Control System

S7999D1048 ControLinks™ System Display

Up to 99 burner systems connected via Modbus can be monitored with the S7999. Each burner control, fuel/air ratio control, expanded annunciator other Modbus devices present on the burner system can be viewed individually to determine its status.

- Color (7" diagonal). Touch Screen User Interface
- Flush Mounting
- Allows setup and monitoring of R7999 ControLinks
- Two RS485 and one USB communication ports
- Screen saver, contrast control and volume control
- Modbus communication allows monitoring up to 99 different controls
- Allows Programmable Expanded Annunciator terminal naming
- Allows R7999 ControLinks EEPROM backup and restore
- Battery backup prevents loosing date and time

Dimensions in inches (millimeters)



Ambient Temperature Range: -4 F to 158 F (-20 C to 7 C)
Storage Temperature Range: -22 F to 176 F (-30 C to 80 C)
Operating Humidity Range (% RH): 85% RH continuous, non-condensing
Approvals
Federal Communications Commission: FCC Part 15, Class A digital device
Underwriters Laboratories, Inc: Component Listed

Accessories:
S7810M1003-Mod bus Module

Product Number	Electrical Ratings	Description	Used With
S7999D1048	24 Vac nominal (18-30vac), 500 mA max	S7999 System Display for R7999 ControLinks Configuration and System (7800 Series, EA and certain UDC Devices) Monitoring (English, French, and Spanish selectable)	R7999

Q7999A ControLinks™ Fuel Air Control Wiring Subbase

Provides terminals for field wiring for the R7999A ControLinks Fuel Air Controller. Terminals on the R7999A,B Controller engage the Q7999 contacts to make electrical connections. The Q7999A Subbase is panel-mounted.

- Quick-mount wiring subbase for R7999A,B Fuel Air Ratio Controllers
- Allows wiring of control system before installation of controller
- Panel-mounted
- NEMA 1 enclosure

Vibration: 0.0 to 0.5g continuous
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Storage Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Weight: 10 oz (0.28 kg)
Approvals
Underwriters Laboratories, Inc: Listed: Report No. MH17367

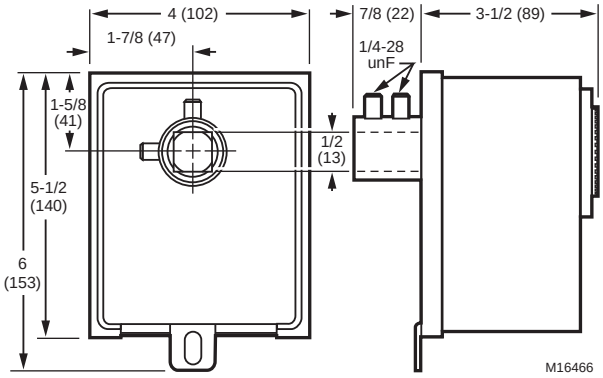
Product Number	Electrical Ratings	Frequency	Description
Q7999A1006/U	100 to 120 Vac	50 Hz60 Hz	Fuel Air Ratio Controller Wiring Subbase

ML7999A Universal Parallel-Positioning Actuator

Provides 100 lb-in. torque, pulse-width-modulating (PWM) control of combustion air dampers, butterfly gas valves, oil modulation valves, and flue gas recirculation systems. The actuator includes a precision feedback potentiometer and integral power supply. The ML7999A Actuator is part of the ControLinks Fuel Air Control System, and must be used with the R7999 Fuel Air Controller.

- Password protected with an eight-digit hexadecimal identification signal
- Separate wiring compartment between line voltage power wiring and low voltage control
- Couples directly to a 1/2 in. (13 mm) shaft with no additional parts required
- Couples directly to 5/16 in. (8 mm) and 3/8 in. (9 mm) shafts using available self-centering shaft reduction accessories
- Shaft coupler assembly available for shafts larger than 1/2 in
- Bracket Accessory Kit available for mounting to Honeywell V51 Butterfly Gas Valves
- NEMA 2
- IP54 with weatherproof kit (see Accessories)
- Visual indication of actuator position

Dimensions in inches (millimeters)



Vibration: 0.0 to 0.5g continuous
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Storage Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Approvals
Canadian Standards Association: Certified
CE: Certified
Underwriters Laboratories, Inc: Meets UL873

Product Number	Electrical Ratings	Frequency	Description
ML7999A2001/U	15VA; 100 to 240 Vac	50 Hz; 60 Hz	Universal Parallel-Positioning Actuator. Medium torque electronic actuator with a precision feedback potentiometer and integral power supply capable of direct line voltage connection. Must be used with a Series 2 R7999

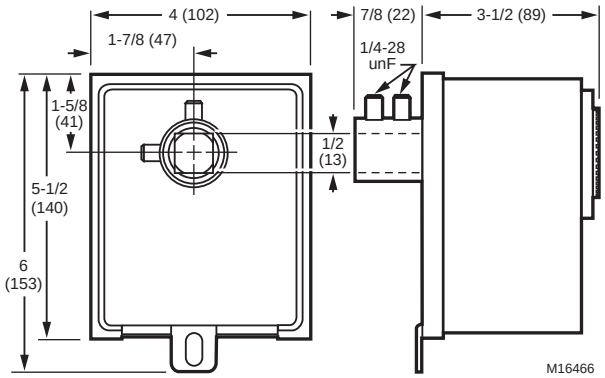
ControLinks Fuel Air Control System

ML7999B Universal Direct Coupled Actuator

ML7999B Universal Direct Coupled Actuator provides 100 lb-in. torque, 4 to 20 mA control input to control combustion air dampers and modulation valves. The actuator includes precision drive shaft control and integral power supply capable of direct line voltage connection.

- Separate wiring compartment between line voltage power wiring and low voltage control
- Programmable actuator stroke against 4 to 20 mA input
- Couples directly to a 1/2 in. (13 mm) shaft with no additional parts required
- Couples directly to 5/16 in. (8 mm) and 3/8 in. (9 mm) shafts using available self-centering shaft reduction accessories
- Shaft coupler assembly available for shafts larger than 1/2 in.
- Bracket Accessory Kit available for mounting to Honeywell V51E Butterfly Gas Valves
- NEMA 2
- IP54 with weatherproof kit (see Accessories)
- Visual indication of actuator position

Dimensions in inches (millimeters)



Vibration: 0.0 to 0.5g continuous
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Storage Temperature Range: -40 F to +150 F (-40 C to +65 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Approvals
Canadian Standards Association: Certified
CE: Certified
Underwriters Laboratories, Inc: Meets UL873

Accessories:
32002935-001-Weather Proofing kit for ML7999 ControLinks Actuator (includes (1) Corner stop and (2) gaskets)

Product Number	Electrical Ratings	Frequency	Description
ML7999B1002/U	15VA100 to 240 Vac	50 Hz; 60 Hz	Universal Parallel-Positioning Actuator. Medium torque electronic actuator with a precision feedback potentiometer and integral power supply capable of direct line voltage connection

ML7999 Accessories

Product Number	Description
201391/U	Shaft Adapter for 3/8 in. round or square valve shaft
32002935-001/U	Weatherproofing kit for actuator, ML7999 ControLinks (NEMA 3)
32003167-001/U	Shaft Adapter for 5/16 in. round or square shaft
32003168-001/U	Shaft Adapter for 3/4 in. round shaft only
32003168-002/U	Shaft Adapter for 5/8 in. round shaft only
32003168-003/U	Shaft Adapter for 9/16 in. round shaft only
32003396-001/U	V51E Mounting Kit for ML7999 Actuator (1-1/2 & 2 in. valves). Includes angle bracket, mounting bracket, screws, nuts and washers, and instructions
32003396-002/U	V51E Mounting Kit for ML7999 Actuator (2-1/2, 3 & 4 in. valves). Includes angle bracket, mounting bracket, screws, nuts and washers, and instructions
50036542-001/U	Auxiliary Switch Mounting Plate for ML7999B for 201052A or 201052B Auxiliary switch assembly

ZM7999A ControLinks™ Fuel Air Control System Configuration Software

The ZM7999 Software Configuration Tool reduces burner setup time by letting you create a burner modulation curve (profile) for the burner that allows for safe and efficient operation at all points along the modulation curve. The software uses a wizard-like process to assist you through the commissioning process. It also lets you save curves in standard PC files so that you can commission similar systems rapidly and safely. Once the burner is commissioned, real-time monitoring of the system can be done via the monitoring tool.

- Minimum Hardware Requirements: PC or laptop with a Pentium© processor
- Windows® 95 or Windows® 98
- 16 MB of RAM
- 1G hard drive with 100 MB of free memory
- 4X (or higher) CD-ROM drive
- Mouse
- Super VGA color monitor (800 x 600 resolution suggested)

Accessories:
QM4520A1004-Isolated RS-232 to RS-485 Converter Module

Product Number	Description	Used With
ZM7999A1006/U	Configuration Software	R7999

ControLinks™ Accessories

Product Number	Frequency	Description	Used With
32002515-001/U	—	3 pin electrical connector, for R7999	R7999
50020034-001/U	—	9 pin electrical connector, for S7999B	S7999B
50044082-001/U	50 Hz; 60 Hz	Power Supply, 120vac to 12vdc, for S7999B/C	S7999B/C

Delphi Combustion System

YP900 Delphi Combustion Efficiency Panel

Delphi Combustion Efficiency Panel is a packaged, pre-wired panel with integrated color touchscreen display, flame safeguard control, linkageless fuel/air ratio control, oxygen trim and VFD capability. Includes Hall-effect sensor which monitors VFD-driven blower and provides feedback to the control, certain models include the MF020-1-LC3 Oxygen sensor with mounting fitting and electrical connector. System is set-up entirely via the touchscreen interface.

- Works with a variety of burners and boilers
- Components housed in one panel
- Integrated flame safeguard control and linkageless fuel/air ratio control with oxygen trim
- Dual Fuels allowed with independent profiles
- Oxygen trim compensates for variable combustion air
- Certain models include high accuracy O2 sensor with quick response and open air calibration (MF020-1-LC3)
- VFD control capability (Honeywell NXL or NXS Series)
- Large color touchscreen interface
- Available actuators from 100 to 400 b-in.(ML7999B or Herculine 2001)
- Embedded software for commissioning, control and monitoring
- Dedicated actuator and VFD channels with feedback
- Up to 4 independently controlled actuators
- Firing rate/load control via temperature, pressure or manual operation
- 24 Vdc industrial panel PC control

Operating Humidity Range: 90% RH maximum, non-condensing

Product Number	Electrical Ratings	Frequency	Description
DSP3949/U	120 Vac	50 Hz; 60 Hz	Delphi Accessory Case
YP900A1004/U	120 Vac	50 Hz; 60 Hz	Combustion Efficiency Panel
YP900A1012/U	120 Vac	50 Hz; 60 Hz	Combustion Efficiency Panel - Less oxygen sensor
YP900B1002/U	220 Vac120 Vac	50 Hz; 60 Hz	Combustion Efficiency Panel

Herculine Actuator

Honeywell's Herculean® 2001 actuator are smart actuators used in applications requiring current proportional control or digital control. They offer digital electronics providing for precision positioning control, easy set-up and configuration, on board monitoring and network communications.

- 90 degree stroke
- 4-20mA input for use with Delphi
- 0-10 Vdc output for use with Delphi
- CCW rotation
- Modbus RTU RS485
- Includes local keypad/display for programming

Vibration: 0.0 to 0.5g continuous
Operating Humidity Range: 5 to 95% RH, non-condensing

Product Number	Electrical Ratings	Frequency	Description	Used With
2001-100-090-EC/U	120 Vac	50 Hz; 60 Hz	Herculine Actuator 100 lb-in torque, 12 second/90 degree	YP900
2001-200-090-EC/U	120 Vac	50 Hz; 60 Hz	Herculine Actuator 200 lb-in torque, 25 second/90 degree	YP900
2001-400-090-EC/U	120 Vac	50 Hz; 60 Hz	Herculine Actuator 400 lb-in torque, 50 second/90 degree	YP900

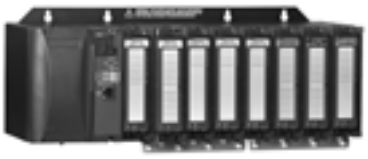
Delphi Accessories

Product Number	Description	Used With
51452354-501EC	Mounting plate adapter for Barber Colman Series MP495 actuator to Herculine 2001	Herculine 2001/YP900
51452354-502EC	Mounting plate adapter to replace Landis & Staefa SQM53/56 actuator to Herculine 2001	Herculine 2001/YP900
51452354-503EC	Allows Herculine 2001 actuator to be directly coupled to a variety of gas and oil valves	Herculine 2001/YP900
51452354-504EC	Linkage Assembly ball joint for 5/16” pushrod used with Herculine 2001 actuators	Herculine 2001/YP900
51452354-505EC	Push Rod, 5/16” diameter, 12" long, used with Herculine 2001 actuators	Herculine 2001/YP900
51452354-506EC	Push Rod, 5/16” diameter, 18" long, used with Herculine 2001 actuators	Herculine 2001/YP900
51452354-507EC	Push Rod, 5/16” diameter, 24" long, used with Herculine 2001 actuators	Herculine 2001/YP900
51452354-508EC	Push Rod, 5/16” diameter, 48" long, used with Herculine 2001 actuators	Herculine 2001/YP900
51452354-511EC	North American valve retrofit kit, replaces Honeywell Actionator Actuator with Herculine 2001 actuator	Herculine 2001/YP900
51452354-513EC	V51 valve mounting kit for 2.5 to 3 in. valves. Adapter plate and linkage. Used with Herculine 2001 actuators	Herculine 2001/YP900
51452354-514EC	V51 valve mounting kit for 4 in. valves. Adapter plate and linkage. Used with Herculine 2001 actuators	Herculine 2001/YP900

Delphi Replacement Parts

Product Number	Description	Used With
LCZ460-30-ECC	Hall-effect zero speed sensor, 5/8-18UNF-2A thread. Used for VFD feedback to Delphi.	YP900
S900A1000/U	Panel PC with 12" color touchscreen with Delphi software loaded	YP900

Advanced Burner Controls



The ABC900 Advanced Burner Control is a process and logic control that can be programmed for burner and boiler applications. This flexible platform can be programmed to provide all of the control functions required for fuel/air ratio control and O2 trim.

Power Supply: 120 to 240 VAC
Operating Temperature Range: 32 F to 140 F (0 C to 60 C)
Operating Humidity Range (% RH): 10 to 90%

Programming of the ABC900 is completed using the HC900 Designer Software. Additional programming can provide:

- Optional drum level control
- Boiler feedwater control
- Draft damper control
- Fuel selection inputs
- Mass fuel flow monitoring
- Dedicated actuator channels
- Dedicated VFD channels
- Interface with 7800 SERIES primary safety controls
- Interface with third party displays
- Communication with building automation systems via Modbus

Approvals
CE: CE
Canadian Standards Association: Certified
Canadian Underwriters Laboratories, Inc: Listed
Factory Mutual: Approved
Underwriters Laboratories, Inc: Listed

Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	Description
ABC900A1000	10-1/2 in. wide x 5-3/8 in. high x 6 in. deep	267 mm wide x 137 mm high x 152 mm deep	C30 CPU (4) I/O Modules (1 analog input module, 1 analog output module, 1 digital input module, 1digital output module with shield kit, power supply and resistor kit)
ABC900B1009	16-1/2 in. wide x 5-3/8 in. high x 6 in. deep	419 mm wide x 137 mm high x 152 mm deep	C30 CPU (8) I/O Modules (2 analog input modules, 1 analog output module, 1 digital input module, 2 digital output modules with shield kit, power supply)

Advanced Burner Controls - Oxygen Sensor

Product Number	Dimensions, Approximate (inch)	Dimensions, Approximate (mm)	NEMA Rating	Power Supply	Temperature Range, Operating (F)	Temperature Range, Operating (C)	Description	Used With
99-4218-14-07/U	—	—	—	—	—	—	Cable Connector for MF020	MF020
MF020-0-LC3	1 5/8 in. wide x 2 7/16 in. high x 12 13/16 in. deep	42 mm wide x 60 mm high x 325 mm deep	IP65	24 Vdc	-148 F to 752 F at probe tip	-100 C to 400 C at probe tip	High Temperature Oxygen Sensor 1 to 250 mbar (0.4 to 200"w.c.) 220mm/8.7" Probe, 4-20ma output, 0.1 to 25 volume $\%O_2$	99-4218-14-07; SS-810-1-12BT; ABC900A,B; YP900
MF020-1-LC3	1 5/8 in. wide x 2.4h x 1 9 13/16 in. deep	42 mm wide x 60 mm high x 503 mm deep	IP65	24 Vdc	-148 F to 752 F at probe tip	-100 C to 400 C at probe tip	High Temperature Oxygen Sensor 1 to 250 mbar (0.4 to 200"w.c.) 400mm/15.7" Probe, 4-20mA output, 0.1 to 25 volume $\%O_2$	99-4218-14-07P SS-810-1-12BT; ABC900A,B; YP900
MF020-2-LC3	1 5/8 in. wide x 2.4h x 27 13/16 in. deep	42 mm wide x 60 mm high x 706 mm deep	IP65	24 Vdc	-148 F to 752 F at probe tip	-100 C to 400 C at probe tip	High Temperature Oxygen Sensor 1 to 250 mbar (0.4 to 200"w.c.) 600mm/23.6" Probe, 4-20mA output, 0.1 to 25 volume $\%O_2$	99-4218-14-07P SS-810-1-12BT; ABC900A,B; YP900
SS-810-1-12BT/U	—	—	—	—	—	—	Compression tube fitting 1/2" Bore through, 3/4" NPT for MF020	MF020

QM4520A Data Acquisition Module

The QM4520A RS-232 to RS485 Converter allows a PC to communicate with multiple devices on a single bus, over greater distances.

- Mount on DIN rail, panel or in a piggyback stack
- Uses unregulated power between +10 Vdc and +30 Vdc.
- Transmit data on single twisted pair (RS-485)
- Plug-in screw terminal blocks assure simple installation, maintenance and modification
- Clean and reliable communications assured by noise-suppressing special circuitry
- RS-485 communications reduce the number of required cables, connectors and conditioners
- Modules can be remotely mounted up to 4,000 ft (1.2 km) away

Dimensions, Approximate: 2 11/32 in. x 4 13/16 in. x 1 3/16 in. (60 mm x 122 mm x 30 mm)
Electrical Connections: Plug-in screw terminal block
Voltage: Unregulated +10 Vdc to +30 Vdc - Power supply not provided
Ambient Temperature Range: 32 F to 158 F (0 C to 70 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing

Product Number	Input	Description	Used With
QM4520A1004/U	RS-232 (4-wire: TX, RX, RTS, GND) (Null modem may be required)	RS-232 to RS-485 Converter	ZM7850 or ZM7999 software

Flame Amplifiers

7800 SERIES and R7140 Flame Signal Amplifiers

Solid state plug-in amplifiers that respond to flame detector inputs to indicate the presence of flame when used with 7800 SERIES relay modules.

- Flame failure response time of 0.8 or 3.0 seconds
- Flame signal strength ranges from 0.0 to 5.0 Vdc
- Plug into 7800 relay module through printed circuit board edge connector keyed for proper orientation
- Flame signal test jacks to measure amplifier flame signal voltage
- Color-coded labels identify flame detection type
- Dynamic Self-Check Amplifier test the detectors and all electronic components in the flame detection system 7800 SERIES relay module locks out on safety shutdown with flame detection system failure
- Compat ble with existing Honeywell flame detectors (order separately)

Approvals
Canadian Standards Association: Certified: File No. LR95329-3
Factory Mutual: Approved: Report No. 1V9A0.AF
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Flame Failure Response Time (sec)	Self Checking	Use With Flame Sensor	Use With Primary Safety Control	Comments
R7824C1002/U	3.0 sec	Dynamic Self-Check	C7024E, F Flame Detector	RM7824	Color: Green
R7847A1025/U	0.8 sec or 1.0 sec	None (standard)	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179	7800 SERIES Relay Modules	Color: Green
R7847A1033/U	2.0 sec or 3.0 sec	None (standard)	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179Gas, oil, coal: Ultraviolet Flame Sensor C7012A, C	7800 SERIES Relay Modules	Color: Green
R7847A1074/U	0.8 sec or 1.0 sec	None (standard)	Gas: Rectifying Flame Rods C7004,5,7,8, or 9, Q179 for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A, C	7800 SERIES Relay Modules	Color: Green
R7847A1082/U	2.0 sec or 3.0 sec	None (standard)	Gas: Rectifying Flame Rods C7004,5,7,8, or 9, Q179 for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A, C	7800 SERIES Relay Modules	Color: Green
R7847B1023/U	0.8 sec or 1.0 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179	7800 SERIES Relay Modules	Color: Green
R7847B1031/U	2.0 sec or 3.0 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179Gas, oil, coal: Ultraviolet Flame Sensor C7012A, C	7800 SERIES Relay Modules	Color: Green
R7847B1064/U	0.8 sec or 1.0 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004,5,7,8, or 9, Q179 for impedance matching for leadwire runs > 50'or Ultraviolet Flame Sensor C7012A, C	7800 SERIES Relay Modules	Color: Green
R7847B1072/U	2.0 sec or 3.0 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004,5,7,8, or 9, Q179 for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A, C	7800 SERIES Relay Modules	Color: Green
R7847C1005/U	2.0 sec or 3.0 sec	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7012E, F	7800 SERIES Relay Modules	Color: Green
R7848A1008/U	2.0 sec or 3.0 sec	None (standard)	Gas, oil, coal: Infrared (lead sulfide) C7015	7800 SERIES Relay Modules	Color: Red
R7848B1006/U	2.0 sec or 3.0 sec	Ampli-Check	Gas, oil, coal: Infrared (lead sulfide) C7015	7800 SERIES Relay Modules	Color: Red
R7849A1015/U	0.8 sec or 1.0 sec	None (standard)	Gas, Oil: Minipeeper C7027A, C7035A, C7044	7800 SERIES Relay Modules	Color: Purple
R7849A1023/U	2.0 sec or 3.0 sec	None (standard)	Gas, Oil: Minipeeper C7027A, C7035A, C7044	7800 SERIES Relay Modules	Color: Purple
R7849B1013/U	0.8 sec or 1.0 sec	Ampli-Check	Gas, Oil: Minipeeper C7027A, C7035A, C7044	7800 SERIES Relay Modules	Color: Purple
R7849B1021/U	2.0 sec or 3.0 sec	Ampli-Check	Gas, Oil: Minipeeper C7027A, C7035A, C7044	7800 SERIES Relay Modules	Color: Purple
R7851B1000/U	2.0 sec or 3.0 sec	Ampli-Check	Gas, Oil, Coal: Optical (UV, Visible Light) C7927, C7962	7800 SERIES Relay Modules	Color: White
R7851B1018/U	0.8 sec or 1.0 sec	Ampli-Check	Gas, Oil, Coal: Optical (UV, Visible Light) C7927, C7962	7800 SERIES Relay Modules	Color: White
R7851C1008/U	2.0 sec or 3.0 sec	Dynamic Self-Check	Gas, oil, coal: optical (UV only) C7961E,F	7800 SERIES Relay Modules	Color: White
R7852A1001/U	2.0 sec or 3.0 sec	None (standard)	Gas, oil, coal: Infrared (lead sulfide) C7915	7800 SERIES Relay Modules	Color: Red/ White
R7852B1009/U	2.0 sec or 3.0 sec	Ampli-Check	Gas, oil, coal: Infrared (lead sulfide) C7915	7800 SERIES Relay Modules	Color: Red/ White
R7861A1026/U	2.0 sec or 3.0 sec	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7061	7800 SERIES Relay Modules	Color: Purple
R7861A1034/U	0.8 sec or 1.0 sec	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7061	7800 SERIES Relay Modules	Color: Purple
R7886A1001/U	2.0 sec or 3.0 sec	Dynamic Self-Check	Gas, oil, coal: Adjustable Sensitivity Ultraviolet Flame Sensor C7076	7800 SERIES Relay Modules	Color: Blue

R7247; R7248; R7249; R7476 Flame Amplifiers

Solid state plug-in units respond to flame detector signal and indicate presence of flame.

- Use with BC7000; R4140; R4075C,D,E; R4138C,D Flame Safeguard controls and appropriate flame detector and FSP5075A1, FSP5075A3 Flame Amplifier Modules

Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 140-A-2
Control Safety Devices: Acceptable (CSD-1)
Factory Mutual: Approved: Report No. 24181.01
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ2

Product Number	Flame Failure Response Time (sec)	Self Checking	Use With Flame Sensor	Use With Primary Safety Control	Comments
R7247B1003/U	2 to 4 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179Gas, oil, coal: Ultraviolet Flame Sensor C7012A, C	R4140; BC7000; R4075C,D,E; R4138C,D; FSP5075	Color: Green
R7247C1001/U	2 to 4 sec	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7012E, F	R4140, BC7000, R4075C,D,E, R4138C,D; FSP5075	Color: Green
R7247C1019/U	2 sec max.	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7012E, F	R4140; BC7000; R4075C,D,E; R4138C,D; FSP5075	Color: Green
R7248A1004/U	2 to 4 sec	None (standard)	Gas, oil, coal: Infrared (lead sulfide) C7015	R4140; BC7000; R4075C,D,E; R4138C,D; FSP5075	Color: Red
R7249A1003/U	2 to 4 sec	None (standard)	Gas, oil, coal: Ultraviolet (Minipeeper) C7027, C7035	R4140; BC7000; R4075C,D,E; R4138C,D; FSP5075	Color: Purple
R7476A1007/U	2 to 4 sec	Dynamic Self-Check	Gas, oil, coal: Adjustable Sensitivity Ultraviolet Flame Sensor C7076	R4140; BC7000; R4075C,D,E; R4138C,D; FSP5075	Color: Blue
R7476A1015/U	2 sec max.	Dynamic Self-Check	Gas, oil, coal: Adjustable Sensitivity Ultraviolet Flame Sensor C7076	R4140, BC7000, R4075C,D,E, R4138C,D; FSP5075	Color: Blue

R7259 Flame Safeguard Amplifiers

Solid state, plug-in units allow use of rectification, infrared and ultraviolet flame detections.

- Use with Q518, Q519 and W688A Flame Safeguard multi-burner modules and appropriate flame detector

Approvals
Canadian Standards Association: Certified: File No. LR95329-3
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ2

Product Number	Flame Failure Response Time (sec)	Self Checking	Use With Flame Sensor	Use With Primary Safety Control	Comments
R7259A1000/U	2 to 4 sec	None (standard)	Gas, oil, coal: Ultraviolet (Minipeeper) C7027, C7035	Q518, Q519, W688A	Color: Purple

Flame Amplifiers

R7289; R7290 Flame Safeguard Amplifiers (for R4795)

Solid state, plug-in units allow use of rectification or ultraviolet flame detection.

- Use with R4795A,D Flame Safeguard primary controls and appropriate flame detector

Approvals
Canadian Standards Association: Certified: File No. 158158-1120040
Factory Mutual: Approved: Report No. 19608.1
Underwriters Laboratories, Inc: Listed: File No. MP268, Vol 7, Sec. 2

Product Number	Flame Failure Response Time (sec)	Self Checking	Use With Flame Sensor	Use With Primary Safety Control	Comments
R7289A1004/U	2 to 4 sec	None (standard)	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179Gas, oil, coal: Ultraviolet Flame Sensor C7012A, C	R4795A,D	Color: Green
R7290A1001/U	2 to 4 sec	None (standard)	Gas, oil, coal: Ultraviolet (Minipeeper) C7027, C7035	R4795A,D	Color: Purple

Flame Amplifier Accessories

Product Number	Description	Used With
32005301-001/U	T Filter for Rectification Amplifiers	R7847, R7247

C7007 Flame Rod Holder

Used to apply flame rod in gas-fired system controlled by rectification type flame safeguard control.

- Use with pressurized fire boxes
- Hold flame rods firmly over the pilot or burner with a chuck and setscrew arrangement
- Provide electrical connection through a terminal screw
- Allow ventilation to cool the unit or to minimize soot deposit through a 1/2 in NPT tapping
- Mount easily with sleeve or thread type mounting adapters, and a straight or angle body

Description: Flame Rod Holder
Application: Gas fired pilot or gas fired system
Dimensions, Approximate: 1 15/16 in. high x 2 3/16 in. diameter x 3 3/16 in. long (49 mm high x 56 mm diameter x 81 mm long)

Approvals
Canadian Standards Association: Certified: File No. L95329-1
Factory Mutual: Approved: Report No. 24181.03
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Electrical Connections	Mounting	Required Parts	Comments	Used With
C7007A1001/U	Terminal screw	1/2 in.-14 NPT male	102709E (48 in., 1219 mm) 102709D (36 in., 914 mm) 102709C (24 in., 610 mm) 102709B (18 in., 457 mm) 102709A (12 in., 305 mm)	Holder only, order Kanthal flame rod separately	Flame Amplifiers: R7247A,B; R7847A,B; R7257; R7289

C7008 Flame Rod Holder

The small size of these devices enable their application to flame detection in installations where space is limited. The holder and flame rod assemblies facilitate flame proving on gas burners or gas-ignited oil burners which are controlled by electronic flame safeguard systems.

- Use with Honeywell Flame Safeguard controls requiring rectification-type flame detection
- Use only with gas
- Install with or without cover
- Comes in several different lengths and can be cut to exact desired length
- Uses Rajah electrical connector

Description: Flame Rod Assembly
Application: Gas fired pilot or gas fired system
Dimensions, Approximate: Holder: 7/8 in. diameter x 3 3/4 in. long (Holder: 22 mm diameter x 95 mm long)

Approvals
Canadian Standards Association: Certified: File No. L95329-1
Factory Mutual: Approved: Report No. 24181.03
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Electrical Connections	Mounting	Includes	Used With
C7008A1174/U	Rajah electrical connector	1/4 in. NPT male	12" Flame rod and holder	Flame Amplifiers: R7247A,B; R7847A,B; R7257; R7289
C7008A1182/U	Rajah electrical connector	1/4 in. NPT male	24" Flame rod and holder	Flame Amplifiers: R7247A,B; R7847A,B; R7257; R7289

Flame Rods and Flame Rod Holders

C7009 Flame Rod Holder

The small size of these devices enable their application to flame detection in installations where space is limited. The holder and flame rod assemblies facilitate flame proving on gas burners or gas ignited oil burners which are controlled by electronic flame safeguard systems.

- Use on industrial flame-retention gas burner nozzles
- Works with Honeywell Flame Safeguard controls requiring rectification type flame detector
- Mounts in areas with limited space because flame rod can be cut to desired length
- Uses Rajah electrical connector

Description: Flame Rod Assembly
Application: Gas fired pilot or gas fired system
Dimensions, Approximate: Holder: 3/8 in. diameter x 2 3/8 in. long (Holder: 10 mm diameter x 60 mm long)

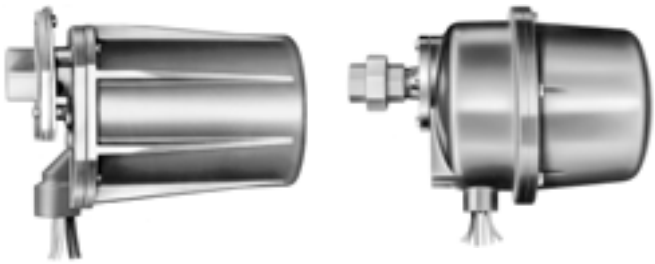
Approvals
Canadian Standards Association: Certified: File No. L95329-1
Factory Mutual: Approved: Report No. 24181.03
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Electrical Connections	Mounting	Includes	Comments	Used With
C7009A1009/U	Rajah electrical connector	1/8 in. NPT male	Flame rod and holder	4 in. (102 mm) flame rod	Flame Amplifiers: R7247A,B; R7847A,B; R7257; R7289
C7009A1025/U	Rajah electrical connector	1/8 in. NPT male	Flame rod and holder	12 in. (305 mm) flame rod	Flame Amplifiers: R7247A,B; R7847A,B; R7257; R7289

Flame Rod Detector Accessories or Parts

Product Number	Description
102709A/U	Kanthal Flame Rod - 12 in. (.182" Diameter) for C7004B, C7007A, C7011A
102709B/U	Kanthal Flame Rod - 18 in.(.182" diameter) for C7004B, C7007A, C7011A
102709C/U	Kanthal Flame Rod - 24 in. (.182" diameter) for C7004B, C7007A, C7011A
102709D/U	Kanthal Flame Rod - 36 in. (.182" diameter) for C7004B, C7007A, C7011A
102709E/U	Kanthal Flame Rod - 48 in. (.182" diameter) for C7004B, C7007A, C7011A
105478A/U	Kanthal Flame Rod - 6 in. (.182" diameter -threaded 6-32) for C7008
105478B/U	Kanthal Flame Rod - 12 in. (.182" diameter-threaded 6-32) for C7008
105478C/U	Kanthal Flame Rod - 18 in. (.182" diameter-threaded 6-32) for C7008
105478D/U	Kanthal Flame Rod - 24 in. (.182" diameter-threaded 6-32) for C7008

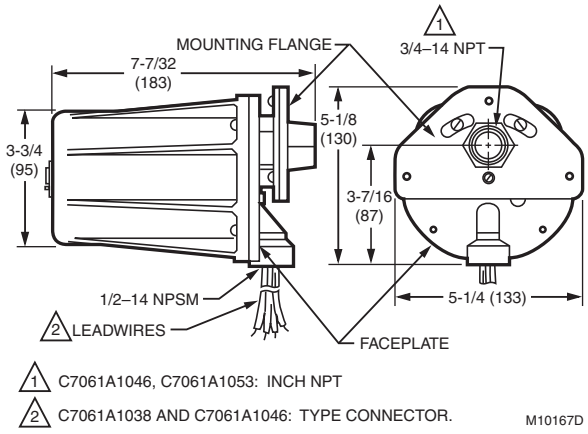
C7012 Solid State Purple Peeper® Ultraviolet Flame Detector

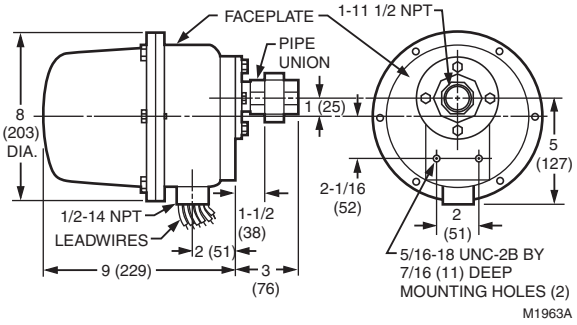


Solid state electronic flame detectors for use with Honeywell Flame Safeguard controls and amplifiers. Sense ultraviolet radiation produced by combustion of gas, oil, coal or other fuels.

- Mount horizontally, vertically or at any angle in between
- Provide quick electrical hookup with threaded conduit fitting and color-coded leadwires
- Reduced nuisance shutdowns by wiring two in parallel
- C7012E1278 5 pin Molex Woodhead 1R5006A20A120 (formerly Brad Harrison type 41307N) mating connector not supplied nor available through Honeywell
- C7012A,E meets NEMA 4 standards with viewing window rated to 20 psi
- C7012C,F has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi

Dimensions in inches (millimeters)





Description: Ultraviolet Flame Detector (Purple Peeper)
Application: Gas, Oil or Coal fired burners
Power Consumption: 2.5 W
Lead Length: 96 in. (2438 mm)
Weight: 4.25 lb (1.9 kg)

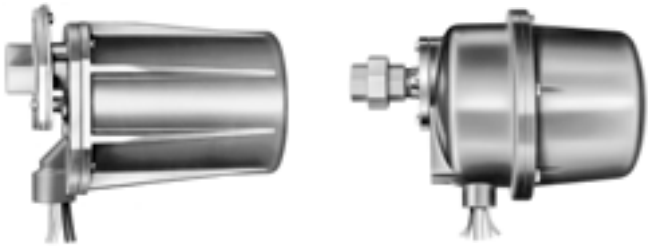
Approvals
Canadian Standards Association: Certified: Master Report LR95329-1
Factory Mutual: Approved: Report No. 14740.01
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Electrical Connections	Mounting	NEMA Rating	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Electrical Ratings	Frequency	Includes	Comments	Used With
C7012A1145/U	4 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	25 F to 175 F	-4 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover	For use with rectification flame signal amplifiers	Flame Amplifiers: R7247A,B; R7847A,B; R7257
C7012A1152/U	4 NEC Class 1 Color-coded leadwires	1 in. NPT	NEMA 4	25 F to 175 F	-4 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover	For use with rectification flame signal amplifiers	Flame Amplifiers: R7247A,B; R7847A,B; R7257
C7012A1160/U	4 NEC Class 1 Color-coded leadwires	1 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover	For use with rectification flame signal amplifiers	
C7012A1186/U	4 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	25 F to 175 F	-4 C to +79 C	208 Vac	50 Hz; 60 Hz	Cast case and cover	For use with rectification flame signal amplifiers	
C7012A1194/U	4 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	25 F to 175 F	-4 C to +79 C	240 Vac	50 Hz; 60 Hz	Cast case and cover	For use with rectification flame signal amplifiers	
C7012C1042/U	4 NEC Class 1 Color-coded leadwires	1 in. NPT	Explosion Proof	25 F to 175 F	-4 C to +79 C	120 Vac	50 Hz; 60 Hz	—	Explosion-proof, two piece, violet, cast aluminum enclosure	

Flame Detectors

Product Number	Electrical Connections	Mounting	NEMA Rating	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Electrical Ratings	Frequency	Includes	Comments	Used With
C7012E1104/U	6 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover	Dynamic self-checking flame detector	Flame Amplifiers: R7247C, R7847C
C7012E1112/U	6 NEC Class 1 Color-coded leadwires	1 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover	Dynamic self-checking flame detector	
C7012E1120/U	6 NEC Class 1 Color-coded leadwires	1 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover	Dynamic self-checking flame detector	
C7012E1146/U	6 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	208 Vac	50 Hz; 60 Hz	Cast case and cover, with Hot refractory tube	Dynamic self-checking flame detector	
C7012E1153/U	6 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	240 Vac	50 Hz; 60 Hz	Cast case and cover	Dynamic self-checking flame detector	
C7012E1161/U	10 foot 5 conductor cable and 5 PIN connector	1 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover	Dynamic self-checking flame detector	
C7012E1187/U	6 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	220 Vac	50 Hz	Cast case and cover	Dynamic self-checking flame detector	
C7012E1195/U	6 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	110 Vac	50 Hz	Cast case and cover	Dynamic self-checking flame detector	
C7012E1245/U	6 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover, with Hot refractory tube	Dynamic self-checking flame detector	
C7012E1278/U	Molex Woodhead 1R5006A20A120 (formerly Brad Harrison type number 41310 connector)	1 in. NPT	NEMA 4	-20 F to +175 F	-20 C to +79 C	120 Vac	50 Hz; 60 Hz	Cast case and cover	Dynamic self-checking flame detector	
C7012F1052/U	6 NEC Class 1 Color-coded leadwires	1 in. NPT	Explosion Proof	-20 F to +175 F	-20 C to +79 C	120 Vac	50 Hz; 60 Hz	—	Dynamic self-checking flame detector, explosion-proof, two piece, violet, cast aluminum enclosure	
C7012G1019/U	5 NEC Class 1 Color-coded leadwires	3/4 in. NPT	NEMA 4	25 F to 175 F	-4 C to +79 C	220 V	50 Hz	Cast case and cover	For use with rectification flame signal amplifiers	

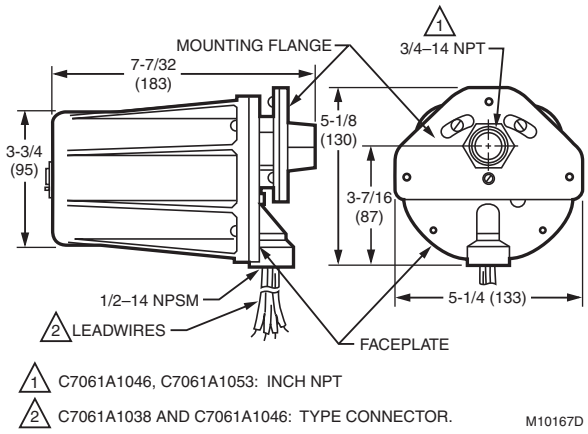
C7024 Solid State Purple Peeper® Ultraviolet Flame Detector

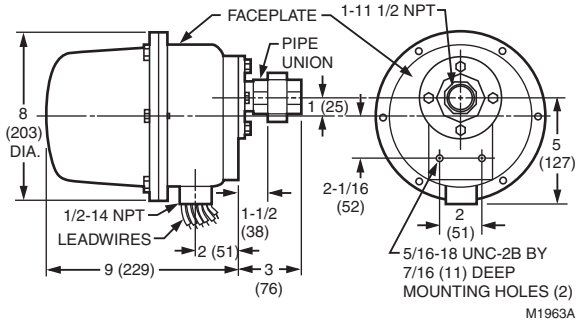


24 Vdc solid state electronic flame detectors for sensing the ultraviolet radiation emitted by the combustion of most carbon containing fuels, such as natural gas, LP gases, and oil.

- Use with R7824C Dynamic Self-Check Flame Signal Amplifier
- Circuitry provides low power consumption and high reliability
- Mount horizontally, vertically or at any angle in between
- Field-replaceable UV radiation sensing tube and quartz viewing window
- Quick electrical installation with threaded conduit fitting and color-coded leadwires
- Reduce nuisance shutdowns by wiring two in parallel
- Oscillating shutter interrupts UV radiation using the R7824C amplifier
- C7024E meets NEMA 4 standards with viewing window rated to 20 psi
- C7024F has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi

Dimensions in inches (millimeters)





Description: Self-Checking Ultraviolet Flame Detector
Application: Coal fired burners; Gas fired burners; Oil fired burners
Electrical Connections: Six NEC CLASS 1 color-coded leaders
Power Consumption: 7.8 W maximum
Lead Length: 96 in. (2438 mm)
Electrical Ratings: 24 Vdc
Ambient Temperature Range: -20 F to +175 F (-20 C to +79 C)
Used With: Flame Amplifiers: R7824C

Weight: 4.25 b (1.9 kg)
Approvals
Canadian Standards Association: Certified: Master Report LR95329-3
Underwriters Laboratories, Inc: Component Recognized: File No. MP268

Accessories:
190971G-24 Vdc Coil and Shutter Assembly for C7024E,F; C7961

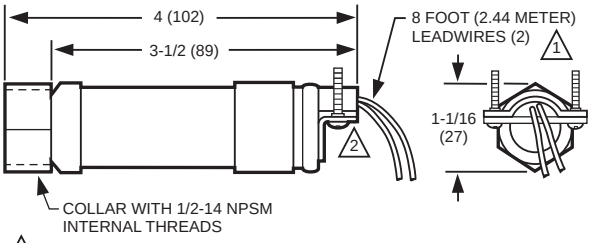
Product Number	Type	Mounting	NEMA Rating	Includes	Comments
C7024E1001/U	Ultraviolet, Purple Peeper, Self-Checking	3/4 in. NPT	NEMA 4	Cast case and cover	Works with 24 Vdc only
C7024F1009/U	Ultraviolet, Purple Peeper, Self-Checking	1 in. NPT	Explosion Proof	—	Works with 24 Vdc only, explosion-proof, two piece, violet, cast aluminum

C7027; C7044 Minipeeper Ultraviolet Flame Detector

Compact flame detector for use with flame safeguard controls with ultraviolet amplifiers.

- Use with Honeywell Flame Safeguard primary safety controls and burners requiring ultraviolet flame detection
- C7027 mounts on a 1/2 in. sighting pipe by using an integral collar
- Detectors can be wired in parallel for difficult sighting applications
- C7027 seals against pressures up to 5 psi (34.5kPa) when correctly installed
- Allows for blast tube mounting due to compact size
- C7044 mounts with a two screw bracket
- The C7044 UV sensor tube is enclosed in a stainless steel housing
- C7044 has the capability of side or end viewing in flame monitoring applications

Dimensions in inches (millimeters)

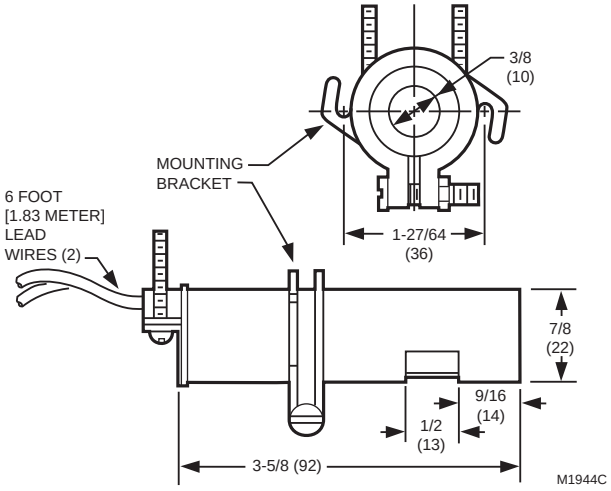


1 C7027A1064 HAS 24 FOOT (7.32 METER) LEADWIRES. C7027A1114 HAS 44 IN. (1.118 M) LEADWIRES WITH 22 IN. (558 MM) FLEXIBLE CONDUIT.

