



Honeywell Home

EMERSON

Robertshaw

ENGINEERING
TOMORROW

Danfoss

Johnson Controls

IRP International Refrigeration Products

ICM CONTROLS

PARAGON Electrical Products

NRP NATIONAL REFRIGERATION PRODUCTS

Supco

Bussmann by E.T.N

BELIMO

KMC CONTROLS

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THERMOSTAT

ELECTROMECHANICAL



T812A

HEAT ONLY, T812 SERIES

Provides SPST control of 24 V ac residential heating systems.

- Coiled bimetal element operates snap-action switch

Honeywell Home

Part No.	Application	Temperature (°F)	Price
T812A1002	Heating Only	50-90	\$31.32



T822K1000

MERCURY-FREE ECONOSTAT

- Low voltage thermostat
- Vertical mounting
- Coiled bimetal element operates snap action switch
- SPST switch
- Vented covers-better air flow improved temperature sensing

- Premier White color
- T827K provides control of 0.1A circuits in millivoltage, 12 VDC, and 24 Vac heating systems.
- T822L is heat only for normally open hot water zone valves
- T822L: scale in Fahrenheit and Celcius

Honeywell Home

Part No.	Stages		Temperature (°F)	Price
	Cool	Heat		
T822K1000	—	1	45 to 95	\$73.16
T822K1042	—	1	35 to 85	\$73.16
T822L1000	1	—	45 to 95	\$70.72
T827K1009	—	1	50 to 90	\$67.32



T834N1002

MERCURY-FREE ECONOSTAT

- Low voltage heating thermostat
- Vertical mounting
- Coiled bimetal element operates snap action switch
- Vented covers-better air flow improved temperature sensing

Honeywell Home

Part No.	Stages		Temp. (°F)	Switching			Price
	Cool	Heat		System	Fan	Change-over	
T834N1002	1	1	50 to 90	H/O/C	A/O	Manual	\$71.82



1C20-102

SNAP ACTION

For low voltage single stage heating and cooling installations where a snap-action control is desired.

- Voltage: mV to 30 Vac maximum
- Snap action contacts
- Vertical orientation
- Bi metal thermometer

- 1C26101 includes "A" terminal for electric heat systems

EMERSON

Part No.	Temp. (°F)	Differential	Switch	Application	Price
1C20-102	50 to 90	2°F	SPST Open Rise	Heating	\$28.92
1C26101	50 to 90	2-Heat/4-Cool	—	Heat/Cool	\$32.04



1E30N910

SNAP ACTION

For low voltage heating, cooling, and zoning installations where a snap-action control is desired.

- Voltage: 30 Vac maximum
- Snap action contacts
- Vertical orientation
- Suitable for zoning applications

EMERSON

Part No.	Temperature (°F)	Switch	Application	Price
1E30N910	50 to 90	SPST Open Rise	Heating	\$69.66



1E56N444

HEAT/COOL

- Single stage heating/cooling
- Voltage: 30 Vac maximum
- Switching: C/O/H, A/O
- Temperature range: 50 to 90°F
- SPDT
- Contact Type: enclosed snap switch
- Bi-metal thermometer
- Mercury free

EMERSON

Part No.	Temperature (°F)	Mounting Code	Switch	Price
1E56N444	50-90	V	SPDT	\$66.76
1F56N444	50-90	H	SPDT	\$66.82

DIGITAL, NON PROGRAMMABLE



TH1110E1000

E1 PRO

The E1 PRO Non-Programmable Thermostat makes adjustments easy with a large digital display and intuitive up and down buttons for temperature control. The thermostat is backlit, making it ideal for any lighting condition. It shows the current temperature and

has mechanical mode and fan switches for easy operation. Like all of our PRO series thermostats, you can add your own company name to the label so customers will know who to call for future HVAC needs, and you'll get recurring business.

- Large, easy to read display
- Easy to use
- Precise comfort accuracy of $\pm 1^\circ\text{F}$
- Minimal call-backs
- Budget friendly
- Retrofit options that fit millions of existing on-the-wall thermostat footprints
- Application: Oil, Electric, Steam/Gravity Systems, Single Stage Heat + Cool Systems, Single Stage Heat Pumps w/out Aux. Heat
- Battery and hardwire

Honeywell Home

Part No.	Stages		Switching		Price
	Heat	Cool	System	Fan	
TH1110E1000	1	1	H/O/C	A/O	\$62.90



TH3110U2008

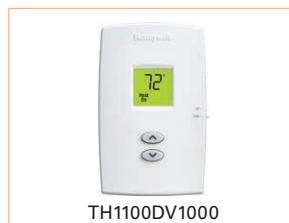
T3 PRO

- Ready out of the box
- Large, backlit digital display
- Intuitive up and down vertical buttons
- Precise comfort accuracy of $\pm 1^\circ\text{F}$
- Minimal callbacks
- UWP for easy upgrades

- 5-year warranty
- Private label available for co-branding
- Application: Conventional, Heat Pump
- Battery and hardwire

Honeywell Home

Part No.	Stages		Switching		Price
	Heat	Cool	System	Fan	
TH3110U2008	1	1	H/O/C/A	A/O	\$76.26
TH3210U2004	1 Conv. / 2 HP	1	H/O/C/A	A/O	\$108.50



TH1100DV1000

PRO 1000 SERIES

- Voltage: 20 to 30 Vac or 750 mV
- Battery or hardwire
- Premier White® finish

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TH1100DV1000	Conventional	1	—	H/O	—	\$59.24
TH1110DV1009	Conventional, Heat Pump	1	1	H/O/C	A/O	\$62.90
TH1210DV1007	Conventional, Heat Pump	2	1	H/O/C/EM. HT	A/O	\$85.92



TH5320R1002

FOCUSPRO® WIRELESS

Easily add a zone to a TrueZONE™ system without running new wires.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Works with compatible RedLINK™ enabled devices
- Large, clear, backlit display:
- Easy-to-see and read even in the dark.
- Precise comfort control: $\pm 1^\circ\text{F}$ of your set temperature.
- Simplified operation: Soft-key controls
- Simultaneously displays both room temperature and temperature setting.
- Easy change battery holder.
- Built-in compressor protection: Minimum-off timer protects compressor from restarting too early after a shutdown.
- Changeover: automatic or manual
- Application: Gas, Oil, Electric, Heat Pump, Forced Warm Air, Hot Water, Steam/Gravity
- Battery
- Premier White® finish

Honeywell Home

Part No.	Stages		Switching		Price
	Heat	Cool	System	Fan	
TH5320R1002	3	2	H/O/C/A/EM	A/O	\$321.52

THERMOSTAT

DIGITAL, NON PROGRAMMABLE



TH3110B

PRO 3000

The PRO 3000 non-programmable thermostat provides electronic control of 24 Vac, single-stage heating and cooling systems or 750 mV heating systems.

- Horizontal mounting
- Manual changeover
- One-touch temperature controls
- Large, clear backlit display is easy to read, even in the dark
- Switchable fan control (auto or continuous fan)
- Displays both room temperature and temperature setting
- Built-in compressor protection
- Voltage: 20 - 30, 750 mV
- Battery or hardwire
- Premier White® finis

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TH3110D1008	Conventional	1	1	C/O/H	A/O	\$67.06
TH3210D1004	Conventional, Heat Pump	2	1	C/O/H/EM	A/O	\$120.90



T1Pro

T1 PRO

Includes: thermostat, UWP mounting system, installation (J-box) adaptor, small decorative cover plate, screws and anchors, installation guide, user guide, and 2 AA batteries

- Battery or hardwire
- Application: 24 Vac systems, Gas, Oil, Electric, Steam/Gravity Systems
- Premier White® finis

Honeywell Home

Part No.	Stages		Switching		Price
	Heat	Cool	System	Fan	
TH1010D2000	1 Conv.	1 Conv.	H/O/C/O	A/O	\$73.40
TH1110D2009	1 Conv./HP	1 Conv./HP	H/O/C/O	A/O	\$63.86



T8775C1005

DIGITAL ROUND™

The T8775A thermostat provides 24V control of heating only systems. The T8775C thermostat provides single-stage temperature control for 24V heating-cooling systems with manual changeover from heat to cool. Includes wall plate, screws, and anchors.

- Range: 40 to 90°F heating, 45 to 99°F cooling
- 1.5A maximum system, .5A maximum fan, 20 to 30 Vac
- Large easy-to-read, backlit display
- No batteries required; permanent retention of settings in power failure
- Powered through heating-cooling system controls
- Manual changeover, system, fan switches T8775C
- Easily configurable by the use of DIP switches
- °F or °C temperature display
- Selectable heating cycle rates (1, 3, 6, 9 cph) for a variety of applications
- Cooling cycle rate is fixed at 3 cp
- Premier White® color

Honeywell Home

Part No.	Application	Stages		Price
		Heat	Cool	
T8775A1009	Heat Only	1	—	\$116.68
T8775C1005	1-Heat, 1-Cool	1	1	\$133.66



T87K

THE ROUND®, ELECTRONIC

Provide electronic control of 24 Vac heating and cooling systems.

- Mercury free
- Manual changeover
- Thermistor sensor element
- Premier White® finis

Honeywell Home

Part No.	Switching		Price
	System	Fan	
T87K1007	O/H	—	\$78.92
T87N1000	C/O/H	A/O	\$115.50
T87N1026	C/O/H	A/O	\$144.54



1F89211

80 SERIES

- Hardwired Fossil fuel or electric heat compatible
- Large LCD display with backlight
- Permanent program retention during power loss
- Configuration menu allows keypad selection of options
- Selectable °C or °F temperature display
- Classic White color



Part No.	Stages		Switching		Price
	Heat	Cool	System	Fan	
1F89211	2	1	H/O/C/EM	A/O	\$113.28



1F86344

HEAT/COOL

The 1F86 digital thermostats are battery powered and compatible with most heating and cooling systems.

- For heating, cooling, electric heat, 1-stage heat pump
- Temperature range: 45 to 90°F

- Voltage: millivolt to 30 Vac
- Large LCD display
- Battery powered



Part No.	Stages		Switching		Price
	Heat	Cool	System	Fan	
1F86344	1	1	H/O/C	A/O	\$85.44



1F78144

SINGLE STAGE

Comfort-Set® 70 Series 1 Heat/1 Cool.

- Battery powered for maximum compatibility
- Fossil fuel or electric heat compatible
- Large LCD with backlight

- Selectable °C or °F temperature display
- Includes O and B terminals
- Classic White color



Part No.	Stages		Price
	Heat	Cool	
1F78144	1	1	\$59.38



1E78144

ECONOMY

- Fossil fuel or electric heat compatible.
- Large LCD with backlight.
- Terminal Load: 1.0 A per terminal, 1.5A maximum all terminals combined

- Dimensions: 3 3/4" H x 5 1/8" W x 1 1/8" D
- Battery powered



Part No.	Stages		Price
	Heat	Cool	
1E78144	1	1	\$59.34



1F80Nonprog

BLUE™ 2"

- 2-square-inch Blue™ display with easy-to-see characters
- Exclusive Cool Savings™ feature saves energy during peak A/C demand periods
- Lighted display for easier low-light viewing

- Easy-to-wire push-connect color coded terminals
- Dimensions: 4.8" W x 3.8" H x 1.5" D
- 0 to 30 VAC, 50/60 Hz or DC
- 0.05 to 1.5 Amps (load per terminal)
- 1.5 Amps maximum load (all terminals combined)
- Temperature Range: 45 to 90°F
- Rated differential: 0.6 to 1.7°F with adjustable anticipation
- Long battery life: uses 2 "AA" alkaline batteries (included)
- Exclusive battery power monitor
- 5-year warranty



Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
1F890211	Electrica, Gas, Oil, Heat Pump, mV	2	1	H/O/C/A/EM	A/O	\$102.70



80seriesWR

80 SERIES

- Attractive Sensi thermostat styling for non-wi-fi applications
- Bright, high contrast backlight.
- Built-in level indicator
- Terminal block connections on subbase

- Keypad lockout and adjustable heat/cool temperature limits
- Permanent program retention during power loss
- Display temperature range: 32 to 99°F
- Dimension: 3 3/4" H x 6" W x 1 1/8" D
- Hardwire or battery powered



Part No.	Application	Stages		Price
		Heat	Cool	
1F83C11NP	Gas, Oil, Electric, Heat Pump, mV	1	1	\$84.44
1F83H21NP	Gas, Oil, Electric, Heat Pump	1 HP	2 HP	\$96.74
1F85U22NP	Gas, Oil, Electric, mV, 3-Wire Zone Valve, Heat Pump	2	2 Conv, 1 HP	\$122.24
1F85U42NP	Gas, Oil, Electric, mV, 3-Wire Zone Valve, Heat Pump	2 Conv, 4 HP	2	\$138.20

THERMOSTAT

DIGITAL, PROGRAMMABLE



THX321WFS2001W

T10 PRO SMART DIGITAL THERMOSTAT WITH REDLINK

The T10 Pro Smart Thermostat with included REDLINK™ indoor room sensor utilizes both RedLINK and Wi-Fi capabilities. Utilizes the Honeywell Home App. ENERGY STAR® Certified

Application:

- Dual fuel and aux heat lockout
- Control a humidifier, dehumidifier, or ventilator
- Wired outdoor sensor or Internet weather
- Wireless indoor temperature, humidity, and motion sensors
- Geofence capable
- Selectable ranges stops: min and max heat and cool
- DST enabled
- 5-year warranty

Honeywell Home

Kit contains 1 thermostat and 1 C7189R2002 sensor, UWP mounting system and J-box adapter

Part No.	Application	Stages		Switching		Changeover	Price
		Heat	Cool	System	Fan		
THX321WFS2001W	Conventional, Heat Pump	2 Conv. / 3 HP	2	HEAT-OFF-COOL-AUTO-EM HEAT	AUTO-ON-CIRC-FOLLOW SCHEDULE	Auto or Manual	\$496.00



TH8732WF5018

LYRIC™ WIFI

The Lyric thermostat is ideal for customers who are always on the go and want optimal comfort and savings they don't have to think about.

- App based install, everything happens in four easy steps using the mobile app, no manual necessary

- Geofencing uses a homeowner's smartphone location to automatically save energy when they're away and ensure comfort when they return home

- The Smart Cues™ feature delivers messages to a home owner's device with alerts to change filters or with extreme temperature notification
- The Fine Tune™ feature considers both humidity and temperature so that a homeowner's desired temperature always feels the same
- Shortcuts are buttons on the app interface that can customize quick temperature setting changes for specific purposes, allowing homeowners to change settings with one touch
- Battery, Hardwire, Power Transformation
- Optional 24 VAC power (C) wire
- 5 Year Warranty

Honeywell Home

Part No.	Stages		Switching		Changeover	Price
	Heat	Cool	System	Fan		
TH8732WFH5002	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O/CIRC	Auto/Manual	\$564.24



T4pro

T SERIES

The T Series programmable thermostat streamlines everything from product selection and installation to customer service and support. With a standard footprint and simple interface, the T Series will enhance the entire thermostat experience for you and your customers alike.

- 33% thinner than FocusPro
- First Honeywell product line with a standard wall mount
- Features: back lighting, time display, auxiliary heat control, adaptive intelligent, keypad lockout, compressor protection, fan circulation, filter change reminder (TH6220 dual fuel)
- Includes: thermostat, UWP mounting system, installation (J-box) adaptor, small decorative cover plate, screws and anchors, installation guide, user guide, and 2 AA batteries
- Battery or hardwire

Honeywell Home

Part No.	Application	Stages		Switching		Changeover	Price
		Heat	Cool	System	Fan		
TH4110U2005	Standard Efficient Gas forced Air, High Efficacy Gas forced Air, Oil Forced Air, Electric Forced Air, Hot water Fan Coil, Geothermal Heat Pump, Air to Air Heat	1	1	H/O/C/A	AUTO-ON	Auto/Manual	\$104.52
TH6210U2001	Electric Forced Air, Hot water Fan Coil, Geothermal Heat Pump, Air to Air Heat	2 HP, 1 Conv.	1	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	Auto/Manual	\$144.16
TH6220U2000	Air to Air Heat Pump, Hot Water Radiant Heat, Steam	2	1 HP, 2 Conv.	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	Auto/Manual	\$194.62
TH6320U2008	24 Vac systems, Gas, Oil, Electric Warm Air, Hot water Coil, Gas, Oil, Electric, Hydronic, Steam/Gravity	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	Auto/Manual	\$219.84
TH4210U2002	Standard Efficient Gas forced Air, High Efficacy Gas forced Air, Oil Forced Air, Electric Forced Air, Hot water Fan Coil, Geothermal Heat Pump, Air to Air Heat	2 HP, 1 Conv.	1	H/O/C/A/EM	AUTO-ON	Auto/Manual	\$126.38



TH6220WF2006

LYRIC™ T6 PRO WI-FI

The new Lyric T6 Pro Wi-Fi is easy to use, and easy for techs to install and set up. Homeowners are asking for and adopting home automation technologies, and the Lyric T6 Pro Wi-Fi enables you to offer a simple solution that's integration-ready.

- Simple Installation and Easy Setup Options
- Location-Based Temperature Control
- Ecosystem Integration
- Optional Ventilation Control, Wired Indoor/Outdoor Sensors
- Compatible with most heating, cooling, and heat pump systems

- Required: 24 VAC power (C wire)
- Does not work with electric baseboard heat (120-240V)
- Does not work with millivolt systems
- Display: 6.89 Sq. In.
- Seamlessly integrates with Apple® HomeKit™ and Amazon Echo® for customers who want to control all their smart home devices from a single app.
- Application: Gas, Oil, Electric Warm Air, Electric Hydronic, Steam/Gravity
- Includes: thermostat, UWP mounting system, installation (J-box) adaptor, small decorative cover plate, screws and anchors, installation guide, and user guide

Honeywell Home

Part No.	Stages		Switching		Price
	Heat	Cool	System	Fan	
TH6220WF2006	2	1 HP, 2 Conv.	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	\$257.74
TH6320WF2003	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	\$343.66



TH6320ZW2003

Z-WAVE™ T6 PRO

Designed to work with any Z-Wave compliant controller or gateway; however, a security enabled Z-Wave Plus Controller is recommended to fully utilize all thermostat features. Works with Heat Pump or Conventional systems and has dual fuel and aux heat

lockout with outdoor sensor.

- Up to 3H/2C Heat Pump systems or up to 2H/2C Conventional systems

- Z-Wave Plus certified with improvement in range, battery life, and bandwidth
- Backwards compatibility
- Selectable ranges stops
- Keypad lockout
- DST Enabled
- 3AA batteries, hardwired (C-Wire), or both
- Display: 6.89 Sq. In.
- Time based 7-day, 5-1-1 or 5-2 day programmable, non-programmable, or occupancy controlled with Z-wave panel/app integration
- 5 Year Warranty

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TH6320ZW2003	24 Vac systems, Gas, Oil, Electric Warm Air, Hot water Coil, Gas, Oil, Electric, Hydronic, Steam/Gravity	3 HP, 2 Conv.	2 HP, 2 Conv.	H/O/C/A/EM	AUTO-ON-CIRC	\$260.40



TH6100AF2004

T6 PRO HYDRONIC

T6 Pro Hydronic Programmable Thermostat can be used to control hot water heat systems by sensing the ambient air temperature, floor temperature, or both. Wired floor sensor included.

- 7-day, 5-2, 5-1-1 or non-programmable
- Hot water and steam, up to 1H only

- Can be set to operate in one of 3 different control modes, including A, F, and AF
- Floor sensor included
- Remote indoor air optional
- Battery or Hardwire
- Display: 6.89 Sq. In.
- Uses the UWP mounting system that's standard across all T Series thermostats
- Simple push-button functionality
- Adaptive Intelligent Recovery
- 5-year warranty

Honeywell Home

Part No.	Application	Stages		Switching		Changeover	Price
		Heat	Cool	System	Fan		
TH6100AF2004	Hot water heat only with floor sensor	1, Hot Water and Steam	0	Heat-Off	None	Heat Only	\$193.70

DIGITAL, PROGRAMMABLE



TH8320R1003

VISIONPRO™ 8000 WITH REDLINK

- 7-day programmable thermostat
- Thermostat works standalone or with the THM5421R1021 Equipment Interface
- Module or with the TrueZONE Wireless Adapter.
- Display: 10 sq. in.
- 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 sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts such as a full drain pan or water leak.
- Extend wireless range of the Equipment Interface Module by connecting a THM4000R1000 Wireless Adapter to the ABCD terminals.

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TH8110R1008	Gas, Oil, Electric, Heat Pump, Forced Warm Air, Hot Water, Steam/Gravity	1	1	H/O/C/A	A/O/CIRC	\$379.90
TH8320R1003	Gas, Oil, Electric, Heat Pump, Forced Warm Air, Hot Water, Steam/Gravity	3	2	H/O/C/A/EM	A/O/CIRC	\$422.12
TH8321R1001	Gas, Oil, Electric, Heat Pump, Forced Warm Air, Hot Water, Steam/Gravity, Humidity	3	2	H/O/C/A/EM	A/O/CIRC	\$464.74

Part No.	Description	Price
THM4000R1000	Wireless Adapter allows you to easily add RedLINK™ enabled thermostats to a TrueZONE™ system without running new wires.	\$131.50
C7089U1006	Remote Outdoor Sensor	\$59.92
YERM5220R8321	VisionPro ERM Kit, includes Equipment Remote Module (ERM) (ERM5220R1018) and VisionPRO 8000 (TH8321R1001)	\$738.16
YTH8321R1002	Thermostat Kit, includes TH8321R1001 VisionPRO 8000 thermostat and THM6000R1002 RedLINK Internet Gateway	\$532.20
THM5421R1021	RedLINK Interface Module. Up to 4 Heat/2 Cool Heat Pump, 3 Heat/2 Cool Conventional. 3 sets of Universal IAQ contacts to control humidification, dehumidification, and ventilation	\$159.20
THM6000R1002	RedLINK™ Internet Gateway provides remote access to any RedLINK™ enabled thermostat through the internet, smart phone or tablet	\$201.46



TH8320R1003

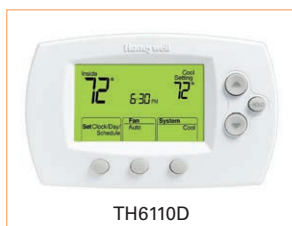
WIFI VISIONPRO™ 8000

- 7-day programmable thermostat
- Equipped with a touchscreen display with a 2 line message center.
- Provides Remote Access through Smartphone, Tablet or Computer when connected to Wi-Fi and registered to mytotalconnectcomfort.com
- Provides lockout temperatures for auxiliary heat and/or compressor lockout in Heat Pump system using the wired outdoor sensor accessory or using the outdoor information from the cloud if no wired sensor is used, but the thermostat is connected to Wi-Fi and registered.
- Plain language setup, no manual needed
- Display: 10 sq3 in.
- Power: hardwire
- Relay for IAQ Control; no remote sensor required
- Equipment check/change reminders
- Programmable for annual energy savings

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TH8321WF1001	WiFi Internet Connected	2 Conv, 3 HP	2	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	\$429.96

Part No.	Description	Price
C7089U1006	Remote Outdoor Sensor	\$59.92



TH6110D

FOCUSPRO™ 6000

- Separately programmable weekday/weekend schedules.
- One-touch temp control overrides program schedule at any time.
- EnergyStar® compliant to greatly reduce your heating/cooling expenses.
- Displays both room temperature and temperature setting.
- Removable battery holder for fast, easy replacement.
- Built-in compressor protection.
- Selectable auto or manual changeover
- Battery or hardwire
- Display: 1.5 sq. in.
- Premier White® finis

- Large, clear, backlit display is easy to read-even in the dark.

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TH6110D1021	Gas, Oil, Electric, mV	1	1	H/O/C/A	A/O	\$168.40



TH6320R1004

FOCUSPRO™ WIRELESS

Easily add a zone to a TrueZONE™ system without running new wires.

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Works with compatible RedLINK™ enabled devices
- EnergyStar® compliant to greatly reduce your heating/cooling expenses.
- Large, clear, backlit display is easy to read-even in the dark.
- Displays both room temperature and temperature setting.
- Removable battery holder for fast, easy replacement.
- Built-in compressor protection.
- Selectable auto or manual changeover
- Battery operated
- Premier White® finis
- Use with: HZ432 or HZ322 and THM4000R1000, or THM5320R1000

- Separately programmable weekday/weekend schedules.
- One-touch temp control overrides program schedule at any time.

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TH6320R1004	Gas, Oil, Electric, Heat Pump, Forced Warm Air, Hot Water, Steam/Gravity	3	2	H/O/C/A/EM	A/O	\$353.70



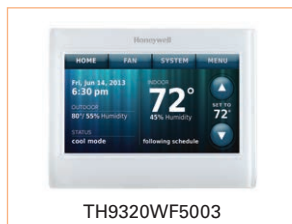
TH2110DV1008

PRO2000 SERIES, BUILDER

- Voltage: 20 to 30 Vac
- Battery or hardwire
- Premier White® finis
- Display: 1.32 sq.in.

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TH2110DV1008	Conventional Heat/Cool	1	1	C/O/H	A/O	\$75.06
TH2210DV1006	Heat Pump, Heat/Cool	2	1	C/O/H/EM.HT	A/O	\$97.64



TH9320WF5003

WIFI 9000 COLOR TOUCHSCREEN THERMOSTAT

Honeywell's Wi-Fi 9000 allows remote access to the thermostat through a computer, tablet, or smart phone with Honeywell's Total Connect Comfort Service.

- Connect to home's existing Wi-Fi network
- Selectable to 7 Day or Non-Programmable
- Customize the screen color to match any decor
- Hardwire
- Premier White® finis
- Redesigned terminal block no longer requires tools, and the plain-language on-screen setup process eliminates the need for a manual
- TH9320WVF6007 is voice-activated

- Automatic software updates through Wi-Fi

Honeywell Home

Part No.	Application	Stages		Switching		Description	Price
		Heat	Cool	System	Fan		
TH9320WF5003	Gas, Oil, Electric, Heat Pump	2 Conv. / 3 HP	2	H/O/C/A/EM	A/O/C	Color Touchscreen Thermostat	\$495.90

DIGITAL, PROGRAMMABLE



THX9421R5021WW

PRESTIGE™ THERMOSTAT

- Patented interview based programming and installer setup.
- RedLINK™ wireless communication.
- Increase profit per job by including RedLINK™ accessories that provide comfort and convenience.

RedLINK™ accessories include the

RedLINK™ Internet Gateway, Portable Comfort Control (PCC), Wireless Outdoor Sensor, Wireless Indoor Sensor, TrueSTEAM™ humidifier with Wireless Adapter and rueZONE® zoning panel with Wireless Adapter.

- Configurable 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.
- Alerts and User Interactions Log - 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 and points the technician in the right direction.

- Customizable Service Reminders allow dealers to remind their customers when its time 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.
- 2 assignable outputs to control humidification, dehumidification ventilation and a stage of heating or cooling. (3 outputs for THX9421)
- Hardwire
- Arctic White finish
- 8.06 sq. in.
- Precise Temperature Control ($\pm 1^\circ\text{F}$) for reliable and consistent temperature.
- Multiple staging options to provide comfort or energy savings.
- Control heating, cooling and IAQ equipment. Heating, cooling and IAQ equipment wires to the Equipment Interface Module.
- Delta T Alerts and Diagnostics informs customers when their system is not operating as expected with instructions to contact the dealer.

Honeywell Home

Part No.	Application	Stages		Switching		Changeover	Description	Price
		Heat	Cool	System	Fan			
THX9421R5021WW	Conventional, Heat Pump	3 Conv. / 4 HP	2	H/O/C/A/EM	A/O/Circulating	Auto or Manual	Prestige™ IAQ 4-Wire High Definition Touchscreen Thermostat	\$598.12

Part No.	Description	Price
C7089R1013	Outdoor Temperature and Humidity Sensor for RedLINK™ enabled thermostats and accessories	\$131.92
REM5000R1001	Personal Comfort Station™. Works with compatible RedLINK™ enabled thermostats and accessories.	\$226.20
C7189R1004	Wireless Indoor Temperature and Humidity Sensor for RedLINK™ enabled thermostats and accessories	\$99.80
50028399001	Cover plate for Prestige® Thermostats 7 7/8" x 5 1/2", Premier White®	\$28.84
THM6000R1002	RedLINK™ Internet Gateway provides remote access to any RedLINK™ enabled thermostat through the internet, smart phone or tablet	\$201.46



YTHX9421R5085WW

PRESTIGE® IAQ 2.0 COMFORT SYSTEM KIT

The Prestige® IAQ 2.0 thermostat is a 2-wire HD color touch screen thermostat, 7 day programmable, configurable for residential and light commercial, up to 4 heat / 2 cool heat pump and up to 3 heat / 2 cool conventional, controls humidification,

dehumidification and ventilation, provides Delta T Alerts and Diagnostics, works with the Equipment Interface Module and RedLINK™ accessories.

- Control heating, cooling and IAQ equipment with only 2 wires at the thermostat. Heating, cooling and IAQ equipment wires to the Equipment Interface Module.

- All Prestige® IAQ 2.0 systems come standard with a return and discharge air temperature sensor to measure Delta T.
- Alerts and User Interactions Log
- 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 sensors, occupancy sensor for remote setback and dry contact devices to trip pre-packaged or custom alerts such as a full drain pan or water leak.

Honeywell Home

Part No.	Includes	Price
YTHX9421R5085WW	THX9421R5021WW Thermostat, THM5421R1021 Equipment Interface Module and 2 Duct Sensors	\$669.58
YTHX9421R5101WW	THX9421R5021WW Thermostat, THM5421R1021 Equipment Interface Module, C7089R1013 Wireless Outdoor Sensor and 2 Duct Sensors	\$788.64
YTHX9421R5127WW	THX9421R5021WW Thermostat, THM5421R1021 Equipment Interface Module, THM6000R1002 RedLINK™ Internet Gateway and 2 Duct Sensors	\$700.36

Part No.	Description	Price
YTHM5421R1010	Prestige® IAQ 2.0 Equipment Interface module kit, includes: THM5421R1021 Equipment Interface Module and 2 Duct Sensors. RedLINK™ Enabled. Controls up to 4H/2C HP and up to 3H/2C Conv. Systems.	\$178.38



Wi7P43

WI7 WI-FI®

Comfort control from across the room or around the world

- 7 day programmable
- Fan and humidity control
- Full-color screen, ultra-wide viewing angle
- Touch/swipe/scroll control

- 5-year limited warranty
- Tool-free wire connections
- California Title 24 Compliant
- Secure Network on the cloud
- Back plate included



Part No.	Stages		Program	Price
	Heat	Cool		
Wi7P43	4	3	Universal	\$410.08



1F86U42WF

SENSI™, WIFI

Sensi App connects thermostat to home Wi-Fi router, no additional accessories/gateway required

- Programming: 7 day or non-programmable
- Works on heating and cooling systems, with or without C wire

- Auto heat/cool changeover option, automatically switches between heating and cooling programs
- Maintains room temperature to within $\pm 1^\circ\text{F}$
- Permanent program retention during power loss
- Battery or hardwire

Additional features for 1F87:

- Geofencing automatically changes temperatures based on the location of the homeowner's smartphone.
- Smart alerts notify homeowners of extreme temperature or humidity levels.
- Compatible with smart home platforms Apple HomeKit, Amazon Alexa and Wink.

- Servicing contractor contact information resides in the Sensi App, via contractor's phone number
- One smartphone/tablet can control multiple thermostats
- Multiple smartphones/tablets can control one thermostat
- Sensi thermostat will operate the HVAC system and settings even if Wi-Fi is disconnected



Part No.	Stages		Program	Application	Description	Price
	Heat	Cool				
1F87U42WF	2 Conv. / 4 Heat Pump	2	Universal	Gas, Oil, Electric, Heat Pump	5.88" x 3.75" x 1"	\$291.80
1F95U42WF	2 Conv. / 4 Heat Pump	2	Universal	Gas, Oil, Electric, Heat Pump	Touchscreen, 5.63" x 3.38" x 1"	\$383.96



1F971271

BIG BLUE™ TOUCHSCREEN, SERIES 90

Simple and logical installer menu set-up, programming and operation is enhanced by audio prompting that confirm touchscreen entries. Features like variable touchscreen security to prevent tampering, temporary and

vacation overrides, and filter change reminders add convenience

- 1F951271 staging: 2H (3H for HP application), 2C; 1F97 1H/1C
- 1F91277 adds programmable fan and remote sensing to 1F91271 functions

- 1F951280: commercial, keypad lockout (total or partial). Dual fuel with outdoor sensor (F1451378) or by logic program
- Programming: Universal choice of 7 day, 5/1/1 day programmable or non-programmable
- Display: 12-square-inch
- Approvals:
- Meets ENERGY STAR® specification
- Meets California Building Code, Title 24
- Permanent program retention during power loss
- Furnace filter, humidifier pad change reminder
- Battery or hardwire
- Dimensions: 4.6"H x 5.9"W x 1.2"D



Part No.	Stages		Program	Application	Price
	Heat	Cool			
1F951277 ¹	3	2	Universal	Gas, Oil, Electric, Dual Fuel, mV	\$357.78
1F971277 ¹	1	1	Universal	Gas, Oil, Electric, mV	\$320.32
1F951280 ²	4	2	Universal	Gas, Oil, Electric, Heat Pump, mV, 3-Wire Zone	\$373.28
1F951291 ³	4	2	Universal	Gas, Oil, Electric, Heat Pump, mV, Humidity Control	\$388.90

¹Enables remote sensor, programmable fan, 3 wire zone valve applications ²or by logic program ³Enables remote sensor, programmable fan, enhanced dehumidification fan speed control

THERMOSTAT

DIGITAL, PROGRAMMABLE



1F85U42PR

80 SERIES, 5" DISPLAY

- Attractive Sensi thermostat styling for non-wi-fi applications
- Bright, high contrast backlight.
- Built-in level indicator
- Terminal block connections on subbase
- Built in dual fuel logic program eliminates the need for an outdoor sensor
- Permanent program retention during power loss
- Display size:
 - 1F85: 5 sq. in. display
 - 1F83: 4.5 sq. in. display
- Display temperature range: 32 to 99°F
- Battery or hardwire
- Dimension: 3 3/4" H x 6" W x 1 1/8" D

- Keypad lockout and adjustable heat/cool temperature limits
- Automatic heat/cool changeover option on universal models



Part No.	Stages		Program	Application	Price
	Heat	Cool			
1F83H21PR	2 HP	1 HP	5+1+1, 5+2, None	Gas, Oil, Electric	\$124.38
1F85U22PR	2	2 Conv, 1 HP	5+1+1, 5+2, None	Gas, Oil, Electric, mV, 3-Wire Zone	\$162.18
1F85U42PR	4 HP, 2 Conv	2	5+1+1, 5+2, None	Gas, Oil, Electric, mV, 3-Wire Zone	\$168.92



1F95EZ0671

BLUE™ 6", EASY READER

- Large one-button one function keys for easy operation
- 2 time and 2 temperature settings per program (1 setback) heat and cool, or selectable 4 time and 4 temperature settings (2 setbacks)
- Energy savings up to 33%
- Selectable energy management recovery
- Dimensions: 6.4" W x 4.2" H x 1.7" D
- Battery, Hard-wired or Power Stealing Assist
- 0 to 30 VAC, 50/60 Hz or DC
- 1.5 Amps (load per terminal)
- 2.5 Amps maximum load (all terminals combined)
- Temperature Range: 45 to 99°F
- Rated differential: 0.6 to 1.2°F with adjustable anticipation
- Choice of battery-powered with optional power stealing assist or hardwired with battery backup

- Meets ENERGY STAR® specification
- Patented pre-programmed schedule simplifies time and temperature programming
- Temporary temperature override two-hour minimum or until next program period



Part No.	Stages		Program	Application	Price
	Heat	Cool			
1F95EZ0671	4	2	Non-Programmable or 5+1+1 or 7	Electric, Gas, Oil, Heat Pump, mV	\$232.84



80 Series

80 SERIES

- Attractive Sensi thermostat styling for non-wi-fi applications
- Bright, high contrast backlight.
- Built-in level indicator
- Terminal block connections on subbase
- Keypad lockout and adjustable heat/cool temperature limits
- Permanent program retention during power loss
- 4.5 sq. in. display
- Battery or hardwire
- Display temperature range: 32 to 99°F
- Dimension: 3 3/4" H x 6" W x 1 1/8" D



Part No.	Stages		Program	Application	Price
	Heat	Cool			
1F83C11PR	1	1	5+1+1, 5+2, None	Gas, Oil, Electric, Heat Pump, mV	\$118.24



1F80361

HEAT/COOL

- Larger LCD displays setpoint temperature continuously and alternately shows actual time and temperature
- Hold temperature button allows manual program override for an indefinite period without changing programming on setback models
- For heating, cooling, electric heat, 1-stage heat pump
- Temperature range: 45 to 90°F
- System switch: H/O/C, A/O
- Voltage: millivolt to 30 Vac



Part No.	Stages		Program	Switching System	Description	Price
	Heat	Cool				
1F80361	1	1	5 + 1 + 1 Day	H/O/C, A/O	5+1+1 Day Program, 4 Changes (2 Programs)	\$123.12



1E78144

HEAT/COOL

70 Series 1 Heat/1 Cool.

- Battery powered for maximum compatibility
- Fossil fuel or electric heat compatible
- Large LCD with backlight

- Selectable °C or °F temperature display
- Includes O and B terminals
- Classic White color



Part No.	Description	Price
1E78151	Economy, 5+2 Program, Vertical	\$70.86
1F78151	Economy, 5+2 Program, Horizontal	\$70.84



1F82261

HEAT/COOL

- Fossil fuel or electric heat compatible.
 - Large LCD display with backlight.
 - Permanent program retention during power loss
 - Configuration menu allows keypad selection of options
 - Selectable °C or °F temperature display
 - Selectable energy management recovery
 - Classic White color
- Additional Features for 1F85RF275 Wireless Remote Model

- Wireless temperature sensing inside and outside
- Temperature averaging/weighing by program period remote and local
- Indicator icons for successful communication status
- Power: hardwire
- Wireless range up to 200 ft.



Part No.	Stages		Program	Application	Price
	Heat	Cool			
1F82261	2	1	5+1+1	Heat Pump	\$136.78

ZONE CONTROL

YTH5320R1000

WIRELESS THERMOSTAT KIT

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

- No interference with other wireless devices in the home
- Choose from programmable or non-programmable kits

- Powered by RedLINK™ reliability

Application: gas, oil, electric, heat pump, forced warm air, hot water, steam or gravity

Honeywell Home

Part No.	Includes	Price
YTH6320R1001	TH6320R1004 Wireless FocusPRO™ 5-1-1 Programmable Thermostat; THM5320R1000 Equipment Interface Module; C7735A1000 Return Air Sensor	\$564.82
YTH5320R1000	TH5320R1002 Wireless FocusPRO™ Non-Programmable Thermostat; THM5320R1000 Equipment Interface Module; C7735A1000 Return Air Sensor	\$540.08



YTH6320R1023

WIRELESS ZONING ADAPTER KIT

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

- Choose from programmable or non-programmable kits

Wireless FocusPRO™ Thermostat

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home

- Same great features of the FocusPRO™ thermostats - now wireless
- Installs in minutes
- Displays outdoor temperature and humidity (outdoor sensor sold separately)

Honeywell Home

Part No.	Includes	Price
YTH6320R1023	TH6320R1004 Wireless FocusPRO™ 5-1-1 Programmable Thermostat, THM4000R1000 Wireless Adapter	\$417.80
YTH5320R1025	TH5320R1002 Wireless FocusPRO™ Non-Programmable Thermostat, THM4000R1000 Wireless Adapter	\$405.48

Part No.	Description	Price
THM4000R1000	Wireless Adapter allows you to easily add RedLINK™ enabled thermostats to a TrueZONE™ system without running new wires.	\$131.50

ZONE CONTROL



HZ322

CONTROL PANEL, TRUEZONE™

- Universal Application; controls 3 zones
- Robust push terminals
- Common-sense LEDs
- Clean, professional installation
- Smaller footprint

- Variable-speed fan control
- Can be used with W8665E wireless receiver

Additional features for HZ432 and HZ322

- Discharge air temperature staging
- Intuitive installer setup. Easy-to-follow, digital display uses real language to guide installer through four easy steps.
- Standardized checkout procedure...insures all installers check the same way and all zones function correctly before the installer leaves

In addition the HZ432 offers dual fuel changeover based on outdoor temperature and/or thermostat staging, controls one extra zone and is expandable to 32 zones using TAZ4

Kits (K suffix) include transformer and C7735A discharge air temperature sensor

Honeywell Home

Part No.	Application	Stages	Nb. of Zones	Price
HZ432	Conventional, Heat Pump, Dual Fuel Panel	4H/2C	4	\$777.08
HZ432K	Conventional, Heat Pump, Dual Fuel Kit	4H/2C	4	\$827.32
HZ322	Conventional, Heat Pump Panel	2H/2C	3	\$418.44
HZ322K	Conventional, Heat Pump Kit	2H/2C	3	\$476.56
HZ311	Conventional Panel	1H/1C	3	\$292.64
HZ311K	Conventional Kit	1H/1C	3	\$365.06



YTL9160AR1000

WIRELESS THERMOSTAT KIT

Wireless FocusPRO® Thermostat: same great features of the FocusPRO® thermostat - now wireless. Can display outdoor temperature and humidity. 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

Honeywell Home

Part No.	Includes	Price
YTL9160AR1000	Wireless EConnect™ 7-Day / 5-2 Programmable Thermostat and Electrical Heat Equipment Interface Module	\$415.32
TLM1110R1000	Equipment Interface Module only	\$274.02



c7835a1009

DISCHARGE SENSOR

A duct-mounted temperature probe used to provide capacity control of heating and cooling equipment.

- Used only with Honeywell networked zoning, TZ, EMM, MABS

- Mounts in the supply air duct to sense the delivered air temperature

Honeywell Home

Part No.	Description	Price
C7835A1009	3 Wire, Indicator Lights	\$181.98
C7735A1000	2 Wire	\$104.46

DIGITAL, PROGRAMMABLE, COMMERCIAL



TB7100A1000

TB7100 MULTIPRO™

The MultiPRO™ multispeed and multipurpose thermostat is an effortless, 7-day programmable or non-programmable thermostat that provides universal system compatibility, precise comfort and is easy to program. It provides

- Large and clear display
- Real-time clock
- Speedy same schedule armchair programming
- Remote setback input for occupancy sensors or timeclocks
- Remote indoor air sensing option
- Battery or hardwire
- Premier White® finis

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/Auxilliary Heat (3 fan speeds); PTAC (Hi, Lo fan speeds).

Honeywell Home

Part No.	Application	Stages		Switching		Price
		Heat	Cool	System	Fan	
TB7100A1000	Gas, Oil, Electric, Heat Pump, PTAC	2	1	H/O/C/A	A/O, H/M/L	\$309.48



T7047C2007

ELECTRONIC SENSOR, T7300 SERIES

T7047C and G sensors are used with T7300 for remote temperature sensing or averaging. Total Ω at TT terminal on Q7300 should be 1420 or 75°F.

- Taupeffinis

Honeywell Home

Part No.	Application	Price
T7047C2007	2-Wire Sensor	\$239.00
T7047G2008	Remote 2-Wire Sensor, T7300	\$276.98



1F950680

BLUE™

- Pre-occupancy purge and/or programmable fan
- Remote sensing indoor or outdoor and at the thermostat
- Prioritizing or averaging between indoor sensor and thermostat
- Keypad limited or total lockout
- Limited temperature range
- For 24 VAC or Millivolt Systems
- Large, 6-square-inch display with backlight
- Exclusive Cool Savings™ feature saves energy during peak A/C demand periods
- Automatic daylight savings option
- Power Stealing Battery Assist
- Meets ENERGY STAR® specification

EMERSON

Part No.	Stages		Program	Application	Price
	Heat	Cool			
1F950680	4	2	7, 5+1+1, None	Gas, Oil, Electric, Heat Pump, mV	\$244.60

DIGITAL, PROGRAMMABLE, COMMERCIAL



T7350B1002

HEAT/COOL

The T7350 commercial programmable thermostat controls 24 Vac commercial single zone heating, ventilating, and airconditioning (HVAC) equipment. The T7350 consists of a thermostat and subbase. The thermostat includes the keypad and display for 7-day

programming. The subbase includes equipment control connections. The subbase mounts on the wall and the thermostat mounts to the subbase.

- For single zone rooftop units, split systems, heat pumps, or hot/chilled water systems
- 7-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. changes can be made with thermostat mounted
- Individual heat and cool setpoints available for Occupied and Not Occupied periods
- P+I+D control minimizes temperature fluctuation
- Recovery ramp control automatically optimizes equipment start times based on building load
- Intelligent Fan™ feature energizes fan continuously in the Occupied periods; fan can also be configured for conventional heat or electric heat fan operation.
- 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

Features Available via PDA Configuration

- * PDA not included
 - 365 day clock with holiday programming
 - Automatic Daylight Saving Time adjustments
 - Selectable dehumidification limit control
 - Occupancy input to control standby setpoint
 - Additional standby period used in low traffic area
 - Sequential start option
 - Discharge air high/low limits
 - Selectable recovery ramp
 - Ambient lockout (with outdoor sensor)
- T7350H models
- All the standard and PDA features plus remote access and sharing of clock, schedule, setpoints, bypass and other system parameters with devices in a LONWORKS® network
 - T7351F is not restricted but does not include PDA functionality

Honeywell Home

Part No.	Max. Stages Heat/Cool	Features	Price
T7350A1004 ¹	1/1 +1	—	\$523.88
T7350B1002 ¹	2/2 +1	Outdoor, Discharge Air	\$645.94
T7350D1008	3/3 or 2/4	Outdoor, Discharge Air, Humidity, Occupancy	\$796.50
T7350M1008	2(4 - 20mA) + 2	Outdoor, Discharge Air, Humidity, Occupancy	\$872.22
T7350H1009	3/3	Outdoor, Discharge Air, Humidity, Occupancy, LonWorks bus	\$960.42
T7350H1017	2(4 - 20mA) + 2	Outdoor, Discharge Air, Humidity, Occupancy, LonWorks bus	\$1,024.24
T7351F2010	3/3 or 2/4	Outdoor, Discharge Air, Humidity, Occupancy	\$757.28
Y7355H1009	3/3	Includes, T7350H1009, C7041B2005, T7771A1005	\$1,116.20
T7771A1005	20 K Ohm Non-Linear Temperature Wall Module. For use with T7350.		\$242.82

¹One extra stage (heat or cool) using auxiliary relay



CHC8080W1000

LYRIC™ WIFI SECURITY CAMERA

Versatile and easy to install indoors, the cameras notifies you on your smartphone or tablet if it detects unusual movement or sounds. You can set up one or many cameras to watch over your home, working together within the Lyric app.

- Self-monitor using the Honeywell Lyric app
- Automatic home/away privacy mode through Lyric's geofencing technology

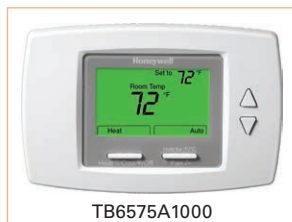
- Two-way talk adds communication when needed
- Audio analytics to identify smoke and CO alarms
- Night vision/low-light control for visibility at all times of the day
- Industry leading security through end-to-end data encryption

Honeywell Home

Part No.	Description	Price
CHC8080W1000	Lyric™ C1 Wi-Fi Security Camera	\$270.58

☎ Please contact your local United Refrigeration Branch or our Customer Service Center for pricing.

FAN COIL, LINE VOLTAGE



TB6575A1000

SUITEPRO

The TB6575A, TB6575B, and TB8575A SuitePRO™ Digital Fan-Coil Thermostats can be used for residential and commercial applications. They are great for use in hotels, condos, and school classrooms.

- Dimensions, Approximate: 3 3/4"H x 5 1/2"W x 1 1/2"D
- 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
- Digital display of ambient temperature, setpoint, mode icons when cooling or heating relays operate, when energy savings mode is active, and fan status.
- Optional freeze protection feature that turns on heat, if necessary.
- Energy savings input configurable as a normally open or normally closed dry contact.

- 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.
- 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 sensors (20KΩ).

Honeywell

Part No.	Application	Voltage	Price
TB6575A1000	2 or 4 Pipe, Heat/Cool/Auto	120/240	\$233.28
TB6575B1000	2 Pipe, Heat/Cool	120/240	\$223.58
TB6575C1000	2 or 4 Pipe, Heat/Cool/Auto	120/240/277	\$223.50
TB8575A1000	2 or 4 Pipe, Heat/Cool/Auto	24	\$217.18



T6051A1016

ELECTROMECHANICAL, HEAVY DUTY

Used to control line voltage fan coils, fans, motor starters, valves, contactors, and circulator motors in heating and/or cooling systems.

- Contact rating: 8 F.L. Amp 240 Vac

Honeywell Home

Part No.	Application	Switch	Temperature (°F)	Comments	Price
T6051A1016	Heat/Cool	SPDT	50 to 80	—	\$313.94
T6051B1006	Heat/Cool	SPDT	46 to 84	Explosion Proof Housing	\$930.58
T6052A1015	2-Heat, 2-Cool	2-SPDT	46 to 84	—	\$453.38
T6052B1013	1-Stage Heat/Cool	2-SPDT	46 to 84	Auto Changeover	\$540.40
Q651A1009	Subbase. Provides manual system switching for T6051 thermostats				\$172.42



T651A2028

ELECTROMECHANICAL, LIGHT DUTY

Controls line voltage valves, motors, contactors, electric heat elements, duct furnaces, and fan coil units in heating/cooling systems.

- Contact rating: 4 F.L. Amp 277 Vac

- Fixed differential: 2°F

Honeywell Home

Part No.	Application	Switch	Temperature (°F)	Price
T651A3018	Heat/Cool	SPDT	44 to 86	\$202.72



1A10651

ELECTROMECHANICAL, LIGHT DUTY

Provides direct line voltage control of fan coils, fans, motor starters, circulator motors, contactors, valves for heating, cooling or SPDT applications.

EMERSON

Part No.	Temperature (°F)	Differential	Switch	Contact Rating (at 240 V) 1 Phase	Price
1A10651	36 to 90	1.5°F, Fixed	SPDT	4.0	\$143.22

Please contact your local United Refrigeration Branch or our Customer Service Center for pricing.

THERMOSTAT

LINE VOLTAGE

LINEVOLTPRO THERMOSTATS

Applications include Electric Baseboards, convectors, radiant heat and fan-forced heaters.

- Electric Heat
- Heating indicator gives confirmation that heat is on
- Maintenance free and no batteries are required.
- Quiet Operation: Epoxy-soundproofed relays
- On/Off Switch. $\pm 1^\circ\text{F}$ Control
- Backlit Display
- Voltage: 208-240 Vac



TL7235A1003

LINEVOLTPRO 7000, NON-PROGRAMMABLE

Honeywell Home

Part No.	Contact Rating (Amps)	Switch	Price
TL7235A1003	15	DPST	\$114.86



TL8230A1003

LINEVOLTPRO 8000, 7 DAY PROGRAMMABLE

Voltage: 208-240

Honeywell Home

Part No.	Contact Rating (Amps)	Switch	Price
TL8230A1003	15	DPST	\$134.76



T451A3005

MEDIUM DUTY

Controls line voltage valves, motors, contractors, electric heat, elements, duct furnaces, and fan coil units in heating/cooling systems.

- Automatic cooling and heating anticipation

Honeywell

Part No.	Switch	Temperature ($^\circ\text{F}$)	Price
T451A3005	SPST, Open Rise	44-86	\$196.88



T498A1778

ELECTROMECHANICAL

Provides line voltage control of electric heating systems.

- Long lasting Micro-Switch™ mechanism
- Thermometer included
- Contact rating: 22A resistive 240 Vac

Honeywell Home

Part No.	Switch	Temperature ($^\circ\text{F}$)	Price
T498A1778	SPST, Open Rise	40-80	\$73.34
T498B1512	DPST, Open Rise	40-80	\$85.86
T498B1553 ¹	DPST, Open Rise	40-80	\$74.72

¹Positive off



TL8100A1008

7 DAY PROGRAMMABLE

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, provides

cost-efficient programmable control of hydronic heating systems

Application

- Baseboards
- Convectors
- Fan-forced heaters
- Radiant ceilings
- Central heating (Conventional)

Honeywell Home

Part No.	Application	Contact Rating (Amps)	Price
TL8100A1008	Heat Only	5 (Resistive), 2 (Inductive) 240 VAC	\$134.28

GENERAL PURPOSE, LINE VOLTAGE



1A65641

HEAVY DUTY

Electric heat thermostats used for controlling baseboards, cable heat, glass panels, etc.

- Resistive 22 Amp 240 Vac, 5,000W



Part No.	Switch	Temperature (°F)	Differential	Price
1A65641	SPST Open Rise	40 to 85	1°F, Fixed	\$56.70
1A66641	DPST Open Rise	40 to 85	1°F, Fixed	\$71.20



T26S18

HEAT/COOL

For line voltage control of residential, commercial, or industrial heating or year round air conditioning. Liquid charged temperature sensing element and highly efficient diaphragm an leverage provides close temperature control. Temperature range is 40 to 90°F.



Part No.	Switch	Price
T26S18*	SPDT, Heating & Cooling	\$206.00



1791

HEAT/COOL

For equipment requiring a closed circuit on both rise and fall of temperature.



Part No.	Temperature (°F)	Differential	Switch	Contact Rating (at 240 V) 1 Phase	Price
1791	55 to 95	3°F, Fixed	SPDT	3.7	\$361.64

PROPORTIONAL



T921A1191

T921 SERIES

Provides low voltage, 3-wire control for valve motors, damper motors, and balancing relays in heating or cooling system applications.