2 MODELS AVAILABLE WITH SPUD CONNECTOR (1/2-14 NPSM INTERNAL THREADS) INSTEAD OF CLAMP TYPE CONNECTOR.

C7027

M1943F



M1944C

C7044

Description: Minipeeper
Application: Coal fired burners; Gas fired burners; Oil fired burners
Vibration: 0.5 G max
Electrical Connections: 2 NEC Class 1 leadwires
Used With: Flame Amplifiers: R7249A,B; R7849A,B; R7749B; R7259; R7290

Approvals
Canadian Standards Association: Certified: Master Report LR95329-1
Factory Mutual: Approved: Report No. 24181.03
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Type	Lead Length (inch)	Lead Length (mm)	Mounting	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Includes	Comments
C7027A1023/U	Ultraviolet, Minipeeper	96 in.	2438 mm	Integral nut for 1/2 in. sighting pipe	0 F to 215 F	-18 C to 102 C	—	Detects ultraviolet radiation in flames
C7027A1031/U	Ultraviolet, Minipeeper	96 in.	2438 mm	Integral nut for 1/2 in. sighting pipe	-40 F to 215 F	-40 C to 102 C	—	Detects ultraviolet radiation in flames
C7027A1049/U	Ultraviolet, Minipeeper	96 in.	2438 mm	Integral nut for 1/2 in. sighting pipe	0 F to 215 F	-18 C to 102 C	1/2 in. NPT threaded spud connector	Detects ultraviolet radiation in flames
C7027A1056/U	Ultraviolet, Minipeeper	96 in.	2438 mm	Integral nut for 1/2 in. sighting pipe	0 F to 215 F	-18 C to 102 C	—	Detects ultraviolet radiation in flames
C7027A1064/U	Ultraviolet, Minipeeper	288 in.	7315 mm	Integral nut for 1/2 in. sighting pipe	-40 F to 215 F	-40 C to 102 C	1/2 in. NPT threaded spud connector	Detects ultraviolet radiation in flames
C7027A1072/U	Ultraviolet, Minipeeper	96 in.	2438 mm	Integral nut for 1/2 in. sighting pipe	-40 F to 215 F	-40 C to 102 C	1/2 in. NPT threaded spud connector	Detects ultraviolet radiation in flames
C7027A1080/U	Ultraviolet, Minipeeper	96 in.	2438 mm	Integral nut for 1/2 in. sighting pipe	0 F to 215 F	-18 C to 102 C	136733 Heat Block and 390427B bushing	Detects ultraviolet radiation in flames

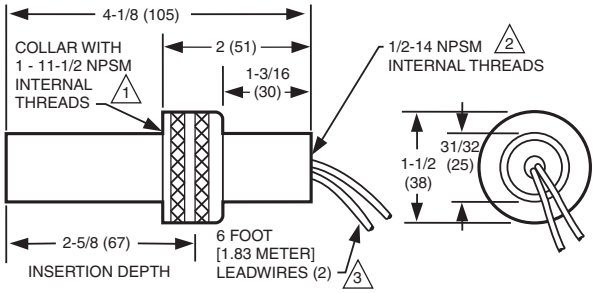
Product Number	Type	Lead Length (inch)	Lead Length (mm)	Mounting	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Includes	Comments
C7027A1114/U	Ultraviolet, Minipeeper	44 in.	1118 mm	Integral nut for 1/2 in. sighting pipe	0 F to 215 F	-18 C to 102 C	installed 22" flex ble conduit	Detects ultraviolet radiation in flames
C7044A1006/U	Ultraviolet, Minipeeper	72 in.	1829 mm	Mounting Bracket provided	0 F to 215 F	-18 C to 102 C	Mounting bracket	Detects ultraviolet radiation in flames - Side Viewing

C7035 Minipeeper Ultraviolet Flame Detector

Compact flame detector for use with flame safeguard controls with ultraviolet amplifiers.

- Use with Honeywell Flame Safeguard primary safety controls and burners requiring ultraviolet flame detection
- Mounts on a 1 in. sighting pipe by using an integral collar
- Protects the sensing tube with a shield
- Meets outdoor rain tight requirements of Underwriters Laboratories Inc., NEMA 4 and NEMA 4X
- Wires in parallel for difficult sighting applications
- Seals against pressures as high as 5 psi (34.5 kPa) when correctly installed
- Field-replaceable ultraviolet sensing tube

Dimensions in inches (millimeters)



1 DIN APPROVED C7035A1064 HAS 1-11 BSP.P1 INTERNAL MOUNTING THREADS.

2 DIN APPROVED C7035A1064 HAS 1/2-14 BSP-F INTERNAL MOUNTING THREADS.

3 C7035A1056 HAS 12 FOOT (3.66 METER) LEADWIRES.

C7035 M1945D

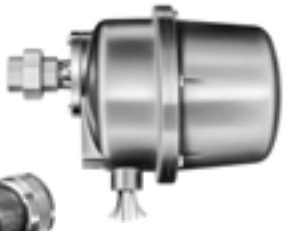
Description: Minipeeper
Application: Coal fired burners; Gas fired burners; Oil fired burners
Dimensions, Approximate: 1 1/2 in. diameter x 4 1/8 in. long (38 mm diameter x 105 mm long)
Mounting: Integral nut for 1 in. sighting pipe
Vibration: 0.5 G max
NEMA Rating: NEMA 3 and NEMA 4
Electrical Connections: 2 NEC Class 1 leadwires
Comments: Detects ultraviolet radiation in flames
Used With: Flame Amplifiers: R7249A,B; R7849A,B; R7749B; R7259; R7290
Weight: 6 oz (0.17 kg)

Approvals
Canadian Standards Association: Certified: Master Report LR95329-1
Factory Mutual: Approved: Report No. 24181.03
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Type	Lead Length (inch)	Lead Length (mm)	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Includes
C7035A1023/U	Ultraviolet, Minipeeper	72 in.	1829 mm	0 F to 250 F	-18 C to +121 C	—
C7035A1031/U	Ultraviolet, Minipeeper	72 in.	1829 mm	-40 F to +250 F	-40 C to +121 C	—
C7035A1049/U	Ultraviolet, Minipeeper	72 in.	1829 mm	0 F to 250 F	-18 C to +121 C	—
C7035A1056/U	Ultraviolet, Minipeeper	144 in.	3658 mm	-40 F to +250 F	-40 C to +121 C	—
C7035A1064/U	Ultraviolet, Minipeeper	72 in.	1829 mm	-40 F to +250 F	-40 C to +121 C	—
C7035A1080/U	Ultraviolet, Minipeeper	72 in.	1829 mm	0 F to 250 F	-18 C to +121 C	600F leads

C7061 Dynamic Self-Check Ultraviolet Flame Detector

C7061A



C7061F

C7061M

Dynamic self-checking flame detector used with R7861 Dynamic Self-check Amplifiers for sensing the ultraviolet radiation generated by the combustion of gas, oil, or other fuels.

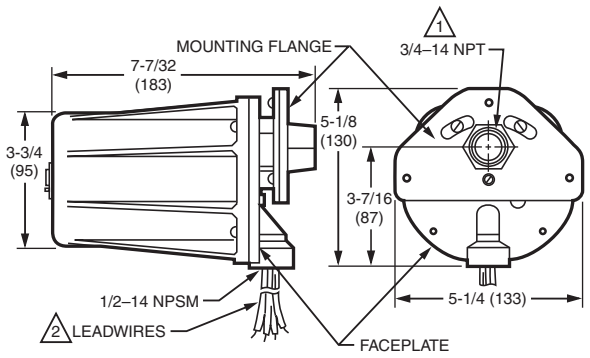
- Oscillating shutter interrupts ultraviolet radiation reaching the UV sensor to provide the UV sensor tube checking function
- Can be mounted horizontally, vertically or at any angle in between
- The detector requires faceplate alignment and has integral locating reference points to assure proper operation of the shutter mechanism
- Field replaceable ultraviolet sensing tube and quartz viewing window
- Models with threaded conduit fitting and color-coded leadwires allow rapid electrical installation
- C7061A1038, A1046 and C7061M1016 5 pin Molex Woodhead 1R5006A20A120 (formerly Brad Harrison type mating connector not supplied nor available through Honeywell
- Two detectors can be wired in parallel to reduce nuisance shutdowns in difficult flame sighting applications
- Protective heat block built into mounting flange
- -40 F (-40 C) rated ultraviolet sensing tube is supplied
- Meets IP66 (similar to NEMA 4)standards with viewing window rated to 20 psi

Description: Ultraviolet Flame Detector with shutter
Type: Ultraviolet, Purple Peeper, Self-Checking
Application: Gas fired burners; Oil fired burners
Frequency: 50 Hz; 60 Hz
Comments: Dynamic self-checking flame detector
Used With: Flame Amplifiers: R7861

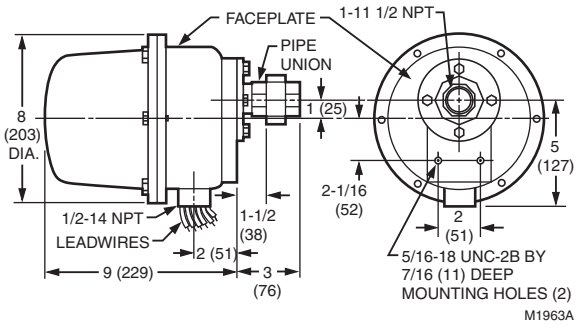
Approvals
Canadian Standards Association: Certified: Master Report LR95329-1
Factory Mutual: Approved: Report No. 14740.01
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Electrical Connections	Lead Length (inch)	Lead Length (mm)	Mounting	NEMA Rating	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Electrical Ratings
C7061A1004/U	PVC jacketed cable	77 in.	1981 mm	3/4 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	120 Vac
C7061A1012/U	Color-coded lead wires	96 in.	2438 mm	3/4 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	120 Vac
C7061A1020/U	Terminal block	—	—	3/4 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	120 or 230 Vac
C7061A1038/U	Molex Woodhead 1R5006A20A120 (formerly Brad Harrison type number 41310 connector)	—	—	3/4 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	120 Vac
C7061A1046/U	Molex Woodhead 1R5006A20A120 (formerly Brad Harrison type number 41310 connector)	—	—	1 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	120 Vac
C7061A1053/U	Color-coded lead wires	96 in.	2438 mm	1 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	120 Vac
C7061F1003	Terminal block	—	—	1 in. NPT	Explosion Proof	-40 F to +175 F	-40 C to +79 C	120 or 230 Vac
C7061F2001/U	Color-coded lead wires	96 in.	2438 mm	1 in. NPT	Explosion Proof	-40 F to +175 F	-40 C to +79 C	120 Vac
C7061M1008/U	Color-coded lead wires	96 in.	2438 mm	1 in. NPT	NEMA 4	-4 F to +175 F	-20 C to +79 C	120 Vac
C7061M1016/U	Molex Woodhead 1R5006A20A120 (formerly Brad Harrison type number 41310 connector)	—	—	1 in. NPT	NEMA 4	-4 F to +175 F	-20 C to +79 C	120 Vac

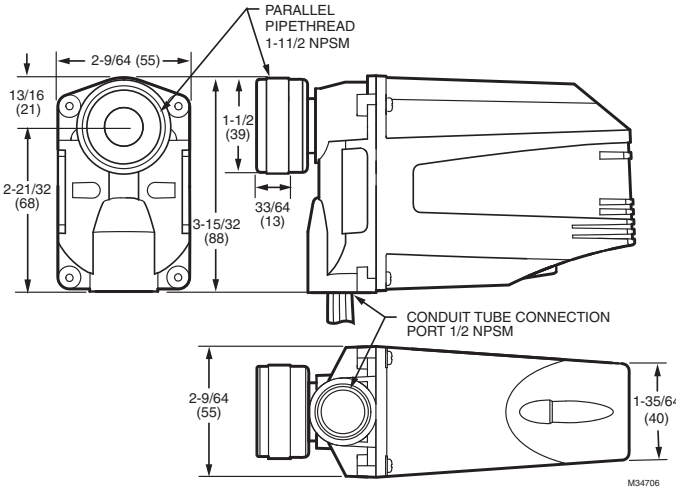
Dimensions for C7061A in inches (millimeters)



Dimensions for C7061F in inches (millimeters)



Dimensions for C7061M in inches (millimeters)



Flame Detectors

C7076 Adjustable Sensitivity Ultraviolet Flame Detector

Solid state dynamic self check flame detectors for use with BC7000, R4140 or FSP5075 with R7476 Amplifier and 7800 SERIES with R7886 Amplifier.

- Use Honeywell Flame Safeguard primary safety controls requiring adjustable sensitivity ultraviolet flame detection
- Detect ultraviolet radiation from flames
- Include dual sensitivity adjustment
- C7076A meets NEMA 4 standards with viewing window rated to 20 psi
- C7076D has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi

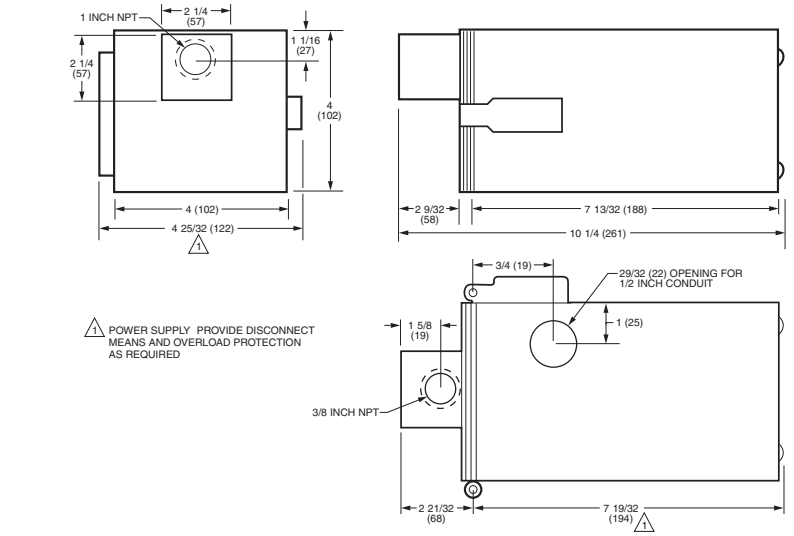
Description: Adjustable Sensitivity Ultraviolet Flame Detector
Application: Gas fired burners; Oil fired burners
Vibration: 0.5 G max
Power Consumption: 7.0 W
Comments: Dynamic self-checking flame detector with adjustable sensitivity
Used With: Flame Amplifiers: R7476, R7886
Weight: 6.6 b (3 kg)

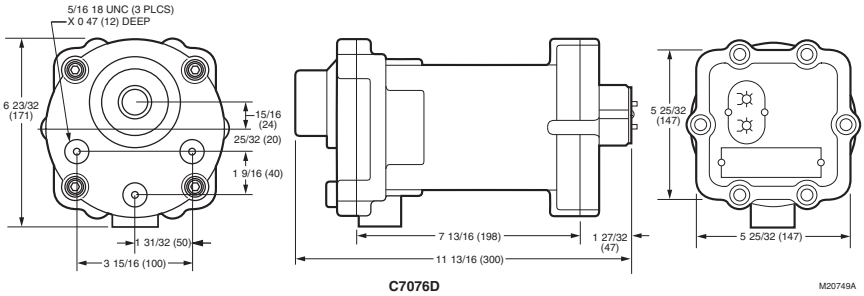
Approvals
Canadian Standards Association: Certified: Master Report LR1620
Factory Mutual: Approved: Report No. FM26980
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Replacement Parts:
190971E-120 Vac Coil and Shutter Assembly for C7076A, D
190971F-100 Vac Coil and Shutter Assembly for C7076A, D
190998A-Aspiration assembly for C7076A
191002B-120Vac Plug in Electronics less UV Sensing Tube for C7076A
191002R-120Vac Plug in Electronics less UV Sensing Tube for C7076D
191050-Quartz Viewing Window for C7076
191053-UV Sensing Tube for C7076

Product Number	Electrical Connections	Mounting	NEMA Rating	Ambient Temperature Range		Electrical Ratings	Frequency
				(F)	(C)		
C7076A1007/U	Terminal block	1 in. NPT	NEMA 4	-40 F to +160 F	-40 C to +71 C	120 Vac	60 Hz
C7076A1015/U	Terminal block	1 in. NPT	NEMA 4	-40 F to +160 F	-40 C to +71 C	100 Vac	50 Hz; 60 Hz
C7076A1031/U	Terminal block	1 in. NPT	NEMA 4	-40 F to +160 F	-40 C to +71 C	220 Vac; 240 Vac	50 Hz; 60 Hz
C7076D1027/U	Terminal block	1 in. NPT	NEMA 7	-40 F to +160 F	-40 C to +71 C	120 Vac	60 Hz

Dimensions in inches (millimeters)



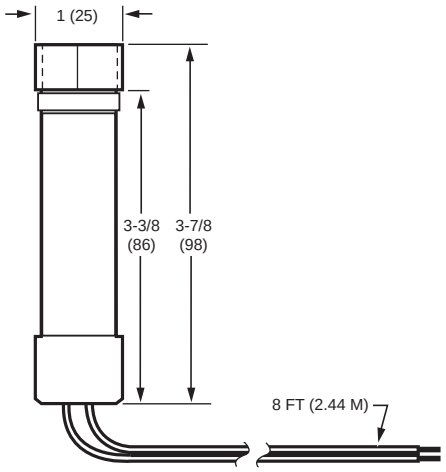


C7927 Solid State Ultraviolet Flame Detector

The Solid State Ultraviolet Flame Detectors detect the ultraviolet radiation emitted by combustion flames. The flame detectors are used with Honeywell flame safeguard controls to provide flame supervision for gas, oil, or combination gas-oil burners.

- Properly installed the flame detectors are pressure rated for 5 psi
- Flame detector is used with only the R7851B Flame Amplifier and the 7800 SERIES controls
- Has an integral collar threaded (internal 1/2-14 NPSM) for mounting on a one-half inch sight pipe
- Detector cannot be wired in parallel

Dimensions in inches (millimeters)



C7927A1016 M24714

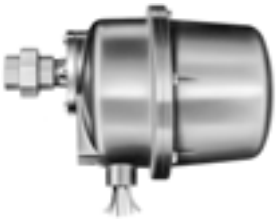
Description: Ultraviolet Flame Detector
Application: Gas, Oil, or combination burners-intermittent operation only (burner cycled at least once each 24 hours)
Mounting: 1/2 in NPT pipe mounting
NEMA Rating: NEMA 1
Electrical Connections: 2 NEC Class 1 leadwires
Comments: Detects ultraviolet radiation in flames

Approvals
Canadian Standards Association: Report 158158
Factory Mutual: Approved: Report No. 3011020
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Component Recognized: File No. MP268

	Lead Length		Ambient Temperature Range		
Product Number	**(inch)**	**(mm)**	**(F)**	**(C)**	**Used With**
C7927A1016/U	96 in.	2438 mm	-40F to +200F	-40 C to +93 C	Flame Amplifiers: R7851B

C7961 Dynamic Self-checking Solid State Ultraviolet Flame Detector

C7901E

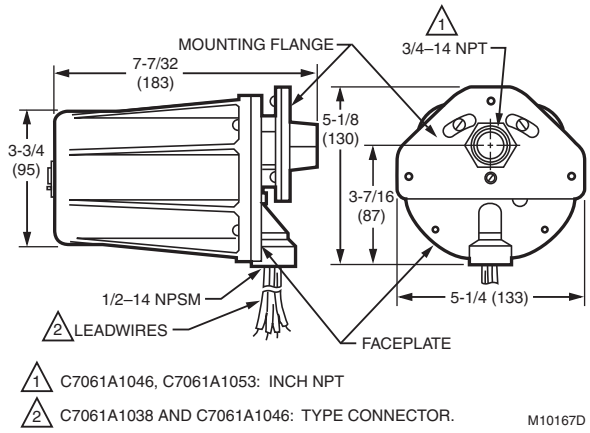


C7901F

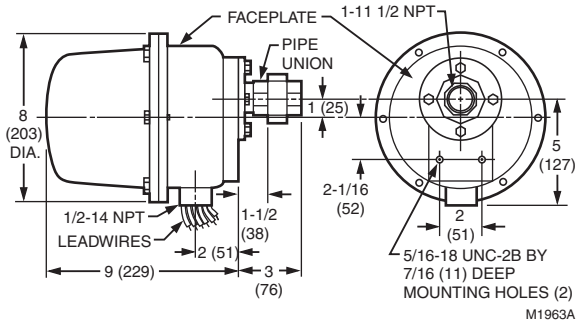
A self-checking flame detector using a solid state UV sensor to detect ultraviolet radiation in flames for supervision of gas, oil or combination gas-oil burners.

- Designed for use with 7800 series controls with the R7851C flame amp
- Oscillating shutter interrupts ultraviolet radiation reaching the UV sensor to provide the solid state UV sensor checking function
- Can be mounted horizontally, vertically or at any angle in between
- The detector requires faceplate alignment and has integral locating reference points to assure proper operation of the shutter mechanism
- Models available with threaded conduit fitting and color-coded leadwires allow rapid electrical installation
- C7961E1022 or E1030 5 pin Molex Woodhead 1R5006A20A120 (formerly Brad Harrison type 41307N) mating connector not supplied nor available through Honeywell
- Incorporates UV sensor tube checking feature; used with R7851C1008 Dynamic Self-check Amplifiers
- Protective heat block built into mounting flange
- -40 F (-40 C) rated ultraviolet sensing cell is supplied
- C7961E meets NEMA 4 standards with viewing window rated to 20 psi
- C7961F has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi
- Detectors cannot be wired in parallel

Dimensions Diagram for C7961E in inches (millimeters)



Dimensions Diagram for C7961F in inches (millimeters)



Description: Dynamic Self-checking Ultraviolet Flame Detector
Application: Gas, Oil or other fuels
Electrical Ratings: 120 Vac (-15% +10%)
Frequency: 50 Hz; 60 Hz
Comments: Detects ultraviolet radiation generated by combustion of gas, oil, or other fuels
Used With: R7851C Dynamic Self-Check Amplifier

Weight: 2.6 lb (1.2 kg)
Approvals
Factory Mutual: 14740.001
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Component Recognized: File No. MP268

Product Number	Electrical Connections	Lead Length (inch)	Lead Length (mm)	Mounting	NEMA Rating	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Includes
C7961E1006/U	NEC Class 1 color-coded	96 in.	2438 mm	3/4 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	Quartz Viewing Window rated for 20 psi (138 kPa)
C7961E1022/U	5 pin Molex Woodhead 1R5006A20A120 (formerly Brad Harrison Type Connector)	—	—	1 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	Quartz Viewing Window rated for 20 psi (138 kPa)
C7961E1030/U	5 pin Molex Woodhead 1R5006A20A120 (formerly Brad Harrison Type Connector)	—	—	3/4 in. NPT	NEMA 4	-40 F to +175 F	-40 C to +79 C	Quartz Viewing Window rated for 20 psi (138 kPa)
C7961F1004/U	NEC Class 1 color-coded	96 in.	2438 mm	1 in. NPT	Explosion Proof	-40 F to +175 F	-40 C to +79 C	Quartz Viewing Window rated for 100 psi

C7915 Infrared (Lead Sulfide) Flame Detector

The C7915 Flame Detectors include a lead sulfide photocell that is sensitive to the infrared radiation emitted by the combustion of fuels such as natural gas, oil, and coal.

- Used for combination or dual-fuel applications
- Detects pilot and main flame
- Mounts quickly and easily on a standard 3/4 in. sighting pipe
- Works where flame rod or rectifying photocell mounts are difficult to apply
- The C7915 includes 50019469-001 Bushing with magnifying lens
- The C7915 uses photoconductive lead sulfide cells 32007255-001
- Flame detector is used with only the R7852 Flame amplifier and the 7800 SERIES controls
- Detector cannot be wired in parallel

Description: Infrared (Lead Sulfide) Flame Detector
Application: Used for combination or dual-fuel applications
Dimensions, Approximate: 1 1/4 in. diameter x 2 1/4 in. long (32 mm diameter x 58 mm long)
Mounting: 3/4 in. NPT
Electrical Connections: Two no.18 AWG wires
Comments: Infrared (Lead Sulfide) Flame Detector

Used With: Flame Amplifiers: R7852
Approvals
Canadian Standards Association: Certified: Master Report LR95329-1
Factory Mutual: Approved: Report No. 24181.03
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

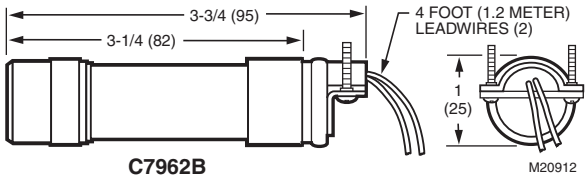
Product Number	Lead Length (inch)	Lead Length (mm)	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Includes
C7915A1010/U	30 in.	762 mm	-20F to 125F operating range	-18C to 52 operating range	With magnifying lens, 32007255-001 Cell
C7915A1028/U	48 in.	1219 mm	-20F to 125F operating range	-18C to 52 operating range	With magnifying lens, 32007255-001 Cell, Orifice, heat block, and reducer bushing
C7915A1036/U	96 in.	2438 mm	-20F to 125F operating range	-18C to 52 operating range	With magnifying lens, 32007255-001 Cell

C7962 Visible Light Flame Detector

The C7962B Visible Light Flame Detector detects the visible light emitted by fuel oil combustion flames. The C7962B Detector is used with Honeywell Flame Safeguard controls to provide fuel oil flame supervision in commercial and industrial burners.

- Used with 7800 SERIES Flame Safeguard controls
- Used with R7851B Flame Amplifier
- Has an integral collar threaded (internal 1/2-14 NPSM) for mounting on 1/2 inch sight pipe
- Detectors cannot be wired in parallel

Dimensions in inches (millimeters)



C7962B

Description: Solid State Flame Detector to Site Visible Light of an Oil flame
Application: Commercial, industrial oil burners
Mounting: 1/2 in NPT pipe mounting
Vibration: 0.5 G max
NEMA Rating: NEMA 1
Electrical Connections: 2 NEC Class 1 leadwires
Used With: Flame Amplifiers: R7851B

Approvals
Canadian Standards Association: Report 158158
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Component Recognized: File No. MP268

Accessories:
32007439-001-Mounting Bracket and screws for C7962B (3/8 in. NPT to 1/2 in. NPT)

Product Number	Lead Length (inch)	Lead Length (mm)	Ambient Temperature Range (F)	Ambient Temperature Range (C)	Includes
C7962B1002/U	96 in.	2438 mm	-40 F to +160 F	-40 C to +71 C	—
C7962B1010/U	96 in.	2438 mm	-40 F to +160 F	-40 C to +71 C	32007439-001 Mounting Bracket and screws

Flame Detectors

Optical Flame Detector Accessories or Parts

Product Number	Description	Used With
105061/U	3/4 in. Heat Block for C7015, C7915	C7015, C7915
105172A/U	Pressure Seal-off Adapter (3/4 NPT) for C7015, C7915	C7015, C7915
105172C/U	Pressure Seal-off Adapter (3/4 NPT) w/UV Quartz window for C7012, C7024, C7027, C7061	C7024; C7012; C7061; C7012, C7024, C7027, C7061
113228/U	UV Sensing Tube (-20 F to 175 F) for C7012; C7024	C7012; C7024
114372/U	20 PSI window for C7012E,F; C7024; C7061	C7024; C7012; C7061
114465/U	Window Gasket for C7012A, E; C7024A; C7061A	C7024; C7012; C7061
114638/U	Rubber Washer (Red) for C7012A, E; C7024A; C7061A; C7961A	C7012; C7061; C7024
117181/U	Cork Gasket for C7012A, E;C7024A; C7061A	C7024; C7012; C7061
118367A/U	Swivel Mount with 3/4 in. coupling for C7012, C7015, C7024, C7027, C7035, C7061, C7076	C7024; C7012; C7061
120739/U	Flange Gasket for C7012, C7024, C7061	C7024; C7012; C7061
120934/520/U	Mounting Flange (3/4” NPT) for C7012A,E; C7024A; C7061A; C7961E	C7012A,G, C7024E, C7061A, C7961E
122037/U	100 PSI Quartz Window for C7012C, F; C7061F	C7012C, F; C7061F
122748/U	50 PSI Quartz Window for C7012, C7061	C7012; C7061; C7024
123539/U	Anti-Vibration Mount for C7012, C7024 or C7061	C7012; C7061; C7024
124198/U	Mounting Flange (1") for C7012A,E; C7024A; C7061A; C7961E	C7012A,G, C7024E, C7061A, C7961E
124204/U	Quartz Magnifying Lens for C7012, C7024 or C7061	C7024; C7012; C7061
129464M/U	UV Power Tube (0 to 250F) for C7035	C7035
129464N/U	UV Power Tube (-40 to 250F) for C7035, C7061	C7061; C7035
129811B/U	Socket Assembly w/NPT threads	C7035
136733/U	Heat Block for C7027, C7015, C7915 (laminated plastic)	C7027; C7027, C7015, C7915
190971B/U	120 Vac 50/60 Hz Coil and Shutter Assembly for C7012E, F, C7061A, F	C7012E,F; C7061A,F
190971D/U	110 Vac 50 Hz Coil and Shutter Assembly for C7012E1187, 1195	C7012E
190971E/U	120 Vac Coil and Shutter Assembly for C7076A, D	C7076; C7076A,D; C7076A,D
190971F/U	100 Vac Coil and Shutter Assembly for C7076A, D	C7076A,D
190971G/U	24 Vdc Coil and Shutter Assembly for C7024E, F; C7961	C7024;C7961
190998A/U	Aspiration assembly for C7076A	C7076A
190999/U	Grommet for C7076 Sensors	C7076
191002A/U	100Vac Plug in Electronics less UV Sensing Tube for C7076A	C7076A
191002B/U	120Vac Plug in Electronics less UV Sensing Tube for C7076A	C7076A
191002D/U	220/240Vac Plug in Electronics less UV Sensing Tube for C7076A	C7076A
191002R/U	120Vac Plug in Electronics less UV Sensing Tube for C7076D	C7076D
191050/U	Quartz Viewing Window for C7076	C7076
191053/U	UV Sensing Tube for C7076	C7076
191054/U	Housing Gasket for C7076	C7076
191284/U	Aluminum Shield for C7035	C7035
191286/U	UV Sensing Tube (-40F to 175F) for C7012, C7024	C7024; C7012
191702/U	Electronics less UV sensing tube for C7012F (120Vac)	C7012F
24400152-001/U	Quartz lens replacement kit for C7076D consists of quartz lens, gasket, gasket seal	C7076
32007255-001/U	Lead Sulfide Cell for C7915	C7915
32007439-001/U	Mounting Bracket and screws for C7962B (3/8 in. NPT to 1/2 in. NPT)	C7962B
390427B/U	Reducer Bushing (1/2” NPT to 3/8” NPT)	C7027; C7015

Q179A,B Flame Rectifier Gas Pilots

Q179A,B Gas Pilot Burner Assemblies use the flame rectification principle to prove the flame. Q179A,B are used in conjunction with a suitable electronic flame safeguard control on industrial or commercial gas and gas pilot ignited oil burners.

- Q179A is a gas pilot assembly (with a flame electrode rod) and ignition electrode, making it suitable for applications requiring an interrupted or intermittent electrically ignited gas pilot burner
- Q179B has only the flame electrode and is suitable for use in continuous pilot applications
- Primary aerated type burner is equipped with stainless steel fins that provide the proper flame rod area to ground area ratio for maximum flame signal and flame stabilization
- Stainless steel electrode(s) are mounted in ceramic insulators, which permit electrode adjustment
- Rajah connectors facilitate disconnecting (A1126 has terminal screws)
- Bracket permits side or end mounting

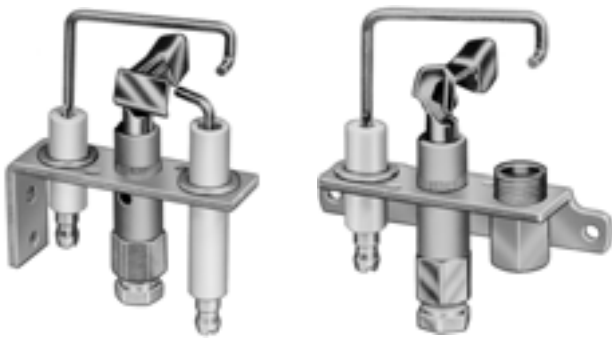
Type of Gas: Natural
Dimensions, Approximate: 4 5/8 in. high x 1 11/16 in. wide x 3 in. deep (118 mm high x 43 mm wide x 76 mm deep)
Aeration: Primary
Gas Consumption: 2.0 cfh (0.06 m3/hr)
Mounting Bracket: Side/end

Gas Fitting: 1/4 in. compression coupling (6.4 mm compression coupling)
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 140-A-2
Factory Mutual: Approved: Report No. 22961
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Application	Port and Burner Tip Style	Orifice	Includes	Used With
Q179A1001/U	For Intermittent or Interrupted Ignition	I	0.025 in. dia. (0.635 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer
Q179A1035/U	For Intermittent or Interrupted Ignition	45 degree right hand	0.025 in. dia. (0.635 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer
Q179A1050/U	For Intermittent or Interrupted Ignition	T	0.028 in. dia. (0.711 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer
Q179A1076/U	For Intermittent or Interrupted Ignition	45 degree Y	0.028 in. dia. (0.711 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer
Q179A1092/U	For Intermittent or Interrupted Ignition	45 degree T	0.028 in. dia. (0.711 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer
Q179A1118/U	For Intermittent or Interrupted Ignition	45 degree left hand	0.025 in. dia. (0.635 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer
Q179A1126/U	For Intermittent or Interrupted Ignition	I	0.025 in. dia. (0.635 mm dia.)	Flame electrode and ignition electrode with screw terminal connections	Q624 or other suitable ignition transformer
Q179A1183/U	For Intermittent or Interrupted Ignition	I	0.025 in. dia. (0.635 mm dia.)	Ignition Electrode Only	Q624 or other suitable ignition transformer
Q179B1042/U	For Continuous (Standing) pilot	T	0.025 in. dia. (0.635 mm dia.)	Flame electrode	—
Q179B1109/U	For Continuous (Standing) pilot	45 degree left hand	0.025 in. dia. (0.635 mm dia.)	Flame electrode	—
Q179B1117/U	For Continuous (Standing) pilot	Large I	0.025 in. dia. (0.635 mm dia.)	Flame electrode	—

Pilot Burners

Q179C,D Miniature Rectifier Pilots



Q179C,D Gas Pilot Burner Assemblies use the flame rectification principle to prove the flame. Q179C,D are used in conjunction with a suitable electronic flame safeguard control on industrial or commercial gas and gas pilot ignited oil burners.

- Q179C is a gas pilot assembly (with a flame electrode rod) and ignition electrode, making it suitable for applications requiring an interrupted or intermittent electrically ignited gas pilot burner
- Q179D has only the flame electrode and is suitable for use in continuous pilot applications
- Primary aerated type burner is equipped with stainless steel fins that provide the proper flame rod area to ground area ratio for maximum flame signal and flame stabilization
- Stainless steel electrode(s) are mounted in ceramic insulators, which permit electrode adjustment
- Rajah connectors facilitate disconnecting

Dimensions, Approximate: 3 1/8 in. high x 2 7/16 in. wide x 1 in. deep (79 mm high x 62 mm wide x 25 mm deep)
Aeration: Primary
Gas Fitting: 1/4 in. compression coupling (6.4 mm compression coupling)

Approvals
Canadian Standards Association: Certified: Master Report LR95329-1
Underwriters Laboratories, Inc: Component Recognized: File No. MH9928, Guide No. MCUR2

Product Number	Application	Mounting Bracket	Port and Burner Tip Style	Target Mount	Orifice	Includes	Used With	Type of Gas
Q179C1009/U	For Intermittent or Interrupted Ignition	rear	D	Dual Wing-Rear	0.026 in. dia. (0.66 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer	Natural
Q179C1025/U	For Intermittent or Interrupted Ignition	rear	L	Single Wing-Rear	0.024 in. dia. (0.60 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer	Natural
Q179C1033/U	For Intermittent or Interrupted Ignition	left side	D	Dual Wing-Left Side	0.026 in. dia. (0.66 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer	Natural
Q179C1041/U	For Intermittent or Interrupted Ignition	right side	D	Dual Wing-Right Side	0.026 in. dia. (0.66 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer	Natural
Q179C1058/U	For Intermittent or Interrupted Ignition	left side	L	Single Wing-Left Side	0.024 in. dia. (0.60 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer	Natural
Q179C1066/U	For Intermittent or Interrupted Ignition	right side	K	Single Wing-Right Side	0.024 in. dia. (0.60 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer	Natural
Q179C1090/U	For Intermittent or Interrupted Ignition	rear	D	Dual Wing-Rear	0.016 in. dia. (0.40 mm dia.)	Flame electrode and ignition electrode	Q624 or other suitable ignition transformer	LP
Q179D1008/U	For Continuous (Standing) pilot	rear	D	Dual Wing-Rear	0.026 in. dia. (0.66 mm dia.)	Flame electrode and thermocouple adapter	Q340 Thermocouple or Q313A Thermopile Generator	Natural
Q179D1016/U	For Continuous (Standing) pilot	left side	D	Dual Wing-Left Side	0.026 in. dia. (0.66 mm dia.)	Flame electrode and thermocouple adapter	Q340 Thermocouple or Q313A Thermopile Generator	Natural
Q179D1024/U	For Continuous (Standing) pilot	right side	D	Dual Wing-Right Side	0.026 in. dia. (0.66 mm dia.)	Flame electrode and thermocouple adapter	Q340 Thermocouple or Q313A Thermopile Generator	Natural
Q179D1057/U	For Continuous (Standing) pilot	left side	L	Single Wing-Left Side	0.024 in. dia. (0.60 mm dia.)	Flame electrode and thermocouple adapter	Q340 Thermocouple or Q313A Thermopile Generator	Natural

C7005 Flame Rectifier Pilots

Gas Pilot Burner Assemblies include a flame rod to prove the pilot flame. The assemblies are used with a suitable flame safeguard control on industrial or commercial gas burners or oil burners with gas pilots.

- Used with Honeywell controls using the flame rectification principle
- C7005A is for continuous pilot applications
- Includes an insulated flame rod, properly positioned relative to the flame retention type nozzle
- C7005B is similar to C7005A, but includes an ignition electrode suitable for automatic, electric-spark ignition, gas pilot applications
- Individually mounted flame rod and ignition electrode in ceramic insulators allow the head assembly to fit inside a 3-inch pipe
- Stainless steel fins on the flame retention type pilot head provide the correct ratio of flame rod area to ground area for maximum flame signal, and are beneficial in stabilizing the pilot flame
- Pilot flame retention nozzle and mixing tube are threaded internally, 1/2-14 NPT and 3/8-18 NPT, respectively, and can be assembled with standard pipe fittings
- Pilot can be installed in vertical, horizontal, or inclined position
- Rajah connectors facilitate electrical connections

Dimensions, Approximate: 3 in. diameter x 3 1/2 in. deep (76 mm diameter x 343 mm deep x)
Gas Fitting: 1/2 in. NPT male thread

Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 140-A-2
Factory Mutual: Approved: Report No. 24181.04
Swiss RE (formerly IRI): Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

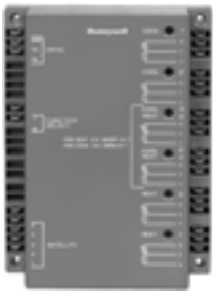
Product Number	Application	Orifice	Includes	Used With	Type of Gas
C7005A1037/U	For Continuous (Standing) pilot	0.052 in. dia.	—	—	Natural
C7005B1035/U	For automatic electrically ignited pilot	0.052 in. dia.	Ignition electrode	Q624 or other suitable ignition transformer	Natural
C7005B1050/U	For automatic electrically ignited pilot	0.028 in. dia. (0.711 mm dia.)	Ignition electrode	Q624 or other suitable ignition transformer	LP

Commercial Pilot Burners Parts or Accessories

Product Number	Description	Used With
100204B/U	Natural Gas Venturi Mixing Tube for C7005A,B	C7005A, C7005B
101738/U	Insulator for Flame rod or Ignitor	C7005A, C7005B
101738A/U	Ignition Assembly	C7005A, C7005B
101738B/U	Flame Rod Assembly	C7005A, C7005B
101739/U	Ignition Electrode, 4", Kanthal	C7005A, C7005B
101741/0020/U	7/8 in. long Rajah Connector with plug end for C7005A or C7005B	C7005A, C7005B
101742/0021/U	Electrode Mounting Clip for C7005A or C7005B	C7005A, C7005B
101743/U	Mounting Bracket	C7005A, C7005B
103534/U	Kanthal flame electrode 8 in. used with C7005A, C7005B	C7005A, C7005B
104312/U	Rajah Connector for Flame Electrode used with Q179A, B	Q179A, Q179B
131065/U	Adapts Q340 Thermal Couple to Q179B w/102462	Q179A, Q179B
133451A/U	T Port or LH 90 degree Flame Rod & Insulator for Q179A, B	Q179A, Q179B
388146KD/U	LP Gas spud orifice,.016” dia. for Q179C,D	Q179C, Q179D
395390-13/U	LP Gas Orifice.013” dia. for Q179A,B	Q179A, Q179B
395390-28/U	Natural Gas Orifice.028” dia. for Q179A,B	Q179A, Q179B
R1061012/U	Ignition cable or Flame Rod Cable. Rated at 350 F, 20,000 volts R.M.S.	C7005B, Q179A, Q179C
R1298020/U	Cable Flame Rod Lead. Rated at 400 F, 600 volts R.M.S. For use with Q179	Q179

Commercial Hydronic Controllers

Satellite Sequencer



Provides up to 6 additional stages of heating/cooling control for W7100 Discharge air controller applications.

- Extends capacity of W7100 Discharge Air system
- Advanced microprocessor control algorithm minimizes droop
- For system with or without economizer
- Jumper selectable between 4 cool/2 heat or 2 cool/4 heat stages
- LED's indicate operation of each output stage relay

Dimensions, Approximate: 8 5/8 in. high, 6 1/2 in. wide, 3 in. deep (219 mm high, 165 mm wide, 76 mm deep)
Frequency: 60 Hz
Operating Temperature Range: -40 F to +150F

Product Number	Application	Supply Voltage	Used With
W7101A1003/U	Satellite Sequencer	20 to 30 Vac	W7100

Commercial Hydronic Controller Accessories

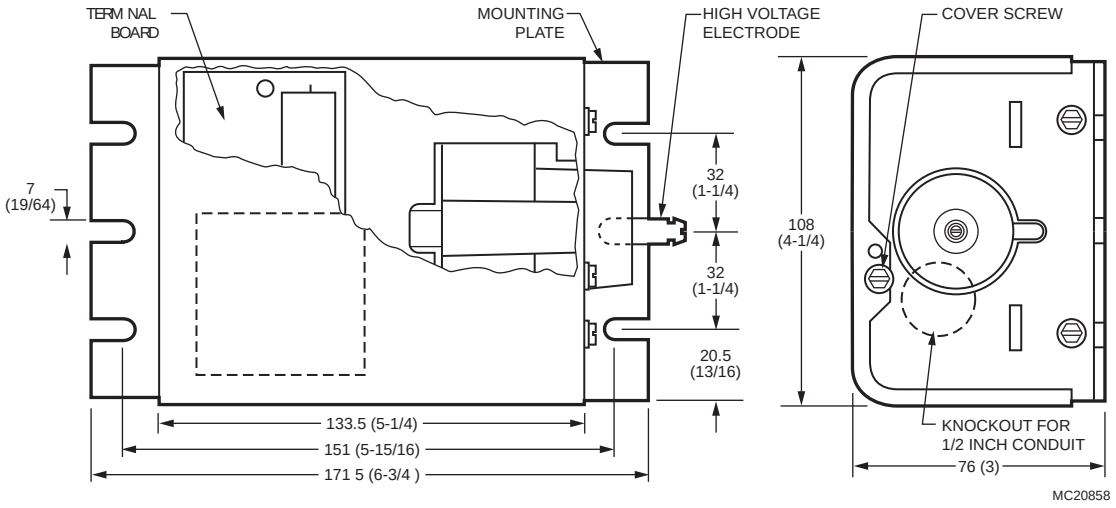
Product Number	Description	Used With
4074EDJ/U	Bag Assembly including Test Plug and Resistors for W7100	W7100
4074EFV/U	Bag Assembly including Resistors for Number of Stages for W7100J	W7100J

Q624 Solid State Ignition Transformer

Used to ignite pilots on commercial or industrial gas burners.

- Ignite gas pilots with spark gaps up to 1/4 in. (6.5 mm)
- Reliable light off with 15,000 peak voltage
- Prevent detection of the ignition spark when properly applied in a flame detection system with the C7027, C7035 or C7044 Minipeeper Ultraviolet Flame Detector or C7061 Dynamic Self Check Ultraviolet Flame Detector
- For use only in interrupted ignition applications
- Mount in same space used by conventional ignition transformer
- Light weight, 3 lbs. (1.4 kg) versus 8-1/2 lbs. (3.9 kg) for standard transformers

Dimensions in inches (millimeters)



Ambient Temperature Range: -40 F to +125 F (-40 C to +52 C)
Operating Humidity Range (% RH): 95% RH
Weight: 3 lb

Approvals
Canadian Standards Association: Certified: File No. LR95329
Underwriters Laboratories, Inc: Component Recognized

Product Number	Application	Electrical Ratings	Frequency
Q624A1014/U	Gas Ignition Transformer	120 Vac	50 Hz; 60 Hz

Ignition Transformers

Q652 Solid State Spark Generator

Used to ignite gas burners in commercial and industrial applications.

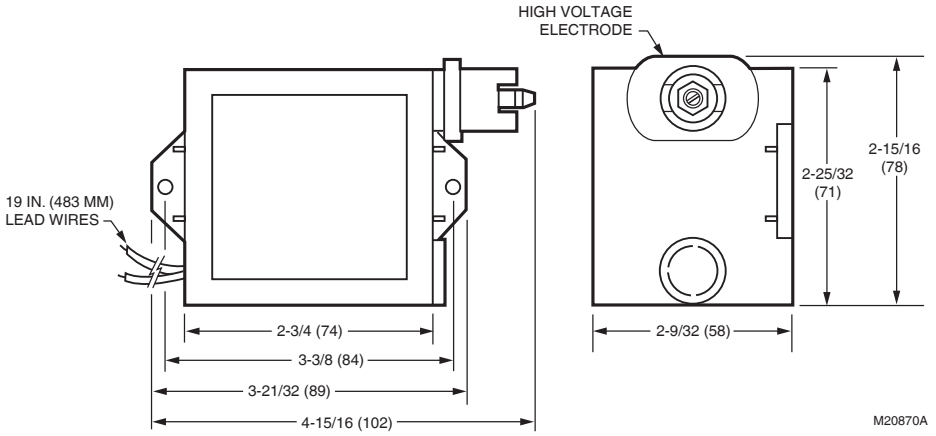
- Lightweight, 1 lb. (0.4 kg)
- Include single high voltage electrode for gas applications
- For use with gas pilots with electrode spacings between 0.029 and 0.125 in.
- Secondary Peak Voltage: 14Kv rms at 21Khz
- Mount in same space used by conventional ignition transformer
- For use only in interrupted ignition applications
- Prevent detection of the ignition spark when properly applied in a flame detection system with the C7027, C7035 or C7044 Minipeeper Ultraviolet Flame Detector or C7061 Dynamic Self Check Ultraviolet Flame Detector

Ambient Temperature Range: 14 F to 113 F (-10 C to +45 C)
Operating Humidity Range (% RH): 90% RH
Weight: 1 lb

Approvals
Canadian Standards Association: (Q652B1006) LA66894
Underwriters Laboratories, Inc: (Q652B1006)Component Recognized File MH14381

Product Number	Application	Electrical Ratings	Frequency
Q652B1006/U	Gas Ignition Transformer	120 Vac	60 Hz
Q652B1014/U	Solid State Ignitor Spark Generator-Gas Applications; 220V 60 Hz	220 Vac	60 Hz

Dimensions in inches (millimeters)



Ignition Transformer Accessories or Parts

Product Number	Description	Used With
134666/510/U	High voltage terminal straight boot insulator for Q652 and Q624	Q652; Q624
32004766-001/U	24 inch ignition cable with straight boots for Q624 and Q652	Q652; Q624
32004766-002/U	120 inch ignition cable with straight boots used with Q624	Q624
32004766-003/U	Ignition cable for Q624 and Q652 (order by foot – enter the number of feet in the Quantity box)	Q652; Q624
32004766-004/U	60 inch ignition cable with straight boots used with Q624	Q624
32004766-005/U	8 inch ignition cable w/90 degree and straight boot	Q652; Q624
32004766-006/U	36 inch ignition cable w/90 degree and straight boot	Q652; Q624
4074BTN/U	Bag assembly consisting of washer (103218), cap terminal (135793) and ferrule (37356) for Q624	Q624A
50060793-001	24 inch ignition cable with straight boots for Q624 and Q652, UL approved	Q652, Q624
50060793-002	120 inch ignition cable with straight boots used with Q624	Q624
50060793-003	Ignition cable for Q624 and Q652 (order by foot and enter the number of feet in the Quantity box), UL approved	Q652, Q624
50060793-004	60 inch ignition cable with straight boots used with Q624	Q624
50060793-005	8 inch ignition cable w/90 degree and straight boot used with Q624 and Q652, UL approved	Q652, Q624
50060793-006	36 inch ignition cable w/90 degree and straight boot used with Q624 and Q652, UL approved	Q652, Q624
50060793-011	19 inch ignition cable w/90 degree terminal degree and ring end used with Q624 and Q652, UL approved	Q652, Q624
50060793-012	36 inch ignition cable with 90 degree boot and 1/4" spade terminal used with Q624 and Q652, UL approved	Q652, Q624
50060793-013	48 inch ignition cable w/90 degree terminal and ring end used with Q624, UL approved	Q624

M9484D,E,F; M9494D,F Modutrol™ IV Motors

Reversing, proportional motors used to drive burner firing rate valves, dampers or auxiliary equipment. Replace M941A,C,D motors.

- Designed for flame safeguard applications in commercial/industrial oil or gas burner system
- Vibration resistant electronic drive circuit
- Regulated by three-wire proportional controller
- Stroke is field-adjustable to 90 or 160 degrees

Description: Proportional control motor for 135 ohm firing rate applications
Dimensions, Approximate: 6.45 in high x 5.5 in wide x 7.3 in deep (164 mm high x 140 mm wide x 185 mm deep)
Ambient Temperature Range: -40 F to +150 F (-40 C to +66 C)
Crankshaft: double-ended, 3/8 in. (9.5 mm) square
Deadweight Load on Shaft (Either End): 200 lb (300 lb combined power and auxiliary shafts) (90.8 kg (136 kg combined power and auxiliary shafts))
Input Signal: 135 ohm
Power Consumption: 15 W
Voltage: 24 Vac
Frequency: 50 Hz; 60 Hz
Switch Ratings - 120 Vac: 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact
Switch Ratings - 240 Vac: 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact
Stroke: Adjustable; 90 to 160 degrees, Symmetrical
Approvals
Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Accessories:
Q100B1006-Linkage- Connects Modutrol motor to V51E Butterfly Valve
16230-Adapter bushing for cast crank arm 18437 to be used with Modutrol IV Motor
18437-Cast crank arm for Modutrol Motors - need adapter bushing 16230

Product Number	Torque Rating		Torque Rating, Breakaway		Timing		Auxiliary Switch	Auxiliary Switch Settings	Factory Stroke Setting
	(Nm)	(lb-in.)	(Nm)	(lb-in.)	(90 Degree Stroke)	(160 Degree Stroke)			
M9484D1010/U	17 Nm	150 b-in.	34.0 Nm	300 lb-in.	30 seconds	60 seconds	—	—	160 degrees
M9484E1009/U	8.5 Nm	75 b-in.	17.0 Nm	150 lb-in.	15 seconds	30 seconds	1	11 degrees	90 degrees
M9484E1017/U	17 Nm	150 b-in.	34.0 Nm	300 lb-in.	30 seconds	60 seconds	1	1 degree	90 degrees
M9484E1033/U	17 Nm	150 b-in.	34.0 Nm	300 lb-in.	30 seconds	60 seconds	1	7 degrees	90 degrees
M9484F1007/U	17 Nm	150 b-in.	34.0 Nm	300 lb-in.	30 seconds	60 seconds	2	7 and 80 degrees	90 degrees
M9484F1023/U	8.5 Nm	75 b-in.	17.0 Nm	150 lb-in.	15 seconds	30 seconds	2	—	90 degrees
M9484F1031/U	17 Nm	150 b-in.	34.0 Nm	300 lb-in.	30 seconds	60 seconds	2	7 and 80 degrees	90 degrees
M9484F1049/U	17 Nm	150 b-in.	34.0 Nm	300 lb-in.	30 seconds	60 seconds	2	35 and 120 degrees	160 degrees
M9484F1057/U	17 Nm	150 b-in.	34.0 Nm	300 lb-in.	30 seconds	53 seconds	2	—	—
M9494D1000/U	34 Nm	300 b-in.	68.0 Nm	600 lb-in.	12 seconds	24 seconds	—	—	90 degrees
M9494F1003/U	34 Nm	300 b-in.	68.0 Nm	600 lb-in.	60 seconds	107 seconds	2	—	90 degrees

Q100 Butterfly Valve Linkages

Connects V51E valve to M9484 and M9494 Modutrol IV Motors with adapter plate.

- Fits all sizes of V51E Valves
- Mounts easily

Product Number	Linkage Type	Linkage Rod	Valve Compatibility	Used with Actuator	Used With
Q100B1006/U	Butterfly Gas Valve	10 3/4 in.	all sizes	Modutrol Motor	V51E Gas Valve

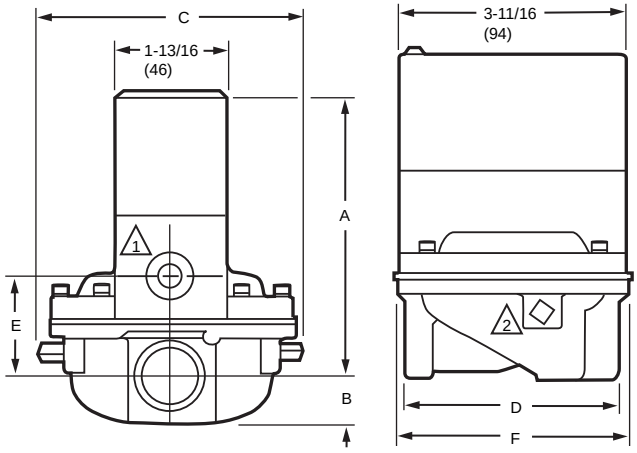
Diaphragm Gas Valves

V48A; V88A Diaphragm Gas Valves

Solenoid-operated diaphragm valves provide slow opening and fast closing suitable for controlling natural, LP or manufactured gases. They are normally used on atmospheric boilers, commercial water heaters, and rooftop heaters.

- V48 for line voltage service; V88 for 24Vac service
- Close firmly with diaphragm that is both weight and spring loaded
- Two second maximum closing time
- Valve closes on power failure; recommended for final shutoff service
- Set opening time with various sized bleed orifices or adjustable bleed valve
- Use with LP, natural or manufactured gases
- Made with cast aluminum in straight-through valve pattern
- Valve position indicator available for 1-1/4 in. V48A2227

Dimensions in inches (millimeters)



VALVE SIZE (IN.)	APPROXIMATE DIMENSIONS											
	A		B		C		D		E		F	
	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
3/4	4-11/16	119.1	3/4	19.1	4-5/8	117.5	3-1/2	88.9	1-5/8	41.3	3-13/16	96.8
1	5-1/16	128.6	1	25.4	5	127.0	3-11/16	93.7	2-1/16	52.4	4-5/16	109.5
1-1/4	5-9/16	141.3	1-1/4	31.8	5-7/8	149.2	5-5/16	134.9	2-3/8	60.3	5-5/16	134.9
1-1/2	5-9/16	141.3	1-1/4	31.8	5-7/8	149.2	5-5/16	134.9	2-3/8	60.3	5-5/16	134.9
2	6-15/16	176.2	2-1/4	57.2	9-1/2	241.3	8-3/8	212.7	3-9/16	90.5	5-5/16	236.5
2-1/2	6-15/16	176.2	2-1/4	57.2	9-1/2	241.3	8-3/8	212.7	3-9/16	90.5	9-5/16	236.5
3	6-15/16	176.2	2-1/4	57.2	9-1/2	241.3	8-3/8	212.7	3-9/16	90.5	9-5/16	236.5

1 BLEED TAPPING: 1/8-27 NPT, OR 1/8-28 BSP. PL.

2 PILOT TAPING (2): 1/8-27 NPT FOR 3/4 THROUGH 1-1/2 IN. SIZES, 1/4-18 NPT FOR 2 THROUGH 3 IN. SIZES; OR 1/8-28 BSP. PL FOR 1 THROUGH 1-1/2 IN. SIZES, 1/4-19 BSP.PL FOR 2 THROUGH 3 IN SIZES.

M8487

Body Pattern: Straight-through
Electrical Connections: 6 in. Leadwires
Ground Terminal: Yes
Pilot Tapping: 1/8-27 NPT
Frequency: 60 Hz
Mounting: Upright (horizontal)
Bleed Tapping: 1/8-27 NPT
Valve Opening Time: 5 sec max
Valve Closing Time: 2 sec max
Operating Temperature Range: 32 F to 125 F (0 C to 52 C)

Materials
(Body): Aluminum
Type of Gas: Natural, LP, Manufactured

Approvals
Canadian Standards Association: Certificate No. 158158-2500005576 (Z21.21-CSA 6.5)
Underwriters Laboratories, Inc: File No. MH1639, Guide No. YIOZ

Product Number	Pipe Size (inch)	Capacity (cfh)	Capacity (m^3/hr)	Pressure (psi)	Current (max amps at rated Vac/Hz)	Voltage	Power Consumption	Comments
V48A2151/U	3/4 in.	668 cfh	18.9 m^3/hr	1/2 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2169/U	1 in.	1021 cfh	28.9 m^3/hr	1/2 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2177/U	1 1/4 in.	2100 cfh	59.5 m^3/hr	1/2 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2185/U	1 1/2 in.	2400 cfh	67.9 m^3/hr	1/2 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2227/U	1 1/4 in.	2100 cfh	59.5 m^3/hr	1 psi	0.13 amps	120 Vac	15 VA max, 9 W	Includes position indicator
V48A2243/U	2 in.	4178 cfh	118.3 m^3/hr	1 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2250/U	2 1/2 in.	5100 cfh	144.4 m^3/hr	1 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2268/U	3 in.	5562 cfh	157.5 m^3/hr	1 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2276/U	1 1/2 in.	2400 cfh	67.9 m^3/hr	1 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2334/U	1 in.	1021 cfh	28.9 m^3/hr	1 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V48A2342/U	1 1/4 in.	2100 cfh	59.5 m^3/hr	1 psi	0.13 amps	120 Vac	15 VA max, 9 W	—
V88A1618/U	1 in.	1021 cfh	28.9 m^3/hr	1/2 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1626/U	1 1/4 in.	2100 cfh	59.5 m^3/hr	1/2 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1634/U	1 1/2 in.	2400 cfh	67.9 m^3/hr	1/2 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1659/U	3/4 in.	668 cfh	18.9 m^3/hr	1/2 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1667/U	3/4 in.	668 cfh	18.9 m^3/hr	1 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1675/U	1 in.	1021 cfh	28.9 m^3/hr	1 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1683/U	1 1/4 in.	2100 cfh	59.5 m^3/hr	1 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1691/U	1 1/2 in.	2400 cfh	67.9 m^3/hr	1 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1709/U	2 in.	4178 cfh	118.3 m^3/hr	1 psi	0.62 amps	24 Vac	15 VA max, 9 W	—
V88A1717/U	2 1/2 in.	5100 cfh	144.4 m^3/hr	1 psi	0.62 amps	24 Vac	15 VA max, 9 W	—

V88J High Temperature Diaphragm Gas Valves

Solenoid-operated diaphragm valves provide slow opening and fast closing suitable for controlling natural, LP or manufactured gases. They are normally used on atmospheric boilers, commercial water heaters, and rooftop heaters.

- Rated for 150F (66C) maximum temperature applications
- V88 for 24Vac service
- Close firmly with diaphragm that is both weight and spring loaded
- Two second maximum closing time
- Valve closes on power failure; recommended for final shutoff service
- Set opening time with various sized bleed orifices or adjustable bleed valve
- Use with LP, natural or manufactured gases
- Made with cast aluminum in straight-through valve pattern

Dimensions, Approximate: 6 1/16 in. high x 4 5/16 in. wide x 5 in. deep (154 mm high x 127 mm wide x 109 mm deep)
Body Pattern: Straight-through
Electrical Connections: 6 in. Leadwires
Pilot Tapping: 1/8-27 NPT
Pressure Ratings: 1 psi (6.9 kPa)
Frequency: 60 Hz
Mounting: Upright (horizontal)
Bleed Tapping: 1/8-27 NPT
Valve Opening Time: 5 sec max

Valve Closing Time: 2 sec max
Operating Temperature Range: 32 F to 150 F (0 C to 66 C)

Materials
(Body): Aluminum
Type of Gas: Natural, LP, Manufactured

Approvals
Canadian Standards Association: Certificate No. 158158-2500005576 (Z21.21-CSA 6.5)
Underwriters Laboratories, Inc: File No. MH1639, Guide No. YIOZ

Product Number	Pipe Size (inch)	Capacity (cfh)	Capacity (m^3/hr)	Current (max amps at rated Vac/Hz)	Voltage	Power Consumption
V88J1006/U	1 in.	1021 cfh	28.9 m^3/hr	0.62 amps	24 Vac	15 VA max, 9 W
V88J1022/U	1 1/4 in.	2100 cfh	59.5 m^3/hr	0.62 amps	24 Vac	15 VA max, 9 W

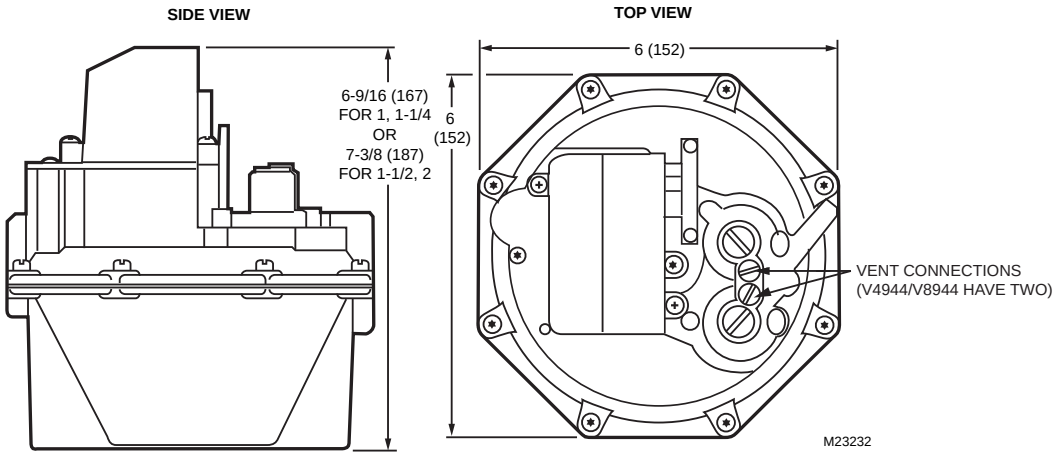
Diaphragm Gas Valves

V4943A; V8943A On/Off Diaphragm Gas Valves

V4943A; V8943A are on/off diaphragm gas valve used on boilers, unit heaters, duct furnaces, makeup air and rooftop heaters.

- Designed for replacement for V4843A/V8843A Gas Valves
- Suitable for use on atmospheric boilers, commercial water heaters, and rooftop heaters
- V8943A/V4943A models are solenoid-operated diaphragm valves for on/off flow control of natural or LP gas
- Valve body of die-cast aluminum with a straight-through pattern
- V4943 are used with line voltage, on/off controllers
- V8943A are used with 24 Vac thermostats or controllers
- Valve closes on power failure; recommended for final shutoff service

Dimensions Diagram for V4943 and V8943 in inches (millimeters)



Body Pattern: Straight-through, non-offset
Electrical Connections: 1/4 in. (6 mm) spade terminals (quick connects), 30 in. (762 mm) leadwires and cover for electrical conduit connection provided
Pilot Tapping: 1/8-27 NPT
Pressure Ratings: 1/2 psi (3.4 kPa)
Frequency
V4943: 60 Hz
V8943: 50 Hz; 60 Hz
Mounting: Upright (horizontal)
Valve Type: On-Off, Rapid Opening
Bleed Tapping: Internal Bleed

Valve Opening Time: 6 sec max
Valve Closing Time: 3 sec max
Operating Temperature Range: -40 F to +150 F (-40 C to +66 C)

Materials
(Body): Aluminum
Type of Gas: Natural, LP

Approvals
Canadian Standards Association: Certificate No. 158158-1042930, Guide No. 3371-03, 83 (Z21.21, Z21.78)
Underwriters Laboratories, Inc: File No. MH1639, Guide No. YIOZ (60 Hz only)

Product Number	Pipe Size (inch)	Capacity (cfh)	Current (max amps at rated Vac/Hz)	Voltage	Power Consumption	Comments
V4943A1011/U	1 in.	1000 cfh	0.055 amps	120 Vac	6 VA max	(2) 30" leadwires
V4943A1029/U	1 1/4 in.	1600 cfh	0.055 amps	120 Vac	6 VA max	(2) 30" leadwires
V4943A1037/U	1 1/2 in.	2300 cfh	0.055 amps	120 Vac	6 VA max	(2) 30" leadwires
V4943A1045/U	2 in.	3000 cfh	0.055 amps	120 Vac	6 VA max	(2) 30" leadwires
V8943A1012/U	1 in.	1000 cfh	0.363 amps	24 Vac	8 VA max	(2) 30" leadwires
V8943A1020/U	1 1/4 in.	1600 cfh	0.363 amps	24 Vac	8 VA max	(2) 30" leadwires
V8943A1038/U	1 1/2 in.	2300 cfh	0.363 amps	24 Vac	8 VA max	(2) 30" leadwires
V8943A1046/U	2 in.	3000 cfh	0.363 amps	24 Vac	8 VA max	(2) 30" leadwires

V4943B,N; V8943B,C,N Single Stage Pressure Regulating Valves

V4943B,N; V8943B,C,N are Single-stage Pressure Regulating Valve; These valves are used on boilers, unit heaters, duct furnaces, makeup air and rooftop heaters.

- Designed for replacement for V4843/V8843;Gas Valves
- Suitable for use on atmospheric boilers, commercial water heaters, and rooftop heaters
- V4943/V8943B,C,N models are solenoid-operated diaphragm valves that combine the functions of safety shutoff and pressure regulation in a single unit
- V4943/V8943B,N are for use with natural gas
- V4943/V8943C are for use with LP gas
- Valve body of die-cast aluminum with a straight-through pattern
- V4943 are used with line voltage, on/off controllers
- V8943 are used with 24 Vac thermostats or controllers
- Valve closes on power failure; recommended for final shutoff service

Dimensions, Approximate: See diagram on page 826
Body Pattern: Straight-through, non-offset
Electrical Connections: 1/4 in. (6 mm) spade terminals (quick connects), 30 in. (762 mm) leadwires and cover for electrical conduit connection provided
Pilot Tapping: 1/8-27 NPT
Pressure Ratings: 1/2 psi (3.4 kPa)
Frequency
V4943: 60 Hz
V8943: 50 Hz; 60 Hz
Mounting: Upright (horizontal)
Valve Type: Single-Stage, Slow Opening

Bleed Tapping: 5/16-24 UNF
Valve Closing Time: 2 sec max
Operating Temperature Range: -40 F to +150 F (-40 C to +66 C)

Materials
(Body): Aluminum
Comments: (2) 30" leadwires
Approvals
Canadian Standards Association: Certificate No. 158158-1042930, Guide No. 3302-01, 81 (Z21.21, Z21.78)
Underwriters Laboratories, Inc: File No. MH1639, Guide No. YIOZ (60 Hz only)

Product Number	Regulator Setpoints; High Fire		Type of Gas	Pipe Size	Capacity	Valve Opening Time	Current (max amps at rated Vac/Hz)	Voltage	Power Consumption
	Adj. Range	Factory Setting		(inch)	(cfh)				
V4943B1019/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 in.	300 cfh to 1000 cfh	3 sec to 25 sec	0.055 amps	120 Vac	6.6 VA max, 6.6 VA
V4943B1027/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	3 sec to 25 sec	0.055 amps	120 Vac	6.6 VA max
V4943B1035/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 1/2 in.	780 cfh to 2300 cfh	3 sec to 25 sec	0.055 amps	120 Vac	6.6 VA max
V4943B1043/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	2 in.	870 cfh to 3000 cfh	3 sec to 25 sec	0.055 amps	120 Vac	6.6 VA max
V4943N1012/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 in.	300 cfh to 1000 cfh	6 sec max	0.055 amps	120 Vac	6.6 VA max
V4943N1020/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	6 sec max	0.055 amps	120 Vac	6.6 VA max
V4943N1038/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 1/2 in.	780 cfh to 2300 cfh	6 sec max	0.055 amps	120 Vac	6.6 VA max
V4943N1046/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	2 in.	870 cfh to 3000 cfh	6 sec max	0.055 amps	120 Vac	6.6 VA max
V8943B1010/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 in.	300 cfh to 1000 cfh	3 sec to 25 sec	0.363 amps	24 Vac	9 VA max
V8943B1028/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	3 sec to 25 sec	0.363 amps	24 Vac	9 VA max
V8943B1036/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 1/2 in.	780 cfh to 2300 cfh	3 sec to 25 sec	0.363 amps	24 Vac	9 VA max
V8943B1044/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	2 in.	870 cfh to 3000 cfh	3 sec to 25 sec	0.363 amps	24 Vac	9 VA max
V8943C1018/U	8.8 in. wc to 11.5 in. wc	10.0 in. wc	LP	1 in.	195 cfh to 650 cfh	3 sec to 25 sec	0.363 amps	24 Vac	9 VA max
V8943C1026/U	8.8 in. wc to 11.5 in. wc	10.0 in. wc	LP	1 1/4 in.	310 cfh to 1030 cfh	3 sec to 25 sec	0.363 amps	24 Vac	9 VA max
V8943N1013/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 in.	300 cfh to 1000 cfh	6 sec max	0.363 amps	24 Vac	9 VA max
V8943N1021/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	6 sec max	0.363 amps	24 Vac	9 VA max
V8943N1039/U	3 in. wc to 4.5 in. wc	3.5 in. wc	Natural	1 1/2 in.	780 cfh to 2300 cfh	6 sec max	0.363 amps	24 Vac	9 VA max

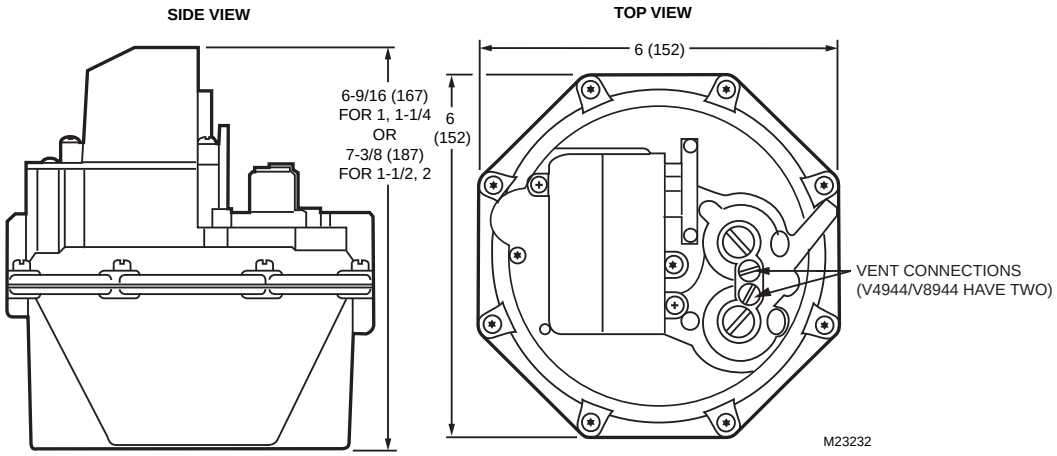
Diaphragm Gas Valves

V4944B,L,N; V8944B,C,N Two Stage Pressure Regulating Gas Valves

V4944B,L, N; V8944B,C,N are Two-stage Pressure Regulating Gas Valve. These valves are used on boilers, unit heaters, duct furnaces, makeup air and rooftop heaters.

- Designed for replacement for V4844/V8844 Gas Valves
- Suitable for use on atmospheric boilers, commercial water heaters, and rooftop heaters
- V4944/V8944B,C, N models are solenoid-operated diaphragm valves that combine the functions of safety shutoff and pressure regulation in a single unit
- V4944/V8944B,N are for use with natural gas
- V4944/V8944C are for use with LP gas
- Valve body of die-cast aluminum with a straight-through pattern
- V4944 are used with line voltage, dual-stage controllers
- V8944 are used with 24 Vac dual-stage thermostats or controllers
- Valve closes on power failure; recommended for final shutoff service

Dimensions Diagram for V4944 and V8944 in inches (millimeters)



Body Pattern: Straight-through, non-offset
Electrical Connections: 1/4 in. (6 mm) spade terminals (quick connects), 30 in. (762 mm) leadwires and cover for electrical conduit connection provided
Pilot Tapping: 1/8-27 NPT
Pressure Ratings: 1/2 psi (3.4 kPa)
Frequency
V4944: 60 Hz
V8944: 50 Hz; 60 Hz
Mounting: Upright (horizontal)
Valve Type: Two-Stage, Slow Opening
Bleed Tapping: Two 5/16-24 UNF

Valve Closing Time: 2 sec max
Operating Temperature Range: -40 F to +150 F (-40 C to +66 C)
Materials
(Body): Aluminum
Approvals
Canadian Standards Association: Certificate No. 158158-1042930, Guide No. 3302-01, 81 (Z21.21, Z21.78)
Underwriters Laboratories, Inc: File No. MH1639, Guide No. YIOZ (60 Hz only)

Product Number	Regulator Setpoints; High Fire		Regulator Setpoints; Low Fire		Type of Gas	Pipe Size (inch)	Capacity (cfh)	Valve Opening Time	Current (max amps at rated Vac/Hz)	Voltage	Power Consumption	Comments
	Adj. Range	Factory Setting	Adj. Range	Factory Setting								
V4944B1018/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 in.	300 cfh to 1000 cfh	3 sec to 25 sec	0.077 amps	120 Vac	9 VA max	(3) 30" leadwires
V4944B1026/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	3 sec to 25 sec	0.077 amps	120 Vac	9 VA max	(3) 30" leadwires
V4944B1059/U	3 in. wc to 4.5 in. wc	3.0 in. wc	0.8 in. wc to 2 in. wc	0.7 in. wc	Natural	1 in.	300 cfh to 1000 cfh	3 sec to 25 sec	0.077 amps	120 Vac	9 VA max	(3) 30" leadwires
V4944B1075/U	3 in. wc to 4.5 in. wc	3.5 in. wc	1.6 in. wc to 4. in. wc	1.6 in. wc	Natural	1 in.	300 cfh to 1000 cfh	3 sec to 25 sec	0.077 amps	120 Vac	9 VA max	—
V4944B1091/U	3 in. wc to 4.5 in. wc	3.5 in. wc	1.6 in. wc to 4. in. wc	1.6 in. wc	Natural	1 1/2 in.	780 cfh to 2300 cfh	3 sec to 25 sec	0.077 amps	120 Vac	9 VA max	—
V4944L1024/U	8.8 in. wc to 11.5 in. wc	10.0 in. wc	1.4 in. wc to 4.2 in. wc	1.4 in. wc	LP	1 1/4 in.	310 cfh to 1030 cfh	6 sec max	0.077 amps	120 Vac	9 VA max	(3) 30" leadwires
V4944N1011/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 in.	300 cfh to 1000 cfh	6 sec max	0.077 amps	120 Vac	9 VA max	(3) 30" leadwires
V4944N1029/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	6 sec max	0.077 amps	120 Vac	9 VA max	(3) 30" leadwires
V4944N1037/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 1/2 in.	780 cfh to 2300 cfh	6 sec max	0.077 amps	120 Vac	9 VA max	(3) 30" leadwires

Product Number	Regulator Setpoints; High Fire		Regulator Setpoints; Low Fire		Type of Gas	Pipe Size (inch)	Capacity (cfh)	Valve Opening Time	Current (max amps at rated Vac/Hz)	Voltage	Power Consump-tion	Comments
	Adj. Range	Factory Setting	Adj. Range	Factory Setting								
V4944N1045/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	2 in.	870 cfh to 3000 cfh	6 sec max	0.077 amps	120 Vac	9 VA max	(3) 30" leadwires
V4944N1060/U	3 in. wc to 4.5 in. wc	3.0 in. wc	0.8 in. wc to 2 in. wc	1.0 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	6 sec max	0.077 amps	120 Vac	9 VA max	(3) 85" leadwires
V8944B1019/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 in.	300 cfh to 1000 cfh	3 sec to 25 sec	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944B1027/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	3 sec to 25 sec	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944B1035/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 1/2 in.	780 cfh to 2300 cfh	3 sec to 25 sec	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944B1043/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	2 in.	870 cfh to 3000 cfh	3 sec to 25 sec	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944C1017/U	8.8 in. wc to 11.5 in. wc	10.0 in. wc	1.4 in. wc to 4.2 in. wc	1.4 in. wc	LP	1 in.	195 cfh to 650 cfh	3 sec to 25 sec	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944C1025/U	8.8 in. wc to 11.5 in. wc	10.0 in. wc	1.4 in. wc to 4.2 in. wc	1.4 in. wc	LP	1 1/4 in.	310 cfh to 1030 cfh	3 sec to 25 sec	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944C1033/U	8.8 in. wc to 11.5 in. wc	10.0 in. wc	1.4 in. wc to 4.2 in. wc	1.4 in. wc	LP	1 1/2 in.	500 cfh to 1490 cfh	3 sec to 25 sec	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944N1012/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 in.	300 cfh to 1000 cfh	6 sec max	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944N1020/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	6 sec max	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944N1038/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	1 1/2 in.	780 cfh to 2300 cfh	6 sec max	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944N1046/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	0.8 in. wc	Natural	2 in.	870 cfh to 3000 cfh	6 sec max	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944N1053/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	1.2 in. wc	Natural	1 in.	300 cfh to 1000 cfh	6 sec max	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires
V8944N1061/U	3 in. wc to 4.5 in. wc	3.5 in. wc	0.8 in. wc to 2 in. wc	1.2 in. wc	Natural	1 1/4 in.	480 cfh to 1600 cfh	6 sec max	0.516 amps	24 Vac	12.4 VA max	(3) 30" leadwires

Diaphragm Gas Valve Replacement Parts or Accessories

Product Number	Description	Used With
116930/U	Replacement Coil for V88A	V88A
116931/U	Replacement Coil for V48A, 120Vac,60Hz	V48; V48A
116932/U	Replacement Coil for V48A, 220-240Vac,50/60Hz	V48A
118888/U	24V 60 Hz Replacement Coil for V88J	V88J
122160/U	Orifice- 0.018” for V48, V88	V48, V88
124674/U	Orifice- 0.011” for V48, V88	V48, V88
126590/U	Adjustable Bleed Valve Assembly for V48, V88, V4004. V8004. 1/8 in. NPT to 1/4 in. compression fitting	V48, V88
204480/U	Regulator vent pipe fitting to be used with V4843/V8843B,C,L,N and V4844/V8844B,C,L,N and V4943/V8943, V4944/V8944	V4843/V8843B, C, L, N;V4844/V8844B, C, L, N and V4943/V8943;V4944/V8944

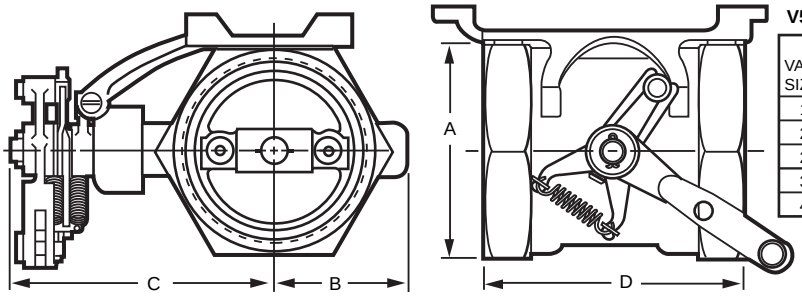
Butterfly Gas Valves

V51 Butterfly Gas/Air Valve

Provides modulating control of natural, manufactured, LP gases or air.

- Use in commercial and industrial installations where large amounts of gas must be closely controlled
- NOT for use as safety shutoff valve
- Adaptable to most modulating jobs
- Modutrol motor, such as the M9484 or M9494, may be mounted directly on valve or close to it
- Valve mechanism has strain release
- Adjustable stroke over low fire-high fire range
- Straight-through valve pattern
- Rugged cast aluminum body provides durability and maintenance-free operation

Dimensions in inches (millimeters)



V51E DIMENSIONS

VALVE SIZE (in.)	A 1		B 1		C 2		D 1	
	in.	mm	in.	mm	in.	mm	in.	mm
1 1/2	2 21/32	67.5	1 9/16	39.7	4 1/4	108.0	3 1/32	77.0
2	3 5/32	80.2	1 13/16	46.0	4 1/4	108.0	3 17/32	89.7
2 1/2	3 27/32	97.6	2 5/16	58.7	4 13/16	122.2	4 23/32	119.9
3	4 1/32	102.4	2 25/64	60.7	5	127.0	4 23/32	119.9
4	5 21/64	135.3	3 5/32	80.2	5 3/8	136.5	5 17/64	133.8

1 MAXIMUM DIMENSIONS.

2 NOMINAL DIMENSIONS.

M9532

Type of Gas: Air, natural, manufactured, and LP
Body Pattern: Straight-through
Pressure Ratings: 5 psi (34.5 kPa)
Mounting: Motor shaft horizontal
Operating Temperature Range: 32 F to 140 F (0 C to 60 C)
Used With: Mod Motor with Q100 Linkage

Materials
(Body): Aluminum
32003396-002-

Approvals
Underwriters Laboratories, Inc: File No. MH5968 Vol. 1 Sec. 1, Guide no. MHKZ

Accessories:
Q100B1006-Linkage- Connects Modutrol motor to V51E Butterfly Valve
32003396-001-V51E Mounting Kit for ML7999 Actuator (1-1/2 & 2 in. valves). Includes angle bracket, mounting bracket, screws, nuts and washers, and instructions.
V51E Mounting Kit for ML7999 Actuator (2-1/2,3 & 4 in. valves). Includes angle bracket, mounting bracket, screws, nuts and washers, and instructions.

Product Number	Pipe Size (inch)	Pipe Size DN	Capacity (cfh)	Capacity (m^3/hr)	Inlet/Outlet Pressure Tapping
V51E1000/U	1 1/2 in.	DN40	4200 cfh	118.9 m3/hr	Two downstream 1/4 in. NPT taps
V51E1018/U	2 in.	DN50	9210 cfh	260.7 m3/hr	—
V51E1034/U	2 1/2 in.	DN65	8390 cfh	199.8 m3/hr	—
V51E1059/U	3 in.	DN80	14640 cfh	414.5 m3/hr	—
V51E1075/U	4 in.	DN100	33000 cfh	934.2 m3/hr	—

Firing Rate Gas Valve Parts

Product Number	Description	Used With
49084/0021/U	Adjusting arm for V51E	V51E
49085B/U	Strain Release Assembly for V51E	V51E

V5197 Integrated Valve Train Butterfly Gas Valve

The V5197A is a firing rate valve used to provide variable flow control of air, natural gas, liquefied petroleum (LP), and manufactured gases. The V5197A is actuated by a ML7999A or B firing rate motor that can be mounted directly on the valve. The V5197A is not applicable as a safety shutoff valve. The V5197A is specially designed to provide fine control of gas flow in applications where a high turn down ratio is required. The maximum flow adjustment screw on the bottom of the valve allows adjusting the maximum flow of gas through the V5197 while maintaining the linear modulating characteristics and stroke. The V5197A is part of the Honeywell Integrated Valve Train System that allows gas train components to be directly bolted together.

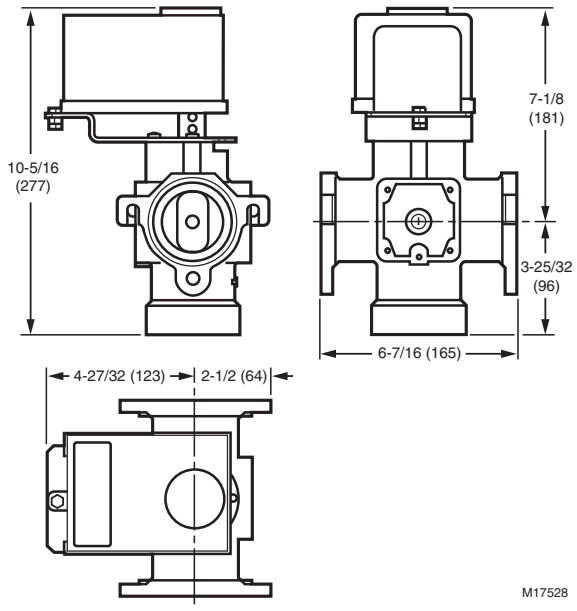
- Used with air, natural, manufactured or liquefied petroleum (LP) gases
- For modulating applications that do not require final shutoff service of firing rate valve
- Two valve body types (small and large) applicable to seven pipe sizes: Small body type for 3/4 in. (19 mm), 1 in. (25 mm), 1-1/4 in. (32 mm), 1-1/2 in. (38 mm) and 2 in. (51 mm) pipes, NPT or ISO 7 threads. Large body type for 2 in. (51 mm), 2-1/2 in. (64 mm) and 3 in. (76 mm) pipes, NPT or ISO 7 threads
- Two downstream 1/4 in. NPT threaded pressure taps available
- Accepts C6097 Pressure Switch mounted directly to flange (downstream pressure tap only)
- Unpainted cast aluminum body
- Suitable for electric or pneumatic operators with the appropriate linkage
- May be used with manufacturers own linkage and drive motor
- Flow adjustment screw on bottom of valve controls maximum flow
- Visual position indicator

Type of Gas: Air, natural, manufactured, and LP
Pressure Ratings: 15 psi max (1 Bar)
Mounting: Directly bolted to Integrated Valve Train (IVT) components or IVT adapters
Operating Temperature Range: -40 F to +150 F (-40 C to +66 C)

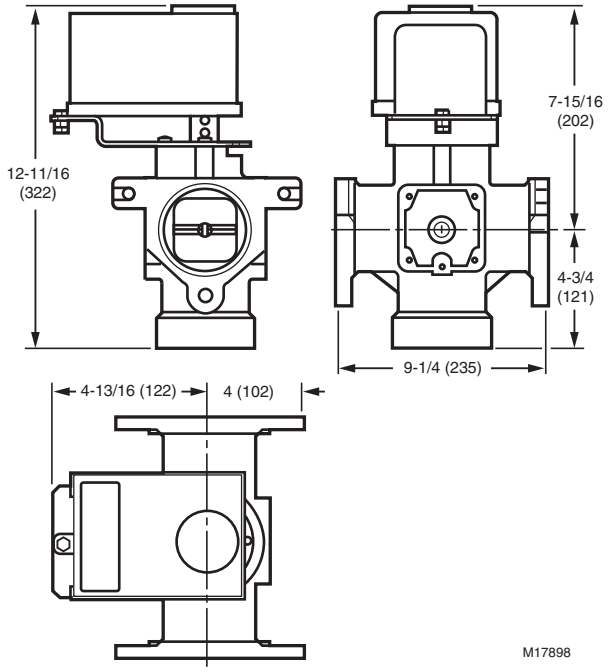
Materials
(Body): Die-cast aluminum
Approvals
Canadian Standards Association: Design Certified
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Component Listed

Product Number	Pipe Size (inch)	Pipe Size DN	Capacity (cfh)	Capacity (m^3/hr)	Inlet/Outlet Pressure Tapping
V5197A1003	2 in. 1 1/2 in. 1 1/4 in. 1 in. 3/4 in.	DN50 DN40 DN32 DN25 DN20	5480 cfh for 2 in. 5010 cfh for 1 1/2 in. 4430 cfh for 1 1/4 in. 3080 cfh for 1 in. 2450 cfh for 3/4 in.	51 mm =155 38 mm =142 32 mm = 125 25 mm =87 19 mm =69	Two downstream 1/4 in. NPT taps
V5197A1011	3 in. 2 1/2 in. 2 in.	DN80 DN65 DN50	16,900 cfh for 3 in. 14,800 cfh for 2 1/2 in. 12,600 cfh for 2 in.	76 mm=478 64 mm=419 51 mm=356	Two downstream 1/4 in. NPT taps

Dimensions in inches (millimeters) for V5197A1003



Dimensions in inches (millimeters) for V5197A1011



Selection Chart: V5055 and V5097 Industrial Gas Valves with V4055, V4062 or V9055 Fluid Power Actuators

The chart below desribes every model of V5055 or V5097 Valve in the left column, and every model of Fluid Power Actuator across the top. While it's possible to combine any valve with any actuator, we've marked the recommended valve/actuator combinations which cover most applications with a •.

Each valve described in the left column is available:

- In these sizes: 3/4 to 3 in. (NPT or parallel BSP). V5055A,B,C are also available in 4 in. size (flange connection only).
- With upstream and/or downstream tap.

Options available on some Fluid Power Actuators include:

- Damper arm shaft, with or without spring return.
- NEMA 4 enclosure.
- Fast or slow open time (13 or 26 seconds).
- Auxiliary switch.
- Valve seal overtravel interlock switch.

For complete specifications and ordering information on V5055 and V5097 Valves and V4055, V4062 and V9055 Fluid Power Actuators, refer to Index for specific page numbers.

Fluid Power Actuators/ Industrial Gas Valves			Standard pressure[a]			High Pressure[a]	
			V5055A, F[b], V5097A	V5055B, V5097B	V5055C, V5097C	V5055D, V5097D	V5055E, V5097E
Type	**Model**	**Pressure Rating[a]**	**On-Off**	**Characterized Guide[c]**	**VSOI[d]**	**On-Off**	**VSOI[d]**
V4055 On-Off	A, G[e]	Standard	•	•		•	
	B	High	•[f]	•[f]		•	
	D[d]F[d e]	Standard			•		•
	E[d]	High			•[f]		•
V4062 Hi-Lo-Off	A	Standard		•	•		
	B	High		•[f]	•[f]		•
	D[d]	Standard			•		
V9055 Modulating	A	Standard		•			
	D[d]	Standard			•		

[a] Refer to the table below for actual pressure ratings of the various combinations of valves and actuators.

[b] V5055F models meet EN161 leakage requirements.

[c] Characterized guide provides a more linear relationship between stem travel and gas flow. Check Honeywell form 70-8311 to verify that flow curve characteristics match application requirements.

[d] Valve Seal Overtravel Interlock. Valve has two shutoff seals, actuator has a proof-of-closure switch.

[e] V4055F, G models include switch for manual control.

[f] These combinations have higher pressure ratings; see the table below.

Valve Actuator Approvals:

The following combinations of V5055 and V5097 Valves, and V4055, V4062 and V9055 Fluid Power Actuators are approved by these agencies.

Underwriters Laboratories, Inc: Listed: MH1639

V4055A/V5055A-E (3/4-4 in.) or V5097A-E (3/4-3 in.).
V4055B/V5055A-E (3/4-4 in.) or V5097A-E (3/4-3 in.).
V4055D/V5055A-E (3/4-4 in.) or V5097A-E (3/4-3 in.).
V4055E/V5055A-E (3/4-4 in.) or V5097A-E (3/4-3 in.).
V4055F/V5055A-E (3/4-4 in.[a]) or V5097A-E (3/4-3 in.).
V4055G/V5055A-E (3/4-4 in.[a]) or V5097A-E (3/4-3 in.).
V4062A,D/V5055A-E (3/4-4 in.) or V5097A-E (3/4-3 in.).
V9055A,D/V5055A,B,C,E (3/4-4 in.) or V5097A-E (3/4-3 in.).

Factory Mutual Approved: Report No. 20698, 20835, 21172 and 24061:

V4055A/V5055A and V5097A.
V4055D/V5055C and V5097C.
V4055A/V5055B and V5097B.
V4055B/V5055D and V5097D.
V4055E/V5055E and V5097E.
V4055F/V5055C[a] and V5097C.
V4055G/V5055A,B[a] and V5097A,B.
V9055A/V5055B,C and V5097B,C.

[a] Manual reset safety shut-off valves.