- Operating range: 56-84°F

Honeywell

Part No.	Fixed Throttle Range (°F)	Operating Range (°F)	Application	Price
T921A1191	2.5	56 to 84	Heat or Cool	\$760.32



TB6980

DIGITAL, TB*980 SERIES

The ZonePRO thermostats are for low voltage pressure dependent VAV applications. Can also be used for hydronic perimeter heating/cooling and bypass box with or without reheat. @

- Provides min/max setpoints for heating and cooling
- Provides night setback terminal for energy savings

Honeywell

Part No.	Output Type	Comments	Price
TB6980A1007	Floating, 0.5 A	Plus 1 Analog/TRIAC, 1 TRIAC outputs	\$258.32
TB6980B1006		—	\$322.82
TB7980A1006	0-10 Vdc or 2-10 Vdc 0-10V, 10k min — Modulating (0-10 Vdc) control	Plus 1 Analog/TRIAC, 1 TRIAC Output	\$299.42
TB7980B1005	0-10 Vdc or 2-10 Vdc 0.5A max 24Vac	1 Analog/TRIAC1 TRIAC Modulating (0-10 Vdc) control with 2 additional outputs	\$390.14

THERMOSTAT

GUARD

Metal Thermostat Guards: Constructed of 18-2 gauge steel and are finished with a durable baked enamel

Plastic Thermostat Guards: Constructed of hi-impact plastic, and are designed for use in offices, restaurants, or other businesses where lightweight, medium protection is required to avoid tampering.

Ring base is for installation over existing thermostats. Solid base is for new installations (added strength). All models furnished with locking key and mounting hardware. Thermostat guards can be installed in a vertical or horizontal position.



BTGUWM

U SERIES

Specifications

Solid Base: 8 1/4"H x 5 3/8"W x 3 1/2"D

Ring Base: 8 1/8"H x 4 5/8"W x 3 5/8"D



Part No.	Description	Price
BTGUK2	Clear Plastic Guard with Solid and Ringed Bases	\$21.04
BTGUM	Metal Guard and Solid Base	\$30.84
BTGUWM	Metal Guard and Ring Base	\$29.16

K SERIES

Specifications

Solid Base: 5 1/4"H x 4 5/8"W x 3"D

Ring Base: 5 1/4"H x 4 5/8"W x 3 1/4"D



Part No.	Description	Price
BTGK	Clear Plastic Guard with Solid & Ringed Bases	\$19.00



BTGRWM

R SERIES

Specifications

Applications:

Solid Base: 7 1/4"H x 5 3/8"W x 3 1/2"D

Ring Base: 6 3/4"H x 4 1/4"W x 3 9/16"D



Part No.	Description	Price
BTGRK	Clear Plastic Guard with Solid & Ringed Bases	\$17.78
BTGRWM	Metal Guard with Ring Base	\$33.16

54 VL SERIES

Specifications

Solid Base: 6 1/4"H x 4 3/4"W x 3"D

Ring Base: 6"H x 3 3/16"W x 3 1/8"D



Part No.	Description	Price
BTG54VL	Metal Hinged Guard with Solid Base	\$29.16



BTG54VLW

54 VLW SERIES

Specifications

Solid Base: 6 1/4"H x 4 3/4"W x 3"D

Ring Base: 6"H x 3 3/16"W x 3 1/8"D



Part No.	Description	Price
BTG54VLW	Metal Hinged Guard with Ring Base	\$29.16



BTGEK

E SERIES

Specifications

Solid Base: 3 7/8" H x 3 1/2" W x 2 1/2" D



Part No.	Description	Price
BTGEK	Clear Plastic Guard with Solid and Ringed Bases	\$16.30



THERMOSTAT GRILL

Part No.	Description	Price
GRD101R*	Wire guard for T26, T22, T91	\$94.00



TG511A1000

UNIVERSAL

Encloses and protects wall thermostats against tampering, damage and unauthorized adjustment of thermostat settings.

- Includes opaque polystyrene wallplate, ring base, guard cover, tumbler lock, two keys and optional Honeywell logo insert

Honeywell Home

Part No.	Dimensions (In.)			Cover Style	Use with	Price
	W	D	L			
TG511A1000	7 1/2	2 15/16	6 1/2	Clear	T874, etc.	\$53.26
TG511D1004	7 3/8	2 7/8	6 3/8	Metal	T874, etc.	\$78.70
TG512A1009	9 3/4	3 3/8	7 1/4	Clear	T8600, T8090, etc.	\$55.22
TG512D1003	9 5/8	3 1/4	7 1/8	Metal	T8600, T8090, etc.	\$95.16



F336

REPLACEMENT KEY

- For BTG Guards



Part No.	Description	Price
F336	Universal Key	\$3.34

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

REMOTE BULB



A19ABC24

The A19 Series are single stage temperature controls that incorporate liquid filled sensing elements. Suitable for temperature control in heating, ventilating, and refrigeration.



WIDE RANGE, ADJUSTABLE DIFFERENTIAL

Part No.	Switch	Temperature (°F)	Differential (°F)	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	FLA (@ 240 V)	Price
A19ABA40*	SPST, Open Low	-30 to 100	3 to 12°F	3/8 x 4	6'	140	8	\$124.00
A19ABC24*	SPDT	-30 to 100	3 to 12°F	3/8 x 4	8'	140	8	\$160.00
A19ABC36*	SPDT	-30 to 100	3 to 12°F	3/8 x 4	20'	140	8	\$246.00

FIXED DIFFERENTIAL

Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	Contact Rating (Amps)	Price
A19AAF12*	SPDT	25 to 225	3 1/2	3/8 x 3	10'	275	3	\$244.00

CLOSE DIFFERENTIAL

Part No.	Switch	Temperature (°F)	Differential (°F)	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	FLA (@ 240 V)	Price
A19AAD5* ¹	SPST, Open Low	30 to 50	2 1/2	3/8 x 2 5/8	6'	190	3	\$228.00
A19AAF21*	SPDT	40 to 90	1 1/2	3/8 x 5 3/8	6'	140	3	\$198.00

¹Bulk Milk Cooler

MANUAL RESET

Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	Contact Rating (Amps)	Price
A19ACA14*	SPST, Open Low	-30 to 100	Manual	3/8 x 4	6'	140	8	\$200.00
A19ACA15*	SPST, Open Low	-30 to 100	Manual	3/8 x 4	10'	140	8	\$215.00
A19ADB1*	SPST, Open High	100 to 240	Manual	3/8 x 3 1/2	6'	290	6	\$219.00
A19ADB2* ¹	SPST, Open High	100 to 240	Manual	3/8 x 3 1/2	None	290	6	\$197.00

¹Direct immersion



T6031A1029

WIDE RANGE

Provides limit or temperature control in refrigerated areas where remote mounting of sensing element is required.

- Contact rating: 5.1 F.L. Amp 240 Vac

Honeywell

Part No.	Switch	Temperature (°F)	Differential (°F)	Capillary Length	FLA (@ 240 V)	Price
T4031A1073	SPST, Close Rise	-30 to 90	3.5 to 12	8'	5.1	\$158.48
T4031C1012	SPST, Open Rise	40 to 180	5, Fixed	5.5'	5.1	\$251.66
T6031A1011	SPDT	15 to 90	3.5 to 16	5'	5.1	\$197.84
T6031A1029	SPDT	-30 to 90	3.5 to 16	8'	5.1	\$175.38
T6031A1060	SPDT	-30 to 90	3.5 to 16	20'	5.1	\$263.98
T6031C1009	SPDT	40 to 180	2°F, Fixed	5.5'	5.1	\$288.50
T6031D1049	SPDT	30 to 270	7°F, Fixed	5.5'	5.1	\$281.82

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

TEMPERATURE

REMOTE BULB



WIDE RANGE

Wide range temperature controls.

- Contact rating: 17 F.L. Amp 240 Vac



Part No.	Switch	Temperature (°F)	Differential (°F)	Capillary Length	FLA (@ 240 V)	Price
060100	SPDT	-35 to 95	4 to 50°F	8', Cross Ambient	17 F.L. Amp 240 Vac	\$187.90
060101	SPDT	-35 to 95	4 to 50°F	Air Coil	17 F.L. Amp 240 Vac	\$196.34
060109	SPST, Open Low	-20 to 70	3.5 to 35°F	8', Cross Ambient	17 F.L. Amp 240 Vac	\$121.40
060200	SPDT	95 to 240	6 to 50°F	8', Cross Ambient	17 F.L. Amp 240 Vac	\$192.40



WIDE RANGE

- Snap-action electrical contacts minimize
- Fingertip manual trip feature allows contact function testing without tools

ENGINEERING
TOMORROW



Part No.	Switch	Temperature (°F)	Differential (°F)	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	FLA (@ 240 V)	Price
060L5201*	SPDT	-20 to 60	2.5 to 40°F	None	80"	250	24	\$136.78
060L5206*	SPDT	-20 to 60	2.5 to 40°F	1 1/2 x 1 1/4	None	250	24	\$136.78
060L5215*	SPDT	25 to 95	3 to 45°F	1 1/2 x 1 1/4	None	250	24	\$136.78
060L5208*	SPDT	-15 to 60	5 to 50°F	3/8 x 3 3/8	80"	175	24	\$143.84
060L5218	SPDT	25 to 70	4 to 18°F	3/8 x 4 1/2	80"	175	24	\$143.84



RUBBER BULB

- Rubber coated bulb and capillary provide corrosion resistance
- Bulb designed for direct immersion



Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	Contact Rating (Amps)	Price
A19AAF4*	SPDT	40 to 90	1 1/2, Fixed	3/8 x 5 3/4	6'	140	3	\$267.00



RAINFOOF ENCLOSURE

- Control cooling tower sump heaters
- NEMA 3R enclosure



Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	Contact Rating (Amps)	Price
A19ANC1*	SPDT	0 to 150	6, Fixed	0.290 x 2 1/2	10'	190	8	\$426.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



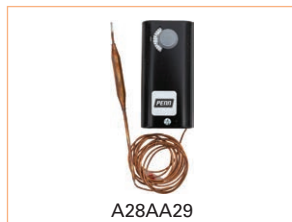
REMOTE BULB, HEAVY DUTY

The A72AE and A72CE are wide range temperature controls with heavy duty DPST contacts and neoprene coated sensing elements for control of cooling tower fans, motorized valves, or solenoid operated valves.

- Heavy duty construction



Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	Contact Rating (Amps)	Price
A72AE1*	DPST, Close High	24 to 90	4 to 25°F	3/8 x 6 3/4	6'	170	24	\$578.00
A72CE1*	DPST, Open High	24 to 90	4 to 25°F	3/8 x 6 3/4	6'	170	24	\$620.00



2 STAGE, REMOTE BULB, WIDE RANGE

Temperature sensing applications requiring two-stage control of HVAC/refrigeration equipment.

- Wide temperature ranges



Part No.	Switch	Temperature (°F)	Differential	Interstage Differential (°F)	Bulb (In.)	Max. Bulb Temperature (°F)	Capillary Length	FLA (@ 240 V)	Price
A28AA29*	2-SPDT	-30 to 110	5, Fixed	2 to 7	3/8 x 4	140	8'	8	\$396.00
A28AA36C*	2-SPDT	40 to 90	3, Fixed	2 to 7	3/8 x 4	140	6'	8	\$396.00
A28AA37*	2-SPDT	60 to 140	5, Fixed	2 to 7	3/8 x 4	230	6'	8	\$389.00
A28AJ4*	2-SPDT	20 to 80	2, Fixed	2 to 7	3/16 x 22	140	6'	3	\$446.00



2 STAGE, WEATHERPROOF NEOPRENE COATED BULB

The A28MA controls are wide range temperature controls with rainproof NEMA 3R enclosure and two SPDT switches.

- Sump water temperature control for cooling towers and evaporative condensers
- Fan cycling control for air cooled condensers



Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Contact Rating (Amps)	Price
A28MA1*	2-SPDT	40 to 120	5, Fixed	3/8 x 4	6'	8	\$581.00



WATER CHILLER

Remote bulb temperature control with limited setpoint range, adjustable differential, and adjustable cutout.



Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	Contact Rating (Amps)	Price
A19ZBA1*	SPST, Open Low	38 to 80	8 to 40°F	3/8 x 3 7/16	6'	140	8	\$587.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

TEMPERATURE

REMOTE BULB



REMOTE BULB

The A72 Series temperature controls incorporate a vapor charged sensing element and heavy duty contacts.

- Automatic control of heavy electrical loads

- DPST contact block contains two isolated sets of contacts that make or break simultaneously



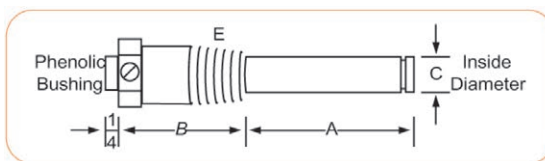
Part No.	Switch	Temperature (°F)	Differential (°F)	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	FLA (@ 240 V)	Price
A72AA2*	DPST, Open Low	15 to 55	3 to 30°F	3/8 x 3	6'	200	24	\$380.00
A72AA3* ¹	DPST, Open Low	50 to 90	3 to 30°F	11/16 x 6 3/4	6'	135	24	\$405.00

¹Cross ambient.



BULB WELL

- Brass and copper wells
Maximum pressure: 300 psig
Maximum temperature: 250°F
- Monel wells
Maximum pressure: 1,000 psig
Maximum temperature: 700°F

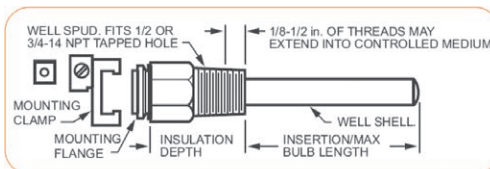


Part No.	Dimensions (In.)			Pipe Thread (In.)	Construction		Price
	A	B	C		Connector	Tube	
WEL11A601R*	2 3/8	2 5/16	.299	1/2	Brass	Copper	\$93.00
WEL14A601R*	7 9/16	1 13/16	.430	1/2	Brass	Copper	\$86.00
WEL14A602R*	4 15/16	1 13/16	.430	1/2	Brass	Copper	\$82.00
WEL14A603R*	5 13/16	1 13/16	.430	1/2	Brass	Copper	\$83.00
WEL17A600R*	10 7/16	3/4	.763	3/4	Malleable	Copper	\$272.00



BULB WELL

- Copper wells
Maximum pressure: 255 psi
Maximum temperature: 300°F
- Include mounting clamp



Honeywell Home

Part No.	Bulb (In.)	Pipe Thread (In.)	Construction		Insulation Depth (In.)	Price
			Connector	Tube		
121371A	3/8 x 3	1/2	Copper	Copper	1 1/2	\$70.94
121371B	3/8 x 3	3/4	Copper	Copper	1 1/2	\$80.80



HEAT CONDUCTIVE COMPOUND

For efficient bulb/well heat transfer to aid accurate sensing

Honeywell

Part No.	Container Size	Price
107408	4 Oz.	\$29.42

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

Remote bulb thermostats regulate temperature of air or liquids in ducts, pipes, tanks and boilers.

- Fast response models operate approximately four times faster than standard models
- Standard bulb size: 1/2" x 4 3/16"
- 55-175°F bulb size: 1/2" x 3 9/16"
- Contact rating: 5.1 F.L. Amps 240 Vac



T675A1508

SINGLE STAGE, GENERAL PURPOSE

Honeywell

Part No.	Switch	Temperature (°F)	Differential (°F)	Bulb (In.)	Capillary Length	Fast Response	FLA (@ 240 V)	Price
T675A1045	SPDT	0 to 100	3 to 10°F	1/2 x 4 3/16	20'	No	5.1	\$762.96
T675A1102	SPDT	160 to 260	3 to 10°F	1/2 x 4 3/16	20'	No	5.1	\$336.82
T675A1136	SPDT	0 to 100	1°F, Fixed	1/2 x 4 3/16	20'	No	5.1	\$309.56
T675A1425	SPDT	55 to 175	3.6 to 12°F	1/2 x 3 9/16	20'	No	5.1	\$328.36
T675A1508	SPDT	0 to 100	3 to 10°F	1/2 x 4 3/16	5'	No	5.1	\$296.98
T675A1516	SPDT	0 to 100	1°F, Fixed	1/2 x 4 3/16	5'	No	5.1	\$286.44
T675A1524	SPDT	55 to 175	1°F, Fixed	1/2 x 3 9/16	20'	No	5.1	\$318.24
T675A1532	SPDT	160 to 260	3 to 10°F	1/2 x 4 3/16	5'	No	5.1	\$317.20
T675A1540	SPDT	55 to 175	3.6 to 12°F	1/2 x 3 9/16	5'	No	5.1	\$305.44
T675A1565	SPDT	0 to 100	3 to 10°F	1/2 x 4 3/16	20'	No	5.1	\$340.54
T675A1706	SPDT	0 to 100	3 to 10°F	—	5'	Yes	5.1	\$323.00
T675A1722	SPDT	55 to 175	3.6 to 12°F	—	5'	Yes	5.1	\$331.46
T675A1771	SPDT	55 to 175	1°F, Fixed	—	5'	Yes	5.1	\$417.48
T675B1002	SPST, Open Fall	30 to 50	Manual	1/2 x 4 3/16	10'	No	5.1	\$325.80



T678A1015

TWO STAGE, GENERAL PURPOSE

Honeywell

Part No.	Switch	Temperature (°F)	Differential	Interstage Differential (°F)	Bulb (In.)	Capillary Length	FLA (@ 240 V)	Price
T678A1015	2-SPDT	0 to 100	3°F, Fixed	3 to 10	1/2 x 4 3/16	20'	5.1	\$459.00
T678A1361	2-SPDT	55 to 175	3.6°F, Fixed	3.6 to 12	1/2 x 3 9/16	20'	5.1	\$463.66
T678A1437	2-SPDT	0 to 100	3°F, Fixed	3 to 10	1/2 x 4 3/16	5'	5.1	\$395.76
T678A1445	2-SPDT	55 to 175	3.6°F, Fixed	3.6 to 12	1/2 x 3 9/16	5'	5.1	\$406.06
T678A1478	2-SPDT	0 to 100	3°F, Fixed	3 to 10	—	5'	5.1	\$427.10
T678A1494	2-SPDT	55 to 175	3.6°F, Fixed	3.6 to 12	—	5'	5.1	\$561.52



T678C1005

CHANGEOVER

Senses supply water temperature in air conditioning equipment or outdoor temperature in ventilation systems.

- Bulb size: 3/8" x 3"

Honeywell

Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	FLA (@ 240 V)	Price
T678C1005	2-SPDT	55 to 85	5°F	3/8" x 3"	5.5'	5.1	\$296.80

TEMPERATURE

REMOTE BULB



T678F1002

2 STAGE, SEQUENCED

Used for sequenced control of air temperature in two-stage heating or cooling systems or for single stage heating-cooling control.

- Bulb size: 5/16" x 11 11/16"

Honeywell

Part No.	Switch	Temperature (°F)	Differential	Interstage Differential (°F)	Bulb (In.)	Capillary Length	FLA (@ 240 V)	Price
T678F1002	2-SPDT	55 to 85	2°F	2.5	5/16" x 11 11/16"	5.5'	5.1	\$318.08



1609101

GENERAL PURPOSE WIDE RANGE

- Positive control for refrigeration applications
- Switch: SPST, close rise
- Hydraulic action element

EMERSON

Part No.	Switch	Temperature (°F)	Differential (°F)	Bulb (In.)	Capillary Length	FLA (@ 240 V)	Price
160990	SPST, close rise	-20 to 50	3 to 25°F	3/8 x 5 1/4	8'	3.7	\$142.88
1609101	SPST, close rise	-30 to 90	3.5 to 40°F	3/8 x 5 1/4	5'	8	\$129.62
1609103	SPST, close rise	-30 to 90	3.5 to 40°F	3/8 x 5 1/4	10'	8	\$145.92
1609104	SPST, close rise	-30 to 90	3.5 to 40°F	3/8 x 5 1/4	20'	8	\$178.00
1609105	SPST, close rise	-30 to 90	3.5 to 40°F	3/8 x 5 1/4	5'	8	\$137.26
16879 ¹	SPST, close rise	-30 to 90	4.5 to 40°F	3/8 x 5 1/4	8'	3.7	\$146.98

¹SPDT



160994

ICE MACHINE CONTROL

- Control stops compressor when ice bank completely covers sensing element and starts compressor when ice bank begins to melt
- Switch: SPST, close rise
- Nickel plated bulb for sanitary requirements
- Use as bin level control

EMERSON

Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Contact Rating (Amps)	Price
160994	SPST, close rise	35 to 57	3 to 20°F	3/8 x 6 3/4	6'	8	\$142.22



018100

ICE BANK

Suitable for soft drink dispensers, drink vending machines, and ice builders for thermal storage. Uses a special water-filled bulb and transmission fluid to control ice thickness in applications utilizing a refrigerated water bat with ice bank reserve capacity.

Robertshaw

Part No.	Switch	Temperature (°F)	Differential	Capillary Length	Price
018100	SPST, Open Low	Fixed	1/8" Ice Thickness	6', w/Bulb	\$204.64



0101409

GENERAL PURPOSE

These controls offer a wide selection for such products as self-contained refrigerators, freezers, coolers, walk-in units, and refrigeration display cases.

- Contact rating: 24 F.L. Amp 240 Vac
- NEMA 1 enclosure
- Universal mounting



Part No.	Switch	Temperature (°F)	Differential (°F)	Capillary Length	FLA (@ 240 V)	Price
0101010	SPST, Open Low	0 to 55	7 to 55°F	4'	24	\$197.60
0101072	SPST, Open Low	-15 to 40	3 to 20°F	Air Coil	24	\$199.82
0101408	SPST, Open Low	-15 to 40	3 to 20°F	6', w/Bulb	24	\$185.96
0101409	SPST, Open Low	0 to 55	3 to 20°F	6', w/Bulb	24	\$175.34
0101410	SPST, Open Low	25 to 75	3 to 20°F	6', w/Bulb	24	\$188.00
0101416	SPST, Open Low	0 to 55	3 to 20°F	6'	24	\$191.44
0101418	SPST, Open Low	0 to 55	3 to 20°F	Air Coil	24	\$190.54
0101419	SPST, Open Low	-35 to 15	3 to 20°F	6'	24	\$189.62
0101433*	SPST, Open Low	-35 to 15	3 to 20°F	6', w/Bulb	24	\$203.84
0101473	SPST, Open Low	0 to 55	7 to 55°F	6', w/Bulb	24	\$189.58
0101491	SPST, Open Low	25 to 75	2°F, Fixed	6', w/Bulb	24	\$188.64
0101802	SPST, Open Low	25 to 75	3 to 20°F	Air Coil	24	\$198.64
016104	SPDT	0 to 55	3 to 20°F	6', w/Bulb	24	\$199.64
016111*	SPDT	0 to 55	3 to 20°F	6'	24	\$222.40
016601	SPDT	22.5 to 47.5	1.5°F, Fixed	3', Cross Ambient Bulb	24	\$219.74
0207041	DPST, Open Low	0 to 100	6 to 20°F	8', Cross Ambient	24	\$366.32

SPACE

A19BBC2

UTILITY LINE VOLTAGE, HEAVY DUTY

- A19BAC for ventilating and heating applications
- A19BBC2 for cooling applications
- Return air or space temperature sensing



Part No.	Switch	Temperature (°F)	Differential	Capillary Length	Max. Bulb Temperature (°F)	Contact Rating (Amps)	Price
A19BAC1*	SPDT	30 to 110	3 1/2, Fixed	1 3/8 x 2 1/4 Coiled	140	8	\$220.00
A19BBC2*	SPDT	-30 to 100	3 to 12°F	1 3/8 x 2 1/4 Coiled	140	8	\$218.00



T6054A1005

UTILITY LINE VOLTAGE

Provides SPDT heavy-duty, line-voltage temperature control in ventilation, heating or cooling.

- Contact rating: 3.7 F.L. Amp 240 Vac
- Air coil element



Part No.	Switch	Temperature (°F)	Differential	Contact Rating (Amps)	Price
T6054A1005	SPDT	-30 to 100	3.5°F	3.7 F.L. Amp 240 Vac	\$264.20



A19BUC2

EXPLOSION PROOF

- Designed for use in grain elevators, chemical and powder plants, mines, oil refineries. For use in Class I, Group D and Class II, Group E, F, and G hazardous locations.
- Coiled bulb sensing unit



Part No.	Switch	Temperature (°F)	Differential	Price
A19BUC2*	SPDT	20 to 80	3 1/2	\$1,036.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

TEMPERATURE

SPACE



A19PRC1

NEMA 4X ENCLOSURE

The A19PRC is a single stage electromechanical thermostat designed for heating and ventilation applications. It features a raintight enclosure for use in agricultural and industrial applications that require compliance with Article 547 of the National Electric Code. The A19PRC has a rugged thermoplastic enclosure that meets NEMA 4X specifications

- Coiled sensing bulb
- Exposed portion of the sensing element is plated and plastic coated to resist damage in corrosive atmospheres



Part No.	Switch	Temperature (°F)	Differential	Price
A19PRC1*	SPDT	30 to 110	3 to 12°F	\$438.00



T631C1012

FARM-STAT

Provides line voltage control of heating, cooling and ventilating systems in farm buildings or storage areas.

- Treated to resist corrosion
- Contact rating: 3.7 F.L. Amp 240 Vac

Honeywell

Part No.	Switch	Temperature (°F)	Differential	Price
T631A1006	SPDT	35 to 100	2°F	\$291.74
T631A1022	SPDT	70 to 140	2°F	\$304.58
T631A1030	SPDT	0 to 70	3°F	\$291.74
T631B1005	2-SPDT	35 to 100	2°F	\$465.88
T631C1012	SPDT, 5.1A	20 to 90	3°F	\$312.52
T631C1020	SPDT	70 to 140	2°F	\$325.68
T631C1103	SPDT, 5.1A	-30 to 100	5°F	\$321.44



T631F

FARM-STAT, NEMA 4X

Provides line voltage control of heating, cooling and ventilating systems in farm buildings, storage areas and industrial environments; watertight, dust-proof enclosure.

- Contact rating: 3.7 F.L. Amp 240 Vac

Honeywell

Part No.	Switch	Temperature (°F)	Differential	Price
T631F1068	SPDT	35 to 100	2°F	\$565.10



A28AA4

2 STAGE, COILED BULB

Temperature sensing applications requiring two-stage space control of HVAC/refrigeration equipment.



Part No.	Switch	Temperature (°F)	Differential	Interstage Differential (°F)	Sensor Length	Max. Bulb Temperature (°F)	FLA (@ 240 V)	Price
A28AA4*	2-SPDT	30 to 110	3 1/2, Fixed	3, Fixed	1 3/8" x 2 1/4"	140	8	\$383.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

DEFROST TERMINATION, FAN DELAY



A19ZBC2

Remote bulb control with adjustable defrost termination temperature and preset fan delay temperature.

- Defrost termination control for refrigerated display cases
- Sensing element unaffected by barometric pressure and cross ambient temperature problems



Part No.	Fan Delay Temperature (°F)	Switch	Capillary Length	Defrost Termination (°F)	Bulb (In.)	Max. Bulb Temperature (°F)	FLA (@ 240 V)	Price
A19ZBC2*	25, Fixed	SPDT	6'	45 to 85	19/64 x 3 1/8	140	8	\$533.00



F25107

F25 SERIES

The F25 control terminates defrost and delays the evaporator fan operation on electric heat, hot gas and reverse cycle commercial refrigeration systems.

- Contact rating: 20 F.L. Amp 240 Vac



Part No.	Temperature (°F)	Differential	Switch	Capillary Length	FLA (@ 240 V)	Price
F25107	40 to 75	20°F, Fixed	SPDT	60", Cross Ambient Bulb	20	\$209.74
F25114	44 to 79	24°F, Fixed	SPDT	60", Cross Ambient Bulb	20	\$216.64

FREEZESTAT



A11A1

A11 SERIES

The A11 Series low temperature cutout controls incorporate a 20 foot long, vapor charged, sensing element. These controls react to the coldest 18 inch section of the control sensing element. These controls are suitable for

monitoring the face temperature of hot water coils for freeze protection. The most common application for these controls is as a low temperature cutout for coils and/or pipe liquid sensing

- Element: 20' of 1/8 O.D. tubing, 4' capillary
- Switch: SPST—open low



Part No.	Switch	Temperature (°F)	Differential	Ambient Temperature	Max. Element (°F)	Contact Rating (Amps)	Price
A11A1*	SPST—open low	35 to 45	Manual Reset	0 to 140°F	250	8	\$438.00
A11B1*	SPST—open low	35 to 45	8°F, Fixed	0 to 140°F	250	8	\$422.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

TEMPERATURE

FREEZESTAT



A70HA1

A70 SERIES, ALARM

The A70G, A70H, and A70K have a four-wire, two circuit contact block that contains two isolated sets of contacts.

The contacts are designed so that when the main contact opens, the auxiliary contact closes.

Typical applications would include energizing an indicator light upon low temperature cutout on a ventilating system.

Use as freezestat.

A70GA1/A70HA1 only

Low cutout stop is set and sealed at 35°F (1.6°C).

Control responds only to the lowest temperature along any 1' of entire 20' element or bellows cup



Part No.	Switch		Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	FLA (@ 240 V)		Price
	Main	Auxiliary						Main	Auxiliary	
A70GA1*1	Open Low	Close Low	15 to 55	5, Fixed	1/8 O.D. Tubing	20'	400	8	3	\$428.00
A70GA2C*	Open Low	Close Low	35 to 80	3 to 30°F	3/8 x 3	6'	250	8	3	\$359.00
A70HA1*1	Open Low	Close Low	15 to 55	Manual Reset	1/8 O.D. Tubing	20'	400	8	3	\$429.00
A70HA2*	Open Low	Close Low	35 to 80	Manual Reset	3/8 x 3	6'	250	8	3	\$373.00
A70KA1*	Open High	Close High	100 to 170	Manual Reset	3/8 x 10	6'	240	8	3	\$435.00

*1Low cutout stop is set and sealed at 35°F (1.6°C). Control responds only to the lowest temperature along any 1' of entire 20' element or bellows cup.



L480B1239

L480 SERIES

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.
- Also used as frost alarm operator in storehouses or orchards where frost would damage crops or equipment.
- Maximum element temperature: 225°F
- Contact rating: 6.5 F.L. Amps 240 Vac
- Temperature differential: 10°F, fixe

Honeywell

Part No.	Switch	Reset	Capillary Length	Operating Range (°F)	Differential	Max. Element (°F)	Contact Rating (Amps)	Price
L480B1239 ¹	SPDT	Automatic	20'	20 to 60	10°F, fixe	225	6.0 F.L. Amp 240 Vac	\$378.76

¹No bulb



L482A1004

L482 SERIES

- Contact rating: 8 F.L. Amps (N.C.) 240 Vac
- 3 F.L. Amps (N.O.) 240 Vac
- Maximum element temperature: 400°F

Honeywell

Part No.	Switch	Reset	Capillary Length	Operating Range (°F)	Max. Element (°F)	Contact Rating (Amps)	Price
L482A1004	2-SPST (1 N.O., 1 N.C.)	Manual	20'	15 to 55	400	3 F.L. Amps (N.O.)	\$372.60



16A609

16A SERIES

Designed to shut down cooling equipment before undesirably low temperatures are reached.

- Contact rating: 7.0 F.L. Amp 240Vac

- Manual reset freeze protection control
- Switch: SPST, open fall



Part No.	Switch	Bulb (In.)	Capillary Length	Temperature (°F)	Differential	Contact Rating (Amps)	Price
16A609	SPST, open fall	3/8 x 5 1/2	10'	-20 to 50	Manual Reset	7.0 F.L. Amp 240 Vac	\$262.94

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRONIC



A421

REMOTE SENSOR, A421 SERIES

The A421 Series Electronic Temperature Controls are single-stage controls with a SPDT output relay. A421 Controls feature a bright backlit LCD with adjustable brightness and a 3-button touchpad interface that can be set up to restrict user

adjustments. An LED indicates the output relay's On/Off status. Standard A421 Series control modules have simple On and Off temperature settings for heating or cooling, an adjustable anti-short cycle delay, temperature setback, and sensor offset capability.

- Current draw: 1.8 VA maximum
- Temperature control range: -40 to 212°F
- Differential: 1 to 30°F
- Switch: SPDT
- Available in either:
 - NEMA 1, IP20, high-impact plastic enclosures suitable for surface or DIN rail mounting
 - NEMA 4X, IP67, weathertight, corrosion resistant surface mount enclosures



Part No.	Description	Enclosure	Voltage	Operating Ambient (°F)	Lead Length	FLA (Amps_	Price
A421ABC02C*	Line Voltage	NEMA 1	120, 208/240	-40 to 150	79 1/5"	8 F.L. Amp 240V	\$155.80
A421ABC03C*	Line Voltage	NEMA 1	120, 208/240	-40 to 150	118 4/5"	8 F.L. Amp 240V	\$171.00
A421AEC01C*	Line Voltage	NEMA 4X	120, 208/240	-40 to 140	9 7/8"	8 F.L. Amp 240V	\$241.00
A421AEC02C*	Line Voltage	NEMA 4X	120, 208/240	-40 to 140	79 1/5"	8 F.L. Amp 240V	\$246.00
A421AED02C*	Line Voltage with Off-Cycle Defrost Timer	NEMA 4X	120, 208/240	-40 to 140	78"	8 F.L. Amp 240V	\$295.00
A421GBF02C*	Low Voltage	NEMA 1	24	-40 to 150	79 1/5"	—	\$164.00
A421GEF01C*	Low Voltage	NEMA 4X	24	-40 to 140	9 7/8"	—	\$240.00
A421ABJ02C*	Line Voltage, with Single Power Cord and Piggyback Plug	NEMA 1	120	-40 to 150	79 1/5"	12 F.L. Amp 120V	\$219.00
A421ABD02C*	Line Voltage with Off-Cycle Defrost Timer	NEMA 1	120, 208/240	-40 to 150	79 1/5"	8 F.L. Amp 240V	\$189.00



A99BB25C

PTC SENSOR, A99B SERIES

- Passive PTC silicon sensor (1035Ω at 77°F)
- Exceptional accuracy of the sensing element provides excellent performance in a wide variety of applications
- Stainless steel sensing bulb allows use in applications that require more corrosion protection
- Lead length may be extended up to 800'
- Use with A419



Part No.	Description	Temperature (°F)	Length (In.)	Price
A99BB25C*	PVC Cable	-40 to 212	9 3/4	\$55.00
A99BB200C*	PVC Cable	-40 to 212	78	\$61.00
A99BB300C*	PVC Cable	-40 to 212	117	\$70.00
A99BC25C*	Hi Temp Silicon Cable	-40 to 248	9 3/4	\$63.00
A99BC100C*	Hi Temp Silicon Cable	-40 to 248	39 2/3	\$73.00
A99BC300*	Hi Temp Silicon Cable	-40 to 248	24 3/8	\$115.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

TEMPERATURE

ELECTRONIC



ETC211000

REMOTE SENSOR, ETC SERIES

- Wide temperature range: -30 to 220°F
- Adjustable differential range: 1° to 30°F
- LCD digital display: Sensor temperature, control settings, relay status, onboard diagnostics
- Remote temperature sensing: up to 400'; sensor included
- Lockout switch to prevent tampering
- Relay output 240V NO
- 1 stage controls - 8 FLA
- 2 stage controls - 4 FLA



Part No.	Input Voltage	Stages	Enclosure	Price
ETC111000	120/240	1	NEMA1	\$160.70
ETC112000	24	1	NEMA1	\$175.34
ETC141000	120/240	1	Watertight, NEMA4	\$319.92
ETC211000	120/240	2	NEMA1	\$320.02
ETC212000	24	2	NEMA1	\$310.56
ETC241000	120/240	2	Watertight, NEMA4	\$424.96



16E09101

REMOTE SENSOR

Replaces most mechanical and electronic single stage controls using an SPDT output relay. Offers the widest multiple voltage operating range: 24/120/208/240 VAC. Does not require a common wire when electrical load is greater than 2.5 amps

- Wide temperature range: -40 to 220°F
- Adjustable differential range: 1° to 30°F
- Remote temperature sensing: up to 400'; sensor included
- 8 FLA 240 Vac
- Alarm relay NO contact: 1 amp



Part No.	Input Voltage	Stages	Enclosure	Price
16E09101	24/120/208/240	1	NEMA 1	\$159.92



50021579001

ENCAPSULATED TEMPERATURE SENSOR

Use with T775 series.

- Sensors are 1097Ω at 77°F PTC



Part No.	Description	Temperature (°F)	Price
T775SENSOAT	Outside Air Sensor, 8 5/16"L	-40 to 158	\$137.12
T775SENSSTRAP	Strap On, Hot/Chilled Water	-40 to 250	\$112.24
T775SENSWR	Water resistant, 3 1/2" L, 1/4" diameter, 5' leads	-40 to 270	\$137.56
T775SENSWT	Water tight, 2" L, 1/4" diameter, 6' leads	-40 to 270	\$173.46
50021579001	Water resistant, 2" L, 1/4" diameter, 9' leads	-40 to 270	\$108.02

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T775

REMOTE SENSOR, T775-2000 SERIES

Provide on/off (T775A-B2***), modulating (T775M2***), or reset (T775R2***) control in applications where electronic accuracy in addition to remote sensing is desired

- T775L,P,U have reset options, T775L,P,S are on/off, T775U have

both modulating and on/off functions

- Available with one or two temperature inputs and up to four SPDT relay output stages or modulating outputs
- Calibrate input sensors up to $\pm 10^{\circ}\text{F}$ for temperature and up to $\pm 10\%$ of range for other sensors (e.g. pressure, humidity) to compensate for resistance drops in longer sensor wire runs.

- 1 sensor included unless noted (except T775U, T775S)
- Two settable time periods per day are standard on all models
- Power: 24, 120, or 240 Vac; 50/60 Hz;
- Remote sensing from up to 1,000'
- Operating range: -40 to 140°F
- Setting range: -40 to 248°F
- Differential: 1 to 150°F
- Contact rating: 4.9 FLA at 230V
- Analog modulating outputs can be individually configured for 0-10 Vdc, 2-10 Vdc, 4-20 mA or Series 90.
- The date and time settings are retained for 24 hours after a power outage. All other settings are stored permanently

Honeywell

Part No.	Input	Outputs			Temperature ($^{\circ}\text{F}$)	Enclosure	Comments	Price
		Relay	Analog	Floating				
T775S2008	—	4	—	—	—	NEMA 1	Relay Expansion Module only, use with T775L, T775P	\$230.68
T775A2009	1	1	—	—	-60 to 270	NEMA 1	Standard	\$347.78
T775B2016	2	2	—	1	-60 to 270	NEMA 4X	Standard, Floating	\$668.38
T775B2024	2	4	—	2	-60 to 270	NEMA 4X	Standard, Floating	\$842.58
T775B2032	2	2	—	1	-60 to 270	NEMA 1	Standard, Floating	\$524.74
T775B2040	2	4	—	2	-60 to 270	NEMA 1	Standard, Floating	\$767.18
T775M2006	2	—	2	—	-60 to 270	NEMA 1	Modulating	\$394.74
T775M2014	2	4	2	—	-60 to 270	NEMA 4X	Modulating	\$1,123.94
T775M2022	2	2	2	—	-60 to 270	NEMA 4X	Modulating	\$807.44
T775M2030	2	4	2	—	-60 to 270	NEMA 1	Modulating	\$956.98
T775M2048	2	2	2	—	-60 to 270	NEMA 1	Modulating	\$687.48
T775R2001	2	4	—	2	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included	\$849.32
T775R2019	2	4	2	—	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included	\$986.88
T775R2027	2	2	2	—	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included	\$777.52
T775R2035	2	2	—	1	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included	\$658.40
T775R2043	2	—	2	—	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included	\$658.40
T775U2006	2	2	2	—	-60 to 270	NEMA 1	Universal; Humidity, Pressure, Temperature (less sensor)	\$687.48
T775U2016	2	2	2	—	-60 to 270	NEMA 1	Universal; Humidity, Pressure, Temperature. Control to Sensor A (Universal Input) or Sensor B (temp) Independently.	\$799.14
T775L2007	2	4(2)	—	—	-60 to 270	NEMA 1	Stage Sequencer with Reset	\$747.64
T775P2003	3	4	—	—	-60 to 270	NEMA 1	Boiler Reset, 3 input sensors, digital alarm	\$896.64

Part No.	Description	Price
TR29	Wall mounted remote bulb enclosure	\$70.72

TEMPERATURE

PROPORTIONAL, REMOTE BULB



T991A

MODULATING

For modulating control of water or air temperature in ducts, tanks and similar applications.

- Supply voltage: 24-30 Vac
- Potentiometer resistance: 135Ω (T991A1269 - 280Ω)

Honeywell

Part No.	Temperature (°F)	Throttling Range	Capillary Length	Bulb (In.)	Price
T991A1004	0 to 100	3 to 30	5'	1/2 x 4 3/16	\$708.64
T991A1012	0 to 100	3 to 30	20'	1/2 x 4 3/16	\$797.70
T991A1079	160 to 260	3 to 30	20'	1/2 x 4 3/16	\$878.62
T991A1194	55 to 175	3.5 to 36	20'	1/2 x 3 9/16	\$835.42
T991A1244	55 to 175	3.5 to 36	5'	1/2 x 3 9/16	\$708.64
T991A1269 ¹	55 to 175	3.5 to 36	20'	1/2 x 3 9/16	\$901.64
T991A1350	55 to 175	3.5 to 36	24'	Averaging	\$866.68
T991A1426	0 to 100	3 to 30	5'	1/2 x 4 3/16	\$708.64
T991A1764	0 to 100	3 to 30	24'	Averaging	\$793.26
T991A2069	0 to 100	3 to 30	20'	Fast Response	\$1,007.92

¹280Ω

APPLIANCE



A121560

CONSTANT CUT-IN

The Ranco A12 controls provide a constant cut-in feature. The constant cut-in design is generally used to provide an off cycle defrost function. Each time the control cycles off, the control contacts will remain open

until the evaporator is cleared of any frost that may have accumulated from the previous on cycle.

- Contact rating: 16 F.L. Amp
240 Vac

Robertshaw

Part No.	Temperature (°F)	Cut-In (°F)	Capillary Length	Price
A121506	9 to 22	38	39"	\$152.30
A121560	19 to 29	38	72"	\$136.54
A12700	11.5 to 26	37	84"	\$144.80
A12701	15 to 31	41	84"	\$148.28



A30260

CONSTANT DIFFERENTIAL

Controls for commercial refrigerators, freezers, ice machines, vending machines and beverage coolers. These compact controls are readily adaptable to nearly all commercial refrigerators and freezers. A wide selection of temperature ranges, differentials

and capillary lengths are available. Break-off shafts are included with installation instructions for easy, fast installation. Controls have off position except as noted.

- Contact rating: 20 F.L. Amp
240 Vac

Robertshaw

Part No.	Temperature (°F)	Differential	Switch	Capillary Length	Price
A22391	11 to 51	8°F	SPDT, No Off	66"	\$173.70
A22392	14 to 61.5	23.5°F	SPDT, No Off	48"	\$190.26
A221112	25 to 44	5°F	SPST, Open Low, No Off	72"	\$150.50
A30180	-4 to 41	12°F	SPST, Open Low	42"	\$113.80
A30181	-4 to 41	12°F	SPST, Open Low	84"	\$147.98
A30182	-6 to 44	17°F	SPST, Open Low	42"	\$139.54
A30183	-5 to 44	17°F	SPST, Open Low	84"	\$148.86
A30184	-7 to 40	19°F	SPST, Open Low	42"	\$135.84
A30185	-15 to 36	15.5°F	SPST, Open Low	42"	\$136.24
A30260*	-0.5 to 32	6°F	SPST, Open Low	72"	\$127.28
A30261	32 to 61	6°F	SPST, Open Low	84"	\$109.70
A30262	3 to 43	12°F	SPST, Open Low	84"	\$120.66

Continued...



*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



CONSTANT DIFFERENTIAL (CONT'D.)

Part No.	Temperature (°F)	Differential	Switch	Capillary Length	Price
A30263	0.5 to 47	22.5°F	SPST, Open Low	84"	\$118.44
A30301*	-24 to 20.5	8.5°F	SPST, Open Low, No Off	84"	\$112.66
A30304*	-21.5 to 19.5	15.5°F	SPST, Open Low, No Off	84"	\$115.44
A30308*	-30.5 to 12.5	11°F	SPST, Open Low, No Off	84"	\$134.80
A30310*	-24 to 23	20°F	SPST, Open Low	36"	\$135.76
A30311*	-22 to 24	14°F	SPST, Open Low	42"	\$142.44
A30313*	-20 to 21	8°F	SPST, Open Low	42"	\$121.34
A30314*	-21.5 to 23	8°F	SPST, Open Low	54"	\$158.62
A30323*	-11 to 10.5	10°F	SPST, Open Low	48"	\$155.66
A30543	7 to 45	12°F	SPST, Open Low	27'	\$164.64
A302209	35 to 48	8°F	SPST, Open Low	48"	\$161.10
A302210	30 to 42	8°F	SPST, Open Low	48"	\$115.96
A302211	-10.5 to 17.5	10°F	SPST, Open Low	48"	\$120.44
A303618*	17 to 45	17°F	SPST, Open Low	30"	\$93.72
A303725	16 to 50	19°F	SPST, Open Low	60", w/Bulb	\$114.78



A302311

EVAPORATOR DE-ICE

Control is generally wired in series with cycling control and capillary senses evaporator temperature. When ice starts to accumulate on evaporator, control will shut off compressor.

- 30°F open, 60°F close



Part No.	Switch	Capillary Length	Price
A302311*	SPST	30	\$135.70



A221129

ICE BIN LEVEL

Direct replacement control for ice machine applications. Provides narrow differential for accurate control of bin level.

- Contact rating: 20 F.L. Amp 240 Vac



Part No.	Temperature (°F)	Differential	Switch	Capillary Length	Price
A221129	35 to 51	6°F	SPDT	48"	\$151.18



A224506

ICE HARVEST

Adaptable replacement for ice machine applications.

- Contact rating: 20 F.L. Amp 240 Vac



Part No.	Temperature (°F)	Differential	Switch	Capillary Length	Price
A224506	-19 to 22	8°F	SPDT	72"	\$155.78



K3001

WATER COOLER

Ranco's water cooler controls will replace about 80% of your control needs for equipment from such manufacturers as Ebco, Elkay, Sunroc, Halsey-Taylor, Kelvinator and General Electric.

- Contact rating: 6 F.L. Amp 250 Vac



Part No.	Temperature (°F)	Differential	Capillary Length	Price
K3001*	37 to 61	7°F	48"	\$108.64
K3002*	7 to 66	27°F	36"	\$110.24

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

APPLIANCE



C122001

OUTDOOR THERMOSTAT

Ranco's C12-2001 control is an adjustable thermostat which holds back additional stages of supplemental heat until the outdoor temperature falls below the control's set point. The C12-2001 is typically wired

through the relay circuit in conjunction with the indoor thermostat.

- Contact rating: 20 F.L. Amp 240 Vac



Part No.	Temperature (°F)	Differential	Switch	Capillary Length	Price
C122001	-1 to 63	5°F	SPDT	30", w/Bulb	\$131.40



C125010

PTAC

This control replaces many OEM controls on heat/cool units.

- Contact rating: 20 F.L. Amp 240 Vac



Part No.	Temperature (°F)	Differential	Switch	Capillary Length	Price
C125010	60 to 98	3°F	SPDT	36", w/Bulb	\$157.90
C17100	64 to 101	3.5°F	2 SPDT	26", w/Bulb	\$220.34



C179043

DISCHARGE FEEDBACK

Discharge feedback thermostats types C17 and C22 are replacements for room, packaged terminal and through-the-wall air conditioning units equipped for either manual or automatic heat/cool changeover. The

C17 and C22 have separate switches for heating and cooling. A wide energy saving comfort zone (dead band) is provided between heating and cooling cycles.



Part No.	Differential	Capillary Length	Cool Range (°F)	Price
C129024	4°F	36", w/Bulb	67 to 83	\$219.04
C179043	4°F	36", w/Bulb	68 to 86	\$251.04



A222453

ROOM AIR CONDITIONER

Adaptable control to replace OEM controls which govern the on/off compressor function.

- Contact rating: 20 F.L. Amp 240 Vac



Part No.	Temperature (°F)	Differential	Switch	Capillary Length	Price
A221114	60 to 91	5°F	SPST, Open Low	54", Cross Ambient	\$169.50
A222451	45 to 81	5°F	SPDT	27"	\$143.50
A222453	59 to 90	6°F	SPDT	39", Cross Ambient	\$175.40
A30X450	58 to 89	5°F	SPST, Open Low	18, Air Coil	\$94.96
A30X451	58 to 91	5°F	SPST, Open Low	48"	\$94.96

ENCAPSULATED



SHP200150

AUTO RESET, OPEN HIGH

- 1/4" female flare connectio
- 18" leads



Part No.	Pressure (psi)		Price
	Open	Close	
SHP200150*	200	150	\$41.56
SHP250150*	250	150	\$41.56
SHP275195*	275	195	\$41.56
SHP300200*	300	200	\$41.56
SHP350250*	350	250	\$41.56
SHP375265*	375	265	\$41.56
SHP400200*	400	200	\$41.56
SHP400280*	400	280	\$41.56
SHP400300*	400	300	\$41.56
SHP425300*	425	300	\$41.56
SHP425325*	425	325	\$41.56
SHP450250*	450	250	\$41.56
SHP610420*	610	420	\$41.56



P100CP85C

AUTO RESET, OPEN HIGH

- 1/4" female flare connectio
- 18" leads



Part No.	Pressure (psi)		Price
	Open	Close	
P100CP140C*	350	245	\$61.00
P100CP38C*	500	325	\$44.40
P100CP1C*	400	300	\$54.00
P100CP85C*	665	565	\$62.00



SFC150225

AUTO RESET, OPEN LOW, FAN CYCLING

- 1/4" female flare connectio
- 18" leads



Part No.	Pressure (psi)		Price
	Open	Close	
SFC150225*	150	225	\$41.56
SFC170250*	170	250	\$41.56
SFC210275*	210	275	\$41.56
SFC300400*	300	400	\$41.56



P100AP4C

AUTO RESET, OPEN LOW, FAN CYCLING

- 1/4" female flare connectio
- 18" leads



Part No.	Pressure (psi)		Price
	Open	Close	
P100AP3C*	150	225	\$55.00
P100AP4C*	170	250	\$54.00
P100AP332C*	300	400	\$57.00



SLP3560

AUTO RESET, OPEN LOW

- 1/4" female flare connectio
- 18" leads



Part No.	Pressure (psi)		Price
	Open	Close	
SLP0520*	5	20	\$41.56
SLP1032*	10	32	\$41.56
SLP1535*	15	35	\$41.56
SLP2550*	25	50	\$41.56
SLP2565*	25	65	\$41.56
SLP2580*	25	80	\$41.56
SLP3560*	35	60	\$41.56
SLP4080*	40	80	\$41.56
SLP5090*	50	90	\$41.56
SLP75100*	75	100	\$41.56
SLP90120*	90	120	\$41.56



SMR410

MANUAL RESET, OPEN HIGH

- 1/4" female flare connectio
- 18" leads



Part No.	Pressure (psi)		Price
	Open	Connection Size (In.)	
SMR375*	375	1/4	\$55.70
SMR410*	410	1/4	\$55.70
SMR440	440	1/4	\$37.66
SMR610*	610	1/4	\$41.06

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

PRESSURE

ENCAPSULATED



P100DA1

MANUAL RESET, OPEN HIGH

- 1/4" female flare connectio
- 18" leads



Part No.	Pressure (psi)		Connection Size (In.)	Price
	Open	Close		
P100DA1*	410		1/4	\$97.00
P100DA2*	475		1/4	\$99.00
P100DA81C* ¹	630		1/4	\$82.00

¹Compatible with R410A



061F

AUTO RESET

- 1/4" FFL with depressor pin

ENGINEERING
TOMORROW



Part No.	Description	Pressure (psi)		Price
		Open	Close	
061F7523	Open Low	10	25	\$43.24
061F8333	Fan Cycling	188	232	\$50.48
061F8492	Open High	450	348	\$50.48

SYSTEM 450

All System 450 modules are multipurpose and field configurable out-of-the-box; each module is designed for use in temperature, pressure, and humidity systems. A System 450 control system can be easily assembled and configured to monitor and control temperature, pressure, and humidity simultaneously.

Each control module can be set up as a stand-alone control or connected to expansion modules to control up to 10 outputs based on the input from up to 3 control sensors. A control system's outputs can be relay outputs (On/Off), analog outputs (0-10 VDC or 4-20 mA), or any combination of relay and analog outputs.

- Backlit Liquid Crystal Display (LCD) and 4-button touch pad User Interface (UI), provides quick, clear, visual status of the control system's input sensors and outputs with the touch of a button
- Up to 3 input sensors and up to 10 outputs allow you to build both simple and complex application specific control system
- 4.9 F.L. Amps 240Vac



C450-4

CONTROL MODULE



Part No.	Description	Price
C450CBN4C*	Control Module with 1 SPDT Output Relay	\$266.00
C450CCN4C*	Control Module with 2 SPDT Output Relays	\$332.00
C450CPN4C*	Control Module with 1 Analog Output (4-20 mA / 0-10 VDC)	\$266.00
C450CQN4C*	Control Module with 2 Analog Outputs (4-20 mA / 0-10 VDC)	\$332.00



C450SBN3C

RELAY OUTPUT EXPANSION MODULE



Part No.	Description	Price
C450SBN3C*	Relay Output Expansion Module Provides 1 SPDT Output Relay	\$141.00
C450SCN3C*	Relay Output Expansion Module Provides 2 SPDT Output Relays	\$244.00
C450SPN1C*	Provides 1 Analog Output 4-20mA/0-10VDC	\$132.00
C450SQN1C*	Provides 2 Analog Outputs 4-20mA/0-10VDC	\$244.00



C450YNN1C

POWER MODULE



Part No.	Description	Price
C450YNN1C*	Provides 24 V to System 450™ Module Assembly; 120 or 240 VAC Supply Power Input Terminals	\$93.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

SINGLE FUNCTION



P470FB1

ELECTRONIC

The P470 Electronic Pressure Control with Display is a single-stage, On/Off, electronic pressure control with an SPDT output relay (open high or low). The P470 control uses a P399 Electronic Pressure Transducer to generate a pressure signal and WHA-P399 Wiring

Harness, which eliminates many of the constraints of capillary-tube control applications. (MUST BE ORDERED SEPARATELY)

- Easy-to-read liquid crystal display (LCD) clearly displays the sensed pressure (and other control information), and in many situations pressure may be monitored without applying gauges to the controlled equipment. LED indicates relay status

- Three field-selectable pressure ranges between 0-750 psi (transducer dependent) provide the flexibility to cover most H AC/R pressure applications
- Lockable, 3-button, front-panel touchpad deters tampering and over adjustment of control settings by unauthorized personnel.
- Built-in, adjustable, anti-short cycle time-delay reduces compressor short cycling and nuisance lockouts, which can extend compressor life
- Economical, versatile transducer and wiring harness eliminate many of the constraints of capillary control applications and allow up to a 100 ft (30.5m) cable between control and transducer



Part No.	Voltage	Switch	Price
P470EB1*	120/208-230	SPDT	\$199.00
P470FB1*	24	SPDT	\$193.00



P29NC2

LOW PRESSURE TIME DELAY

P29NC provides a low pressure cutout control with time delay and lockout, which requires manual reset. Standard time delay is 60 seconds. The control provides equipment shutdown on extended low pressure conditions. The

time delay prevents nuisance shutdowns due to momentary fluctuation in system pressures.