Pressure Ratings of Valve-Actuator Combinations

Model	Pipe Size	Standard Pressure Actuators V4055A, D, F, G, V4062A, D, V9055A, D				High Pressure Actuators V4O55B, E, V4062B			
		M.O.P.D. [a]		Max. Rated Pressure [b]		M.O.P.D. [a]		Max. Rated Pressure [b]	
Standard Pressure Valves V5055A, B, C, F, V5097A, B, C	3/4" to 1-1/2" [c]	5 PSI	340 mbar	15 PSI	1.0 Bar	15 PSI	1030 mbar	15 PSI	1.0 Bar
	2" to 3" [d]	5 PSI	340 mbar	15 PSI	1.0 Bar	15 PSI	1030 mbar	15 PSI	1.0 Bar
	4" flanged [e]	3 PSI	207 mbar	15 PSI	1.0 Bar	5 PSI	340 mbar	15 PSI	1.0 Bar
High Pressure Valves V5055D, E, V5097D, E	3/4" to 1-1/2" [c]	5 PSI	340 mbar	75 PSI	5.0 Bar	25 PSI	1720 mbar	75 PSI	5.0 Bar
	2" to 3" [d]	5 PSI	340 mbar	45 PSI	3.0 Bar	15 PSI	1030 mbar	45 PSI	3.0 Bar

[a] Max Operating Pressure Differential (UL) or Max Operating Pressure (CSA); maximum allowable pressure drop from inlet to outlet for proper operation.

[b] Max Rated Pressure (UL) or Max Close-off Pressure (CSA); maximum pressure that the valve can be exposed to without leakage or damage to the valve.

[c] Applies for small-body V5097 valves 3/4" up to 2" pipe size.

[d] Applies for large-body V5097 valves 2" up to 3" pipe size.

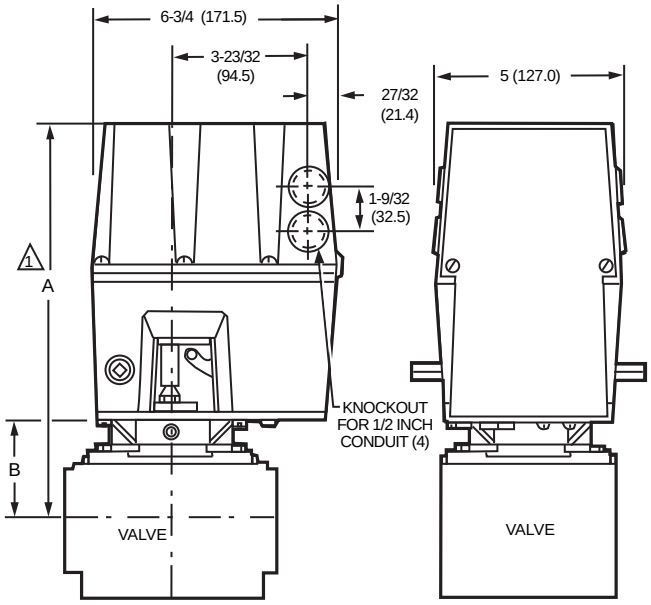
[e] V5055A, B, C only.

V4055A,B,D,E On-Off Fluid Power Gas Valve Actuator

Use in combination with V5055 or V5097 Gas Valves to control gas supply to commercial and industrial burners.

- Use where smooth light off is important
- One-second maximum closing time
- Continuously displays the valve position with a red indicator when open and a yellow indicator when closed
- Mount in any position directly to valve bonnet with three setscrews
- Provide final safety shutoff service when used with V5055 or V5097 Gas Valves

Dimensions in inches (millimeters)



1 ALLOW 4 IN. (101.6 MM) CLEARANCE FOR ACTUATOR REMOVAL.

VALVE SIZE INCH	V5055				V5097			
	DIM A		DIM B		DIM A		DIM B	
	IN.	MM	IN.	MM	IN.	MM	IN.	MM
3/4	11-1/8	282.6	2-3/4	69.9	11-1/8	283	2-3/4	70
1	11-1/8	282.6	2-3/4	69.9	11-1/8	283	2-3/4	70
1-1/4	11-1/8	282.6	2-3/4	69.9	11-1/8	283	2-3/4	70
1-1/2	11-1/8	282.6	2-3/4	69.9	11-1/8	283	2-3/4	70
2	11-1/4	285.8	2-7/8	73.0	11-3/4	298	3-3/8	86
2-1/2	11-3/4	298.5	3-3/8	85.7	11-3/4	298	3-3/8	86
3	11-3/4	298.5	3-3/8	85.7	11-3/4	298	3-3/8	86
4	14-1/8	358.8	5-13/16	147.6	—	—	—	—

M10981A

Temperature Range: -40 F to +150 F (-40 C to +66 C)
Frequency: 60 Hz; 50Hz at 10% reduced voltage
Used With: V5055;V5097 Gas Valves
Approvals
Factory Mutual: When used with the V5055A,B or V5097A,B: Approved, Report Nos. 20698, 20835, 21172, and 24061
Swiss RE: When used with V5055 or V5097: Acceptable
Canadian Standards Association: When used with V5055 and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada
Underwriters Laboratories Inc.: When used with V5055A-E (3/4 to 4 in.) or V5097A-E (3/4 to 3 in.): Listed, File No. MH1639 Guide No. YIOZ

Product Number	Auxiliary Switch Contact Ratings (120 Vac)	Auxiliary Switch Contact Ratings (240 Vac)	Proof of Closure (Factory Mutual) Switch Contact Ratings
V4055A1007/U	—	—	—
V4055A1031/U	—	—	—
V4055A1064/U	—	—	—
V4055A1080/U	—	—	—
V4055A1098/U	—	—	—
V4055A1114/U	—	—	—
V4055A1189/U	—	—	—
V4055A1296/U	9.8 AFL, 58.8 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp	—
V4055A1304/U	—	—	—
V4055A1312/U	—	—	—
V4055B1021/U	—	—	—
V4055B1039/U	—	—	—
V4055B1088/U	—	—	—
V4055D1001/U	—	—	4.9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp
V4055D1019/U	—	—	4.9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp
V4055D1027/U	9.8 AFL, 58.8 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp
V4055D1035/U	9.8 AFL, 58.8 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp
V4055D1043/U	—	—	4.9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp
V4055E1016/U	—	—	4.9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp
V4055E1024/U	9.8 AFL, 58.8 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp
V4055E1040/U	—	—	4.9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp

Gas Valve Actuators

Product Number	Electrical Ratings	Internal Auxiliary Switch	Proof of Closure Auxiliary Switch	Timing		Maximum Operating Pressure		Damper Shaft	Description	Com-ments
				(Opening)	(Closing) < 1 sec	(psi)	(kPa)			
V4055A1007/U	120 Vac	No	No	26 sec	Yes	5 psi	34 kPa	No	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1031/U	120 Vac	No	No	13 sec	Yes	5 psi	34 kPa	No	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1064/U	120 Vac	No	No	26 sec	Yes	5 psi	34 kPa	Yes	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1080/U	240 Vac	No	No	26 sec	Yes	5 psi	34 kPa	Yes	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1098/U	120 Vac	No	No	13 sec	Yes	5 psi	34 kPa	Yes	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1114/U	240 Vac	No	No	13 sec	Yes	5 psi	34 kPa	Yes	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1189/U	100 Vac	No	No	26 sec	Yes	5 psi	34 kPa	No	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1296/U	120 Vac	Yes - adjusted to 90% stroke	No	13 sec	Yes	5 psi	34 kPa	No	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1304/U	120 Vac	No	No	26 sec	Yes	5 psi	34 kPa	Yes with return spring installed	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	—
V4055A1312/U	120 Vac	No	No	26 sec	Yes	5 psi	34 kPa	No	ON-OFF actuator normally used with V5055/V5097A,B valve bodies	Nema 4 Enclosure
V4055B1021/U	120 Vac	No	No	26 sec	Yes	15 or 25 psi	103 or 172 kPa	Yes	High pressure ON-OFF actuator normally used with 4 in. V5055/ V5097A,B and all V5055D valve bodies	—
V4055B1039/U	120 Vac	No	No	13 sec	Yes	15 or 25 psi	103 or 172 kPa	Yes	High pressure ON-OFF actuator normally used with 4 in. V5055/ V5097A,B and all V5055D valve bodies	—
V4055B1088/U	220 Vac	No	No	13 sec	Yes	15 or 25 psi	103 or 172 kPa	No	High pressure ON-OFF actuator normally used with 4 in. V5055/ V5097A,B and all V5055D valve bodies	—
V4055D1001/U	120 Vac	No	Yes	26 sec	Yes	5 psi	34 kPa	Yes	ON-OFF actuator with Proof of Closure normally used on V5055C/ V5907C valve bodies (Low pressure)	—
V4055D1019/U	120 Vac	No	Yes	13 sec	Yes	5 psi	34 kPa	Yes	ON-OFF actuator. Normally used with Proof of Closure V5055/V5907C valve bodies. Low pressure	—
V4055D1027/U	120 Vac	Yes	Yes	13 sec	Yes	5 psi	34 kPa	No	ON-OFF actuator with Proof of Closure normally used on V5055C/ V5907C valve bodies (Low pressure)	Nema 4 Enclosure
V4055D1035/U	120 Vac	Yes	Yes	13 sec	Yes	5 psi	34 kPa	No	ON-OFF actuator. Normally used with Proof of Closure V5055/V5907C valve bodies. Low pressure	—
V4055D1043/U	120 Vac	No	Yes	13 sec	Yes	5 psi	34 kPa	No	ON-OFF actuator. Normally used with Proof of Closure V5055/V5907C valve bodies. Low pressure	—
V4055E1016/U	120 Vac	No	Yes	13 sec	Yes	15 or 25 psi	103 or 172 kPa	Yes	ON-OFF actuator with Proof of Closure normally used on V5055C/ V5907C valve bodies (High Pressure)	—
V4055E1024/U	120 Vac	Yes	Yes	26 sec	Yes	15 or 25 psi	103 or 172 kPa	Yes	ON-OFF actuator with Proof of Closure normally used on V5055C/ V5907C valve bodies (High Pressure)	Nema 4 Enclosure
V4055E1040/U	120 Vac	No	Yes	13 sec	Yes	15 or 25 psi	103 or 172 kPa	Yes	ON-OFF actuator with Proof of Closure normally used on V5055C/ V5907C valve bodies (High Pressure)	Nema 4 Enclosure

V4055F,G Manual Reset Safety Shut-off Gas Valve Actuators

Provide manual reset, safety shut-off functions as required on FM, IHEA-IRI and NFPA 86A,B,C industrial furnaces, ovens and kilns. Use with V5055 or V5097 Gas Valves to control gas supply.

- Close in one second maximum
- Continuously displays the valve position with a red indicator when closed
- Mount directly to valve bonnet with three setscrews
- Provide final safety shutoff service when used with V5055 or V5097 gas valves

Temperature Range: -40 F to +150 F (-40 C to +66 C)
Frequency: 110, 50Hz; 120, 60 Hz
Proof of Closure (Factory Mutual) Switch Contact Ratings: 4.9 AFL, 29.4 ALR, 1/2 hp9.8 AFL, 58.8 ALR, 1/2 hp

Approvals
Factory Mutual: When used with the V5055D or V5097D: Approved, Report Nos. 20698, 20835, 21172, and 24061
Swiss RE: When used with V5055 or V5097: Acceptable
Canadian Standards Association: When used with V5055 and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada
Underwriters Laboratories Inc.: When used with V5055A-E (3/4 to 4 in.) or V5097A-E (3/4 to 3 in.): Listed, File No. MH1639 Guide No. YIOZ

Product Number	Electrical Ratings	Internal Auxiliary Switch	Proof of Closure Auxiliary Switch	Timing		Maximum Operating Pressure		Damper Shaft	Description	Used With
				(Opening)	(Closing) < 1 sec	(psi)	(kPa)			
V4055F1006/U	120 Vac	No	Yes	13 sec	Yes	5 psi	34 kPa	No	Manual reset safety shutoff valve with proof of closure switch	V5034; V5055; V5097; VE5000
V4055G1004/U	120 Vac	No	No	13 sec	Yes	5 psi	34 kPa	No	Manual reset safety shutoff valve	V5034; V5055; V5097; VE5000

Gas Valve Actuators

V4062 Off-Lo-Hi Fluid Power Gas Valve Actuators

Use with V5055 or V5097 Gas Valves to control gas supply for commercial and industrial burners. Valve opens to low fire position when power is applied; valve opens all the way on demand.

- Provide final safety shutoff service when used with V5055 or V5097 gas valves
- One-second maximum closing time
- Continuously displays the valve position with a red indicator when open and a yellow indicator when closed
- Mount in any position directly to valve bonnet with three setscrews
- Provide final safety shutoff service when used with V5055 or V5097 gas valves

Temperature Range: -40 F to +150 F (-40 C to +66 C)
Used With: V5055; V5097; VE5000
Frequency: 110, 50 Hz; 120, 60 Hz

Approvals
Swiss RE: When used with V5055 or V5097: Acceptable
Canadian Standards Association: When used with V5055 and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada
Underwriters Laboratories Inc.: When used with V5055A-E (3/4 to 4 in.) or V5097A-E (3/4 to 3 in.): Listed, File No. MH1639 Guide No. YIOZ

Product Number	Electrical Ratings	Internal Auxiliary Switch	Proof of Closure Auxiliary Switch	Timing		Maximum Operating Pressure		Damper Shaft	Description	Auxiliary Switch Contact Ratings (120 Vac)	Auxiliary Switch Contact Ratings (240 Vac)	Proof of Closure (Factory Mutual) Switch Contact Ratings	Comments
				(Opening)	(Closing) < 1 sec	(psi)	(kPa)						
V4062A1008/U	120 Vac	No	No	26 sec	Yes	5 psi	34 kPa	Yes	HI-LO-OFF actuator for use with V5055B and V5097B valve bodies. Low pressure	—	—	—	—
V4062A1123/U	120 Vac	Yes	No	26 sec	Yes	5 psi	34 kPa	Yes with return spring installed	HI-LO-OFF actuator for use with V5055B and V5097B valve bodies. Low pressure	9.8 AFL, 58.8 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp	—	—
V4062A1131/U	120 Vac	No	No	13 sec	Yes	5 psi	34 kPa	Yes	HI-LO-OFF actuator for use with V5055B and V5097B valve bodies. Low pressure	—	—	—	—
V4062A1156/U	120 Vac	No	No	26 sec	Yes	5 psi	34 kPa	No	HI-LO-OFF actuator for use with V5055B and V5097B valve bodies. Low pressure	—	—	—	For Series 60 Floating Control
V4062A1198/U	120 Vac	Yes - adjusted to 90 degree stroke	No	13 sec	Yes	5 psi	34 kPa	Yes with return spring installed	HI-LO-OFF actuator for use with V5055B and V5097B valve bodies. Low pressure	9.8 AFL, 58.8 ALR, 1/2 hp	4.9 AFL, 29.4 ALR, 1/2 hp	—	—
V4062D1002/U	120 Vac	No	Yes	26 sec	Yes	5 psi	34 kPa	Yes	HI-LO-OFF actuator with Proof of Closure normally used on V5055C,E/ V5907C,E valve bodies (Low Pressure)	—	—	4 9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp	—
V4062D1010/U	120 Vac	No	Yes	13 sec	Yes	5 psi	34 kPa	Yes	HI-LO-OFF actuator with Proof of Closure normally used on V5055C,E/ V5907C,E valve bodies (Low Pressure)	—	—	4 9 AFL, 29.4 ALR, 1/2 hp; 9.8 AFL, 58.8 ALR, 1/2 hp	—

V9055 Modulating Fluid Power Gas Valve Actuators

Use with V5055 or V5097 Gas Valves to control gas supply for commercial and industrial burners. Valve opens to low fire position when power is applied; valve opens all the way on demand.

- Include integral shaft to drive combustion air damper in unison with valve
- One-second maximum closing time
- Continuously displays the valve position with a red indicator when open and a yellow indicator when closed
- Mount in any position directly to valve bonnet with three setscrews
- Provide final safety shutoff service when used with V5055 or V5097 Gas Valves

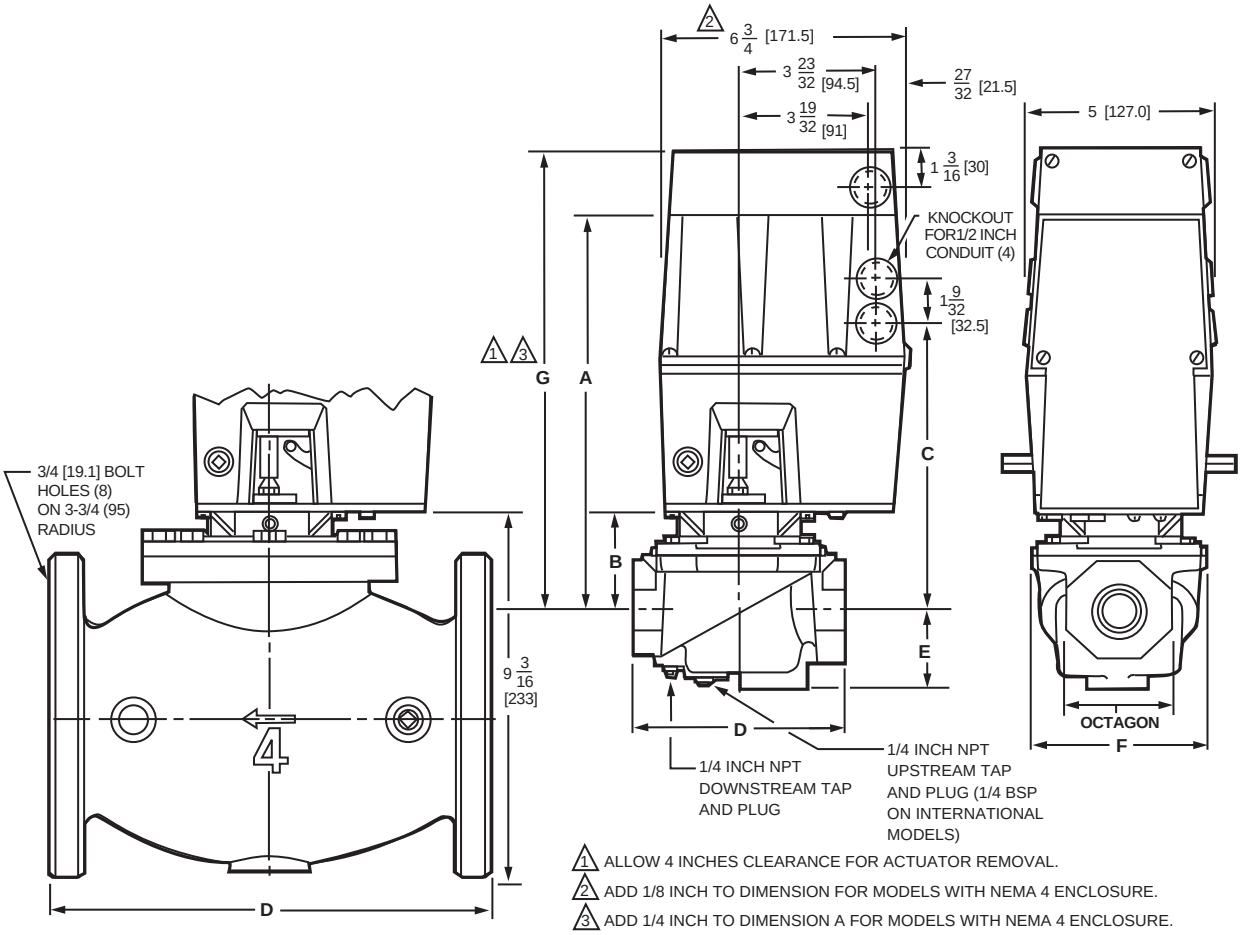
Temperature Range: -40 F to +125 F (-40 C to +52 C)
Frequency: 110, 50 Hz; 120, 60 Hz

Approvals
Factory Mutual: When used with the V5055B, C or V5097B, C: Approved, Report Nos. 20698, 20835, 21172, and 24061
Swiss RE: When used with V5055 or V5097: Acceptable
Canadian Standards Association: When used with V5055 and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada
Underwriters Laboratories Inc.: When used with V5055A-E (3/4 to 4 in.) or V5097A-E (3/4 to 3 in.): Listed, File No. MH1696
Accessories: 203422C- 4-20 ma Adapter for V9055

Product Number	Electrical Ratings	Internal Auxiliary Switch	Proof of Closure Auxiliary Switch	Timing (Opening)	Timing (Closing) < 1 sec	Maximum Operating Pressure (psi)	Maximum Operating Pressure (kPa)	Damper Shaft	Description	Proof of Closure (Factory Mutual) Switch Contact Ratings	Comments
V9055A1055/U	120 Vac	No	No	26 sec	Yes	5 psi	34 kPa	Yes	Modulating-OFF actuator for use with V5055B valve bodies. Low pressure	—	—
V9055A1063/U	120 Vac	No	No	26 sec	Yes	5 psi	34 kPa	Yes	Modulating-OFF actuator for use with V5055B valve bodies. Low pressure	—	Nema 4 Enclosure
V9055D1000/U	120 Vac	No	Yes	26 sec	Yes	5 psi	34 kPa	Yes	Modulating-OFF actuator with Proof of Closure normally used on V5055C,E/ V5907C,E valve bodies (Low Pressure)	4.9 AFL, 29.4 ALR, 1/2 hp9.8 AFL, 58.8 ALR, 1/2 hp	—

Gas Valve Actuators

Dimensions in inches (millimeters)



1 ALLOW 4 INCHES CLEARANCE FOR ACTUATOR REMOVAL.

2 ADD 1/8 INCH TO DIMENSION FOR MODELS WITH NEMA 4 ENCLOSURE.

3 ADD 1/4 INCH TO DIMENSION A FOR MODELS WITH NEMA 4 ENCLOSURE.

VALVE SIZE	DIM A		DIM B		DIM C		DIM D		DIM E		DIM F		DIM G		OCTAGON	
INCH	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
3/4	11-1/8	282.6	2-3/4	69.9	8-3/16	208.0	5-3/4	146.1	2-1/4	57.2	4-13/16	122.2	13-1/8	333.4	2-13/16	71.4
1	11-1/8	282.6	2-3/4	69.9	8-3/16	208.0	5-3/4	146.1	2-1/4	57.2	4-13/16	122.2	13-1/8	333.4	2-13/16	71.4
1-1/4	11-1/8	282.6	2-3/4	69.9	8-3/16	208.0	5-3/4	146.1	2-1/4	57.2	4-13/16	122.2	13-1/8	333.4	2-13/16	71.4
1-1/2	11-1/8	282.6	2-3/4	69.9	8-3/16	208.0	5-3/4	146.1	2-1/4	57.2	4-13/16	122.2	13-1/8	333.4	2-13/16	71.4
2	11-1/4	285.8	2-7/8	73.0	8-5/16	211.1	8-3/8	212.7	2-3/4	69.9	7-19/32	192.9	13-1/4	336.5	3-1/2	88.9
2-1/2	11-3/4	298.5	3-3/8	85.7	8-13/16	223.8	9-1/4	235.0	2-3/4	69.9	7-19/32	192.9	13-3/4	349.3	4-1/2	114.3
3	11-3/4	298.5	3-3/8	85.7	8-13/16	223.8	9-1/4	235.0	2-3/4	69.9	7-19/32	192.9	13-3/4	349.3	4-1/2	114.3
4	14-1/8	358.8	5-13/16	147.6	11-7/32	285.0	12-1/2	317.5	4-5/8	117.5	—	—	16-3/16	411.0	—	—

M7321

Fluid Actuator Accessories and Parts

Product Number	Description	Used With
133568/U	Auxiliary Switch (Adjustable Valve Position) for V4055, V4062 or V9055	V4055; V4062; V9055
133569/U	Replacement Pre-ignition Interlock (Proof of Closure) Switch for V4055D,E; V4062D or V9055D	V4055; V4062; V9055
203422C/U	4-20 ma Adapter for V9055	V9055
7616BR/U	Crank Arm assembly with clip for Damper Arm of V4055, V4062 or V9055	V4055; V4062; V9055

V5055 Industrial Gas Valves

Safety shutoff valves used with V4055, V4062 and V9055 fluid power actuators to control gas flow to commercial and industrial burners.

- Use with natural or LP gases
- Mount directly in gas supply line
- Include 1/4 in. NPT upstream and downstream taps and plug
- 4 in. models have only flanged connections
- V5055 normally closed valves are rated for final shutoff service safety shutoff
- V5055A,C,D,E Valves are for On-Off service
- V5055B Valve has a characterized guide and in combination with the V4055, V4062, and V9055 Fluid Power Actuators, provides slow-opening, hi-lo-off, and modulating functions respectively
- V5055C,E,F Valves have a double seal and are used with V4055D,E Actuators to provide proof-of-closure switch and valve seal over-travel interlock
- V5055D,E,F Valves are for high pressure applications

Operating Temperature Range: -40 F to +150 F (-40 C to +66 C)
Temperature Ratings when used withV9055: -40 F to +125 F (-40 C to +52 C)
Used With: V9055, V4055, V4062

Approvals
Canadian Standards Association: When used with V4055, V4062, and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada
Factory Mutual: When used with the V4055A,G: Approved, Report Nos. 20698, 20835, 21172, and 24061
Swiss Re: When used with V4055A,B,D,E, V4062, V9055: Acceptable
Underwriters Laboratories, Inc: When used with V4055A,B,D,E, V4062, V9055: Listed, File No. MH1639 Guide No. YIOZ

Product Number	Pipe Size (inch)	Pipe Thread	Capacity (cfh)	Maximum Operating Differential Pressure (V4055 A,D; V4062)	Maximum Operating Differential Pressure (V4055 B or E)	Description	Includes	Comments
V5055A1004/U	1 in.	NPT	960 cf/hr; 27.2 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 in. NPT Industrial Gas Valve with On-off safety shut-off	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055A1012/U	1 1/4 in.	NPT	1406 cf/hr; 39.8 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 1/4 in. NPT Industrial Gas Valve with On-off safety shut-off	1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug	—
V5055A1020/U	1 1/2 in.	NPT	1717 cf/hr; 48.6 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 1/2 in. NPT Industrial Gas Valve with On-off safety shut-off		—
V5055A1038/U	2 in.	NPT	3620 cf/hr; 102.5 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 in. NPT Industrial Gas Valve with On-off safety shut-off	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055A1046/U	2 1/2 in.	NPT	4250 cf/hr; 120 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 1/2 in. NPT Industrial Gas Valve with On-off safety shut-off		—
V5055A1053/U	3 in.	NPT	5230 cf/hr; 148 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	3 in. NPT Industrial Gas Valve with On-off safety shut-off		—
V5055A1228/U	4 in.	Flanged	10200 cf/hr; 288.8 m^3/hr	3 psi (20.7 kPa)	5 psi (.34 bar)	4 in. Flanged Industrial Gas Valve with On-off safety shut-off		—
V5055A1343/U	3/4 in.	NPT	665 cf/hr	5 psi (.34 bar)	15 psi (1 bar)	3/4 in. NPT Industrial Gas Valve with On-off safety shut-off		—
V5055B1002/U	1 in.	NPT	960 cf/hr; 27.2 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 in. NPT Industrial Gas Valve with characterized guide		—
V5055B1010/U	1 1/4 in.	NPT	1406 cf/hr; 39.8 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 1/4 in. NPT Industrial Gas Valve with characterized guide	1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug	—
V5055B1028/U	1 1/2 in.	NPT	1717 cf/hr; 48.6 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 1/2 in. NPT Industrial Gas Valve with characterized guide		—

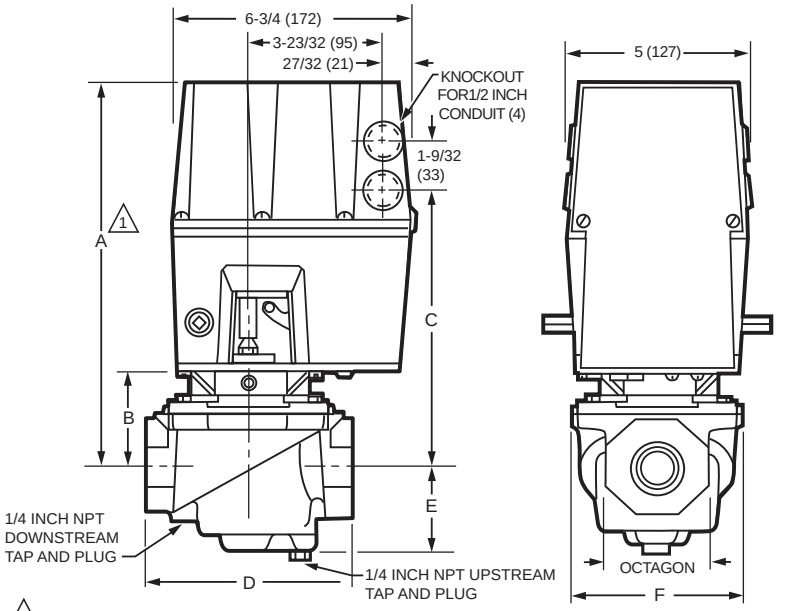
Industrial Gas Valves

Product Number	Pipe Size (inch)	Pipe Thread	Capacity (cfh)	Maximum Operating Differential Pressure (V4055 A,D; V4062)	Maximum Operating Differential Pressure (V4055 B or E)	Description	Includes	Comments
V5055B1069/U	2 in.	NPT	3620 cf/hr; 102.5 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 in. NPT Industrial Gas Valve with characterized guide	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055B1077/U	2 1/2 in.	NPT	4250 cf/hr; 120 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 1/2 in. NPT Industrial Gas Valve with characterized guide		—
V5055B1085/U	3 in.	NPT	5230 cf/hr; 148 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	3 in. NPT Industrial Gas Valve with characterized guide		—
V5055B1150/U	4 in.	Flanged	9180 cf/hr; 259.9 m^3/hr	3 psi (20.7 kPa)	5 psi (.34 bar)	4 in. Flanged Industrial Gas Valve with characterized guide		—
V5055C1000/U	2 in.	NPT	3620 cf/hr; 102.5 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 in. NPT Industrial Gas Valve with On-off safety shut-off with double seal		—
V5055C1018/U	2 1/2 in.	NPT	4250 cf/hr; 120 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 1/2 in. NPT Industrial Gas Valve with On-off safety shut-off with double seal		—
V5055C1026/U	3 in.	NPT	5230 cf/hr; 148 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	3 in. NPT Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug	—
V5055C1034/U	1 in.	NPT	960 cf/hr; 27.2 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 in. NPT Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055C1042/U	1 1/4 in.	NPT	1406 cf/hr; 39.8 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 1/4 in. NPT Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug	—
V5055C1059/U	1 1/2 in.	NPT	1717 cf/hr; 48.6 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	1 1/2 in. NPT Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055C1109/U	4 in.	Flanged	9180 cf/hr; 259.9 m^3/hr	3 psi (20.7 kPa)	5 psi (.34 bar)	4 in. Flanged Industrial Gas Valve with On-off safety shut-off with double seal		—
V5055C1182/U	3/4 in.	NPT	665 cf/hr	5 psi (.34 bar)	15 psi (1 bar)	3/4 in. NPT Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug	—
V5055D1008/U	1 in.	NPT	960 cf/hr; 27.2 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055D1016/U	1 1/4 in.	NPT	1406 cf/hr; 39.8 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 1/4 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off		—
V5055D1024/U	1 1/2 in.	NPT	1717 cf/hr; 48.6 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 1/2 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off		—
V5055D1032/U	2 in.	NPT	3620 cf/hr; 102.5 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off		—
V5055D1040/U	2 1/2 in.	NPT	4250 cf/hr; 120 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 1/2 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off		—
V5055D1057/U	3 in.	NPT	5230 cf/hr	5 psi (.34 bar)	15 psi (1 bar)	3 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off		—
V5055D1065/U	3/4 in.	NPT	665 cf/hr	5 psi (.34 bar)	25 psi (1.6 bar)	3/4 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off		—
V5055E1005/U	2 in.	NPT	3620 cf/hr; 102.5 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal		—

Product Number	Pipe Size (inch)	Pipe Thread	Capacity (cfh)	Maximum Operating Differential Pressure (V4055 A,D; V4062)	Maximum Operating Differential Pressure (V4055 B or E)	Description	Includes	Comments
V5055E1013/U	2 1/2 in.	NPT	4250 cf/hr; 120 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	2 1/2 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug	—
V5055E1021/U	3 in.	NPT	5230 cf/hr; 148 m^3/hr	5 psi (.34 bar)	15 psi (1 bar)	3 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal		—
V5055E1039/U	1 in.	NPT	960 cf/hr; 27.2 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055E1047/U	1 1/4 in.	NPT	1406 cf/hr; 39.8 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 1/4 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug	—
V5055E1054/U	1 1/2 in.	NPT	1717 cf/hr; 48.6 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 1/2 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055E1062/U	3/4 in.	NPT	665 cf/hr	5 psi (.34 bar)	25 psi (1.6 bar)	3/4 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug	—
V5055F1003/U	1 in.	NPT	960 cf/hr; 27.2 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal	1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug	Meets Intent of DIN Seat Leakage Requirements
V5055F1011/U	1 1/2 in.	NPT	1717 cf/hr; 48.6 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 1/2 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal		Meets Intent of DIN Seat Leakage Requirements
V5055F1037/U	1 1/4 in.	NPT	1406 cf/hr; 39.8 m^3/hr	5 psi (.34 bar)	25 psi (1.6 bar)	1 1/4 in. NPT High Pressure Industrial Gas Valve with On-off safety shut-off with double seal		Meets Intent of DIN Seat Leakage Requirements

Industrial Gas Valves

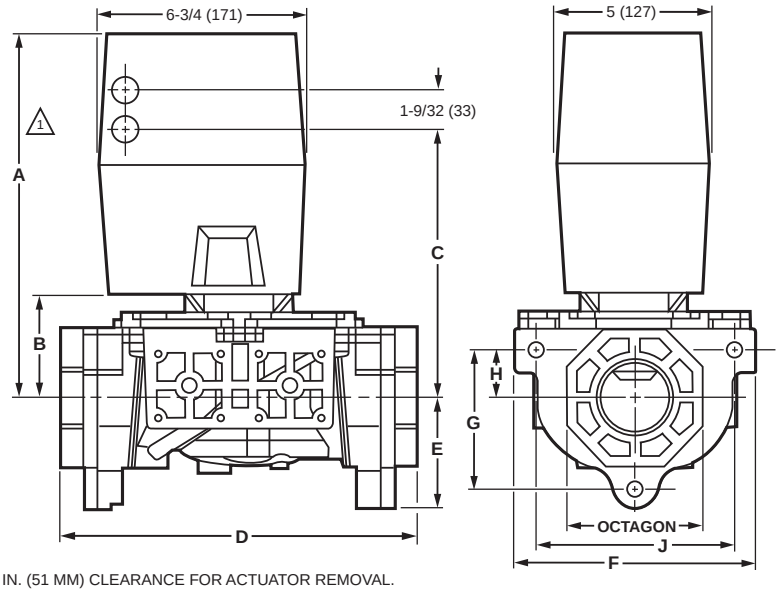
Dimensions in inches (millimeters)



1 ALLOW 2 IN. (51 mm) CLEARANCE FOR ACTUATOR REMOVAL.

VALVE SIZE	DIM A		DIM B		DIM C		DIM D		DIM E		DIM F		OCTAGON	
INCH	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
3/4	11-1/8	283	2-3/4	70	8-3/16	208	5-3/4	146	2-1/4	57	4-7/8	124	2-13/16	71
1	11-1/8	283	2-3/4	70	8-3/16	208	5-3/4	146	2-1/4	57	4-7/8	124	2-13/16	71
1-1/4	11-1/8	283	2-3/4	70	8-3/16	208	5-3/4	146	2-1/4	57	4-7/8	124	2-13/16	71
1-1/2	11-1/8	283	2-3/4	70	8-3/16	208	5-3/4	146	2-1/4	57	4-7/8	124	2-13/16	71
2	11-1/4	286	2-7/8	73	8-5/16	211	8-3/8	213	2-3/4	70	7-19/32	193	3-1/2	89
2-1/2	11-3/4	299	3-3/8	86	8-13/16	224	9-1/4	235	2-3/4	70	7-19/32	193	4-1/2	114
3	11-3/4	299	3-3/8	86	8-13/16	224	9-1/4	235	2-3/4	70	7-19/32	193	4-1/2	114

M27268



1 ALLOW 2 IN. (51 MM) CLEARANCE FOR ACTUATOR REMOVAL.

VALVE SIZE (IN.)	DIM. A		DIM. B		DIM. C		DIM. D		DIM. E		DIM. F		DIM. G		DIM. H		DIM. J		OCTAGON	
	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
3/4	11-1/8	283	2-3/4	70	8-3/16	208	8-1/4	210	2-7/16	62	5	127	2-5/16	58	7/8	23	3-15/16	100	2-13/16	71
1	11-1/8	283	2-3/4	70	8-3/16	208	8-1/4	210	2-7/16	62	5	127	2-5/16	58	7/8	23	3-15/16	100	2-13/16	71
1-1/4	11-1/8	283	2-3/4	70	8-3/16	208	8-1/4	210	2-7/16	62	5	127	2-5/16	58	7/8	23	3-15/16	100	2-13/16	71
1-1/2	11-1/8	283	2-3/4	70	8-3/16	208	8-1/4	210	2-7/16	62	5	127	2-5/16	58	7/8	23	3-15/16	100	2-13/16	71
2	11-3/4	298	3-3/8	86	8-5/16	211	11-3/4	298	3-5/8	91	8	203	4-7/16	113	1-1/2	38	6-1/2	165	4-1/2	114
2-1/2	11-3/4	298	3-3/8	86	8-5/16	211	11-3/4	298	3-5/8	91	8	203	4-7/16	113	1-1/2	38	6-1/2	165	4-1/2	114
3	11-3/4	298	3-3/8	86	8-5/16	211	11-3/4	298	3-5/8	91	8	203	4-7/16	113	1-1/2	38	6-1/2	165	4-1/2	114

M27581

V5097 Integrated Valve Train

- Use with natural or LP gases
- Mount directly in gas supply line
- Two Valve body types. Small body type for 3/4 in., 1 in., 1-1/4 in., 1-1/2 in., 2 in. pipes. Large body types for 2 in., 2-1/2 in. and 3 in. pipes
- Seven pipe adapter sizes from 3/4 in. to 3 in. have NPT or BSP threaded connections
- Provides three 1/4 in. upstream and two 1/4 in. downstream tap and plug
- CE version provides an additional downstream tap and plug
- Yellow SHUT indicator attached to the valve stem provides an indication of the valve closed position
- V5097A,C,D,E Valves are for on-off service
- V5097B Valve has a characterized guide and in combination with the V4055, V4062 and V9055 Fluid Power Actuators, provides slow-opening, HI-LO-OFF, and modulating functions, respectively
- V5097C,E Valves have a double seal and are used with V4055D,E Actuators to provide proof-of-closure switch and valve seal over-travel interlock
- V5097D,E Valves are for high pressure applications
- Two valve body types (small and large) applicable to server pipe size

Safety shutoff valves used with V4055, V4062 and V9055 fluid power actuators to control gas flow to commercial and industrial burners.

Operating Temperature Range: -40 F to +150 F (-40 C to +66 C)
Temperature Ratings when used withV9055: -40 F to +125 F (-40 C to +52 C)
Includes: Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
Comments: Select Proper Pipe Adapter
Used With: V9055, V4055, V4062

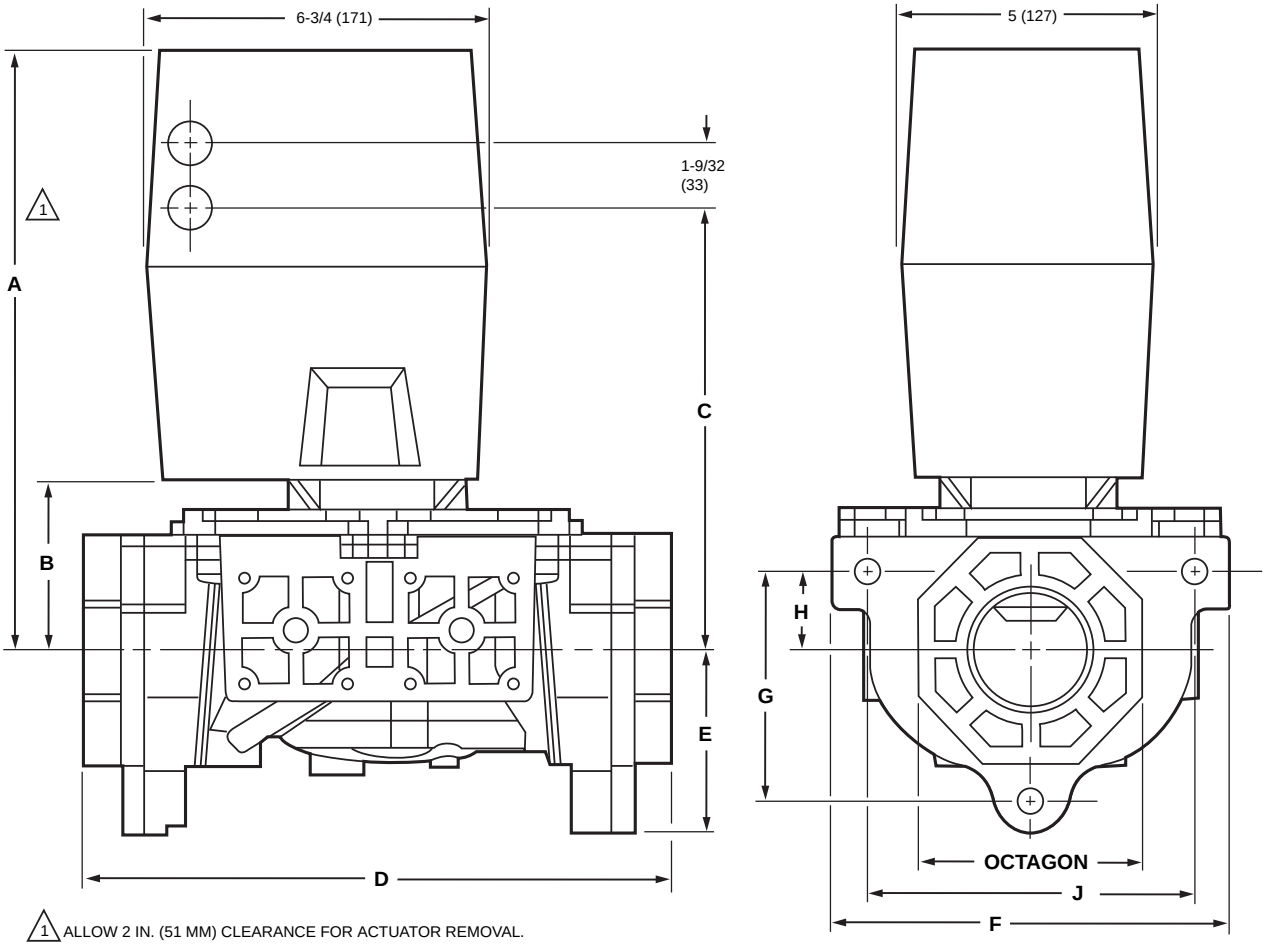
Approvals
Canadian Standards Association: : When used with V4055, V4062, and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada
CE: CE #E3070 (Gastec)
Factory Mutual: When used with the V4055A,G: Approved, Report Nos. 20698, 20835, 21172, and 24061
Swiss Re: When used with V4055A,B,D,E, V4062, V9055: Acceptable
Underwriters Laboratories, Inc: When used with V4055A,B,D,E, V4062, V9055: Listed, File No. MH1639 Guide No. YIOZ

Product Number	Pipe Size (inch)	Capacity (cfh)	Maximum Operating Differential Pressure (V4055A,D; V4062)	Maximum Operating Differential Pressure (V4055B or E)	Integrated Valve Train Body Size	Description	Includes
V5097A1004/U	3/4 in. or 1 in. or 1 1/4 in. or 2 in.	665 cf/hr to 3620 cf/hr; 18.8 to 102.5 m^3/hr	5 psi (340 mbar)	15 psi (1 bar)	Small body	Small Body Low Pressure Integrated Valve with On-off safety shut-off	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
V5097A1012/U	2 in. or 2 1/2 in. or 3 in.	3620 cf/hr to 5230 cf/hr; 102.5 to 148.0 m^3/hr	5 psi (340 mbar)	15 psi (1 bar)	Large body	Large Body Low Pressure Integrated Valve with On-off safety shut-off	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
V5097B1002/U	3/4 in. or 1 in. or 1 1/4 in. or 2 in.	665 cf/hr to 3620 cf/hr	5 psi (340 mbar)	15 psi (1 bar)	Small body	Small Body Low Pressure Integrated Valve with characterized guide safety shut-off	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
V5097B1010/U	2 in. or 2 1/2 in. or 3 in.	3620 cf/hr to 5230 cf/hr; 102.5 to 148.0 m^3/hr	5 psi (340 mbar)	15 psi (1 bar)	Large body	Large Body Low Pressure Integrated Valve with characterized guide safety shut-off	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
V5097C1000/U	3/4 in. or 1 in. or 1 1/4 in. or 2 in.	665 cf/hr to 3620 cf/hr; 18.8 to 102.5 m^3/hr	5 psi (340 mbar)	15 psi (1 bar)	Small body	Small Body Low Pressure Integrated Valve with On-off safety shut-off with double seal	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
V5097C1018/U	2 in. or 2 1/2 in. or 3 in.	3620 cf/hr to 5230 cf/hr; 102.5 to 148.0 m^3/hr	5 psi (340 mbar)	15 psi (1 bar)	Large body	Large Body Low Pressure Integrated Valve with On-off safety shut-off with double seal	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
V5097D1008/U	3/4 in. or 1 in. or 1 1/4 in. or 2 in.	665 cf/hr to 3620 cf/hr; 18.8 to 102.5 m^3/hr	5 psi (340 mbar)	25 psi (1.6 bar)	Small body	Small Body High Pressure Integrated Valve with On-off safety shut-off	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
V5097D1016/U	2 in. or 2 1/2 in. or 3 in.	3620 cf/hr to 5230 cf/hr; 102.5 to 148.0 m^3/hr	5 psi (340 mbar)	15 psi (1 bar)	Large body	Large Body High Pressure Integrated Valve with On-off safety shut-off	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps

Industrial Gas Valves

Product Number	Pipe Size (inch)	Capacity (cfh)	Maximum Operating Differential Pressure (V4055A,D; V4062)	Maximum Operating Differential Pressure (V4055B or E)	Integrated Valve Train Body Size	Description	Includes
V5097E1005/U	3/4 in. or 1 in. or 1 1/4 in. or 2 in.	665 cf/hr to 3620 cf/hr; 18.8 to 102.5 m^3/hr	5 psi (340 mbar)	25 psi (1.6 bar)	Small body	Small Body High Pressure Integrated Valve with On-off safety shut-off with double seal	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps
V5097E1013/U	2 in. or 2 1/2 in. or 3 in.	3620 cf/hr to 5230 cf/hr; 102.5 to 148.0 m^3/hr	5 psi (340 mbar)	15 psi (1 bar)	Large body	Large Body High Pressure Integrated Valve with On-off safety shut-off with double seal	Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps

Dimensions in inches (millimeters)



1 ALLOW 2 IN. (51 MM) CLEARANCE FOR ACTUATOR REMOVAL.

VALVE SIZE (IN.)	DIM. A		DIM. B		DIM. C		DIM. D		DIM. E		DIM. F		DIM. G		DIM. H		DIM. J		OCTAGON	
	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
3/4	11-1/8	283	2-3/4	70	8-3/16	208	8-1/4	210	2-7/16	62	5	127	2-5/16	58	7/8	23	3-15/16	100	2-13/16	71
1	11-1/8	283	2-3/4	70	8-3/16	208	8-1/4	210	2-7/16	62	5	127	2-5/16	58	7/8	23	3-15/16	100	2-13/16	71
1-1/4	11-1/8	283	2-3/4	70	8-3/16	208	8-1/4	210	2-7/16	62	5	127	2-5/16	58	7/8	23	3-15/16	100	2-13/16	71
1-1/2	11-1/8	283	2-3/4	70	8-3/16	208	8-1/4	210	2-7/16	62	5	127	2-5/16	58	7/8	23	3-15/16	100	2-13/16	71
2	11-3/4	298	3-3/8	86	8-5/16	211	11-3/4	298	3-5/8	91	8	203	4-7/16	113	1-1/2	38	6-1/2	165	4-1/2	114
2-1/2	11-3/4	298	3-3/8	86	8-5/16	211	11-3/4	298	3-5/8	91	8	203	4-7/16	113	1-1/2	38	6-1/2	165	4-1/2	114
3	11-3/4	298	3-3/8	86	8-5/16	211	11-3/4	298	3-5/8	91	8	203	4-7/16	113	1-1/2	38	6-1/2	165	4-1/2	114

M11682A

Integrated Valve Train Pipe Adapters

Product Number	Pipe Size (inch)	Pipe Thread	Integrated Valve Train Body Size	Description	Used With
32000109-001/U	3/4 in.	NPT	Small body	3/4 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-002/U	1 in.	NPT	Small body	1 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-003/U	1 1/4 in.	NPT	Small body	1 1/4 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-004/U	1 1/2 in.	NPT	Small body	1 1/2 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-005/U	2 in.	NPT	Small body	2 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-006/U	3/4 in.	BSP	Small body	3/4 in. BSP Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-007/U	1 in.	BSP	Small body	1 in. BSP Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-008/U	1 1/4 in.	BSP	Small body	1 1/4 in. BSP Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-009/U	1 1/2 in.	BSP	Small body	1 1/2 in. BSP Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32000109-010/U	2 in.	BSP	Small body	2 in. BSP Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32001605-001/U	2 in.	NPT	Large body	2 in. NPT Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32001605-002/U	2 1/2 in.	NPT	Large body	2 1/2 in. NPT Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32001605-003/U	3 in.	NPT	Large body	3 in. NPT Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32001605-004/U	2 in.	BSP	Large body	2 in. BSP Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32001605-005/U	2 1/2 in.	BSP	Large body	2 1/2 in. BSP Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197
32001605-006/U	3 in.	BSP	Large body	3 in. BSP Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly.	V5097; V4297; V5197

V5055/5097 Replacement Parts or Accessories

Product Number	Description	Used With
133392A/U	O-Ring Assembly for 2 in., 2 1/2 in., and 3 in. V5055 valves	V5055/V5097 valves
133393A/U	O-Ring Assembly for 1 in., 1 1/4 in., and 1 1/2 in. V5055 valves	V5055/V5097 valves
133398AA/U	Replacement Bonnet Assembly with 133393A Seal Assembly for 3/4, 1, 1-1/4, 1-1/2 in. V5055A valves	V5055/V5097 valves
133398BA/U	Replacement Bonnet Assembly with 133393A Seal Assembly for 3/4, 1, 1-1/4, 1-1/2 in. V5055B valves	V5055/V5097 valves
133398CA/U	Replacement Bonnet Assembly, with 137253A replacement Seal Assembly for small body (3/4,1, 1/1/2 in.) V5055/V5097C	V5055/V5097 valves
133417AA/U	Replacement Bonnet Assembly with 133392A Seal Assembly for 2, 2 1/2, and 3 in. V5055A valves	V5055/V5097 valves
133417BA/U	Replacement Bonnet Assembly with 133392A Seal Assembly for 2, 2 1/2, and 3 in. V5055B valves	V5055/V5097 valves
133417CA/U	Bonnet Assembly for 2, 2 1/2, or 3 in. V5055C or V5097C valves	V5055C/V5097C valves
137253A/U	Replacement seal assembly. For 4 inch V5055	V5055
32002512-001/U	Large bodies 2 in.-3 in. normally open vent valve adapter. Use with V5097	V5097
32002513-001/U	Small bodies 3/4 in.-2 in. normally open vent valve adapter. Use with V5097|Small bodies 3/4 in.-2 in. normally open vent valve adapter. Use with V5097	V5097
32004771-001	Small Body Multi-tap Adapter Assembly, Integrated Valve Train	V5097
4074EYE/U	Bag assembly for V5097 (large body) includes 6 ea bolts, nuts and washers	Large Body V5097
4074EYF/U	Bag assembly for V5097 (small body) includes 6 ea bolts, nuts and washers	Small Body V5097
4074EYK/U	Bag assembly for V5097 (small body) includes (2) O-rings, (1) grease capsule	Small Body V5097
4074EYL/U	Bag assembly for V5097 (large body) includes (2) O-rings, (1) grease capsule	Large Body V5097

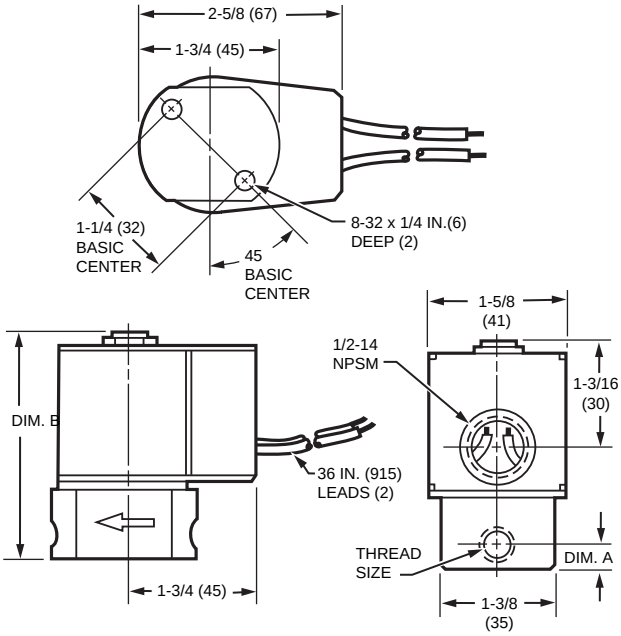
Pilot Gas Valves

V4046C; V8046C Pilot Gas Valves

Provide on-off control of natural, LP and manufactured gases to pilot burners in industrial and commercial applications.

- Magnetically operated, normally closed
- Provide instantaneous action when energized
- On power failure, valve closes in one second maximum
- Use in any position, directly in pipe line or on support bracket
- Replace the solenoid coil without removing the valve body from the piping connections
- Straight-through valve pattern
- Available in line voltage or low voltage models

Dimensions in inches (millimeters)



MODEL	BODY SIZE	THREAD SIZE	DIM. A		DIM. B	
			IN	MM	IN	MM
V4046C, V8046C	SMALL	1/8-27 NPT	5/16	8	2-3/4	70
	SMALL	1/4-18 NPT	3/8	10	3	76
	LARGE	1/4-18 NPT	1/2	13	3-1/4	83
	LARGE	3/8-18 NPT	1/2	13	3-1/4	83

M16595A

Type of Gas: Air, natural, manufactured, and LP
Body Pattern: Straight-through
Electrical Connections: Two 36-in. leadwires and 1/2 in. conduit bushing
Frequency: 50 Hz; 60 Hz
Power Consumption: 8 W
Mounting: Directly in pipe or on support bracket
Valve Opening Time: 1 sec max
Valve Closing Time: 1 sec max
Operating Temperature Range: -40 F to +125 F (-40 C to +52 C)

Materials
(Body): Aluminum
Approvals
Canadian Standards Association: Certificate No. 158158-2500006058, Guide No. C3371-03, 83
Factory Mutual: Approved: Report No. 17450
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MH1639, V3, S3 - Guide No. YIOZ

Product Number	Pipe Size (inch)	Capacity (cfh)	Capacity (m^3/hr)	Pressure Ratings (psi)	Pressure Ratings (kPa)	Voltage
V4046C1005/U	1/8 in.	20 cfh	0.57 m^3/hr	10 psi	68.9 kPa	110 Vac; 120 Vac
V4046C1021/U	1/4 in.	20 cfh	0.57 m^3/hr	10 psi	68.9 kPa	110 Vac; 120 Vac
V4046C1047/U	1/4 in.	55 cfh	1.56 m^3/hr	10 psi	68.9 kPa	110 Vac; 120 Vac
V4046C1054/U	3/8 in.	67 cfh	1.90 m^3/hr	10 psi	68.9 kPa	110 Vac; 120 Vac
V4046C1120/U	3/8 in.	67 cfh	1.90 m^3/hr	10 psi	68.9 kPa	120 Vac
V8046C1006/U	1/8 in.	20 cfh	0.57 m^3/hr	10 psi	68.9 kPa	24 Vac
V8046C1014/U	1/4 in.	20 cfh	0.57 m^3/hr	10 psi	68.9 kPa	24 Vac
V8046C1022/U	1/4 in.	55 cfh	1.56 m^3/hr	10 psi	68.9 kPa	24 Vac
V8046C1030/U	3/8 in.	67 cfh	1.90 m^3/hr	10 psi	68.9 kPa	24 Vac

V4295; V8295 Solenoid Gas Valves

V4295A/V8295A are normally closed and V4295S/V8295S are normally open (vent) solenoid gas valve. Suitable for use on furnaces, ovens, atmospheric burners, commercial water heaters, roof-top make-up air units, power burners, and commercial/ industrial boilers.

- V8295A,S are used with 24 Vac controllers
- V4295A,S are used with 120 Vac controllers
- Positive close off of gas flow when de-energized
- High valve spring force allows up to 0.7 psi back pressure at valve seat
- No inlet pressure influence at valve seat
- Inlet pressure changes do not affect ability to close valve
- Low operating noise
- Low rush-in current
- Upstream and downstream taps allows tapping and testing pressure points

Type of Gas: Air, natural, manufactured, mixed, and LP
Dimensions, Approximate: 4 7/16 in. high x 2 7/8 in. wide x 2 3/16 deep (113 mm high x 73 mm wide x 56 mm deep)
Body Pattern: Straight-through, non-offset
Electrical Connections: Screw terminals
Inlet/Outlet Pressure Tapping: 1/4 in. NPT
Frequency: 50 Hz; 60 Hz
Mounting: Vertical to 90 degrees from vertical
Valve Opening Time: less than 1 sec
Valve Closing Time: less than 1 sec
Operating Temperature Range: -40 F to +130 F (-40 C to +50 C)

Materials
(Body): Die-cast aluminum
Approvals
Canadian Standards Association: Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83
Control Safety Devices: Acceptable
Factory Mutual: Approved: Report No. J.I.OD6A2.AF
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MH18476, V1, S1 - Guide No. YIOZ

Product Number	Pipe Size (inch)	Capacity (cfh)	Capacity (m^3/hr)	Pressure Ratings (psi)	Pressure Ratings (kPa)	Current (max amps at rated Vac/Hz)	Voltage
V4295A1015	1/2 in.	250 cfh	7.1 m^3/hr	2 psi	13.8 kPa	0.160 amps	120 Vac
V4295A1023	3/4 in.	645 cfh	18.3 m^3/hr	2 psi	13.8 kPa	0.160 amps	120 Vac
V4295A1031	1 in.	790 cfh	22.4 m^3/hr	2 psi	13.8 kPa	0.160 amps	120 Vac
V4295A1049	1 1/4 in.	1450 cfh	41.0 m^3/hr	2 psi	13.8 kPa	0.340 amps	120 Vac
V4295A1056	1 1/2 in.	2190 cfh	62.0 m^3/hr	2 psi	13.8 kPa	0.300 amps	120 Vac
V4295A1064	2 in.	3465 cfh	98.1 m^3/hr	2 psi	13.8 kPa	0.525 amps	120 Vac
V4295A1072	2 1/2 in.	5070 cfh	143.5 m^3/hr	2 psi	13.8 kPa	0.575 amps	120 Vac
V4295A1080	3 in.	6100 cfh	172.7 m^3/hr	2 psi	13.8 kPa	0.675 amps	120 Vac
V4295A1098	3/8 in.	210 cfh	5.9 m^3/hr	5 psi	34.5 kPa	0.160 amps	120 Vac
V4295A1106	1/2 in.	290 cfh	8.2 m^3/hr	5 psi	34.5 kPa	0.160 amps	120 Vac
V4295A1114	3/4 in.	610 cfh	17.3 m^3/hr	5 psi	34.5 kPa	0.2 amps	120 Vac
V4295A1122	1 in.	825 cfh	23.4 m^3/hr	5 psi	34.5 kPa	0.2 amps	120 Vac
V4295A1130	1 1/4 in.	1950 cfh	55.2 m^3/hr	5 psi	34.5 kPa	0.550 amps	120 Vac
V4295A1148/U	1 1/2 in.	2270 cfh	64.3 m^3/hr	5 psi	34.5 kPa	0.550 amps	120 Vac
V4295A1155	2 in.	3740 cfh	105.9 m^3/hr	5 psi	34.5 kPa	0.540 amps	120 Vac
V4295S1005	3/4 in.	350 cfh	9.9 m^3/hr	2 psi	13.8 kPa	0.160 amps	120 Vac
V4295S1013	1 in.	420 cfh	11.9 m^3/hr	2 psi	13.8 kPa	0.160 amps	120 Vac
V4295S1021	1 1/4 in.	1100 cfh	31.1 m^3/hr	2 psi	13.8 kPa	0.340 amps	120 Vac
V8295A1016	1/2 in.	250 cfh	7.1 m^3/hr	2 psi	13.8 kPa	0.8 amps	24 Vac
V8295A1024	3/4 in.	645 cfh	18.3 m^3/hr	2 psi	13.8 kPa	0.8 amps	24 Vac
V8295A1032	1 in.	790 cfh	22.4 m^3/hr	2 psi	13.8 kPa	0.8 amps	24 Vac
V8295A1040	1 1/4 in.	1450 cfh	41.0 m^3/hr	2 psi	13.8 kPa	1.6 amps	24 Vac
V8295A1057	1 1/2 in.	2190 cfh	62.0 m^3/hr	2 psi	13.8 kPa	1.70 amps	24 Vac
V8295A1065	2 in.	3465 cfh	98.1 m^3/hr	2 psi	13.8 kPa	2.80 amps	24 Vac
V8295S1006	3/4 in.	350 cfh	9.9 m^3/hr	2 psi	13.8 kPa	0.8 amps	24 Vac

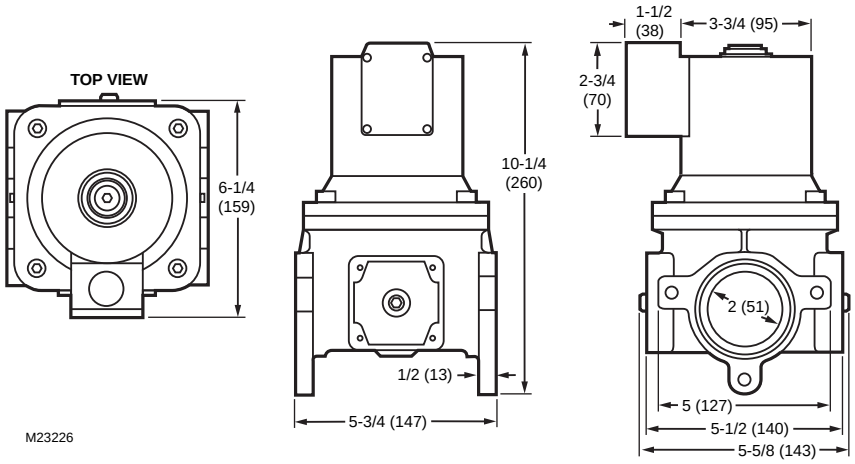
Solenoid Gas Valves

V4297A Solenoid Safety Shut-off Valve for IVT

V4297A are normally closed solenoid gas valve. Suitable for use on furnaces, ovens, atmospheric burners, commercial water heaters, roof-top make-up air units, power burners, and commercial/ industrial boilers.

- V4297A are used with 120 Vac controllers
- Positive close off of gas flow when de-energized
- High valve spring force allows up to 0.7 psi back pressure at valve seat
- No inlet pressure influence at valve seat
- Inlet pressure changes do not affect ability to close valve
- Low operating noise
- Low rush-in current
- Upstream and downstream taps allows tapping and testing pressure points
- For use with the Integrated Valve Train
- Accepts C6097 Pressure Switch mounted directly to flange (upstream pressure tap only)

Dimensions in inches (millimeters)



Type of Gas: Air, natural, manufactured, mixed, and LP
Body Pattern: Straight-through, non-offset
Electrical Connections: Screw terminals
Inlet/Outlet Pressure Tapping: 1/4 in. NPT
Pressure Ratings: 5 psi (34.5 kPa)
Frequency: 50 Hz; 60 Hz
Mounting: Directly bolted to Integrated Valve Train Components
Valve Opening Time: less than 1 sec
Valve Closing Time: less than 1 sec
Flanges: Required, Order Separately
Operating Temperature Range: -40 F to +130 F (-40 C to +50 C)

Materials
(Body): Die-cast aluminum

Approvals
Canadian Standards Association: Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MH18476, V1, S1 - Guide No. YIOZ

Replacement Parts:
4074EYF-Bag assembly for V5097 (small body) includes 6 ea bolts, nuts and washers
4074EYK-Bag assembly for V5097 (small body) includes (2) O-rings, (1) grease capsule

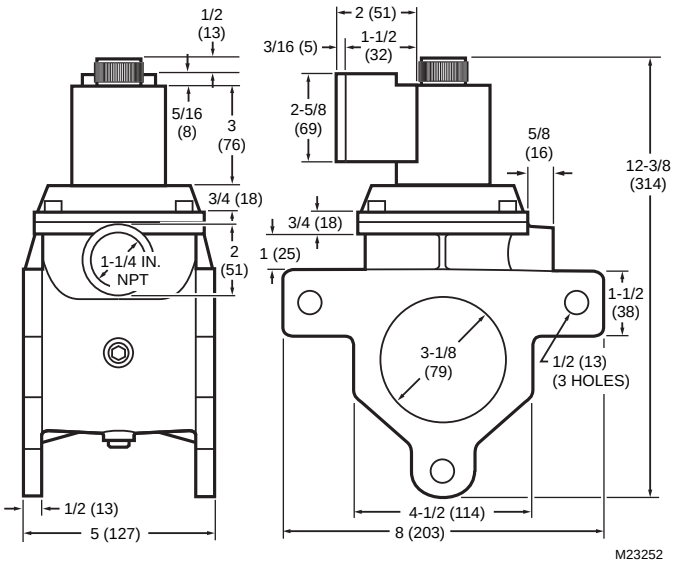
Product Number	Pipe Size (inch)	Capacity (cfh)	Capacity (m^3/hr)	Integrated Valve Train Body Size	Current (max amps at rated Vac/Hz)	Voltage
V4297A1005	3/4 in. to 1 1/4 in.	780 cfh; 700 cfh; 650 cfh	19.8 m^3/hr	Small body, small flow	0.2 amps	110/120 Vac; 110 Vac; 120 Vac
V4297A1013	3/4 in. to 2 in.	3060 cfh; 2735 cfh; 2260 cfh;1460 cfh; 1190 cfh	—	Small body, large flow	0.5 amps	110/120 Vac

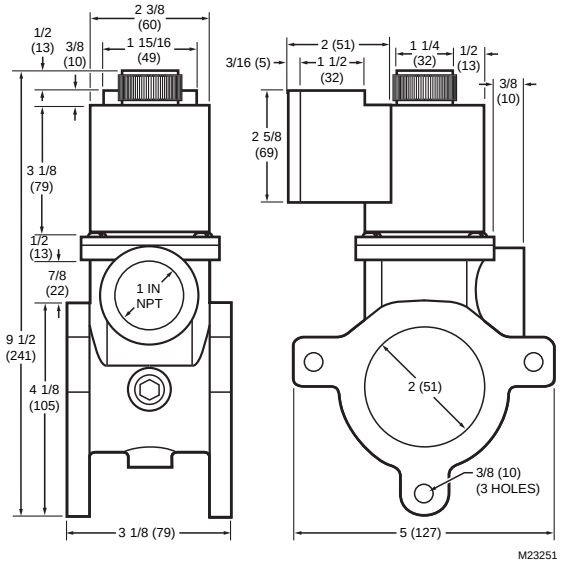
V4297S Normally Open Vent Valve for IVT

V4297S are normally open (vent) solenoid gas valves. Suitable for use on furnaces, ovens, atmospheric burners, commercial water heaters, roof-top make-up air units, power burners, and commercial/industrial boilers.

- V4297S is used with 120 Vac controllers
- Low operating noise
- Low rush-in current
- Upstream and downstream taps allows tapping and testing pressure points
- For use with the Integrated Valve Train

Dimensions in inches (millimeters)





Type of Gas: Air, natural, manufactured, mixed, and LP
Body Pattern: Straight-through, non-offset
Electrical Connections: Screw terminals
Inlet/Outlet Pressure Tapping: 1/4 in. NPT
Pressure Ratings: 5 psi (34.5 kPa)
Frequency: 50 Hz; 60 Hz
Mounting: Directly bolted to Integrated Valve Train Components
Valve Opening Time: less than 1 sec
Valve Closing Time: less than 1 sec
Flanges: Required for Stand Alone
Operating Temperature Range: -40 F to +145 F (-40 C to +63 C)

Materials
(Body): Die-cast aluminum

Approvals
Canadian Standards Association: Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MH18476, V1, S1 - Guide No. YIOZ

Replacement Parts:
4074EYF-Bag assembly for V5097 (small body) includes 6 ea bolts, nuts and washers
4074EYK-Bag assembly for V5097 (small body) includes (2) O-rings, (1) grease capsule
4074EYL-Bag assembly for V5097 (large body) includes (2) O-rings, (1) grease capsule

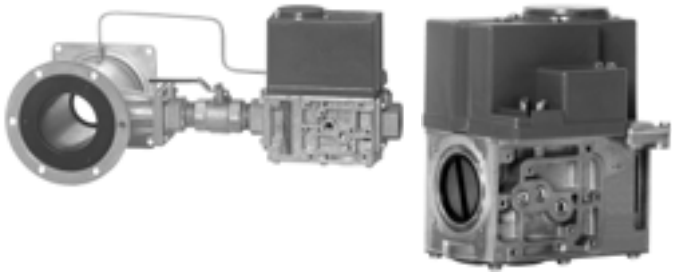
Product Number	Capacity (cfh)	Capacity (m^3/hr)	Integrated Valve Train Body Size	Current (max amps at rated Vac/Hz)	Voltage
V4297S1003	714 cfh	20.2 m^3/hr	Small body	0.2 amps	110/120 Vac
V4297S1011	1115 cfh	31.6 m^3/hr	Large body	0.34 amps	110/120 Vac

Solenoid Gas Valve Replacement Parts or Accessories

Product Number	Description	Used With
116668A/U	Replacement Coil Assembly for 24V, 60 Hz V8046	V8046
32004925-001	Closed Position Indicator (COPY) switch. Used with V4297A	V4295/V4297
KTCPI001	Visual indication for V4297A	V4295/V4297

Servo Regulated Gas Valves

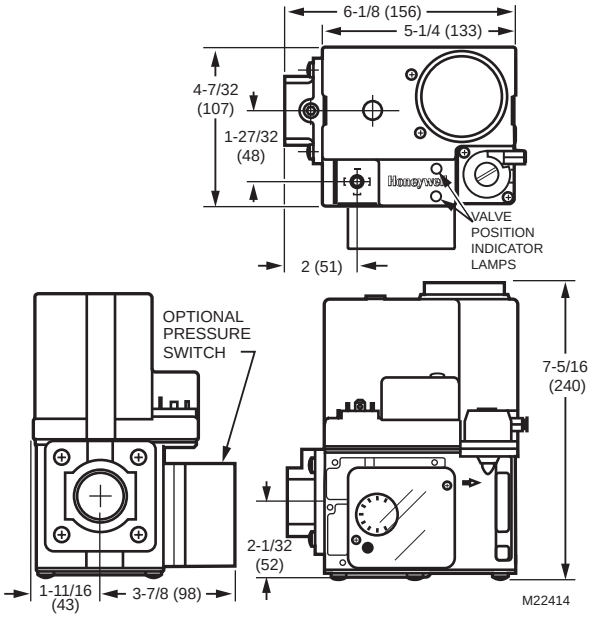
V4730C; V4734C; V8730C Gas/Air Servo Regulated Gas Valves

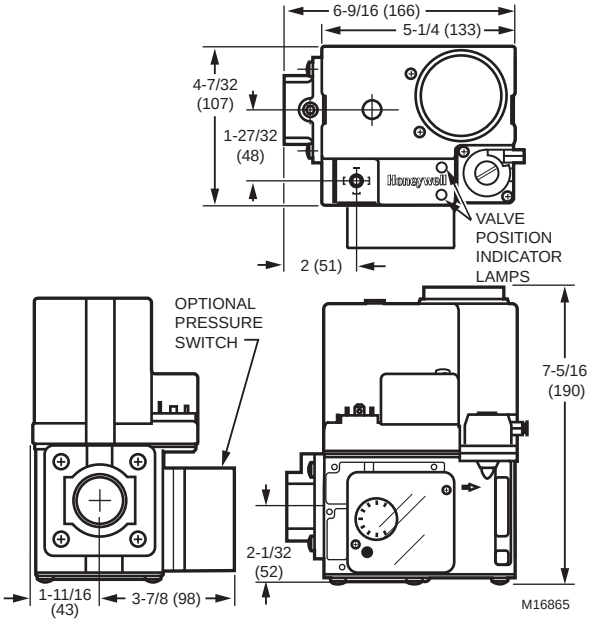


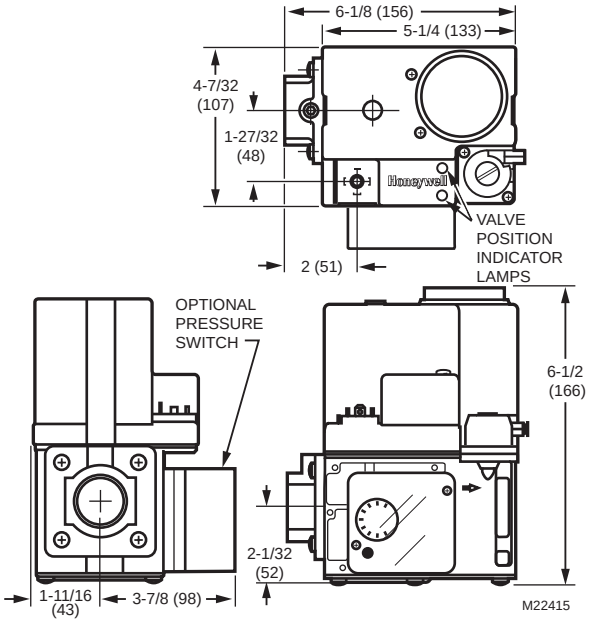
Body Pattern: Straight flange
Pipe Connections: 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS)
Coil Insulation Solenoid Valves: Class H insulation system
Electrical Connections: Standard DIN plug connector with 36 in. (914 mm) leadwires, included
Maximum Safe Operating Pressure: 0.5 psi (CSA approved) (35 mbar (CSA approved)); 1.45 psi for 120V; 1 psi for 24V (UL approved) (200 mbar (UL approved) 100 mbar for 120V; 69 mbar for 24V (UL approved))
Max. Capacity (cfh) Nat. Gas (Delta P= 1 in. wc.) with Strainer without Strainer: 512 cfh
Frequency: 50 Hz; 60 Hz
V1 Current Rating in Amperes (A): 0.16A
V2 Current Rating in Amperes (A): 0.16A
Timing Opening: Dead time maximum: 1 second
First valve opening timing: < 1 second
Second valve opening timing: reaches 50% of the adjustable outlet pressure within 5 seconds
Ambient Temperature Range: 5 F to 140 F (-15 C to +60 C)
Materials: Body: Aluminum alloy, die-cast
Comments: The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control
Approvals
Canadian Standards Association: File: Certificate No: 158158-1227192
Underwriters Laboratories, Inc: File No. MH18476
Others:
Gas Appliance Directive: 90.396/EEC
PIN: 0063AT1198
Low Voltage Directive: 73/23/EEC
Electro Magnetic Compatibility Directive: 89/336/EEC

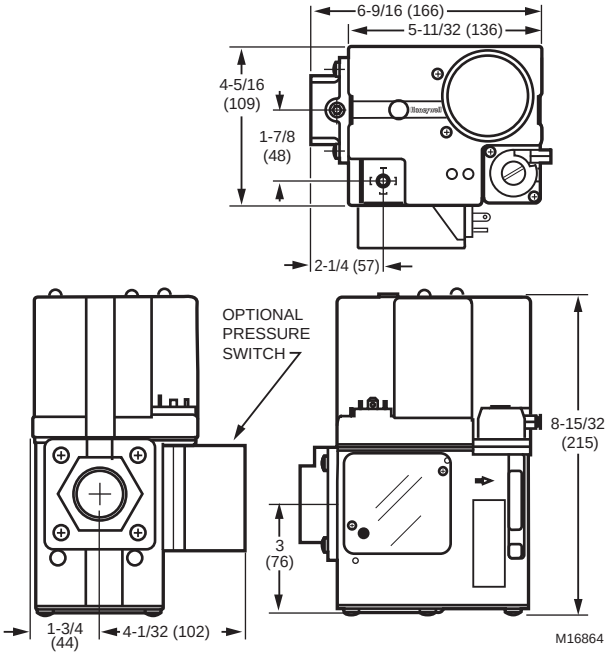
Product Number	Pipe Size (inch)	Capacity (Natural Gas 0.64 sp.gr) (KW)	(kBtuh)	Voltage	V1 + V2 Current Rating in Amperes (A)	Includes
V4730C1006-0000	1/2 in.	22-150 KW	73-512 kBtuh	120 Vac (+10%,-15%)	0.32A	Mesh screen filter and 32006652-001 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)
V4730C1014-0000	3/4 in.	43-300 KW	146-1024 kBtuh	120 Vac (+10%,-15%)	0.32A	Mesh screen filter and 32006652-002 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)
V4730C1022-0000	1 in.	43-300 KW	146-1024 kBtuh	120 Vac (+10%,-15%)	0.32A	Mesh screen filter and 32006652-003 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)
V4730C1030-0000	1 1/4 in.	71-500KW; 55-382 KW when used with VMU335	245-1710 kBtuh; 85-1300 kBtuh when used with VMU335	120 Vac (+10%,-15%)	0.5A	Mesh screen filter and 32006652-004 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)
V4734C1002-0000	1 1/4 in.	97-680 KW when used with VMU680	326-2287 kBtuh when used with VMU680	120 Vac (+10%,-15%)	1.04A (during run); 2.6A (at start)	Mesh screen filter and 32006652-004 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)
V8730C1007-0000	1/2 in.	22-150 KW	73-512 kBtuh	24 Vac (+10%,-15%)	1.56A	Mesh screen filter and 32006652-001 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)
V8730C1015-0000	3/4 in.	43-300 KW	146-1024 kBtuh	24 Vac (+10%,-15%)	1.56A	Mesh screen filter and 32006652-002 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)
V8730C1023-0000	1 in.	43-300 KW	146-1024 kBtuh	24 Vac (+10%,-15%)	1.72A	Mesh screen filter and 32006652-003 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)
V8730C1031-0000	1 1/4 in.	71-500KW; 55-382 KW when used with VMU335	245-1710 kBtuh; 185-1300 kBtuh when used with VMU335	24 Vac (+10%,-15%)	1.72A	Mesh screen filter and 32006652-004 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.)

Dimensions in inches (millimeters)





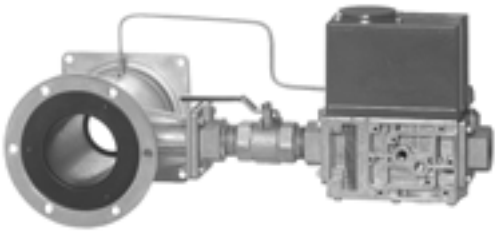




V4730C; V4734C; V8730C Accessories and Parts

Product Number	Description
50002653-001/U	Manual Shut-Off Valve Kit (1 in. NPT or smaller valves)

Venturi Mixing Unit

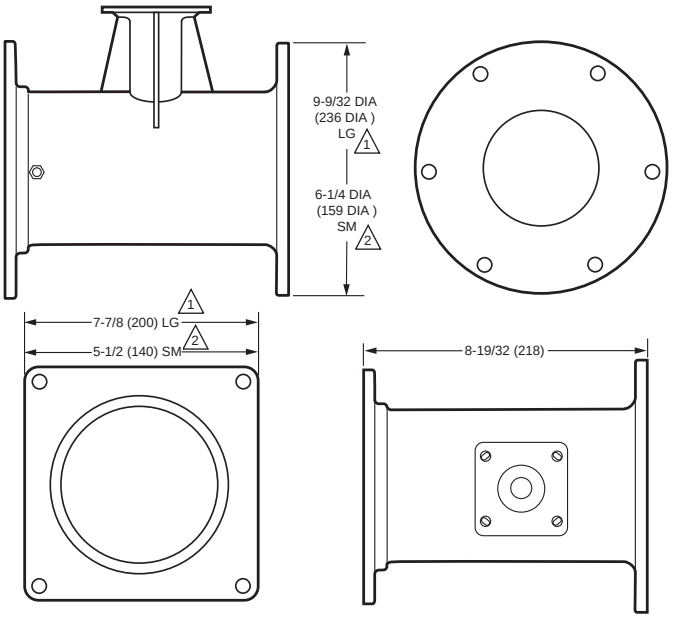


The venturi mixing unit (VMU), combined with the V4730C/ V8730C gas valves and specific direct current (dc) fan, has been developed for modulating premix appliances like gas burners and gas boilers.

The venturi manifold is a gas/air mixing unit that allows modulation of a premix burner with constant gas/air ratio down to 14 to 17% of maximum load. It is used in combination with a fan and the V4730C/V8730C 1:1 regulation gas valve. The modulation is accomplished by changing the fan speed. The fan is typically mounted downstream of the venturi.

- All adjustment and test points are accessible from one side.
- Has a wide modulation band (14 to 100% of the boiler load).
- Flexible mounting positions of gas control to venturi manifold and venturi manifold to fan.
- Two stainless steel sensing tubes are provided for use with or without manual safety shutoff valve.

Dimensions in inches (millimeters)



1 LG (LARGE) IS VENTURI MIXING UNIT VMU500

2 SM (SMALL) ARE VENTURI MIXING UNITS VMU150/300/335

M22417D

Body Pattern: Straight flange

Pipe Connections: Four M5 screws and a rubber O-ring are provided with the venturi to assemble it to the V4730C/V8730C gas valve.
The stainless steel tube provided with the venturi has to be connected between the venturi inlet (connection provided) and the gas valve regulator.
Longer sensing tube for use with manual safety shutoff valve (part number KTTBA002). Shorter sensing tube for use without manual safety shutoff valve (part number KTTBA001).

Max. Capacity (cfh) Nat. Gas (Delta P= 1 in. wc.) with Ambient Temperature Range: 32 F to 212 F (0 C to 100 C)

Materials: Housing: Aluminum
Venturi: Statically dissipative statcon PF
Seals: Rubber (NBR).

Comments: Pressure Drop: Approximately 3.2 in. wc (800 Pa) across the venturi at reference load.The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control.

Approvals

Canadian Standards Association: File: Certificate No: 158158-1227192

Underwriters Laboratories, Inc: File No. MH18476

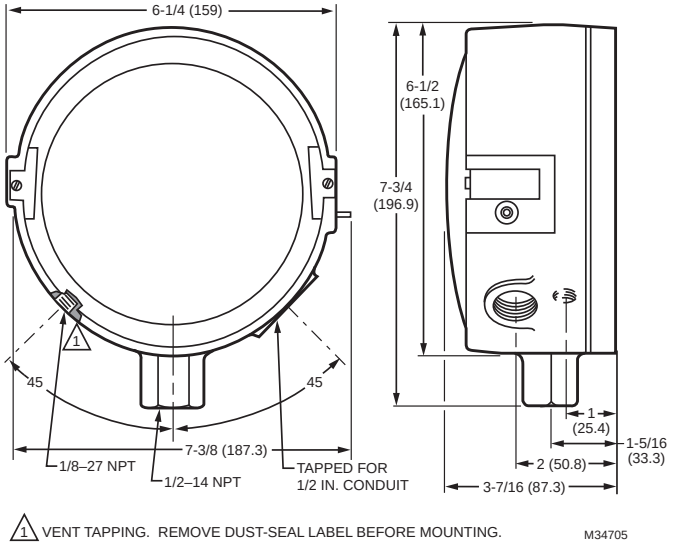
Product Number	Reference Load	Maximum Safe Operating Pressure (psi)	Maximum Safe Operating Pressure (mbar)
VMU150A1011	150 kW (512,000 Btuh)	1/2 psi (CSA approved) 2.9 psi (UL approved)	35 mbar (CSA approved) 200 mbar (UL approved)
VMU185A1084	185 kW (632,000 Btuh)	1/2 psi (CSA approved) 2.9 psi (UL approved)	35 mbar (CSA approved) 200 mbar (UL approved)
VMU300A1046	300 kW (1,024,000 Btuh)	1/2 psi (CSA approved) 2.9 psi (UL approved)	35 mbar (CSA approved) 200 mbar (UL approved)
VMU335A1018	335 kW (1,143,000 Btuh)	1/2 psi (CSA approved) 2.9 psi (UL approved)	35 mbar (CSA approved) 200 mbar (UL approved)

C437D,E 2000 Series Gas Pressure Switches

The C437D,E Series 2000 Gas Pressure Switches are pressure-actuated switching devices used in industrial gas system applications for safety shutoff, pressure control, and differential-pressure control.
All Series 2000 models have MicroSwitch™ snap switches to open or close a circuit on pressure rise or drop.

- C437 models have direct- and reverse-acting for SPST (non-mercury) switching
- Models intended for lockout applications must be manually reset before resuming operation
- Models with pressure range of 1 to 26 in. wc (0.25 to 6.5 kPa) compensate for momentary surges in gas pressure with a restrictive orifice in inlet pressure channel
- Impede tampering and provide dust-resistant operation with enclosed setting
- Increase strength of control diaphragm with Buna N f ber-reinforced material
- Two Buna-N fiber-reinforced seal-off diaphragms for added reliability
- Clear glass cover allows observation of interior mechanism to aid in setting and checkout

Dimensions in inches (millimeters)



1 VENT TAPPING. REMOVE DUST-SEAL LABEL BEFORE MOUNTING.

M34705

Application: Industrial gas system applications for safety shutoff, pressure control, or differential-pressure control
Pipe Connections, Main or High Pressure: 1/2 in. NPT internal thread
Pipe Connections, Vent or Low pressure: 1/8 in. NPT internal thread
Electrical Connections: Screw terminals
Switch Contact Ratings: 120 Vac: 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac: 5.1 AFL, 30.6 ALR, 5.0 A resistive
Differential Type: C437D: Subtractive; C437E: Additive
Sensor Element: BUNA N Diaphragm
Temperature Range: 32 F to 125 F (0 C to 52 C)
Maximum Ambient Temperature: 125 F (52 C)
Materials (Case): Die-cast aluminum
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 380-W-1.16
Factory Mutual: Approved: Report No. 22018, 24127, J.I.IF4A3.AF
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP2168, Guide No. MFHX

Product Number	Operating Pressure Range		Maximum Sustained Operating Pressure		Pressure Differential		Switch Operation	Switching Action
	(psi)	(kPa)	(psi)	(kPa)	(psi)	(kPa)		
C437D2003/U	1 to 26 in. wc	0.5 to 7.0 kPa	5.0 psi	34.5 kPa	1 3/4 in. wc	0.44 kPa	Manual Reset	SPST, break on rise, non-mercury
C437D2011/U	1/2 to 5 psi	3.0 to 35 kPa	15.0 psi	103.4 kPa	1/2 psi	3.45 kPa	Manual Reset	SPST, break on rise, non-mercury
C437D2029/U	1 to 10 psi	5.0 to 70.0 kPa	30.0 psi	206.8 kPa	1 psi	6.89 kPa	Manual Reset	SPST, break on rise, non-mercury
C437E2002/U	1 to 26 in. wc	0.5 to 7.0 kPa	5.0 psi	34.5 kPa	1 3/4 in. wc	0.44 kPa	Manual Reset	SPST, Break on Fall, non mercury
C437E2010/U	1/2 to 5 psi	3.0 to 35 kPa	15.0 psi	103.4 kPa	1/2 psi	3.45 kPa	Manual Reset	SPST, Break on Fall, non mercury
C437E2028/U	1 to 10 psi	5.0 to 70.0 kPa	30.0 psi	206.8 kPa	1 psi	6.89 kPa	Manual Reset	SPST, Break on Fall, non mercury
C437E2036/U	0.5 to 5.5 in. wc	0.1 to 1.4 kPa	3.0 psi	20.7 kPa	0.25 in. wc	0.06 kPa	Manual Reset	SPST, Break on Fall, non mercury

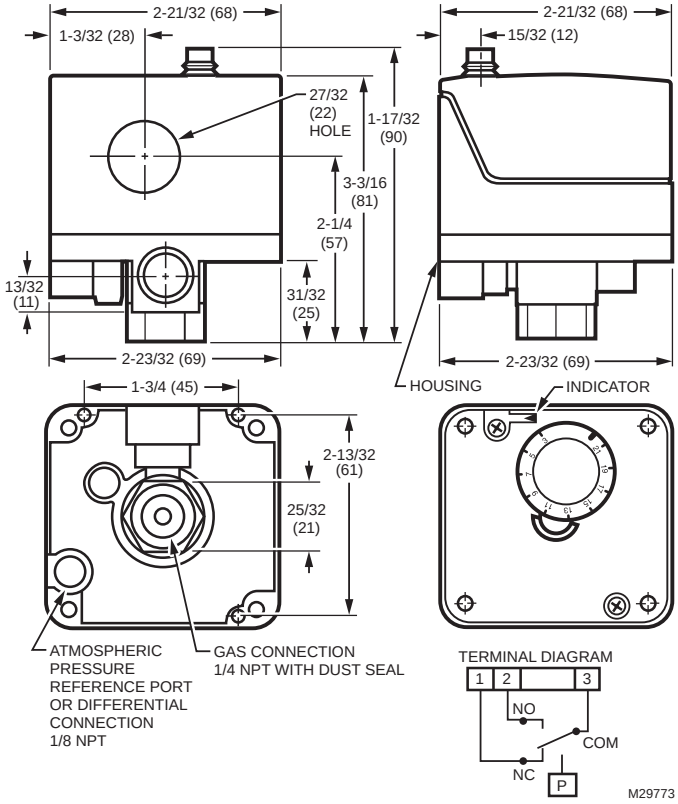
Pressure Switches

C6097 Pressure Switch

Pressure Switches are safety devices used in positive-pressure or differential-pressure systems to sense gas or air pressure systems.