- Applications: chiller low temperature cutout; industrial equipment, oil pressure lubrication cutout; low suction pressure cutout
- Maximum bellows pressure: 325 psig
- Pressure drop to close contacts: 1-3 psi



Part No.	Switch	Pressure Range (psi)	Pressure Connection (In.)	Price
P29NC2*	SPST	20 to 100	1/4 M Flare	\$467.00
P29NC3*	SPST	20 to 100	1/4 F Flare; 3/6" Capillary	\$467.00

The P70 controls employ a set of switch contacts that are opened and closed by the movement of a pressure actuated bellows. Typical applications for these controls include system control of air conditioning and refrigeration systems and limit protection for system components. These controls can be used in the control of air, water, and oil pressure.



P70AA118

FAN CYCLING

- Includes universal mounting bracket
- Maximum over pressure: 475 psig



Part No.	Switch	Pressure Range (psig)	Differential	Connection Size (In.)	Capillary Length	Contact Rating (at 240 V) 1 Phase	Price
P70AA118*	SPST, Open Low	100 to 400	35 to 200	1/4 FFL	3'	17.0	\$205.00
P170AA118*	SPST, Open Low	100 to 400	35 to 200	1/4 MFL	None	17.0	\$190.00
P70AA2*	SPST, Open Low	0 to 150	10 to 70	1/4 FFL	3'	17.0	\$210.00
P70AA400C*	SPST, Open Low	100 to 470	35 to 200	1/4 FFL	3'	17.0	\$205.00
P70AA119* ¹	SPST, Open Low	50 to 300	20 to 100	1/4 FPT	None	17.0	\$362.00
P72AA27*	DPST, Open Low	100 to 400	35 to 200	1/4 FFL	3'	24.0	\$312.00

¹For ammonia service. Maximum over pressure: 400 psig

PRESSURE

SINGLE FUNCTION

The P70 controls employ a set of switch contacts that are opened and closed by the movement of a pressure actuated bellows. Typical applications for these controls include system control of air conditioning and refrigeration systems and limit protection for system components. These controls can be used in the control of air, water, and oil pressure.



P70DA1

HIGH PRESSURE



Part No.	Switch	Pressure Range (psig)	Differential	Connection Size (In.)	Capillary Length	Contact Rating (at 240 V) 1 Phase	Price
P170AA2C*	SPST, Open Low	0 to 150	10 to 70	1/4 MFL	None	17.0	\$203.00
P170AA400C*	SPST, Open Low	100 to 470	35 to 200	1/4 MFL	None	17.0	\$190.00
P70CA2*	SPST, Open High	50 to 500	60 to 150	1/4 MFL	None	17.0	\$211.00
P70CA3*	SPST, Open High	50 to 500	60 to 150	1/4 FFL	3'	17.0	\$228.00
P170CA3*	SPST, Open High	50 to 500	60 to 150	1/4 MFL	None	17.0	\$214.00
P70CA5* ¹	SPST, Open High	50 to 500	60 to 150	1/4 FPT	None	17.0	\$402.00
P70DA1*	SPST, Open High	50 to 500	Manual Reset	1/4 FFL	3'	17.0	\$229.00
P170DA1*	SPST, Open High	50 to 500	Manual Reset	1/4 MFL	None	17.0	\$220.00
P70DA2* ¹	SPST, Open High	50 to 500	Manual Reset	1/4 FPT	None	17.0	\$417.00
P170CA400C*	SPST, Open High	200 to 610	60 to 150	1/4 MFL	None	17.0	\$207.00
P170DA400C*	SPST, Open High	200 to 610	Manual Reset	1/4 MFL	None	17.0	\$220.00
P70CA400C*	SPST, Open High	200 to 610	60 to 150	1/4 MFL	3'	17.0	\$228.00
P70DA400C*	SPST, Open High	200 to 610	Manual Reset	1/4 MFL	3'	17.0	\$228.00
P72CA2*	DPST, Open High	50 to 500	60 to 150	1/4 FFL	3'	24.0	\$325.00
P72DA1*	DPST, Open High	50 to 500	Manual Reset	1/4 FFL	3'	24.0	\$337.00

¹For ammonia service



P170KA1

HIGH PRESSURE/ALARM CIRCUIT

Maximum over pressure: 525 psig



Part No.	Switch	Pressure Range (psig)	Differential	Connection Size (In.)	Capillary Length	Contact Rating (at 240 V) 1 Phase	Price
P70KA1* ¹	4-Wire, 2-Circuit	50 to 450	Manual Reset	1/4 FFL	3'	8.0	\$329.00
P170KA1* ¹	4-Wire, 2-Circuit	50 to 450	Manual Reset	1/4 MFL	None	8.0	\$308.00

¹L-M1 close high; L-M2 open high

LOW PRESSURE

Maximum over pressure: 325 psig



P70AB2



Part No.	Switch	Pressure Range (psig)	Differential	Connection Size (In.)	Capillary Length	Contact Rating (at 240 V) 1 Phase	Price
P70AB12* ¹	SPST, Open Low	12" to 80	5 to 35	1/4 FFL	3'	17.0	\$206.00
P170AB12* ¹	SPST, Open Low	12" to 80	5 to 35	1/4 MFL	None	17.0	\$189.00
P70AB2*	SPST, Open Low	20" to 100	6 to 50	1/4 FFL	3'	17.0	\$206.00
P170AB2*	SPST, Open Low	20" to 100	7 to 50	1/4 MFL	None	17.0	\$191.00
P70CA1*	SPST, Open High	20" to 100	6 to 50	1/4 FFL	3'	17.0	\$222.00
P170CA1*	SPST, Open Low	20" to 100	7 to 50	1/4 MFL	None	17.0	\$229.00
P70AA5* ²	SPST, Open Low	20" to 100	6 to 50	1/4 FPT	None	17.0	\$376.00
P70CA4* ²	SPST, Open High	20" to 100	6 to 50	1/4 FPT	None	17.0	\$402.00
P70EA10*	SPDT	20" to 100	5 Fixed	1/4 MFL	None	8.0	\$180.00
P72AA1*	DPST, Open Low	20" to 100	7 to 50	1/4 FFL	3'	24.0	\$312.00

¹Micro set control ²For ammonia service



P20DB1

The P20 Series are slim profile, field replacement high and low pressure controls for non-corrosive refrigerant

- Maximum temperature: 140°F
- Contact rating: 8 F.L. Amp 240V



Part No.	Switch	Pressure Range (psi)	Differential	Max. Bellows (psig)	Price
P20BB1*	SPST, Open Fall	7 to 150	Manual Reset	250	\$116.00
P20DB1*	SPST, Open Rise	100 to 425	Manual Reset	450	\$164.00
P20EB1*	SPDT	7 to 150	30, Fixed	250	\$144.00
P20EB2*	SPDT	100 to 425	75, Fixed	450	\$157.00



016107

PRESSURE CONTROL, SPDT SWITCH

These controls offer a variety of pressure ranges and switch action to provide maximum application flexibility. Type 016 SPDT switch action can be used for all categories of applications. If desired, the unused terminal may be wired to an alarm.

Note: Since an alarm circuit is frequently desired on manual reset controls, all manual reset controls are provided in the Type 016 SPDT configurations

- Contact rating: 24 F.L. Amp 240 Vac



Part No.	Pressure Range (psi)	Differential	Switch	Capillary Length	Connection Size (In.)	Gender	Price
016107	10" to 100	10 to 40	SPDT	None	1/4 Flare	M	\$184.32
016527	10" to 100	10 to 40	SPDT	3'	1/4 Flare	F	\$208.66
016120	12" to 50	5 to 35	SPDT	None	1/4 Flare	M	\$192.08
016557	12" to 50	5 to 35	SPDT	3'	1/4 Flare	F	\$209.74
016108 ¹	100 to 400	40 to 150	SPDT	3'	1/4 Flare	F	\$191.46
016570 ¹	100 to 400	40 to 150	SPDT	None	1/4 Flare	M	\$209.24
016142*	100 to 400	17, Fixed	SPDT	3'	1/4 Flare	F	\$212.90
016166	50 to 150	10 to 40	SPDT	3'	1/4 Flare	F	\$209.90
016624	12" to 80	4 to 38	SPST, Opens Low	3'	1/4 Flare	F	\$168.04
016261	10" to 100	Manual Reset	SPDT, Locks on Decrease	4'	1/4 Flare	F	\$239.84
016585	10" to 100	Manual Reset	SPDT, Locks on Decrease	None	1/4 Flare	M	\$228.90
016200	150 to 450	Manual Reset	SPDT, Locks on Increase	4'	1/4 Flare	F	\$209.86
016209	150 to 450	Manual Reset	SPDT, Locks on Increase	None	1/4 Flare	M	\$223.68

¹Suitable for Head Pressure Fan Cycling Application

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

PRESSURE

SINGLE FUNCTION

SINGLE FUNCTION

Type 010 SPST for single phase and 020 DPST for double break or 3-phase applications provides close-on-rise switch action for conventional low pressure cycling, pump down, limit, defrost termination, and alarm applications.

Type 011 SPST open-on-rise is typically used for unloader applications.

• Contact rating: 24 F.L. Amp 240 Vac

• 020 DPST switch: 12 F.L. Amp 240 Vac



0101831

SINGLE FUNCTION



Part No.	Pressure Range (psi)	Differential	Switch	Capillary Length	Connection Size (In.)	Gender	Price
0101401	12" to 50	5 to 35	SPST, Open Low	None	1/4 Flare	M	\$159.44
0101402	12" to 50	5 to 35	SPST, Open Low	3'	1/4 Flare	F	\$175.94
0101483	10" to 100	10 to 40	SPST, Open Low	3'	1/4 Flare	F	\$179.80
0101831	10" to 100	10 to 40	SPST, Open Low	None	1/4 Flare	M	\$159.50



0102054

FAN CYCLING



Part No.	Pressure Range (psi)	Differential	Switch	Capillary Length	Connection Size (In.)	Gender	Price
0102054 ¹	100 to 400	40 to 150	SPST, Open Low	3'	1/4 Flare	F	\$181.50
0101894* ¹	100 to 400	40 to 150	SPST, Open Low	None	1/4 Flare	M	\$161.08
0207006	100 to 400	40 to 150	DPST, Open Low	3'	1/4 Flare	F	\$324.46

¹Suitable for head pressure for cycling application.



HIGH PRESSURE



Part No.	Pressure Range (psi)	Differential	Switch	Capillary Length	Connection Size (In.)	Gender	Price
0111711	150 to 450	50 to 100	SPST, Open High	3'	1/4 Flare	F	\$198.74



060-5241

SPST,SPDT SWITCH

- Snap action electrical contacts
- The fail-safe dual bellows used in 600 psi controls prevent refrigerant loss and enable premature cut-out when a fault occurs
- Manual trip allows electrical function test without tools
- Repeatability less than 0.1 psi drift, even after 400000 cycles
- Contact rating: 24 F.L. Amp 240 Vac

ENGINEERING
TOMORROW



Part No.	Pressure Range (psi)	Differential Pressure	Switch	Capillary Length	Connection Size (In.)	Gender	Price
060-5231*	6" to 108	10 to 60 psi	SPDT	None	1/4 Flare	M	\$131.54
060-5233*	6" to 108	10 to 60 psi	SPDT	3'	1/4 Flare	F	\$140.98
060-5232*	28" to 100	10 psi fixe	SPDT	None	1/4 Flare	M	\$137.26
060-5234*	28" to 100	10 psi fixe	SPDT	3'	1/4 Flare	F	\$147.36
060-5237*	6" to 73	6 to 30 psi	SPST, open low	None	1/4 Flare	M	\$131.54
060-5235*	6" to 73	6 to 30 psi	SPST, open low	3'	1/4 Flare	F	\$140.98
060-5239*	6" to 73	6 to 30 psi	SPDT	None	1/4 Flare	M	\$131.54
060-5270*	45 fixe		SPDT, Man Reset	None	1/4 Flare	M	\$134.76
060-5241*	100 to 465	25 to 85 psi	SPST, open low	None	1/4 Flare	M	\$131.54
060-5242*	100 to 465	25 to 85 psi	SPST, open low	3'	1/4 Flare	F	\$140.98
060-5243*	100 to 600	58 to 145 psi	SPDT	None	1/4 Flare	M	\$146.36
060-5244*	100 to 600	60 psi fixe	SPDT, Man Reset	None	1/4 Flare	M	\$147.96
060-5245*	100 to 600	58 to 145 psi	SPDT	3'	1/4 Flare	F	\$157.20
060-5246*	100 to 600	60 psi fixe	SPDT, Man Reset	3'	1/4 Flare	F	\$160.06

DUAL PRESSURE

This P70 Series of dual pressure controls employs an SPST switch, that is opened when either high pressure or low pressure beyond the control settings is sensed at the control's two bellows sensing elements.



P70LB1

SINGLE POLE

- High pressure range: 100-500 psig
- High pressure differential: 65 psi < 300 psig
75 psi 300-400 psig
95 psi >400 psig
- Maximum over pressure: 475 psig Low
525 psig High
- Contact rating: 17 F.L. Amp 240V



Part No.	Low Pressure Range (psig)	High Pressure Range (psig)	Differential (psi)	Reset High	Capillary Length	Connection Size	Price
P70LB1*	20" to 100	100 - 500 psig	7 to 50	Auto	3'	1/4 FFL	\$384.00
P170LB1*	20" to 100	100 - 500 psig	7 to 50	Auto	None	1/4 MFL	\$360.00
P70LB6*1	12" to 80	100 - 500 psig	5 to 35	Auto	3'	1/4 FFL	\$384.00
P170LB6*1	12" to 80	100 - 500 psig	5 to 35	Auto	None	1/4 MFL	\$360.00
P70MA18*1	12" to 80	100 - 500 psig	5 to 35	Manual	3'	1/4 FFL	\$384.00
P70MA1*	20" to 100	100 - 500 psig	7 to 50	Manual	3'	1/4 FFL	\$388.00
P170MA1*	20" to 100	100 - 500 psig	7 to 50	Manual	None	1/4 MFL	\$370.00
P70NA1*	20" to 100	100 - 500 psig	Manual Reset	Manual	3'	1/4 FFL	\$392.00
P170NA1*	20" to 100	100 - 500 psig	Manual Reset	Manual	None	1/4 MFL	\$372.00
P70LA2*2	20" to 100	100 - 500 psig	7 to 50	Auto	None	1/4 FPT	\$735.00
P70MA2*2	20" to 100	100 - 500 psig	7 to 50	Manual	None	1/4 FPT	\$753.00

¹Micro set control ²For ammonia service

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

DUAL PRESSURE



P70LB1

TWO POLE

- High pressure range: 100-425 psig
- Differential:
55 psi < 300 psig
65 psi fi 300 psig
- Maximum over pressure: 525 psig
- Contact rating: 24 F.L. Amp 240V



		Low Pressure		High Pressure	Reset		Connection	
Part No.	Switch	Range (psig)	Differential (psi)	Range (psig)	High	Capillary Length	Size	Price
P72LA1*	DPST	20" to 100	6 to 50	100 - 425 psig	Auto	3'	1/4 FFL	\$490.00
P72LB1*	DPST	20" to 100	6 to 50	100 - 425 psig	Auto	3'	1/4 FFL	\$493.00
P72MA1*	DPST	20" to 100	6 to 50	100 - 425 psig	Manual	3'	1/4 FFL	\$502.00
P72NA1*	DPST	20" to 100	Manual Reset	100 - 425 psig	Manual	3'	1/4 FFL	\$502.00



0121506

SINGLE POLE

These controls offer a tailored variety of ranges and options for refrigerants. Low and high pressure functions are combined into a single control with one switch.

- Convertible (auto or manual) reset or automatic high pressure reset models
- Contact rating: 24 F.L. Amp 240 Vac
- 022 DPST switch: 12 F.L. Amp 240 Vac



Part No.	Low Pressure		High Pressure		Reset		Capillary Length	Connection		Price
	Range (psig)	Differential (psi)	Range (psig)	Differential (psi)	Low	High		Size	Gender	
0121502	12" to 50	5 to 35	150 to 450	70, Fixed	Automatic	Automatic	3'	1/4 Flare	F	\$352.56
0121505	12" to 50	5 to 35	100 to 250	50, Fixed	Automatic	Automatic	None	1/4 Flare	M	\$331.06
0121506*	12" to 50	5 to 35	100 to 250	50, Fixed	Automatic	Automatic	3'	1/4 Flare	F	\$352.74
0121549	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Automatic	3'	1/4 Flare	F	\$328.24
0121550*	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Automatic	None	1/4 Flare	M	\$328.00
0124833*	12" to 50	5 to 35	150 to 450	70, Fixed	Automatic	Convertible	4'	1/4 Flare	F	\$339.94
0124834*	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Convertible	4'	1/4 Flare	F	\$318.40
0124846	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Convertible	None	1/4 Flare	M	\$337.70
0121594	10" to 100	Manual	150 to 450	Manual	Manual	Manual	3'	1/4 Flare	F	\$360.84
0227706	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Convertible	3'	1/4 Flare	F	\$461.16



060-5247

SINGLE POLE

- Snap action electrical contacts, 24 F.L.A at 240V
- The fail-safe dual bellows used in 600 psi controls prevent refrigerant loss and enable premature cut-out when a fault occurs

- Manual trip allows electrical function test without tools
- Repeatability less then 0.1 psi drift, even after 400 000 cycles



Part No.	Low Pressure		High Pressure		Reset		Capillary Length	Connection		Price
	Range (psig)	Differential (psi)	Range (psig)	Differential (psi)	Low	High		Size	Gender	
060-5247*	6" to 108	10 to 60	100 to 465	60 fixe	Automatic	Automatic	None	1/4 Flare	M	\$254.72
060-5248*	6" to 108	10 to 60	100 to 465	60 fixe	Automatic	Automatic	3'	1/4 Flare	F	\$270.16
060-5249*	6" to 108	10 to 60	100 to 465	60 fixe	Automatic	Manual	None	1/4 Flare	M	\$260.18
060-5250*	6" to 108	10 to 60	100 to 465	60 fixe	Automatic	Manual	3'	1/4 Flare	F	\$276.26
060-5253*	6" to 108	10 to 60	100 to 600	60 fixe	Convertible	Convertible	None	1/4 Flare	M	\$264.02
060-5254*	6" to 108	10 to 60	100 to 600	60 fixe	Convertible	Convertible	3'	1/4 Flare	F	\$282.42



*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

CRITICAL CHARGE HOSE



CRITICAL CHARGE HOSE

- Factory approved for R290, CO2 etc., ideal for critically charged systems
- 1/2 of the volumetric capacity of a standard 1/4" hose
- Working pressure 1,000 PSI
- Burst Pressure 5,500 PSI
- Heavy duty frost free brass fitting
- Compatible with all oils



Part No.	Length (In.)	Connection		Price
		Size (In.)	Type	
NTPH18Y*	18	1/4	FFL	\$46.50



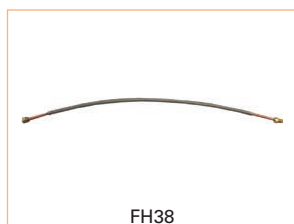
CRITICAL CHARGE HOSE KIT

- 2 mm refrigerant hose kits
- Factory approved for R290, R507A, R404A, R410A, R407A, R407C, R134a, R744 (CO2)
- Working pressure 1,000 PSI
- Burst Pressure 5,000 PSI
- Maximum temperature ratings: -40°F to 266°F
- il compatibility: Mineral, PAG, Alkyl benzene, Polyester
- Includes gasket and depressor



Part No.	Length (In.)	Connection		Price
		Size (In.)	Type	
NTPH8Y1*	8	1/4	FFL	\$45.60
NTPH12Y1*	12	1/4	FFL	\$48.12
NTPH8RBY1*	8	1/4	FFL	\$132.62
NTPH12RBY1*	12	1/4	FFL	\$140.72
NTPH18RBY1*	18	1/4	FFL	\$146.82

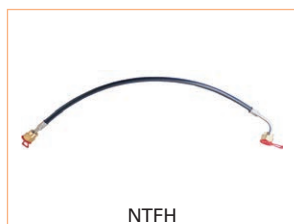
CONTROL HOSE



FLEXIBLE TUBING



Part No.	Length (In.)	Connection		Price
		Size (In.)	Type	
FH14	36	1/4	MFL	\$78.70
FH38	36	3/8	MFL	\$88.84
FH12	36	1/2	MFL	\$104.04
FH58	36	5/8	MFL	\$115.26



REFRIGERANT PRESSURE CONTROL / OIL DISTRIBUTION HOSE

- 5 mm refrigerant pressure control, oil distribution hose
- Oil compatibility: Mineral, Alkylbenzene, PAG, POE
- Maximum working pressure: 1000 psi
- Burst pressure: 5500 psi
- Maximum temperature ratings: -40°F to 266°F
- Applications:
- Pressure Sensing Applications
- Low and high Pressure Safety Controls
- Oil Flow Controls
- Oil Pressure Controls
- Water Flow Controls
- Refrigerant Gauges
- Capacity Control Regulators



Part No.	Length (In.)	Connection		Price
		Size (In.)	Type	
NTFH18*	18	1/4	FFL	\$79.18
NTFH24*	24	1/4	FFL	\$84.18
NTFH30*	30	1/4	FFL	\$88.88
NTFH36*	36	1/4	FFL	\$93.54
NTFH48*	48	1/4	FFL	\$102.88
NTFH60*	60	1/4	FFL	\$112.24

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

CONTROL HOSE



NPCH30

- Maximum operating pressure: 600 psi
- Burst pressure: 3000 psi
- 1/4" fem flare x 1/4" 90° fem fla



Part No.	Length (In.)	Connection		Price
		Size (In.)	Type	
NPCH18	18	1/4	FFL	\$53.18
NPCH24	24	1/4	FFL	\$57.00
NPCH30	30	1/4	FFL	\$63.80
NPCH36	36	1/4	FFL	\$67.04
NPCH48	48	1/4	FFL	\$77.80
NPCH60	60	1/4	FFL	\$89.78
NPCH96	96	1/4	FFL	\$284.44



NTPH

- Pressure only, cannot be used for flow/oil
- All pressure applications: safety controls, high and low, regulating valves, gauges
- Maximum working pressure: 1000 psi
- Burst pressure: 5000 psi
- Maximum temperature ratings: -40°F to 266°F
- 1/4" fem flare x 1/4" 90° fem fla
- Oil and UV resistant, mineral, alkyl benzene, polyester, PAG



Part No.	Length (In.)	Connection		Price
		Size (In.)	Type	
NTPH18*	18	1/4	FFL	\$38.04
NTPH24*	24	1/4	FFL	\$40.24
NTPH30*	30	1/4	FFL	\$42.06
NTPH36*	36	1/4	FFL	\$44.62
NTPH48*	48	1/4	FFL	\$49.06
NTPH60*	60	1/4	FFL	\$52.72



1290132B

- Replaces regular copper capillary tubing on failure cut out controls and pressure controls.
- Eliminates capillary failure due to work hardening from vibration
- Operates to 600 psi and 252°F
- 1/4" female flare x 1/4" female fla



Part No.	Length (In.)	Connection		Price
		Size (In.)	Type	
1290132B24	24	1/4	FFL	\$91.20
1290132B36	36	1/4	FFL	\$104.08
1290132B48	48	1/4	FFL	\$135.80

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



SEC99AA36C

The SEC99A UltraCap armored capillary is designed for use as a pressure connection in refrigeration and air conditioning applications. The small orifice capillary minimizes pressure pulsation and the brass armor sleeve improves resistance to abrasion caused by vibration

- Physical Features:
 - Tubing ID: 0.062"
 - SEC99AA: 1/4" female flare straight (depressor one end)
 - SEC99AB: 1/4" female flare straight x 90° (depressor both ends)
 - SEC99AD: 1/4" female flare straight x 90° (no depressor)
- UL recognized



Part No.	Length (In.)	Connection		Price
		Size (In.)	Type	
SEC99AA24C*	24	1/4	FFL	\$51.00
SEC99AA36C*	36	1/4	FFL	\$59.00
SEC99AB18*	18	1/4	FFL	\$47.70
SEC99AB24*	24	1/4	FFL	\$51.00
SEC99AB36*	36	1/4	FFL	\$59.00
SEC99AB48*	48	1/4	FFL	\$68.00
SEC99AB60*	60	1/4	FFL	\$76.00
SEC99AD18*	18	1/4	FFL	\$45.80
SEC99AD24*	24	1/4	FFL	\$51.00
SEC99AD36*	36	1/4	FFL	\$59.00
SEC99AD48*	36	1/4	FFL	\$68.00

HEAD PRESSURE, FAN SPEED CONTROL



P266

PRESSURE RESPONSIVE

The P266 fan speed control is designed for approved single phase, PSC motors commonly used in a wide variety of refrigeration and air conditioning condenser fan applications. Designed to replace P66 and P215 Series fan speed controls. P266 controls have current ratings from 4 to 12 A depending on the voltage and model.

- Wide, adjustable pressure throttling range

- Optional auxiliary fan control provides control of up to three fixed-speed fans or fan stages in conjunction with the speed controlled fan or fan stage.
- Optional low-speed capacitor mode enables cooler, quieter, and more efficient fan motor operation at low speeds.
- NEMA 3R, (IP54) enclosure with integral metal heat-sink



Part No.	Voltage	High VAC Triacs	Nb. of Aux. Fan Control Circuits	Amps	Price
P266ABA100C*	208 - 240 Vac	3	3	8.0	\$858.00
P266ACA100C*	208 - 240 Vac	1	0	8.0	\$718.00
P266BCA100C*	440 to 575 Vac	1	0	4.0	\$724.00
P266BHA100C*	440 to 575 Vac	2	3	4.0	\$887.00

PRESSURE TRANSDUCER

Electronic pressure transducer for P266 fan speed control modules

- Includes 6.6' cable
- 1/4 FFL connection



P266SNR1C

Part No.	Pressure Range (psi)	Connection Size (In.)	Price
P266SNR1C*	0 to 508	1/4 FFL	\$229.00
P266SNR2C*	0 to 754	1/4 FFL	\$229.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

PRESSURE

HEAD PRESSURE, FAN SPEED CONTROL



MLH500PSCDJ1240

PRESSURE TRANSDUCER

- Digitally compensated sensor
- All metal wetted parts for use in wide variety of fluid application
- 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
- Output signal: 2-wire 4-20mA
- Includes 3-meter cable

Honeywell

Part No.	Accuracy	Pressure Range (psi)	Connection Size (In.)	Price
MLH050PSCDJ1235	±0.50% FSS	0 to 50	1/4 - 18 NPT	\$284.92
MLH150PSCDJ1236	±0.25% FSS	0 to 150	1/4 - 18 NPT	\$284.92
MLH500PSCDJ1240	±0.25% FSS	0 to 500	1/4 FFL Schrader	\$284.92
MLH01KPSCDJ1241	±0.25% FSS	0 to 1000	1/4 FFL Schrader	\$284.92

PRESSURE TRANSDUCER

The electronic pressure transducer is a compact, economical, rugged, direct-mount pressure transducer designed for use in commercial refrigeration and air conditioning applications. These are suitable for use with all noncorrosive refrigerants as well as ammonia. P499 transducers require wire harnesses for all models that do not have an integral cable. Kits include a 6 1/2' wire harness.



P499RAP101C

PRESSURE TRANSDUCER 1/8" MPT

Johnson Controls

Part No.	Description	Output Voltage	Pressure Range (psi)	Price
P499RAP101C*	Individual	0.5 to 4.5 Vdc	0 to 100	\$247.00
P499RAP102C*	Individual	0.5 to 4.5 Vdc	0 to 200	\$273.00
P499RAP105C*	Individual	0.5 to 4.5 Vdc	0 to 500	\$256.00
P499AAP105C*	Individual	4 to 20 mA	0 to 500	\$245.00
P499RAP101K*	Kit	0.5 to 4.5 Vdc	0 to 100	\$276.00
P499RAP105K*	Kit	0.5 to 4.5 Vdc	0 to 500	\$276.00



P499RCP101

PRESSURE TRANSDUCER 1/4" SAE

Johnson Controls

1/4" female flare connection with depresso

Part No.	Description	Output Voltage	Pressure Range (psi)	Price
P499RCP101*	Individual	0.5 to 4.5 Vdc	0 to 100	\$251.00
P499RCP102C	Individual	0.5 to 4.5 Vdc	0 to 200	\$283.02
P499RCP105*	Individual	0.5 to 4.5 Vdc	0 to 500	\$251.00
P499ACP107*	Individual	4 to 20 mA	0 to 750	\$251.00
P499RCP101K*	Kit	0.5 to 4.5 Vdc	0 to 100	\$280.00
P499RCP105K*	Kit	0.5 to 4.5 Vdc	0 to 500	\$280.00
P499ACP105K*	Kit	4 to 20 mA	0 to 500	\$280.00
P499ACP107K*	Kit	4 to 20 mA	0 to 750	\$280.00
P499RCP107K*	Kit	0.5 to 4.5 Vdc	0 to 750	\$280.00
P499VCP105K'	Kit	0 to 10 Vdc	0 to 500 psig	\$280.00

*Includes transducer, 6.5' wire harness

WIRING HARNESS

Use WHAP with 499 pressure transducer.

Johnson Controls

Part No.	Length (In.)	Use with	Price
WHAPKD3200C*	78	P399/P499 Transducer	\$31.90



WHAPKD3200C

WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



ICM334

3-PHASE HEAD PRESSURE CONTROL

Three-Phase ON/OFF Head pressure control with support for one temperature sensor and up to two additional temperature or pressure probes, ideal A/C and refrigeration systems

- One Temperature and up to 2 additional inputs (temperature and/or pressure)

- Integral Heat Pump Bypass Circuitry – Allows you to electronically bypass the speed control during heat pump operations
- Solid State 10 Amp Load Carrying Capability
- Hard Start – Ten second hard start
- 120 - 600 VAC
- High Temperature Bypass – Applies full voltage to the motor under normal conditions



Part No.	Temperature (°F)	Voltage Controlled	Price
ICM334	-40 to 140	18-30 Vac	\$338.60



ICM325HNC

TEMPERATURE RESPONSIVE

- Integral heat pump bypass circuitry allows electronic bypass of speed control during heat pump operation
- Features: Hard start, low temperature cutoff, high temperature bypass
- Controls up to 3 refrigerant circuits
- Varies motor speed
- Kit includes 70-100°F probe

- ICM325HNC requires 18-30Vac input, ICM326HNC, ICM327HNC have internal transforms; operate from controlled voltage
- Output current—Triac maximum: 10 amps minimum: 100 mA
- ICM32*HN* models are RoHS compliant (lead free)



Part No.	Voltage Controlled	Price
ICM325HNC	120/208/240/480	\$263.98
ICM326HNC	120/208/240	\$257.20
ICM327HNC	480	\$303.50



ICM379

SENSOR PROBE



Part No.	Temperature (°F)	Use with	Price
ICM376	70 to 100	ICM325K2	\$55.74
ICM379	70 to 100	ICM32H Series	\$55.96

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P128AA1

ELECTROMECHANICAL

The P28 series provides dependable shutdown on pressure of lubricated refrigeration compressors by sensing low lube oil pressure. A built-in time delay switch, accurately compensated for ambient temperature, allows for pressure pick up on start and avoids nuisance shutdowns on pressure drops of short duration during the running cycle.

- Heater circuit: 120/240 Vac
- Range: 8-70 psig



Part No.	Time Delay	Pressure Range (psi)	Reset	Pressure Connection (In.)	Capillary Length	Heater Circuit	Price
P128AA2*	60 Sec.	8-70 psig	Manual	1/4 M Flare	None	120/240 Vac	\$477.00
P128AA1*	90 Sec.	8-70 psig	Manual	1/4 M Flare	None	120/240 Vac	\$482.00
P128AA17*	120 Sec.	8-70 psig	Manual	1/4 M Flare	None	120/240 Vac	\$477.00



P45NCA12

ELECTROMECHANICAL, COPELAND, CARLYLE

The P45 control provides dependable, low lube oil pressure cut out for lubricated refrigeration compressors. The factory set pressure provides operation to the compressor manufacturer's specification. A built-in time delay relay, compensated for ambient temperature, allows for pressure pick-up on start and avoids nuisance shutdowns on short duration pressure losses during the running cycle.

- Max. bellows pressure: 425 psig
- Manual reset



Part No.	Time Delay	Reset	Pressure Connection (In.)	Capillary Length	Heater Circuit	Factory Setting (Lbs.)	Alarm Circuit	Use with	Price
P45NAA5*	120 Sec.	Manual	1/4 F Flare	3'	24 Vac	9.0	No	—	\$479.00
P145NCB12*	120 Sec.	Manual	1/4 M Flare	None	120/240 Vac	9.0	Yes	Copeland	\$462.00
P145NCB82*	45 Sec.	Manual	1/4 M Flare	None	120/240 Vac	6.5	Yes	Carlyle	\$462.00



P545NCB22

ELECTRONIC, COPELAND, CARLYLE

The P545 Series electronic lube oil control is designed for use on refrigeration compressors equipped with an oil pump that accepts a single-point differential pressure transducer. The P545 senses net lube oil pressure and de-energizes the compressor if lube oil pressure falls below the manufacturer's recommendation for longer than the time delay. Front-mount LEDs indicate the status of the lubrication system and a user selectable time delay can be set to minimize compressor short cycling.

- P545 controls include pressure sensor and wiring harness
- P400 series sensors will adapt to either 300 or 400 series wire harness; test switch will not function with an older control



Part No.	Description	Pressure Open (psid)	Application	Price
P545NCB22*	Control, 120 sec. delay, with switch and wire harness	7.0±1.0	Copeland	\$452.00
P545NCB82*	Control, 120 sec. delay, w/ switch and wire harness	12.75±0.75	Carlyle	\$518.00
P545NCB25*	Control, 90 sec. delay, w/ switch and wire harness	10.0±1.5	Bitzer	\$470.00
P400AD2C*	Replacement Sensor	7.0±1.0	Copeland	\$291.00
P400AD1C*	Replacement Sensor	12.75±0.75	Carlyle	\$291.00



P305826

ELECTROMECHANICAL

These lube oil protection controls guard pressure lubricated refrigeration compressors against major damage due to loss of oil pressure. If adequate oil pressure is lost, the built-in S30 time delay switch starts timing. If the oil pressure does not recover within the

set period, the control circuit is opened, stopping the compressor. The range is the difference between the crankcase pressure and the oil pump pressure that will energize the time delay switch and lead to shutdown. The difference in oil pressure needs to rise 7 psi above the range to de-energize the time delay switch and prevent eventual shutdown.

- Voltage: 120/240 Vac



Part No.	Time Delay	Pressure Range (psi)	Capillary Connection (In.)	Price
P303701*	90 Sec.	8 to 60	36, 1/4 Female SAE	\$430.72
P305826*	120	9, Fixed	36, 1/4 Female SAE	\$414.50

WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



060B2003

ELECTROMECHANICAL

Oil differential pressure controls are used as safety switches to protect refrigeration compressors against low lubricating oil pressure. If the oil pressure fails, the control will stop the compressor after a predetermined time period has elapsed.

- Simple manual trip, electrical test function eliminates need of tools and jumper wires
- Extremely narrow switch differential accuracy
- Range: 29" to 170 psi, Ω p either factory set or adjustable
- 060B2012 includes normal compressor operation check light; goes off on time delay initiation

ENGINEERING
TOMORROW



Part No.	Time Delay	Pressure Range (psi)	Reset	Pressure Connection (In.)	Capillary Length	Factory Setting (Lbs.)	Alarm Circuit	Price
060B2002*	90 Sec.	29" to 170	Manual	1/4 M Flare	None	9 psi, fixe	No	\$339.76
060B2003*	120 Sec.	29" to 170	Manual	1/4 M Flare	None	9 psi, fixe	No	\$339.76
060B2008*	45 Sec.	29" to 170	Manual	1/4 M Flare	None	6 psi, fixe	No	\$339.76
060B2012*	60 Sec.	29" to 170	Manual	1/4 M Flare	None	4.3 to 64 psi, adjustable	No	\$361.88

WATER REGULATING, PRESSURE ACTUATED

V46 SERIES

The V46 is a pressure actuated, modulating valve that is suitable for use either on closed or open systems. Direct acting valves open on pressure increase. This type of valve is primarily used to regulate the flow of water or glycol to a water cooled condenser on a refrigeration system. Reverse acting valves open on pressure decrease and are generally used for bypass or heat pump application.

- Maximum water temperature: 170°F
- V46AS3C is for ammonia use only
- Do not use with R410A (See V246 series)
- Maximum permissible pressure:
Water: 150 psig
Refrigerant: 230 psig (V46AS1 and V46AT1)
320 psig (others)



V46AA1

DIRECT ACTING, V46 SERIES

Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)	Capillary Length	Price
	Size (In.)	Type				
V46AA1*	3/8	FPT	70 to 260	1/4 F Flare	30"	\$300.00
V46DA2* ¹	3/8	FPT	70 to 260	1/4 F Flare	30"	\$443.00
V46AB1*	1/2	FPT	70 to 260	1/4 F Flare	30"	\$326.00
V46AC1*	3/4	FPT	70 to 260	1/4 F Flare	30"	\$393.00
V46AC3*	3/4	FPT	70 to 260	1/4 F Flare	48"	\$394.00
V46AD1*	1	FPT	70 to 260	1/4 F Flare	30"	\$827.00
V46AD13C*	1	FPT	70 to 260	1/4 M Flare	None	\$835.00
V46AE1*	1 1/4	FPT	70 to 260	1/4 F Flare	30"	\$965.00
V46AR1*	1 1/2	4 Hole, ASME Flange	70 to 260	1/4 F Flare	30"	\$1,193.00
V46AS1*	2	4 Hole, ASME Flange	70 to 170	1/4 M Flare	None	\$1,733.00
V46AS2*	2	4 Hole, ASME Flange	160 to 260	1/4 M Flare	None	\$1,628.00
V46AS3C*	2	4 Hole, ASME Flange	100 to 200	1/4 FPT	None	\$2,888.00
V46AT1*	2 1/2	4 Hole, ASME Flange	70 to 170	1/4 M Flare	None	\$2,375.00
V46AT2*	2 1/2	4 Hole, ASME Flange	160 to 260	1/4 M Flare	None	\$2,375.00

¹Low flow model, 2.5 GPM maximum

DIRECT ACTING, MARITIME, V46 SERIES

- Cast naval bronze with monel interior.
- Pressure connection: 1/4" sweat
- Opening point range: 70 to 260 psi



Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)	Capillary Length	Price
	Size (In.)	Type				
V46BB2*	1/2	FPT	70 to 260	1/4 Sweat	30"	\$1,289.00
V46BC2*	3/4	FPT	70 to 260	1/4 Sweat	30"	\$847.00
V46BD2*	1	FPT	70 to 260	1/4 Sweat	30"	\$1,393.00
V46BE2*	1 1/4	FPT	70 to 260	1/4 Sweat	30"	\$1,415.94

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

WATER REGULATING, PRESSURE ACTUATED



V46NC2

REVERSE ACTING, V46 SERIES

- Pressure connection: 1/4" FFL
- Opening point range: 40 to 100 psi



Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)	Capillary Length	Price
	Size (In.)	Type				
V46NB2*	1/2	FPT	40 to 100	1/4 F Flare	30"	\$358.00
V46NC2*	3/4	FPT	40 to 100	1/4 F Flare	30"	\$408.00



V48AD2

THREE-WAY

V48 Series valves are designed specifically for condensing units cooled either by atmospheric or forced draft cooling towers.

- Maximum water pressure: 150 psig
- Pressure connection: 1/4" FFL



Part No.	Pipe Size (In.)	Pressure Connection (In.)	Capillary Length	Opening Point Range Normally Closed (psig)	Max. Bellows (psig)	Price
V48AB1C*	1/2 FPT	1/4 F Flare	30"	85 to 110	230	\$660.00
V48AB2C*	1/2 FPT	1/4 F Flare	30"	145 to 190	320	\$643.00
V48AD2*	1 FPT	1/4 F Flare	30"	145 to 190	320	\$1,358.00

V246 SERIES

The V246 2-way valves regulate water flow to control refrigerant head pressure in systems with water-cooled condensers. The V246 valves may be used with standard non-corrosive or ammonia refrigerants. For applications where the coolant may be corrosive to the internal parts

- Use with R410A refrigerant
- No close-fitting or sliding parts in water passage
- Accessible range spring

- Take-apart construction
- Pressure-balanced design
- Corrosion-resistant material for internal parts
- Maximum water temperature: 170°F
- Maximum permissible water pressure: 150 psig
- Pressure connection: 1/4 MFL



V246GD1001C

DIRECT ACTING, V246 SERIES, TWO-WAY



Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)	Price
	Size (In.)	Type			
V246GA1001C*	3/8	FPT	200 to 400	1/4 M Flare	\$411.00
V246GB1001C*	1/2	FPT	200 to 400	1/4 M Flare	\$447.00
V246GC1001C*	3/4	FPT	200 to 400	1/4 M Flare	\$511.00
V246GD1001C*	1	FPT	200 to 400	1/4 M Flare	\$827.00
V246GE1001C*	1 1/4	FPT	200 to 400	1/4 M Flare	\$964.00
V246GM1001C*	1 1/4	Union Sweat	200 to 400	1/4 M Flare	\$858.00
V246GR1001C*	1 1/2	Flange	200 to 400	1/4 M Flare	\$1,192.00



V246

DIRECT ACTING, MARITIME, V246 SERIES, TWO-WAY

The maritime models have nickel copper (Monel®) internal parts.



Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)	Price
	Size (In.)	Type			
V246HD1001C*	1	FPT	200 to 400	1/4 M Flare	\$1,392.00
V246HE1001C*	1 1/4	FPT	200 to 400	1/4 M Flare	\$1,701.00
V246HR1001C*	1 1/2	ASME Flange	200 to 400	1/4 M Flare	\$2,393.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



V248

DIRECT ACTING, V248 SERIES, THREE-WAY

V248 Series 3-way valves are designed specifically for condensing units cooled either by atmospheric or forced draft cooling towers. The V248 valves are used on single or multiple condenser hook-ups to the tower to provide the most economical and efficient use of the tower.

- Use with R410A refrigerant
- Maximum water temperature: 170°F
- Maximum permissible water pressure: 150 psig
- Pressure connection: 1/4 MFL



Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)	Price
	Size (In.)	Type			
V248GD1001C*	1	FPT	200 to 400	1/4 M Flare	\$1,095.00
V248GE1001C*	1 1/4	FPT	200 to 400	1/4 M Flare	\$1,276.00
V248GL1001C*	1 1/8	Union Sweat	200 to 400	1/4 M Flare	\$1,057.00
V248GM1001C*	1 3/8	Union Sweat	200 to 400	1/4 M Flare	\$1,217.00



V47AA3

The V47 is a temperature actuated modulating valve that regulates the flow of water or glycol to maintain desired temperature.

- Capillary: 6' nylon armor

- Maximum bulb temperature: 20°F above range
- Maximum water temperature: 170°F
- Maximum water pressure: 150 psig



Part No.	Pipe Size (In.)	Opening Point Range (psi)	Bulb (In.)	Price
V47AA1*	3/8 FPT	115 to 180	11/16 x 3 1/4	\$782.00
V47AA3*	3/8 FPT	75 to 135	11/16 x 6 Cross Ambient	\$798.00
V47AB3*	1/2 FPT	115 to 180	11/16 x 3 1/4	\$833.00
V47AB5*	1/2 FPT	75 to 135	11/16 x 10 Cross Ambient	\$849.00
V47AC3*	3/4 FPT	115 to 180	11/16 x 3 1/4	\$892.00
V47AC6*	3/4 FPT	75 to 135	11/16 x 10 Cross Ambient	\$907.00
V47AD1*	1 FPT	75 to 135	11/16 x 16 1/4 Cross Ambient	\$1,386.00
V47AD2C*	1 FPT	115 to 180	11/16 x 6	\$1,344.00
V47AE1C*	1 1/4 FPT	75 to 135	11/16 x 16 1/4 Cross Ambient	\$1,564.00
V47AE2C*	1 1/4 FPT	115 to 180	11/16 x 6	\$1,449.00
V47AE3C*	1 1/4 FPT	160 to 230	11/16 x 6	\$1,449.00
V47AR2*	1 1/2 FPT	115 to 180	11/16 x 6	\$1,691.00

KEEP YOUR TRUCK FULLY STOCKED WITH

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JOB LISTS

Find Out How

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

DEFROST



804120

TIME

These timers are adjustable from one to six cycles per day. A minimum of four hours is required between successive operations. Defrost duration ranges from 4 to 110 minutes and is easily adjustable.

- Time initiation, time termination
- Contact rating: 40 amps resistive/pole



Part No.	Switch	Voltage	Price
804100*	2-NC/1-NO	120	\$172.66
804120*	2-NC/1-NO	208/240	\$166.04
804500*	SPDT	120	\$187.50
804520*	SPDT	208/240	\$187.50
804700*	2-NO/1-NC	120	\$187.50
804720*	2-NO/1-NC	208/240	\$187.50



BTT4520

TIME

These timers are adjustable from one to six cycles per day. A minimum of four hours is required between successive operations. Defrost duration ranges from 4 to 110 minutes in 2 minute increments and is easily adjustable.

- Time initiation, time termination
- Contact rating: 40 amps resistive/pole



Part No.	Switch	Voltage	Price
BTT4100*	2-NC/1-NO	120	\$153.00
BTT4120*	2-NC/1-NO	208/240	\$153.00
BTT4500*	SPDT	120	\$153.00
BTT4520*	SPDT	208/240	\$153.00



824520

PRESSURE

The 8240 Series defrost control is time-initiated with termination being regulated over a wide range of pressure settings. Cut-in pressures range from 36 to 110 psi. In addition to the pressure cut-in, the 8240 Series has backup mechanical

defrost termination to protect against sensor failure. This timer allows settings from 4 to 110 minutes with two-minute increments. One to six defrost cycles may be set per day with a minimum of four hours between cycle initiation.

- Time initiation, temperature/pressure termination
- Contact rating: 40 amps resistive/pole



Part No.	Switch	Voltage	Price
824500*	SPDT	120	\$819.10
824520*	SPDT	208/240	\$826.06
824720*	2-NO/1-NC	208/240	\$880.00



8141-00

TEMPERATURE, PRESSURE

Backup mechanical defrost termination protects against sensor malfunction. 1 to 6 cycles per day. A minimum of 4 hours between successive defrost cycles. Adjustable from 4 to 110 minutes in 2 minute increments.

Time initiation, temperature/pressure termination

- Contact rating: 40 amp resistive/pole



Part No.	Switch	Voltage	Price
814100*	2-NC/1-NO	120	\$187.50
814120*	2-NC/1-NO	208/240	\$187.50
814300*	2-NO/1-NC	120	\$187.54
814320*	2-NO/1-NC	208/240	\$187.50
814500*	SPDT	120	\$172.66
814520*	SPDT	208/240	\$187.50
814520B* ¹	SPDT	208/240	\$195.18

¹Bracket mount



BTP4100

TEMPERATURE, PRESSURE

These timers are adjustable from one to six cycles per day. A minimum of four hours is required between successive operations. Defrost duration ranges from 4 to 110 minutes in 2 minute increments and is easily adjustable.

- Time initiation, temperature or pressure termination
- Contact rating: 40 amps resistive/pole



Part No.	Switch	Voltage	Price
BTP4100*	2-NC/1-NO	120	\$153.00
BTP4120*	2-NC/1-NO	208/240	\$153.00
BTP4500*	SPDT	120	\$153.00
BTP4520*	SPDT	208/240	\$153.00



840820B

TEMPERATURE, PRESSURE, 4 POLE

- Bracket mount control
- Contact rating: 55 amps resistive/pole
- Switch type: 3-NO/1-NC
- Voltage: 208/240 Vac

- Time initiation, temperature/pressure termination



Part No.	Switch	Control	Voltage	Price
840820B*	3-NO/1-NC	Time Initiated, Temperature or Pressure Terminated	208/240 Vac	\$1,065.16

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



8145AV

AUTO VOLTAGE TIMER

This all-in-one auto voltage defrost timer replaces over 40 competitive voltage-specific mechanical defrost timers, eliminating the need for a separate short cycle timer and single-phase voltage monitor.

- Auto Voltage automatically adjusts for 120-277 VAC
- Compressor contacts 3HP
- Heater/Fan contacts 2HP
- LED indicators for defrost and refrigeration cycles
- Built-in permanent housing protects components from damage
- Mounts into existing closures, no tools required
- Real time clock face for easy accurate settings
- Defrost times programmable in 15-minute intervals with captive trippers
- Heavy-duty steel enclosure with knockouts (on the bottom, back and sides) and hasp
- Switch Rating: 40amp/3Hp/720VA/120-240VAC
- 8145AVM: mechanism only model



Part No.	Switch	Voltage	Price
8145AV*	2-NC/1-NO	120-240	\$195.90
8145AVM* ¹	2-NC/1-NO	120-240	\$181.84

¹Mechanism Only



914500

ELECTRONIC

- Real time clock.
- Initiate 15 minute manual defrost
- System status indicators
- 100 hours of power loss protection for both time and defrost schedule.
- Mechanism will fit in the standard Paragon enclosures; mechanism only versions are available

- Power consumption: 6VA max
- Wires directly to 120V AC, 208V AC or 230V AC power sources without jumpers or switches
- Easy programming, easy set-up, set time, set defrost start and defrost end
- Display shows defrost start time and duration



Part No.	Description	Contact Rating (Amps)	Price
904500*	Time Initiate/Time Terminate Defrost Timer with Metal Enclosure, SPST	30 amp (NC)	\$285.14
914500*	Time Initiate/Temperature, Pressure Terminate Defrost Timer with Metal Enclosure, SPDT	15 amp (NC)/30 amp (NO) resistive	\$276.80



DTAV40

DTAV SERIES, AUTO-VOLTAGE

The DTAV40 defrost control automatically selects the appropriate voltage between 120VAC and 240VAC without the use of a dip switch/selector pins.

- Reduce installation time

- Heavy-duty 40 Amp mechanical control
- 40 Amp resistive, 120-240 VAC
- 1 HP 120 VAC, 2 HP 240 VAC
- Operation temp: -40° to 104°F
- 24-hour analog, captive trippers, 15 minute switching intervals
- Electrical Life: 50,000 Operations at full load



Part No.	Description	Enclosure	Price
DTAV40	40 Amp Auto Volt Defrost Control w/ Outdoor Enclosure	NEMA 3R Raintight Plastic	\$230.56
DTAV40M	40 Amp Auto Volt Defrost Control, Mechanism Only	None	\$211.62
DTAV40Q	40 Amp Auto Volt Defrost Control, Quartz, 7 Day Carryover	NEMA 3R Raintight Plastic	\$290.36



DDFM

ICUBE™ ADAPTIVE DEFROST MODULE

Whether you are installing a total time clock replacement or looking for a fast retrofit, the ICUBE™ Module is an easy-to-integrate, low-cost solution for commercial refrigeration systems found in all types of food-service facilities.

- Assembles directly into existing DTAV40 Time Initiated, Temperature, Pressure or Time Terminated Defrost Timers.
- Demand defrost: only defrosts evaporator coils when necessary.
- Kit includes one temperature sensor and new faceplate.
- LED indicator conveys status and fault conditions, including efficiency mode and probe fault
- Maintains the timer's scheduling to reduce frequent defrost initiations during high usage times.
- Four sensor inputs accommodate up to four evaporators or multiple sensor locations for larger coils.
- Simply install the module right underneath the existing DTAV40 FM-Timer Module and run the sensing wire from the ICUBE™ Module inputs to the evaporator coils (sensor wire runs through existing conduit); there's no need to change any other wiring in the system.
- Use DDT40 for new installations (this part already has the ICUBE™ module built-in).



Part No.	Description	Price
DDFM	ICUBE™ Adaptive Defrost Refrigeration Module with Sensor	\$300.98
DDT40	Adaptive Defrost Refrigeration Time Control with ICUBE™ Module, Sensor, and Type 3R Enclosure	\$535.42

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

DEFROST

MULTI-CIRCUIT



ERC2212111

ERC2 SERIES

The ERC-2 is a microprocessor based controller designed to manage all of the temperature and defrost functions in a typical piece of commercial refrigeration equipment. By integrating these functions into one device, the ERC-2 can replace

up to five different controls; the case thermostat, defrost time, defrost termination switch, fan delay switch, and thermometer. The ERC-2 includes two NSF approved temperature sensors for the case and the evaporator. Also featured are four powerful relay outputs; one each for the compressor, fan, defrost and alarm. Selectable line voltage input power (120/208/240VAC at 50/60Hz) enable it to handle a wide range of equipment.

- Sensors may be extended to 100' with 18-22 gauge wire
- Temperature Setpoint: -40°F to +60°F
- Defrost Cycles: 1 to 8 per day or 1 every 48 hours
- Contact Rating: 16A Resistive (5A resistive alarm circuit)
- Case Dimensions: 4.40" W x 7.82" H x 3.80" D
- Display Module Dimensions: 2.75" W x 1.10" H x 1.38" D
- Agency Approvals: UL, NSF



Part No.	Description	Price
ERC2212111	Universal Control, Integrated Display	\$551.18
ERC222111*	Universal Control, Remote Display	\$564.80

A complete defrost program timer composed of just three basic components: frame, drive motor, and program modules. The drive motor module slides on to the end of the frame and is securely locked by a single captive hex bolt. Individual program modules slip into the frame and are secured by a spring-loaded clip bar. In the field any drive module or program module can be removed and replaced without disassembling the timer or disturbing program settings. Each program module has a 24-hour dial with time-of-day indication for initiation programming and a 2-hour dial for defrost duration control. Up to 12 operations per day are possible. The duration of defrost or the duration of backup defrost termination is 6 to 106 minutes. Integral solenoid termination permits termination of defrost upon closure of an external pilot device, such as a thermostat or pressure switch.

- Up to 24 program modules can be driven by one motor



A87820

DRIVE MODULE

- Used with A87999 or A88099 frame modules and A876, A877 circuit modules



Part No.	Voltage	Price
A87800*	120	\$288.84
A87820*	208/240	\$291.66

SENSOR, ERC2 SERIES

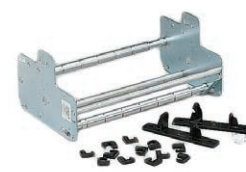
Sensor may be extended to 100' with 18-22 gauge wire



1309007045



Part No.	Description	Price
1309007045*	NTC Sensor, 120"	\$45.34



A88099

FRAME MODULE

Used with A87800 or A87820 drive module and A876 or A877 circuit modules.



Part No.	Module Capacity	Price
A87999*	4	\$318.30
A88099*	8	\$380.20



A87700

PROGRAM MODULE

- Solenoid modules for temperature or pressure termination with remote switch
- Used with A87800 or A87820 drive modules and A87999 or A88099 frame modules



Part No.	Cycle Rate	Solenoid	Voltage	Price
A87699*	Even Hour	No	—	\$310.64
B87699*	Even 1/2 Hour	No	—	\$310.64
D87699*	Odd Hour	No	—	\$310.64
E87699*	Odd 1/2 Hour	No	—	\$310.64
A87700*	Even Hour	Yes	120	\$361.30
B87700*	Even 1/2 Hour	Yes	120	\$361.30
D87700*	Odd Hour	Yes	120	\$361.30
E87700*	Odd 1/2 Hour	Yes	120	\$361.30
A87720*	Even Hour	Yes	208/240	\$379.78
B87720*	Even 1/2 Hour	Yes	208/240	\$379.78
D87720*	Odd Hour	Yes	208/240	\$379.78
E87720*	Odd 1/2 Hour	Yes	208/240	\$379.78

DEFROST, FAN DELAY



63200

24-HOUR TIMER

24-hour timer with pump down, drain, or fan delay cycle.

- Defrost initiation: Adjustable from 1-8 cycles per day; minimum 3 hours between successive cycles

- Delay or pump down cycle: Adjustable for 0-30 minutes; 3 minute graduation; for stopping fans, reducing refrigerant pressure, or hot gas pump down cycle
- Defrost cycle: 3-45 minutes; 3 minute graduation
- Drain or fan delay cycle: Adjustable from 3-15 minutes; 3 minute graduation
- Contact rating: 10 amps resistive/pole



Part No.	Switch	Supply Voltage	Price
63200	2-NO/2-NC	120	\$760.64
63220	2-NO/2-NC	208/240	\$776.00

Part No.	Description	Price
X3596	Dial pins (5) for Paragon timers 632, 8000 series	\$9.30

ELECTROMECHANICAL



T7401B

7 DAY

- Different ON/OFF program each day of the week.
- True 7-day load control with minimum ON and minimum OFF times of 3 1/2 hours.

- Steel case: 12 1/2" H x 8 1/4" W x 4" D. Indoor type with toggle action drawbolt and locking feature.
- Knockouts - Combination 1/2"-3/4" nominal knockouts, two on back, one on each side and two on bottom. Also one 1" nominal on bottom center.
- Switch Rating - Each Pole 40 amp resistive, 120-480 VAC; 40 amp tungsten, inductive or 1000 VA pilot duty, 120-277 VAC; 2 HP (24 FLA) 120 VAC; 5 HP (28 FLA) 240 VAC single phase; 7-1/2 HP (28 FLA) 208 VAC three phase; 10 HP (28 FLA) 240 VAC three phase.



Part No.	Switch	Voltage	Contact Rating (Amps)	Price
T7401B	4PST	125	40	\$398.70
T7402B	4PST	208-277	40	\$415.68
T7801B	2NO/2NC	125	40	\$398.70
T7802B	2NO/2NC	208-277	40	\$415.68



STUZ120

FM/1 STUZ

The FM/1 series modules are designed to be placed inside a machine control panel, circuit board, or other equipment. It offers up to 21A switching designed for control of heating, ventilating, air conditioning, refrigeration, lighting, security, circulating pumps, spas or

any electrical load requiring 24-hour scheduling.

- Size: 2.36" x 2.36" x 1.25"



Part No.	Switch	Voltage	Contact Rating (Amps)	Price
STUZ24	SPDT	24	21	\$94.80
STUZ120	SPDT	120	21	\$92.70
STUZ220	SPDT	240	21	\$94.80

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTROMECHANICAL



MIL72ASTUZ240

MIL72ASTUZ

Time based control of lighting, ventilating, heating, cooling or other electrical loads in commercial and industrial applications. The MIL72 time switches are available with a 24-hour (STuZ) or 7-day (SWuZ) program dial with

a SPDT switch. The MIL72A series is intended for surface mounting. The control is completely enclosed in a plastic housing and includes a terminal cover and sub-base for installation and hard wiring. All units are supplied with a clear plastic cover.

- Synchronous drive
- 21A SPDT switch
- Captive trippers with interval as low as 15 minutes
- Dimensions: 2.83" x 4.0" x 2.06"



Part No.	Switch	Voltage	Contact Rating (Amps)	Price
MIL72ASTUZ24	SPDT	24	21	\$123.92
MIL72ASTUZ120	SPDT	120	21	\$119.18
MIL72ASTUZ240	SPDT	240	21	\$123.92



GM40

GM40

A universal, electromechanical clock which can automatically detect the voltage input without the use of dip switch or selector pins. The clock can operate at any voltage between 120 and 277 VAC. It selects input voltage automatically.



Part No.	Switch	Voltage	Contact Rating (Amps)	Description	Price
GM40AV	DPDT/SPDT	120-277	40	24 Hour, 40A, DPDT/SPDT, Auto-Voltage	\$162.38



GMXST1120

GMX

The GMX Series Time Controls are universal, electromechanical time switches. They are a low cost alternative for applications that do not require more than 21A or 2HP 240VAC. The unit is mounted in a NEMA indoor or outdoor enclosure and is designed

to control lighting, heating, air conditioning, pumps, motors, or other general purpose electrical circuits in residential, commercial, industrial and agricultural facilities.

- Contact Rating: SPDT, 21A Resistive 250VAC
- Voltage: 120 Vac



Part No.	Switch	Voltage	Contact Rating (Amps)	Description	Price
GMXST1120	SPDT	120	21	Economy, 24 Hour	\$140.04

ELECTRONIC



FMD1D20A120

FM1D

The FM1D Series Timers are compact electronic 24 hour/7 day time switch module with heavy duty relay contacts for switching low or line voltage loads. Applicable for time of day control of pumps, fans, heaters, HVAC control circuits, lighting,

machinery and many other types of commercial, industrial, and agricultural equipment.

The FM1D Series features large keys with unique circular pattern for easy programming, an easy-to-read LCD display and capacitor backup to retain program memory during power outages.

- 8 FLA Amps 240 Vac
- Surface / din rail mount



Part No.	Voltage	Nb. of Set Points	Price
FM1D20A120	120 Vac	20, Up to 140 Events/Week	\$334.82
FM1D50A12	12 Vac/DC	50, Up to 350 Events/Week	\$394.96
FM1D50A24	24 Vac	50, Up to 350 Events/Week	\$394.48



FM2D50120

FM2D

Time based control of lighting, ventilating, heating, cooling or other electrical loads in commercial and industrial applications.

The FM2D50 time switches are programmable for 24-hour or 7-day schedules as well as an 8th day or

holiday schedule. The FM2D50 series is intended for either surface or Flush panelmounting.

- Ambient Temperature Range: -20°F to 140°F
- Accuracy: ±4 minutes per year



Part No.	Voltage	Price
FM2D50120	120	\$635.36

PERCENTAGE, SURFACE MOUNT



CT2000

- Cycling pattern from 3% to 97% of total cycle duration
- Sealed enclosure handles dusty, ammonia rich or wash-down environments
- LED indicators provide constant operation feedback

- Manual On or Off override allows users to bypass cycling pattern when required
- Total cycle durations can be set from 30 seconds up to a maximum of 30 minutes, with ON/OFF durations from 1 second up to 29 minutes.
- Power input may be any standard 120 volt or 240 volt AC supply.
- Switch type: SPST
- Resiste amps: 20 amps
- Operating Temperature: 14 to 140°F



Part No.	Switch	Voltage	Price
CT2000	SPST	120/240 VAC, 50/60 Hz	\$282.42

MECHANICAL



FF15M

SPRING WOUND TERMINAL

These energy saving commercial timers use no electricity to operate. These timers are designed to replace any standard wall switch, single or multi-gang, and automatically limit the ON time of fans, lights, motors, heaters and other energy consuming loads. T ime

limits of 5, 15, 30 and 60 minutes and 2, 4, 6 and 12 hours are available. The hold feature allows the user to override the automatic shut-off function for extended use of the load as required. Rugged time-dial plate takes the abuse encountered in commercial environments. Time saving up front terminal connection with teeter type terminals and an easy press-on knob design ensure quick and easy installation.

Switch Rating:

- Inductive: 20 Amp, 125 VAC, 50/60 Hz; 10 Amp, 250 VAC, 50/60 Hz;
- 10 Amp, 277 VAC, 50/60 Hz
- Tungsten: 7 Amp 125 VAC
- Motor: 1 HP 125 VAC 50/60 Hz; 2 HP 250 VAC 50/60Hz

Caution: Do not use for sunlamps, sauna, etc..



Part No.	Switch	Timing	Comments	Price
FF15MC	SPST	0 to 15 Minutes	No Hold	\$58.28
FF4H	SPST	0 to 4 Hours	No Hold	\$76.36
FF6H	SPST	0 to 6 Hours	No Hold	\$74.88
FF6HH	SPST	0 to 6 Hours	Hold	\$74.88
FF12HC	SPST	0 to 12 Hours	No Hold	\$76.36
FF315M	SPDT	0 to 15 Minutes	No Hold	\$98.00
FF312HH	SPDT	0 to 12 Hours	Hold	\$115.60

DELAY TIMER



TDOM

DELAY ON MAKE

General purpose delay on make timing function. Ideal for compressor staging and stagger-starting multiple units. Helps to reduce power surges in multiple compressor applications. When power is applied to the input, the time delay begins. After the time delay

is complete, the load energizes and remains energized as long as power is applied. The control is reset by removing power during or after the time delay period.

- Voltage: 18-240 Vac
- Switch type: SPST, normally open



Part No.	Adjustment Type	Time Delay	Input Voltage	Contact Rating (Amps)	Price
TDOM*	Dial	2 - 600	18 - 240 Vac/Vdc	1.5	\$11.30
ICM103B	Dip-Switch	1 - 1023	18 - 240 Vac	1.5	\$31.48



ICM206B

DELAY ON BREAK

Helps to protect air conditioning, refrigeration and heat pump equipment from damage which may be caused by the rapid short-cycling of compressors. Upon application of power, the load is energized. When the thermostat or other switch opens or there is a loss

of power, the load is de-energized and the delay period begins. The compressor will not start again during the delay period.

- Anti short-cycle
- Off delay on break
- Contact rating: 1.5 amps



Part No.	Adjustment Type	Time Delay	Input Voltage	Contact Rating (Amps)	Price
TD0B*	Dial	2 - 600 Sec.	18 - 240	1.5 amps	\$11.32
ICM206B	Dial	2 - 600 Sec.	18 - 30	1.5 amps	\$20.96



32392

DELAY ON BREAK

- Maximum amps: 1



Part No.	Adjustment Type	Time Delay	Input Voltage	Contact Rating (Amps)	Price
32392*	Dial	6 Sec.-5 Min.	19-240	1	\$33.82

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

DELAY TIMER



32391

DELAY ON MAKE

- Model 32391 is the most popular timer in the industry
- Maximum amps: 1 (6 for 32397)



Part No.	Adjustment Type	Time Delay	Input Voltage	Contact Rating (Amps)	Price
32391*	Dial	6 Sec.-8 Min.	19-240	1	\$33.86
32397*	Dial	1 - 1000 Sec.	24	6	\$51.94



32394

DELAY ON MAKE, DIPSWITCH

- 1 second dipswitch
- Delay on make
- Delay 1-1023 seconds
- Fine adjustment



Part No.	Adjustment Type	Input Voltage	Contact Rating (Amps)	Price
32394*	Fine	19-144	1	\$111.38



32395

BYPASS

An adjustable, multi-voltage bypass timer that allows the temporary bypass of a control or device during start-up. At the end of the delay period the control is returned to the circuit.



Part No.	Time Delay	Input Voltage	Adjustment Type	Contact Rating (Amps)	Price
32395*	6 Sec.-8 Min.	19-240	Dial	1	\$51.94



ICM175B

BYPASS

Designed to bypass a control or device during startup. Typically used to bypass a low pressure switch or an oil pressure switch upon startup. Helps to eliminate nuisance lockouts. With power applied to the input, the load energizes immediately and remains

energized for the length of the time delay, regardless of the state of the switch being bypassed. At the end of the time delay, the condition of the load is determined by the state of that switch.

- On delay interval timer
- Normally closed delay on make
- Ideal for low ambient startups
- Integral component for winter start kits
- Contact rating: 1 amp



Part No.	Time Delay	Input Voltage	Adjustment Type	Contact Rating (Amps)	Price
ICM175B	10 - 1000	18 - 240	Dial	1	\$27.96



RTEP

MULTI FUNCTION TIMER, PLUG IN

- 20 time ranges and 10 timing functions
- Time delays up to 600 hours
- P1A timing function: Cycle 2 (power start, ON first) - Cycle 1 (power start, OFF first) - Interval 1 (power start) - On Delay 1 (power start)
- P2A timing function: Cycle Mode (signal start, ON First) - On Delay 2 (signal start) - Signal Off Delay 1 (signal start) - Signal On/Off Delay 1 (signal start) - Cycle 2 (signal start) - One Shot 2 (signal start)
- High repeat accuracy of $\pm 0.2\%$
- ON and timing OUT LED indicators
- 2 form C delayed output contacts
- 10A Contact rating



Part No.	Input Voltage	Timer Type	Terminal Type	Price
RTEP1AD24	24 Vac/Vdc	Power On Trigger (Maintained Start Signal)	8 Pin Plug-In	\$130.00
RTEP1AF20	120-240 Vac	Power On Trigger (Maintained Start Signal)	8 Pin Plug-In	\$132.00
RTEP2AD24	24 Vac/Vdc	Dry Contact Trigger (Momentary Start Signal)	11 Pin Plug-In	\$152.80
RTEP2AF20	120-240 Vac	Dry Contact Trigger (Momentary Start Signal)	11 Pin Plug-In	\$147.30



SR2P06

SOCKET DIN MOUNT SCREW TYPE

- SPDT, DPDT, or 3PDT pure silver contacts
- Worldwide approvals on octal (8-pin and 11-pin) models: UL, CSA, TUV, CE
- Options include

check button for test operation and indicator light



Part No.	Description	Price
SR2P06	Socket for 8 Pin Timers (RTEP, RR1PA, RR2P, GE1A, GT5P, GT3)	\$12.00
SR3P06	Socket for 11 Pin Timers (RTEP, RR3PA, GT3)	\$16.00



ICM253

POST PURGE

Controls the circulating fan in heat pump, air conditioning and forced air systems. Off delay timing function continues to run the fan at the end of the heating/cooling cycle.

A one second interrogation delay is provided to avoid nuisance trips due to thermostat bounce or tampering.

- Contact rating: 1 amp



Part No.	Input Voltage	Adjustment Type	Time Delay	Contact Rating (Amps)	Price
ICM253	18 - 30	Dial	12 - 390	1	\$38.48

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



32382

SHORT CYCLE WITH BROWNOUT

- Lockout delay prevents rapid cycling of compensated resistor type wall thermostats
- Brownout protection prevents startup when voltage is below normal conditions



- Delay on break

Part No.	Time Delay	Input Voltage	Contact Rating (Amps)	Price
32382*	5	24	1	\$63.04



ICM321

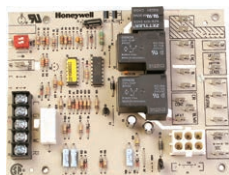
FAN DELAY/POST PURGE

32377, 32378 and 32379 will perform either on-delay or off-delay functions. On-delay is especially useful for controlling unloader valves. Off-delay can be used for fan off-delay, pump down systems or post purge applications. The off-delay may also

serve an anti-bounce function as a pump flutter bypass switch.



Part No.	Type Delay	Input Voltage	Adjustment Type	Time Delay	Contact Rating (Amps)	Price
32377*	Off/Interval	24	Dial	6 Sec.-10 Min.	6	\$30.06
32393*	Off	24	Fixed	2 Min.	1	\$41.22



ST9120U

ELECTRONIC FAN TIMER, GAS

Integrate control of combustion blower and circulating fan operations in a gas warm air appliance. A single circuit board providing combustion air blower control, two speed circulating air blower control, limit circuit inputs, thermostat wiring terminations.

- Fixed or field-adjustable heat fan on delay; field adjustable heat fan off delay

Honeywell Home

Part No.	Description	Price
ST9120U1011	Furnace Timer, Adjustable Settings, Universal	\$322.66



ST9103A1002

ELECTRONIC FAN TIMER, OIL

Integrate control of combustion burner and circulating fan operations in an oil furnace. A single circuit board providing combustion air blower control, two speed circulating air blower control, oil primary control, limit circuit inputs, thermostat wiring terminations and a

central appliance wiring point for an oil fired furnace

- Central appliance wiring point simplifies appliance assembly and service.
- Fixed or field-adjustable heat fan on delay; field adjustable heat fan off delay

Honeywell Home

Part No.	Description	Price
ST9103A1002	Furnace Timer, Adjustable Off Delay	\$254.12



S9200U1000

UNIVERSAL INTEGRATED FURNACE TIMER

Can be used with conventional thermostats as well as the EnviraCOM™ enabled VisionPRO IAQ and FocusPRO. The S9200U1000 Universal Integrated Furnace Control is intended for residential natural or liquid propane fueled furnaces only. The S9200U1000 EnviraCOM™ communications capability allows its use in twinning applications and enables communication with local and remote diagnostic devices such as the QuickLook hand held device (QuickLook™ 72), EnviraLNK® web-based application and the W8735D Telephone Access Module (TAM).

- Main burner ignition using a 120V hot surface igniter.
- Flame rectification circuit to monitor flame presence
- Monitoring of system pressure switch, high temperature limit, and rollout functions.

Honeywell Home

Part No.	Description	Price
S9200U1000	Universal Hot Surface Ignition Integrated Furnace Control	\$289.94



ICM315

HEAT PUMP DEFROST, E15 TYPE

- Solid state replacement for Ranco type E-15
- Reliable thermistor-type sensor is less susceptible to breakage, easier to mount
- Replaces faulty bulb-type sensors
- 24, 120 or 240 Vac operation

- 10 minute defrost interval
- Pin-selectable interval time (30/45/90)



Part No.	Description	Price
ICM315	Ranco E15 Type Board	\$179.14



ICM321

OEM HEAT PUMP DEFROST



Part No.	OEM Part Number	Price
ICM316	Trane, CNT1642, CNT1152	\$153.96
ICM319	Nordyne, 624519A	\$94.48
ICM320	Carrier, HK32FA006	\$137.06
ICM321	Carrier, CES01130063-00	\$102.74

WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

TIMER

DELAY TIMER



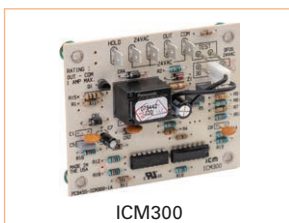
HEAT PUMP DEFROST - 621 TYPE

Replacement for OEM Type 621 control. Pin selectable defrost interval.

- Time/temperature termination
- 50/60 Hz



Part No.	Defrost Interval	Voltage	Defrost Duration (Min)	Price
32572*	30, 60, 90	18 - 31	10, Fixed	\$61.26



HEAT PUMP DEFROST - 621 TYPE

- Direct replacement for OEM Type 621
- Time/temperature defrost
- 24 Vac operation (18-30 Vac)
- 10 minute defrost interval
- Pin-selectable interval time (30/60/90)



- Replaces Arcoaire part number 1052757

Part No.	Description	Price
ICM300	Time Temperature Defrost Board	\$52.48



HEAT PUMP DEFROST, UNIVERSAL

Replaces virtually all single stage defrost controls.

- Selectable demand or timed defrost
- O or B reversing valve with shift delay
- Configures to any system

- Universal mounting with rotating display
- One-button configuration to any OEM system
- Access set up and diagnostic menus from any orientation
- Auxiliary heat lockout
- Compressor lockout
- Reversing valve shift delay: selectable 0, 12 or 30 second delay
- Short-cycle protection: 0, 3 or 5 minute selectable delay between cycles to extend the life of the compressor
- Control voltage: 24 VAC 50/60 Hz
- Line voltage: 208/240 VAC 50/60 Hz
- Operating temperature range: -40° to 150°F
- Humidity range: 0-95% relative humidity, non-condensing
- Dimensions: 5.75"W x 4.72"L

Includes

- 47D01U843 Universal defrost control with plastic mounting tray
- Thermostat harnesses
- Harness #2: used to connect reversing valve, contactor, low and high pressure switches
- New Thermistors: used to measure coil temperature and air temperature
- 2 mounting screws, wire ties, wire nuts and labels



Part No.	Description	Price
47D01U843	Universal Heat Pump Defrost Control	\$210.34

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

DOMESTIC



DEFROST TIMER, HEAVY DUTY

These heavy duty 15 amp Paragon timers are being used by the O.E.M. manufacturers today. They will replace both the older classic design timers and the new O.E.M. versions.



Part No.	Defrost Interval	Defrost Time	Price
A140000	6 hours	21 minutes	\$32.04



UNIVERSAL, RESIDENTIAL

The EDT has a two dial adjustment configuration that allows for the setting of any defrost frequency from 4 to 12 hours and any defrost time from 10 to 35 minutes.



Part No.	Voltage	Max. Compressor Rating (HP)	Max. Resistive Load Amps	Price
EDT10	120	1/3	10	\$53.16
EDT20	208/240	1/3	5	\$63.16
EDT11	120	3/4	20	\$50.84
EDT21	208/240	3/4	20	\$66.50

ELECTRONIC TEMPERATURE

DEFROST/TEMPERATURE

The MR Series temperature controls are designed for hot gas or electric heat defrost in both refrigeration and freezer units. Either time or temperature based defrost termination may be selected. The MR Series incorporates control functions such as compressor control, defrost management, fan management, and alarm management.

- Time initiation, time, temperature termination
- Combined functionality of an electromechanical thermostat, mechanical clock, defrost termination device, and temperature readout device
- 2 sensors included: 6' leads
- Contact rating: (compressor, heater relays), 12 F.L. Amp 240 Vac
- Temperature/defrost



Part No.	Description	Contact Rating (Amps)	Price
MR4PMUHV12C*	Electronic Refrigeration Control	(compressor, heater relays), 12 F.L. Amp 240 Vac	\$770.00

VALVE, COMBINATION



VS820A1054

CONTINUOUS PILOT

Provides complete control of continuous pilot gas-fired central furnaces and boilers

- Includes pilot flow adjustment screw
- Easy to install, adjust and service
- Includes reducer bushings to adapt line size

Honeywell Home

Part No.	Application	Size (In.)	Capacity (CFH)	Gas	Price
V400A1095	120V, Use with 30mV Thermocouple	3/4 x 3/4	335	Natural	\$1,274.56
V800A1070	24V, Use with 30mV Thermocouple	1/2 x 3/4	250	Natural	\$728.70
V800A1088	24V, Use with 30mV Thermocouple	3/4 x 3/4	335	Natural	\$702.22
V800A1476	24V, Use with 30mV Thermocouple	1/2 x 3/4	250	Natural	\$700.66
VS820A1047	Self Powered, Use with 750mV Thermopile	1/2 x 3/4	250	Natural	\$938.28
VS820A1054	Self Powered, Use with 750mV Thermopile	3/4 x 3/4	335	Natural	\$938.28



VR4300A4502

CONTINUOUS PILOT, LINE VOLTAGE

Combination gas control for use in 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

- 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.
- Standard regulator
- Combination dual automatic valve
- Power: 120 Vac

Honeywell Home

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Includes	Price
VR4300A4502	3/4 x 3/4	200	Natural	Standard	LP Conversion Kit	\$558.02



VR8200A2124

CONTINUOUS PILOT, LOW VOLTAGE, VR8200 SERIES

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

- Includes reducer bushings
- Combination dual automatic valve
- Power: 24 Vac

Honeywell Home

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Includes	Price
VR8200A2124	1/2 x 1/2	130	Natural	Standard	LP Conversion Kit Thermocouple (36")	\$254.70
VR8200A2132	1/2 x 1/2	130	Natural	Standard	LP Conversion Kit	\$235.58
VR8200H1251	1/2 x 1/2	130	Natural	Slow Open	LP Conversion Kit	\$292.26



VR8300A3500

CONTINUOUS PILOT, LOW VOLTAGE, VR8300 SERIES

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

- Controls include safety shutoff, manual valve, two automatic operators, pressure regulator and pilot adjustment
- Combination dual automatic valve
- Includes reducer bushings
- Power: 24 Vac

Honeywell Home

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Includes	Price
VR8300A3500	1/2 x 3/4	190	Natural	Standard	reducer bushings, conversion kit	\$276.12
VR8300A3518 ¹	1/2 x 3/4	190	Natural	Standard	reducer bushings, conversion kit	\$296.52
VR8300A4508	3/4 x 3/4	200	Natural	Standard	reducer bushings, conversion kit	\$296.04
VR8300A4516 ¹	3/4 x 3/4	200	Natural	Standard	reducer bushings, conversion kit	\$330.80
VR8300C4506	3/4 x 3/4	200	Natural	Step Open	reducer bushings, conversion kit	\$486.56

¹Includes 36" thermocouple, ECO adapter

VALVE, COMBINATION



36C03333

CONTINUOUS PILOT

Ideal for general purpose replacement, these 36C combination gas valves are furnished with natural to LP conversion kit, reducer bushings and self-adhesive label with pilot lighting instructions.

- Valve may be mounted in any position, except upside down
- Both main valve seat and line-interrupter seal with line pressure, assuring positive gas seal-off
- Reducer bushings provided
- Natural gas



Part No.	Connection Size (In.)		Capacity AGA (Btuh)	Voltage	LP Conversion Kit	Side Taps	Price
	Inlet	Outlet					
36C03300	1/2	3/4	230000	24	No	No	\$222.46
36C03333	1/2	3/4	230000	24	Yes	Yes	\$237.42
36C03400	3/4	3/4	280000	24	No	No	\$277.78
36C03433	3/4	3/4	280000	24	Yes	Yes	\$300.62
36C03U333	1/2	3/4	230000	750mV	Yes	Yes	\$385.26
36C03U433	3/4	3/4	280000	750mV	Yes	Yes	\$434.04



36C53418

CONTINUOUS PILOT, SLOW OPENING

Model 36C53 complete gas control combines into a single compact package that functions as a 3-position gas cock, pressure regulator, 100% shut-off automated pilot and main operator. This model features a slow opening main valve that provides a softer ignition.

- Usage: natural gas - regulator setting 3.5" WC
- Order LP conversion set separately
- ECO terminal included



Part No.	Connection Size (In.)		Capacity AGA (Btuh)	Coil Voltage	Price
	Inlet	Outlet			
36C53418	3/4	3/4	280000	24 Vac	\$525.98



700400

CONTINUOUS PILOT, MANUAL, LOW VOLTAGE

These valves feature a manual valve (gas cock), an automatic pilot safety valve, inlet/outlet screens, pilot outlet, pilot gas filter and pilot adjustment ke. The automatic pilot safety valve is separate from the gas cock and provides gas shutoff in case of pilot outage.

The 700 Series 24 volt Uni-Kits® have a pressure regulator installed that is set for natural gas (3.5" W.C.). To convert to L.P. gas, a regulator cover plate is included. Simply remove pressure regulator and install the regular cover plate.

Note: Valves can be mounted in any position except upside down.

- Reducer bushings included



Part No.	Connection Size (In.)			Pressure Regulator (in. WC)	Capacity (BTUH)	Price
	Inlet	Outlet	Side (In.)			
700400	1/2	3/4	Straight-Thru	Uni-Kit	240,000	\$207.24
700406	3/4	3/4	Straight-Thru	Uni-Kit	300,000	\$240.00
700426	3/4	3/4	Straight-Thru	3.5, Natural	300,000	\$652.48
700442	1	1	Straight-Thru	3.5, Natural	600,000	\$853.56



700452

CONTINUOUS PILOT, LINE VOLTAGE

The 700 line voltage combination gas controls are available in 120 Vac models. These controls combine into one compact valve: a manual gas cock, automatic pilot safety valve and a silent line voltage operator.

Regulated and nonregulated models are available. Standard features include: pilot outlet, pilot gas filter and pilot adjusting key. The automatic pilot valve is separate from the gas cock and provides gas shutoff in case of pilot outage.

Note: Valves can be mounted in any position except upside down.



Part No.	Connection Size (In.)			Pressure Regulator (in. WC)	Capacity (BTUH)	Price
	Inlet	Outlet	Side (In.)			
700452	1/2	3/4	1/2	3.5, Natural	240,000	\$381.44
700454	3/4	3/4	Straight-Thru	3.5, Natural	300,000	\$372.34
700456 ¹	1	1	Straight-Thru	3.5, Natural	600,000	\$1,206.02

¹Separate pressure regulator may be required. Slow opening feature for soft ignition.



700422

CONTINUOUS PILOT, DIAPHRAGM VALVE

Diaphragm/solenoid valves are single function, diaphragm types and are excellent replacements for solenoid gas valves. Standard features include: pilot outlet, pilot gas filter and pilot adjustment key.

Notes: Valves can be mounted in any position except upside down. These valves do not have a safety magnet.

- Power supply: 24 Vac



Part No.	Connection Size (In.)			Pressure Regulator (in. WC)	Capacity (BTUH)	Price
	Inlet	Outlet	Side (In.)			
700422	1/2	3/4	1/2	3.5, Natural	240,000	\$362.54



700502

CONTINUOUS PILOT, MILLIVOLT, WALL THERMOSTAT ACTIVATED

The 700 millivolt gas valves are wall thermostat actuated combination gas valves. These controls combine a manual gas cock, automatic pilot safety valve and a millivolt operator. The automatic pilot safety is separate from

the gas cock and provides gas shutoff in case of pilot outage. Standard features include: pilot outlet, pilot gas filter and pilot adjusting key. Note: Valves can be mounted in any position except upside down.

- Power supply: 250-750 mV
- Reducer bushings included



Part No.	Connection Size (In.)			Pressure Regulator (in. WC)	Capacity (BTUH)	Price
	Inlet	Outlet	Side (In.)			
700502	1/2	1/2	1/2	3.5, Natural	100,000	\$275.86
700504	1/2	3/4	1/2	3.5, Natural	240,000	\$353.98
700506	3/4	3/4	Straight-Thru	3.5, Natural	300,000	\$274.04
700522 ¹	1	1	Straight-Thru	3.5, Natural	720,000	\$1,100.10

¹Slow opening feature for soft ignition, no reducer bushings



710502

CONTINUOUS PILOT, LOW PROFILE

The 710 low capacity gas heating valves are designed for recreational vehicles and other applications with limited space. All models include a manual valve (gas cock), automatic pilot safety valve, pilot outlet, pilot gas filter and pilot adjusting key.

Note: The control can be mounted in any position except upside down and all models have 3-position outlets.

- Supplied with pipe bushings



Part No.	Pressure Regulator (in. WC)	Price
710402	3.5, Natural	\$341.56
710501 ¹	None	\$457.82
710502	3.5, Natural	\$193.00

¹Separate pressure regulator may be required

VALVE, COMBINATION



720406

CONTINUOUS PILOT, DUAL VALVE

The 720 Series gas controls are designed for a wide variety of heating applications and can be used to replace most constant pilot valves, including dual valve (six function) models.

The 720 Series constant pilot gas valve is a six function valve incorporating a manual valve, safety shutoff magnet, dual automatic valves, main gas regulator, and pilot adjustment. Uni-Kits® are

factory-set at 3.5" W.C. for natural gas, but can be converted to LP by installing the regulator conversion kit included.

The 720 Series feature an integral manual selector used to select from the 4 gas flow positions—off, on, pilot and set. The set position provides pilot only gas flow during magnet energizing and lock up. Built-in stops serve to prevent accidental setting to the off position.

- Regulates to 15,000 BTU minimum, 200,000 BTU maximum, for natural gas
- Capacity: 150,000 BTUH
- Reducer bushings included



Part No.	Connection Size (In.)			Capacity (BTUH)	Comments	Price
	Inlet	Outlet	Side (In.)			
720400*1	1/2	3/4	Straight-Thru	150,000	—	\$185.70
720402*1	1/2	3/4	1/2	150,000	—	\$186.16
720406*1	3/4	3/4	Straight-Thru	150,000	—	\$195.30
720472*2	1/2	1/2	1/2	150,000	Standing Pilot	\$429.20
720474*	1/2	1/2	1/2	150,000	Standing Pilot	\$405.20

*1Uni-Kit® regulator conversion included *2Convertible regulator, designed for mobile home use



VR8204A2076

INTERMITTENT PILOT, LOW VOLTAGE, VR8204 SERIES

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
- Combination dual automatic valve
- Includes reducer bushings, natural to LP conversion kit
- Power: 24 Vac

Honeywell Home

Part No.	Size (In.)	Ambient Temperature	Pressure Regulator (in. WC)	Gas	Regulator	Price
VR8204A2076	1/2 x 1/2	0 to 175°F	3.5	Natural	Standard	\$310.20
VR8204C1019	1/2 x 1/2	0 to 175°F	0.9 Step	Natural	Step Opening	\$371.10
VR8204H1006	1/2 x 1/2	0 to 175°F	3.5	Natural	Slow Opening	\$368.66
VR8204M1091	1/2 x 1/2	-40 to 175°F	3.5	Natural	Standard	\$344.52



VR8304M3509

INTERMITTENT PILOT, LOW VOLTAGE, VR8304 SERIES

Combination gas control for use in 24 V ac, 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
- Combination dual automatic valve
- Power: 24 Vac

Honeywell Home

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Price
VR8304M3509	1/2 x 3/4	270	Natural	Standard	\$354.92
VR8304M4507	3/4 x 3/4	300	Natural	Standard	\$345.74
VR8304P4330	3/4 x 3/4	—	LP	Step Open	\$476.20
VR8304P4504	3/4 x 3/4	300	Natural	Step Open	\$475.46
VR8304Q4511	3/4 x 3/4	—	Natural	Slow Open	\$554.22

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



VR4304M4519

INTERMITTENT PILOT, LINE VOLTAGE, VR4304 SERIES

- 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.
- 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.
- Standard and slow opening natural gas models include natural to LP gas conversion kit; LP to natural gas conversion kit also available.
- 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.
- Compatible with ECO connector.
- ON-OFF lighting sequence.

Honeywell Home

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Price
VR4304M4519	3/4 x 3/4	415	Natural	Standard	\$562.86



VR8345M4302

INTERMITTENT, PROVEN PILOT, UNIVERSAL, LOW VOLTAGE

- Universal electronic ignition combination gas control for use with direct spark ignition, hot surface ignition or intermittent pilot ignition in 24 Vac, gas-fired appliance with capacities from 30 to 415 cfh.
- Control includes manual valve, two automatic operators, servo 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
 - Includes reducer bushings
 - Power: 24 Vac

Honeywell Home

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Price
VR8345M4302	3/4 x 3/4	300	Natural	Standard	\$287.86



SV9501M

SMARTVALVE™, SV9501 SERIES

The Intermittent Hot Surface Pilot Ignition SmartValve™ System Controls provide easy field replacement of a wide range of SV9500, SV9501, SV9502 and SV9602 SmartValve™ System models. These controls provide intermittent pilot gas ignition

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. Ignition sequence includes timed trial for ignition.

- SV9501M8129 includes 395454 extension harness and 393691 NAT to LP conversion kit

sequencing, pilot flame sensing, and both pilot and main gas control functions in a single control. They are directly compatible with the

Honeywell Home

Part No.	Pressure Regulator (in. WC)	Size (In.)	Capacity (CFH)	Gas	Regulator	Connection Size (In.)		Price
						Inlet	Outlet	
SV9501M2528	3.5	1/2 NPT x 1/2 NPT	200	Natural	Fast Open	1/2 NPT	1/2 NPT	\$638.16
SV9501M8129	3.4	1/2 NPT x 1/2 NPT	200	Natural	Standard	1/2 NPT	1/2 NPT	\$638.16

SMARTVALVE™, SV9601 SERIES

The SV9601 SmartValve System Controls combines gas flow control and electronic intermittent pilot sequencing functions into a single unit. This system is suitable for application in a wide range of gas-fired appliances including furnaces, rooftop furnaces, boilers, unit heaters, infrared heaters, space heaters, water heaters, decorative appliances, and commercial cooking units.

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. Ignition sequence includes timed trial for ignition. Includes: Two 3/4" x 1/2" reducer bushings and an LP conversion kit.

Honeywell Home

Part No.	Pressure Regulator (in. WC)	Size (In.)	Capacity (CFH)	Gas	Regulator	Connection Size (In.)		Price
						Inlet	Outlet	
SV9601M4571	3.5	3/4 NPT x 3/4 NPT	415	Natural	Standard	3/4 NPT	3/4 NPT	\$714.98

VALVE, COMBINATION



SV9641M4510

SMARTVALVE™, SV9641 SERIES

The SV9641 SmartValve ignition system control provides all gas ignition safety functions by controlling gas flow, ignition source, and a 120 Vac or 240 Vac combustion air blower. It also monitors the appliance airflow proving switch and limit string to assure proper

appliance operation, and provides prepurge, postpurge, and timed trial for pilot ignition with 100 percent shutoff and continuous retry. A diagnostic LED indicates system status.

- Communicates 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.
- Interfaces with the 208907
- 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.
- OEM applications for ICP, Mestek and Slant/Fin.

Honeywell Home

Part No.	Size (In.)	Capacity (CFH)	Pressure Regulator (in. WC)	Gas	Regulator	Price
SV9641M4510	1/2 NPT x 1/2 NPT	200	3.2	Natural	Standard	\$764.94



700056

700 SERIES

These 700 Series ignition gas valves are designed for intermittent pilot, direct spark or hot surface usage, and include necessary parts to adapt to these applications. These valves incorporate a manual valve, pilot valve, and a main gas pressure regulator.

- Bushings included
- Has slow opening feature for soft ignition. Can be field removed

INTERMITTENT, PROVEN PILOT, HS/DS, UNIVERSAL, LOW VOLTAGE

Robertshaw

Part No.	Connection Size (In.)		Pressure Regulator (in. WC)	Capacity (BTUH)	Price
	Inlet	Outlet			
700056	3/4	3/4	3.5, Natural	350,000	\$399.64
700059	1	1	4.0, Natural	720,000	\$917.72

INTERMITTENT, PROVEN PILOT, HS/DS, UNIVERSAL, LOW VOLTAGE, 2 STAGE

Robertshaw

Part No.	Connection Size (In.)		Pressure Regulator (in. WC)	Capacity (BTUH)	Price
	Inlet	Outlet			
700053*	3/4	3/4	1.3 - 3.5	300,000	\$837.10



720079

INTERMITTENT, PROVEN PILOT, HS/DS

The 720 Series gas controls are designed for electronic ignition applications: hot surface, direct spark and intermittent pilot. The 720 Series incorporates a manual valve, 2 dual automatic valves and a main gas pressure regulator. Uni-Kits® are factory-set at 3.5" W.C. for natural gas, but can be converted to LP by installing the regulator conversion kit included.

- Power supply: 24 Vac
- Uni-Kit® regulator conversion included

Robertshaw

Part No.	Connection Size (In.)			Comments	Price
	Inlet	Outlet	Side		
720050 ¹	1/2	1/2	Straight-Thru	Slow Opening	\$424.74
720051	1/2	3/4	1/2	Standard	\$469.86
720079 ²	1/2	3/4	1/2	Universal	\$250.30

¹Has Pilot Outlet ²Has Pilot Valve



CYCLE PILOT

Cycle pilot gas valves are equipped with redundant pilot solenoid main gas regulator, integral gas pressure switch and electrical connection on the gas valve for mercury flame sensor connection

- Connections: 3/4" x 3/4"
- AGA Capacity: 280,000 BTUH
- Regulator setting: 3.5" W.C Natural gas
- Reducer bushing kit included
- Coil voltage: 24 Vac



Part No.	Electrical Connection	Flame Sensor Socket Location	LP Conversion Kit	Price
36C84912	4 Spade Terminals, 1/4" CCLS	Side	Included	\$661.28
36C84921	4 Spade Terminals, 1/4" CCLS	Top	Included	\$661.28
36C84923	4 Spade Terminals, 1/4" CCLS	—	Natural Only	\$748.08
36C84926	Edge Connector to P.C. Board	Side	Natural Only	\$653.08
36C84945	3 Spade Terminals, 1 PIN Terminal	None	Included	\$661.28



PROVEN, MULTIFUNCTION

Compact multifunction valve designed to meet the requirements for use with all types of intermittent ignition systems (proven pilot, direct spark ignition and hot surface ignition).

- Connections: 1/2" x 3/4"
- Regulator adjustment: 2.5 to 5.0" W.C natural gas, 7.5 to 12.0" W.C L.P.
- Coil voltage: 24 Vac



Part No.	Electrical Connection	Use with	Side Taps	Price
36H32304	N/A	Proven Pilot HSI, DSI, Fast Open, Nat/LP	Yes	\$293.44
36C94303	5 Spade	Proven Pilot with Pressure Switch, Slow Open, Nat only	No	\$316.08



PROVEN PILOT, 2 STAGE

Designed for use on automatic spark ignition systems. Fast open operation

- High/Low feature to permit two different rates of input to the main burner

- Natural/LP; conversion kit included
- Regulator settings : LO - 1.0" W.C.(adj 1 to 3.5"), HI - 3.5" W.C.(adj 2.5 to 5")
- Bushing kit included



Part No.	Connection Size (In.)		Coil Voltage	Price
	Inlet	Outlet		
36H64463	3/4	3/4	24 Vac	\$372.48



PROVEN PILOT, HS/DS, LOW VOLTAGE, SINGLE STAGE

Designed for direct spark ignition and hot surface ignition system applications. This valve is equipped with redundant and main solenoid valves that control gas flow to the main burners, pressure regulator and a two-position on/off switch for regulation and electrical shut-off of the solenoid valves.

- Regulator calibrated to 3.5 ± 0.3" WC 100,000 BTUH.
- Natural gas/LP conversion kit
- Inlet/outlet reducer bushings (1/2 NPT x 3/8 NPT)



Part No.	Connection Size (In.)		Capacity AGA (Btuh)	Price
	Inlet	Outlet		
36J24214	1/2	1/2	140000	\$160.62

PROVEN PILOT, HS/DS, LOW VOLTAGE, VR8205 SERIES

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 servo pressure regulator

- Combination dual automatic valve
- Includes reducer bushings, natural to LP conversion kit
- Power: 24 Vac

Honeywell Home

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Connection Size (In.)		Price
					Inlet	Outlet	
VR8205A2024	1/2 x 1/2	150	Natural	Standard	1/2	1/2	\$326.62

VALVE, COMBINATION



VR8305M3506

PROVEN PILOT, HS/DS, LOW VOLTAGE, VR8305 SERIES

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

- Controls include manual valve, two automatic operators, and pressure regulator

- Combination dual automatic valve
- Standard Regulator
- Includes bushing, natural to LP conversion
- Power: 24 Vac

Honeywell Home

Part No.	Pressure Regulator (in. WC)	Size (In.)	Gas	Regulator	Connection Size (In.)		Price
					Inlet	Outlet	
VR8305M3506	3.5	1/2 x 3/4	Natural	Standard	1/2	3/4	\$340.70
VR8305Q4500 ¹	1.7 Low, 3.5 High	3/4 x 3/4	Natural	Standard	3/4	3/4	\$459.78
VR8305M4801	3.5	3/4 x 3/4	Natural	Standard	3/4	3/4	\$241.76

¹2-stage valve



36H32423

PROVEN PILOT, HS/DS, UNIVERSAL

Provides electrically operated pilot solenoid which is controlled by room thermostat. Main valve is energized by a mechanical flame sensor or electronic ignition/ flame detecting module

- For hot surface, direct spark
- Usage: natural gas

- LP conversion kit order separately, provide for 100% lockout
- Capacity (BTU/H): 300,000 (1" PD, .64 specific gravity — 1,000 BTU/Cu. Ft.)
- Pipe size: 3/4" x 3/4"
- Coil voltage: 24 Vac

EMERSON

Part No.	Connection Size (In.)		Opening Characteristic	Stages	Price
	Inlet	Outlet			
36H32423	3/4	3/4	Fast	1	\$284.00
36H33412	3/4	3/4	Slow	1	\$310.04
36H65401	3/4	3/4	Slow	2	\$399.52



V4943B

COMMERCIAL

- Suitable for use on atmospheric boilers, commercial water heaters, and rooftop heaters.
- Solenoid-operated valves for use with natural gas (and LP gas for V4943A only)
- Valve body of die-cast aluminum with a straight through pattern
- V4943 for use with line voltage, on/off controllers

- V4944 for use with line voltage, dual stage controllers
- Pressure regulator: 3.5 w.c.
- Dimensions: 6 9/16" H x 6" W x 6" D
- Pipe size: 1"
- Voltage: 120 Vac

Honeywell

Part No.	Description	Capacity (CFH)	Gas	Valve Opening Time (Sec)	Price
V4943A1011	On/Off Diaphragm Valve	1000	Natural or LP Gas	6	\$410.22
V4943B1019	Single Stage Pressure Regulating	300 to 1000	Natural	3 to 25	\$485.34
V4944B1018	Two Stage Pressure Regulating	300 to 1000	Natural	3 to 25	\$566.78
V4944N1011	Two Stage Pressure Regulating	300 to 1000	Natural	6	\$566.86



700804

COMMERCIAL

Bleed gas diaphragm valves feature: automatic pilot valve, bleed gas operator, inlet and outlet screens, manual gas cock valve, pilot adjusting key, pilot gas filter and pressure regulator. Regulated models offer the additional feature of straight line pressure regulation, allowing application of the 700 diaphragm gas valves to a wide range of capacity requirements without regulator readjustment. Minimum application for regulated

models is 10% of capacity shown. These valves are most commonly used on commercial water heating equipment in conjunction with the 1352 (CWH-3) bleed gas temperature controllers.

- Valve has as slow opening feature
- Reducer bushings included



Part No.	Connection Size (In.)		Pressure Regulator (in. WC)	Capacity (BTUH)	Price
	Inlet	Outlet			
700804	3/4	3/4	3.5, Natural	305,000	\$401.56



710205

HYDRAULIC LOW PROFILE

- Supplied with pipe bushings



Part No.	Pressure Regulator (in. WC)	Capillary Length	Price
710203 ¹	None	3'	\$497.76
710205	3.5, Natural	3'	\$405.20

¹Separate regulator may be required.

GAS VALVE ACCESSORIES



Y99AP1

VALVE CONNECTION BUSHING

The Y99 valve connection reducer kit allows easy conversion of any valve or regulator pipe connections in the field. The kit does not alter the overall face-to-face

dimensions. The kit contains an anti-galling compound, wrench, and four male and female bushings.



Part No.	Description	Price
Y99AP1	1/2" MPT x 3/8" FPT Bushing	\$109.90
Y99AP2	3/4" MPT x 1/2" FPT Bushing	\$105.72



1751013

ADD-ON, PRESSURE REGULATOR KIT

The 1751 Series add-on pressure regulator kits are available for the indicated valves.

- 700 Series hydraulic cannot be converted



Part No.	Adjustment Range (psi)	Gas Type	Valve Usage (Series)	Price
1751003	3 - 7	Natural	700, 710	\$75.12
1751013	8 - 12	L.P.	700, 710	\$70.64
1751016	8 - 12	L.P.	7100, 720	\$22.46
1751007	—	Cover Plate	700, 710	\$20.48

HEATING, GAS BURNER

GAS PILOT



Q314U1001

UNIVERSAL PILOT BURNER

With four pilots, contractors can replace over 100 different models. The Universal Pilot offers adjustable mounting options, flexible hood orientations and the accessories needed for replacement.

- Natural or LP gas.

Honeywell Home

Part No.	Description	Price
Q314U1001	Standing Pilot Burner. Non-Primary Aeration, BCR-18, BBR-10, CAR-12, CAR-13, BBR-8 Orifices, Standard and low BTU hoods, Adjustable Tip Style, Universal Mounting Bracket	\$98.38
Q345U1005	Target Style Pilot Burner. Non-Primary Aeration, BCR-20, BCR-18, BBR-12, BBR-11 Orifices, Adjustable Tip Style, Universal Mounting Bracket	\$125.98
Q3451U1000	Target Style Pilot Burner with Integral Ignition Wire. Non-Primary Aeration, BCR-20, BCR-18, BBR-12, BBR-11, BCR-10 Orifices, Adjustable Tip Style, Universal Mounting Bracket, 36" and 55" igniter lead lengths	\$161.00
Q348U1009	Intermittent Batwing Style Pilot Burner. Primary Aeration, NE22, KF24, A26, KR14 Orifices, Universal Mounting Bracket	\$128.60



Q314A3547

PILOT BURNER, Q314 SERIES

Non primary-aerated, insert orifice-type pilot burner for main burner ignition with Q340 or Q390 thermocouple for pilotstat safety control operation.

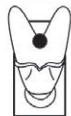
- Use with Q313 for 750 mV powerpile application

Honeywell Home

Part No.	Tip Style	Gas	Bracket	Price
Q314A3547	A	Natural	Side	\$82.58
Q314A4586	B	Natural, LP	End	\$78.30
Q314A6094	A	Natural, LP	End	\$78.30
Q314A6102	C	Natural, LP	End	\$78.70



A



B



C



Q345A1305

IGNITER/SENSOR

Non primary-aerated combination pilot burner and igniter. Used with the S86, S860, S8610 or S8670 in intermittent pilot systems.

Honeywell Home

Part No.	Tip Style	Gas	Bracket	Price
Q345A1305	B	Natural	End	\$83.48
Q345A1313	A	Natural	End	\$88.66
Q345A1321	C	Natural	End	\$105.28



Q327A1626

PILOT BURNER, Q327 SERIES

Primary-aerated, spud orifice-type pilotburner for main burner ignition with Q340 or Q390 thermocouple for pilotstat safety control operation.

Honeywell Home

Part No.	Gas	Bracket	Price
Q327A1626	Natural, LP	End	\$91.18



J992MDA2

PILOT BURNER

Universal replacement models replace J12, J13 pilots.

- A dimension: .850"



BASO Gas Products LLC

Part No.	Figure	Price
J991MDA2	1	\$83.22
J992MDA2	2	\$81.22
J993MDA2	3	\$83.22
J994MDA2	4	\$88.08
J995MDA2	5	\$82.72
J996MDA2	6	\$83.66
J997MDA2	7	\$83.22
J998MDA2	8	\$79.92
J999MDA2	9	\$77.64



Figure 1



Figure 2

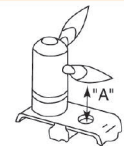


Figure 3



Figure 4

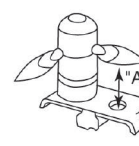


Figure 5

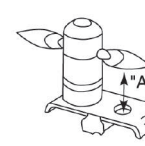


Figure 6



Figure 7



Figure 8



Figure 9



J999MHA2

UNIVERSAL REPLACEMENT

The J Series BASO universal replacement pilot burners are supplied in three models. Mounting brackets on all four sides of each burner permit adaptation to almost any application.

- Natural and LP gas orifice supplied



BASO Gas Products LLC

Part No.	Pilot Type	Figure	Price
J999MHA2	L Channel	1	\$57.70
J999MKA2	Shell	2	\$56.32
J999MYA2	Y Channel	3	\$56.96

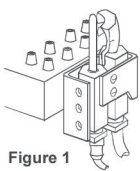


Figure 1



Figure 2

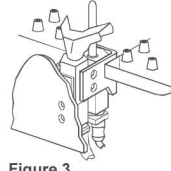
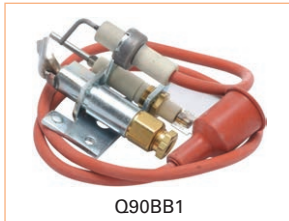


Figure 3



Q90BB1

Q15 MISER

Replaces pilot burner and sensor probe on specific OEM units in Q15 miser gas control system.



BASO Gas Products LLC

Part No.	Code	OEM	Price
Q90AA1C	J989EKW	Lennox	\$153.78
Q90BB1	J996DKW	Carrier	\$153.78
Q90CC1	J986HXW	Reznor	\$156.92
Q90DD1	J993HHW	Reznor	\$159.74



1800100

9B PILOT, UNIVERSAL

The 4-ported Universal 9B Pilot Uni-Kit is designed to replace all obsolete Model 9B pilot variations. The kit includes fittings for 1/4" tubing and an adaptor for fittings to adapt to 3/16" tubing. Each kit comes with a natural gas orifice installed and includes a separate L.P. gas orifice

The 1800-100 is hooded, aerated, constant burning pilot for main burner ignition.



Part No.	Description	Price
1800100*	Universal 9B Replacement Pilot	\$190.82



1820009

PG9 THERMOPILE

Designed to replace those hard-to-find ITT-General PG9 type pilots. Each Uni-Kit comes with a natural gas orifice installed and a separate L.P. gas orifice. A special 1/4" tubing adaptor is provided to allow use of original tubing with nut and ball sleeve.

These 1820 Pilot Uni-Kits are aerated type pilots, combining the best feature of an incinerator type pilot and a target type pilot.

- Includes thermopile



Part No.	Replaces	Flame Pattern	Price
1820009*	PG9A42JTL020	90° Right	\$64.00
1820019	PG9A41JTL020	90° Left	\$107.64



1830001

INCINERATOR TARGET

Designed to be used with all Uni-Line and competitive thermocouples, these kits include an adaptor that converts a threaded thermocouple/thermopile model 2CH to a snap-in thermocouple type, model 2C.

These are aerated type pilots, combining the best feature of an incinerator type pilot and a target type pilot. These pilots have non-linting characteristics, and no air shutters or supplementary shields requiring assembly or adjustment.