- For use with natural gas, liquid propane (LP) gas, or air
- Diaphragm-actuated safety-limit switch
- Switch can be wired to turn on alarm
- C6097A models break control circuit at setpoint on pressure fall
- C6097B models break control circuit at setpoint on pressure rise
- Lockout with manual reset and recycle options
- Lockout models have external manual reset button
- Removable transparent cover protects scaleplate and adjusting knob
- Pipe tappings allow selection of positive pressure (air only) or venting connections (NPT mount only)
- 1/4 in. NPT or flange mount models for direct mounting to Honeywell Integrated Valve Train
- Optional switch position indicator lamp available
- IP54 enclosure standard
- Ranges: 0.4 to 5 in.wc, 3 to 21 in.wc, 12 to 60 in.wc or 1.5 to 7 psi
- Surge orifice
- Integral vent limiter on all models

Dimensions in inches (millimeters)



Application: Safety devices used in positive-pressure or differential-pressure systems to sense gas or air pressure changes
Pipe Connections, Vent or Low pressure: 1/8 in. NPT internal thread
Alternate Ratings: Ignition Transformer: 540 VA, Pilot Valve: 50 VA. Main Valve: 400 VA with 2-1/2 times inrush
Electrical Connections: Screw terminals
Switch Contact Ratings: 3.0 AFL, 18.0 ALR, 5.0 A resistive; 240 Vac: 5.1 AFL, 30.6 ALR, 5.0 A resistive
Differential Type: C6097A: Additive; C6097B: Subtractive
Temperature Range: -40 F to +140 F (-40 C to +60 C)
Approvals
Canadian Standards Association: File # 95329 Certificate 2632-01
Factory Mutual: JI 2D4A1.AF
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Component Listed, MP 2168-8-1
Others: CSD-1 AFB: Acceptable

Product Number	Operating Pressure Range		Pressure Differential		Nominal Pressure Differential		Maximum Pressure Differential		Switch Operation	Switching Action	Mounting
	(psi)	(kPa)	(psi)	(kPa)	(psi)	(kPa)	(psi)	(kPa)			
C6097A1004/U	0.4 to 5 in. wc	0.10 to 1.25 kPa	—	—	0.04 kPa	0.16 in. wc	0.24 in. wc	0.06 kPa	Auto recycle	Break on pressure fall	1/4 in. NPT internal thread
C6097A1012/U	3 to 21 in. wc	0.7 to 5.2 kPa	max. 2.4 in. wc @ min. setpoint; max. 4.2 in. wc @ max. setpoint	max. 0.60 kPa @ min. setpoint; max. 1.05 kPa @ max. setpoint	—	—	—	—	Manual Reset	Break on pressure fall	1/4 in. NPT internal thread
C6097A1020/U	3 to 21 in. wc	0.7 to 5.2 kPa			—	—	—	—	Manual Reset	Break on pressure fall	Flange Mount
C6097A1038/U	12 to 60 in. wc	3.0 to 15 kPa	max. 10 in. wc @ min. setpoint; max. 12 in. wc @ max. setpoint	max. 2.5 kPa @ min. setpoint; max. 3.0 kPa @ max. setpoint	—	—	—	—	Manual Reset	Break on pressure fall	1/4 in. NPT internal thread
C6097A1046/U	12 to 6 0 in. wc	3.0 to 15 kPa			—	—	—	—	Manual Reset	Break on pressure fall	Flange Mount
C6097A1053/U	3 to 21 in. wc	0.7 to 5.2 kPa	—	—	0.06 kPa	0.24 in. wc	0.48 in. wc	0.12 kPa	Auto recycle	Break on pressure fall	1/4 in. NPT internal thread
C6097A1061/U	3 to 21 in. wc	0.7 to 5.2 kPa	—	—	0.06 kPa	0.24 in. wc	0.48 in. wc	0.12 kPa	Auto recycle	Break on pressure fall	Flange Mount
C6097A1079/U	12 to 60 in. wc	3.0 to 15 kPa	—	—	0.27 kPa	1.1 in. wc	2.4 in. wc	0.60 kPa	Auto recycle	Break on pressure fall	1/4 in. NPT internal thread
C6097A1087/U	12 to 60 in. wc	3.0 to 15 kPa	—	—	0.27 kPa	1.1 in. wc	2.4 in. wc	0.60 kPa	Auto recycle	Break on pressure fall	Flange Mount
C6097A1095/U	0.4 to 5 in. wc	0.10 to 1.25 kPa	max. 0.6 in. wc @ min. setpoint; max. 0.25 in. wc @ max. setpoint	max. 0.15 kPa @ min. setpoint; max. 0.25 kPa @ max. setpoint	—	—	—	—	Manual Reset	Break on pressure fall	1/4 in. NPT internal thread
C6097A1103/U	1.5 to 7 psi	10 3 to 48 kPa	max. 1.1 psi @ min. setpoint; max. 1.4 psi @ max. setpoint	max. 7.6 kPa @ min. setpoint; max. 9.6 kPa @ max. setpoint	—	—	—	—	Manual Reset	Break on pressure fall	Flange Mount
C6097A1111/U	1.5 to 7 psi	10 3 to 48 kPa			—	—	—	—	Manual Reset	Break on pressure fall	1/4 in. NPT internal thread
C6097A1129/U	1.5 to 7 psi	10 3 to 48 kPa	—	—	0.69 kPa	0.1 psi	0.3 psi	2.07 kPa	Auto recycle	Break on pressure fall	Flange Mount
C6097A1137/U	1.5 to 7 psi	10 3 to 48 kPa	—	—	0.69 kPa	0.1 psi	0.3 psi	2.07 kPa	Auto recycle	Break on pressure fall	1/4 in. NPT internal thread
C6097A1210/U	0.4 to 5 in. wc	0.10 to 1.25 kPa	—	—	0.04 kPa	0.16 in. wc	0.24 in. wc	0.06 kPa	Auto recycle	Break on pressure fall	Flange Mount
C6097A1228/U	0.4 to 5 in. wc	0.10 to 1.25 kPa	max. 0.6 in. wc @ min. setpoint; max. 0.25 in. wc @ max. setpoint	max. 0.15 kPa @ min. setpoint; max. 0.25 kPa @ max. setpoint	—	—	—	—	Manual Reset	Break on pressure fall	Flange Mount
C6097B1002/U	12 to 60 in. wc	3.0 to 15 kPa	max. 10 in. wc @ min. setpoint; max. 12 in. wc @ max. setpoint	max. 2.5 kPa @ min. setpoint; max. 3.0 kPa @ max. setpoint	—	—	—	—	Manual Reset	Break on pressure rise	1/4 in. NPT internal thread
C6097B1010/U	12 to 60 in. wc	3.0 to 15 kPa			—	—	—	—	Manual Reset	Break on pressure rise	Flange Mount
C6097B1028/U	3 to 21 in. wc	0.7 to 5.2 kPa	max. 2.4 in. wc @ min. setpoint; max. 4.2 in. wc @ max. setpoint	max. 0.60 kPa @ min. setpoint; max. 1.05 kPa @ max. setpoint	—	—	—	—	Manual Reset	Break on pressure rise	1/4 in. NPT internal thread
C6097B1036/U	3 to 21 in. wc	0.7 to 5.2 kPa			—	—	—	—	Manual Reset	Break on pressure rise	Flange Mount
C6097B1044/U	1.5 to 7 psi	10 3 to 48 kPa	max. 1.1 psi @ min. setpoint; max. 1.4 psi @ max. setpoint	max. 7.6 kPa @ min. setpoint; max. 9.6 kPa @ max. setpoint	—	—	—	—	Manual Reset	Break on pressure rise	Flange Mount
C6097B1051/U	1.5 to 7 psi	10 3 to 48 kPa			—	—	—	—	Manual Reset	Break on pressure rise	1/4 in. NPT internal thread
C6097B1069/U	3 to 21 in. wc	0.7 to 5.2 kPa	—	—	0.06 kPa	0.24 in. wc	0.48 in. wc	0.12 kPa	Auto recycle	Break on pressure rise	Flange Mount
C6097B1077/U	12 to 60 in. wc	3.0 to 15 kPa	—	—	0.27 kPa	1.1 in. wc	2.4 in. wc	0.60 kPa	Auto recycle	Break on pressure rise	Flange Mount
C6097B1085/U	12 to 60 in. wc	3.0 to 15 kPa	—	—	0.27 kPa	1.1 in. wc	2.4 in. wc	0.60 kPa	Auto recycle	Break on pressure rise	1/4 in. NPT internal thread
C6097B1093/U	1.5 to 7 psi	10 3 to 48 kPa	—	—	0.69 kPa	0.1 psi	0.3 psi	2.07 kPa	Auto recycle	Break on pressure rise	Flange Mount
C6097B1101/U	1.5 to 7 psi	10 3 to 48 kPa	—	—	0.69 kPa	0.1 psi	0.3 psi	2.07 kPa	Auto recycle	Break on pressure rise	1/4 in. NPT internal thread
C6097B1119/U	3 to 21 in. wc	0.7 to 5.2 kPa	—	—	0.06 kPa	0.24 in. wc	0.48 in. wc	0.12 kPa	Auto recycle	Break on pressure rise	1/4 in. NPT internal thread

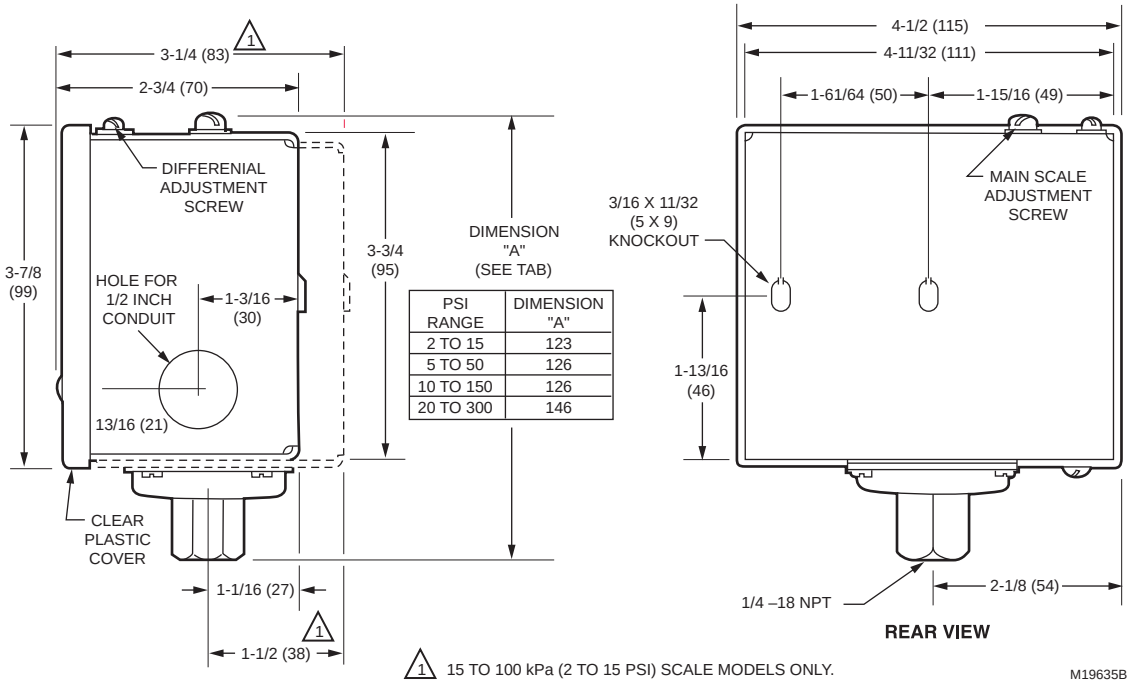
Pressure and Limit Controllers

L404F Pressuretrol® Controllers

Provide operating control with automatic limit protection for pressure systems up to 300 psi (2068 kPa).

- Use with steam, air, noncombustible gases, or fluids non-corrosive to pressure sensing element
- Models have snap-acting switching to open or close a circuit on pressure rise
- Have adjustable differentials
- Adjustments are made by screws on top of case
- Mount using 1/4 inch -18 NPT internal pipe threads or surface mount through base of case
- Ground screw terminal

Dimensions in inches (millimeters) for L404



Application: Provide control of steam, air, non-combustible gases or non-corrosive fluids
Pipe Connections, Main or High Pressure: 1/4 in. NPT internal thread
Electrical Connections: Screw terminals
Switch Contact Ratings: 120 Vac: 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac: 5.1 AFL, 30.6 ALR, 5.0 A resistive
Differential Type: Subtractive
Sensor Element: Stainless Steel diaphragm

Differential Type: Subtractive
Temperature Range: -35 F to +150 F (-37 C to +66 C)
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP466, Guide No. MBPR

Product Number	Operating Pressure Range		Maximum Sustained Operating Pressure		Pressure Differential		Switch Operation	Switching Action	Mounting	Includes	Comments
	(psi)	(kPa)	(psi)	(kPa)	(psi)	(kPa)					
L404F1060/U	2 to 15 psi	14 to 103 kPa	25 psi	345 kPa	2 to 6 psi	14 to 41 kPa	Auto recycle	SPDT snap action, make R-W, break R-B on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	—	
L404F1078/U	5 to 50 psi	35 to 345 kPa	85 psi	586 kPa	6 to 14 psi	41 to 97 kPa	Auto recycle	SPDT snap action, make R-W, break R-B on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	—	
L404F1094/U	20 to 300 psi	138 to 2068 kPa	350 psi	2413 kPa	20 to 50 psi	138 to 345 kPa	Auto recycle	SPDT snap action, make R-W, break R-B on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	—	
L404F1102/U	10 to 150 psi	69 to 1034 kPa	225 psi	1551 kPa	10 to 22 psi	60 to 152 kPa	Auto recycle	SPDT snap action, make R-W, break R-B on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	—	
L404F1219/U	2 to 15 psi	14 to 103 kPa	25 psi	345 kPa	2 to 6 psi	14 to 41 kPa	Auto recycle	SPDT snap action, make R-W, break R-B on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	BSPT ground screw and European Enclosure	
L404F1227/U	10 to 150 psi	69 to 1034 kPa	225 psi	1551 kPa	10 to 22 psi	60 to 152 kPa	Auto recycle	SPDT snap action, make R-W, break R-B on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	BSPT ground screw and European Enclosure	
L404F1235/U	20 to 300 psi	138 to 2068 kPa	350 psi	2413 kPa	20 to 50 psi	138 to 345 kPa	Auto recycle	SPDT snap action, make R-W, break R-B on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	BSPT ground screw and European Enclosure	
L404F1243/U	5 to 50 psi	35 to 345 kPa	85 psi	586 kPa	6 to 14 psi	41 to 97 kPa	Auto recycle	SPDT snap action, make R-W, break R-B on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	BSPT ground screw and European Enclosure	
L404F1367/U	1 to 8 psi	7 to 55 kPa	25 psi	170 kPa	0.75 to 2 psi	5 to 14 kPa	Auto recycle	Snap switch breaks R-B (closes R-W) on pressure rise. Make-on devices omit terminal B	1/4 inch- 18NPT connection on diaphragm assembly; or surface mounts using holes in back of case	—	Range Stop installed at 8 PSI
L404F1375/U	5 to 50 psi	35 to 350 kPa	85 psi	590 kPa	6 to 14 psi	40 to 100 kPa	Auto recycle	Snap switch makes R-W on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	Miswiring Compliant (less B terminal)	
L404F1383/U	10 to 150 psi	70 to 1035 kPa	225	1550 kPa	10 to 22 psi	70 to 150 kPa	Auto recycle	Snap switch makes R-W on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	Miswiring Compliant (less B terminal)	
L404F1391/U	20 to 300 psi	140 to 2070 kPa	350 psi	2410 kPa	20 to 50 psi	140 to 345 kPa	Auto recycle	Snap switch makes R-W on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	Miswiring Compliant (less B terminal)	
L404F1409/U	2 to 15 psi	14 to 103 kPa	25 psi	172 kPa	2 to 6 psi	15 to 40 kPa	Auto recycle	Snap switch makes R-W on pressure rise	1/4 in. NPT internal thread or surface mount through back of case	Miswiring Compliant (less B terminal)	

L404T,V Oil Pressuretrol® Limit Controllers

Oil pressure sensing devices for use on oil burner systems using any type of fuel oil, including heavy pretreated oils.

- Clear plastic cover allows observation of the pressure settings
- Models have snap-acting switching to open or close a circuit on pressure rise
- L404T High pressure limit, break a circuit on oil pressure rise above setpoint
- L404V Low Pressure limit, makes a circuit on oil pressure rise above setpoint
- Adjustments are made by screws on top of case
- Mount using 1/4 inch -18 NPT internal pipe threads or surface mount through base of case
- Ground screw terminal

Application: Oil pressure limit switch for fuel oil, including heavy oil applications.
Dimensions, Approximate: See diagram on page 856
Mounting: 1/4 in. NPT internal thread or surface mount through back of case
Pipe Connections, Main or High Pressure: 1/4 in. NPT internal thread
Electrical Connections: Screw terminals
Switch Contact Ratings: 120 Vac: 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac: 5.1 AFL, 30.6 ALR, 5.0 A resistive

Differential Type: Subtractive
Sensor Element: Stainless Steel diaphragm
Temperature Range: -35 F to +150 F (-37 C to +66 C)
Approvals
Canadian Standards Association: Certified: File No. LR95329
Underwriters Laboratories, Inc: Listed: File No. MP2168, Guide No. MFHX

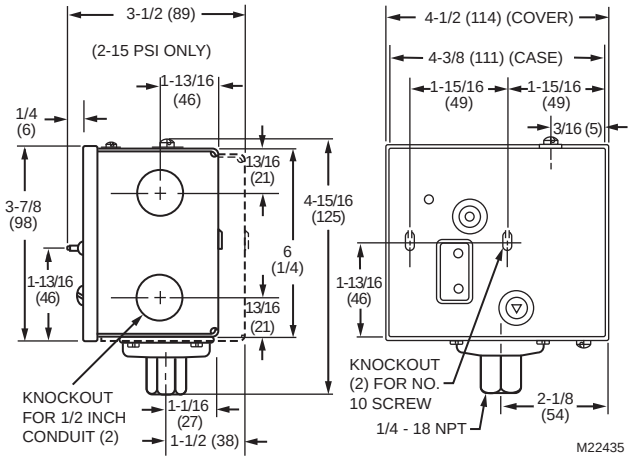
Product Number	Operating Pressure Range		Maximum Sustained Operating Pressure		Pressure Differential		Switch Operation	Switching Action	Includes
	(psi)	(kPa)	(psi)	(kPa)	(psi)	(kPa)			
L404T1055/U	5 to 50 psi	35 to 350 kPa	85 psi	586 kPa	6 to 14 psi	40 to 100 kPa	Auto recycle	SPST snap acting break on pressure rise	—
L404T1063/U	10 to 150 psi	70 to 1035 kPa	225 psi	1550 kPa	10 to 22 psi	70 to 150 kPa	Auto recycle	SPST snap acting break on pressure rise	—
L404V1087/U	10 to 150 psi	70 to 1035 kPa	225 psi	1550 kPa	10 to 22 psi	70 to 150 kPa	Auto recycle	Snap switch makes R-W on pressure rise	Miswiring Compliant (less B terminal)
L404V1095/U	5 to 50 psi	35 to 350 kPa	85 psi	590 kPa	6 to 14 psi	40 to 100 kPa	Auto recycle	Snap switch makes R-W on pressure rise	Miswiring Compliant (less B terminal)

L4079 Pressuretrol® Limit Controllers

High pressure limit switches.

- Stainless steel diaphragm for use with steam, air, noncombustible gases and fluids non-corrosive to stainless steel
- L4079W is for Oil Applications
- MicroSwitch™ snap-acting switches open automatically on pressure rise; must be manually reset
- Mount using 1/4 in. NPT female fitting on diaphragm assembly or surface mount through back of case

Dimensions in inches (millimeters)



Application: Provide limit control of steam, air, non-combustible gases or non-corrosive fluids
Mounting: 1/4 in. NPT internal thread or surface mount through back of case
Pipe Connections, Main or High Pressure: 1/4 in. NPT internal thread
Electrical Connections: Screw terminals
Switch Contact Ratings: 120 Vac: 9.8 AFL, 58.8 ALR; 240 Vac: 4.9 AFL, 29.4 ALR
Sensor Element: Stainless Steel diaphragm
Maximum Ambient Temperature: 150 F (66 C)
Approvals
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP466, Guide No. MBPR

Product Number	Operating Pressure Range		Maximum Sustained Operating Pressure		Switch Operation	Switching Action
	(psi)	(kPa)	(psi)	(kPa)		
L4079A1035/U	2 to 15 psi	14 to 103 kPa	25 psi	172 kPa	Manual Reset	SPST (two) break simultaneously on pressure rise
L4079A1050/U	10 to 150 psi	69 to 1034 kPa	225 psi	1551 kPa	Manual Reset	SPST (two) break simultaneously on pressure rise
L4079B1033/U	2 to 15 psi	14 to 103 kPa	25 psi	172 kPa	Manual Reset	SPST break on pressure rise
L4079B1041/U	10 to 150 psi	70 to 1035 kPa	225 psi	1550 kPa	Manual Reset	SPST break on pressure rise
L4079B1058/U	5 to 50 psi	35 to 350 kPa	85 psi	590 kPa	Manual Reset	SPST break on pressure rise
L4079B1066/U	20 to 300 psi	140 to 2070 kPa	350 psi	2410 kPa	Manual Reset	SPST break on pressure rise
L4079W1000/U	10 to 150 psi	35 to 350 kPa	225 psi	590 kPa	Manual Reset	SPST break on pressure rise - Oil Applications

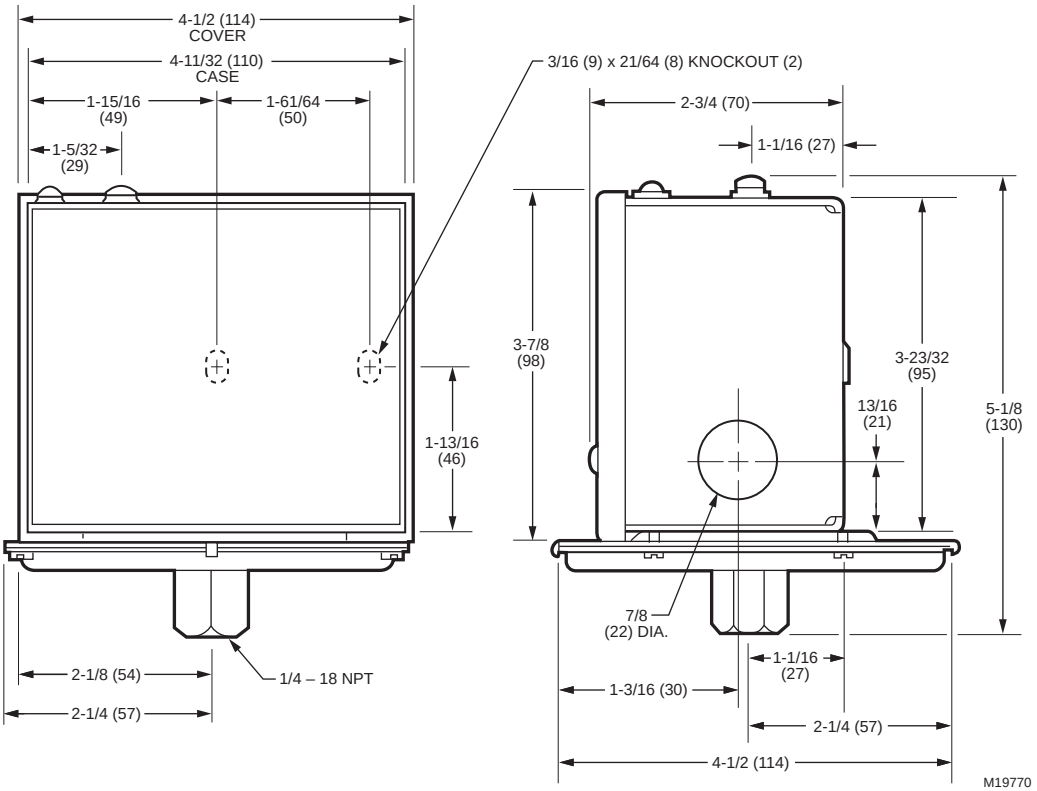
Pressure and Limit Controllers

L408J Vaporstat® Controllers

Provide operating control and automatic high limit protection for vapor heating systems with pressures up to 4 psi (8 kPa). All models have MicroSwitch snap switches to open or close a circuit on a pressure rise.

- Stainless steel diaphragm for use with liquids, air, noncombustible gases, ammonia, oxygen, distilled water and similar media
- Provide SPDT switching
- Clear plastic cover allows observation of the pressure settings
- Mount using hexagonal fitting with 1/4 in. NPT internal threads for direct mounting to the 14026 (steel) or 50024585-001 (brass) Steam Trap (siphon loop)
- Ground Screw terminal

Dimensions in inches (millimeters)



Application: Provide operating control and automatic limit protection for pressure systems with pressures up to 4 psi (8 kPa)
Mounting: 1/4 in. NPT internal thread or surface mount through back of case
Pipe Connections, Main or High Pressure: 1/4 in. NPT internal thread
Electrical Connections: Screw terminals
Switch Contact Ratings: 120 Vac: 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac: 5.1 AFL, 30.6 ALR, 5.0 A resistive
Differential Type: Subtractive

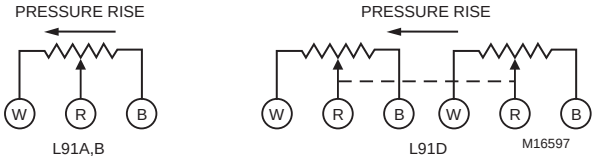
Sensor Element: Stainless Steel diaphragm
Temperature Range: -35 F to +150 F (-37 C to +66 C)
Approvals
Canadian Standards Association: Certified: File No. LR1620, Guide No. 400-E-O
Swiss Re: Acceptable
Underwriters Laboratories, Inc: Listed: File No. MP466, Guide No. MBPR

Product Number	Operating Pressure Range		Pressure Differential		Switch Operation	Switching Action	Comments
	(psi)	(kPa)	(psi)	(kPa)			
L408J1009/U	0 to 16 oz/in2	0 to 6.9 kPa	2 to 16 oz/in2	0.9 to 6.9 kPa	Auto recycle	SPDT make R-W, break R-B on pressure rise	
L408J1017/U	0 to 4 psi	0 to 28 kPa	2 to 16 oz/in2	0.9 to 6.9 kPa	Auto recycle	SPDT make R-W, break R-B on pressure rise	
L408J1025/U	0 to 16 oz/in2	0 to 6.9 kPa	2 to 16 oz/in2	0.9 to 6.9 kPa	Auto recycle	SPST make on pressure rise Only	Miswire Compliant
L408J1033/U	0 to 4 psi	0 to 28 kPa	2 to 16 oz/in2	0.9 to 6.9 kPa	Auto recycle	SPST make on pressure rise Only	Miswire Compliant

L91 Proportional Pressuretrol® Controllers

Modulating pressure operating control for regulation of liquid or air and other non-corrosive gases.

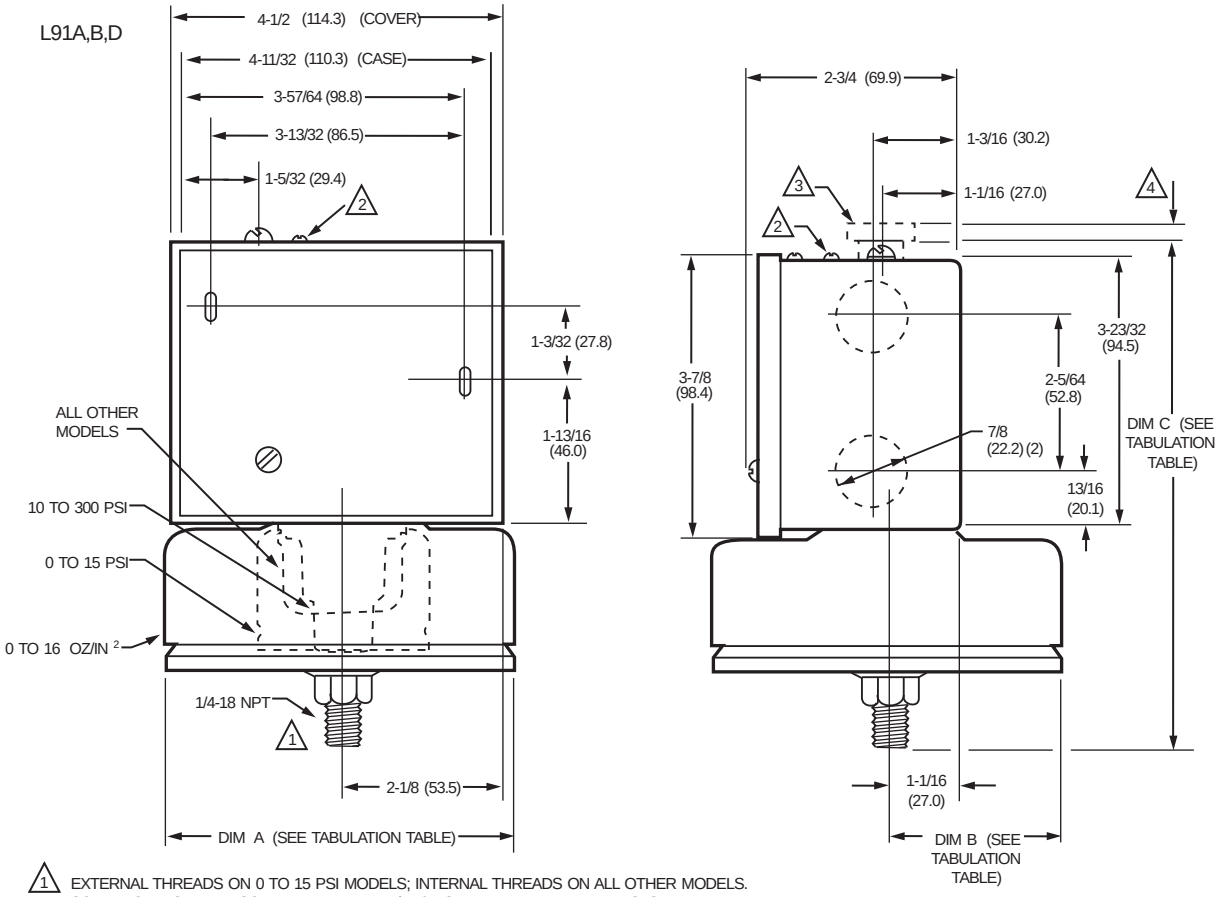
- Use with steam, air, noncombustible gases, or other fluids non-corrosive to the brass or phos-bronze (300 psi models) bellows
- Do NOT use with combustible mediums or any medium chemically harmful to phos-bronze bellows (10-300 psi models) or brass bellows (all other pressure range models)



Application: Modulating pressure control for regulation of liquid, air, or other non-corrosive gases.
Pipe Connections, Main or High Pressure: 1/4 in. NPT external thread
Electrical Connections: Screw terminals
Sensor Element: Brass bellows
Switch Operation: Modulating
Temperature Range: 32 F to 150 F (0 C to 66 C)

Product Number	Operating Pressure Range (psi)	Operating Pressure Range (kPa)	Maximum Sustained Operating Pressure (psi)	Maximum Sustained Operating Pressure (kPa)	Pressure Differential (psi)	Pressure Differential (kPa)	Modulating Output	Mounting
L91A1037/U	0 to 15 psi	0 to 103 kPa	25 psi	172 kPa	0.5 psi	3.4 kPa	Single potentiometer, 140 ohms	optional surface mount through back of case
L91A1052/U	5 to 150 psi	34 to 1034 kPa	225 psi	1551 kPa	5 psi	34 kPa	Single potentiometer, 140 ohms	optional surface mount through back of case
L91A1078/U	10 to 300 psi	69 to 2068 kPa	325 psi	2241 kPa	12 psi	83 kPa	Single potentiometer, 140 ohms	optional surface mount through back of case
L91A1136/U	10 to 300 psi	69 to 2068 kPa	325 psi	2241 kPa	12 psi	83 kPa	Single potentiometer, 140 ohms	optional surface mount through back of case
L91B1035/U	0 to 15 psi	0 to 103 kPa	25 psi	172 kPa	1.5 to 12 psi	10 to 83 kPa	Single potentiometer, 140 ohms	optional surface mount through back of case
L91B1050/U	5 to 150 psi	34 to 1034 kPa	225 psi	1551 kPa	5 to 23 psi	35 to 160 kPa	Single potentiometer, 140 ohms	optional surface mount through back of case
L91B1068/U	10 to 300 psi	69 to 2068 kPa	325 psi	2241 kPa	28 to 110 psi	193 to 758 kPa	Single potentiometer, 140 ohms	optional surface mount through back of case
L91B1100/U	5 to 150 psi	0 - 1 MPa	225 psi	1551 kPa	5 to 23 psi	35 to 160 kPa	Single potentiometer, 135 ohms	1/4 in BSP-TR thread Mounting
L91B1118/U	10 to 300 psi	0 - 2 MPa	325 psi	2241 kPa	28 to 110 psi	193 to 758 kPa	Single potentiometer, 140 ohms	1/4 in BSP-TR thread Mounting
L91B1241/U	10 to 300 psi	69 to 2068 kPa	325 psi	2241 kPa	12 to 48 psi	85 to 330 kPa	Single potentiometer, 140 ohms	optional surface mount through back of case
L91D1015/U	0 to 15 psi	0 to 103 kPa	25 psi	172 kPa	1.5 to 12 psi	10 to 83 kPa	Dual potentiometer, 140 ohms	optional surface mount through back of case
L91D1031/U	5 to 150 psi	34 to 1034 kPa	225 psi	1551 kPa	11 to 52 psi	76 to 359 kPa	Dual potentiometer, 140 ohms	optional surface mount through back of case

Dimensions in inches (millimeters)



1 EXTERNAL THREADS ON 0 TO 15 PSI MODELS; INTERNAL THREADS ON ALL OTHER MODELS. SOME MODELS ARE ALSO AVAILABLE WITH 1/4-19 BSP-TR INTERNAL THREADS; SEE TABLE 1.

2 PROPORTIONING RANGE ADJUSTING SCREW ON L91B,D MODELS ONLY.

3 33312B KNURLED ADJUSTMENT SCREW KNOB, 7/8 IN. [22.2 MM] DIAMETER,. KNOB IS INCLUDED WITH 10 TO 300 PSI [0.07 TO .07 MPa] MODELS; OPTIONAL ACCESSORY FOR OTHER MODELS.

4 FOR 10 TO 300 PSI [0.07 TO 2.07 MPa] MODELS. DIM C INCLUDES THE KNURLED ADJUSTMENT KNOB.

TABULATION OF DIMENSIONS A, B, AND C

OPERATING RANGE		DIM A		DIM B		DIM C	
CUSTOMARY UNITS	METRIC UNITS	IN.	MM	IN.	MM	IN.	MM
0 TO 15 PSI	0 TO 103 kPa	2-7/16	61.9	1-7/32	31.0	6-7/8	174.6
5 TO 150 PSI	0.03 TO 1.03 MPa	1-5/8	41.3	13/16	20.6	5-3/4	146.1
10 TO 300 PSI	0.07 to 2.07 MPa	1-1/4	31.8	5/8	15.9	6-1/16 4	154.0 4

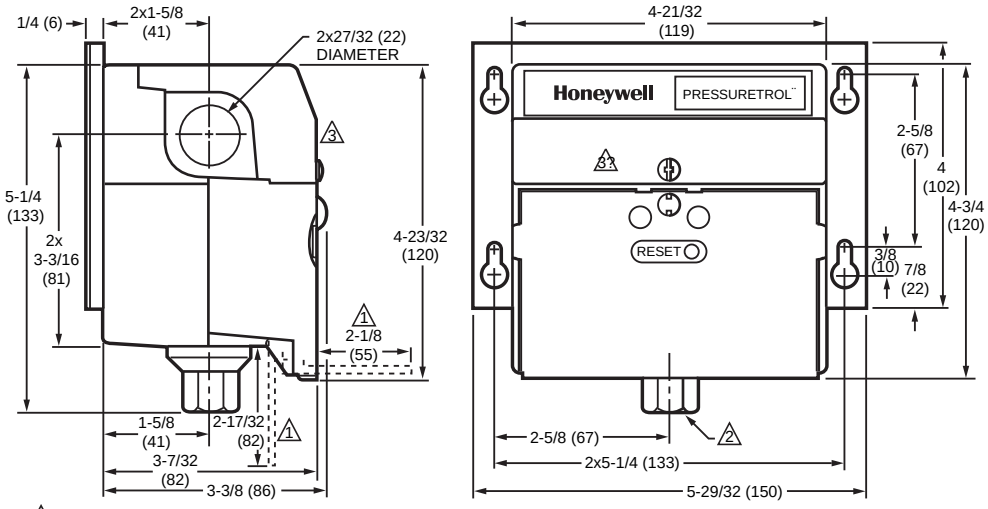
M29781

P7810 Pressure Control

Line voltage pressure controller that provides automatic operating control, automatic limit protection, manual reset limit protection, and 4-20ma modulating firing rate control for pressure systems up to 300 psi.

- May be used with steam, air, non-combustible gases or fluids that will not corrode the pressure sensing element
- Models available in 15, 150, 300 psi maximum set points
- LED indicators show limit function/lockout
- Reset function easily accessible under cover
- Clear cover allows set point and differentials to be read (but not adjusted) without opening the cover

Dimensions in inches (millimeters)



1 DIMENSIONS WITH DOOR IN OPEN POSITION.
2 PIPE THREAD IS 1/4 INCH NATIONAL PIPE THREAD FOR P7810A,B; 1/2 INCH NATIONAL PIPE THREAD FOR P7810C,D.
3 WIRING COMPARTMENT ACCESS COVER.

M23225

Application: On-off, Modulate and Limit Control
Pipe Connections, Main or High Pressure: 1/2 in. NPT internal thread
Power Consumption: 3.6 W, 4.7 VA @ 50Hz; 3.3 W, 4.0 VA @ 60 Hz
Voltage: 120 Vac
Frequency: 50 Hz; 60 Hz
Electrical Connections: Screw terminals
Switch Contact Ratings: 9.8 AFL, 58.8 ALR, 10.0 A resistive
Sensor Element: Stainless Steel, solid state sensor
Temperature Range: 32 F to 140 F (0 C to +60 C)
Operating Humidity Range (% RH): 5 to 95% RH, non-condensing
Materials (Case): Plastic
Approvals
Canadian Standards Association: Certified: File No. LR95329-6
Factory Mutual: Approved: Report No. J.I.2D3A6AF
Underwriters Laboratories, Inc: Listed: File No. MP268, Guide No. MCCZ

Product Number	Operating Pressure Range		Maximum Sustained Operating Pressure		Pressure Differential		Modulating Output	Switching Action
	(psi)	(kPa)	(psi)	(kPa)	(psi)	(kPa)		
P7810C1000/U	0 to 15 psi	0 to 103 kPa	22.5 psi	155 kPa	2 to 10 psi	14 to 69 kPa	4 mA to 20 mA	Break on pressure rise
P7810C1018/U	0 to 150 psi	0 to 1034 kPa	225 psi	1551 kPa	5 to 20 psi	35 to 135 kPa	4 mA to 20 mA	Break on pressure rise
P7810C1026/U	0 to 300 psi	0 to 2068 kPa	450 psi	3103 kPa	15 to 50 psi	103 to 340 kPa	4 mA to 20 mA	Break on pressure rise

Pressure Controls and Limits Accessories

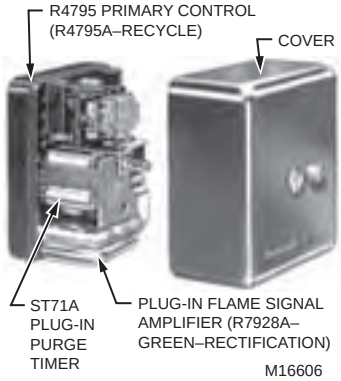
Product Number	Description	Used With
106729/U	C437, C637 Glass Lens, 6 in. diameter	C437, C637
118733/0021/U	Retaining clip for C437 and C637	C437, C637
129178E/U	L404, L604,Thermoplastic Cover, Honeywell Logo and mounting screw	L404; L604
137632/U	C437, C637 Paper Lens Gasket	C437, C637
139870/U	C437, C637 Lens Gasket for Rainproof Models	C437, C637
139870A/U	C437, C637 Lens and Gasket for Rainproof Devices	C437, C637
14026/U	Steam Trap “Black Iron Siphon Loop” for L404, L408, L91 or P7810A,B	L404, L91, L604
209731A/U	Siphon Loop; 1/2 in. NPT Brass; for P7810C, D	P7810C, P7810D
23176CB/U	L91 Potentiometer - 135 ohm	L91
23176CF/U	L91 Potentiometer - 135 ohm	L91
32003039-001/U	C6097 Lamp Kit, Position Indication	C6097
32003040-001/U	C6097 Cover, Recycle Model	C6097
32003041-001/U	C6097 Cover, Manual Reset Model	C6097
4074BWJ/U	Pressure Control/Limits, Limit Stop Assembly - to limit set point. Includes 129564 Range Stop, 107194 Range Stop Screw and 23466 Wrench	L404,L604, L91, L4079
50024585-001/U	Steam Trap 1/4 NPT “Brass Siphon Loop” for L404, L408, L91	L404, L91, L604

For All Modernization and Replacement Applications, Follow the Instructions Below.

⚠ CAUTION

Installer must be a trained, experienced, flame safeguard control service technician.
Disconnect power supply before beginning installation to prevent electrical shock and equipment damage.
More than one disconnect may be involved.
All wiring must comply with applicable local electrical codes, ordinances, and regulations.
Voltage and frequency of the power supply and flame detector(s) connected to this control must agree with those marked on the device.
Loads connected to the control terminals must not exceed those listed in specification sheet for this product.
All external timers must be listed or component recognized by authorities having jurisdiction, for the specific purpose for which they are used.
Perform all required checkout tests after installation is complete.

RA890 and Fireye "M" Series Modernization



Modernize Honeywell RA890E,F,G and Fireye "M" Series relays.

- Use R4795 Primary Controls to provide proven prepurge period and recycle on flame failure
- 9.8A burner motor contact rating for longer life; solid state circuitry for greater dependability
- Mount on same Q270A Subbase as RA890, use same flame detector
- Increase flex bility and reduce maintenance costs with field-replaceable, plug-in purge timers and flame signal amplifiers
- Flame signal strength (μA) labeled on amplifier to reduce service time
- All controls are listed by Underwriters Laboratories Inc.
- Three-second flame failure response time for increased safety
- Plug-in components add versatility and reduce inventory and future replacement costs

For complete Honeywell and competitive modernization information, refer to the Flame Safeguard System Modernization Survey and Proposal Form, in THE FIRING LINE, Honeywell form 70-8900. For information about THE FIRING LINE, see Training Materials section.

Programmer/Relay to be Replaced/Modernized	Replacement Programmer	Plug-in Amplifier	Detector	Plug-in[a] Timer (recommended)
RA890E,F	Use R4795A1016 for UL approved installations	R7289A1004	Use existing rectification detector	ST71A1000 (7-sec delay for oil) ST71A1018 (30-sec purge) ST71A1034 (90-sec purge)
RA890G		R7290A1001	Use existing U.V. detector	
Fireye TFM Series[b]		R7289A1004	Use existing rectification detector	
Fireye UVM Series[b]		R7290A1001	Replace Fireye detector with C7027A1080 U.V. detector	

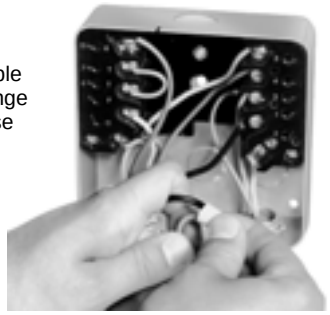
[a] Many codes require 4 air changes during purge. Choose the timing needed to accomplish this (typically 30 seconds at high fire—open damper—or 90 seconds at low fire).

[b] When replacing Fireye M-series programmers, a Q270A1024 subbase must be installed in place of the Fireye subbase.

INSTALLING AN R4795

1 Disconnect power supply and remove RA890

2 Make simple wiring change in subbase



3 Install R4795

4 Plug in ST71A purge timer

5 Plug in R7289/R7290 amplifier

Modernization and Replacement

R7795 Primary Control

Provide flameout protection plus automatic control of commercial and industrial gas and oil burners.

- Meet requirements for gas burners with 400,000 to 2-1/2 million Btuh (117.2 to 732.8 kW) input. R7795C,D meet requirements to over 12-1/2 million Btuh
- R7795A,B provide ignition cutoff and intermittent pilot
- R7795C,D have interrupted pilot with delayed main valve
- Includes terminals for connection of a line voltage airflow switch to prove airflow from the start of prepurge through the run period
- Mount on Q795A Subbase with two captive screws
- Provides all electrical connections between the device and subbase
- Access to wiring terminals for testing
- Integral solid state color-coded flame amplifiers
- Field-selectable ten or four second trial for pilot flame ignition
- Field-selectable recycle or lockout on flame failure

Conversion Wiring Chart for R7795A-D

You can easily convert the following model primaries and programmers to the R7795A,B,C or D by following the step-by-step instructions listed below.

Honeywell	RA890, R4795	All 120 V models.
Fireye	M-Series	

IMPORTANT: *For on-off, gas-fired systems, some authorities having jurisdiction prohibit the wiring of any limit or operating contacts in series with the main fuel valve(s).*

DIRECTIONS:

1. Disconnect all power to programmer.
2. Remove old programmer from subbase (trade-in to Honeywell Authorized Flame Safeguard Distr butor).
3. Mark all wires on subbase; i.e., wires connected to terminal “1” should be marked “1.” Disconnect wires as they are marked.
4. Remove old subbase.
5. Mount Q795A Subbase.
6. Connect wires to subbase per attached cross reference. Pay close attention to footnotes. For example: to convert a Fireye UVM-2 to a R7795, the wire marked “A” would connect to terminal #9 on the Q795. The wire marked “8” would connect to Q795 terminal #8.
7. A superscript letter, such as “[a]” designates a footnote. Study these footnotes carefully.
8. Plug in the R7795. Make sure you select the proper ST795A Purge Timer and Detector for the application.
9. There are 2 wires on the amplifier section of the R7795, which are used to select the desired trial for ignition timing and mode (lock-out or recycle). Refer to the R7795 instruction sheet (form 66-2001) for assistance with proper selection.
10. If a low voltage controller is used on the RA890 or UVM-1, remove it and replace it with a line voltage controller. The line voltage controller should be connected in series with the limits.
11. If a low voltage airflow switch is used on the R7795, it must be replaced with a line voltage airflow switch, such as the Honeywell C645.
12. The following models are recommended for replacements:

Honeywell Device to be Replaced	Replace With	Fireye Device to be Replaced	Replace With
RA890E,F	R7795B	TFM1,2,3H	R7795B
RA890G	R7795A	UVM1,2,3,3H	R7795A
R4795A,D/W-R7290 AMP		UVM5	R7795C
R4795A,D/W-R7289 AMP	R7795B		
R4140P	R7795C,D		
R4140Y	R7795A,B		

CONVERSION CHART FOR R7795 120 VOLT ONLY

Q795 TERMINAL	L1	L2	3	5	6	7	8	9	16	18	F	G
Programmer to be Converted												
RA890 (All)	1[a]	2	[b]	3[d]	5	—	d,b	[c]	6	4	F	G
R4795 (All)	[a]	2	6[b]	3	5	—	8, 7	[c]	1	4	F	G
R4140P	L1	L2	P	5	7	6	M	A	3	—	S1	S2
R4140Y	L1	L2	3	6	7	—	8	9	4	5	F[e]	G
Fireye: UVM/TFM (All models)/MII	1	1	6	3	5	—	8	A	7	4	S2[f]	S1
UVM-1 (Prior to 1968)	[a]	2	[b]	3	5	—	d,b	A	1	4	S[f]	S
UVM-2 (Prior to 1968), All others	[a]	2	6	3	5	—	8	A	1	4	S[f]	S

[a] Connect power to terminal L1.

[b] If no airflow switch is used, jumper Q795 terminal 3 to 8.

[c] Replace low voltage alarm (if used) with line voltage alarm. Connect alarm directly to Q795 terminal 9.