Part No.	Replaces	Flame Pattern	Price
1830001	2CH-6	Standard	\$80.54
1830005	4CH-6	3-Way	\$65.86
1830110*	2CH-1	Standard	\$79.44
1830111	2CHL-1	25° Left	\$80.90
1830112*	2CHR-1	25° Right	\$81.70



10021

GAS ORIFICE



Part No.	Gas	Used with Pilot Burners	Tube Length	Price
10021	Natural	2C, 2CH	1/4"	\$21.74
10114	L.P.	2C, 2CH	1/4"	\$21.74

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

HEATING, GAS BURNER

PILOT TUBING



81LB4

Part No.	Description	Price
81LB4	Pilot Tubing Nut, 1/4"	\$1.40



Y99AR1

Part No.	Description	Price
Y99AR1	1/4 O.D. x 60" Aluminum Tube	\$34.94



11193

Part No.	Description	Price
11193	Pilot Tubing, Aluminum, 1/4" OD x 50'	\$72.00
11291	Pilot Tubing, Aluminum, 1/8" OD x 5'	\$28.30

Robertshaw

THERMOCOUPLE



Q340A1074

UNIVERSAL

Universal 30 mV thermocouple.

- Average operating life of 10 years

Honeywell Home

Part No.	Lead Length	Price
Q340A1066	18"	\$19.38
Q340A1074	24"	\$20.20
Q340A1082	30"	\$21.36
Q340A1090	36"	\$22.14
Q340A1108	48"	\$24.52



Q390A1046

2 PIECE

For use on gas-fired heating systems as an alternative to Q340 with Universal two-piece adapter.

- Average operating life of 5-7 years

Honeywell Home

Part No.	Lead Length	Price
Q390A1046	24"	\$12.20
Q390A1053	30"	\$12.88
Q390A1061	36"	\$13.56



Q313A1170

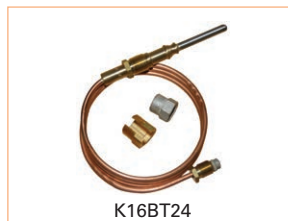
THERMOPILE

Provides power for a millivoltage, self-powered control system.

- Open circuit output: 600-750 mV
- Use with Q314, Q324, Q327, Q377, Q379, Q382 pilot burners

Honeywell Home

Part No.	Lead Length	Includes	Price
Q313A1022	35"	Spade Terminal	\$123.84
Q313A1055	47"	1/2" Nut	\$133.48
Q313A1139	35"	Push In Clip	\$114.52
Q313A1170	35"	PG9 Adapter	\$122.80
Q313A1188	35"	Push In Clip & Nut	\$115.20
Q313B1005	35"	Terminal Block	\$154.36



K16BT24

HIGH PERFORMANCE

The Husky high performance K16 Series are heavy duty high performance thermocouples that provide high output.

- Millivoltage range: 25-35 mV
- The K16WT are universal replacements, multi-mount

BASO

BASO Gas Products LLC

Part No.	Length (In.)	Carton Qty	Price
K16BT18	18	10	\$33.52
K16BT24	24	10	\$34.20
K16BT30	30	10	\$34.92
K16BT36	36	10	\$42.42
K16RA48C	48	5	\$69.00
K16RA72C	72	5	\$101.36
K16WT48	48	5	\$86.20
K16WT60	60	5	\$99.68
K16WT72	72	5	\$92.08



K19AT24

UNIVERSAL

Super Slim Jim universal K19A T thermocouples are designed for use with all Series G and H BASO valves, Basoids, and Basotrols with automatic pilot valves. The K19 is also interchangeable with thermocouples used with automatic pilot valves made

by other control manufacturers whose power unit connector is similar to the BASO Series.



BASO Gas Products LLC

Part No.	Length (In.)	Carton Qty	Price
K19AT18	18	10	\$22.64
K19AT24	24	10	\$23.30
K19AT30	30	10	\$23.88
K19AT36	36	10	\$24.34
K19AT48	48	5	\$20.90
K19AT60	60	5	\$31.36
K19AT72	72	5	\$24.96



1980036

SNAP-FIT®

The 1980 Series snap-fit thermocouple offer easy installation into the majority of pilot burners.



Part No.	Length (In.)	Price
1980018*	18	\$10.52
1980024	24	\$10.96
1980036	36	\$12.38
1980048	48	\$15.00



1950001

THERMOPILE

Designed for use on self-powered gas and control systems. Can be used to replace all Robertshaw and similar competitive devices.



Part No.	Lead Length	Connection Type	Price
1950001 ¹	36"	Two Lead	\$46.68
1950532	36"	Two Lead	\$44.18
1951001 ¹	36"	Coaxial	\$54.38
1951536	36"	Coaxial	\$70.08

¹Includes PG9 pilot adapter



Y99AN1

ADAPTER

The Y99AN1 junction block adapter will fit any Baso thermocouple lead for conversion to a junction block application.



BASO Gas Products LLC

Part No.	Description	Price
Y99AN1	Junction Block Adapter	\$88.92

MERCURY FLAME SENSOR



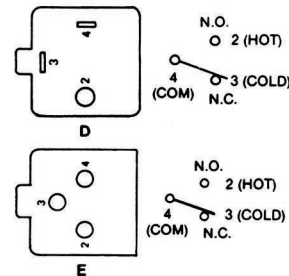
3098156

The mercury flame sensor is a mechanical device that proves the existence of an acceptable pilot flame. It converts the heat of a pilot flame to motion which is used to open and close a set of electrical contacts. When the bulb is heated by a pilot flame, the mercury is vaporized causing pressure in the capillary and diaphragm. Movement of the diaphragm causes the snap-switch to open one set of contacts and close a second set. These contacts control the pilot valve and the main valve.

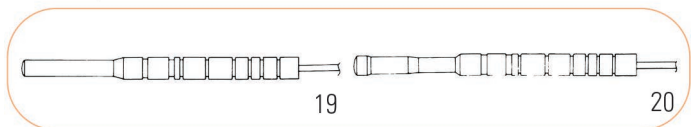


Part No.	Bulb Style	Element Length	Price
3049115	20	48"	\$465.88
3098134	19	48"	\$465.86
3098156	20	48"	\$465.86

Panel Type



Bulb Style



*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

HEATING, GAS BURNER

GLOW COIL

Y80 SERIES

Y80 Series glow coils are designed for use with G19, G21, and G29 ignition systems. They are used as replacements on existing pilot burners.



Y80AA48



BASO Gas Products LLC

Part No.	Lead Length	Used with Pilot Burners	Price
Y80AA48	48"	J(-)DHD, J(-)DLD, J(-)EKD, J(-)GHD, J(-)VHD	\$399.14
Y80EA36	36"	J(-)HHD	\$442.02

TRANE HOT SURFACE MODULE, NON-INTEGRATED

- Single stage application
- Flame current test pins
- 120V HSI ignition
- Red & green status LEDs
- Adapter board and harness included
- For packaged units



50E70820



Part No.	Description	Prepurge Time (Sec.)	Post Purge (Sec.)	Price
50E70820	Trane non-integrated HSI ignition module kit. Auto reset time: 60 min, ignitor warm-up: 45 sec.	0	0	\$281.60

TRANE DIRECT SPARK IGNITION MODULE, INTEGRATED

- Single or two-stage application
- Direct spark ignition
- For packaged units
- Green diagnostic LED
- Operating temp: -40 to 175°F
- Humidity range: 10% to 95% RH



50N02a820



Part No.	Description	Prepurge Time (Sec.)	Price
50N02A820	Trane integrated DSI ignition module kit. Auto reset time: 60 min. Cool delay to fan off: 0/80	20	\$298.92
50N02B820	Trane integrated DSI ignition module kit. Auto reset time: 60 min. Cool delay to fan off: 0/45	20	\$287.22



780783

HOT SURFACE MODULE

The 780 Series hot surface ignition modules are designed for use on gas fired heating systems. The system acts on a demand for heat by a switch or thermostat to supply power to the ignition control. On non-prepurge models, the ignitor will be energized immediately and remain on for either of two optional selected ignitor heat up times (approximately 17 or 34 seconds). For models with the prepurge option, there is a time delay equal to the heat up time selected before the ignitor is energized. At the end of the ignitor heat up time the gas valve is opened supplying gas to the main burner. After several seconds, the ignitor is turned off and the sensor is energized. The 780 Series provides lockout and complete gas shutoff if ignition is not proven after the trial for ignition sequences has been completed.



Part No.	Supply Voltage	Timer Type	Ignition Attempts (before lockout)	Valve Trial Time (Sec.)	Price
780783	120	Prepurge, 34 Sec.	3	8	\$312.70
780785	120	Ignitor Warm-up, 34 Sec.	3	6	\$295.28
780790	120	Ignitor Warm-up, 17 Sec.	1	4	\$306.40



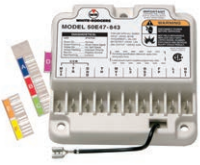
S8910U3000

HOT SURFACE MODULE, UNIVERSAL

- Replaces over 800 White-Rodgers, Robertshaw and Honeywell hot surface ignition models
- For 120 Vac (up to 5.0A) surface igniter (Norton 201/271 or equivalent).
- Features LED status indicator and microammeter ports for easy trouble shooting
- For local (single rod) or remote (dual rod) rectification type flam sensing.
- Contains easy-to-use cross reference and instructions plus the accessories required to replace the existing hot surface ignition module.
- Provides one or three ignition trials (four-second or seven-second trials) per call for heat
- Field selectable number of ignition trials and trial time based on unit being replaced
- Igniter warm up time: 7 (12 seconds second and third trial), 17 (27 seconds second and third trial), 34, or 45 seconds

Honeywell Home

Part No.	Description	Supply Voltage	Price
S8910U3000	Universal Hot Surface Ignition Control	24V	\$349.22



50E47843

HOT SURFACE MODULE, NON-INTEGRATED

Universal replacement for silicon carbide, non-integrated HSI modules. Replaces all 50E47 W/R and virtually all competitive silicon carbide, non-integrated modules.

- Six insertable program keys cover most existing timing variations
- Tri-color LED indicator for diagnostics
- Direct and indirect flame sens



Part No.	Description	Price
50E47-843	Universal (NI) HSI Module	\$266.40



50A55843

HOT SURFACE MODULE, INTEGRATED

Universal replacements for existing W/R integrated silicon carbide (50A50/50A55) and silicon nitride (50A65) modules.



Part No.	Description	Price
50A55843	Silicon Carbide Module	\$258.84
50A65-843	Silicon Nitride Module	\$273.50



50M56U843

HOT SURFACE MODULE, INTEGRATED, FURNACE CONTROL KIT

Replaces virtually all White-Rodgers and competitive single stage carbide and nitride HSI systems.

Easy-Install Kit, includes:

- Ignition control module
- 9 Quick-Select/Quick-Connect wiring harnesses
- Universal nitride ignitor kit 21D642
- Installation instructions and OEM cross-reference

Features:

- 3 Fan speeds: cool, low heat and high heat (terminal connections)
- Color-coded thermostat connection
- System diagnostics, with fault recall (stored)
- Cover label displays diagnostic table
- Red LED light: used for diagnostic flash code
- Low voltage, fuse protection, 3A replaceable automotive type
- Humidifier and electronic air cleaner connections (optional)



Part No.	Description	Price
50M56U843	Single Stage HSI Integrated Furnace Control Kit	\$308.04



50A55743

HOT SURFACE MODULE, INTEGRATED, FURNACE CONTROL KIT, OEM DIRECT REPLACEMENT

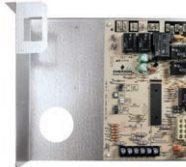
Replaces: White-Rodgers 50T55-289 and 50A55-289 and virtually All Goodman Single-Stage HSI controls with 120V ignitors.

Features:

- 120 VAC Ignitor Output
- 120 VAC Humidifier Outpu
- 120 VAC Electronic Air Cleaner Output
- 120 VAC 2-Speed PSC Circulator Output
- Fuse Protection – 5 Amp
- Furnace Status LED
- Heat Fan OFF Delay (Dipswitch Selectable)
- Y, W, R, G, C, TWIN Terminals
- Pre-purge time: 15 seconds



Part No.	Description	Price
50A55743	Single-Stage HSI Integrated Furnace Control Kit	\$115.66



50A56956

HOT SURFACE MODULE, INTEGRATED, FURNACE CONTROL KIT, YORK SINGLE STAGE DIRECT REPLACEMENT

Replaces: White-Rodgers 50A56-242 and 50A56-243 and virtually all York single stage HSI controls with 120V ignitors

Features:

- Selectable Continuous Fan Speed
- System Diagnostics LED with Fault Recall
- Twin
- Third Fan Speed
- Two-Stage Cooling Y2 Input
- 120 VAC Ignitor Output
- 120 VAC Humidifier Outpu
- 120 VAC Electronic Air Cleaner Output
- 120 VAC 2-Speed PSC Circulator Output
- Fuse Protection — 5 Amp
- Heat Fan OFF Delay (Dipswitch Selectable)
- Y, Y2, W, R, G, C, TWIN Terminals



Part No.	Description	Price
50A56956	York Single-Stage HSI Integrated Furnace Control Kit	\$177.18

IGNITION CONTROL



50A66743

HOT SURFACE MODULE, INTEGRATED FURNACE CONTROL, NITRIDE IGNITION

Controls Gas Valve, Ignitor, Blower, Inducer, Humidifier and Air Cleaner. Replaces Lennox models

- Includes diagnostic indicator flash code
- 3 fan speeds
- Remote flame sens
- Humidifier and electronic air cleaner connections (optional)
- Input voltage: 25 VAC 50 / 60 Hz
- Pre-purge time: 15 seconds
- Auto reset: 60 minutes



Part No.	Description	Price
50A66743	Nitride Ignition Integrated Furnace Control, HSI	\$281.86



50M56743

HOT SURFACE MODULE, INTEGRATED FURNACE CONTROL, NITRIDE IGNITION, MULTI-SPEED

Controls Gas Valve, Ignitor, Blower, Inducer and Air Cleaner. Replaces OEM Goodman and White-Rodgers Models.

- System diagnostic LED with fault recall
- Multi speed circulator
- One or two stage gas valve
- Input voltage: 25 VAC 50 / 60 Hz
- Pre-purge time: 30 seconds
- Post-purge time: 15 seconds



Part No.	Description	Price
50M56743	Nitride Multi Speed Integrated Furnace Control, HSI	\$123.94



21D83M843

NITRIDE IGNITION INTEGRATED FURNACE CONTROL KIT

Controls gas valve, ignitor, blower, inducer, humidifier and air cleaner. Replaces Lennox models.

Kit includes:

- (1) 50A66-843 Ignition Control Board
- (1) Wiring harness (9-pin to 12-pin)
- (1) Wiring harness (4-pin to 6-pin)
- (1) Mounting panel
- (4) Stand-off fasteners
- (1) Circuit breaker
- (1) 4" blue wire
- (2) Wiring diagrams

Features:

- Includes diagnostic indicator flash code
- 3 fan speeds
- Remote flame sens
- Humidifier and electronic air cleaner connections (optional)



Part No.	Description	Price
21D83M843	Single-Stage HSI Integrated Furnace Control Kit	\$442.22



S8610U3009

INTERMITTENT PILOT MODULE, UNIVERSAL

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
- Includes remote reset, automatic vent damper plug
- For use in single rod or dual rod/remote sense applications
- Supply voltage: 24V

Honeywell Home

Part No.	Lockout Time (Sec.)	Price
S8610U3009	15 or 90	\$309.60



50D50842

INTERMITTENT MODULE

- Field service replacement for most Honeywell (S8610U), Robertshaw (780-715), Johnson Controls (G779) and Utec Intermittent Pilot Ignition Controls. 10 configuration options on modular control cards

- Provides ignition, proof of ignition and precise timing.
- Works with single rod or dual rod remote sensor.
- LED diagnostic indicator.
- 24Vac, 50/60 Hz, 0.2A



Part No.	Description	Price
50D50843	Universal Replacement Module, Proven	\$264.10



BG1600M51EF1AA

INTERMITTENT PILOT MODULE, UNIVERSAL

The BG1600M51E1AA is a microprocessor based ignition control. The microprocessor provides reliable software control of all timings and operates a diagnostic LED. It provides ignition sequence, flame

monitoring, and safety shutoff for intermittent pilot boilers, furnaces and other heating appliances.

BASO has designed-in features to retrofit other universal direct spark ignition controls with spark ignition and flame rectification such as: Johnson Controls, Honeywell, White Rodgers, Fenwal, and Robertshaw.

It replaces controls with the following specifications

- Flame detection using flame rectification technology
 - Single rod (local sense) or dual rod (remote sense) flame sensing
 - 100% shutoff/lockout with 5 minute continuous retry
 - Trial times of 25 seconds or longer
 - Prepurge period 1 second or less
 - Main burner 400,000 BTU/hr maximum
 - Pilot burners with flow rates of 1,500 Btu/hr or less
 - With or without automatic vent damper
 - Must be used with redundant gas valves and not subjected to temperatures below -40°F or above 170°F
- Direct replacement to Johnson Controls G779LHA.



BASO Gas Products LLC

Part No.	Contact Rating (Amps)	Min. Flange Current (Micro-Amps)	Price
C610U1C	2	0.15	\$227.30



BG1600M

INTERMITTENT PILOT MODULE

BASO has designed in timings on various Intermittent pilot controls with flame rectification to replace many Johnson Controls, Honeywell, United Technologies, Fenwal, and Robertshaw.

These are microprocessor based controls suited for direct replacement and new applications. Intermittent pilot modules provide ignition sequence, flame monitoring, and safety shutoff for boilers, furnaces, and a variety of other commercial cooking equipment. Intermittent pilot units are available with damper connection or without.

Intermittent pilot modules are available with various specifications as follows:

- Single rod (local sense) or dual rod (remote sense) flame sensing
 - Trial for ignition 1 or 3
 - 100% shutoff/lockout with none, 5 or 60 minutes continuous retry
 - Trial times of infinite, 4, 5, 8, 10, 15, 20, 25, 30, 50, 60, 85, 90 and 120 seconds.
 - Pre-purge period of none, 4, 8, 10, 15, 30, 45, 60 seconds or 4 minutes
 - Main burner 400,000 Btu/hr max.
 - Pilot burners with flow rates of 1,500 Btu/hr or less
 - Temperature ranges of -40°F to 170°F
- Other models available upon request



BASO Gas Products LLC

Part No.	Continuous Retry	Replaces	Price
BG1600M00FP1AD	None	G770MHC1C	\$235.58
C670AGA1C	5 Minutes	BG1600M00ER1BD	\$235.58
BG1600M01ER1AD	5 Minutes	G775RGA	\$235.58
C670JGA1C	5 Minutes	BG1600M01CR1BD	\$235.58
C661PGA1	60 Minutes	BG1600M02CR1AD	\$239.68
BG1600M10EK1AA	None	G600AX1	\$284.10
BG1600M10ER1AD	None	G770RHA	\$265.34
BG1600M10FF1AA	None	G600LX1	\$284.14
BG1600M11ER1AD	5 Minutes	G775RHA	\$235.58

HEATING, GAS BURNER

IGNITION CONTROL



780845

INTERMITTENT LOCKOUT MODULE

When the thermostat calls for heat, the 780-845 control simultaneously initiates ignition sparking and opens the pilot valve portion of the gas valve. Pilot flame recognition stop

ignition sparking and opens the main valve portion of the gas valve. Pilot burner flame is continuous monitored at a synchronous frequency for the duration of the heating cycle. Should the pilot flame fail during the heating cycle, the control will shut off the main valve until the pilot flame is established. The 780-845 lockout ignition control provides 90 seconds of spark (4 to 15 sparks per second), followed by a 6 minute time delay (purge) between ignition attempts. After three tries, if no pilot flame is sensed, the control goes into a one-hour lockout period. At the end of the lockout period, if the demand for heat is still present, the unit will repeat the three tries for ignition.



Part No.	Description	Price
780845	Intermittent Lockout Module	\$416.04



C161FJD1C

DIRECT SPARK MODULE

BASO has designed in timings on various direct spark controls with flame rectification to replace many Johnson Controls, Honeywell, United Technologies, Fenwal, and Robertshaw.

These are microprocessor based controls suited for direct replacement and new applications. Direct spark modules provide ignition sequence, flame monitoring, and safety shutoff for boilers, furnaces, and a variety of other commercial cooking equipment. Direct spark modules are available with various specifications as follows:

- Single rod (local sense) or dual rod (remote sense) flame sensor
- 100% shutoff/lockout with none, 5 or 60 minutes continuous retry
- Trial for ignition 1 or 3
- Trial times of infinite, 4, 5, 8, 10, 15, 20, 25, 30, 50, 60, 85, 90 and 120 seconds.
- Pre-purge period of none, 4, 8, 10, 15, 30, 45, 60 seconds or 4 minutes
- Main burner 400,000 Btu/hr max.
- Temperature ranges of -40°F to 170°F
- 24 Volt
- Recycle time: 300 seconds

Other models available upon request



BASO Gas Products LLC

Part No.	Purge Time (Sec.)	Ignition Attempts (before lockout)	Ignition Trial Time (Sec.)	Replaces	Price
C161FJD1C	None	3	4	BG110MAAK1G	\$217.26
C161KKD1C	30	3	8	BG1100MADL1G	\$217.26



BGN8911C

IGNITION MODULE FOR LENNOX PULSE FURNACE

Direct replacement for natural gas or propane ovens which have a Johnson Controls G891 Pulse Ignition Control



BASO Gas Products LLC

Part No.	Description	Price
BGN8911C	Lennox Pulse Replacement for G891	\$279.68



35704600005

DIRECT SPARK MODULE, 120 VOLT

Local sensing type non prepurge control, thermostat reset model with isolated gas valve contacts, 1 ignition attempt before lockout, 10 second valve trial time, open board with 1/4" quick connects.



Part No.	Old Fenwal Number	Use with	Price
35704600005	05-142301-005	Lennox 31C0801	\$703.78



S87D1012

DIRECT SPARK MODULE, S87 SERIES

Provides electronic control of direct spark ignition systems used on gas fire furnaces, boilers, and other heating appliances.

- Includes alarm terminal



Part No.	Lockout Time (Sec.)	Price
S87D1004	6	\$565.74
S87D1012	11	\$565.74



50D50842

DIRECT SPARK MODULE

Microprocessor based gas ignition control for natural or LP. Proof of flame is accomplished.

- Color LED indicator for diagnostics.
- Program keys.
- 1/4" and 3/16" quick connect terminals.
- Damper interface.
- 25Vac nominal, 50/60 Hz, 0.2A
- Replaces Honeywell S87 or Robertshaw DS845 controls



Part No.	Description	Price
50D50842	S87 Replacement Module, Direct Spark	\$258.94



35605606111

DIRECT SPARK MODULE, 24 VOLT

The direct spark ignition unit is a microprocessor based gas ignition control designed primarily for direct ignition and burner supervision applications such as gas furnaces, boilers, water heaters and other

similar devices. The system features direct main burner ignition, remote sensing, prepurge, retry for ignition and a fixed time for flame lockout time.



Part No.	Pre-purge Time (Sec.)	Ignition Attempts (before lockout)	Valve Trial Time (Sec.)	Use with	Replaces	Price
35605601003*	None	1	7	ICP HQ606360	829002	\$437.70
35605601005	None	1	10	Dexter 9857-116-001	829003	\$450.56
35605606223	30	3	7	Lennox 98G2901	829006	\$382.32
35605606111*	15	3	4	ICP 1380668		\$425.74



ICM281

FURNACE CONTROL MODULE

Microprocessor based using software to determine the sequence of operation, timing, trial for ignition flame sensing and lockout. Monitors the status of the room thermostat, limit and rollout switches, air pressure switch and flame sensor

before energizing the vent motor, blower control, hot surface ignitor and gas valve

- Provides diagnostic LEDs to aid in troubleshooting
- Designed for 100% gas shutoff in case of ignition failure
- Compatible with 24Vac thermostats
- Twinning with similar boards
- Voltage range for 280 Series: 98 to 132 Vac



Part No.	Voltage	Replaces	Price
ICM280	115/1/60	White-Rodgers: 50T35-790, 50T35-743	\$199.70
ICM281	115/1/60	Carrier CES01100570(0,1,2)	\$220.44
ICM282	115/1/60	Carrier HK42FZ(004,007,008,009,011,013,016)	\$366.52
ICM291	208-230/1/60	Carrier LH33WP003/3A	\$369.32
ICM292	115/1/60	Rheem 62-24140-04	\$277.82



780001

MODULE UNI-KIT®

Robertshaw's universal ignition control Uni-Kits feature a flame sense circuit that will work equally well on a one rod (local sense) or 2 rod (remote sense) application.

- Not for hot surface
- Kits feature

bracket, connector and hardware

- Input voltage: 24 Vac



Part No.	Type	Price
780001*	Non-Lockout	\$328.16
780002*	Lockout, 60 Seconds	\$369.40



780735

MODULE ONLY

Not for hot surface.



Part No.	Type	Description	Price
780715*	Non-Lockout	Flame Rectification, Use w/7000BDER, 7100DER, 7200IPER	\$184.98
780735*	Lockout	Flame Rectification, Use w/7000BDER, 7100DER, 60 Second Timing	\$459.66



780705

FLAME RECTIFICATION CONVERSION UNIT

Convert D and K Series heat sensing/flame switch pilot ignition systems to flame rectification without replacing the existing gas valve. Included in each kit is a universal pilot mounting bracket with factory installed

electrode and sensor, ignition control unit, wiring harness and complete in-depth instructions.

The 780-704/705 modernizations kits DO NOT include a new gas valve. They are designed to utilize the existing gas valve. The existing gas valve is at least 12 years old or older. We suggest that a complete new 712 Series kit with a new gas valve be considered before using the 780-704 or 780-705 modernization kit.



Part No.	Type	Price
780704*	Lockout	\$576.56
780705*	Non-Lockout	\$485.64

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

HEATING, GAS BURNER

IGNITION CONTROL



5059134

PILOT RELIGHT

Ignition control generates spark pulses to ignite pilot gas. The relight control generates sparks until a pilot flame is sensed between the electrode and ground. The relight control detects a flame through flame conduction.

When flame current is sensed between the electrode and pilotburner ground, the relight control stops sparking. If the flame is extinguished during the heat call, the relite control will begin sparking the instant the flame goes out



Part No.	Input Voltage	Connection Type	Price
5059134	24	Spike Connector	\$229.32



785001

PILOT RELIGHT

The Robertshaw 785 Series automatic pilot relight kits are designed for use on rooftop heating equipment, water heaters, boilers, space heaters, unit heaters, dryers, and other commercial, industrial, and residential appliances where the problem of pilot

outage may occur. It should only be applied to those systems which already incorporate the necessary pilot-safety control system.

- Replaces most W/R 5059, 5059A



Part No.	Ignition Rating (Vac)	Voltage	Price
785001*	120/24	15 kV Minimum	\$138.86

RETROFIT



Y8610U4001

IGNITION, UNIVERSAL

Complete kits for converting conventional standing pilot systems to intermittent pilot systems. For use with 24 Vac gas-fired atmospheric furnaces boiler and heating appliances.

- Y8610F kits are for use with natural gas only; continuous trial for ignition

- until the pilot lights or the system is shut down manually
- Y8610U kits are for use with natural or LP gas; provides 100% 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.
- Each system includes: Intermittent pilot module, intermittent pilot dual valve combination gas control, LP gas conversion kit with Y8610U, igniter-sensor assembly, ignition cable (30"), wiring harness (30"), and reducer bushings



Part No.	Gas	Includes	Price
Y8610U4001	Natural or LP	S8610U module, VR8204A valve, 1/2 x 1/2"	\$625.56
Y8610U6006	Natural or LP	S8610U module, VR8304M valve, 1/2 x 3/4"	\$702.80

712 SERIES

The Uni-Line 712 Series intermittent pilot ignition Uni-Kits feature solid-state logic and flame sensing (flame rectification) to provide automatic sequencing that will ensure proper operation of an intermittentpilot ignition device. Universal Uni-Kit models feature a gas valve with a natural gas pressure regulator installed and a separate LP gas regulator is included. The gas valve has a slow opening feature to provide soft ignition.

Uni-Kits® contain solid-state, prewired ignition control module, high capacity gas valve, universal electrode/sensor pilot assembly, installation instructions, and all necessary hardware.



712008

IGNITION, LOCKOUT

- Lockout model: 90 second spark, 6 minute delay, 3 tries, 1 hour lockout
- LP regulator included with kit



Part No.	Gas Valve Part Number	Size (In.)	Module Part Number	Natural Gas Capacity (Btuh)	Price
712008	720070	1/2 x 3/4	780735	200000	\$624.50
712006	700056	3/4 x 3/4	780735	350000	\$746.84
712009	700059	1 x 1	780745	720000	\$1,741.92



712017

IGNITION, NON-LOCKOUT

- Natural gas only.



Part No.	Gas Valve Part Number	Size (In.)	Module Part Number	Natural Gas Capacity (Btuh)	Price
712017	720070	1/2 x 3/4	780715	200000	\$447.28
712016	700056	3/4 x 3/4	780715	350000	\$812.36
712019*	700059	1 x 1	780715	720000	\$1,457.16

SENSOR



Q347A1004

SPARK IGNITOR

Produces spark for direct ignition of main burner.

- Use with S87C, D, S89E, F; and Q354A



Part No.	Ground Strap Orientation	Electrode Length (In.)	Price
Q347A1004	Standard	2 1/32	\$76.04
Q347A1012	90° Angle	2 1/32	\$76.86

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



FLAME RECTIFICATION

Detects the presence of a main burner flame

- Use with S825, S87C, D, K or S89E, F

Q354A1018

Honeywell Home

Part No.	Flame Rod Length (In.)	Price
Q354A1018	6	\$99.26



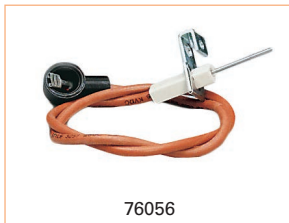
FLAME SENSOR CLEANER

- Easily clean sensor
- Prevent false starts
- Convenient key ring

FSC10

Supco

Part No.	Description	Price
FSC10	Flame Sensor Cleaner	\$14.16



CYCLE-PILOT ELECTRODE

Replaces cycle-pilot ignition electrodes and cable assemblies.

76056

EMERSON

Part No.	Description	Price
76056	24" Lead with Slip On Bracket	\$129.98



HOT SURFACE IGNITION, FLAME

Can be remotely mounted on multiple burners or adjacent to ignitor. Designed to detect the presence of flame. 76080 is exact replacement for OEM mode;

760401

EMERSON

Part No.	Lead Length	Price
760401	30"	\$51.12
760802	30"	\$121.52



FLAME SENSOR

- For Hot Surface Ignition (HSI) systems
- Can be mounted on multiple burners or adjacent to igniter on other applications
- Use with spark ignition and flame sensing

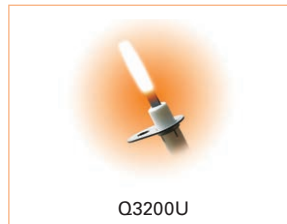
FLS010

- Alumina ceramic insulator
- Kanthal® flame rod material that can withstand 1800°F

Supco

Part No.	Description	Price
FLS010*	Replaces Goodman 0130F00010, B1172606, ICP 1380687	\$22.50
FLS013*	Replaces Carrier LH33WZ514, LH33WZ516, LH680013	\$22.50
FLS014*	Replaces Carrier LH33WZ511, LH33WZ515, LH680012, LH680014	\$22.50
FLS301*	Replaces Rheem 62-23543-01, Packard PFS301	\$22.50
FLS700*	Replaces York 025-27773-700, ICP 1380679	\$23.16

GAS CONTROL



GLOWFLY™

Designed to provide a robust fuel service replacement ignitor in gas fire appliances with Norton/St Gobain 120 VAC silicon carbide hot surface ignitors. The Q3200U uses a 120 volt silicon nitride ignitor design with long life and high resistance to damage or burn out

Q3200U

in the appliance. The kit includes the specially designed silicon nitride ignitor and six different bracket configurations to adapt the ignitor to the specific appliance application

Honeywell Home

Part No.	Description	Price
Q3200U1004	Single Kit	\$73.26



IGNITOR

- Lower power consumption
- Engineered reaction bonded silicon carbide design - greater physical strength
- Superior gas lighting ability

SIG1100

- Includes: Ignitor, 3 mounting brackets, 1 self tapping screw, 2 porcelain wire nuts
- Replaces many OEM ignitors

Supco

Part No.	Description	Price
SIG1100	Universal	\$48.34

WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

GAS CONTROL



IG102

IGNITOR

- Replaces exact OEM ignitors
- Highest density silicon carbide - greater physical strength
- Double helix design
- IG1000 by using one of two included brackets replaces up to 100 original part numbers including Robertshaw 41-402, 403, 405, 407, 409, 410

IG101 Replaces

- Nordyne 902661, 902694
- Carborundum FC007, FC035, FC035KI

IG102 Replaces

- Amana 10735002
- Claire Bros C-238 (-1)
- Coleman 1474-511, 1474-521
- Carborundum FC046, FC046KI
- Williamson 9050
- York 025-32625-000, 025-32626-000, 373-05342-700, 373-09154-700, 473-12509-001



Part No.	Description	Price
IG101	Nordyne	\$48.34
IG102	York	\$45.00



SSN2000

IGNITOR

- Replaces over 100 ignitors
- Universal hot surface silicon nitride ignitor; incorporates Si3N4 technology

- Non porous construction for longer ignitor life, uses half the power of silicon carbide ignitors



Part No.	Description	Price
SSN2000	Universal Silicon Nitride Ignitor	\$39.84



SSN24

IGNITOR KIT, UNIVERSAL

- Silicon Nitride design for strong, durable operation and performance.
- Backward compatible with all 24 Volt Honeywell 1st and 2nd second generation Smart Valves.



Part No.	Description	Price
SSN24	Universal 24-Volt Silicon Nitride Ignitor and Flame Rod Assembly Kit	\$53.34



41602

IGNITOR, NORTON MINI

The 41-600 Series Norton hot surface mini ignitors made of a unique, non porous, high strength proprietary material. Three second heat up and small size; easy

handling, simple installation, trouble free operation. 41605 includes harness and brackets (conversion kit)



Part No.	Factory Number	Housing	Use with	Price
41602	601TB	None	Amana 20165702	\$74.60
41603	601XBM	2.5"	York 025-33421-000	\$83.40
41605	601XBM	2.5"	York 473-20937-001	\$90.74
41-604	601XBM	4"	Armstrong 44744-2	\$75.34



SKIT03033

SILICON CARBIDE IGNITOR

- Steady current: 4.25 Amps 115 VAC.
- Max. Current: 5 Amps 132VAC.
- Time to Temp (1800°F): < 17 seconds



Part No.	Description	Price
SKIT03033	Replaces Trane® KIT03033	\$65.84



767A356

IGNITOR, CARBIDE

Part No.	Terminals	Lead Length	Insertion Length (In.)	Price
767A356	0.093" Male Pins	6"	2.0	\$32.18
767A357	0.093" Male Pins	5.25"	2.25	\$37.44
767A361	0.093" Male Pins	5.25"	2.25	\$30.74
767A365	0.25" female spade	5.688"	1.87	\$31.92
767A370	0.093" male pins	5.25"	2.22	\$33.22
767A369	Molex Internally Keyed Connector with .093" Male Pins	5.50"	2.0	\$35.70
767A371	Stripped ends	19.125"	2.25	\$34.96
767A372	Modex side lock connector with 0.092" male pins	5.25"	2.25	\$33.22
767A373	Receptacle with .093" Male Pins	5.25"	2.25	\$33.00
767A374	Stripped Ends	11	—	\$41.56



41401

IGNITOR, SILICON CARBIDE

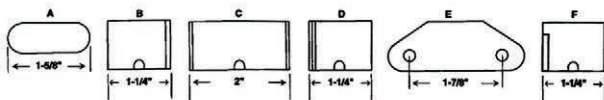
The 41-400 Series Norton hot surface ignitors are made of high-purity recrystallized silicon carbide (Crystar™) which combines physical and thermal strength with stable electrical properties. The 41-400 Series is designed to reach ignition temperature(s) within 17 seconds. They have 18-gauge nickel chrome lead wires embedded and metalized in place for maximum holding strength and electrical conductivity. The lead wires are also enclosed with a special high temperature fiberglass insulation providing total electrical protection



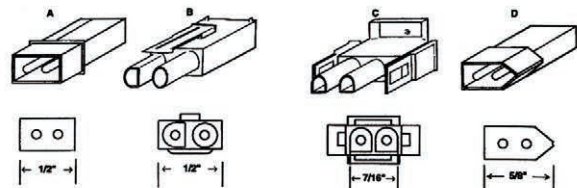
Part No.	Lead Length	Factory Number	Ceramic Block Width (in.)	Ceramic Block Style	Connector Style	Price
41401*	4 1/2"	271A	1 5/8	A	A	\$39.14
41402*	19"	271W	1 1/4	B	None	\$39.14
41403*	5 1/2"	271M	2	C	None	\$39.14
41404	4 1/2"	271M	2	C	D	\$39.14
41405	5 1/2"	271D	1 1/4	D	None	\$39.14
41-406* ¹	10 1/2"	271Y	2 1/8	E	None	\$39.14
41407*	4 1/2"	271	2	C	B	\$39.14
41408*	5"	271N	1 1/4	B	C	\$39.14
41409	4 1/2"	271	2	C	D	\$39.14
41410*	4 1/2"	271N	1 1/4	B	B	\$39.14
41411	4 1/2"	271N	1 1/4	B	C	\$39.14
R41412*	5 1/4"		1 1/4	F	D	\$39.14
41413 ²	1 3/8"	201C	1 3/8 Dia.	—	1/4" QC	\$106.78
41414	5 1/4"	271NM	1 1/4	F	D	\$89.70
41418	5 1/4"	271NM	1 1/4	B	C	\$39.14

¹1 7/8" Hole centers ²2" long, 1 3/8 diameter

TERMINAL BLOCK STYLES



CONNECTOR STYLES



*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

HEATING, GAS BURNER

GAS CONTROL



768A845

IGNITOR, NITRIDE

- AMP terminal receptacles with female sockets.
- White teflon coated leads
- Steatite insulator with or without (768A845) steel zinc plated mounting tabs.
- 54mm ignitor element length.



Part No.	OEM	Terminals	Price
768A842	Amana, 11111701	0.093	\$67.16
768A843	Thermo, 768A-143	0.084	\$67.16
768A844	Lennox, 41K5601	0.084	\$67.16
768A845	Trane, B340970P01	0.084	\$67.16



21D642

UNIVERSAL UPGRADE KIT

- Designed to replace silicon carbide and older silicon nitride ignitors
- Upgrades silicon carbide integrated or non integrated systems to long lasting and durable nitride
 - Super tough nitride ignitor construction; no more broken ignitors
 - Easy ignitor replacement.
 - Kit includes universal ignitor mounting bracket, ignitor with 15 1/2" leads, mounting adapter bracket, 2 ceramic wire nuts, cross reference, instruction booklet and upgrade label for the furnace
 - 3 year warranty



Part No.	Description	Price
21D642	Nitride Upgrade Kit	\$59.54

GAS REGULATOR



RV481/2

RUBBER SEAT POPPET

These rubber seat poppet type regulators are designed primarily for main burner and pilot load applications where precise control of tiny flows is an essential operating requirement. Housings are of high strength aluminum die castings. All models have been

tested for multi-poise mounting and may be installed in any plane or angle without restriction. Other than normal upright position will result in slight difference of outlet pressure. They may be used with natural, manufactured, mixed, LP, or LP gas-air mixture.

- Maximum inlet pressure: 1/2 psi
- RV48 Leak limiting devices 12A04 or 12A06 must be used if not vent piped to code



Part No.	FPT (In.)	Range of Regulation (BTUH)		Standard Spring (WC)	Height (In.)	Length (In.)	Price
		Main Burner	Burner and Pilot				
RV203/8	3/8	150 to 75,000	150 to 50,000	2.8 to 5.2	2 1/8	2 3/8	\$38.16
RV481/2	1/2	150 to 230,000	150 to 230,000	3.0 to 6.0	2 3/4	3 3/8	\$58.24
RV483/4	3/4	150 to 250,000	150 to 250,000	3.0 to 6.0	2 3/4	3 3/8	\$58.24



RV611

STRAIGHT-THRU-FLOW

Main burner only, non-lockup type. They should not be used as a line gas pressure regulator ahead of low pressure controls. Use only where downstream controls can operate at line pressure. Suitable for multi-poise

mounting. The flow pattern provides accurate sensitive regulation at extremely low pressure differentials. Straight-thru-flow appliance regulators are intended for use with all fuel gases, and may also be used with air or other noncorrosive gases within their pressure limits.

- Maximum inlet pressure: 1/2 psi, except RV611 which is 1 psi
- Standard spring: 3" to 6" W.C.



Part No.	FPT (In.)	Regulation Range (CFH)	Standard Spring (WC)	AGA Max (CFH)	Height (In.)	Length (In.)	Price
RV521/2	1/2	151 to 956	3" to 6"	450	4 7/8	3 3/16	\$112.30
RV523/4	3/4	151 to 956	3" to 6"	450	4 7/8	3 3/16	\$112.30
RV533/4	3/4	217 to 1,369	3" to 6"	710	5 13/16	3 3/4	\$153.46
RV531	1	217 to 1,369	3" to 6"	710	5 13/16	3 3/4	\$149.24
RV611	1	379 to 2,464	3" to 6"	1,100	6 7/16	4 3/8	\$210.94



32531/2

LEVER ACTING DESIGN

Pounds to inch regulator, meeting utility specifications for use on residential, commercial, and industrial applications where adequate inlet pressures are available.

- Suitable for multi-poise mounting, except with vent limiting device
- Can be used as a single stage regulator or a first-stage on two-stage system

- Precise regulation from pilot flows to full regulator capacity
- Maximum capacity values are single appliance/total multiple appliances per regulator
- Regulation range (CFH) based on outlet pressure setpoint of 10" W.C., Based on 1" w.c. pressure drop from set point**. 0.64 sp gr gas expressed in CFH (m3/h)

MAXITROL

Part No.	FPT (In.)	Regulation Range (CFH)	AGA Max (CFH)	Height (In.)	Length (In.)	Price
32531/2 ¹	1/2	100 to 320	150	3 1/2	4 1/4	\$45.74
3257AL11/4	1 1/4	650 to 2,060	—	7 1/4	8	\$278.46
3257AL11/2	1 1/2	650 to 2,060	—	7 1/4	8	\$271.84

¹Based on use as an appliance regulator



R500S

BALANCED VALVE DESIGN

Intended for use with both main burner and pilot load applications. Ideally suited for use with infrared heaters and pilot lines on large industrial heaters and boilers. These regulators are not suitable for dead-end lock-up service. They are capable of controlling pressure at very low flows such as standing pilots, but should not be used as a line gas pressure regulator for appliances

equipped with electronic ignition unless automatic control valve can open against line pressure.

- Suitable for multi-poise mounting and all fuel gases
- Standard spring: 3" to 6" W.C.

MAXITROL

Part No.	FPT (In.)	Regulation Range (CFH)	Standard Spring (WC)	Height (In.)	Length (In.)	Price
R400S	1/2	86 to 303	3" to 6"	3 1/4	2	\$111.54
R500S	3/4	196 to 876	3" to 6"	4 2/3	3 1/8	\$159.06



210E11/2

SPRING LOADED

For gas fired boilers, steam generators, industrial furnaces, ovens and similar high demand equipment. Balanced valve design eliminates the inlet pressure effect acting on the valve. Intended for use with all gas fuels. The regulator should be mounted in an upright position in a horizontal pipe run. The 210 Series

is a lock-up type regulator and complies with codes using this specification. Designed to operate as a zero governor in the normal upright position

- Standard spring: 3" to 6" W.C.

MAXITROL

Part No.	FPT (In.)	Regulation Range (CFH)	Standard Spring (WC)	Height (In.)	Length (In.)	Price
210E11/2	1 1/2	4,450 to 10,500	3" to 6"	11 1/4	7 5/8	\$1,932.34



12A39

VENT LIMITER

Automatic vent limiting device - ball check permits free inhalation for fast regulator - diaphragm response on opening cycle, but limits gas escapement should a diaphragm rupture. May be used in multi-poise mounting, but when using the vent limiting device,

regulator must be mounted in a horizontal upright position for best performance.

- RV81, RV91, RV111, 325-7, 210 Series must be vent piped per code

MAXITROL

Part No.	Description	Use with	Price
12A04	IAS Certification 4" W.C., 1/8" MPT	RV53, RV61	\$18.50
12A06	Orifice Onl , Less Ball Check	RV53, RV61	\$12.26
12A09	IAS Certification 2 psi LP 5 psi Natural with Model 325-3, 1/8" MP	325-3, R & RS	\$19.04
12A39	IAS Certification 2 psi LP 5 psi Natural with Model 325-5A, 3/8" MP	325-5A	\$46.14



R521036

SPRINGS**MAXITROL**

Part No.	Use with	Outlet Pressure Range (WC)	Color	Price
R521036	RV52, RV500S	3 to 6	Plated	\$7.26
R811036	RV81, 210D	3 to 6	Plated	\$20.60
R811048	RV81, 210D	4 to 8	Orange	\$20.60
R8110412	RV81, 210D	4 to 12	Violet	\$20.60
R81101022	RV81, 210D	10 to 22	Red	\$59.16
R9110412	RV91, 210E	4 to 12	Violet	\$29.56

WARM AIR CONTROL



L4064B2210

FAN AND LIMIT

For control of high limit and fan motor in all types of forced air heating systems. The L4064 is the fastest responding fan and limit available.

- L4064W features a 20-90 second preheat before fan start
- L4064B, W models have manual fan switch that overrides fan control to keep fan running continuously

- High limit: 100-250°F
Differential: 25°F, fixe
- Fan on: 65-215°F
Differential: 22°F minimum
- Fan off: 50-200°F
- Contact rating—Fan: 7 F.L. Amp 240 Vac
Limit: 4 F.L. Amp 240 Vac

Honeywell Home

Part No.	Element Length	Mounting Bracket	Price
L4064B2210	11 1/2"	Surface	\$257.70
L4064B2228	5"	Surface	\$248.06
L4064B2236	8"	Surface	\$252.88



4164

FAN OR LIMIT

Single fan or limit control starts and stops fan operation and provides positive reliable high limit protection on warm air furnaces.

- Switch: SPDT
- Contact rating: 3.7 F.L. Amp 240 Vac

EMERSON

Part No.	Temperature (°F)	Differential	Element Length	Price
4164	100 to 350	20°F, Fixed	9"	\$380.56



FAL3C05TD120

FAN AND LIMIT

Turns the blower on and off as a function of temperature.

- Adjustable fan differential
- Limit differential: 30°F, fixe

CAM-STAT®

Part No.	Element Length	Fan Off Temperature Range (°F)	Limit Temperature Range (°F)	Fan Differential (°F)	Limit Differential (°F)	Price
FAL3C05TD120*	3"	90 to 120	150 to 250	25 to 50	30, Fixed	\$173.66
FAL7C05TD120	7"	90 to 120	150 to 250	25 to 50	30, Fixed	\$175.00



5D5178

FAN AND LIMIT, UNIVERSAL

- Single element type for applications with narrow space limitations
- Regulates fan or blower operation and acts as high limit safety control
- Designed to be interchangeable with other flush mounted, single element fan and limits

- Range: fan -50 to 265°F, differential 15-70°F
Limit: 100 to 300°F, differential 25°F, fixe
- Switch: fan SPST, close rise, 7.0 F.L. Amp 240 Vac
Limit: SPST, open rise, 6.0 F.L. Amp 240 Vac

EMERSON

Part No.	Element Length	Price
5D5135	5"	\$238.72
5D5190	8"	\$243.38
5D5178	11"	\$243.40



*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



FALTS57C05T

FAN AND LIMIT, TIME/TEMPERATURE

Turns the blower on and off as a function of time and temperature. Includes limit portion for safe operation of furnace.

- Adjustable fan off temperature setting
- Adjustable limit temperature setting

- Includes a Heat Assist circuit to provide a timed blower on function
- Element length: 7"
- Fan off temperature: 90 to 120°F

CAM-STAT®

Part No.	Element Length	Fan Off Temperature Range (°F)	Limit Temperature Range (°F)	Limit Differential (°F)	Comments	Price
FALTS57C05T*	7"	90 to 120	150 to 250	30, Fixed	—	\$190.00
FALTS57C65T*	7"	90 to 120	150 to 250	30, Fixed	w/Element Shield	\$193.34
FALTS57C13BT120A*	7"	90 to 120	150 to 250	30, Fixed	SPDT	\$200.84



L4029E1227

LIMIT, L4029 SERIES

Opens line or low voltage circuit and shuts off fan if air temperature reaches setpoint.

- Manual reset
- May be used as a fire stat in ductwork

- Positive lockout of burner in case of fan failure
- Contact rating: 5 F.L. Amp 240 Vac
- Duct mounting: 3" insertion
- Fan off temperature: 90 to 120°F

Honeywell Home

Part No.	Fixed Cutout Setting (°F)	Price
L4029E1227	125	\$292.24
L4029E1011	135	\$306.90
L4029E1219	165	\$301.02
L4029E1029	200	\$306.90
L4029E1045	240	\$306.90



L593BA

LIMIT

Safety device which cycles the blower and gas valve in case the fan control device fails.

- SPDT switching action
- Fan off temperature: 90 to 250°F

CAM-STAT®

Part No.	Element Length	Price
L593BA*	3"	\$82.50
L597BA*	7"	\$84.00



F473TD12025C

FAN

Turns the blower on and off as a function of temperature.

- Fan off temperature: 90 to 120°F
- Fan differential: 25 to 50°F

CAM-STAT®

Part No.	Extension Width (In.)	Element Length	Price
F473TD12025C*	7/16	3"	\$161.66
F477TD12025C*	7/16	7"	\$164.16
F21412A140	1 1/16	3"	\$175.84
F21413A140	1 1/16	7"	\$175.84



FA47TS3110

FAN, TIME/TEMPERATURE

Turns the blower on and off as a function of time and temperature.

- Adjustable fan off temperature setting
- Includes Heat Assist circuit to provide a timed blower on function

- Time delay at 24 Vac: 25-60 seconds
- Fan differential: 50°F, fixed
- Fan off temperature: 90 to 120°F

CAM-STAT®

Part No.	Element Length	Price
FA47TS3110*	3"	\$190.00
FA47TS7110*	7"	\$197.50

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

HEATING

WARM AIR CONTROL



S1061B6545C

TIME DELAY

Used in controlling high current blowers, relays and contactors.

- 24 Vac input
- Available in SPST and SPDT configuration
- Provides delay on and delay off timing
- Contact rating—Normally open terminals: 8 F.L. Amp 240 Vac
- Normally closed terminals: 2.9 F.L. Amp 240 Vac

CAM-STAT®

Part No.	Switch	Time Delay (Sec.)		Price
		On	Off	
S1061A4575C*	SPST	30 to 50	60 to 90	\$135.84
S1061A5040C*	SPST	45 to 55	30 to 50	\$146.50
S1061B6545C*	SPDT	60 to 70	45 to 75	\$135.84



A25AN1

FIRESTAT, DUCT

The A25 warm air controls lock out on a temperature increase to the control set point. Manual reset is required before the electrical contacts can be reclosed.

The A25 is normally located in a return air duct and wired to shut down air conditioning or ventilating fans when the temperature of the air becomes excessive, as from a fire

Construction with 125°F stop setting meets requirements of NFPA 90A, Standard for the installation of air conditioning and ventilating systems for return air ducts of gypsum board construction.

Johnson Controls

Part No.	Switch	Temperature (°F)	Differential	Limit Temperature Range (°F)	Max. Bulb Temperature (°F)	FLA (@ 240 V)	Price
A25AN1*	SPDT, Open High	25 to 215	Manual Reset	125	300	8	\$262.00



A19EAF

DUCT, FLANGE MOUNT

Wide range temperature control with special air coil sensing element and adjustable mounting flange. These duct thermostats are used on roof top units, make-up heaters, duct heaters, and air handling systems of all types.

Johnson Controls

Part No.	Switch	Temperature (°F)	Differential	Max. Bulb Temperature (°F)	FLA (@ 240 V)	Price
A19EAF1*	SPDT	60 to 130	2, Fixed	200	3	\$244.00
A19EAF2*	SPDT	30 to 110	2, Fixed	140	3	\$244.00

REMOTE BULB



A19ABC24

HIGH RANGE

The A19 Series are single stage temperature controls that incorporate liquid filled sensing elements. Suitable for temperature control in heating, ventilating, and refrigeration.

Johnson Controls

Part No.	Switch	Temperature (°F)	Differential	Bulb (In.)	Capillary Length	Max. Bulb Temperature (°F)	Contact Rating (Amps)	Price
A19AAB10* ¹	SPST, Open High	200 to 550	10°F, Fixed	3/16 x 6	8'	620	8	\$413.00
A19AAC9*	SPDT	100 to 240	5°F, Fixed	3/16 x 3 7/8	6'	290	8	\$220.00

¹Oven thermostat

⚠ WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ACCESSORIES



S437A1009

SAIL SWITCH, HIGH VELOCITY

Responds to the air velocity in heating or warm air ducts.

- Contact rating: 5.1 F.L. Amp 240 Vac

Honeywell

Part No.	Switch	Operating Velocity (fpm)	Sail Dimension (In.)	Price
S437A1009	SPST	1,900 - 2,250	1 x 3	\$252.10
S637A1004	SPDT	1,900 - 2,250	1 x 3	\$287.46



S688A1007

SAIL SWITCH, LOW VELOCITY

Used in forced air systems to activate electronic air cleaners, humidifier or other auxiliary equipment in response to airflow from system fan

- Red flag drops into window on fan compartment suction increase

Honeywell Home

Part No.	Switch	Operating Velocity (fpm)	Sail Dimension (In.)	Price
S688A1007	SPDT	75 to 250	5 x 10	\$137.78



S483B1002

WINTER WATCHMAN

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

- Useful when house is unoccupied to notify a neighbor of a temperature drop so heating source fault can be rectified before freeze-up occur

- Lamp plugs into receptacle at bottom of Winter Watchman device

Honeywell Home

Part No.	Temperature (°F)	Price
S483B1002	30-60	\$78.00

HEAT PUMP CONTROL



DB7110U

UNIVERSAL DEFROST CONTROL

Universal Defrost Control for Single Stage On/Off Heat Pumps. It provides control of the outdoor equipment; compressor contactor, reversing valve, and outdoor fan in response to thermostat requests and air and coil temperatures. It also controls the indoor auxiliary heat source that is used during defrost operations and often as a second stage of heat. A defrost cycle is triggered based on outdoor air and outdoor coil temperatures that are measured using included temperature sensors.

- Compact: smaller footprint allows for a better fit and easier installation
- Easy setup: save time with a dual LED display that simplifies configuration
- Quiet mode
- Universal: One defrost control for nearly every single-stage heat pump to reduce inventory and increase profitability. This universal control replaces more than 260 OEM and competitive models.

- 1-year warranty

Honeywell Home

Part No.	Supply Voltage	Ambient Temperature	Application	Display	Price
DB7110U1000	24 Vac	Coil Enable: 30 F to 36 F; Termination Temperature: 50 F to 100 F; Auxiliary Lockout Temp: 0 F to 40 F; Compressor Lockout Temp: -10 F to 40 F	Single Stage Heat Pumps	4 character 7 segment display for Menu and Setting	\$257.66



E152601

HEAT PUMP DE-ICE TIMER

Provides field-adjustable timer control for de-icing of heat pump outdoor coils. Defrost cycle starts every 30, 45 or 90 minutes. Interlock prevents more than one defrost cycle per time period and temperature must be 28°F or lower to start.

- Contact rating: 10 F.L. Amp 240 Vac

Robertshaw

Part No.	Switch	Supply Voltage	Capillary Length	Price
E152601	SPDT	240	60" w/Bulb	\$196.56

HEATING

HEAT PUMP REVERSING VALVE

REVERSING VALVE

These solenoid operated reversing valves are slide type, 4 way with a 4 way pilot valve and operate under the full pressure of the heat pump system. The valves are used on unitary, split system, and window-type heat pump applications. There are six different styles designed to meet your particular system need.

- Coils not included — uses LDK style



V6-412080-170

OPPOSED PARALLEL



Part No.	Capacity (Tons)			Connection Size (In.)		Replaces	Price
	R407C	R22	R410A	Suction	High		
V2-408060-170*	0.8 to 1.8	.75 to 2.0	.9 to 2.2	1/2	3/8	V2128	\$212.70
V6-412080-170*	1.1 to 5.4	1.0 to 5.5	1.3 to 6.7	3/4	1/2	V62101	\$248.06
V6-414080-170*	1.1 to 5.4	1.0 to 5.5	1.3 to 6.7	7/8	1/2	V62103	\$248.06
V6-414120-170*	1.1 to 5.4	—	1.3 to 6.8	7/8	3/4	—	\$277.64
V10-414080-170*	3.2 to 9.4	3.0 to 8.5	3.8 to 10.1	7/8	1/2	V102500	\$424.08
V10-414120-170*	3.2 to 9.4	3.0 to 8.5	3.8 to 10.1	7/8	3/4	V102750	\$322.70
V10-418140-170*	3.2 to 10.7	3.0 to 9.5	3.8 to 11.7	1 1/8	7/8	V102762	\$463.08
V10-414140-470*	3.2 to 9.4	3.0 to 8.5	3.8 to 10.1	7/8	7/8	V102765	\$616.48



V2-408060-270

LOOPBACK PARALLEL



Part No.	Capacity (Tons)			Connection Size (In.)		Replaces	Price
	R407C	R22	R410A	Suction	High		
V1-406060-270*	.4 to 1.3	.4 to 1.0	.5 to 1.7	3/8	3/8	V1158	\$247.76
V2-408060-270*	0.8 to 1.8	.75 to 2.0	.9 to 2.2	1/2	3/8	V2100	\$222.50



V12-4220T0-270

OPPOSED OFFSET PARALLEL



Part No.	Capacity (Tons)			Connection Size (In.)		Replaces	Price
	R407C	R22	R410A	Suction	High		
V12-4220T0-270*	6.5 to 13.3	6.0 to 14.0	6.3 to 16.8	1 3/8	1 1/8 OD	V12-321	\$1,191.86



V3-410080-770

OPPOSED OFFSET FLARE



Part No.	Capacity (Tons)			Connection Size (In.)		Replaces	Price
	R407C	R22	R410A	Suction	High		
V3-410080-770*	1.1 to 2.7	1.0 to 2.8	1.3 to 3.1	5/8	1/2	V31003	\$242.96
V3-412080-870*	1.1 to 2.8	1.0 to 3.0	1.3 to 3.5	3/4	1/2	V31004	\$204.00



V2-4100F0-370

OPPOSED FLARE



Part No.	Capacity (Tons)			Connection Size (In.)		Replaces	Price
	R407C	R22	R410A	Suction	High		
V2-4100F0-370*	1.1 to 2.0	1.0 to 2.5	1.3 to 2.5	5/8	3/8 OD	V2179	\$112.36



V2-410060-470

LOOPBACK FLARE



Part No.	Capacity (Tons)			Connection Size (In.)		Replaces	Price
	R407C	R22	R410A	Suction	High		
V2-410060-470*	1.1 to 2.0	1.0 to 2.5	1.3 to 2.5	5/8	3/8	V2150	\$139.66



LDK-110000-070

COIL, LDK SERIES

Type LDK solenoid coils for use with the current Vx-xxxxxx-xxx series "Generation 4", Ranco heat pump reversing valves are epoxy encapsulated, continuous duty, moisture-resistant magnetic coils designed to operate the pilot valve controlling the reversing valves. Included with the solenoid coil is a wiring harness.



Part No.	Voltage	Color	Price
LDK-110000-070	24	Red	\$67.50
LDK-310000-070	120	Black	\$69.40
LDK-410000-070	240	Green	\$69.38
LDK-510000-070	277	Blue	\$110.90

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

HYDRONIC CONTROL, TEMPERATURE



L4006A1009

AQUASTAT®

Immersion-type controllers for limiting or regulating temperatures of liquids in boilers or tanks.

- Contact rating: 5.1 F.L. Amp 240 Vac

Honeywell Home

Part No.	Application	Switch	Temperature (°F)	Differential	Includes	Price
L4006A1009	High/Low Limit	SPST, Open Rise	100 to 240	5°F, Fixed	1.5" Insulation	\$355.14
L4006A1017	High/Low Limit	SPST, Open Rise	100 to 240	5 to 30°F	1.5" Insulation	\$380.86
L4006A1132	High/Low Limit	SPST, Open Rise	100 to 240	5°F, Fixed	3" Insulation	\$379.14
L4006A1678	High/Low Limit	SPST, Open Rise	100 to 240	5 to 30°F	3" Insulation, Well Adapter	\$280.84
L4006A1959 ¹	High/Low Limit	SPST, Open Rise	40 to 180	2, Fixed	1.5" Insulation, Well Adapter	\$282.54
L4006A1967	High/Low Limit	SPST, Open Rise	100 to 240	5 to 30°F	1.5" Insulation	\$296.02
L4006B1155	Circulator	SPST, Close Rise	100 to 240	5 to 30°F	3" Insulation, Well Adapter	\$308.26
L4006E1067	High Limit	SPST, Open Rise	110 to 270	Manual Reset	3" Insulation, Well Adapter	\$409.44
L4006H1004	High Limit	SPST, Open Rise	100 to 240	Manual Reset	Strap On, Well Adapter	\$424.54
L6006A1145	Circulator, High/Low Limit	SPDT	100 to 240	5 to 30°F	3" Insulation, Well Adapter	\$295.04
L6006C1018	Circulator, High/Low Limit	SPDT	65 to 200	5 to 30°F	Strap On, Well Adapter	\$267.84

¹1.3 Full Load Amps 240 Vac



L6008A1192

AQUASTAT® REMOTE BULB

For limiting or regulating temperature of liquids in boilers or tanks. Can also sense outside or duct air temperature.

- Contact rating: 5.1 F.L. Amps 240 Vac

Honeywell Home

Part No.	Application	Switch	Temperature (°F)	Differential	Includes	Price
L4008A1015	High/Low Limit	SPST, Open Rise	100 to 240	5 to 30°F	5 1/2' Capillary	\$309.26
L4008A1130	High/Low Limit	SPST, Open Rise	130 to 270	5 to 30°F	10' Capillary	\$564.84
L4008B1013	Circulator	SPST, Open Rise	100 to 240	5 to 30°F	5 1/2' Capillary	\$336.50
L4008E1156	High Limit	SPST, Open Rise	130 to 270	Manual Reset	5 1/2' Capillary	\$372.02
L6008A1192	Circulator, Low Limit	SPDT	100 to 240	5 to 30°F	5 1/2' Capillary	\$478.98



L4081A1023

AQUASTAT®, MULTIPLE

High limit, low limit and/or circulator controllers used to regulate boiler water temperature in gas- or oil-fire hydronic heating systems.

- Contact rating: 5.1 amps 240 Vac

- Operating range:
High limit: 130-240°F
Differential: 10°F, fixed
Low limit/Circulator: 110-220°F
Differential: 10-25°F

Honeywell Home

Part No.	Application	Switch	Price
L4081A1023	High/Low Limit	2-SPST	\$500.62



L8100B1037

AQUASTAT®, MULTIPLE, L8100 SERIES

Immersion-type controller for regulating and limiting the tank temperature in water heaters.

- Regulates temperature and provides energy cutoff (ECO) action on a temperature rise past the set point. Includes a second sensing element that senses average water temperature to minimize stacking.

- Operating range: 100-180°F
- Differential controller: 5°F, fixe
- ECO: 20°F, fixe
- Contact rating: 2 amps 24V

Honeywell Home

Part No.	Switch	Differential	Capillary Length	Operating Range (psi)	Price
L8100B1037	SPST, Opens on Rise	5°F, fixe	42"	100-180	\$630.50
L8100B1128	SPST, Opens on Rise	5°F, fixe	39"	100-180	\$581.94



L8124A

AQUASTAT®, TRIPLE

Immersion-type controllers that combine high limit protection with low limit and circulator control in forced hydronic heating systems, including domestic hot water service.

- Provides multizone control by using a separate circulator and R845 Relay for each zone
- Units with well adapter less well

- Operating range:
High limit: 130-240°F
Differential: 10°F, fixe
Low limit/Circulator: 110-220°F
Differential: 10-25°F
- Contact rating—Circulator: 3.7 F.L. Amp
240 Vac

Honeywell Home

Part No.	Application	Burner Voltage	Mounting Code	Insulation Depth (In.)	Includes	High Limit (°F)	Price
L8124A1007	Multizone Capable	120	Vertical	1 1/2	3" Insertion Well	130-240	\$594.94
L8124A1015	Multizone Capable	120	Vertical	3	3" Insertion Well	130-240	\$600.62
L8124E1016	Multizone Capable	24	Vertical/Horizontal	1 1/2	Universal Element, Well Adapter	130-240	\$656.34
L8124G1020	Multizone Capable	120	Vertical/Horizontal	1 1/2	Universal Element, Well Adapter	130-240	\$646.02
L8124L1011	Multizone Capable	120	Vertical/Horizontal	3	Universal Element, Well Adapter	130-240	\$633.02



L7224U1002

ELECTRONIC OIL AQUASTAT® CONTROLLER

120 Vac Oil Electronic AquaStat® Controller with Enviracom communication and troubleshooting Leds.

Provides electronic temperature sensing in a UL limit-rated controller with a single sensing probe. The

and L8148A Controllers. The AquaStat Controller is intended for use in residential-type applications. It provides status and diagnostic information through an LED display combined with LED lights to enhance the diagnostic process.

Operating range:
High limit: 130—240°F
Low limit: 110—220°F

L7224U controls the circulator, oil burner and boiler temperature. It replaces the L8124A, L8124C, L7124U, L7148A, L7248A,C, L7224A,C,

Honeywell Home

Part No.	Differential	Dimensions (In.)			Mounting	Price
		H	W	D		
L7224U1002	High Limit: 5 to 20 °F adj.	7 1/8	4 1/4	2 5/8	Well mount, horizontal or vertical position, or flush mounted remote from the well	\$400.34

HYDRONIC CONTROL, TEMPERATURE



W8735S1000

AQUARESET™ KITS

Outdoor Reset Kit

- Simple installation with three wire connection to the Aquastat
- Compatible with any L7224/L7248 Outdoor Reset Ready Aquastat, S9361A Integrated Boiler Control, and R7910 SOLA Controls

Domestic Hot Water Kit

- Compatible with Honeywell AquaReset™ wired and wireless kits

- Ensures domestic hot water needs are met when combining AquaReset™ with an indirect DHW tank.
- Easy three-wire installation to AquaReset™ module

Alarm Module

- Works with any alarm generating EnviraCOM™ enabled control
- Local LED alarm present and communication active indication
- Simple low-voltage, 5-wire installation

Honeywell Home

Part No.	Description	Price
W8735S1000	AquaReset™ Outdoor Reset Module	\$756.54
W8735S1008	AquaReset™ Domestic Hot Water Kit	\$251.30
W8735S3000	EnviraCOM™ Alarm Module	\$89.18



L8148A1017

AQUASTAT® RELAY

Immersion-type controllers that combine high limit protection with switching relay control of burner and circulator motors.

- Horizontal and vertical mounting
- Includes well adapter, heat conductive compound
- Contact rating is circulator FLA, 240V

Honeywell Home

Part No.	Mounting Code	Burner Circuit	High Limit (°F)	Price
L8148A1017	Horizontal	Line Voltage	120-240	\$447.08
L8148E1265	Vertical	Low Voltage	180-240	\$598.58
L8148E1299	Vertical	Low Voltage	120-240	\$583.32
L8148J1009	Horizontal and vertical	Low, mV Voltage	120-240	\$550.22



A19ABC11

HOT WATER, WELL IMMERSION

- Hot water control for hot water boilers
- Furnished with well assembly for 1/2" NPT

Johnson Controls

Part No.	Switch	Temperature (°F)	Differential	FLA	Capillary Length	Max. Bulb Temperature (°F)	Price
A19ABC11*	SPDT	100 to 240	6 to 24°F	6.0 @ 240 Vac	Flush	250	\$197.00
A19ABC12*	SPDT	100 to 240	6 to 24°F	6.0 @ 240 Vac	8'	290	\$220.00



A19DAC1

HOT WATER, STRAP-ON

- Strap-on, surface type hot water control
- Automatic changeover control for fan coil systems

Johnson Controls

Part No.	Switch	Temperature (°F)	Differential	FLA	Max. Bulb Temperature (°F)	Price
A19DAC1*	SPDT	100 to 240	10, Fixed	6.0 @ 240 Vac	250	\$163.00



11272

HOT WATER, STRAP ON

- Attach directly to surface of pipe
- Strap-on eliminates need for tapping of boiler or draining system
- Sensing element has twice the contact area of competitive models

EMERSON

Part No.	Switch	Temperature (°F)	Differential	FLA	Price
11272	SPDT	100 to 240	10°F, Fixed	3.7 @ 240 Vac	\$259.64

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

VALVE, HYDRONIC CONTROL



V4044A1019

ZONE, LINE VOLTAGE

On/off and diverting line voltage valves consist of an actuator motor and valve assembly for controlling the flow of hot or chilled water and some models for 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
- Complete powerhead may be removed or replaced without breaking line connections or draining the system

Honeywell Home

Part No.	Pattern	De-Energized Position	Voltage	Flow (Cv)	Connection		Price
					Size (In.)	Type	
V4043A1002	Straight-Thru	Normally Closed	120	3.5	1/2	Flare	\$192.16
V4043A1010	Straight-Thru	Normally Closed	120	3.5	1/2	Sweat	\$192.16
V4043A1259	Straight-Thru	Normally Closed	120	8.0	3/4	Sweat	\$212.64
V4043A1697	Straight-Thru	Normally Closed	120	10.0	1	NPT	\$283.86
V4043B1018	Straight-Thru	Normally Open	120	3.5	1/2	Sweat	\$207.64
V4043B1059	Straight-Thru	Normally Open	240	3.5	1/2	Sweat	\$192.82
V4043E1003 ¹	Straight-Thru	Normally Closed	120	3.5	1/2	Sweat	\$215.84
V4044A1019	2-Position Diverting	Port A Normally Closed	120	4.0	1/2	Sweat	\$207.10
V4044A1050	2-Position Diverting	Port A Normally Closed	240	4.0	1/2	Sweat	\$261.24
V4044A1191	2-Position Diverting	Port A Normally Closed	120	7.0	3/4	Sweat	\$228.40
V4044B1017 ²	2-Position Diverting	Port A Normally Closed	120	4.0	1/2	Sweat	\$254.04

¹Steam only ²Bottom inlet, includes integral Aquastat



V8043A1011

ZONE, LOW VOLTAGE

Control voltage: 24 Vac.

Honeywell Home

Part No.	Pattern	De-Energized Position	Flow (Cv)	Connection Size (In.)	End Switch	Price
V8043A1011	Straight-Thru	Normally Closed	3.5	1/2 Sweat	No	\$176.50
V8043A1029	Straight-Thru	Normally Closed	3.5	3/4 Sweat	No	\$177.18
V8043B1076	Straight-Thru	Normally Open	3.5	3/4 NPT	No	\$201.00
V8043E1004	Straight-Thru	Normally Closed	3.5	1/2 Sweat	Yes	\$174.40
V8043E1012	Straight-Thru	Normally Closed	3.5	3/4 Sweat	Yes	\$184.78
V8043E1020	Straight-Thru	Normally Closed	3.5	1 Sweat	Yes	\$215.74
V8043E1061	Straight-Thru	Normally Closed	8.0	3/4 Sweat	Yes	\$186.62
V8043E1145	Straight-Thru	Normally Closed	3.5	3/4 NPT	Yes	\$201.00
V8043F1028	Straight-Thru	Normally Closed	3.5	1/2 Sweat	Yes	\$211.28
V8043F1036	Straight-Thru	Normally Closed	3.5	3/4 Sweat	Yes	\$202.24
V8043F1051	Straight-Thru	Normally Closed	3.5	1 Sweat	Yes	\$231.42
V8043J1029 ¹	Straight-Thru	Normally Open	3.5	1/2 NPT	No	\$214.88
V8043J1037 ¹	Straight-Thru	Normally Open	3.5	3/4 NPT	No	\$230.90
V8044A1002	2-Position Diverting	Port A Normally Closed	4.0	1/2 Flare	No	\$208.56
V8044A1010	2-Position Diverting	Port A Normally Closed	4.0	1/2 Sweat	No	\$200.86
V8044A1044	2-Position Diverting	Port A Normally Closed	7.0	3/4 Sweat	No	\$221.60
V8044A1135	2-Position Diverting	Port A Normally Closed	4.0	1/2 NPT	No	\$214.18
V8044E1003	2-Position Diverting	Port A Normally Closed	4.0	1/2 Sweat	Yes	\$217.96
V8044E1011	2-Position Diverting	Port A Normally Closed	7.0	3/4 Sweat	Yes	\$230.16

¹Steam only



V8043

ZONE, LOW VOLTAGE

- Control voltage: 24 Vac.
- Install without disassembly, compact construction for easy installation
- Manual opener

Honeywell Home

Part No.	Pattern	De-Energized Position	Flow (Cv)	Connection		Price
				Size (In.)	End Switch	
V8043E5012	Straight-Thru	Normally Closed	3.5	3/4 Sweat	Yes	\$199.86
V8043E5020	Straight-Thru	Normally Closed	3.5	1 Sweat	Yes	\$225.60

HEATING

VALVE, HYDRONIC CONTROL



T2040NA

RADIATOR THERMOSTAT

- Thermostatic Radiator Valves are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators.
- Honeywell radiator thermostats with Honeywell (HW) M30x1.5

connection are suitable for all TRV body and radiator inserts with M30x1.5 connection and 11.5mm closing dimension.

- Radiator Thermostats of this type with snapping (DA) type connection are suitable for TRV bodies and valve inserts with Danfoss (RA) type compatible snap connection.

The radiator thermostat consists of:

- Handwheel with lid and socket
- Honeywell HW M30 x 1.5 connection and 11.5 mm closing dimension and Danfoss snapping RA type connection
- Sensor with support cage
- Liquid sensor
- Spindle assembly
- Connection nut

Honeywell Home

Part No.	Description	Price
T2040NA	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	\$66.48

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LINEAR WATER

Controls 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 (non spring return)/M6435 (spring return) small individual room controller 3-position floating electronic linear valve actuator or M7410 (non spring return)/M7435 (spring return) selectable 0 to 10 Vdc or 2 to 10 Vdc electronic actuator , or MP958 (2000 series valves only) pneumatic valve actuator.

- Larger valves (1 to 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 and 3/4" valves are changeable without draining valve when used with an insert replacement tool.
- Brass body, seat, cartridge, stainless steel stem.
- Threaded plastic cover/manual handle allows manual operation.
- Easily installed in areas where space is limited.
- 1/2, 3/4" valves equal percentage flow , 1 to 1 1/2" valves linear flow



V5852A2015

2 WAY, SWEAT

Honeywell

Part No.	Flow (Cv)	Connection		Price
		Nom. Size (In.)	Type	
V5852A2007	0.19	1/2	Sweat	\$71.20
V5852A2015	0.29	1/2	Sweat	\$68.86
V5852A2023	0.47	1/2	Sweat	\$68.86
V5852A2031	0.74	1/2	Sweat	\$68.86
V5852A2049	1.2	1/2	Sweat	\$69.54
V5852A2056	1.9	1/2	Sweat	\$69.54
V5852A2064	2.9	3/4	Sweat	\$104.10
V5852A2072	4.9	3/4	Sweat	\$105.14



V5862

2 WAY, CARTRIDGE GLOBE, FPT

Honeywell

Part No.	Flow (Cv)	Connection		Price
		Nom. Size (In.)	Type	
V5862A2005	0.19	1/2	FPT	\$70.24
V5862A2013	0.29	1/2	FPT	\$68.86
V5862A2021	0.47	1/2	FPT	\$68.86
V5862A2039	0.74	1/2	FPT	\$74.46
V5862A2047	1.2	1/2	FPT	\$73.02
V5862A2054	1.9	1/2	FPT	\$73.02
V5862A2062	2.9	3/4	FPT	\$106.16
V5862A2070	4.9	3/4	FPT	\$110.06

Continued...

2 WAY, CARTRIDGE GLOBE, FPT
(CONT'D.)**Honeywell**

Part No.	Flow (Cv)	Connection		Price
		Nom. Size (In.)	Type	
V5862A3003	5.5	1	FPT	\$325.68
V5862A3011	7.8	1	FPT	\$323.18
V5862A3029	11.0	1	FPT	\$282.18
V5862A3037	18.0	1 1/4	FPT	\$366.74
V5862A3045	25.0	1 1/2	FPT	\$452.66



V5853A2030

3 WAY, SWEAT

Honeywell

Part No.	Flow (Cv)	Connection		Price
		Nom. Size (In.)	Type	
V5853A2006	0.29	1/2	Sweat	\$104.90
V5853A2014	0.47	1/2	Sweat	\$104.90
V5853A2022	0.74	1/2	Sweat	\$110.14
V5853A2030	1.2	1/2	Sweat	\$110.14
V5853A2048	1.9	1/2	Sweat	\$109.14
V5853A2055	2.9	3/4	Sweat	\$141.72
V5853A2063	4.9	3/4	Sweat	\$141.72
V5853A1008	2.9	3/4	Sweat	\$125.44
V5853A1016	4.9	3/4	Sweat	\$133.04



V5863

3 WAY, FPT

Honeywell

Part No.	Flow (Cv)	Connection		Price
		Nom. Size (In.)	Type	
V5863A2004	0.29	1/2	FPT	\$107.46
V5863A2012	0.47	1/2	FPT	\$107.46
V5863A2020	0.74	1/2	FPT	\$108.54
V5863A2038	1.2	1/2	FPT	\$109.60
V5863A2046	1.9	1/2	FPT	\$108.50
V5863A2053	2.9	3/4	FPT	\$154.02
V5863A2061	4.9	3/4	FPT	\$146.62
V5863A1006	2.9	3/4	FPT	\$145.18
V5863A1014	4.9	3/4	FPT	\$134.60
V5863A3002	5.5	1	FPT	\$309.20
V5863A3010	7.8	1	FPT	\$286.36
V5863A3028	11.0	1	FPT	\$304.86
V5863A3036	18.0	1 1/4	FPT	\$379.30
V5863A3044	25.0	1 1/2	FPT	\$500.64



M6410A1029

CARTRIDGE GLOBE VALVE
ACTUATOR, NON-SPRING
RETURN

Small individual room control (IRC) electric actuators 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 signal
- Magnetic coupling for torque limitation independent of voltage supply and self-adjustment of the closeoff port
- Power supply: 24 Vac
- Timing: 125 seconds

Honeywell

Part No.	Control Input	Stem Force (Lbf)	Comments	Use with	Price
M6410A1029	SPDT Floating	40.50	UL94-5V Plenum Rated	1/2, 3/4" Valves	\$161.18
M6410A3017	SPDT Floating	67.50	UL94-5V Plenum Rated	1 to 1 1/2" Valves	\$194.92
M7410F1000	0-10 Vdc, 2-10 Vdc	40.50	DA/RA	1/2, 3/4" Valves	\$278.36
M7410F3006	0-10 Vdc, 2-10 Vdc	67.50	DA/RA	1 to 1 1/2" Valves	\$291.56



M6435A1004

CARTRIDGE GLOBE VALVE
ACTUATOR, SPRING RETURN

Small Individual Room Control (IRC) Electric Actuators 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).
- Spring return; operator retracts up on failure

Honeywell

Part No.	Control Signal	Feed-back	Stem Force (Lbf)	Use with	Price
M6435A1004	Floating, SPDT	No	40.50	1/2 in. and 3/4 in. V58XX Cartridge Globe Valves	\$319.94
M6435A3000	Floating, SPDT	No	90	1 to 1 1/2 in. V58XX Cartridge Globe Valves	\$319.94
M7435F1001	0-10 or 2-10 Vdc Modulating	Yes	40.50	1/2 in. and 3/4 in. V58XX Cartridge Globe Valves	\$415.36
M7435F3007	0-10 or 2-10 Vdc Modulating	Yes	90	1 to 1 1/2 in. V58XX Cartridge Globe Valves	\$427.58

HEATING

VALVE, HYDRONIC CONTROL

WATER

Controls 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 floatin controller such as a room thermostat, Aquastat control, or flow switch.

- Pressure ratings—Static: 300 psi
Burst: 1,500 psi
- Use with VCXXXXZZ actuator



VCZAS1100

2-WAY, CARTRIDGE CAGE, WATER

Honeywell Home

Part No.	Nominal Size (In.)	Connection Type	Flow (Cv)	Price
VCZAA1100	1/2	Sweat	3.2	\$80.90
VCZAA3100	1/2	Sweat	3.5	\$76.64
VCZBB1100	1/2	FPT	3.2	\$88.08
VCZAL1100	3/4	FPT	4.7	\$126.82
VCZAM1100	3/4	Sweat	4.6	\$114.64
VCZAR1100	1	FPT	6.6	\$183.00
VCZAS1100	1	Sweat	6.6	\$171.20



VCZMA6100

3-WAY, CARTRIDGE CAGE, WATER

Honeywell Home

Part No.	Nominal Size (In.)	Connection Type	Flow (Cv)	Price
VCZNB6100	1/2	FPT	3.7	\$106.82
VCZMA6100	1/2	Sweat	3.8	\$98.90
VCZMK6100	3/4	FPT	6.6	\$155.96
VCZML6100	3/4	Sweat	5.9	\$135.98
VCZMR6100	1	FPT	8.6	\$210.00
VCZNE6100	1 1/4	Sweat	9.0	\$230.14



VC4011ZZ11

ACTUATOR

- Use with VCZXX1100 and VCZXX6100 valves

Honeywell Home

Part No.	Voltage	Timing	Control Type	Signal	Price
VC4011ZZ11	120	6 Sec.	2-Wire + Com	SPST	\$129.86
VC6934ZZ11	24	120 Sec.	3-Wire	SPDT, Floating	\$219.24
VC8114ZZ11	24	6 Sec.	2-Wire	SPST	\$99.90
VC8714ZZ11	24	6 Sec.	2-Wire + Com	SPST	\$125.88



1361102

2 WAY, ZONE

- For zoning hydronic systems up to 50 psi
- 2-wire and 3-wire, 24V valves with screw terminal wiring panel and auxiliary switch
- Maximum water temperature: 240°F, maximum system pressure 50 psi

2 WAY, ZONE, 2-WIRE

EMERSON

Part No.	Nominal Tube Size (In.)	Flow (Cv)	Price
1361102	3/4	23.5	\$344.28
1361103	1	37.0	\$364.56

2 WAY, ZONE, 3-WIRE

Part No.	Nominal Tube Size (In.)	Flow (Cv)	Price
1311102	3/4	23.5	\$293.60
1311103	1	37.0	\$323.04
1311104	1 1/4	42.2	\$360.08



30118B

MOTOR, REPLACEMENT

- Replacement motor for C Series classic zone valve

Schneider electric tac Ete

Part No.	Voltage	Price
30A118A	24	\$80.64
30A118V	230	\$93.24
30118B	120	\$80.64

ERIE POPTOP™

The new Erie PopTop™ actuator is specifically designed for use with Erie's new valve body. The valve actuator can be installed after the valve body is installed onto the fan coil, radiation or air handler. The PopTop™ features the reliable synchronous motor driven spring return operation proven in millions of Erie valves. The PopTop™ actuator mounts directly onto the body quickly and easily without the need for linkages and calibration.



AG13A020

ACTUATOR, 2 POSITION, VT SERIES

Spring return actuators for VT2xxx and VT3xxx series valves.

Schneider electric tac Ete

Part No.	Application	Voltage	Price
AG13A020	Normally Closed	24	\$105.00
AG13A02A	Normally Closed (End Switch)	24	\$111.72
AG13B020	Normally Closed	120	\$105.00
AG13T020	Normally Closed	277	\$114.24
AG13U020	Normally Closed	230	\$114.24
AG23A020	Normally Open	24	\$112.56
AG23B020	Normally Open	120	\$112.56
AG23D020	Normally Open	208	\$126.84



VT2212

2 WAY, ZONESchneider Electric **tac** **Ete**

Part No.	Connection		Flow (Cv)	Price
	Size (In.)	Type		
VT2212	1/2	Sweat	2.5	\$52.92
VT2213	1/2	Sweat	3.5	\$52.92
VT2222	1/2	FPT	2.5	\$58.80
VT2223	1/2	FPT	3.5	\$58.80
VT2313	3/4	Sweat	3.5	\$67.20
VT2315	3/4	Sweat	5.0	\$67.20
VT2317	3/4	Sweat	7.0	\$67.20
VT2323	3/4	FPT	3.5	\$77.28
VT2325	3/4	FPT	5.0	\$77.28
VT2327	3/4	FPT	7.0	\$77.28
VT2415	1	Sweat	5.0	\$155.40
VT2417	1	Sweat	7.0	\$110.88
VT2427	1	FPT	8.0	\$123.48



VT3213

3 WAY, ZONESchneider Electric **tac** **Ete**

Part No.	Connection		Flow (Cv)	Price
	Size (In.)	Type		
VT3212	1/2	Sweat	3.0	\$67.20
VT3213	1/2	Sweat	4.0	\$67.20
VT3222	1/2	FPT	3.0	\$72.24
VT3223	1/2	FPT	4.0	\$72.24
VT3313	3/4	Sweat	4.0	\$85.68
VT3315	3/4	Sweat	5.0	\$85.68
VT3317	3/4	Sweat	7.0	\$85.68
VT3323	3/4	FPT	4.0	\$94.08
VT3325	3/4	FPT	5.0	\$94.08
VT3327	3/4	FPT	7.0	\$94.08
VT3342	3/4	IFL	3.0	\$100.80
VT3343	3/4	IFL	4.0	\$72.24
VT3415	1	Sweat	5.0	\$180.60
VT3417	1	Sweat	7.0	\$129.36
VT3427	1	FPT	7.5	\$137.76



AP13A000

ACTUATOR, MODULATING, VM SERIES

Spring return actuators for VM2xxx and VM3xxx series valves.

- 0 to 10 Vdc or 4 to 20 mA output.
- Magnetic clutch to maximize motor life and gear train
- Manual override

- Position indicator

Schneider Electric **tac** **Ete**

Part No.	Application	Voltage	Price
AP13A000	Spring Return, Normally Closed	24	\$338.52
AP23A000	Spring Return, Normally Open	24	\$338.52
AP33A000	Non Spring Return	24	\$195.72



VM2223

2 WAY, ZONE, MODULATINGSchneider Electric **tac** **Ete**

Part No.	Connection		Flow (Cv)	Price
	Size (In.)	Type		
VM2213	1/2	Sweat	4.0	\$65.52
VM2223	1/2	FPT	4.0	\$73.08
VM2313	3/4	Sweat	4.0	\$100.80
VM2323	3/4	FPT	4.0	\$110.04

3 WAY, ZONE, MODULATINGSchneider Electric **tac** **Ete**

Part No.	Connection		Flow (Cv)	Price
	Size (In.)	Type		
VM3213	1/2	Sweat	4.0	\$78.96
VM3223	1/2	FPT	4.0	\$90.72
VM3313	3/4	Sweat	4.0	\$115.08
VM3427	1	FPT	7.0	\$239.40
VM3323	3/4	FPT	4.0	\$131.04

HEATING

VALVE, HYDRONIC CONTROL



ZONE24NC

ZONE VALVE ACTUATOR

Actuator designed to work with Belimo's Zone Valves.

- On/Off diverting control
- Manual override
- Electrical connection: 6" wire lead 120 V; 18" wire lead 24 V



Part No.	Application	Voltage	Price
ZONE24NC*	Normally Closed	24	\$136.80
ZONE24NCS*	Normally Closed, with Auxiliary Switch	24	\$153.90
ZONE24NOS*	Normally Open, with Auxiliary Switch	24	\$153.90
ZONE120NC*	Normally Closed	120	\$136.80
ZONE120NCS*	Normally Closed, with Auxiliary Switch	120	\$153.90
ZONE120NOS*	Normally Open, with Auxiliary Switch	120	\$153.90



ZONE2

2 WAY, ZONE

- Flow characteristics: on/off
- Chilled or hot water, 50% glycol
- Pressure rating: 300 Psi



Part No.	Nominal Size (In.)	Connection Type	Flow (Cv)	Price
ZONE215S25*	1/2	Sweat	2.5	\$66.60
ZONE215N25*	1/2	FPT	2.5	\$71.10
ZONE215N35*	1/2	FPT	3.5	\$71.10
ZONE220S35*	3/4	Sweat	3.5	\$81.00
ZONE220S50*	3/4	Sweat	5.0	\$81.00
ZONE220N35*	3/4	FPT	3.5	\$90.00
ZONE220N50*	3/4	FPT	5.0	\$90.00
ZONE225S80*	1	Sweat	8.0	\$150.30
ZONE225N80*	1	FPT	8.0	\$155.70



ZONE3

3 WAY, ZONE

- Flow characteristics: on/off, diverting
- Chilled or hot water, 50% glycol
- Pressure rating: 300 Psi



Part No.	Nominal Size (In.)	Connection Type	Flow (Cv)	Price
ZONE315S25*	1/2	Sweat	2.5	\$84.60
ZONE315S35*	1/2	Sweat	3.5	\$84.60
ZONE315N25*	1/2	FPT	2.5	\$90.00
ZONE315N35*	1/2	FPT	3.5	\$90.00
ZONE320S35*	3/4	Sweat	3.5	\$107.10
ZONE320S50*	3/4	Sweat	5.0	\$107.10
ZONE320N35*	3/4	FPT	3.5	\$114.30
ZONE320N50*	3/4	FPT	5.0	\$114.30
ZONE325S80*	1	Sweat	8.0	\$164.70
ZONE325N80*	1	FPT	8.0	\$180.90



Z050C21

ZONE SENTRY® ZONE VALVE, NORMALLY CLOSED, 2 WAY

The Taco Zone Sentry® Zone Valve enhances the overall performance of any zone valve system. The unique patented technology in the Zone Sentry utilizes a microcircuit based logic to control a gear driven

electronic actuator which drives a ball valve based body design. It can be used in a wide variety of heating and cooling applications, primarily designed for use with fan coils, radiators, convectors, air handlers, heat pumps and radiant applications. Zone Sentry® can be installed in any direction, in any orientation. The operator can be mounted to the valve body in either direction great for those tight baseboard jobs. Snap-in quick connects on the back of the valve make for a simple, secure and fast wiring hook-up. A green LED light shows full functionality of the valve's operation and thermostat status. Under a no power situation the manual override button located on the top of the valve allows the ball to be rotated up to 90° and is also marked with a slot to indicate the position of the valve.

- Uses up to 93% less energy than other commonly installed zone valves
- Up to 12 valves on (1) 40VA transformer
- Multi function LED assists with troubleshooting
- Bidirectional flow (you can't install the valve backwards)
- Manual override button
- Positional indicator shows the ball valve's actual position
- Max. Operating Pressure: 300 PSI
- Max. Shutoff Pressure: 125 PSI
- Electrical Rating: 24 VAC, 60 Hz, 0.48 Amps



Part No.	Nominal Size (In.)	Flow (Cv)	Price
Z050C21*	1/2	4.9	\$249.46
Z075C21	3/4	10.3	\$243.40
Z100C21*	1	8.9	\$278.08



570

ZONE VALVE

Taco zone valves permit accurate temperature control of individual rooms or groups of rooms in residences or commercial buildings which are heated or cooled hydronically. Beryllium copper metal bellows separate system water from the atmosphere for positive and

leakproof operation. Exclusive heat motor functions silently. Saves energy; heat motor is not constantly energized while the valve is open.

- 555050: replacement actuator for all valves



Part No.	Nominal Size (In.)	Length (In.)	Price
570	1/2	3 1/8	\$262.30
571	3/4	3 3/8	\$262.30
572	1	3 5/8	\$308.90
573	1 1/4	3 7/8	\$360.88

Part No.	Description	Price
555050	Replacement Actuator for all Zone Valves	\$197.50

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

HYDRONIC CONTROL



PC700

BOILER RESET CONTROL

Microprocessor-based control designed to regulate the supply water temperature from a single boiler based on the outdoor temperature. Standard functions include warm weather shut down, minimum boiler supply temperature setting, and a starting water temperature setting.

- Power supply: 24 VAC 3 VA (powered by -EXP control)
- Relays: 24 V (ac) 5A, pilot duty, 240 VA



Part No.	Description	Price
PC700	Add-On Power Control	\$636.58



SR503

ZONE VALVE

Taco switching relays combine clearly labeled PC board layouts with advanced features that allow for total system customization. External indicator lights provide instant diagnostic feedback, making a snap of service calls or new installation start-ups. All switching

relays are UL and CSA listed, use standard ice cube replaceable relays and are compatible with conventional and programmable thermostats.

Features:

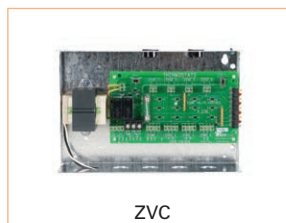
- External Indicator Lights
- Switchable Priority
- Simplified Wirin
- Fully Enclosed Snap-Out Relays
- Fuse Protected
- Isolated End Switch
- Contractor Friendly PC Board Layout
- Universal Thermostat Compatibility
- 24 Volt Power Input or Output Terminal
- Extended 3 Year Warranty

Additional -EXP Features:

- Plug-in PowerPort Card Slots
- Add-on Power Control Plug
- Expandable to 20 Zones
- Interface with -EXP Zone Valve Controls



Part No.	Contact Rating (Amps)	Nb. of Zones	Price
SR502	15 Amp	2 with Priority	\$327.70
SR503	15 Amp	3 with Priority	\$349.16
SR504EXP	20	4 with Priority, 3 Power Ports	\$443.30
SR506EXP	20	6 with Priority, 3 Power Ports	\$544.54



ZVC

ZONE VALVE CONTROL

Taco Zone Valve Controls work with two-, three-, or four-wire zone valves. Fully fuse protected, @ they also include two isolated end switches and a built-in priority switch. The contractor friendly PC board layout eliminates the problems caused by incorrect wiring and the unfinished look of conventional zone valve installations. The sturdy screw connections add additional reliability, while the external indicator lights provide instant diagnostic feedback, reducing installation time.

Features

- External Indicator Lights
- Switchable Priority
- Simplified Wirin
- Extra Set of Dry Contacts
- Contractor Friendly PC Board Layout
- Universal Thermostat Compatibility
- UL and CSA Approved
- Extended 3 Year Warranty

Additional -EXP features:

- Two Plug-In PowerPort Card Slots
- One Add-On Power Control Plug
- Expandable to 20 Zones
- Interface with -EXP Switching Relays



Part No.	Nb. of Zones	Transformer VA	Price
ZVC403	3	40	\$260.28
ZVC404	4 with Priority	40	\$303.16
ZVC406EXP	6 with Priority, 2 Power Ports	80	\$412.68

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*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

SWITCHING RELAY



R8845U1003

UNIVERSAL

The R8845U Universal Switching Relay with 24V controller provides intermediate switching of line- and low-voltage devices from a line- or low-voltage controller.

- Replaceable, socketed relays
- Two troubleshooting LEDs
- Push-to-test button
- Relays can be used with external 24 Vac or 24 Vdc supply, line-voltage control, or with internal 24V transformer

Honeywell Home

Part No.	Description	Price
R8845U1003	Switching Relay	\$150.76

OIL BURNER CONTROL



R8182D1111

AQUASTAT, PRIMARY

Immersion type Aquastat® controller and oil burner primary control provides high limit and low limit/circulator control for oil-fired hydronic heating systems

- Control range—High limit SPST: 130-240°F
Differential: 10°F, fixed
Low limit, circulator SPDT: 110-220°F
Differential: 10-25°F
- 120 Vac

Honeywell Home

Part No.	Insulation Depth (In.)	Spud Size (In.)	Capillary Length	Includes	Price
R8182D1079	1 1/2	3/4	None	Well Adapter, Vertical Case	\$1,727.44
R8182D1111	1 1/2	3/4	None	Well Adapter, Horiz. Case	\$1,727.44
R8182H1070	1 1/2	3/4	5'	Horiz. Case	\$1,769.08



R7284B1024

ELECTRONIC DIGITAL OIL PRIMARY

The R7284 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. Used with a cad cell

flame sensor, it 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, control ignition spark (either interrupted or intermittent) and notifies through the EnviraCOM™ bus a remote alarm circuit when in lockout. Can be used with both hydronic and forced air systems.

Honeywell Home

Part No.	Safety Timing (sec)	Contact Rating (Amps)	Diagnostics	Price
R7284U1004	Settable 15, 30 or 45	3.7	2 Line LCD Display	\$170.18
R7284B1024	15	3.7	Using LED only	\$145.66



R8184G4009

PROTECTOR RELAY

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

- Voltage: 120 Vac
- Includes LED lockout indication and manual trip safety switch for shutdown during servicing

Honeywell Home

Part No.	Safety Timing (sec)	Contact Rating (Amps)	Price
R8184G4009	45	3.7	\$232.34
R8184G4066	15	5.0	\$313.66



R8184M1051

PROTECTOR RELAY™, LOW VOLTAGE

Operates the oil burner and oil valve (if desired) in response to a call for heat from a low voltage control circuit.

- Includes transformer
- Primary voltage: 120 Vac
- Secondary voltage: 26.5V

- Contacts: 3.7 F.L. Amp 240 Vac

Honeywell Home

Part No.	Safety Timing (sec)	Contact Rating (Amps)	Price
R8184M1051	45	3.7 F.L. Amp 240 Vac	\$395.08



C554A1463

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 Protecto-relay control to shutdown the main oil burner

- Use with oil primary controls, i.e.: R4166, R4184, R8182, R8184, R8185 and R8404

Honeywell Home

Part No.	Description	Price
C554A1463	Flame Detector, 5 Bracket Styles	\$57.32



V4046B1049

VALVE, MAGNETIC SOLENOID

For on/off control of oil flow to domestic oil burner equipment.

- Connection: 1/8" FPT
- Capacity: 5-35 GPH

Honeywell Home

Part No.	Pressure Range (psi)	Orifice Size	Voltage	Price
V4046A1074 ¹	300	0.043"	120	\$211.44
V4046B1049	300	0.043"	120	\$199.14

¹Has opening delay to allow burner fan to reach speed

TESTER

FSP1535

PRIMARY CONTROL

Provides quick operational check of most Honeywell RA890 or R4795 non-programming primary controls.

Honeywell

Part No.	Description	Price
FSP1535	Primary Tester	\$1,906.14

FLAME CONTROL

RA890F1270

PROTECTORELAY™ PRIMARY, RECTIFICATION

Primary control provides solid state, electronic flame safeguard protection for industrial and commercial single or dual fuel burners.

- 3 second response time recommended for non-recycling

ignition cutoff service, except where noted.

- Uses rectification principle of electronic flame detection
- Relights once after flame failure in attempt to re-establish pilot before 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

Honeywell

Part No.	Supply Voltage	Safety Timing (sec)	Flame Failure Response (sec.)	Price
RA890F1270	120	15	0.8	\$4,332.82
RA890F1288	120	15	3.0	\$5,361.84
RA890F1338	120	30	0.8	\$4,982.76
RA890F1346	120	30	3.0	\$5,062.50
RA890F1478 ¹	120	15	0.8	\$4,968.30

¹Fast response on controller demand

PROTECTORELAY™ PRIMARY, UV INTERMITTENT

Primary control provides solid state, electronic flame safeguard protection for industrial and commercial single or dual fuel burners.

- Designed 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
- Relights once after flame failure in attempt to re-establish pilot before lockout.

Honeywell

Part No.	Supply Voltage	Safety Timing (sec)	Flame Failure Response (sec.)	Price
RA890G1260	120	15	3.0	\$4,402.08

FLAME CONTROL, 7800 SERIES



PROGRAMMER

Microprocessor-based integrated burner control for automatically fire 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.
 - PURGE determined by which ST7800A Purge Timer Card is selected.
 - STANDBY and RUN can be an infinite time period
 - Ignitiate time: 10 Seconds
 - Pilot Flame establishing period: 4 or 10 seconds
 - Only available in NJ / Eastern-Southern NY.
- Call 914-592-5555 to order.

Honeywell

Part No.	Description	Replaces	Hz	Main Flame Establishing Period	Price
RM7800G1018	Control w/ Display	BC7000L; PM720G	60	10, 15 or Intermittent	\$5,012.28
RM7800L1012	Control w/ Display	BC7000L; PM720L	50/60	10, 15 or Intermittent	\$5,394.44
RM7800M1011	Control w/ Display	BC7000L; PM720M	60		\$4,585.10
RM7840E1016 ¹	Relay Module, No Display	—	50/60	10 or 15 sec.	\$4,572.88
RM7840G1014	Relay Module, No Display	R4140G	60	10, 15 or Intermittent	\$3,733.10
RM7840L1018	Relay Module, No Display	R4140L	50/60	10, 15 or Intermittent	\$4,534.70
RM7840M1017	Relay Module, No Display	R4140M	60	10 sec. or Intermittent	\$3,308.60

¹Energy Saving Prepurge



R7140

PROGRAMMER

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.

Uses existing subbase for easier installation

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble-shooting.
- Requires ST7800 purge timer and appropriate R787xx amplifier to complete the replacement
- Pilot Flame establishing period: 4 or 10 seconds
- Purge time determined by card selected

Honeywell

Part No.	Pilot Type	Replaces	Main Flame Establishing Period	Price
R7140G1000	Interrupted or Intermittent	R4140G w/ preignition interlocks	10, 15, 30 sec. or int.	\$8,590.12
R7140G2008	Interrupted or Intermittent	BC7000L, PM720G, R4140G w/ start interlocks	10, 15, 30 sec. or int.	\$8,590.12
R7140L1009	Interrupted	R4140L	10 or 15 sec.	\$10,756.12
R7140L2007	Interrupted	BC7000L; PM720L	10 or 15 sec.	\$10,756.12
R7140M1007	Interrupted	BC7000L; PM720L	10 sec. or intermittent	\$7,568.64

AUTOMATIC PRIMARY RELAY MODULE

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.

- Only available in NJ / Eastern-Southern NY.
- Call 914-592-5555 to order.

Honeywell

Part No.	Pilot Flame Establishing Period	Initiate Time (Sec.)	Comments	Price
RM7890A1015	4, 10, 30	10	Replaces RA890F, G, H	\$914.22
RM7890A1031	30 Fixed	10	Replaces RA890F, G, H	\$914.22
RM7890A1056	4, 10	10	Includes Programmable Valve Proving Switch Check Feature and Blinking LED Fault Annunciation	\$927.96



RM7895A1014

FULL FUNCTION PRIMARY

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.

- PURGE determined by which ST7800A Purge Timer Card is selected.
 - STANDBY and RUN can be an infinite time period
 - Pilot Flame establishing period: 4 or 10 seconds
 - Ignitiate time: 10 Seconds
 - Only available in NJ / Eastern-Southern NY.
- Call 914-592-5555 to order.

Honeywell

Part No.	Type	Replaces	Main Flame Establishing Period	Main Valve (DMV)	Price
RM7895A1014	Intermittent w/o AFSC	R7795A, B	No	No	\$1,219.32
RM7895B1013	Intermittent w/AFSC	R7795E, F	No	No	\$1,219.32
RM7895C1012	Interrupted w/o AFSC	R7795C, D	10 sec.	Yes	\$1,531.96



RM7840G1014

ON-OFF PRIMARY 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.

- PostPurge: 15 Sec
- Pilot Flame establishing period: 4 or 10 seconds
- STANDBY and RUN can be an infinite time period.

Honeywell

Part No.	Type	Main Flame Establishing Period	Main Valve (DMV)	Price
RM7896A1012	Intermittent	Intermittent	No	\$2,027.66
RM7896C1010	Interrupted	10 Sec	Yes	\$2,233.34



RM7840G1014

ON-OFF PRIMARY WITH SHUTTER DRIVE AND 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.

- Includes blinking LED fault annunciation feature
- PostPurge Programmed with S7800A1142 Display (Not Provided)

Honeywell

		Establishing Period	
Part No.	Type	Pilot Flame	Price
RM7897A1002	Selectable	4 or 10 sec.	\$1,212.60



Q7800A1005

WIRING SUBBASE

Burner, panel or wall mount sub bases for 7800 Series relay modules and S7830A expanded annunciator.

- 22 terminals
- Only available in NJ / Eastern-Southern NY. Call 914-592-5555 to order.

Honeywell

Part No.	Description	Price
Q7800A1005	Universal — Panel Mount	\$67.32
Q7800B1003	Universal — Burner, Wall Mount	\$67.32
Q7800F1004	Adapter — RA890	\$267.12
Q7800F1012	Adapter — R4795	\$234.62



S7800A1001

KEYBOARD DISPLAY

Provides current status of burner sequence, timing information, hold information and lockout information, as well as selectable or preemptive messages.

- Only available in NJ / Eastern-Southern

NY. Call 914-592-5555 to order.

Honeywell

Part No.	Description	Use with	Price
S7800A1001	Display Module, English	RM7800, RM7840, RM7838	\$922.38
S7800A1142	Display Module for Valve Proving Setup, English	RM7800, RM7840, RM7838, RM7890, RM7897, RM7898	\$1,009.42



R7848A1008

SIGNAL AMPLIFIER, PLUG-IN

Solid state plug-in amplifiers that respond to flame detector inputs to indicate the presence of flame when used with 7800 Series relay modules.

- Only available in NJ / Eastern-Southern NY. Call 914-592-5555 to order.

Honeywell

Part No.	Pilot Type	Flame Failure Response (sec.)	Type Fuel	Price
R7847A1025	Rectification (Green)	0.8 or 1.0	Gas, Oil	\$434.24
R7847A1033	Rectification (Green)	2.0 or 3.0	Gas, Oil	\$434.24
R7848A1008	Infrared (Red)	2.0 or 3.0	Gas, Oil, Coal	\$815.04
R7848B1006 ¹	Infrared (Red)	2.0 or 3.0	Gas, Oil, Coal	\$793.18
R7849A1015	UV (Purple)	0.8 or 1.0	Gas, Oil	\$434.24
R7849A1023	UV (Purple)	2.0 or 3.0	Gas, Oil	\$434.24
R7851B1000	Optical (White), Ampli-Check	2.0 or 3.0	Gas, Oil, Coal	\$401.74
R7851B1018	Optical (White), Ampli-Check	0.8 or 1.0	Gas, Oil, Coal	\$401.74
R7852A1001	Infrared (Red/White)	2.0 or 3.0	Gas, Oil, Coal	\$587.18
R7861A1026	UV (Purple) Dynamic Self-Check	2.0 or 3.0	Gas, Oil, Coal	\$1,143.54

¹Circuitry test amplifier 2 times/minute, shuts down on failure

HEATING

FLAME CONTROL, 7800 SERIES



S7830A

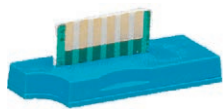
FIRST-OUT ANNUNCIATOR

Microprocessor-based expanded annunciator to support the 7800 Series relay modules for first-out annunciation, sequencing, system or self-diagnostics and troubleshooting.

- Front panel LED array-arranged to indicate flow of line-voltage through string of limits, controls and interlocks
- Only available in NJ / Eastern-Southern NY. Call 914-592-5555 to order.

Honeywell

Part No.	Description	Price
S7830A1005	Expanded Annunciator	\$1,518.54



ST7800A1013

PURGE TIMER

Provides prepurge timing for select 7800 Series relay modules.

- Use with RM7800, RM7840, RM7895, RM7838 relay modules
- Only available in NJ / Eastern-Southern NY. Call 914-592-5555 to order.