[d] On power burners, identify burner motor wire on terminal 3 and connect it to Q795 terminal 8.

[e] R7795 uses only rectification or U.V. detectors. All other detectors must be converted to these types.

[f] On UVM models, the detector must be changed to a Honeywell C7027 or C7035.

RM7895 On-Off Primary Control with Prepurge

Microprocessor-based integrated primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Subbase, amplifier, and prepurge timer are required for operation
- Options include PC interface using ModBus™, keyboard display module, Data ControlBus™ Module, remote display module and first-out expanded annunciator
- Five LEDs provide sequence information
- Interchangeable plug-in flame amplifiers
- Optional local or remote annunciation of operation and fault information
- Nonvolatile memory retains history files and sequencing status after power loss
- Optional remote reset capability
- Optional report generation using modbus™
- Selectable relight or lockout on loss of flame
- Airflow switch check

Honeywell	RA890, R4795, R7795	All 120 V models.
Fireye	M-Series	

IMPORTANT: *For on-off, gas-fired systems, some authorities having jurisdiction prohibit the wiring of any limit or operating contacts in series with the main fuel valve(s).*

DIRECTIONS:

1. Disconnect all power to programmer.
2. Remove old programmer from subbase (trade-in to Honeywell Authorized Flame Safeguard Distr butor).
3. Mark all wires on subbase; i.e., wires connected to terminal “1” should be marked “1.” Disconnect wires as they are marked.
4. Remove old subbase.
5. Mount Q7800A Subbase.
6. Connect wires to subbase per attached cross reference. Pay close attention to footnotes. For example: to convert a Fireye UVM-2 to a RM7895, the wire marked “A” would connect to terminal #9 on the Q7800. The wire marked “8” would connect to Q7800 terminal #8.
7. A superscript letter, such as “[a]” designates a footnote. Study these footnotes carefully.
8. Plug in the RM7895. Make sure you select the proper ST7800A Purge Timer and Detector for the application.
9. There are 2 wires on the amplifier section of the RM7895, which are used to select the desired trial for ignition timing and mode (lock-out or recycle). Refer to the RM7895 instruction sheet (form 66-1090) for assistance with proper selection.
10. If a low voltage controller is used on the RA890 or UVM-1, remove it and replace it with a line voltage controller. The line voltage controller should be connected in series with the limits.
11. If a low voltage airflow switch is used on the RM7895, it must be replaced with a line voltage airflow switch
12. The following models are recommended for replacements:

Honeywell Device to be Replaced	Replace With	Amplifier
RA890E,F	RM7895A	R7847A
RA890G	RM7895A	R7849A
R4795A,D/W-R7290 AMP	RM7895A	
R4795A,D/W-R7289 AMP	RM7895B	R7847A
R7795A	RM7895A	R7849
R7795B	RM7895A	R7847
R7795C	RM7895C	R7849
R7796D	RM7895C	R7847
R4140P	RM7895C	R7847A or R7849A
R4140Y	RM7895A	
Fireye Device to be Replaced	**Replace With**	**Amplifier**
TFM1,2,3H	RM7895A	R7847A
UVM1,2,3,3H		R7849A
UVM5	RM7895C	R7849A

CONVERSION CHART FOR RM7895 120 VOLT ONLY

Q7800 TERMINAL	L1	L2	3	4	6	7	8	9	10	21	F	G
Programmer to be Converted												
RA890 (All)	1[a]	2	c	b,d	6	b	3[d]	5	4	—	F	G
R4795 (All)	a	2	c	8, 7	1	6[b]	3	5	4	—	F	G
R7795A,B	L1	L2	9	8	16	3	5	6	18	—	F	G
R7795C,D	L1	L2	9	8	16	3	5	6	18	7	F	G
R4140P	L1	L2	A	M	3	P	5	7	—	6	S1	S2
R4140Y	L1	L2	9	8	4	3	6	7	5	—	F[e]	G
Fireye: UVM/TFM (All models)/MII	1	1	A	8	7	6	3	5	4	—	S2[f]	S1
UVM-1 (Prior to 1968)	a	2	A	b,d	1	b	3	5	4	—	S[f]	S
UVM-2 (Prior to 1968), All others	a	2	A	8	1	6	3	5	4	—	S[f]	S

[a] Connect power to terminal L1.

[b] If no airflow switch is used, jumper Q7800 terminal 6 to 7.

[c] Replace low voltage alarm (if used) with line voltage alarm. Connect alarm directly to Q7800 terminal 3.

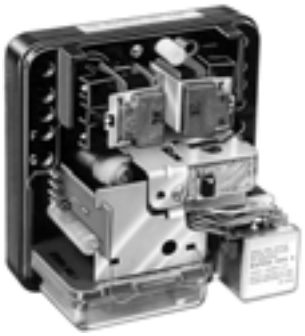
[d] On power burners, identify burner motor wire on terminal 3 and connect it to Q7800 terminal 4.

[e] Select amplifier to match detector being used.

[f] On UVM models, the detector must be changed to a Honeywell C7027 or C7035.

Electromechanical Burner Controls

R4795 Primary Control with Purge



Provide solid state, electronic flame safeguard protection for commercial and industrial single or dual fuel burners.

- Use with rectification or ultraviolet type flame detectors depending on the interchangeable, plug-in amplifier being used
- Recycle after flame failure in attempt to re-establish pilot before lockout
- Include manual push-to-reset safety switch in a dust-resistant enclosure
- Includes SPDT alarm contacts

Application: Primary Control
Dimensions, Approximate: 5 in. high x 5 in. wide x 4 3/4 in. deep (including subbase) (127 mm high x 127 mm wide x 121 mm deep)
Electrical Connections: Alarm contacts: male quick connect terminals
Frequency: 50 Hz; 60 Hz
Temperature Range: -20 F to +105 F @50 Hz; -20 F to +115 F @ 60 Hz (-29 C to +40 C @ 50 Hz); (-29 C to +46 C @ 60 Hz)
Purging Time: Determined by Plug-in Purge Timer

Approvals
Canadian Standards Association: CSA Certified: 120V models only, includes -40 F models-File No. LR1620
Factory Mutual: Approved: Report No. 18774
SwissRe: Acceptable
Underwriters Laboratories, Inc: UL Listed:120V with 30, 60, 90 sec prepurge timers, includes -40 F models-File No.MP268, Guide No. MCCZ; UL Comp. Recg.:120V with 7, 10 sec prepurge timers, includes -40 F models-File No.MP268, Guide No.MCCZ2
Required Components: Mounting Base: Q270A1024; Plug-in Amplifier: R7289A1004, R7289A1012, R7290A1001, R7290A1019; Plug-in Purge Timer: ST71A1000 (7 sec), ST71A1018 (30 sec), ST71A1034 (90 sec)

Product Number	Voltage	Alarm Relay Switching	Safety Switch Timing	Description	Includes
R4795A1016/U	120 Vac	SPDT	15 sec nominal	120V 50/60 HZ less Amplifier and Prepurge Timer	Female quick-connects
R4795A1040/U	220 Vac	SPDT	15 sec nominal	220V 50/60 HZ less Amplifier and Prepurge Timer	Female quick-connects

R7795 Primary Controls

Provide solid state, electronic flame safeguard protection for commercial and industrial single or dual fuel burners.

- Include flame signal amplifiers that are color-coded: purple for ultraviolet and green for rectification
- Require a plug-in prepurge timer of 1.5, 7, 10, 30, 60, or 90 seconds
- Mount on a Q795A Wiring subbase with two captive screws
- Include line voltage airflow switch to prove airflow from the start of prepurge through the run period
- Prevent start-up with lockout if flame or a flame simulating failure exists

Application: Provides Flameout Protection plus Automatic control of Commercial and Industrial Gas and Oil Burners
Dimensions, Approximate: 5 in. high x 5 in wide x 5 1/4 in. deep (127 mm high x 127 mm wide x 133.5 mm deep)
Electrical Connections: Terminals in Q795 Wiring Subbase
Frequency: 50 Hz; 60 Hz
Temperature Range: -40 F to +135 F (-40 C to +57 C)
Purging Time: Determined by Plug-in Purge Timer

Approvals
Canadian Standards Association: Certified: File No. LR1620-681
Factory Mutual: Approved: Report No. J.I.OK389.AF
SwissRe: Acceptable
Underwriters Laboratories, Inc: Component Recognized: File No. MP268, Guide No. MCCZ
Required Components: ST795 Prepurge Timer and Q795 Wiring Subbase

Product Number	Voltage	Flame Failure Response Time (sec)	Alarm Relay Switching	Safety Switch Timing	Description
R7795A1001/U	120 Vac	3 sec nominal	120Vac Output for Alarm	Electronic - 10 seconds, Mechanical - 15 seconds	Full Function Primary Safety Control, Intermittent Pilot, Ultraviolet
R7795B1009/U	120 Vac	3 sec nominal	120Vac Output for Alarm	Electronic - 10 seconds, Mechanical - 15 seconds	Full Function Primary Safety Control, Intermittent Pilot, Rectification
R7795C1007/U	120 Vac	3 sec nominal	120Vac Output for Alarm	Electronic - 10 seconds, Mechanical - 15 seconds	Full Function Primary Safety Control, Interrupted Pilot, Ultraviolet
R7795D1005/U	120 Vac	3 sec nominal	120Vac Output for Alarm	Electronic - 10 seconds, Mechanical - 15 seconds	Full Function Primary Safety Control, Interrupted Pilot, Rectification

RA890F Protectorelay™ Primary Control

Primary control provides solid state, electronic flame safeguard protection for industrial and commercial single or dual fuel burners for rectification type flame detection.

- Uses rectification principle of electronic flame detection
- Replaces RA890E in most applications and mounts on same Q270A1024 Subbase
- Recycles if flame signal lost while in Run. Failure to establish pilot results in a lockout
- Safe-start check prevents start-up if flame-simulating failure occurs in flame detector circuit
- Includes built-in protection against ignition crossover in flame rod systems
- Includes SPDT alarm contacts
- Solid state circuitry
- Mounts and removes easily through use of captive mounting screws
- Mounting base is made of strong thermoplastic

Application: Primary control for rectification application (Flame Rod for example)
Dimensions, Approximate: 5 in. high x 5 in. wide x 4 3/4 in. deep (including subbase) (127 mm high x 127 mm wide x 121 mm deep (including subbase))
Frequency: 50 Hz; 60 Hz
Temperature Range: 50 Hz models -20 F to +105 F; 60 Hz models -20 F to +115 F (50 Hz Models -29 C to +41 C); (60 Hz Models -29 C to +46 C)

Approvals
Canadian Standards Association: CSA Certified: 120V models only; File No. LR1620
Factory Mutual: Approved: Report No. 17678,19417,19784
Underwriters Laboratories, Inc: UL Listed: 120V models only; File No. MP268, Guide No. MCCZ

Product Number	Voltage	Flame Failure Response Time (sec)	Alarm Relay Switching	Safety Switch Timing	Description
RA890F1270/U	120 Vac	0.8 sec	SPDT	15 seconds	Rectification, with alarm contacts
RA890F1288/U	120 Vac	3.0 sec	SPDT	15 seconds	Rectification, with alarm contacts
RA890F1296/U	208 Vac	3.0 sec	SPDT	15 seconds	Rectification, with alarm contacts
RA890F1304/U	220 Vac	0.8 sec	SPDT	15 seconds	Rectification, with alarm contacts
RA890F1338/U	120 Vac	0.8 sec	SPDT	30 seconds	Rectification, with alarm contacts
RA890F1346/U	120 Vac	3.0 sec	SPDT	30 seconds	Rectification, with alarm contacts
RA890F1387/U	240 Vac	3.0 sec	SPDT	15 seconds	Rectification, with alarm contacts
RA890F1478/U	120 Vac	0.8 sec	SPDT	15 seconds	Rectification, with alarm contacts, fast safe start check

Electromechanical Burner Controls

RA890G Protectorelay™ Primary Control

Primary control provides solid state, electronic flame safeguard protection for industrial and commercial single or dual fuel burners applications using Ultraviolet flame detectors.

- Design for interrupted ignition with intermittent pilot on gas burners, and interrupted or intermittent ignition on oil burners
- Use with a C7027, C7035 or C7044 Minipeeper Ultraviolet Flame Detector for flame sensing
- Recycles if flame signal lost while in Run
- Failure to establish pilot results in a lockout
- Safe-start check prevents start-up if flame-simulating failure occurs in flame detector circuit
- Includes SPDT alarm contacts
- Solid state circuitry, eliminates warm-up and increases resistance to v bration
- Mounts and removes easily through use of captive mounting screws
- Mounting base is made of strong thermoplastic

Application: Either a line or low voltage controller can be used
Dimensions, Approximate: 5 in. high x 5 in. wide x 4 3/4 in. deep (including subbase) (127 mm high x 127 mm wide x 121 mm deep (including subbase))
Frequency: 50 Hz; 60 Hz
Temperature Range: 50 Hz models -20 F to +105 F; 60 Hz models -20 F to +115 F (50 Hz Models -29 C to +41 C); (60 Hz Models -29 C to +46 C)

Approvals
Canadian Standards Association: CSA Certified: 120V models only; File No. LR9S329
Factory Mutual: Approved: Report No. 22013
Underwriters Laboratories, Inc: UL Listed: 120V models only; File No. MP268, Guide No. MCCZ

Product Number	Voltage	Flame Failure Response Time (sec)	Alarm Relay Switching	Safety Switch Timing	Description
RA890G1229/U	120 Vac	0.8 sec	SPDT	15 seconds	Ultraviolet, with alarm contacts
RA890G1245/U	220 Vac	0.8 sec	SPDT	15 seconds	Ultraviolet, with alarm contacts
RA890G1260/U	120 Vac	3.0 sec	SPDT	15 seconds	Ultraviolet, with alarm contacts
RA890G1286/U	240 Vac	3.0 sec	SPDT	15 seconds	Ultraviolet, with alarm contacts

ST71 Prepurge Timer (for R4795)

Application: Prepurge Timer for R4795 Control Systems

Product Number	Purging Time	Description
ST71A1000/U	7 sec	Prepurge Timer for R4795 Control Systems
ST71A1018/U	30 sec	Prepurge Timer for R4795 Control Systems
ST71A1034/U	90 sec	Prepurge Timer for R4795 Control Systems

ST795 Purge Timer (for R7795)

Application: Plug in Purge Timer for use with R7795 Full Function Primary Safety Control

Product Number	Purging Time	Description
ST795A1007/U	1.5 sec	Prepurge Timer for R7795 Control Systems
ST795A1015/U	7 sec	Prepurge Timer for R7795 Control Systems
ST795A1023/U	10 sec	Prepurge Timer for R7795 Control Systems
ST795A1031/U	30 sec	Prepurge Timer for R7795 Control Systems
ST795A1049/U	60 sec	Prepurge Timer for R7795 Control Systems
ST795A1056/U	90 sec	Prepurge Timer for R7795 Control Systems

Primary Control Accessories

Product Number	Description	Used With
118702E/U	Remote Reset Cover for RA890F, G and R4795, 120V, 50-60 Hz	—
202980/U	Flame Relay for FSP5075A1	FSP5075A1
202981/U	Load Relay for FSP5075A1	FSP5075A1

Q270 Wiring Mount Base

Application: Wiring Mounting Base for RA890, R4795

Product Number	Description	Used With
Q270A1024/U	Wiring Mounting Base for RA890, R4795	RA890, R4795

Q520 Subbase

The Q520A Wiring Subbase is for BC7000, R4140 and R7140 Flame Safeguard Programmers.

- Provides terminals for field wiring, and knife-blade contacts, which are engaged by the spring-connectors on the back of the BC7000, R4140 or R7140 chassis
- The Q520A is available in a 4-sided model
- Knockouts are provided on the back, top, and bottom (where applicable) for conduit connections

Application: Wiring Subbase
Dimensions, Approximate: 6 5/32 in. high x 7 1/16 in. wide x 1 3/4 in. deep (156 mm high x 179 mm wide x 45 mm deep)

Product Number	Description	Comments
Q520A1121/U	Subbase (4 sided)	20 terminal Subbase

Q795 Wiring Subbases

The Q795A Wiring Subbase provides Wiring termination and serves as a device mount for the R7795 Full Function Primary Control.

- For wiring and checkout information consult the R7795 Primary Control specification sheet, form 66-2007
- The Q795A is available in a 4-sided model (Q795Al004)for wall mounting and a plastic subbase model for cabinet mounting (Q795Al012)

Application: Wiring Subbase

Product Number	Description	Used With
Q795A1004/U	4-side conduit box subbase with terminals intended to accept field wiring. For use with R7795 full function primary safety control.	R7795

Electromechanical Burner Controls

FSP5075A1; FSP5075A3 Flame Amplifier Modules

The FSP5075A Flame Amplifier Module is designed to accept a variety of Honeywell plug-in flame signal amplifiers. Depending on the plug-in amplifier model installed, the flame amplifier module can be used with ultraviolet flame detectors, infrared flame detectors, rectifying flame rods or rectifying photocells to provide continuous flame supervision from lightoff to shutdown. Certain flame amplifier models feature Dynamic Self-Check or Dynamic Ampli-Check™ capability. The flame amplifier module also features plug-in load and flame relays as well as an integral terminal strip mounted on its chassis.

- The flame amplifier and relay circuitry combine to provide such safety features as safe-start check, safety shutdown and rapid flame failure response time
- Approval body certifications include Underwriters Laboratories Inc. component recognized, Factory Mutual approved and Swiss RE approvable
- Zinc dichromate finish resists corrosive effects of most industrial atmospheres
- A hermetically sealed relay model is also available
- The FSP5075A Flame Amplifier Module is a standard building block in a burner management system
- It allows the system to meet flame safeguard requirements while adding versatility to the flame detection system

Application: Flame Amplifier
Dimensions, Approximate: 4 7/8 in. high x 8 1/2 in. wide x 4 in. deep (124 mm high x 216 mm wide x 102 mm deep)
Frequency: 60 Hz
Temperature Range: -40 F to +140 F (-40 C to +60 C)
Used With: R7247, R7248, R7249, or R7476 Flame Amplifier

Approvals
Factory Mutual: Approved: Report No. 26098
SwissRe: Acceptable
Underwriters Laboratories, Inc: Component Recognized: File No. MP268, Guide No. MCCZ

Product Number	Voltage	Power Consumption	Flame Failure Response Time (sec)	Comments
FSP5075A1/U	120 Vac	5.0 W running (max); 2.4 W standby	Reference flame signal amplifier	Relays Plastic Encapsulated
FSP5075A3/U	120 Vac	5.0 W running (max); 2.4 W standby	Reference flame signal amplifier	Relays Hermetically Sealed

T475 Outdoor Reset Controller

Operating controller for a hot water or warm air heating system.
- Used for line voltage, low voltage or millivolt (Powerpile) switching.
- Maintains proper balance between heating medium temperature and outdoor temperature.
- Raises heating medium control point automatically as outdoor temperature falls.
- Does not replace safety high limit control and is not for use in system requiring resetting above 71 F (21 C) outdoor temperature.

Type: Remote bulb
Application: Automatically raises heating control setpoint as outdoor temperature falls
Dimensions, Approximate: 5 5/8 in. high x 2 in. wide x 2 1/8 in. deep (143 mm high x 51 mm wide x 57 mm deep)
Sensor Element: Indoor and outdoor copper bulb
Color: Gray
Contact Ratings (120 Vac): 8.0 AFL, 48.0 ALR
Contact Ratings (240 Vac): 5.1 AFL, 30.6 ALR
Voltage: 120 Vac or 240 Vac
Frequency: 50 Hz; 60 Hz

Reset Ratio: 1:1 reset ratio
Setpoint Temperature Range: 70 F to 140 F (21 C to 60 C)
Differential Temperature: 6 F to 20 F (3 C to 11 C)
Output: 1 SPST
Output Type: relay
Number of Sensor Inputs: 2
Includes: 34886A Outdoor Bulb Guard, 121371P Immersion Well Assembly
Approvals
Underwriters Laboratories, Inc: Listed: E4436, vol. 4, Guide XAPX

		Bulb Size		Capillary Length		
	Product Number	**(inch)**	**(mm)**	**(ft)**	**(m)**	**Comments**
*	**T475A1032/U**	indoor: 3/8 in. diameter x 3 9/16 long; outdoor: 3/8 in. diameter x 3 9/16 long	indoor: 9.5 mm diameter x 90 mm long; outdoor: 9.5 mm diameter x 90 mm long	Indoor: 10 ft., Outdoor: 30 ft.	Indoor: 3 m, Outdoor: 9.1 m	1:1 reset ratio
*	**T475A1057/U**	indoor: 3/8 in. diameter x 3 9/16 long; outdoor: 3/8 in. diameter x 5 5/16 in. long	indoor: 9.5 mm diameter x 90 mm long; outdoor: 9.5 mm diameter x 135 mm long	Indoor: 10 ft., Outdoor: 30 ft.	Indoor: 3 m, Outdoor: 9.1 m	1:1.5 reset ratio

** TRADELINE models • SUPER TRADELINE models*

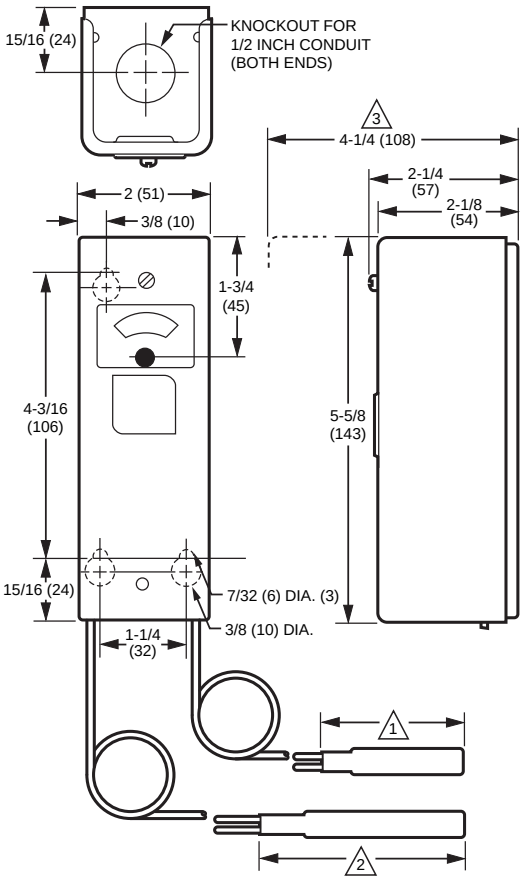
Reset Temperature Controls

T678B; T991B Outdoor Reset Dual Bulb Temperature Controller

Automatic outdoor reset controllers for air or liquid.

- Raises heating medium control point automatically as outdoor temperature falls.
- One remote element senses heating medium, the other senses outdoor air temperature.
- T991 has 135 ohm potentiometer for proportional heating control.

Dimensions in inches (millimeters)



1 OUTDOOR BULB SIZE VARIES INVERSELY WITH THE RESET RATIO.

2 INDOOR BULB LENGTH AND DIAMETER IS 4-1/2 INCH (114) BY 1/2 (13) INCH EXCEPT FOR THE AVERAGING ELEMENT WHICH IS 1/8 (3) INCH DIAMETER BY 12 FEET (3 M) LONG.

3 CLEARANCE NECESSARY TO REMOVE COVER.

M23882

Type: Remote bu b
Application: Automatic reset based on outdoor temperature
Bulb Size: 1/2 in. x 4 in. (13 mm diameter x 102 mm long)
Capillary Length: Indoor: 10 ft., Outdoor: 30 ft.
(Indoor: 3 m, Outdoor: 9.1 m)
Sensor Element: Copper bulb
Number of Sensor Inputs: 2
Frequency: 50 Hz; 60 Hz
Reset Ratio: 1.0 to 1.0
Maximum Operating Temperature: 125 F (52 C)
Setpoint Temperature Range: 70 F to 140 F (21 C to 60 C)
Comments: Indoor bulb temperature plus outdoor bulb temperature must not exceed 265 F (129 C).

Approvals
Canadian Standards Association: Listed
Underwriters Laboratories, Inc: UL Listed: E4436, Vol. 4, Sec. 11, Guide XAPX

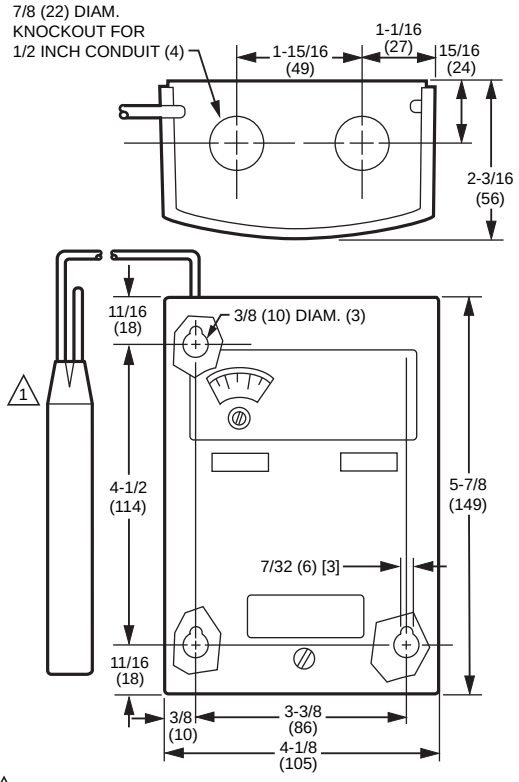
Product Number	Voltage	Output Type	Output	Analog Output	Contact Ratings		Differential Temperature		Interstage Differential Temperature		Throttling Range	
					120 Vac	240 Vac	(F)	(C)	(F)	(C)	(F)	(C)
T678B1006/U	120 Vac or 240 Vac	relay	2 SPDT switch contacts	—	8.0 AFL, 48.0 ALR	5.1 AFL, 30.6 ALR	6 F fixed	3.3 C fixed	3 F to 10 F adj.	1.7 C to 5.5 C adj.	—	—
T991B1003/U	24 Vac to 30 Vac	analog	—	One 135 Ohm Potentiometer	—	—	—	—	—	—	3 F to 10 F	1.7 C to 16.7 C

T991E,F Proportional Temperature Controller

Provide both on-off and modulating control of water or air temperatures in ducts, tanks and similar applications.

- Micro Switch® end switch cycles burner on and off at low fire; T991 then modulates burner as required.
- Designed for use with V9055; can be used with any series 90 motor.
- Ambient compensated.
- Setpoint adjustment on front of case.
- Switch makes 1 F (0.6 C) above end of throttling range.
- Mount using three holes in the back of the case.

Dimensions in inches (millimeters)



1 T991F (WITH AUTOMATIC RESET) HAS 2 REMOTE SENSING BULBS.

M23887

Type: Remote bulb
Application: Provides on/off and modulating control of water or air temperature in ducts or tanks
Bulb Size: 1/2 in. diameter x 4 3/16 in. long (13 mm diameter x 107 mm long)
Sensor Element: Copper bulb
Color: Gray
Voltage: 24 Vac to 30 Vac
Frequency: 50 Hz; 60 Hz
Output Type: analog and relay
Analog Output: One 135 Ohm Potentiometer
Output: 1 SPST
Throttling Range: 11 F (6 C)
Differential Temperature: 4 F additive (2.2 C additive)

Product Number	Setpoint Temperature Range (F)	Setpoint Temperature Range (C)	Maximum Operating Temperature (F)	Maximum Operating Temperature (C)	Capillary Length (ft)	Capillary Length (m)	Number of Sensor Inputs	Comments
T991E1018/U	160 F to 260 F	71 C to 127 C	280 F	138 C	5 ft	1.5 m	1	—
T991E1034/U	55 F to 175 F	13 C to 79 C	200 F	93 C	5 ft	1.5 m	1	—
T991F1009/U	70 F to 140 F	21 C to 60 C	265 F	129 C	Indoor: 10 ft., Outdoor: 30 ft.	Indoor: 3 m, Outdoor: 9.1 m	2	Indoor bulb temperature plus outdoor bulb temperature must not exceed 265 F (129 C).

Testers and Demonstrators

A7800 Tester

Provides quick operational check of the 7800 SERIES System components.

- Allows testing different 7800 SERIES devices using configuration plugs and functional switches to simulate interlocks and control functions
- Indicator lamps represent outputs as activated

Temperature Range: -30F to +150F (-34.5C to +65C)
Voltage: 120 Vac
Frequency: 50 Hz; 60 Hz

Product Number	Required Components	Includes	Used With
A7800A1010/U	Configuration Plugs, Included	Configuration Plugs	7800 SERIES Relay Modules with Valve Proving System or New Optical Detector Amplifiers

A7800 and DSP2672 Replacement Parts

Product Number	Application	Comments	Used With
203579A/U	Tester; DSP2672 RM7800/40/45 (non VPS side) Configuration Plug	Configures A7800 and DSP2672	RM7800; RM7840
203579B/U	Tester; DSP2672 RM7838A Configuration Plug	Configures A7800 and DSP2672	—
203579C/U	Tester; DSP2672 RM7838B, C Configuration Plug	Configures A7800 and DSP2672	—
203579D/U	Tester; DSP2672 RM7885A Configuration Plug	Configures A7800 and DSP2672	—
203579E/U	Tester; DSP2672 RM7890 (non VPS models) Configuration Plug	Configures A7800 and DSP2672	—
203579F/U	Tester; DSP2672 RM7823 Configuration Plug	Configures A7800 and DSP2672	—
203579G/U	Tester; DSP2672 RM7823 Configuration Plug	Configures A7800 and DSP2672	—
203579J/U	RM7838B, C (VPS) Configuration Plug	Configures A7800 and DSP2672	—
203579K/U	RM7890 (VPS) Configuration Plug	Configures A7800 and DSP2672	—
203579L/U	RM7800/40G,L (VPS side) Configuration Plug	Configures A7800 and DSP2672	—
203579M/U	RM7898 (VPS SIde) Configuration Plug	Configures A7800 and DSP2672	—

Demonstrators or Trainers

DSP3452/U

DSP3564/U

DSP3981/U

Voltage: 120 Vac
Frequency: 50 Hz; 60 Hz

Product Number	Application	Required Components	Color	Includes	Comments	Used With
DSP3452/U	Primaries, Programmers or 7800 Series Trainer	Devices for wiring and training	Black	jumper wires, propane gas hose with regulator, detector mounting adapters	Complete Flame Safeguard Training Package	Primaries, Programmers and 7800 SERIES Relay Modules
DSP3564/U	ControLink FAR Trainer/Demonstrator	—	Black	Relay Module, R7999 Control and 3 ML Motors; Relay Module, R7999 Control and 4 ML Motors	—	ControLinks Fuel Air Ratio controls
DSP3981/U	For Controlinks Configuration and Monitoring	—	Black	—	With S7999D Touchscreen for FAR Monitoring or Programming	ControLinks Fuel Air Ratio controls
DSP3956/U	ControLink FAR Configuration Toolkit	—	Black	USB-485 Converter with cable and Connector for Controlinks; ZM Software	—	ControLinks Fuel Air Ratio controls

SOLA Demonstrators

DSP3943/U

DSP3980/U

The DSP3943 is used as a SOLA commissioning or monitoring tool when a System or Local Operator Interface is not required for operation. The DSP contains the S7999B1026 touchscreen display which uses a wizardlike process to assist you through the commissioning process.

The DSP3980 contains an S7999D1006 Touchscreen Display to commission or monitor the Sola system when a System or Local Operator Interface is not required for operation. The DSP3980 includes the power supply for operation and cable with connector for the SOLA system. A USB storage drive is provided to save display screen snapshots or trending information.

Voltage: 120 Vac
Frequency: 60 Hz

Product Number	Application	Color	Includes	Comments	Used With
DSP3943/U	Demonstrator, SOLA	Black	S7910 Keyboard display, system switches and pots; S7999 Touchscreen Display; S7910A1001 SOLA HC	—	—
DSP3980/U	Demonstrator	Black	S7999D1006 Display	Touchscreen for R7910/R7911 SOLA Monitoring or Programming	SOLA Controls

Testers and Demonstrators

Flame Simulator

123514/U

203659/U

Flame simulators simplify the troubleshooting of flame safeguard controls by providing a quick method to check the flame detection function.

Product Number	Application	Color	Comments	Used With
123514A/U	Flame Simulator, Rectification Flame Amplifiers	Brown	Applications with test jack in G circuit; Test jack in G circuit	R4075B; R4181A; R4138A,B; R7253A; R8169B; R7257A; R7247A; R7847A
203659/U	Simulates C7027, C7035, C7044 Flame Simulators for 7800 SERIES Flame Simulator, Ultraviolet Flame Amplifiers	Purple	Simulates Minipeeper Flame Detectors	7800 SERIES Relay modules

FSP1535 Tester

Provides quick operational check of Honeywell RA890 or R4795 nonprogramming primary controls.
- Includes indicator lights that visually represent functions of ignition, pilot and main valve as unit simulates system operation
- Eliminates need to operate entire system
- Tests units with rated voltage from 100 to 240, 50/60 Hz by connecting line cord to the rated voltage

Voltage: 120 Vac, 240 Vac
Frequency: 50 Hz; 60 Hz

Product Number	Application	Used With
FSP1535/U	Tester	RA890; R4795

FSP5004 Tester

A tester that provides quick operational check of most Honeywell BC7000, R4140, R7140 and R4150 programmers and R7795 primary controls (order 198355A adapter separately).
- Includes indicator lights that visually represent control functions of programmer as unit simulates system operation
- Works with 120 Vac, 60 Hz controls
- Use to test some Gordon-Piatt programmers
- Cannot be used to test some R4140 and R4150 models due to design or wiring differences. Reference the list at right to see if you have one of the controls that CANNOT be tested. If you do, check these out using the instructions provided in their respective instruction manuals
- R4150/R4140/BC7000/R7795/R7140 Tester (120V only)
- Provides a quick operational check

Voltage: 120 Vac
Frequency: 50 Hz; 60 Hz

Accessories:
198355A-Adapter for R7795, used with FSP5004

Product Number	Application	Comments	Used With
FSP5004/U	Tester	DO NOT USE WITH: BC7000L1018, BC7000L1034, BC7000L1063; R4140D1004, R4140E1001, R4140M1079, or non-120 Vac R4140 models	BC7000; R4140; R7795; R7140; BC7000; R4140; R7795

Legacy Replacement Parts

Product Number	Description	Used With
117053/U	Connector Plug - 138166 Panel Meter	Q478, R4138C,D, 138166 Panel Meter
138166/U	Panel Meter, 0 - 25 microamp	—
196146/U	Cable Connector for W136 Meter	W136

P531; P532 3-channel, Signal Processors

P531

P532

The P531/P532 are 3-channel signal processors which amplify and condition the viewing head signal, for use with a burner management system. Provide proportional 0/4-20mA output signal, 2 SPDT flame relay and 1 SPDT self-check relay outputs.

- 3 channels
- Two SPDT flame relay outputs, one SPDT self-check relay output and one N.O. alarm relay output per channel.
- FM and CSA approved.
- Monitor the UV and IR flame component simultaneously or separately when using the S550B/BE.
- Monitor 3 viewing heads simultaneously.
- Independent configuration for each viewing head.
- 2 sets of configuration data per viewing head.
- Viewing head temperature indication.
- Automatic set-up functionality.
- Automatic viewing head detection.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rated.

Dimensions, Approximate: 4.3 in. wide x 5.8 in. deep x 5.5 in. high (109 mm wide x 147 mm deep x 117 mm high)
Mounting: Cabinet mounting tabs
Connection Type: Removable terminals
Communications: ModBus and RS422 Compatible
Output: 0/4-20mA

Used With: S550B/BE, S552B/BE, S556B/BE, S70X, S80X viewing heads

Approvals
Canadian Standards Association: Approved
Factory Mutual: Approved

Product Number	Description	Application	Keypad	Status Monitoring	Electrical Ratings	Frequency	Required Components
P531AC	AC Signal Processor	Signal Processor with 3 channels without keypad	Use P532UI keypad	LEDs	85-264 Vac	50 Hz; 60 Hz	Appropriate Flame Detector
P531DC	DC Signal Processor	Signal Processor with 3 channels without keypad	Use P532UI keypad	LEDs	22-26 Vdc	—	Appropriate Flame Detector
P532AC	AC Signal Processor	Signal Processor with 3 channels and keypad	Integrated	tri-color display	85-264 Vac	50 Hz; 60 Hz	Appropriate Flame Detector
P532DC	DC Signal Processor	Signal Processor with 3 channels and keypad	Integrated	tri-color display	22-26 Vdc	—	Appropriate Flame Detector

600U Flame Rod Signal Processor

Dimensions, Approximate: 2-63/64 in. wide x 3-1/4 in. deep x 5-31/64 in. high (76 mm wide x 83 mm deep x 139 mm high)
Mounting: DIN rail, 35mm
Connection Type: Removable terminals
Output: 4-175 Vac for flame rod
Used With: Flame Rod

Product Number	Description	Application	Keypad	Status Monitoring	Electrical Ratings	Frequency
600U	Flame rod signal processor with DPDT flame relay contacts, DPST ignition transformer relay or ignition coil drive	Flame rod signal processor	Integrated	LEDs	85 to 132Vac or 170 to 264Vac	50 Hz; 60 Hz

Signal Processors

P522 Signal Processor with 2 Channels and Keypad

P522 signal processors amplify and condition the viewing head signal for a burner management system. Provides 0/4-20mA output signal, 2 SPDT flame relay outputs and 1 SPDT self-check relay output. Connect 2 S55xB/BE viewing heads and channel toggle.

- 2 channels.
- Integrated keypad.
- Two SPDT flame relay outputs and one SPDT self-check relay output.
- FM and CSA approved.
- Flame failure response and time delay on set-up.
- Connect 2 viewing heads, monitoring 1 at a time.
- Independent configuration for each viewing head.
- 2 sets of configuration data per viewing head.
- Viewing head temperature indication.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rating.

Application: Signal Processor with 2 channels and keypad
Dimensions, Approximate: 4.3 in. wide x 6.4 in. deep x 6.7 in. high (109 mm wide x 162 mm deep x 170 mm high)
Communications: ModBus and RS422 Compatible
Status Monitoring: LEDs
Keypad: Integrated
Connection Type: Removable terminals
Mounting: Cabinet mounting tabs
Output: 0/4-20mA

Approvals
Canadian Standards Association: Approved
Factory Mutual: Approved

Product Number	Description	Electrical Ratings	Frequency	Used With	Required Components
P522AC	AC Signal Processor	85-264 Vac	50 Hz; 60 Hz	S550B/BE, S552B/BE, S556B/BE Viewing Heads	Appropriate Flame Detector
P522DC	DC Signal Processor	22-26 Vdc	—	S550B/BE, S552B/BE, S556B/BE Viewing Heads	Appropriate Flame Detector

P222 WATCHDOGIII Flare Stack Signal Processor

Application: Flare Stack signal processor with 1 channel and keypad
Dimensions, Approximate: 4.3 in. wide x 6.4 in. deep x 6.7 in. high (109 mm wide x 162 mm deep x 170 mm high)
Communications: ModBus and RS422 Compatible
Status Monitoring: LEDs
Keypad: Integrated
Connection Type: Removable terminals
Mounting: Cabinet mounting tabs
Output: 0/4-20mA

Approvals
Canadian Standards Association: Approved

Product Number	Description	Electrical Ratings	Frequency	Used With	Required Components
P222	Watchdog Signal Processor	85-264 Vac	50 Hz; 60 Hz	S256 WATCHDOGIII flare stack viewing head	Appropriate Flame Detector

P520 Signal Processor

Application: AC Signal Processor with mounting base and terminal. 19-inch card frame mountable.
Dimensions, Approximate: 5-1/16 in. high x 4-1/4 in. wide x 9-1/8 in. deep (129 mm high x 108 mm wide x 231 mm deep)
Communications: Modbus RS-422 at 4800 or 9600 baud
Status Monitoring: LEDs
Keypad: Integrated
Mounting: Rack mountable, designed to conform to DIN 41494, 19-inch card frame system
Output: Flame relay: 2 Form C contacts; Self-checking relay: 1 Form C contact; 0/4-20mA proportional flame signal output

Approvals
Canadian Standards Association: Approved
Factory Mutual: Approved

Product Number	Description	Electrical Ratings	Used With	Required Components
P520	AC Signal Processor	22-26Vdc, 130 mA	S506, S509, S511 and S512, S550B/BE, S552B/BE, S556B/BE viewing heads	REARPCB required for initial installation

700 Signal Processor with 1 Channel

The 700 is a signal processor which amplifies and conditions the viewing head signal for use with a burner management system. It provides a 0/4-20mA output signal, two SPDT flame relay outputs and one SPDT self-check relay output.

- 1 channel.
- Two SPDT flame relay outputs and one SPDT self-check relay output.
- FM and CSA approved.
- Status LEDs.
- DIN rail mounting.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rating.

Dimensions, Approximate: 5-1/2 in. high x 2-29/32 in. wide x 3-1/4 in. deep (139 mm high x 74 mm wide x 83 mm deep)
Application: Signal processor with 1 channel
Status Monitoring: LEDs
Output: 0/4-20mA
Mounting: DIN rail, 35 mm
Communications: ModBus and RS422 Compatible
Connection Type: Removable terminals
Approvals
Canadian Standards Association: Approved
Factory Mutual: Approved

Product Number	Description	Keypad	Electrical Ratings	Frequency	Used With	Required Components
700ACSP	AC Signal Processor	Integrated	85-264 Vac	50 Hz; 60 Hz	All models of S702, S706, S802, S806 Viewing Heads	Appropriate Flame Detector
700DCSP	DC Signal Processor	Integrated	22-26 Vdc	—	All models of S702, S706, S802, S806 Viewing Heads	Appropriate Flame Detector

Combination DC Signal Processor and Dual UV/IR Viewing Head

Application: Combination DC signal processor and dual UV/IR Viewing head
Dimensions, Approximate: 4.3 in. wide x 5.8 in. deep x 5.5 in. high (109 mm wide x 147 mm deep x 117 mm high)
Status Monitoring: Display and LEDs
Output: 0/4-20mA
Keypad: Integrated
Communications: ModBus and RS422 Compatible
Approvals
Canadian Standards Association: Approved
Factory Mutual: Approved
IEC: Approved
ATEX: Approved

Product Number	Description	Electrical Ratings	Required Components
U2-1010	Combination DC signal processor and dual UV/IR Viewing head.	22-26 Vdc	Cable and connector, PT adapter and purge air coupler sold separately.
U2-1010-PF	Combination DC signal processor and dual UV/IR Viewing head with 10-ft (3 m) pigtail	22-26 Vdc	PT adapter and purge air coupler sold separately.
U2-1010-PF-050	Combination DC signal processor and dual UV/IR Viewing head with 50-ft (15 m) pigtail	22-26 Vdc	PT adapter and purge air coupler sold separately.
U2-1010-PF-100	Combination DC signal processor and dual UV/IR Viewing head with 100-ft (30 m) pigtail	22-26 Vdc	PT adapter and purge air coupler sold separately.