Honeywell

Part No.	Prepurge Time (Sec.)	Price
ST7800A1013	7	\$121.60
ST7800A1021	10	\$121.60
ST7800A1039	30	\$121.60
ST7800A1054	60	\$121.60
ST7800A1062	90	\$121.60

GAS/AIR PRESSURE SWITCH



C6097

C6097 SERIES

- Diaphragm-actuated safety-limit switch
- Switch can be wired to turn on alarm
- Lockout with manual reset options
- Lockout models have external manual reset button
- Additional filter pad for gas/air inlet secti
- Additional cover over screw terminal for safety
- Removable transparent cover protects scaleplate and adjusting knob
- Optional switch position indicator lamp available
- Protection class IP65
- Integral 0.2mm vent limiter on all models
- FM and UL certifie

Honeywell

Part No.	Pressure Range (psi)	Switch	Differential Pressure	Action	Price
C6097A3004	0.4 - 4 in. wc	Auto Reset	0.1 - 0.16 in. wc	Break on Fall	\$241.58
C6097A3012	1 - 20 in. wc	Manual Reset	Additive	Breaks NO to COM on fall	\$275.22
C6097A3038	12 - 60 in. wc	Manual Reset	Additive	Breaks NO to COM on fall	\$289.20
C6097A3053	1 - 20 in. wc	Auto Reset	0.3 - 0.6 in. wc	Breaks NO to COM on fall	\$219.78
C6097B3002	12 - 60 in. wc	Manual Reset	Subtractive	Breaks on rise	\$280.22
C6097B3028	1 - 20 in. wc	Manual Reset	Subtractive	Breaks on rise	\$271.34
C6097B3051	1 - 20 in. wc	Manual Reset	Subtractive	Breaks on rise	\$311.00



C437E

C437 2000 SERIES

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.

- Pipe Connections
High Pressure: 1/2 in. NPT internal thread
Low pressure: 1/8 in. NPT internal thread
- 240 Vac: 5.1 AFL, 5.0 A resistive
- SPST switch, non-mercury
- Manual Reset

Honeywell

Part No.	Pressure Range (psi)	Max. Sustained Pressure	Differential Pressure	Action	Price
C437D2003	1 to 26 in. wc	5.0 psi	1 3/4 in. wc	Break on Rise	\$629.46
C437D2011	1/2 to 5	15.0 psi	1/2 psi	Break on Rise	\$629.46
C437D2029	1 to 10	30.0 psi	1 psi	Break on Rise	\$629.46
C437E2002	1 to 26 in. wc	5.0 psi	1 3/4 in. wc	Break on Fall	\$629.46
C437E2010	1/2 to 5	15.0 psi	1/2 psi	Break on Fall	\$629.46
C437E2028	1 to 10	30.0 psi	1 psi	Break on Fall	\$629.46
C437E2036	0.5 to 5.5 in. wc	3.0 psi	0.25 in. wc	Break on Fall	\$629.46

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FLAME SENSOR

FLAME DETECTOR



C7007A1001

FLAME ROD HOLDER

Used to apply flame rod in gas-fir system controlled by rectification-type flame safeguard control

- Use with pressurized fire box
- Order flame rod separatel

Honeywell

Part No.	Mounting Code	Application	Price
C7007A1001	1/2" MPT	Gas Pilot, Gas-Ignited Oil	\$625.22



C7009A1025

FLAME ROD AND HOLDER, 1/8" NPT

Subminiature spark plug type flame rod holder with flame rod

- Use on industrial flame-retention gas burner nozzles

- Works with Honeywell flame safeguard controls requiring rectification-type flame detect
- Flame rod can be cut to desired length
- Mounting: 1/8" NPT male

Honeywell

Part No.	Length (In.)	Price
C7009A1009	4	\$267.28
C7009A1025	12	\$257.40



C7008A1182

FLAME ROD AND HOLDER, 1/4" NPT

Miniature spark plug type flame rod holder with threaded base, snap-on cover and Kanthal A-1 flame rod

- Use with Honeywell flame safeguard controls requiring rectification-type flame detecti

- Comes in several different lengths and can be cut to exact desired length.
- Mounting: 1/4" NPT male

Honeywell

Part No.	Length (In.)	Price
C7008A1174	12	\$316.90
C7008A1182	24	\$516.56



C7012A1145

PURPLE PEEPER® ULTRAVIOLET

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.

Use with Honeywell rectification-type flame safeguard control EXCEPT Dynamic Self Check Models©. Dynamic Self Check controls are R4075C, D, E; R4138C, D; R4140, BC7000 with R7247C amplifie , BCS7700 with R7747C amplifier or 7800 series with R7847C amplifi

- Enclosure meets NEMA 4 standards

Honeywell

Part No.	Mount (In.)	Power Supply (Vac)	Price
C7012A1145	3/4" FPT	120	\$3,128.20



C7027A1049

MINIPEEPER ULTRAVIOLET

Compact flame detector for use with flame safeguard controls wit ultraviolet amplifiers

- Mounts on a 1/2" sighting pipe by using an integral collar
- Lead wire length: 6'

- Ambient temperature: 0 to 215°F
- Ambient temperature for C7027A1031: -40 to 215°F

Honeywell

Part No.	Connects	Lead Length	Ambient Temperature	Price
C7027A1023	Romex Connector, Low Temperature	6'	0 to 215°F	\$276.18
C7027A1031	1/2" Spud Connector	6'	-40 to 215°F	\$306.18
C7027A1072	1/2" Spud Connector (Included)	6'	-40 to 215°F	\$306.18
C7027A1049	Romex Connector	6'	0 to 215°F	\$276.18
C7027A1080	Heat Block & Bushing, Replace Fireye UV2	6'	0 to 215°F	\$343.24



C7035A1031

COMPACT

Compact flame detector for use with flame safeguard controls wit ultraviolet amplifiers

- Only available in Long Island NY, West Chester County NY, New York City. Call 914-592-5555 to order.

Honeywell

Part No.	Lead Length	Ambient Temperature	Price
C7035A1031	6'	-40 to 250°F	\$638.50
C7035A1080 ¹	6'	-0 to 250°F	\$725.22

¹Includes 600F Leads

HEATING

FLAME DETECTOR

INFRARED



C7915A

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, photoconductive lead sulfide cells 32007255-001, orifice, heat block and reducer bushing

Honeywell

Part No.	Description	Use with	Price
C7915A1028	Infrared Compact Flame Detector	R7852	\$667.76

DYNAMIC UV



C7061A

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.

- Can be mounted horizontally, vertically or at any angle in between.
- Field replaceable UVsensing tube and quartz viewing window.
- Two detectors may be wired in parallel to reduce nuisance shutdowns in difficult flame sighting application
- Protective heat block built into mounting flange

Honeywell

Part No.	Use with	Mounting	Price
C7061A1012	R7861 Amplifier	3/4" FPT	\$2,515.88

MINIPEEPER® ULTRAVIOLET



C7927A

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.
- Application: Gas, Oil, or combination burners-intermittent operation only (burner cycled at least once each 24 hours).

Honeywell

Part No.	Description	Use with	Price
C7927A1016	Ultraviolet Solid State Flame Detector	R7851B	\$394.54



C7962B

PURPLE PEEPER® ULTRAVIOLET

Detects the visible light emitted by fuel oil combustion flames. The C7962 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; R7851B flame amplifier

- Has an integral collar threaded (internal 1/2-14 NPSM) for mounting on 1/2 inch sight pipe.
- Application: Commercial, industrial oil burners

Honeywell

Part No.	Description	Use with	Price
C7962B1002	Visible Light Detector	R7851B	\$485.70

GAS PILOT

FLAME RECTIFIER



Q179A1076

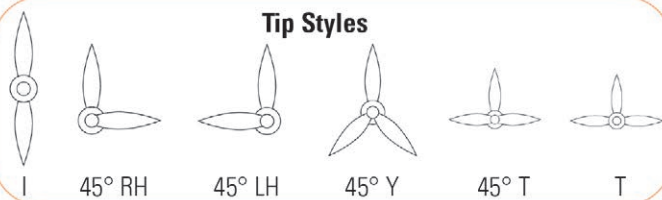
Combination rectifying flame rod and pilot burner for use with suitable electronic relay on industrial or commercial gas burners or gas pilot ignited oil burners.

- Primary-aerated type burner is equipped with stainless steel fins to stabilize flame and provide correct flame rod area to ground area ratio for maximum flame current

Honeywell

Part No.	Tip Style	Application	Price
Q179A1001	I	Intermittent Ignition	\$556.90
Q179A1035	45° RH	Intermittent Ignition	\$556.90
Q179A1050	T	Intermittent Ignition	\$556.90
Q179A1076	45° Y	Intermittent Ignition	\$556.90
Q179A1092	45° T	Intermittent Ignition	\$556.90
Q179A1118	45° LH	Intermittent Ignition	\$627.88

Tip Styles



VALVE, GAS CONTROL



H17DB5

AUTOMATIC SMALL APPLIANCE

The H17 is a replacement automatic pilot valve particularly adaptable to small appliances. Gas will flow to both main and pilot burners when reset button is depressed. Pilot gas taken from main line within control. The control shuts off both main and pilot gases.



BASO Gas Products LLC

Part No.	FPT (In.)	Connection Pilot (In.)	Capacity BTUH at 1" Delta P	Low Dropout (mA)	Price
H17BB1	1/4	1/8-27 NPT	75000	50	\$362.90
H17CB3	3/8	1/8-27 NPT	125000	50	\$362.90
H17DB5	1/2	1/8-27 NPT	200000	50	\$362.92



L62GB3

SHUTOFF, L60 SERIES

The L61 and L62 Series BASO pilot switches are for use on all gas-fired, standing pilot equipment that requires main burner shutoff when the pilot is extinguished.

- L61LL1 and L62AA5 are not 100% shutoff (suitable for natural gas only)



BASO Gas Products LLC

Part No.	Reset	Shut-Off	Switch	Contact Rating (Amps)	Price
L61LL1	Automatic	No	SPDT	4 A, 240 Vac	\$597.80
L62AA5	Manual	No	SPST	3 A, 250 Vac	\$248.40
L62GB3	Manual	Yes	SPST	4 A, 250 Vac	\$255.14



V4046C1005

SHUTOFF

Provides on/off control of natural, LP and manufactured gases to pilot burners in industrial and commercial applications.

Honeywell

Part No.	Pipe Size (In.)	Capacity (CFH)	Price
V4046C1005	1/8 FPT	20	\$160.78
V4046C1047	1/4 FPT	55	\$176.44
V4046C1054	3/8 FPT	67	\$178.20
V8046C1006	1/8 FPT	20	\$162.38
V8046C1014	1/4 FPT	20	\$163.96
V8046C1022	1/4 FPT	55	\$244.92
V8046C1030	3/8 FPT	67	\$173.08



V4295A

SHUTOFF, NORMALLY CLOSED

V4295/V8295 solenoid gas valves control the flow of natural and LP (liquefied petroleum) gases and are suitable for use on furnaces, ovens, atmospheric burners, commercial water heaters, rooftop make-up air units, power burners and commercial/industrial boilers.

- Body Material: Die cast aluminum
- Valve Timing: Open/Close less than 1 second; positive close off
- Ambient: -40° F to 145° F (-40° C to 60° C)

APPROVALS: Underwriters Laboratories, Inc., CSA, Factory Mutual (all, except 1" to 3" – 2 psi version), CSD-1 and IRI acceptable

Honeywell

Part No.	Pipe Size (In.)	Capacity (CFH)	Coil Voltage	Price
V4295A1106	1/2 FPT	210	120	\$354.82
V4295A1114	3/4 FPT	610	120	\$476.98
V4295A1122	1 FPT	825	120	\$599.62
V4295A1130	1 1/4 FPT	1950	120	\$647.54
V4295A1148	1 1/2 FPT	2270	120	\$823.58
V8295A1016	1/2 FPT	250	24 Vac	\$248.52
V8295A1024	3/4 FPT	645	24 Vac	\$283.18
V8295A1032	1 FPT	790	24 Vac	\$390.38
V8295A1040	1 1/4 FPT	1450	24 Vac	\$467.10
V8295A1057	1 1/2 FPT	2190	24 Vac	\$657.94



H15DH3

AUTOMATIC

The H15 Series control shuts off both main and pilot gas. Pilot gas is taken either from within the control or from the main line upstream of the valve. Gas will pass only to the pilot burner while the reset button is depressed. Some models include a rotor pilot B valve with an adjustable stop to maintain a constant open position.



BASO Gas Products LLC

Part No.	Connection Size (In.)	Connection Pilot (In.)	Capacity BTUH at 1" Delta P	Pilot Gas Flow	Price
H15DA3 ¹	3/4	1/8-27 NPT	402000	Internal	\$450.94
H15DH3 ²	3/4	1/4 cc	402000	Internal	\$458.52

¹Packaged with reducer bushings ²With rotor pilot "B" valve

HEATING

VALVE, GAS CONTROL



V88A1691

DIAPHRAGM

Solenoid-operated diaphragm valves provide slow opening and fast closing for controlling fuel gases.

- Use with LP, natural or manufactured gases

Honeywell

Part No.	Pipe Size (In.)	Capacity (CFH)	Max. Sustained Pressure	Volt	Price
V88A1659	3/4 FPT	668	1/2	24	\$317.66
V88A1667	3/4 FPT	668	1	24	\$420.24
V88A1675	1 FPT	1021	1	24	\$402.32
V48A2334	1 FPT	1021	1	120	\$402.26
V88A1683	1 1/4 FPT	2100	1	24	\$526.30
V48A2177	1 1/4 FPT	2100	1/2	120	\$466.56
V88A1634	1 1/2 FPT	2400	1/2	24	\$514.66
V88A1691	1 1/2 FPT	2400	1	24	\$579.58
V88A1709	2 FPT	4178	1	24	\$993.04
V88A1717	2 1/2 FPT	5100	1	24	\$1,212.30



V4055A

ACTUATOR, ON/OFF

Use with V5055 valve to control gas supply to commercial and industrial burners.

V4055D on/off actuator includes Factory Mutual Proof of Closure and Underwriters Laboratories, Inc. Valve Seal Overtravel Interlock

switch. Meets Factory Mutual and Underwriters Laboratories, Inc. requirements when used with V5055C valve bodies. Low pressure.

- Supply voltage: 120 Vac

Honeywell

Part No.	Opening Time (Sec.)	Damper Shaft	Internal Auxiliary Switch	Opening Time (Sec.)	Price
V4055A1007	26	No	No	26	\$859.96
V4055A1031	13	No	No	13	\$928.86
V4055A1098	13	Yes	No	13	\$928.84
V4055A1296	13	No	Yes, adjusted to 90° stroke	13	\$1,035.42
V4055D1001	26	Yes	No	26	\$941.54
V4055D1019	13	Yes	No	13	\$1,006.12
V4055D1043	13	No	No	13	\$1,001.16



V4062A1008

ACTUATOR, OFF/LOW/HI

Controls gas supply for commercial and industrial burners. Valve opens to low fire position when power is applied; valve opens all the way on demand.

- Low pressure
- Supply voltage: 120 Vac

- Use with V5055B, V5097B valve bodies, V5034, VE5000

Honeywell

Part No.	Opening Time (Sec.)	Damper Shaft	Internal Auxiliary Switch	Opening Time (Sec.)	Price
V4062A1008	26	Yes	No	26	\$1,263.74
V4062A1123	26	Yes with Return Spring Installed	Yes	26	\$1,405.40



V5055A

INDUSTRIAL

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

Honeywell

Part No.	Pipe Size (In.)	AGA Capacity (CFH)	Application	Price
V5055A1004	1 FPT	960	Low Pressure On/Off (Quick Open Guide)	\$406.06
V5055A1038	2 FPT	3620	Low Pressure On/Off (Quick Open Guide)	\$743.26
V5055B1002	1 FPT	960	Low Pressure On/Off Characterized Guide (Slow Increase Upon Opening)	\$429.42
V5055B1010	1 1/4 FPT	1406	Low Pressure On/Off Characterized Guide (Slow Increase Upon Opening)	\$489.46
V5055B1028	1 1/2 FPT	1717	Low Pressure On/Off Characterized Guide (Slow Increase Upon Opening)	\$583.20
V5055B1069	2 FPT	3620	Low Pressure On/Off Characterized Guide (Slow Increase Upon Opening)	\$815.10
V5055C1059	1 1/2 FPT	1717	Low Pressure On/Off Double Seal	\$1,118.02
V5055C1000	2 FPT	3620	Low Pressure On/Off Double Seal	\$1,353.70
V5055A1053	3 FPT	5230	Low Pressure On/Off (Quick Open Guide)	\$1,243.26



V8943

INDUSTRIAL

Single-stage Pressure Regulating Valve; These valves are used on boilers, unit heaters, duct furnaces, makeup air and rooftop heaters.

- Solenoid-operated diaphragm valves that combine the functions of safety shutoff and pressure regulation in a single unit.
- Valve body of die-cast aluminum with a straight-through pattern.
- Valve closes on power failure; recommended for final shutoff service.
- Electrical Connections: 1/4 in. (6 mm) spade terminals (quick connects). 30 in. (762 mm) leadwires and cover for electrical conduit connection provided.
- Pressure Ratings: 1/2 psi (3.4 kPa)
- Mounting: Upright (horizontal)
- Valve Type: Single-Stage, Slow Opening
- Valve Closing Time: 2 sec max
- Opening time: 6 seconds

Honeywell

Part No.	Capacity (CFH)	Gas	Connection Size (In.)	Volt	Application	Price
V8943N1039	780 to 2300	NAT	1 1/2 FPT	24	Low Pressure On/Off Double Seal	\$743.74

OVEN CONTROL

5500225

INFINITE SWITCH

Infinite controls Uni-Kits® include adaptors for screw- or palnut-type mounting. Kits include dial adaptors, allowing the customer's dial to be used.

- Contact rating: 15 amps 240 Vac
- Universal mounting

Robertshaw

Part No.	Supply Voltage	% Input at Low	Color Dial Included	Price
5500202*	240	5.0	None	\$47.50
5500235* ¹	240	5.0	White	\$105.46

¹Reverse rotation**WATER AND STEAM VALVE**

The VG7000 Series bronze valves regulate the flow of water or steam in response to the demand of a controller in heating, ventilating, and air conditioning systems. These valves are available in normally open, normally closed, and three-way mixing configurations

- Complete actuator interchangeability, allowing easy field retrofit or mounting using standardized mounting kits
- All valve sizes available with brass trim or stainless steel trim for use in saturated steam applications of up to 100 psig



VG7241ET

2-WAY, BRONZE VALVE, PDTCT

- Two-way push-down to close (NO/PDTC)
- FPT connection
- Brass trim, equal % flo

Johnson Controls

Part No.	Female Pipe Thread (In.)	Flow (Cv)	Price
VG7241ET*	1/2	1.8	\$204.30
VG7241GT*	1/2	4.6	\$205.20
VG7241LT*	3/4	7.3	\$288.00
VG7241NT*	1	11.6	\$372.60
VG7241PT*	1 1/4	18.5	\$515.70
VG7241RT*	1 1/2	28.9	\$681.30
VG7241ST*	2	46.2	\$822.60

2-WAY, BRONZE VALVE, PDTOT

- Two-way push-down to open (NC/PDTO)
- FPT connection
- Brass trim, equal % flo

Johnson Controls

Part No.	Female Pipe Thread (In.)	Flow (Cv)	Price
VG7441ET*	1/2	1.8	\$231.30
VG7441GT*	1/2	4.6	\$232.20
VG7441LT*	3/4	7.3	\$324.90
VG7441NT*	1	11.6	\$421.20
VG7441PT*	1 1/4	18.5	\$582.30
VG7441RT*	1 1/2	28.9	\$765.00
VG7441ST*	2	46.2	\$928.80

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

WATER AND STEAM VALVE



VG7842ET

3-WAY, BRONZE VALVE

- FPT connection
- Three-way mixing
- Brass trim, linear



Part No.	Female Pipe Thread (In.)	Flow (Cv)	Price
VG7842ET*	1/2	1.8	\$246.60
VG7842GT*	1/2	4.6	\$247.50
VG7842LT*	3/4	7.3	\$357.30
VG7842NT*	1	11.6	\$458.10
VG7842PT*	1 1/4	18.5	\$727.20
VG7842RT*	1 1/2	28.9	\$856.80
VG7842ST*	2	46.2	\$1,073.70

The V5011N is a two-way threaded globe valve that controls steam, water, and glycol solutions (up to 50% concentration) in heating or cooling HVAC applications. The valve is used in two-position and modulating control systems.

- V5011N1000 and V5011N2000 valves are push down to close (NO/PDTC)
- V5011N3000 valves are push down to open (NC/PDTC)
- Direct coupled electric and pneumatic actuators for easy mounting
- Stroke: 3/4"
- Not suitable for combustible gases.
- Valves require a linkage and control motor; a direct-coupled actuator or pneumatic valve actuator to position the valve.



V5011N1057

2-WAY, GLOBE, THREADED, PDTC

Honeywell

Part No.	Connection Size (In.)	Flow (Cv)	Type	Media	Price
V5011N1024	1/2	1.85	Equal %	Hot/Cold Water	\$188.72
V5011N1032	1/2	2.9	Equal %	Hot/Cold Water	\$187.66
V5011N1040	1/2	4.7	Equal %	Hot/Cold Water	\$167.44
V5011N1057	3/4	7.3	Equal %	Hot/Cold Water	\$208.44
V5011N1065	1	11.7	Equal %	Hot/Cold Water	\$278.32
V5011N1073	1 1/4	18.7	Equal %	Hot/Cold Water	\$344.92
V5011N1081	1 1/2	29.3	Equal %	Hot/Cold Water	\$538.82
V5011N1099	2	46.8	Equal %	Hot/Cold Water	\$704.90
V5011N2022	1/2	1.85	Linear	Steam	\$367.84
V5011N2048	1/2	4.7	Linear	Steam	\$346.92
V5011N2055	3/4	7.3	Linear	Steam	\$439.14
V5011N2063	1	11.7	Linear	Steam	\$556.50
V5011N2071	1 1/4	18.7	Linear	Steam	\$637.68
V5011N2089	1 1/2	29.3	Linear	Steam	\$944.24
V5011N2097	2	46.8	Linear	Steam	\$1,208.90



V5011N3046

2-WAY, GLOBE, THREADED, PDTC

Honeywell

Part No.	Connection Size (In.)	Flow (Cv)	Type	Media	Price
V5011N3012	1/2	4.7	Equal %	Hot/Cold Water	\$242.92
V5011N3020	3/4	7.3	Equal %	Hot/Cold Water	\$235.28
V5011N3038	1	11.7	Equal %	Hot/Cold Water	\$299.38
V5011N3046	1 1/4	18.7	Equal %	Hot/Cold Water	\$338.14



V5011G1111

2-WAY, GLOBE, THREADED

Used for two-position or modulating control of steam and water and glycol solutions (to 50 % concentration) in heating or cooling systems.

- Stroke: 3/4
- Direct coupled electric and pneumatic actuators for easy mounting
- Valves require a linkage and control motor; a direct-coupled actuator or pneumatic valve actuator to position the valve.
- Not suitable for combustible gases.

Honeywell

Part No.	Connection Size (In.)	Flow (Cv)	Type	Media	Price
V5011G1111	2 1/2	63	Linear	Steam	\$1,360.88
V5011G1129	3	100	Linear	Steam	\$2,032.44
V5011F1105	2 1/2	63	Equal Percentage	Water or Glycol	\$1,453.56
V5011F1113	3	100	Equal Percentage	Water or Glycol	\$1,923.38



V5013N1097

3-WAY, GLOBE, THREADED

The V5013N is a three-way threaded globe valve that controls hot water, cold water, and glycol solutions (up to 50% concentration) in heating or cooling HVAC applications. The valve is used for mixing service to direct flow from one of two inlets to a common outlet in two-position or modulating control systems.

- Construction: Stainless steel stem, brass seats (V5013N1048 has stainless upper seat), carbon PTFE packing, brass plug, red brass body
- ANSI class: 150
- Suitable for pneumatic or electric/electronic actuation
- Stroke: 3/4"

Honeywell

Part No.	Connection Size (In.)	Flow (Cv)	Type	Price
V5013N1048	1/2	4.7	4	\$215.64
V5013N1055	3/4	7.3	4	\$238.14
V5013N1063	1	11.7	4	\$292.26
V5013N1071	1 1/4	18.7	4	\$488.64
V5013N1089	1 1/2	29.3	4	\$580.16
V5013N1097	2	46.8	4	\$794.24

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

2-WAY VALVE

- For low pressure steam or water
- Equal % flo
- Construction:
 - FPT body - bronze body and seat
 - Stem - stainless steel
 - Plug - brass
 - Packing - spring loaded teflon con
 - Disc - composition
- Pressure: FPT static: 250 psi max. (up to 400 psig below 150°F)
- Flanged static: 125 psi max., Steam inlet: 35 psig max
- Fluid temp: 281°F max., 40°F min.
- Recommended differential: 20 psi for quiet service, 35 psi max. for water, 20 psi max for steam



VB72110404

2-WAY, NORMALLY OPEN, MPT X FPT

Part No.	Connection Size (In.)	Flow (Cv)	Price
VB72110404	1/2	4.4	\$266.00
VB72110406	3/4	7.5	\$309.00
VB72110408	1	14.0	\$484.00
VB72110409	1 1/4	20.0	\$565.00



VB72130408

2-WAY, NORMALLY OPEN, FPT

Part No.	Connection Size (In.)	Flow (Cv)	Price
VB72130402	1/2	1.3	\$175.00
VB72130403	1/2	2.2	\$175.00
VB72130404	1/2	4.4	\$175.00
VB72130406	3/4	7.5	\$250.00
VB72130407	1	10.0	\$328.00
VB72130408	1	14.0	\$328.00
VB72130409	1 1/4	20.0	\$445.00
VB72130410	1 1/2	28.0	\$713.00
VB72130411	2	40.0	\$929.00



VB72230409

2-WAY, NORMALLY CLOSED, FPT

Part No.	Connection Size (In.)	Flow (Cv)	Price
VB72230402	1/2	1.3	\$205.00
VB72230403	1/2	2.2	\$205.00
VB72230404	1/2	4.4	\$205.00
VB72230406	3/4	7.5	\$298.00
VB72230407	1	10.0	\$404.00
VB72230408	1	14.0	\$404.00
VB72230409	1 1/4	20.0	\$528.00
VB72230410	1 1/2	28.0	\$790.00
VB72230411	2	40.0	\$1,071.00



VB73130404

3-WAY, MIXING, FPT

- Hot or chilled water service

Part No.	Connection Size (In.)	Flow (Cv)	Price
VB73130402	1/2	2.2	\$228.00
VB73130404	1/2	4.4	\$228.00
VB73130406	3/4	7.5	\$328.00
VB73130408	1	14.0	\$513.00
VB73130409	1 1/4	20.0	\$688.00
VB73130410	1 1/2	28.0	\$812.00
VB73130411	2	41.0	\$1,067.00



2-WAY, UNION STRAIGHTWAY, MPT X FPT

2 way globe valve, union end, pneumatic actuator

- ANSI Pressure class: 250 psig
- Maximum steam inlet: 35 psig
- Medium temperature range (°F): 20 to 281

Part No.	Connection Size (In.)	Flow (Cv)	Price
VK7221203404	1/2	4.4	\$460.00
VK7221203406	3/4	7.5	\$520.00



COMMERCIAL, ACTUATOR

VALVE ACTUATOR

The VA715 and VA720 Series synchronous, motor-driven actuator provides incremental (three-wire), or proportional control of valves with up to 3/4" stroke in heating, ventilating, and air conditioning applications.

This compact, non-spring return actuator responds to a variety of input signals.

The VA715 and VA720 Series can be easily field mounted or ordered factory coupled to VG7000 Series bronze control valves

- Input incremental: 24 Vac, 50/60 Hz
- Input proportional: 0-10 Vdc



VA71521001

90 LB. MINIMUM SEATING



Part No.	Description	Price
VA71501001*	Three-Wire Incremental	\$379.80
VA71521001*	Proportional	\$568.80

ADAPTER KIT



Part No.	Description	Adapts	Price
Y20EBE2*	Mount Kit	VT Valve, VA7150 Actuator	\$81.00



VA72001001

180 LB. MINIMUM SEATING



Part No.	Description	Price
VA72001001*	Three-Wire Incremental	\$605.00
VA72021001*	Proportional	\$1,112.00



VA4233GGA2

61 LB. MINIMUM SEATING, SPRING RETURN

Direct-mount, spring return electric actuator provides a minimum 61 lb (271 N) force output for floating, on/off, or proportional control, and can be easily field mounted or ordered factory coupled to Johnson Controls 1/2

through 1-1/4" VG7000 Series Bronze Control Valves, with no additional linkages required.

- Manual hand crank allows for manual positioning of the valve, independent of a power supply
- Integral position indicator provides visual indication of the valve stem position



Part No.	Description	Price
VA4233GGA2*	Proportional	\$940.50



VA80201

22 LB. CLOSE-OFF

The VA-802x Series actuators are synchronous, force-sensor-limited actuators which provide floating/incremental or proportional control for 1/2" valves in many HVAC applications. They are motor-driven, non-spring return actuators.



- Used in conjunction with slotted stem valves

Part No.	Description	Price
VA80201*	24 Vac, Three-Wire Incremental	\$351.00
VA81221*	0 - 10 Vdc, Proportional	\$465.30



VA74800312

ELECTRIC VALVE ACTUATOR

The VA748 series provides float or proportional control in HVAC applications. The compact design of this actuator makes it suitable for installation in confined spaces, such as a fan coil, chilled ceiling, manifolds, etc.

Due to the innovative concept of different strokes setting the VA748 can be installed over most of the terminal unit valve in the market.

- Auto-commissioning simplifies installation, since models require no adjustments in the field
- Auto-shutoff actuator motor extends actuator life by reducing drive time and excessive motor wear
- Durable, heat-stabilized, plastic resin enclosure allows the actuator to be used in applications with fluid temperatures up to 203 F
- Actuator can be mounted after the valve body is piped, simplifying installation and providing application flexibility
- Operating status LED provides direct, visual indication of the actuator operating status
- Actuator can be rotated after it is mounted on the valve body, simplifying installation by allowing the actuator wiring entry to be located in any direction



Part No.	Description	Price
VA74800312*	24 VAC Floating	\$257.00



SGVL+LV

ACTUATOR WITH GLOBE VALVE LINKAGE KIT

- Travel ranges of up to 2"
- One universal linkage can retrofit most globe valves, regardless of make
- Increased force ranges for higher close-off pressures (up to 1011 lbf)

- Field selectable fail-safe position switches
- Steam inlet ranges up to 100 psi
- Supply voltage: 24 Vac/Vdc
- The SGVL/UGVL retrofit kits are designed to easily attach V and SV series actuators to select globe valves. Their unique adjustable design allows the linkage kit to be mounted on 1/2" to 2" 2-way or 3-way valves in both normally open and normally closed configurations. The linkage with actuator will provide 20 mm of linear travel to accommodate a wide range of valves.
- The FGVL retrofit kit is designed to easily attach VK, EV and RV series actuators to select Flanged globe valves requiring larger stem travels and higher forces. Its casted base and lower locking clamp allow the FGVL to be mounted on 2-1/2" to 6" two-way or three-way valves in both normally open and normally closed configurations
- SGVL, retrofit linkage for globe valves: VB7, VB9 (Schneider/Siebe Invensys/Barber Colman), G2, G3 (Belimo)
- UGVL, retrofit linkage for globe valves: Johnson Controls, Robertshaw, Honeywell, Siemens/Landis/Powers
- FGVL, retrofit linkage for globe valves: Johnson Controls, Honeywell, Siebe, Siemens

BELIMO

Part No.	Torque (lbf)	Retrofit Linkage	Fail-Safe	Control Type	Price
SGVL+LVKX24-3*	112	SGVL	Electronic Fail-Safe	On/Off, Floating Point	\$810.00
SGVL+LVKX24-MFT*	112	SGVL	Electronic Fail-Safe	Proportional/MFT, 2 to 10 Vdc	\$966.60
SGVL+LVX24-3*	112	SGVL	Non-Spring Return	On/Off, Floating Point	\$587.70
SGVL+LVX24-MFT*	112	SGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc	\$709.20
SGVL+SVX24-3*	337	SGVL	Non-Spring Return	On/Off, Floating Point	\$661.50
SGVL+SVX24-MFT*	337	SGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc	\$791.10
UGVL+LVKX24-3*	112	UGVL	Electronic Fail-Safe	On/Off, Floating Point	\$925.20
UGVL+LVKX24-MFT*	112	UGVL	Electronic Fail-Safe	Proportional/MFT, 2 to 10 Vdc	\$1,058.40
UGVL+LVX24-3*	112	UGVL	Non-Spring Return	On/Off, Floating Point	\$636.30
UGVL+LVX24-MFT*	112	UGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc	\$765.00
UGVL+SVX24-3*	337	UGVL	Non-Spring Return	On/Off, Floating Point	\$743.40
FGVLEVB243* ¹	562	FGVL	Non-Spring Return	On/Off, Floating Point	\$1,581.30
UGVL+SVX24-MFT*	337	UGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc	\$873.90
FGVLEVB24MFT* ¹	562	FGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc	\$1,645.20
FGVLRVB243* ²	1011	FGVL	Non-Spring Return	On/Off, Floating Point	\$1,782.90
FGVLRVB24MFT* ²	1011	FGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc	\$1,859.40

¹For 2.5" to 4" globe valves ²For 4" to 6" globe valves

CHARACTERIZED CONTROL VALVE

The Characterized Control Valve (CCV) marks a true advancement in control valves. It combines the high close-off capabilities of a ball valve with a specialized disc that ensures an equal percentage flow characteristic. The CCV offers a comprehensive Cv range for various applications such as air handlers, heating and cooling coils, fan coil units, unit ventilators and VAV re-heat coils.

- Equal percentage flow characteristic
- Excellent control stability assured with the characterizing disc
- Cv values equal to Cv values of globe valves the same size
- The need for multiple pipe reduction is usually eliminated
- Better control prevents "hunting" of the control loop, increasing the life span of actuator and valve
- Forged brass valve body, no pin-hole leaks
- Non-corroding chrome-plated brass or stainless ball
- Use the valve and actuator selection guide to choose the best actuator for your application



B209BEL

2-WAY VALVE

- Stainless steel ball and stem
- Service: Chilled or hot water, 60% Glycol.
- Flow characteristic: A-port equal percentage
- NPT female ends

BELIMO

Part No.	Connection Size (In.)	Flow (Cv)	Price
B209-BEL*	1/2	0.8	\$93.60
B210-BEL*	1/2	1.2	\$99.90
B211-BEL*	1/2	1.9	\$99.90
B212-BEL*	1/2	3.0	\$102.60
B213-BEL*	1/2	4.7	\$108.00
B214-BEL*	1/2	7.4	\$115.20
B215-BEL*	1/2	10.0	\$117.00
B216-BEL* ¹	1/2	16.0	\$118.80
B217-BEL*	3/4	4.7	\$161.10
B218-BEL*	3/4	7.4	\$163.80
B219-BEL*	3/4	10.0	\$165.60
B220-BEL*	3/4	14.0	\$168.30
B221-BEL* ¹	3/4	24.0	\$171.90
B223-BEL*	1	10.0	\$157.50
B224-BEL*	1	19.0	\$159.30
B225-BEL* ¹	1	30.0	\$160.20
B230-BEL*	1 1/4	19.0	\$150.30
B231-BEL*	1 1/4	25.0	\$163.80
B232-BEL* ¹	1 1/4	37.0	\$167.40
B238-BEL*	1 1/2	19.0	\$169.20
B239-BEL*	1 1/2	29.0	\$171.90
B240-BEL*	1 1/2	37.0	\$174.60
B249-BEL*	2	46.0	\$285.30
B250-BEL* ¹	2	57.0	\$288.00
B251-BEL*	2	65.0	\$695.70
B252-BEL*	2	85.0	\$762.30
B253-BEL*	2	120.0	\$830.70
B263-BEL*	2 1/2	110.0	\$906.30
B265-BEL* ¹	2 1/2	210.0	\$1,119.60

¹Full Port



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CHARACTERIZED CONTROL VALVE



B309BEL

3-WAY VALVE

- Stainless steel ball and stem
- Service: Chilled or hot water, 60% Glycol.
- Flow characteristic: A-port equal percentage, B-port modified for constant common port flow
- NPT female ends

BELIMO

Part No.	Connection Size (In.)	Flow (Cv)	Price
B309-BEL*	1/2	0.8	\$150.30
B310-BEL*	1/2	1.2	\$150.30
B311-BEL*	1/2	1.9	\$150.30
B312-BEL*	1/2	3.0	\$150.30
B313-BEL*	1/2	4.7	\$165.60
B315-BEL*	1/2	10.0	\$168.30
B316-BEL* ¹	1/2	16.0	\$170.10
B317-BEL*	3/4	4.7	\$223.20
B318-BEL*	3/4	7.4	\$226.80
B320-BEL* ¹	3/4	24.0	\$230.40
B323-BEL*	1	10.0	\$234.90
B325-BEL* ¹	1	30.0	\$236.70
B330-BEL*	1 1/4	19.0	\$302.40
B331-BEL*	1 1/4	25.0	\$365.40
B339-BEL*	1 1/2	29.0	\$370.80
B340-BEL*	1 1/2	37.0	\$378.00
B341-BEL*	1 1/2	46.0	\$456.30
B348-BEL*	2	37.0	\$582.30
B349-BEL*	2	46.0	\$583.20
B350-BEL*	2	57.0	\$588.60
B351-BEL*	2	68.0	\$812.70

¹Full Port



B215HT

2-WAY VALVE, HIGH TEMPERATURE, STEAM

This valve is designed to fit in compact areas where on/off or floating position control is required using 24 VAC.

- Can only be used in steam applications of 15 PSI steam pressure or less

- Stainless steel ball and stem
- Service: water/low pressure steam, 60% Glycol
- Flow characteristic: A-port equal percentage
- NPT female ends

BELIMO

Part No.	Connection Size (In.)	Flow (Cv)	Price
B215HT186*	1/2	1.86	\$140.40
B215HT290*	1/2	2.9	\$140.40
B215HT455*	1/2	4.55	\$140.40
B220HT1320*	3/4	13.2	\$175.50
B220HT731*	3/4	7.31	\$175.50
B220HT928*	3/4	9.28	\$175.50
B225HT1160*	1	11.6	\$251.10
B225HT1856*	1	18.56	\$251.10



TR243

CONTROL VALVE ACTUATOR, NON-SPRING RETURN

- Power Supply: 24 Vac/Vdc
- MFT model, with multi-function technology: faster running times, flexibility to customize and adapt a single actuator to various controllers and applications.
- Can be mounted in four different positions on characterized control valve

BELIMO

Part No.	Control Type	Torque (In.-Lb)	Price
TR243*	On/Off, Floating	18	\$153.00
TR24SR*	Proportional, 2-10 Vdc	18	\$260.10
LRB243*	On/Off, Floating	45	\$216.90
LRX24MFT*	Proportional, 2-10 Vdc, MFT	45	\$426.60
ARB243*	2 Position, On/Off, Floating	180	\$392.40
ARB24SR*	Modulating, 2-10 Vdc	180	\$576.90
ARX24MFT*	Proportional, 2-10 Vdc, MFT	180	\$572.40



TFRB24


CONTROL VALVE ACTUATOR, SPRING RETURN

- MFT model, with multi-function technology: faster running times, flexibility to customize and adapt a single actuator to various controllers and applications.
- Can be mounted in four different positions on characterized control valve


BELIMO

Part No.	Control Type	Torque (In.-Lb)	Supply Voltage	Price
TFRB24*	On/Off	22	24 Vac/Vdc	\$324.00
TFRB243*	Floating, 3-Wire	22	24 Vac/Vdc	\$389.70
TFRX24MFT*	Proportional/MFT	22	24 Vac/Vdc	\$526.50
TFRB120*	On/Off	22	24 to 125 Vdc	\$350.10
AFRB24*	On/Off	180	24 Vac/Vdc	\$562.50
AFRB24SR*	Proportional	180	24 Vac/Vdc	\$692.10
AFRX24MFT*	Floating/Proportional/MFT	180	24 Vac/Vdc	\$759.60
AFRBUP*	On/Off	180	24 to 125 Vdc	\$623.70

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov


<div> 2-Way Valves</div>		Valve Actuator Selection Guide																					
		On/Off 24 V			On/Off 120 V	3-Wire 24 V Floating			Proportional 2-10 VDC														
		Non-Spring Return		Spring Return	Spring Return	Non-Spring Return		Spring Return	Non-Spring Return		Spring Return												
		TR243	LRB243	ARB243	TFRB24	LF24 (WLF)	AFRB24	TFRB120	LF120 (WLF)	AFRBUP	TR243	LRB243	ARB243	TFRB243	LF243 (WLF)	AFRX24MFT	TR24SR	LRX24MFT	ARX24MFT	TFRX24MFT	LP24MFT (WLF)	AFRB24SR	AFRX24MFT
1. Use full port valve bodies with on/off actuators																							
2. SSBS stands for "Stainless Steel Ball and Stem" vs. chrome plated ball and stem																							
Part No.	Valve Body Description																						
B209-BEL	1/2" 2-Way 0.8 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B210-BEL	1/2" 2-Way 1.2 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B211-BEL	1/2" 2-Way 1.9 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B212-BEL	1/2" 2-Way 3.0 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B213-BEL	1/2" 2-Way 4.7 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B214-BEL	1/2" 2-Way 7.4 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B215-BEL	1/2" 2-Way 10.0 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B216-BEL	1/2" 2-Way 16.0 Cv Full Port	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B217-BEL	3/4" 2-Way 4.7 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B218-BEL	3/4" 2-Way 7.4 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B219-BEL	3/4" 2-Way 10.0 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B220-BEL	3/4" 2-Way 14.0 Cv SSBS	X	X		X	X		X	X		X	X		X	X		X	X		X	X		
B221-BEL	3/4" 2-Way 24.0 Cv Full Port		X		X			X			X			X			X			X			
B223-BEL	1" 2-Way 10.0 Cv SSBS		X		X			X			X			X			X			X			
B224-BEL	1" 2-Way 19.0 Cv SSBS		X		X			X			X			X			X			X			
B225-BEL	1" 2-Way 30.0 Cv Full Port		X		X			X			X			X			X			X			
B230-BEL	1 1/4" 2-Way 19.0 Cv SSBS		X		X			X			X			X			X			X			
B231-BEL	1 1/4" 2-Way 25.0 Cv SSBS			X		X			X			X			X			X				X	X
B232-BEL	1 1/4" 2-Way 37.0 Cv Full Port			X		X			X			X			X			X				X	X
B238-BEL	1 1/2" 2-Way 19.0 Cv SSBS			X		X			X			X			X			X				X	X
B239-BEL	1 1/2" 2-Way 29.0 Cv SSBS			X		X			X			X			X			X				X	X
B240-BEL	1 1/2" 2-Way 37.0 Cv Full Port			X		X			X			X			X			X				X	X
B249-BEL	2" 2-Way 46.0 Cv SSBS			X		X			X			X			X			X				X	X
B250-BEL	2" 2-Way 50.0 Cv Full Port			X		X			X			X			X			X				X	X
B251-BEL	2" 2-Way 65.0 Cv SSBS			X		X			X			X			X			X				X	X
B252-BEL	2" 2-Way 85.0 Cv SSBS			X		X			X			X			X			X				X	X
B253-BEL	2" 2-Way 120.0 Cv SSBS			X		X			X			X			X			X				X	X
B263-BEL	2 1/2" 2-Way 110.0 Cv SSBS			X		X			X			X			X			X				X	X
B265-BEL	2 1/2" 2-Way 210.0 Cv Full Port			X		X			X			X			X			X				X	X

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<div></div> <div>2-Way Valves (High Temperature / Steam)</div>		Valve Actuator Selection Guide																							
		On/Off 24 V			On/Off 120 V		3-Wire 24 V Floating			Proportional 2-10 VDC															
		Non-Spring Return		Spring Return	Spring Return		Non-Spring Return		Spring Return	Non-Spring Return		Spring Return													
SSBS stands for "Stainless Steel Ball and Stem" vs. chrome plated ball and stem		TR243	LRB243	ARB243	TFRB24	LF24 (WLF)	AFRB24	TFRB120	LF120 (WLF)	AFRBUP	TR243	LRB243	ARB243	TFRB243	AFRX24MFT	LF243 (WLF)	TFRB24MFT	AFRX24MFT	TR24SR	LRX24MFT	ARX24MFT	TFRX24MFT	LF24MFT (WLF)	AFRX24MFT	
Part No.	Valve Body Description																								
B215HT186	1/2" 2-Way Hi-Temp Steam 1.86 Cv SSBS	X	X		X			X			X	X		X				X	X		X				
B215HT290	1/2" 2-Way Hi-Temp Steam 2.90 Cv SSBS	X	X		X			X			X	X		X				X	X		X				
B215HT455	1/2" 2-Way Hi-Temp Steam 4.55 Cv SSBS	X	X		X			X			X	X		X				X	X		X				
B220HT731	3/4" 2-Way Hi-Temp Steam 7.31 Cv SSBS		X					X									X		X				X		
B220HT928	3/4" 2-Way Hi-Temp Steam 9.28 Cv SSBS		X		X			X								X		X				X			
B220HT1320	3/4" 2-Way Hi-Temp Steam 13.20 Cv SSBS		X		X			X							X		X		X			X			
B225HT1160	1" 2-Way Hi-Temp Steam 11.60 Cv SSBS		X		X			X							X		X		X			X			
B225HT1856	1" 2-Way Hi-Temp Steam 18.56 Cv SSBS		X		X			X							X		X		X			X			

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<div> 3-Way Valves</div>		Valve Actuator Selection Guide																			
		On/Off 24 V					On/Off 120 V		3-Wire 24 V Floating				Proportional 2-10 VDC								
		Non-Spring Return			Spring Return		Spring Return		Non-Spring Return		Spring Return		Non-Spring Return			Spring Return					
Part No.	Valve Body Description	TR243	LRB243	ARB243	TFRB24	AFRB24	LF120 (WLF)	TFRB120	AFRBUP	TR243	LRB243	ARB243	TFRB243	AFRB24MFT	LF243 (WLF)	TFRB24SR	ARB24MFT	TFRB24MFT	LF24MFT (WLF)	AFRB24SR	AFRB24MFT
1. Use full port valve bodies with on/off actuators		X	X		X	X			X	X		X	X		X	X		X	X		
2. SSBS stands for "Stainless Steel Ball and Stem" vs. chrome plated ball and stem		X	X		X	X			X	X		X	X		X	X		X	X		
		X	X		X	X			X	X		X	X		X	X		X	X		
		X	X		X	X			X	X		X	X		X	X		X	X		
		X	X		X	X			X	X		X	X		X	X		X	X		
		X	X		X	X			X	X		X	X		X	X		X	X		
		X	X		X	X			X	X		X	X		X	X		X	X		
		X	X		X	X			X	X		X	X		X	X		X	X		
			X		X		X		X		X		X		X		X		X		
			X		X		X		X		X		X		X		X		X		
				X					X			X								X	X
				X					X			X								X	X
				X					X			X								X	X
				X					X			X								X	X
				X					X			X								X	X
				X					X			X								X	X
				X					X			X								X	X
				X					X			X								X	X

United Refrigeration, Inc. Ver. July 2013

DIRECT COUPLED

Belimo makes a full range of electronic direct coupled actuators. These actuators can replace many Honeywell, Johnson Controls and Invensys actuators.

- Proportional actuators have standard 2 to 10 Vdc, 4 to 20 mA input signals
- Electrical connections are 3', 18 GA plenum rated wire, 1/2" conduit (except T suffix-screw terminals)



TF24SR

SPRING RETURN, 22 LB.-IN.

- Power Supply: 24 Vac/Vdc



Part No.	Control Type	Supply Voltage	Price
TFB24SR*	Proportional	24 Vac/Vdc	\$410.40



LF243


SPRING RETURN, 35 LB.-IN.

- MFT model, with multi-function technology: faster running times, flexibility to customize and adapt a single actuator to various controllers and applications.



Part No.	Torque (In.-Lb)	Control Type	Supply Voltage	Price
LF24*	35	On/Off	24 Vac/Vdc	\$353.70
LF120*	35	On/Off	120 Vac	\$392.40
LF243*	35	Tri State, Floating	24 Vac/Vdc	\$430.20
LF24S*	35	On/Off, 1 SPDT Aux	24 Vac/Vdc	\$414.90
LF24SR*	35	Proportional	24 Vac/Vdc	\$483.30
LF24SRS* ¹	35	Proportional	24 Vac/Vdc	\$545.40
LF24MFT*	35	Proportional/MFT	24 Vac/Vdc	\$549.00
LF24MFTS* ¹	35	Proportional/MFT	24 Vac/Vdc	\$611.10

¹With Built-In Auxiliary Switch

 *WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



NFB24

SPRING RETURN, 90 LB.-IN.

BELIMO

Part No.	Control Type	Supply Voltage	Price
NFB24*	On/Off	24 Vac/Vdc	\$424.80
NFB24S*	On/Off, 2 SPDT Aux	24 Vac/Vdc	\$524.70
NFB24SR*	Proportional	24 Vac/Vdc	\$567.90
NFBUP*	On/Off	24 to 125 Vdc	\$481.50
NFBUPS*	On/Off, 2 SPDT Aux	24 to 125 Vdc	\$580.50



AFB24

SPRING RETURN, 180 LB.-IN.

- MFT models with multi-function technology: faster running times, flexibility to customize and adapt a single actuator to various controllers and applications.

BELIMO

Part No.	Control Type	Supply Voltage	Price
AFB24*	On/Off	24 Vac/Vdc	\$521.10
AFB24MFTS*	Proportional/MFT	24 Vac/Vdc	\$811.80
AFB24S*	On/Off, 2 SPDT Aux	24 Vac/Vdc	\$621.00
AFB24SR*	Proportional	24 Vac/Vdc	\$647.10
AFBUP*	On/Off	24 to 125 Vdc	\$580.50
AFB24MFT*	Proportional, MFT	24 Vac/Vdc	\$712.80
AFBUPS*	On/Off, 2 SPDT Aux	24 to 125 Vdc	\$680.40



EFB24

SPRING RETURN, 270 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Control Type	Supply Voltage	Price
EFB24*	On/Off	24 Vac/Vdc	\$933.30
EFB24SR*	Proportional	24 Vac/Vdc	\$1,163.70



LMB243T

NON-SPRING RETURN, 45 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Control Type	Supply Voltage	Price
LMB243T*	On/Off, Floating	24 Vac/Vdc	\$156.60
LMB243*	On/Off, Floating	24 Vac/Vdc	\$181.80
LMB243S*	On/Off, Floating, 1 SPDT aux	24 Vac/Vdc	\$270.90
LMB24SR*	Proportional	24 Vac/Vdc	\$290.70



NMB243

NON-SPRING RETURN, 90 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Control Type	Supply Voltage	Price
NMB243*	On/Off, Floating	24 Vac/Vdc	\$256.50
NMB24SR*	Proportional	24 Vac/Vdc	\$360.90



AMB243

NON-SPRING RETURN, 180 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Control Type	Supply Voltage	Price
AMB243*	On/Off, Floating	24 Vac/Vdc	\$360.90
AMB243S*	On/Off, Floating, 1 SPDT Aux	24 Vac/Vdc	\$474.30
AMB24SR*	Proportional	24 Vac/Vdc	\$526.50



GMX24MFT

NON-SPRING RETURN, 360 LB.-IN.

- Power Supply: 24 Vac/Vdc
- MFT model, with multi-function technology: faster running times, flexibility to customize and adapt a single actuator to various controllers and applications.

BELIMO

Part No.	Control Type	Supply Voltage	Price
GMB243*	On/Off, Floating	24 Vac/Vdc	\$512.10
GMB24SR*	Proportional	24 Vac/Vdc	\$681.30
GMX24MFT*	On/Off, MFT	24 Vac/Vdc	\$756.90



FSLF120

FIRE/SMOKE

- True mechanical spring return; the most reliable fail safe.
- Reverse mount for clockwise or counterclockwise fail-safe.
- Check damper position easily with clear position indicator.

- Overload-proof throughout rotation.
- UL555 and UL555S Listed

BELIMO

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage	Price
FSLF120*	30	On/Off	120 Vac	\$469.80
FSLF120S* ¹	30	On/Off	120 Vac	\$551.70
FSNF120*	70	On/Off	120 Vac	\$606.60
FSAF120*	133	On/Off	120 Vac	\$748.80

¹With Built-In Auxiliary Switch

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

COMMERCIAL, ACTUATOR

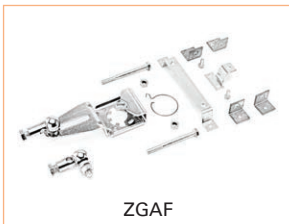
DIRECT COUPLED



LINKAGE ACCESSORIES

BELIMO

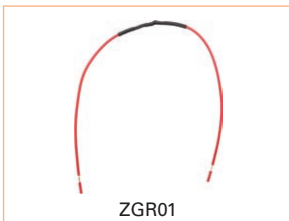
Part No.	Description	Use with	Price
KH6*	Universal Crank Arm (For KG6 Ball Joint)	NFB,NFX,LF,TF Series	\$23.40
KH8*	Universal Crank Arm (For KG8 Ball Joint)	AFB,AFX,AF,NFB,NFX,LF,TF Series	\$23.40
KG8*	Ball Joint (5/16" 90)	AF,NFB,LF,TF,GM,AM,LM,AH Series	\$25.20
WAF4*	Valve Actuator Linkage Kit	AFB series	\$35.10
WLF*	Valve Actuator Linkage Kit	LF Series	\$29.70
WTF*	Valve Actuator Linkage Kit	TF Series	\$16.20



CRANK ARM ADAPTOR KIT

BELIMO

Part No.	Description	Use with	Price
ZGAF*	Crank Arm Adaptor Kit (includes mounting hardware)	AF Series	\$113.40
ZGNMA*	Crank Arm Adaptor Kit (includes mounting hardware)	AM, NM Series	\$68.40
KHLF*	Crank Arm for Shafts to 1/2"	LF Series	\$29.70



CONTROL AND POSITIONING

BELIMO

Part No.	Description	Use with	Price
ZGR01*	4 to 20 mA Adaptor, 5000, 1/2" W	All Belimo Actuators	\$23.40

The M9100 Series is a direct-mount line of motor actuators that operates on 24 Vac or Vdc power and are available for use with floating or proportional controllers. These bi-directional actuators require no linkages and are easily installed on round damper shafts up to 3/4" diameter or square shafts up to 5/8".

Integral auxiliary switches are available for indicating end-stop position or to perform switching functions at any angle within the selected rotation range. Position feedback is available through switches, a potentiometer, or a 0 (2) to 10 Vdc signal.

- Supply voltage: 24 Vac



NON-SPRING RETURN, 53 LB.-IN.