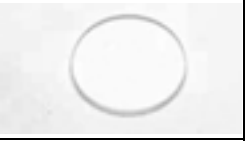
Industrial Flame Monitoring Accessories

Industrial Flame Monitoring - Accessories

Product Number	Application	Description	Used With	
ISO-UNIT	Burner isolation mount	1 in. NPTF sealing union with quartz window and 1/2 in. NPTF purge port. Order the ISO-WRENCH separately, if required.	S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE, U2 all models	
ISO-UNITHPGT	Burner isolation mount	1 in. NPTF sealing union with quartz window and 1/2 in. NPTF purge port. High pressure version with 1/2 thick high pressure quartz window. Order the ISO-WRENCH separately, if required.	S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE, U2 all models	
ISO-UNITSS	Burner isolation mount	1 in. NPTF stainless steel sealing union with quartz window and 1/2 in. NPTF purge port. Order the ISO-WRENCH separately, if required.	S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE, U2 all models	
700-1	Burner swivel mount	Swivel mount for S700 and S800 series viewing heads. 1 in. NPT female to 1/2 in. NPT male connection.	S702, S706, S802, S806 all models	
700-2	Burner swivel mount	Swivel mount for S700 and S800 series viewing heads. Flanged 1/2 in. connection to 1/2 in. NPTM connection.	S702, S706, S802, S806 all models	
700-3	Burner swivel mount	Swivel mount for S700 and S800 series viewing heads. 1/2 in. NPTF to 1/2 in. NPTM connection.	S702, S706, S802, S806 all models	
M-701-1	Burner swivel mount	Swivel mount, 2 in. pipe slip-on to 1 in. NPT connection.	All viewing heads	
M-701-2	Burner swivel mount	Swivel mount, 2 in. NPT female to 1 in. NPT female.	All viewing heads	
M-701-2-FLG	Burner swivel mount	Flanged swivel mount, 2 in. flanged to 1 in. NPTF.	All viewing heads	
M-701-2-SS	Burner swivel mount	Swivel mount, 2 in. NPT female to 1 in. NPT female, Stainless steel construction.	All viewing heads	

Product Number	Application	Description	Used With	
M-701-3	Burner swivel mount	Flanged swivel mount, 3-bolt, 4.5 in. flanged to 1 in. NPTF.	All viewing heads	
M-701-3P	Burner swivel mount	Swivel mount, 3 in. NPTF to 1 in. NPTF connection.	All viewing heads	
M-701-4	Burner swivel mount	Swivel mount, 1.75 in. 2-bolt to 1 in. NPTF connection.	All viewing heads	
C330	Cable	Four conductor cable with braided shield. Price per foot.	S256B, S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE non-PF models	
700CRLT	Cable restraint	Liquid tight cable restraint for S700 and S800 series viewing heads. For S800 viewing head, purchase S800 adapter ring, part 800-ACC-RING, separately.	S702, S706, S802, S806 all models	
800ACC-RING	Cable restraint	Adapter ring to fit 800 viewing head to 700ACC cooling jacket and 700CRLT cable restraint.	S802, S806 all models	
S5XXCR	Cable restraint	Cable restraint for S5XX, S55XB/BE viewing heads.	S5XX, S550B/BE, S552B/BE, S556B/BE	
S5XXCRLT	Cable restraint	Cable restraint for S5XX, S55XB/BE viewing heads, liquid tight.	S5XX, S550B/BE, S552B/BE, S556B/BE	
700ACC	Cooling jacket	Model S700 viewing head cooling jacket. Use with vortex coolers.	S702, S706 all models	
800ACC	Cooling jacket	Model S800 viewing head cooling jacket. Use with vortex coolers.	S802, S806 all models	
ACC55XBE	Cooling jacket	Air cooling canister for Model S55XBE viewing heads. 1/4 inch air inlet port. Use with vortex coolers.	S550BE, S552BE, S556BE all models	

Industrial Flame Monitoring Accessories

Product Number	Application	Description	Used With	
ACC5XX	Cooling jacket	Air cooling canister for Model S5XX/S55XB viewing heads. 1/4 inch air inlet port. Use with vortex coolers.	S5XX, S550B, S552B, S556B all models	
ISO-WRENCH	ISO-UNIT mounting	ISO-Union wrench set.	ISO-UNIT, ISO-UNITSS, ISO-UNITHPGT	
700LTA	Liquid tight connector adapter	Liquid tight viewing head cable adapter for S700/S800 series viewing heads. 3/8 in. NPT conduit connection.	S702, S706, S802, S806 all models	
LTA55XBE	Liquid tight connector adapter	Liquid tight viewing head cable adapter for S55XBE series viewing heads only. 1/2 in. NPTF conduit connection.	S550BE, S552BE, S556BE connector models	
LTA5XX	Liquid tight connector adapter	Liquid tight viewing head cable adapter for S5XX and S55XB series viewing heads only. 1/2 in. NPTF conduit connection.	S5XX, S550B, S552B, S556B connector models	
REARPCB	P520 operation	Rear panel board for P520 processor with terminals.	P520	
P532UI	Programming P531 signal processor	Detachable program user interface module/ keypad for P531 signal processors.	P531AC, P531DC	
COMMOD	Protocol converter	Communication module for Flame tools software and signal processors, USB to RS422/RS485 with 5-wire terminal connection.	All signal processor models and U2	
ISO-KP	Replacement part	Replacement Kapton washers for ISO-UNITHPGT	ISO-UNITHPGT	
ISO-OR	Replacement part	Replacement O-ring for ISO-UNIT and ISO-UNITSS	ISO-UNIT	
ISO-QW	Replacement part	Replacement quartz window for ISO-UNIT and ISO-UNITSS	ISO-UNIT, ISO-UNITSS	
ISO-QWHPGT	Replacement part	Replacement window for ISO-UNITHPGT	ISO-UNITHPG	
ISO-RR	Replacement part	Replacement retainer ring for ISO-UNIT (aluminum).	ISO-UNIT	
ISO-RRHPGT	Replacement part	Replacement retainer ring for ISO-UNITHPGT (stainless steel).	ISO-UNITHPGT	
ISO-RRSS	Replacement part	Replacement retainer ring for ISO-UNITSS (stainless steel).	ISO-UNITSS	

Product Number	Application	Description	Used With	
PT-GA1	Replacement part	High temperature gasket for 1 in. locking coupler.	R-518-CL12-HTG	
PT-QL1	Replacement part	Quartz lens for 1 in. coupler adapter.	R-518-PT12L	
S5XXLPA	Replacement part	Lens plate assembly replacement for Model S5xx series Viewing heads.	S5XX viewing heads	
700RAA	Right angle S70X/S80X mounting	Model S700/S800 viewing head right angle adapter. 1/2 in. NPTF to 1/2 in. NPTM connection.	S702, S706, S802, S806 all models	
R-518-09	S55XBE quick disconnect	Quick disconnect connector only for all S55xBE viewing head models.	S550BE, S552BE, S556BE	
700DA-1	S70X adapter, 180F (82C) continuous service	Delrin adapter replacement for S700 series viewing heads. 1 in. NPTF process and 1/4 in. NPTF purge connections.	S702, S706 all models	
700DA	S70X adapter, 180F (82C) continuous service, replacement part	Delrin adapter replacement for S700 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections.	S702, S706 all models	
700UA	S70X adapter, 320F (160C) continuous service	Ultem heat insulating adapter for S700 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections.	S702, S706 all models	
ASY784	S70X/S80X quick disconnect	Model S700 and S800 viewing head connector kit without cable.	S702, S706, S802, S806 connector models	
ASY782-030	S70X/S80X quick disconnect with cable	Connector cable with LED and 30-ft (9 m) cable with braided shield for model S700/ S800 viewing heads.	S702, S706, S802, S806 connector models	
ASY782-050	S70X/S80X quick disconnect with cable	Connector cable with LED and 50-ft (15 m) cable with braided shield for model S700/ S800 viewing heads.	S702, S706, S802, S806 connector models	
ASY782-100	S70X/S80X quick disconnect with cable	Connector cable with LED and 100-ft (30 m) cable with braided shield for model S700/ S800 viewing heads.	S702, S706, S802, S806 connector models	
ASY782-200	S70X/S80X quick disconnect with cable	Connector cable with LED and 200-ft (61 m) cable with braided shield for model S700/ S800 viewing heads.	S702, S706, S802, S806 connector models	
ASY782-250	S70X/S80X quick disconnect with cable	Connector cable with LED and 250-ft (76 m) cable with braided shield for model S700/ S800 viewing heads.	S702, S706, S802, S806 connector models	
ASY782	S70X/S80X quick disconnect with cable, replacement part	Connector cable with LED and 15-ft (4.6m) cable with braided shield for model S700/ S800 viewing heads.	S702, S706, S802, S806 non-PF models	
800DA	S80X adapter, 180F (82C) continuous service, replacement part	Delrin adapter replacement for S800 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections.	S802, S806 all models	

Industrial Flame Monitoring Accessories

Product Number	Application	Description	Used With	
800UA	S80X adapter, 320F (160C) continuous service	Ultem heat insulating adapter for S800 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections.	S802, S806 all models	
M-702-6	Signal reduction	Orifice and retaining ring set.	All viewing heads	
C12S	U2 cable	12 conductor cable with braided shield for use with all U2 combination DC signal processor and viewing heads. Sold per foot. Purchase quick disconnect separately if required.	U2 connector models	
R-518-10	U2 quick disconnect	Quick disconnect connector only for all U2 non-pipe fitting models.	U2 connector models	
ASY964	U2 quick disconnect with cable	15-ft cable (12 conductor) with quick disconnect for all U2 non-pipe fitting models.	U2 connector models	
M3204	Viewing head cooling	Vortex air cooler, model 3204.	ACC5XX, ACC5XBE, 700ACC, 800ACC cooling jackets	
M3208	Viewing head cooling	Vortex air cooler, model 3208.	ACC5XX, ACC5XBE, 700ACC, 800ACC cooling jackets	
M3210	Viewing head cooling	Vortex air cooler, model 3210.	ACC5XX, ACC5XBE, 700ACC, 800ACC cooling jackets	
M4025	Viewing head cooling	Vortex air cooler, model 4025.	ACC5XX, ACC5XBE, 700ACC, 800ACC cooling jackets	
UVSOURCE	Viewing head demonstration	Ultra violet light source.	All UV viewing heads	
R-518-12	Viewing head heat and electrical insulation	1 in. NPT Ultem heat and electrical insulating nipple.	S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE, U2 all models	
R-518-13	Viewing head heat and electrical insulation	1/2 in. NPT Ultem heat insulating nipple for S700/S800 series viewing heads.	S702, S706, S802, S806 all models	
R-518-CL12-HTG	Viewing head mounting and quick release	1 in. NPT locking coupler with high temperature gasket.	S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE, U2 all models	

Product Number	Application	Description	Used With	
R-518-CL12-PG	Viewing head mounting and quick release	1 in. NPT aluminum locking quick disconnect/ cam and groove coupler adapter with 1/2 in. NPT purge port. Used with U2 processor/ viewing heads.	S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE, U2 all models	
R-518-CL13-HTG	Viewing head mounting and quick release	1/2 in. NPT locking coupler with high temperature gasket.	S702, S706, S802, S806 all models	
R-518-PT12	Viewing head mounting and quick release	1 in. NPT Ultem insulating locking coupler adapter.	S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE, U2 all models	
R-518-PT12L	Viewing head mounting and quick release	1 in. NPT Ultem locking coupler adapter with quartz lens.	S702, S706, S802, S806, S5XX, S550B/BE, S552B/BE, S556B/BE, U2 all models	
R-518-PT13	Viewing head mounting and quick release	1/2 in. NPT Ultem locking coupler adapter only.	S702, S706, S802, S806 all models	
R-518-PT13L	Viewing head mounting and quick release	1/2 in. NPT Ultem locking coupler adapter with quartz lens.	S702, S706, S802, S806 all models	

Flame Detectors

Compact Viewing Head

The compact viewing head/flame detector, detects the presence or absence of flame and features a quick disconnect plug with 2 embedded indicator LEDs, or pipe fitting connection, mounting block.

- Mounts in any orientation.
- Gain setting 1-9, adjusted through signal processor.
- Flame failure response time 1-3, adjusted through signal processor.
- Quick disconnect plug with embedded indicator LEDs or 1/2 in. NPT pipe fitting connection with pigtail.
- Ambient Temperature rated: -40F to +185F (-40C to +85C).
- 22-26 VDC supplied by signal processor.
- NEMA 4X / IP67 with tightened connector and UV cable protection Certified.

Application: Flame Detector for single burner applications
Mounting: any orientation
NEMA Rating: 4X
Environmental Electrical or Ingress Protection Rating: IP67
Sight Pipe NPT: 1/2 in.
Purge Air Pipe NPT: 1/4 in.
Electrical Ratings: 22 to 26 Vdc from signal processor
Ambient Temperature Range: -40 F to +180 F (-40 C to +85 C)

Used With: P532AC, P532DC, P531AC, P531DC, 700ACSP, 700DCSP Signal Processors
Approvals
Canadian Standards Association: Approved
Factory Mutual: Approved
IEC: Approved
ATEX: Approved

Product Number	Type	Electrical Connections	Gain adjustment		Dimensions, Approximate		Includes
			UV	IR	(in)	(mm)	
S802	IR	Quick disconnect with 15 ft (4.6 m) cable	—	1-9	1-49/64 in. diameter x 8-4/32 in. high	45 mm diameter x 206 mm high	—
S806	UV	Quick disconnect with 15 ft (4.6 m) cable	1-9	—	1-49/64 in. diameter x 8-4/32 in. high	45 mm diameter x 206 mm high	—
S702	IR	Quick disconnect with 15 ft (4.6 m) cable	—	1-9	1-49/64 in. diameter x 8-40/64 in. high	45 mm diameter x 219 mm high	—
S702HF	IR	Quick disconnect with 15 ft (4.6 m) cable	—	1-9	1-49/64 in. diameter x 8-40/64 in. high	45 mm diameter x 219 mm high	High frequency filter
S702HFPF	IR	1/2 in. NPTM pipe fitting with 10 ft (3 m) pigtail	—	1-9	1-49/64 in. diameter x 8-40/64 in. high	45 mm diameter x 219 mm high	High frequency filter
S702PF	IR	1/2 in. NPTM pipe fitting with 10 ft (3 m) pigtail	—	1-9	1-49/64 in. diameter x 8-40/64 in. high	45 mm diameter x 219 mm high	—
S706	UV	Quick disconnect with 15 ft (4.6 m) cable	1-9	—	1-49/64 in. diameter x 8-40/64 in. high	45 mm diameter x 219 mm high	—
S706PF	UV	1/2 in. NPTM pipe fitting with 10 ft (3 m) pigtail	1-9	—	1-49/64 in. diameter x 8-40/64 in. high	45 mm diameter x 219 mm high	—
S802HF	IR	Quick disconnect with 15 ft (4.6 m) cable	—	1-9	1-49/64 in. diameter x 8-4/32 in. high	45 mm diameter x 206 mm high	High frequency filter
S706PF-050	UV	1/2 in. NPTM pipe fitting with 50 ft (15 m) pigtail	1-9	—	1-49/64 in. diameter x 8-40/64 in. high	45 mm diameter x 219 mm high	—

Viewing Head with Digital Display

The S552/556 viewing head/flame detectors feature a digital display, quick disconnect plug, or pipe fitting connection, gain setting, flame on/off settings for added discrimination and NEMA 4X/IP67 enclosure rating. Perfect for difficult sighting and multiple burners.

- Immune of X-Rays and Gamma Rays.
- Mount in any orientation.
- With Digital display.
- Quick disconnect plug or 1/2 in. NPT pipe fitting connection with pigtail.
- Ambient Temperature: -40F to +158F(-40C to +70C).
- 22-26 VDC supplied by signal processor.
- Enclosure NEMA 4X / IP67 Certified.

Application: Flame Detector for single or multiple burner applications
Dimensions in: 4.1 in. wide x 8.1 in. deep x 5.4 in. high (104 mm wide x 206 mm deep x 137 mm high)
Electrical Ratings: 22 to 26Vdc from signal processor
NEMA Rating: 4X
Environmental Electrical or Ingress Protection Rating: IP67
Sight Pipe NPT: 1 in.
Purge Air Pipe NPT: 1/2 in.
Ambient Temperature Range: -40 to 158 F (-40 C to +70 C)
Approvals
Canadian Standards Association: Approved
Factory Mutual: Approved
IEC: Approved

Product Number	Type	Electrical Connections	Gain adjustment		Digital Displays	Comments	Used With
			UV	IR			
S552BE	IR	Quick disconnect plug	—	0-699	Yes (1)	—	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors
S556BE	UV	Quick disconnect plug	0-99	—	Yes (1)	—	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors
S552B	IR	Quick disconnect plug	—	0-699	Yes (1)	For new jobs, use S552BE	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors
S552BE-PF	IR	1/2 in. NPTM pipe fitting with 10 ft (3 m) pigtail	—	0-699	Yes (1)	Replaces S552B-PF	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors
S556B	UV	Quick disconnect plug	0-99	—	Yes (1)	For new Jobs, use S556BE	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors
S556BE-PF	UV	1/2 in. NPTM pipe fitting with 10 ft (3 m) pigtail	0-99	—	Yes (1)	Replaces S556B-PF	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors

Flame Detectors

Dual Flame Type Detector with Digital Display

The S550B/BE is a UV/IR viewing head/flame detector. It monitors the UV and IR components and has two displays, quick disconnect plug, or pipe fitting connection, UV and IR gain settings, IR high pass filter selection, flame on/off settings and a NEMA 4X/IP67 enclosure rating.

- Immune of X-Rays and Gamma Rays.
- Mount in any orientation.
- IR gain selection of 0-699, adjusted through signal processor.
- UV gain selection of 0-99, adjusted through signal processor
- 2 digital displays.
- Quick disconnect plug or 1/2 in. NPT pipe fitting connection with pigtail.
- Parameters stored in signal processor EEPROM.
- Ultraviolet and infrared embedded sensors.
- Ambient Temperature: -40F to +158F (-40C to +70C)
- 22-26 VDC supplied by signal processor.
- NEMA 4X / IP67 Enclosure.

Application: Flame Detector for single or multiple burner applications
Dimensions, Approximate: 4.1 in. wide x 8.1 in. deep x 5.4 in. high (104 mm wide x 206 mm deep x 137 mm high)
Electrical Ratings: 22 to 26 Vdc from signal processor
NEMA Rating: 4X
Environmental Electrical or Ingress Protection Rating: IP67
Sight Pipe NPT: 1 in.
Purge Air Pipe NPT: 1/2 in.
Ambient Temperature Range: -40 to 158 F (-40 C to +70 C)
Approvals
Canadian Standards Association: Certified
Factory Mutual: Approved
IEC: Approved

Product Number	Type	Electrical Connections	Shutter	Gain adjustment		Digital Displays	Comments	Used With
				UV	IR			
S550BE	UV and IR	Quick disconnect plug	Electronic for IR only	0-99	0-699	Yes (2)	—	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors
S550B	UV and IR	Quick disconnect plug	Electronic for IR only	0-99	0-699	Yes (2)	For new jobs, use S550BE	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors
S550BE-PF	UV and IR	1/2 in. NPTM pipe fitting with 10 ft (3m) pigtail	Electronic for IR only	0-99	0-699	Yes (2)	—	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors
S550B-R	UV and IR	Quick disconnect plug, reverse position	Electronic for IR only	0-99	0-699	Yes (2)	—	P532AC, P532DC, P531AC, P531DC, P522AC, P522DC Signal Processors

Flare Stack Flame Detector

S256B is a UV flare stack viewing head/flame detector, that detects the presence or absence of flame at the flare stack tip. Used for continuous UV flare stack monitoring to ensure no unburned toxic or waste gas releases into the atmosphere.

- Immune of X-Rays and Gamma Rays.
- Solar blind.
- Ground mounted, up to 1000 feet away from flare stack tip.
- UV gain selection of 0-99, adjusted through signal processor.
- Digital display.
- Quick disconnect plug.
- Easy to install with no plant shutdown.
- NEMA 4X / IP67 enclosure rating.
- Ambient temperature: -40 F to +176 F (-40 C to +80 C).
- 22-26 VDC supplied by signal processor.
- CSA Approved.

Application: Flame Detector for flare stack monitoring
Dimensions, Approximate: 3.7 in. wide x 20.3 in. deep x 13.7 in. high (94 mm wide x 516 mm deep x 348 mm deep)
NEMA Rating: 4X
Environmental Electrical or Ingress Protection Rating: IP67
Electrical Connections: Quick disconnect plug
Electrical Ratings: 22 to 26Vdc from signal processor
Mounting: Ground Mounted
Ambient Temperature Range: -40 F to +176 F (-40 C to +80 C)
Used With: P222A Signal Processor

Approvals
Canadian Standards Association: Approved

Product Number	Type	Gain adjustment		Digital Displays	Description
		UV	IR		
S256B	UV	0-99	—	Yes (1)	UV Flare stack viewing head, 4X Rating

Video is a very effective medium to use for both technical training and product familiarization. Many of the programs described here are relatively short and make a nice addition to a service meeting or formal class on HVAC controls. These tapes have been widely used in a number of applications such as:

- *At the distributor's counter* – to help answer questions and show technicians how to use new products
- *At service meetings* – to review new service procedures at the beginning of a season
- In *the classroom* – to provide students with authoritative information direct from the manufacturer

Commercial HVAC Controls

In Control With Solid State

This three-part DVD covers solid state economizer control systems, and features the H705A Enthalpy Controller, the M7415A Actuator, W7459 Economizer Logic Module, C7400 Air Sensor and C7150 Discharge Air Sensor. Separate parts cover Operation (12:00), Installation (15:00), and Checkout and Troubleshooting (8:00). *35:00*

VT34/U **$15.00**

Heating Controls

Training on Demand Heating Controls DVD

Contains the following modules: Basic Hydronic Control 14:33, Hydronic Heating Distribution 12:39, Outdoor Temperature Compensation 16:22, Oil Burner Controls 14:37, Flame Detection 13:14, Standing Pilot 12:33, Intermittent Pilot 14:16, SmartValve System 10:57, Direct Burner Ignition 12:05, SmartValve Direct Burner Ignition 9:44, Advanced SmartValve 11:27, SmartValve Water Heater Control 11:26 (2004), and Universal Integrated Furnace Control 11:07 (2007)

63-9357/U **$9.00**

Training Booklets

Training Booklets

Electronic Air Cleaner Application and Installation

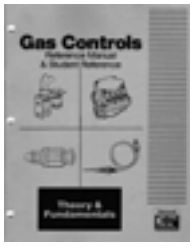
Includes selection, application and installation information for residential and light commercial type electronic air cleaners. *31 pages*

70-9723/U **$1.10**

Electronic Air Cleaner Service Data

Includes replacement parts, model number identification, service tools and equipment, plus description, checkout and troubleshooting guide and parts list for Honeywell electronic air cleaners. *107 pages*

70-9724/U **$4.35**



Gas Control Reference Manual & Student Reference – Theory and Fundamentals

Basic information and technical data on gas heating controls: gas properties, combustion, pilot burner systems, warm air heating systems, hydronic heating appliances, power sources, safety shutoff circuit and combination gas valves. Extensive glossary and technical charts. *48 pages, 1988*

71-97473 **$10.00**

Principles of Millivoltage Control

Theory, controls and control circuits for millivoltage for heating systems with performance specifications on thermopiles. *22 pages, 1989*

71-97280 **$2.75**

Burners and Boilers

Descriptions of various types of commercial and industrial gas, oil, and coal burners and their operation. Also boilers classified by construction and size. A comprehensive and understandable introduction to the subject. *65 pages* (Order in multiples of 20)

70-8107 **$1.57**

Quick and Basic Electricity

A contractor's beginning guide to HVAC circuits, controls and wiring diagrams. *80 pages*

71-97431/U **$20.00**

Really Basic Electricity

Written for the person with no background in electricity. Introduces basic concepts of a.c. and d.c. electricity. Includes pictures and diagrams. *96 pages*

71-97004/U **$7.00**

Training Booklets

Quick and Basic Hydronic Controls

Another in the “Practical is Good” (P.I.G.) Technical Training Series. A contractor’s easy guide to hydronic controls, wiring, and wiring diagrams. How figuring circuits is like watching a bug on a rope; why thinking in circles is good; how every hydronic control is a power supply, a switch, or a load; how limit controls are like a safety committee; how to see the friendly side of control panels. *87 pages, 2000*

71-97160/U **$20.00**

Quick and Basic Troubleshooting Book

This book tells you how to troubleshoot controls and control circuits using a meter, a “hopscotch,” “Leapfrog,” “daisy chain,” and “homerun” methods, a trouble shooting chart, a wiring diagram and your common sense. *80 pages*

71-97931/U **$20.00**

Quick and Basic House Wiring

This book is an HVAC contractor’s guide to what the electrician does. Ever wonder what’s going on inside the walls? This book explains it, both modern and “the old stuff.” It also explains such electricity puzzles as how to wire 3-way and 4-way switches, why 2-wire cable has 3 wires and why 3-wire cable has four.

71-97966/U **$20.00**

ControlPro Pneumatic Control Training Manual

This manual is for a two-day in-house course on Honeywell pneumatic controls. It is available separately for use in your own training. *150 pages*

71-97070 **$20.00**

Programmed Instruction Books

Fundamentals of Residential Control

A step-by-step, self-instruction workbook in a question and answer format. Students learn the necessary foundation for advanced study in controls while working at their own speed. Ideal for individual student use in preparation for other courses. Topics include: nature of electricity, rules governing electricity, inductive and capacitive circuits, principles of motor operation, power, transformer principles, relay principles, analyzing control circuits. *250 pages*

71-97083 **$10.00**

The Psychrometric Chart

A valuable tool for everyone in the HVAC industry. Knowledge of the complex relationship between the various characteristics of the air (temperature, humidity, moisture content, etc.) can be the key to solving a number of air conditioning problems. Text illustrates with examples of how to use psychrometric charts. Use it as a self-instruction text or a class exercise. *100 pages*

71-97444 **$10.00**

Service Publications

Service Handbooks

Honeywell Service Data Manual

Formerly known as the ***Service Handbook Library***, these manuals have been completely updated and published in a new 8-1/2 x 11 in. format to make even more service information available to technicians working on residential and light commercial heating and air conditioning equipment and controls. **71-97932** **$35.00**

- **Gas Controls Service Manual**
  All of the technical data and service information needed to safely and efficiently check and repair gas burner controls systems. Includes combination gas controls manufactured in the last 30 years for furnace, boiler and other heating appliance manufacturers, as well as service replacement controls.
- **Gas Electronic Ignition Controls Service Manual**
  Principles of controlling gas heating equipment including intermittent pilot, direct spark ignition and hot surface ignition. Model numbers and specifications for obsolete as well as currently manufactured controls, with information on making replacements of special models made for equipment manufacturers with universal replacement models available for service work. Includes troubleshooting flowcharts for old and new controls.
- **Oil Controls Service Manual**
  Control of oil burners is undergoing a major change as manufacturers are transitioning from electromechanical and electronic controls to microelectronic oil primary controls. This manual includes information on these controls as well as older devices that have been used for years.
- **Commercial Controls Service Manual**
  Introduction and fundamentals of electric and electronic controls used on commercial packaged and other light commercial equipment. Includes: motors and actuators, linkages, dampers and valves, electromechanical controllers, electronic sensors, electromechanical economizers, electronic solid state economizers, reset systems and fan coil systems.

RA890, R4795 and R7795 Service Handbook

Wiring and checkout, normal operation summary, flame current check, flame simulator, final checkout, service notes and test equipment. *59 pages* **70-8610/U** **$1.42**

Troubleshooting Flame Safeguard Systems

Generalized troubleshooting information for the controls used on large burners and boilers. Information on recurring shut-downs, random shutdowns, measuring flame signal. Ten commandments for the burner service person, checking system operation and periodic maintenance. *11 pages* (Order in multiples of 20) **70-8626** **$0.28**

These manuals and notebooks provide instructional support on the fundamentals of controls for residential and some light commercial heating and cooling applications.

- A ***Reference Manual***, or mini-text, is a clearly written text with easy-to-follow diagrams that detail the fundamentals of controls and control systems. Designed for use by the student as well as the instructor and organized so that the instructor can vary the outline to fit specific teaching goals. Includes reproductions of the program's overhead slides.
- A ***Student Notebook*** reinforces instruction and offers a check on student understanding through the use of exercises and review questions.

Oil Control and Electric Heating

Oil Heating Controls

Oil burner ignition and safety control systems for residential heating. Includes: fuel oil characteristics, oil burner primary controls, stack relay and cad cell flame detection systems, servicing oil burner control systems and general troubleshooting.

Student Notebook	**71-97090**	**$3.00**

Electric Heat Controls

The basics of residential electric heating control starting with a brief review of electrical principles and going through to service procedures. Information on influence of humidity, air circulation and radiant temperature on comfort; heating system performance in terms of response time, cycling rate, heat anticipation and timed sequencing; central and decentralized electric heating systems; servicing electric heat systems and troubleshooting.

Reference Manual	**71-97306**	**$5.00**
Student Notebook	**71-97308**	**$3.00**

ControlPro Reference Material

These publications are part of the ControlPro one-day class for heating and air conditioning technicians, and are good references for anyone needing information on Oil or Hydronic Heating Controls.

Oil Heating Controls Technical Reference

A compilation of all the specification data, installation and service publications on Honeywell's oil heating controls, such as cad cell oil primaries, stack relays and ignition transformers. *204 pages, 2005*

71-97479/U **$18.00**

Controls for Oil-Fired Heating

The "textbook" for the ControlPro Oil class. Includes: fuel oil and oil burning equipment, ignition requirements, oil burner control requirements, stack relays, cad cell primary controls, oil primary controls, oil control service and troubleshooting, glossary. *61 pages, 2005*

71-97406 **$5.50**

Hydronic Heating Controls Technical Reference

A compilation of all the specification data, installation and service publications on Honeywell's hydronic heating controls, including Aquastat® controllers, Aquastat® relays, zone controls, outdoor temperature compensation controls, thermostats and hydronic heating controls accessories. *415 pages, 2005*

71-97480/U **$24.00**

FSG Textbook

FSG Textbook, “Flame Safeguard Controls: A Honeywell Textbook” 2nd edition
The most comprehensive and popular Flame Safeguard textbook available in our industry. It’s where the beginners begin and where the “Old Pros” return year after year and problem after problem.

Textbook

FSG Textbook, “Flame Safeguard Controls: A Honeywell Textbook”, *362 pages*

Contents:

- *Introduction to Flame Safeguard* – Flame Safeguard functions and controls.
- *Combustion* – explanation of fuel types and flame characteristics.
- *Burners and Boilers* – description of representative burners and boilers.
- *Flame Rod Application* – design and installation of flame rods and rectification systems.
- *Optical Detector Applications* – description, operation, application and checkout of detectors; covering rectifying photocells, infrared, and ultraviolet detectors.
- *Primary Controls* – capabilities and operation of primary controls (RA890, R4795 and R7795) used on smaller burners
- *Programming Controls* – capabilities and operation of programming controls (R4140 and BC7000 Microcomputer Programmable Controls.
- *Troubleshooting FSG Systems* – outlines systematic procedures for isolating common Flame Safeguard problems.
- *Service Equipment* – description and operation of testers, simulators and meters.
- *Auxiliary Equipment* – description, operation, application and checkout of pressure and temperature controllers.
- *Valves and Valve Trains* – description and application of typical Flame Safeguard valves and valve trains.
- *Sizing and Application of Large Gas Valves* – principles and procedures for selecting gas valves (includes selection nomographs).
- *Firing Rate Controls* – covers methods for controlling firing rate, firing rate sequences, programmer switching, motors and valves.
- *Glossary* – Flame Safeguard terminology.

71-97558/U **$22.50**

Reference Manuals

These reference manuals are collations of Honeywell publications used to apply, install and service various categories of control products. Combined they represent virtually all of the technical information Honeywell publishes on its residential and light commercial electric and electronic controls.

Reference Manuals

THE SOURCE Reference Material for Gas Ignition

These are the publications used with *The Source* gas ignition technical training program.

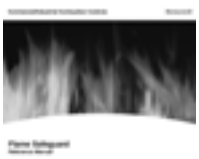
- **THE SOURCE Technical Reference** — **71-97414** — **$4.50**
  A compilation of all the specification data, installation and service publications on Honeywell's residential gas ignition controls such as gas valves, ignition modules and electronic fan timers. *634 pages, 2004*
- **THE SOURCE Class Notes and Lab Exercises** — **71-97162** — **$4.50**
  Reproductions of the visuals used in *The Source* classroom training program along with the lab exercises that make up Honeywell's popular training program on gas ignition controls. *114 pages, 2003*

The Firing Line

A comprehensive manual designed to facilitate the upgrading and replacement of burner and boiler controls in commercial and industrial applications. Extensive information on approval bodies to explain what type of controls are required to meet various codes. Subjects include how to sell control modernization, how to sell replacement, conversion wiring, handy survey guides and worksheets. — **70-8900/U** — **$125.00**

The Firing Line CD-ROM Version

The CD-ROM version of The Firing Line is a comprehensive reference media designed to facilitate the upgrade/replacement of burner and boiler controls in commercial and industrial applications. *1996* — **66-1081/U** — **$25.00**



Flame Safeguard Reference Manual

Specification sheet collation on: primary controls, programming controls, gas valves, flame sensors, FSG motors, ignition transformers, pressure controls/limits, reset controls, multiple boiler controls, low water cutoff, and feed water valve. — **66-1004/U** — **$135.00**

2006 Commercial/Industrial Combustion Controls Catalog

This catalog covers the complete line of Honeywell Burner and Boiler controls. In addition to our premier 7800 SERIES Burner Control Systems, BCS 7700 Boiler Control Systems and Communication Interface, the catalog covers flame amplifiers, firing rate motors, pressure/temperature sensors, amplifiers, auxiliary equipment, Flame Safeguard Modutrol IV motors, flame sensors, gas valves ignition transformers, modernization and replacement equipment, pressure controls/limits, primary and relay controls, programmers, test equipment, and commercial hydronic controls. Contains information on Flame Safeguard training materials, reference manuals and demonstrators and lab trainers. — **70-8911/U** — **$2.00**

7800 Series Burner Control Manual

This manual contains promotional literature, features/functions/benefits, product selection submittal information, programmers, semi-automatic programmers, primaries, semiautomatic primaries, subbases, amplifiers, purge cards, optional components, expanded annunciator, communications, tester, accessories, conversion wiring diagrams, diagnostics, and troubleshooting, and cross references. In 3-ring poly binder. — **66-1065/U** — **$55.00**

Reference Manuals

Reference Manuals

Engineering Manual of Automatic Control for Commercial Buildings - Soft cover

The 21st edition of this widely used and extremely valuable manual. Now includes direct digital control and operator workstations, as well as other current control technology and strategies. The 500+ pages guide the reader through the fundamentals of control system theory, direct digital control, building management systems and a dozen other disciplines essential to proper environmental control in buildings. In this edition, microprocessor controls are shown in most of the control applications, rather than pneumatic, electric or electronic controls, to reflect the trends in today's industry. Also included is new information on indoor air quality and district heating. Often referred to as the "Gray Manual," this technical resource has been a standard among engineering design professionals since it was first published in 1934. *Revised 1997*

77-1100/U **$24.00**

Zoning Systems Reference Manual

A comprehensive reference on the Honeywell residential zoning capability. Includes Consumer Literature, System Design, Zone and Bypass Dampers, Networked Zoning, TotalZone, EMM Series, MM-2 and MM-3, Thermostats, Control Accessories and Fresh Air.

63-7067/U **$10.00**

Water Control Product Catalog

Honeywell Catalogue - Full Line of Quality Products for Water Management Solutions: Water Controls Products, Hydronic Heating, Plumbing and Energy Products.

- Honeywell Water Products: MIxing Valves, Air Vents, Boiler feed Valves/Back Flow Preventer, Expansion Tanks/Combo Kits, Honeywell Thermometers and Tridicators, DS05, DS06 DialSet Pressure Regulation Valves, T104/V110 High Capacity Thermostatic Radiator Valves, MT100/MT110 Service Tools, F74 Water Sediment Filters, D05/D06 Universal Pressure Regulating Valves, T100/V100 Standard capacity TRV, V135/T100 Loop Controls fro radiant floor applications

63-8702/U **$1.70**

Honeywell TRADELINE Catalog

Recently updated, this product catalog is an education in itself—over 1,000 pages of specifications and application information on Honeywell's residential, light commercial and burner and boiler controls. Included are Home Control products, Water Control products, Building Control products, Indoor Air Quality Products, Pneumatic Controls and Flame Safeguard Products.

70-6910/U **$7.00**

A lab trainer requires the student to actually perform point-to-point wiring to achieve a properly functioned control system.

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Demonstrators

DSP3168 Gas Ignition Trainer

The DSP3168 is a suitcase-style hands-on laboratory workstation designed to support instruction in gas ignition controls as used on residential gas heating equipment and some commercial cooking equipment. Using point-to-point wiring, students wire up actual controls to simulate the operation of a number of types of gas ignition systems, using a small propane-fired burner.

The DSP3168 can be set up to simulate the following types of gas ignition systems:

- Intermittent Pilot Ignition utilizing electronic flame detection to provide pilot safety.
- Direct Spark Ignition uses a spark electrode and a separate electronic flame detector electrode to directly light the main burner in a furnace, boiler or some other heating or cooking appliance.
- Hot Surface Ignition uses a hot surface igniter to directly light the main burner.
- SmartValve uses electronic flame sensing (flame rectification). This combines gas flow control and electronic intermittent pilot sequencing functions into a single unit. The low voltage igniter, and flame sensor on the pilot burner plug directly into the system control.

The DSP3168 lab trainer includes the following control and accessories: Honeywell VR8204, VR8205, and SV9501 gas valves; S8610U, S87D, and S8910U electronic ignition surface modules, and LP regulator and hose, ignition cable, wires with banana plugs, timing tab for S8910U, a propane tank holder, and an accessory box containing a spark adapter, direct spark igniter, intermittent pilot igniter-flame sensor allen wrench and screws. Propane not included.

Using the banana plug wires, the student connects the controls and devices into the proper 120V and 24V circuits, both of which are fused.

Also included: a controls/devices list, lab exercises, a troubleshooting sheet, and reference material from THE SOURCE gas ignition training program.

DSP3168/U **$1,750.00**

DSP3564 ControLinks™ Demonstrator

The DSP3564 is designed for use in training on the Honeywell ControLinks™ Fuel Air Control System.

The demonstrator contains the following items:

- One RM7800L1012
- One ST7800A1021
- One R7999A1005
- Four ML7999A1003
- One 1-5K Pot
- Six SPST Toggle Switches
- One R7847A1033
- One Q7800A1005
- One Q7999A1006
- Six Indicator Lights
- One 2-1K Pot
- One Carrying Case with handle (22” x 16” x 6”)

DSP3564/U **$1,575.00**

DSP3822 ControLinks™ Display Demo

The DSP3822 is a field service tool for the ControLinks™ system that allows monitoring and configuration of a ControLinks system without a laptop PC and the ZM7999 ControLinks Configuration Software. The DSP3822 also functions as a training and demonstration tool for the Honeywell S7999B ControLinks Configuration Display. The display uses a wizard-like interface to assist in the configuration process. The DSP3822 includes an integrated carrying case and internal power supply.

DSP3822/U **$615.00**

DSP3981 ControLinks FAR Configuration Toolkit

The DSP3981 Toolkit includes USB-485 Converter with cable and Connector for Controlinks; ZM Software

DSP3981/U **$2,277.75**

Lab Trainers

Demonstrators

DSP3943 SOLA Demonstrator

The DSP3943 is used as a SOLA commissioning or monitoring tool when a System or Local Operator Interface is not required for operation. The DSP contains the S7999B1026 touchscreen display which uses a wizard like process to assist you through the commissioning process.

DSP3944/U **$4,791.03**

DSP3980 SOLA Demonstrator

The DSP3980 contains an S7999D1006 Touchscreen Display to commission or monitor the Sola system when a System or Local Operator Interface is not required for operation. The DSP3980 includes the power supply for operation and cable with connector for the SOLA system. A USB storage drive is provided to save display screen snapshots or trending information.

DSP3980/U

Burner and Boiler Controls Demonstrator Instructors Manual

This Manual is the Instructor's version of the Operating Training Board Exercises for the DSP3472

71-97117 **$3.25**

Burner and Boiler Controls Demonstrator Student Workbook

This Manual contains the Operating Training Board Exercises for the student for the DSP3472

71-97116 **$3.25**

Ordering Information

Order online

You can order online at http://customer.honeywell.com
If you are already a Honeywell customer, please login with your name and password. You can then go to the quick order form and fill it out to place your order.

Some products are available through the Print-On-Demand site at http://Literature.honeywell.com

Shipping
All U.S. orders for training materials are shipped freight collect, UPS ground. Please pay with a credit card and the charges will be added to your total.

Expedited Orders
When requested, we will expedite an order and ship by air, but you must pay by credit card and you will be billed for the shipping costs.

International Orders
International orders *MUST be* placed through your local Honeywell subsidiary. They can advise you on ordering and shipping procedures. We cannot accept or ship international orders.

Returns
Returned items are accepted within four months of purchase. There are no cash refunds, and a $30 restocking fee *per item* will be deducted from your credit. You are responsible for return shipping costs. The address for returns is printed on the bill of lading. Please call or fax in advance of your return and provide a list of the items that you are returning and a reason as to why you are returning them.

Form of Payment
For on line orders, payment must be made by VISA, MasterCard, or American Express card or a company purchase order

Inquiries
If it is necessary to contact us regarding your order, please provide the following information:
The data the order was places, your account number, the web order number (found on the order confirmation) and the reference number.

Contact us at:
Honeywell International Inc.
MN10-131A
1985 Douglas Drive North
Golden Valley, MN 55422
FAX: 800-356-0149
PHONE: 763-954-5720

Note: Please allow 1 to 2 weeks to process and fill your order.

Notes

Notes

Honeywell

ENVIRONMENTAL AND COMBUSTION CONTROL
WARRANTY POLICY

Honeywell warrants the products in this catalog (except those parts designated on Honeywell's price lists as not covered by this warranty) to be free from defects due to workmanship or materials, under normal use and service, for the following warranty periods.

Sixty (60) months from date of installation
- Prestige®, Prestige® IAQ, VisionPRO®, Commercial VisionPRO®, FocusPRO®, Wireless FocusPRO®, PRO 4000, PRO 3000, LineVoltPRO™, Digital Round™, and Modern Round ™ (T87K, N) Series Thermostats with a date code of 0501 or later
- Air Cleaners, Humidifiers, Ventilators, Ultraviolet Treatment and Zoning products with a date code of 0501 or later, excluding replacement maintenance parts
- Indoor air quality products F50, F52, F300, F200, F150, UV100E, HE225, HE265, HE365, with date codes of 0452 or earlier, excluding replacement maintenance parts
- MS, MN and fast acting 2-position Direct Coupled Actuators
- JADE economizer when used with Honeywell sensors and actuators
- AquaPUMP circulating pump
- C7189 wireless indoor sensor

Sixty (60) months from date of manufacture
- Access and Video Systems power supplies

Thirty-six (36) months from date of shipment
- Variable frequency drive devices (VFD) and accessories

Thirty-six (36) months from date of installation
- AUBE branded thermostats, timers, and switches

Twenty-four (24) months from date of installation
- CommercialPRO, PRO 2000 and PRO 1000 thermostats
- Other Honeywell indoor air quality and zoning products with a date code of 0452 or earlier, unless otherwise specified
- AQ2000 Aquatrol panels and AQ1000 thermostats

Twenty-four (24) months from date of manufacture
- Pan-Tilt-Zoom Domes for Access and Video Systems

Eighteen (18) months from date of shipment,
- All WEBs building automation and security parts, unless specified otherwise

Twelve (12) months from date of installation
- Water Solutions products
- Other Honeywell thermostats and thermostats with a date code of 0452 or earlier, unless specified otherwise

Twelve (12) months from date of shipment
- Building automation security accessories

Twelve (12) months from date of manufacture
- Keyboards, Controllers and other Access and Video System accessories.

Ninety (90) days from date of manufacture
- IR Halogen bulbs for Access and Video Systems

The warranty period for all other products is twelve (12) months from date of installation.

If a product is defective due to workmanship or materials, is removed within the applicable warranty period, and is returned to Honeywell in accordance with the procedure described below, Honeywell will, at its option, either repair, replace or credit the customer for the purchase price of the product, in accordance with the procedure described below. This warranty extends only to persons or organizations who purchase products in this catalog for resale.

The expressed warranty above constitutes the entire warranty of Honeywell with respect to the products in this catalog and IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL HONEYWELL BE RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

INSTRUCTIONS—INSTALLING OR SERVICING CONTRACTOR OR DEALER

When replacing a Honeywell product under warranty, including those products furnished on original heating and/or cooling equipment, you should rely on your local Honeywell Wholesaler or Distributor for prompt and efficient product replacement service.

A Honeywell Returned Goods Identification Tag (form 87-0030) or an electronic data notification system must be completed and approved by the servicing dealer/contractor prior to submitting the product to the Honeywell Wholesaler or Distributor. (Tags may be obtained from the Wholesaler or Distributor in advance.) No warranty claim for product replacement or credit will be honored by the Wholesaler/Distributor without a completed warranty tag attached or electronic notification.

INSTRUCTIONS—WHOLESALER OR DISTRIBUTOR

The following will apply to the return of any product to Honeywell under this warranty, except any products which are not variable frequency drives or WEBS and are:

(i) identified with a Honeywell Return Goods Authorization Form (obtained from the B2B website at Customer.Honeywell com)
(ii) (display the RMA number and return address label on the outside of the return carton. Make sure a copy of the RMA is enclosed in the return carton
(iii) packed separately from other returns and protected from shipping damage;
(iv) have certification by the installer or servicing dealer that the product was removed, due to failure, within the applicable warranty period;
(v) are received transportation pre-paid at the facility listed on the shipping and/or packing slip.
(vi) and are found by Honeywell's inspection to be defective in workmanship or materials under normal use and service

will be handled in accordance with one of the two following procedures, as specified by the customer making the return.

1. *CREDIT PROCEDURE.* Honeywell will issue credit, at Honeywell's lowest wholesaler net price in effect at the time of the return (as set forth on Honeywell's then current price sheet) or at the actual invoice amount if a copy of that invoice is attached to the packing list. (TRADELINE Replacement Exchange Products will be at Honeywell's lowest replacement exchange net price in effect at the time of such return, as shown on Honeywell's then current price sheet.) Honeywell reserves the right to disallow this credit option in cases of warranty abuse.
2. *REPLACEMENT PROCEDURE.* Warranty replacement procedure must be used for in-warranty emergency replacement orders. Customer will not be credited for items not meeting warranty criteria as outlined by policy. Please return the defective item to the address listed on the return authorization form.

List Water Solutions products on a separate Return Goods Order form, marked "**Water Solutions**".

All new and unused VBN control ball valves MUST be approved by your Honeywell sales representative before returned.

WEBs return products must be processed through WEBs Customer Care. Defective hardware products under warranty have to be returned to Tridium in Richmond, VA. Security Access and Video products must have prior authorization (From No. 87-0288).

All VFD warranty return products must be coordinated through the Commercial Components Hotline staff and VFD Warranty and Repair Program Coordinator, (ECC-VFD Coordinator). All VFD warranty returns must have prior authorization and must be returned to the specified Honeywell VFD Service Center.

The warranty will not be honored if:
(i) product is damaged or missing parts or accessory items including batteries.
(ii) product exhibits evidence of field misapplications.

Final disposition of any warranty claim will be determined solely by Honeywell. If inspection by Honeywell does not disclose any defect covered by the warranty, the product will be returned or scrapped as instructed by the customer and Honeywell's regular service charges will apply. Products returned to the customer may be sent shipping charges collect.

f you have any questions relative to product returns to Honeywell, contact your Customer Care Representative:

Honeywell International Inc.
Customer Care MN10-131A
1985 Douglas Drive
Golden Valley, MN 55422
1-888-793-8193

SPECIAL MESSAGE TO INDUSTRIAL USERS AND BUILDING OWNERS

Thank you for using Honeywell products.

As a user, when you purchase a Honeywell product from this catalog you should expect performance from the product and, if it fails, replacement of the product by the installing dealer.

Typically, you will have purchased a Honeywell product under the following circumstances:

1. To modernize or refurbish your existing commercial and/or process control system.
2. You have purchased new commercial and/or process heating, cooling, air cleaning or humidification equipment that is furnished with Honeywell controls or components (refer to your owner's manual furnished with the equipment).
3. A control has failed on your existing commercial and/or process heating and/or cooling equipment and is replaced by a Honeywell TRADELINE product.

With few exceptions, you utilize the services of a competent plumbing, heating and/or cooling dealer/contractor for new or replacement work performed.

Although our warranty does not extend to you, Honeywell does extend a warranty to your supplier.

Your supplier can rely on its local Honeywell Wholesaler/Distributor or Honeywell for prompt replacement.

f you have any questions, need additional information or would like to comment on Honeywell's products or services, please write or phone:

Honeywell International Inc.
Customer Care MN10-131A
1985 Douglas Drive North
Golden Valley, MN 55422-4386
1-888-793-8193

or check your telephone directory (white pages) for one of many Honeywell field sales offices.

Automation and Control Solutions
Honeywell International Inc.
1985 Douglas Drive North
Golden Valley, MN 55422
customer.honeywell.com

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70-6910 Rev. 05-13

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