Johnson Controls

Part No.	Torque (In.-Lb)	Control Input	Price
M9106GGA2*	53	0 to 10 Vdc (0 - 20 mA)	\$472.50



NON-SPRING RETURN, 70 LB.-IN.

Johnson Controls

Part No.	Torque (In.-Lb)	Control Input	Price
M9108AGA2*	70	24 Vac, Floating	\$300.60
M9108GGA2*	70	0 to 10 Vdc (0 - 20 mA)	\$471.60



NON-SPRING RETURN, 140 LB.-IN.

Johnson Controls

Part No.	Torque (In.-Lb)	Control Input	Price
M9116AGA2*	140	24 Vac, Floating	\$689.40
M9116GGA2*	140	0 to 10 Vdc (0 - 20 mA)	\$689.40

NON-SPRING RETURN, 210 LB.-IN.

Johnson Controls

Part No.	Torque (In.-Lb)	Control Input	Price
M9124AGA2*	210	24 Vac, Floating	\$809.10
M9124GGA2*	210	0 to 10 Vdc (0 - 20 mA)	\$811.80

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



M9106AGSN02

NON-SPRING RETURN, 53 LB.-IN.

The M9106AGA2N02 synchronous motor-driven actuators provide floating (3-wire) control and are easily installed on a variable air volume (VAV) box. They may also be installed on a small or medium-sized damper with a round shaft up to 1/2" in diameter or a 3/8" square shaft. The M9106AGSN02 actuator/transmitter combines an M9106-AGA-2N02 with a prewired DPT-2015 differential pressure transmitter that has a 0 to 1.5 in. W.C. differential pressure range.

Features:

- 35 dBA rating meets audible requirements for open ceilings
- Synchronous drive provides constant rotation time that is independent of load
- Direct shaft mount with single-screw coupler simplifies installation and provides 3-point shaft gripping
- Magnetic clutch provides torque protection for the actuator and damper
- Adjustable rotation stops allow application versatility with 30 to 90° clockwise or counterclockwise rotation
- Manual gear release



Part No.	Torque (In.-Lb)	Description	Price
M9106AGA2N02*	53	Floating, 1 Minute	\$222.30
M9106AGSN02*	53	Floating, 1 Minute, DPT	\$468.00
M9106IGC2*	53	Floating, On/Off, Adj. Time, 2 Aux.	\$330.30

The M9200 Series is a direct-mount, flspring return line of motor actuators that operates on 24 Vac or Vdc power and is available for use with on/off, floating, proportional, or resistive controllers. These bi-directional actuators require no linkages and are easily installed on round damper shafts up to 3/4" diameter or square shafts up to 1/2". Position feedback is available through switches (*GC* models)



M9208A

SPRING RETURN, 70 LB.-IN.



Part No.	Torque (In.-Lb)	Control Input	Price
M9208AGA2*	70	24 Vac, On/Off Floating	\$459.00
M9208AGC3*	70	24 Vac, On/Off Floating, 2 Aux	\$523.80
M9208BGA3*	70	On/Off	\$377.10
M9208GGA2	70	0 to 10 Vdc (0-20 mA)	\$517.50



M9220BGA3

SPRING RETURN, 177 LB.-IN.



Part No.	Torque (In.-Lb)	Control Input	Price
M9220AGA3*	177	Floating	\$714.60
M9220BGC3*	177	On/Off, 2 Aux. Switches	\$685.80
M9220BGA3*	177	On/Off	\$583.20
M9220AGC3*	177	Floating, 2 Aux. Switches	\$834.30
M9220HGA3*	177	Vdc and mA w/Zero and Span	\$789.30
M9220GGA3*	177	Proportional	\$714.60

Actuators (DCA) are used within heating, ventilating, and air conditioning (HVAC) systems. They can drive a variety of quarter-turn, final control elements

Applications include:

- Volume control dampers, mounted directly to the drive shaft or remotely (with the use of accessory hardware).
- Quarter-turn rotary valves, such as ball or butterfly valves mounted directly to the drive shaft.
- Linear stroke globe or cage valves mounted with linkages to provide linear actuation.
- 5 year warranty
- 24 Vac input unless noted
- Modulating models: 2 to 10 Vdc, 4 to 20 mA



MN6105A1011

NON-SPRING RETURN, 44 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MN6105A1011	44	2 Position, Floating	\$171.20
MN6105A1201 ¹	44	2 Position, Floating	\$241.18
MN7505A2001	44	Modulating, Floating	\$248.40
MN7505W2001 ²	44	Modulating, Floating	\$270.14

¹2 Aux. ²18 AWG color-coded cable



MN6120A1200

NON-SPRING RETURN, 88 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MN6110A1003	88	2 Position, Floating	\$246.86
MN6110A1201 ¹	88	2 Position, Floating	\$306.16
MN7510A2001	88	Modulating, Floating	\$300.48
MN7510A2209 ¹	88	Modulating, Floating	\$372.44

¹2 Aux.



*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

COMMERCIAL, ACTUATOR

DIRECT COUPLED



MN6120A1002

NON-SPRING RETURN, 175 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MN6120A1002	175	2 Position, Floating	\$424.20
MN7220A2205 ¹	175	Modulating	\$551.50

¹2 Aux.

NON-SPRING RETURN, 300 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MN6134A1003	300	2 Position, Floating	\$521.52
MN7234A2008	300	Modulating	\$663.42



MS8103A1030

SPRING RETURN, 27 LB.-IN.

Zelix, compact actuator

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MS8103A1030	27	2 Position / 24 Vac/dc	\$283.48
MS8103A1130 ¹	27	2 Position / 24 Vac/dc	\$381.22
MS4103A1030	27	2 Position / 120 Vac	\$350.62
MS4103A1130 ¹	27	2 Position / 120 Vac	\$385.78
MS7503A2030	27	Modulating, Floating, 24 Vac/dc	\$414.60
MS7503A2130 ¹	27	Modulating, Floating, 24 Vac/dc	\$509.98
MS7403A2030	27	Economizer 3-Position	\$428.88

¹1 Aux



MS7505A2030.

SPRING RETURN, 44 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MS4105A1030	44	2 Position / 120 Vac	\$384.82
MS4105A1130 ¹	44	2 Position / 120 Vac	\$413.14
MS7405A2030	44	Economizer 3-Position	\$484.48
MS7505A2030	44	Modulating, Floating, 24 Vac/dc	\$438.88
MS7505A2130 ¹	44	Modulating, Floating, 24 Vac/dc	\$532.76
MS8105A1030	44	2 Position / 24 Vac/dc	\$300.68
MS8105A1130 ¹	44	2 Position / 24 Vac/dc	\$357.34

¹1 Aux



MS7520H2209

SPRING RETURN, 88 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MS4110A1002	88	2 Position / 120 Vac	\$419.08
MS4110A1200 ¹	88	2 Position / 120 Vac	\$510.10
MS7510A2008	88	Modulating, Floating	\$478.12
MS7510A2206 ¹	88	Modulating, Floating	\$585.92
MS7510H2209 ¹	88	Modulating, Floating	\$601.52
MS8110A1008	88	2 Position / 24 Vac	\$359.10
MS8110A1206 ¹	88	2 Position / 24 Vac	\$455.06

¹2 Aux



MS7520H2208

SPRING RETURN, 175 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MS4120A1001 ¹	175	2 Position / 120 Vac	\$557.44
MS4120A1209 ²	175	2 Position / 120 Vac	\$680.50
MS4120F1006 ³	175	2 Position / 120 Vac	\$686.76
MS4120F1204 ⁴	175	2 Position / 120 Vac	\$796.60
MS7520A2007	175	Floating, Modulating	\$622.98
MS7520A2205 ⁵	175	Floating, Modulating	\$716.70
MS7520H2208 ⁵	175	Floating, Modulating	\$737.68
MS8120A1007	175	2 Position	\$447.74
MS8120A1205 ⁵	175	2 Position	\$575.38

¹45 Sec ²45 Sec, 2 Aux ³15 Sec ⁴15 Sec, 2 Aux ⁵2 Aux



ML6161

NON-SPRING RETURN, 35 LB.-IN.

Used to control dampers in applications such as variable air volume terminal units, and for controlling ball valves.

- Control signal: SPDT floating, two position

- All include manual declutch level
- Supply power: 24 Vac
- Non-spring return

Honeywell

Part No.	Timing (Sec.)	Includes	Price
ML6161A2009	90	Feedback Output	\$176.64
ML6161A2017	420	Feedback Output	\$180.62
ML6161B2024	90	-	\$154.50
ML6161B2032	420	-	\$157.92



ML6174B2019

NON-SPRING RETURN, 70 LB.-IN.

Used to control dampers in applications such as variable air volume terminal units; suitable for use with SPDT floatin thermostats, electronic systems, and for mounting on ball valves.

- Supply voltage: 24 Vac
- Timing: 90 seconds
- Includes manual declutch lever
- Non-spring return

Honeywell

Part No.	Control Mode	Control Signal	Price
ML6174A2002	Series 60	SPDT Floating and On-Off	\$231.70
ML6174B2019	Series 60	SPDT Floating and 2-Position	\$229.82
ML7174A2001	Series 70	4 - 20 mA or 2 - 10 Vdc	\$342.02



MS4104F

SPRING RETURN, FAST ACTING, FIRE/SMOKE

For on/off damper control with integral junction box. Reversible mounting allows actuator to be used for either clockwise or counterclockwise spring return and are designed to operate reliably in

smoke control systems requiring Underwriter's Laboratories Inc. UL555S ratings up to 350°F.

- Timing: 15 seconds
- 95° angle of rotation

Honeywell

Part No.	Supply Voltage	Control Signal	Price
MS4104F1010	120 Vac	2-Position, SPST	\$397.30
MS4109F1010	120 Vac	2-Position, SPST	\$528.14
MS4104F1210 ¹	120 Vac	2-Position, SPST	\$489.44

¹2 Aux



MS8120F1002

SPRING RETURN, FIRE/SMOKE, 175 LB.-IN.

Spring return direct coupled, line voltage actuator accepts two-position (SPST) control for air dampers, air handlers, ventilation flaps, louvers and ball valves.

- Brush DC submotor with electronic stall protection for two-position model
- Self-centering shaft coupling for various shaft sizes
- Metal housing features built-in mechanical end limits
- Field selectable spring return direction, shaft position indicator and scale, and manual winding capability with locking function
- Supply voltage: 24 Vac
- Timing: 15 seconds

Honeywell

Part No.	Torque (In.-Lb)	Control Type	Price
MS8120F1002 ¹	175	2 Position / 24 Vac	\$663.02
MS8120F1200 ²	175	2 Position / 24 Vac	\$711.74

¹15 Sec ²15 Sec, 2 Aux



MS7503A2221

DIAMOND SPRING RETURN ACTUATOR, 27 LB.-IN.

Simplified shaft adapter and integral conduit connectors save space and eliminate the need for additional tools or conduit connectors. 360-degree conduit connectors swivel for fast conduit installation at almost any needed angle.

- Drive time 90 sec., Spring return time < 25 sec.
- Operating Temperature: -40° to 150°F
- Operating Humidity: 5% to 95% R.H. non-condensing
- Application: rooftop units, economizers, compact control dampers, control valves

Honeywell

Part No.	Description	Control Type	Supply Voltage	Price
MS7103A1021	Round Damper Shafts: 3/8 to 5/8", Square Damper Shafts: 1/4 to 1/2"	2-10 Vdc	24 Vac or Vdc	\$268.68
MS7103A2221 ¹	Round Damper Shafts: 3/8 to 5/8", Square Damper Shafts: 1/4 to 1/2"	2-10 Vdc	24 Vac or Vdc	\$324.40
MS7103A2024	Round Damper Shafts: 1/4 to 3/4", Square Damper Shafts: 1/4 to 1/2"	2-10 Vdc	24 Vac or Vdc	\$266.64
MS7103A2224 ¹	Round Damper Shafts: 1/4 to 3/4", Square Damper Shafts: 1/4 to 1/2"	2-10 Vdc	24 Vac or Vdc	\$295.46

¹2 Aux

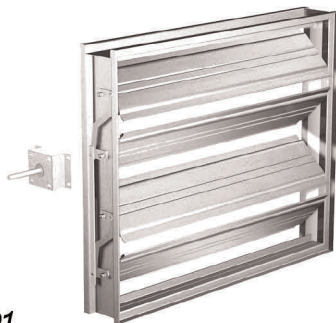
DAMPERS

Honeywell Home

Honeywell's line of dampers offers a number of new features

- Reinforced, overlapped corners for greater strength
- Hat channel frame
- Symmetrical blade design allows for airflow in either direction
- Better free-area and performance due to symmetrical blades and low- profile designs
- No top or bottom, allows for actuator mounting on either side without ordering special options
- Certified with the AMCA Air Performance Seal on every damper
- Blade-to-blade linkage out of air stream (concealed in frame)
- Can be sized in increments of 0.01 inches.
- Internal or external mounting locations for actuators
- Parallel or opposed blade orientations

Free Freight Standard Order Turnaround Time



D1
Airfoil Blades, Class 1 Leakage
6cfm/ft2 @ 4 in. wg, Silicone Blade Seals



D3
3V Blades, Class 3 Leakage
120cfm/ft2 @ 4 in. wg,
No Blade Seals



D2
3V Blades, Class 2 Leakage
10cfm/ft2 @ 4 in. wg,
Vinyl Blade Seals

MODEL NUMBER SPECIFICATION

D1	(Airfoil Control Dampers) extremely low-leakage damper with rugged steel "Airfoil blades" designed to meet the highest standards established for commercial control dampers. Intended for applications in medium to high pressure and velocity system										Product Type
D2	D642 (Class II Leakage, 3 V blade with seals)										
D3	D640 (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 D640 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 36 in. then 4 in. increments through 72 in.)	
					(006-072)	Standard Rectangular Damper Height				Height (in 2 inch increments through 36 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 lager sizes)		
D3	P	A	A	XXX	XXX	N	A	A	Example		

D3 P A A XXX XXX N A A Example

DIRECT COUPLED



ML6420A

LINEAR VALVE OPERATOR, NON-SPRING RETURN, 135 LB.-IN.

Electric linear valve actuator works with standard Honeywell V5011/V5013 globe valves.

- For valves with 1 3/8" bonnet to 3" capacity
- Supply voltage: 24 Vac

Honeywell

Part No.	Stroke Distance (In.)	Control Signal	Timing	Price
ML6420A3049	3/4	SPDT, Floating, On/Off	60 Sec.	\$463.70
ML6420A3056	3/4	SPDT, Floating, On/Off	30 Sec.	\$482.16
ML7420A3055	3/4	2 to 10 Vdc	60 Sec.	\$585.12



ML7421A1032

LINEAR VALVE OPERATOR, NON-SPRING RETURN, 405 LB.-IN.

Electric linear valve actuator works with standard Honeywell globe valves.

- Supply voltage: 24 Vac
- ML7421B/ML6421B for use with 4-6" Globe Valve only

Honeywell

Part No.	Stroke Distance (In.)	Control Signal	Timing	Price
ML6421A1017	3/4	SPDT, Floating, On/Off	95 Sec.	\$662.26
ML6421B1040	1 1/2	SPST, On/Off	175 Sec.	\$701.88
ML7421A1032	3/4	2 to 10 Vdc	95 Sec.	\$808.46
ML7421B1023	1 1/2	2 to 10 Vdc	175 Sec.	\$855.32



ML6425A3022

LINEAR VALVE OPERATOR, SPRING RETURN, 135 LB.-IN.

Direct coupled electric linear valve actuator with direct/reverse action switch.

- Supply voltage: 24 Vac
- Use up to 3" Honeywell Globe Valve

Honeywell

Part No.	Stroke Distance (In.)	Control Signal	Price
ML6425A3022 ¹	3/4	SPDT Floating	\$891.82
ML6425B3013 ²	3/4	SPDT Floating	\$900.56
ML7425A3013 ¹	3/4	0 to 10 Vdc	\$936.02
ML7425B3012 ²	3/4	0 to 10 Vdc	\$935.98

¹Extends Stem Down on Power Failure

²Retracts Stem Up on Power Failure



ML7984

PROPORTIONAL, NON-SPRING RETURN

Mounts directly, without a linkage, on V5011A, C, F, G; V5013F and 1/2-3" water and steam threaded, V5011/V5013 N Series valve bodies.

- Supply voltage: 24 Vac

- NEMA 3R cover for outdoor Installation
- Field installed auxiliary switches and positive feedback pot available

Honeywell

Part No.	Control Signal	Price
ML6984A4000	3 or 5 Wire Floating, Low Volts SPDT, ON/OFF	\$455.66
ML7984A4009	2 to 10 Vdc, 4 to 20 mA, 135O, Series 90	\$547.10



M400A

FORTA

Programmable linear actuator for use with VB7000, VB8000 and VB9000 series 2-way, 3-way TAC valves

- Floating or proportional control
- Direct/Reverse action (switch selectable)

- 60 or 300 second run time (switch selectable)
- Manual override
- Equal percentage or linear (selectable)
- Optional auxiliary switch available
- Use AV8111 linkage for VB7xxx and AV812 for VB8xxx, VB9xxx series valves
- M400A; 1/2 to 2" valves, M800A; 3/4 to 2" valves (VB9313 2 1/2 to 4"), M1500A; 2 1/2 to 6" valves

Schneider Electric **tac** COLMAN

Part No.	Stem Force (Lbf)	Control Signal	Timing	Price
M400A	90	Proportional, Floating	60 or 300 Sec. selectable	\$711.00
M800A	180	Proportional, Floating	60 or 300 Sec. selectable	\$763.00
M1500A	337	Proportional, Floating	60 or 300 Sec. selectable	\$1,119.00

COMMERCIAL, ACTUATOR

SPECIAL PURPOSE MOUNT



M836A1042

SPRING RETURN

Spring return motors for two-position back draft, outdoor air changeover, zone, or minimum position damper control.

- Includes 1 SPDT auxiliary switch

Honeywell

Part No.	Torque (In.-Lb)	Timing	Stroke (Degrees)	Supply Voltage	Includes	Price
M436A1116	20	30 Sec.	75	120	2-Wire Tstat, SPST Thermal Breaker	\$793.68
M436A1124	20	30 Sec.	75	240	2-Wire Tstat, SPST Thermal Breaker	\$824.18
M836A1042	20	30 Sec.	75	24	SPST No Heat Anticipation Thermal Breaker	\$792.14
M836B1033	15	25 Sec.	75	24	SPST Heat Anticipation	\$839.22



M847A1072

2-POSITION, SPRING RETURN, 30 OZ.-IN.

Used 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 duty applications.

- Supply voltage: 24 Vac
- Rotates CW when energized

Honeywell Home

Part No.	Timing	Stroke (Degrees)	Linkage (In.)	Price
M847A1072	20 Sec.	45	3.8, Arm	\$226.10
M847A1080	20 Sec.	45	3.8, Chain	\$226.10



CP830124

ELECTRONIC ACTUATOR DRIVE

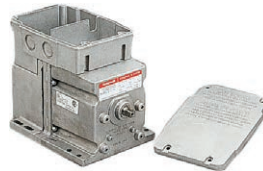
The CP-8301-XXX Series electronic actuator drive is designed to process a variable 1 to 15 Vdc signal from a controller to provide proportional control of an electric gear train actuator.

- Input: 1 to 15 Vdc
- Mounts directly onto Invensys proportional, electric, gear train actuators



Part No.	Input Voltage	Supply Voltage	Price
CP8301120	1 to 15 Vdc	120	\$729.00
CP830124	1 to 15 Vdc	24	\$784.00

FOOT MOUNT



M4185A1001

TWO-POSITION, SPRING RETURN

Two-position, spring return motors used to operate dampers and valves.

- Used 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
- Electrically normally closed and rotated clockwise to open with a signal increase
- Modutrol IV Series
- Torque: 60 lb.-in.
- Foot mounted

Honeywell

Part No.	Supply Voltage	Timing	Stroke (Degrees)	Price
M4185A1001	120	60 Sec.	160	\$965.94
M4185B1009 ¹	120	60 Sec.	160	\$1,074.54
M4185B1058 ¹	120/208/240	30 Sec.	90	\$1,148.80
M8185D1006	24	30 to 60 Sec.	90 to 160	\$861.00

¹1-SPDT Auxiliary Switch



M6194D1017

REVERSING, 3-WIRE SPDT, FLOATING

Reversing, 3-wire SPDT or floatin control motors used to operate dampers and valves.

- Modutrol IV Series

Honeywell

Part No.	Torque (In.-Lb)	Supply Voltage	Timing	Stroke (Degrees)	Price
M6184D1035	150	24	30 to 60 Sec.	90 to 160	\$1,063.18
M6194D1017	300	24	120 to 240 Sec.	90 to 160	\$1,573.70

REVERSING, 3-WIRE

Reversing, 3-wire floating control motors with feedback potentiometer. Used with controllers that provide SPDT output to operate dampers and valves.

- Modutrol IV Series
- Torque: 150 lb.-in.

Honeywell

Part No.	Torque (In.-Lb)	Supply Voltage	Timing	Stroke (Degrees)	Price
M6284D1000-S	150	24	30 to 60	90 to 160	\$1,235.16



M6415A1016

SPRING RETURN, 25 LB.-IN.

Spring return, 25-lb.-in. damper actuators provide SPDT floating, two-position, three-position or modulating control of economizer systems, ventilation dampers and combustion air dampers. Use with W7459A.

- Stroke: 90°
- Timing: 90 seconds
- Maximum operating torque: 25 lb.-in.
- Power supply: 24 Vac

Honeywell

Part No.	Rotate to Open	Application	Price
M6415A1016	CCW	SPDT Floating	\$785.48
M7415A1006	CCW	Modulating	\$627.76
M7415B1004	CW	Modulating	\$627.76
M8405A1006	CCW	3-Position, Adjustable Minimum	\$590.08
M8415A1004	CW	2-Position, Adjustable Auxiliary	\$601.56

PROPORTIONAL, ELECTRONIC

Proportional motors used to operate dampers and valves when used with a modulating 4-20 mA current source.

- Modutrol IV Series

Honeywell

Part No.	Torque (In.-Lb)	Supply Voltage	Timing	Stroke (Degrees)	Price
M7284A1004	150	120	30 Sec.	90	\$1,614.76
M7284C1000 ¹	150	120	30 Sec.	90	\$1,940.08
M7284Q1009 ¹	150	120	30 Sec.	90	\$2,045.84
M7285A1003	60	120	30 Sec.	90	\$1,786.78

¹2-Auxiliary Switch



M9185A1018

PROPORTIONAL, REVERSING, SPRING RETURN

- For Series 90 control circuit
- Supply power: 24 Vac
- M9185 can operate valve linkages from power end or normally open valve applications

- M9182 can operate valve linkages from power end or auxiliary end shafts for normally closed or open valve applications

Honeywell

Part No.	Supply Voltage	Torque (In.-Lb)	Timing	Stroke (Degrees)	Price
M9182A1011	24 Vac	60	60 Sec.	160	\$1,338.84
M9185A1018	24 Vac	60	60 Sec.	160	\$1,721.70
M9185C1006 ¹	24 Vac	60	60 Sec.	160	\$1,729.50
M9185D1004	24 Vac	60	30 to 60 Sec.	90 to 160	\$1,755.48
M9185E1019 ²	24 Vac	60	30 to 60 Sec.	90 to 160	\$1,927.24

¹2-SPDT Auxiliary ²1-SPDT Auxiliary



M9174C1025

PROPORTIONAL, REVERSING, NON-SPRING RETURN, 35-75 LB. IN.

- For Series 90 control circuit

Honeywell

Part No.	Torque (In.-Lb)	Supply Voltage	Timing	Stroke (Degrees)	Price
M9164A1005	35	120	60 Sec.	160	\$1,311.82
M9164A1070	35	24	60 Sec.	160	\$1,172.26
M9164C1001 ¹	35	24	60 Sec.	160	\$1,533.02
M9164C1068 ¹	35	120	30 Sec.	90	\$1,579.96
M9164D1009	35	24	30 to 60 Sec.	90 to 160	\$1,090.60
M9174B1027 ²	75	120	30 to 60 Sec.	90 to 160	\$1,510.84
M9174C1025 ³	75	120	30 Sec.	90	\$1,680.46
M9174C1033 ³	75	120	60 Sec.	160	\$1,616.44
M9174D1007	75	24	30 to 60 Sec.	90 to 160	\$1,197.22

¹2-SPDT Auxiliary ²1-SPDT Auxiliary ³2-SPDT Auxiliary



M9484

PROPORTIONAL, REVERSING, NON-SPRING RETURN, 75-150 LB. IN.

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; 135 Ω
- Stroke is field-adjustable to 90 or 160 degrees
- Supply power: 24 Vac

Honeywell

Part No.	Torque (In.-Lb)	Timing	Includes	Price
M9484D1010	150	30 to 60 Sec.	—	\$1,498.12
M9484E1017	150	30 to 60 Sec.	1 Aux Switch (1°)	\$1,758.36
M9484E1033	150	30 to 60 Sec.	1 Aux Switch (7°)	\$1,764.36
M9484F1007	150	30 to 60 Sec.	2 Aux Switch (7° + 80°)	\$1,846.84
M9484F1023	75	15 to 30 Sec.	2 Aux Switch	\$1,866.70
M9484F1031	150	30 to 60 Sec.	2 Aux Switch (7° + 80°)	\$1,894.70

COMMERCIAL, ACTUATOR

FOOT MOUNT



M9184A1019

PROPORTIONAL, REVERSING, NON-SPRING RETURN, 150-300 LB. IN.

- For Series 90 control circuit
- Supply power: 24 Vac

Honeywell

Part No.	Torque (In.-Lb)	Timing	Stroke (Degrees)	Price
M9184A1019	150	60 Sec.	160	\$1,459.84
M9184C1031 ¹	150	60 Sec.	160	\$1,518.72
M9184D1021	150	30 to 60 Sec.	90 to 160	\$1,574.92
M9194D1003	300	120 to 240 Sec.	90 to 160	\$1,731.10
M9194E1000 ²	300	120 to 240 Sec.	90 to 160	\$1,878.02

¹2-Aux. Switches ²1-Aux. Switch

PROPORTIONAL, MODULATING DC

Proportional motors used to operate dampers and valves when used with a modulating DC voltage source.

- Modutrol IV Series
- Motor and circuitry operate from 24 Vac.
- Input signal: 10.5 to 13.5 Vdc
- Torque: 60 Lb. In.

Honeywell

Part No.	Timing	Stroke (Degrees)	Voltage	Price
M7164A1017	30-60 Sec.	90 to 160, Asymmetrical	24	\$1,232.34
M7164G1030 ¹	30-60 Sec.	90 to 160, Symmetrical	120	\$1,249.70

¹Includes a transformer

PROPORTIONAL, SPRING RETURN, MODULATING DC, W7080

Proportional motors used to operate dampers and valves when used with a modulating DC voltage source; specifically designed for use with W7080 control panel

- Modutrol IV Series
- Supply power: 24 Vac
- Input signal: 14 to 17 Vdc
- Rotation: CW from power end on signal increase

Honeywell

Part No.	Supply Voltage	Torque (In.-Lb)	Timing	Stroke (Degrees)	Price
M7685A1025 ¹	24 Vac	60	30 to 60 Sec.	90 to 160	\$1,391.84

¹Includes Minimum Position Pot.



MA418

2 POSITION, OIL SUBMERGED ACTUATOR

These actuators provide 2-position operation of dampers, valves, and other equipment requiring the return to normal position upon power interruption.

- SPST controller
- Spring return. CCW to origin.
- 2-wire, SPST control
- Torque: 60 lb.-in.
- Damper area: 33 sq. ft. parallel, 43 sq. ft. opposed blade
- No load timing: 20 seconds

Schneider Electric **tac** COLMAN

Part No.	Supply Voltage	Torque (In.-Lb)	Spring Return	Price
MA418	120	60	CCW to origin	\$1,288.00



MP381

REVERSIBLE PROPORTIONAL ELECTRIC

The MP Series actuators are used for 2-position, floating, and proportiona control of dampers, valves, and program switches in heating, ventilation, air conditioning applications, or similar applications.

- Proportional actuators with built-in feedback potentiometers
- Rotation: set at 180° (adjustable 45 to 320°)

Schneider Electric **tac** COLMAN

Part No.	Supply Voltage	Torque (In.-Lb)	Timing	Spring Return	Auxiliary Switch	Price
MP381	24	220	130 Sec.	CW	SPDT	\$1,817.00
MP485	120	220	130 Sec.	NO	SPDT	\$1,911.00
MP461600	120	50	90 Sec.	CW	SPDT	\$3,009.00

ACTUATOR ACCESSORIES



Q5001D1000

VALVE LINKAGE, Q5001 SERIES

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

Honeywell

Part No.	Stem Force (Lbf)	Price
Q5001D1000	80, 160	\$297.48
Q5001D1018	160, 320	\$311.08



Q5020

VALVE LINKAGE, Q5020 SERIES

The Q5020 globe valve linkages connect a Honeywell direct coupled actuator to a steam or water globe valve.

- Used with two-way and three-way globe valves in modulating or two-position service.

- Used with 25, 50, and 142 lb-in. spring return and 35, 70, 150, and 300 lb-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
- Precision roller-bearing rack construction prevents premature valve packing wear and leakage
- Flexible actuator mounting orientation
- Adjustable manual override lever and valve position indicator

Honeywell

Part No.	Stem Force (Lbf)	Use with	Stroke (In.)	Price
Q5020C1009	142 to 175 (Spring Return)	V5051	1 1/2	\$1,094.66



Q5024A1116

VALVE LINKAGE, Q5024 SERIES

Q5024 globe valve linkages connect a Honeywell direct coupled actuator (DCA) to a steam or water globe valve.

- Used with 2-way and 3-way globe valves in modulating or two-position service.

- Quick and simple installation with no disassembly required.
- Heavy-duty steel rack and pinion construction and aluminum die-cast housing.
- Maintenance-free construction.
- Flexible actuator mounting orientation.
- Adjustable manual override lever and valve position indicator.
- Available for 1/2 in. through 6 in. globe valves made by most manufacturers.
- Used with Honeywell MS and MN Spring and Non-Spring Actuators.

Honeywell

Part No.	Stroke (In.)	Nb. of Actuators	Price
Q5024A1116	0.63	1	\$303.58
Q5024A1123	0.91	1	\$341.40
Q5024A1130	1.18	1	\$405.10
Q5024B2230	1.18	2	\$492.34
Q5024B2240	1.57	2	\$529.08



Q7230A

INTERFACE MODULE

For converting Series 90 Modutrol IV motors to Series 70 (electronic) control.

- Q7130A1006 provides selectable voltage ranges: 4 to 7, 6 to 9 or 10.5 to 13.5 Vdc. Adapts M91XX Modutrol IV motor to function as M71XX model for M734H, J; M744D; M745G, P replacements.
- Q7230A1005 provides adjustable zero and span, voltage or current control (includes 4 to 20 mA and 2 to 10 Vdc). Adapts M91XX Modutrol IV motors to function as M72XX model for M744S, T, Y; M745S, T, Y replacements

Honeywell

Part No.	Application	Price
Q7130A1006	Voltage Ranges (4-7 Vdc, 6-9 Vdc, 10.5 - 13.5 Vdc)	\$295.10
Q7230A1005	Adj zero and span, 4-20 ma or 2-10 Vdc	\$255.82



S443A1007

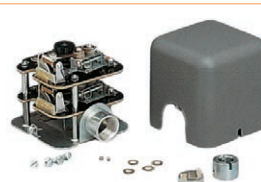
MANUAL POTENTIOMETER, S443 SERIES

Used for remote manual control of proportioning (Series 90) motors and relays.

- Use with M934, M941, M944, M945, M9164, M9484, M9184, M9185

Honeywell

Part No.	Resistance (Ohm)	Price
S443A1007	135	\$530.24



Q181A1015

AUXILIARY POTENTIOMETER, Q181 SERIES

Controls one to four Modutrol (Series 90) motors from one master motor.

- Compatible with Modutrol III and Modutrol IV motors

Honeywell

Part No.	Throttling Range	Comments	Price
Q181A1007	40 to 160	1 Motor Controlled	\$658.04
Q181A1015	40 to 160	2 Motors Controlled	\$761.34



Q298B1065

DAMPER LINKAGE, Q298 SERIES

Honeywell

Part No.	Description	Price
Q298B1065	Damper Linkage, 2-Arms, 2-Ball Joints, 1-24" Push Rod	\$153.88
27518	Crankarm balljoint with 1/4 - 28 UNF male threads, fits 5-16" push rods	\$20.60

COMMERCIAL, ACTUATOR

ACTUATOR ACCESSORIES



DAMPER LINKAGE, Q605 SERIES

Connects Modutrol motor to standard damper or set of dampers to provide control of duct airflow.

- Includes crank arm

Q605F1018

Honeywell

Part No.	Mount Location	Bracket	Amps	Nb. of Ball Joints	Price
Q605F1018	External	Yes	1	2	\$151.76
Q605H1016	External, Internal	Yes	3.0	4	\$196.44



MANUAL POTENTIOMETER, Q209 SERIES

Used to limit minimum position of a proportioning Modutrol motor.

Q209A1022

Honeywell

Part No.	Mount Location	Resistance (Ohm)	Use with	Price
Q209A1022	Internal	150	M944, M945, M954, M955, M744, M745, M941	\$146.54
Q209A1030	Internal	300	M944, M945, M954, M955, M744, M745, M941	\$269.28
Q209E1002	Internal, Cover Box	150	Modutrol IV	\$112.74
Q209E1010	Internal, Cover Box	150	Modutrol IV	\$136.38



MANUAL POTENTIOMETER, S963 SERIES

For remote setpoint control of electronic (Series 70) motors and panels.

S963B

Honeywell

Part No.	Resistance (Ohm)	Scale Range	Use with	Price
S963B1037	480	60 to 90°F	T7047A, C, D, E; T7022A; W927A-C, F; W7100	\$290.26
S963B1086	1,000	40 to 140°F	W7100	\$214.04
S963B1128	135	Open/Closed	Proportional Motors	\$177.20
S963B1136	270	Open/Closed	Proportional Motors	\$172.12



SIGNAL ADAPTER

Q769 Adapter is used to provide a modulating signal to the M7415 Economizer Damper Motors when used with a controller.

- Quick-connect terminals

Honeywell

Part No.	Description	Price
Q769A1009	6 to 9 Volt Adapter	\$105.70
Q769B1008	4 to 20 mA Adapter	\$100.58

HYDRAULIC



PROPORTIONAL

These actuators provide electronic proportional control of dampers, valves, or program switches requiring the return to normal position upon power interruption.

- Compatibility with 2 to 15 Vdc System 8000 input signals
- Proportional control by variable Vdc input signal
- Spring return
- Fixed 3 Vdc operating span
- Timing: 60 second extension; 40 second retraction, 15 second retraction (power loss)
- Requires linkage for dampers or valves
- Auxiliary switch (where indicated): SPDT, 10 Amp



Part No.	Supply Voltage	Auxiliary Switch	Price
MP5210	120	No	\$866.00
MP5210500 ¹	120	Yes	\$1,040.00
MP5213	24	No	\$866.00
MP5213500 ¹	24	Yes	\$1,040.00
MP5230 ²	120	No	\$1,176.00

¹SPDT 10 Amp auxiliary switch ²Damper actuation only



POSITIVE POSITIONING

These actuators provide electronic proportional control of dampers, valves, or program switches requiring the return to normal position upon power interruption.

- Proportional control by variable Vdc input signal

- Compatibility with 2 to 15 Vdc System 8000 input signals
- Spring return
- Timing: 60 second extension; 30 second retraction, 15 second retraction (power loss)
- Requires linkage for dampers or valves



Part No.	Supply Voltage	Price
MP5410	120	\$1,153.00
MP5413	24	\$1,153.00



MP5513

POSITIVE POSITIONING (0-10 VDC)

The MP-500 Series actuators are for the electronic proportional control of dampers, valves, or program switches which require the return to normal position upon power interruption. This series is compatible with 0 to 10 Vdc input signals.

- Proportional actuators controlled by variable Vdc input signal
- Spring return
- Timing: 60 second extension; 30 second retraction, 15 second retraction (power loss)
- Requires linkage for dampers or valves



Part No.	Supply Voltage	Price
MP5513	24	\$1,179.00



MA5213

2 POSITION

These actuators are used for electronic 2-position control of valves and dampers which require a return to the normal position upon power interruption.

- Spring return
- 2-wire, SPST control
- 2-position actuators controlled by an SPST controller
- No load timing: 60 seconds
- Requires linkage for dampers or valves
- Auxiliary switch (where indicated): SPDT, 10 Amp



Part No.	Supply Voltage	Auxiliary Switch	Price
MA5210	120	No	\$726.00
MA5210500 ¹	120	Yes	\$905.00
MA5213	24	No	\$726.00
MA5213500 ¹	24	Yes	\$905.00

¹SPDT 10 Amp auxiliary switch

ACCESSORIES



AM601

DAMPER LINKAGE

Required to modify MA/MP 5210, 5213 actuator for damper applications with 2" stroke.

- For 2-position, spring return actuator
- Includes: mounting bracket, damper linkage with spring and AM-122 straight connector



Part No.	Description	Price
AM601	MA/MP 5210, 5213 Series Damper Linkage	\$173.00



AV600

VALVE LINKAGE KIT

For assembling MA, MF, MP-5X1X and MPR-5X1X Series hydraulic actuators to (1/2" to 1 1/4") valve bodies. Device consists of spring retainer, spring and combination stem extension and lock nut.



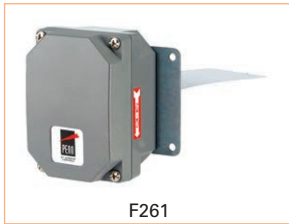
Part No.	Description	Price
AV600	VB9000 Series Body Linkage	\$46.00
AV7600	VB7000 Series Body Linkage	\$48.00

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LIQUID FLOW SWITCH



F261 SERIES

The F261 Series Flow Switches respond to fluid flow in lines carrying water, ethylene glycol, or other nonhazardous fluids. These models also work in applications with swimming pool water and lubricating oils

- SPDT switches
- Type 3R (NEMA) or Type 4 (NEMA) polycarbonate enclosure provides dust protection in indoor and outdoor applications.
- Maximum fluid pressure: 290 psi
- Viton® diaphragm allows use in fluid lines carrying chlorinated water, treated water, or other nonhazardous fluids
- Maximum fluid temperature: 250°
- Minimum fluid temperature: -20°

STANDARD FLOW RATE, PADDLE

F261 Series Standard Flow Switches use a variety of paddle sizes to respond to fluid flow rates in applications with 1 inch trade size (or greater) pipe.

- Each model includes: 1 in., 2 in., 3 in., and 6 in. stainless steel paddles, lock-tooth washer, and stainless steel paddle screw (supplied uninstalled)
- F261MALV01C is a low-energy model with gold-plated contacts that provides improved electrical performance in low-voltage, low-current circuits (dry circuits)



Part No.	Enclosure	Dimensions (In.)			FLA (@ 240 V)	Price
		H	W	D		
F261KAHV01C* ¹	NEMA 3R	8 1/4	4	2 3/4	10	\$284.00
F261MAHV01C* ¹	NEMA 4	8 1/4	4	2 3/4	10	\$377.00
F261MALV01C* ²	NEMA 4	8 1/4	4	2 3/4	—	\$406.00

¹Dimension with 3" paddle ²Dimension with 3" paddle. Low-energy flow switch with gold-plated electrical contact

LOW FLOW RATE

F261 Series Low Flow Switches respond to low fluid flow rates in applications with 1 inch trade size (or less) pipe

- Low-flow operation on low-flow models actuates switch with less than 2.0 GPM flow for water applications or 11.0 GPM flow for steam applications



Part No.	FPT (In.)	Enclosure	Contact Rating (Amps)	Adjustment Range, Flow Increase		Adjustment Range, Flow Decrease		Price
				(R to Y Closes) Min	(R to Y Closes) Max	(R to B Closes) Min	(R to B Closes) Max	
F261KEHV01C*	1/2	NEMA 3R	10	1.3	2.6	0.6	1.25	\$310.00
F261KFHV01C*	3/4	NEMA 3R	10	2.0	3.6	0.6	1.3	\$310.00
F261MEHV01C*	1/2	NEMA 4	10	1.3	2.6	0.6	1.25	\$444.00
F261MFHV01C*	3/4	NEMA 4	10	2.0	3.6	0.6	1.3	\$447.00



PADDLE

- For starting or stopping electrically operated equipment such as signal lights, alarms, motors, automatic burners, metering devices, and others
- 1" NPT
- Sensitivity adjusting screw makes flow adjustment easy
- Single pole, double throw snap switch; 3.7 FLA 240V
- Four stainless steel paddles included: 1", 2", 3", and 6"
- Maximum pressure: 160 psi



McDonnell & Miller

Part No.	Description	Price
FS251	Flow Switch, NEMA-1 Case	\$289.00
FS254	Flow Switch, NEMA-4 Case	\$391.00



HIGH SENSITIVITY

- For general purpose applications where high sensitivity is required and moderate or low flow rates are encountered such as air conditioning, heating and hydronic systems, water, fuel oil, some viscous liquids and oils in process work
- In-line configuration eliminates need for a pipe tee
- High flow capacity
- 1/2" NPT
- SPDT snap switch
- Switch compartment is completely sealed to protect it from the liquid
- Sensitivity adjusting screw makes flow adjustment easy
- Minimum temperature: 32°F
- Maximum temperature: 225°F
- Maximum operating pressure: 100 psi



McDonnell & Miller

Part No.	Description	Price
FS1W	High Sensitivity Flow Switch, NEMA 4X Enclosure	\$552.50

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

AIR FLOW SWITCH



F262KDH01C

PADDLE

The F262 Series Airflow Switches detect airflow or the absence of airflow by responding only to the velocity of air movement within a duct. The SPDT switch can be wired to open one circuit and close a second circuit for either signaling or interlock purposes.

- Type 3R (NEMA) polycarbonate enclosure allows use in indoor applications and provides dust protection; approved for use in a plenum according to NEC
- Dependable dust-protected SPDT snap-acting PENNswitch detects the presence or absence of airflow
- Large wiring space makes wiring convenient and easily accessible
- Easily accessible range adjustment screw allows easy field adjustment



Part No.	Switch	Paddle Size (In.)	Dimensions (In.)			Price
			H	W	D	
F262KDH01C*	SPDT	3 1/8 x 6 7/8 (supplied)	10 5/16	4	2 3/4	\$278.00



AF1M

SAIL SWITCH

- Velocity range: 480-2230 FPM
- Maximum allowable velocity: 2500 FPM
- Temperature range: 32-300°F

- Switch: SPDT
- General purpose enclosure



McDonnell & Miller

Part No.	Switch	Description	Price
AF1M	SPDT	Medium, High Air Flow Switch	\$425.00

FLOAT SWITCH



F263MACV01C

Designed to maintain a liquid level in indoor or outdoor closed tanks that hold water or other nonhazardous liquids. When the liquid level in the tank rises above or falls below the required level, the single-pole, double-throw (SPDT) switch closes one circuit and opens a second circuit.

- Viton® diaphragm allows use in fluid lines carrying chlorinated water, treated water, or other nonhazardous liquids.
- Sturdy Type 4 (NEMA) enclosure allows for use in indoor or outdoor applications; inhibits the formation of moisture in low temperature applications
- Liquid temperatures: -20 to 250°F
- Maximum liquid pressure: 100 psig



Part No.	Switch	Enclosure	FLA (@ 240 V)	Price
F263MACV01C*	SPDT	NEMA 4	10	\$644.00

DIFFERENTIAL PRESSURE SWITCH, AIR



P32AC2

AIR FLOW SENSOR

The P32 differential pressure switch is used to sense air flow in ducts

- Ambient temperature range: -40 to 167°F
- Adjustable setpoint
- Connection: 1/8" FPT
- Contact rating: 4.9 F.L. Amps 240V
- P32AC2 is supplied with 1/4" compression fitting, 4" extension tube, 2 mounting screws and O gasket



Part No.	Setpoint Range	Switch	Sensitivity at Min. Setpoint (In. WC)	Includes	Price
P32AC1*	.15 to 12 "WC	SPDT	0.07	Mounting Bracket BKT1821R	\$162.00
P32AC2*	.05 to 5 "WC	SPDT	0.04	Mounting Bracket BKT2291R	\$181.00
P32AF1*	.05 to 5 "WC	SPDT	0.025	Mounting Bracket BKT1821R	\$162.00
P32AF2C*	.05 to 5 "WC	SPDT	0.025	Mounting Bracket BKT2291R	\$181.00

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DIFFERENTIAL PRESSURE SWITCH, AIR



AIR FLOW SENSOR

- Responds to positive, negative, or differential air pressure
- Eliminates fluttering or malfunction due to shock or vibration normally encountered with sail switches
- Contact rating: 15 resistive amps 277 Vac



Part No.	Setpoint Range	Switch	Price
2374499	0.05 to 12.0"WC	SPDT	\$67.04



AIR FLOW SENSOR

Designed to replace a wide variety of air-sensing switches found in residential and light commercial applications including furnaces, electronic air cleaners and humidifiers

Both models are provided with an SPDT switch that can be activated by positive or negative pressure, or by pressure differential.

- Operates diaphragm vertical
- Connection: 1/8", 1/4", 3/8" barbed
- Contact rating: 5A noninductive to 277 Vac



Part No.	Setpoint Range	Price
2374495	.25 to 1.0"WC	\$50.40
2374498	1.0 to 4.0"WC	\$50.40



PRESSURE

Sensors measure static and differential air pressure in duct and panel applications and can measure air velocity using pressure-velocity pick up tubes.

- Excellent tolerance to overpressure and vibration reduces field failure

- High accuracy digital sensor with seven selectable sub-ranges maintains calibration and reduces callbacks
- IP65/NEMA 4 housing allows for mounting in wash-down locations
- High reliability sensor technology for long-term, maintenance-free operation
- Circuit protection avoids damage due to incorrect input wiring
- Velocity Mode: 500/1,000/2,000/3,000/4,000/5,000/6,000 FPM; 2.5/5/10/15/20/25/30 MS

- Selectable ranges and scales reduce setup time and number of models to stock



Part No.	Mounting Code	Display	Price
P7650U1040	Universal	No	\$411.56
P7650U1052	Universal	Yes	\$471.60



DIFFERENTIAL PRESSURE SWITCH

Low differential pressure switch for air proving or filter service application



Part No.	Range (H2O)	Price
1910-0	.15 to .55	\$112.12
1910-1	.40 to 1.6	\$112.12
1910-5	1.40 to 5.5	\$105.22



10650

UNIVERSAL AIR PRESSURE SENSING SWITCH AND PROBE

With a wide array of applications, the 2374510 kit replaces hundreds of other manufacturers' air pressure switch models.

- High impact polycarbonate housing
- Works in a variety of harsh conditions

- Snap-acting switch with three male 90° quick connect terminals
- Field adjustable set points ranging from 0.10" to 10" W.C.
- Switch is NEMA rated and is practically insensitive to temperature change with an operating range of -40 to +190°F
- Installer can use 10650 sensing probe kit for hard to reach air streams



Part No.	Includes	Description	Price
10650	Universal Probe (7"), Mounting flange, Flange -Locking Set Screw, 3' Vinyl Tubing, Flange-Mounting Screw, Slip-On Adapter	Sensing Probe Kit with 7" Probe	\$43.00
2374510	Air Pressure Sensing Switch, Calibration Springs (5 options), Orifice Flow (4 options), Mounting Brackets (2 options), Hex Wrench	Universal Air Pressure Sensing Switch Kit, SPDT	\$44.60

DIFFERENTIAL PRESSURE SWITCH, LIQUID



P74BA1

LIQUID

Series P74 measures the pressure difference between two sources.



Part No.	Switch	Pressure Differential	Switch Differential (psi)	Connection		Capillary Length	Contact Rating (Amps)	Price
				Size (In.)	Type			
P74BA1*	SPST, Opens Decrease ?P	8 to 70 psig	8 to 30	1/4	FFL	3'	20	\$371.00
P74EA8*	SPDT (Snap Acting)	2 to 26 psig	3.5, Fixed	1/4	FFL	3'	16	\$376.00
P74EA10C*	SPDT (Snap Acting)	2 to 26 psig	3.5, Fixed	1/4	MFL	None	16	\$376.00
P74FA1*	SPDT (Snap Acting)	8 to 60 psig	1.5, Fixed	1/4	MFL	None	6	\$357.00
P74FA5*	SPDT (Snap Acting)	8 to 60 psig	1.5, Fixed	1/4	FPT	None	6	\$357.00
P74FA10*	SPDT (Snap Acting)	2 to 26 psig	1.5, Fixed	1/4	FFL	3'	6	\$358.00
P74JA2C*	SPDT (Floating)	8 to 60 psig	2.5, Fixed	1/4	MFL	None	1 Amp, 24 Vac Class 2	\$632.00



24-013

NEMA 4

Used typically to sense differential pressure across devices such as oil or water filters, pumps, heat exchangers, chillers, coils, etc. Normally provides an alarm or shutdown function in applications where there is insufficient flow in a system or when excessive

- SPDT switch with screw terminals
- Gasketed zinc-plated steel cover
- Strong, corrosion-resistant polyester enclosure
- External, multiturn adjusting screw for excellent resolution
- 7/8" hole for 1/2" NPT conduit connection
- Corrosion-resistant brass port
- Clearance holes for surface mounting
- NEMA 4 enclosure

pressure differential indicates a problem. It may also be used to indicate pump status.



Part No.	Switch	Pressure Differential	Connection		Capillary Length	Contact Rating (Amps)	Price
			Size (In.)	Type			
24-013	SPDT	1 to 10 psid	1/4	FPT	None	5	\$342.58

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

DIFFERENTIAL PRESSURE SWITCH, LIQUID



PWT SERIES

The PWT Series wet/wet differential pressure sensors provide reliable, accurate measurement and control of proper applications, including the monitor and control of pump differential pressure, chiller/boiler differential pressure drop,

and CW/HW system differential pressure. The PWT Series is ideal for measuring pressure across pumps, filters, heat exchangers, compressors and other non-corrosive wet media applications.

- 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.
- Rugged, die-cast enclosure provides NEMA 4 sealing.
- Jumper-selectable port swap feature.
- All models offer both pushbutton and digital input to zero the output. A microprocessor algorithm prevents accidental zero adjustment during normal operation.

Available pressure ranges (psid) within span
 0 to 50: 0 to 5, 0 to 10, 0 to 25, 0 to 50 psid
 0 to 100: 0 to 10, 0 to 20, 0 to 50, 0 to 100 psid
 0 to 250: 0 to 25, 0 to 50, 0 to 125, 0 to 250 psid

Honeywell

Part No.	Pressure Range (psi)	Price
PWT50	0 to 50	\$1,222.34
PWT100	0 to 100	\$1,222.34
PWT250	0 to 250	\$1,222.34



TRANSDUCER, 3-WIRE

The PW Series wet/wet pressure transducers incorporate a highly accurate, stable sensor, which is microprocessor profiled for exceptional accuracy and reliability. Designed for ease of use and to provide exceptional installation savings, the PW Series is

ideal for measuring pressure across pumps, filters, heat exchangers, compressors and other non-corrosive wet media applications.

Applications

- Monitor and control pump differential pressure
- Chiller/boiler differential pressure drop
- CW/HW system differential pressure

Features

- Rugged, die-cast enclosure provides NEMA 4 sealing
- Field-selectable output . 0-5V/0-10VDC, or 4-20mA provides excellent systems compatibility
- LCD display

VERIS
INDUSTRIES

Part No.	Pressure Differential	Connection		Capillary Length	Price
		Size (In.)	Type		
PWLX04S	0 to 100 psi	1/4	FPT	None	\$1,043.24

PRESSURETROL®



SPST - PA 404 SERIES

Provides control for steam pressure.

- Sensitive pressure-actuated diaphragm expands or contracts with pressure variations, moving a lever mechanism that operates the snap-switch.

- Use PA404A as high limit safety controller for steam boilers; use PA404B as fan controller for suspension-type unit heaters.
- Contact rating: 5.1 F.L. Amp 240 Vac

Honeywell Home

Part No.	Operating Range (psi)	Switch	Price
PA404A1025	3 - 15	SPST, Opens on Rise	\$399.62
PA404A1033	0.5 - 9.0	SPST, Close on Fall	\$362.20
PA404B1023	0.5 - 9.0	SPST, Opens on Fall	\$400.40



L404 SERIES

Provides operating control, automatic reset limit protection

- Use with steam, air, noncombustible gases, or other fluids noncorrosive to pressure sensing element.
- Contact rating: 5.1 F.L. Amps 240 Vac

- SPDT controls include siphon loop (except L404F1102)
- SPST controls include ground screw

Honeywell

Part No.	Operating Range (psi)	Switch	Differential Midscale (psi)	Price
L404F1409	2 - 15	SPST, close on rise	2 to 6	\$295.52
L404F1078	5 - 50	SPDT	6 to 14	\$339.38
L404F1375	5 - 50	SPST, close on rise	6 to 14	\$322.42
L404F1102	10 - 150	SPDT	10 to 22	\$348.64
L404F1383	10 - 150	SPST, close on rise	10 to 22	\$322.42
L404F1094	20 - 300	SPDT	20 to 50	\$409.78
L404F1391	20 - 300	SPST, close on rise	20 to 50	\$406.00



L404V1095

L404 SERIES OIL

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 and switch action

- Siphon loop provides thermal buffer to diaphragm
- Switching: L404T-SPST open on rise; L404V close on rise 5.1 FLA 240 Vac

Honeywell

Part No.	Operating Range (psi)	Switch	Differential Midscale (psi)	Price
L404V1095	5 - 50	SPST, close on rise	6 to 14	\$545.06
L404T1063	10 - 150	SPST, open on rise	10 to 22	\$562.34
L404V1087	10 - 150	SPST, close on rise	10 to 22	\$619.04



L4079

MANUAL RESET

- High pressure limit switches
- Stainless steel diaphragm for use with steam, air, noncombustible gases and fluids noncorrosive to stainless steel.

- Snap-acting switches open automatically on pressure rise; must be manually reset.
- Breaks 1 circuit
- Siphon loop included
- L4079V for oil applications, above 85 psi intermittent only

Honeywell

Part No.	Operating Range (psi)	Price
L4079B1033	2 - 15	\$306.42
L4079B1058	5 - 50	\$378.14
L4079B1041	10 - 150	\$400.64
L4079B1066	20 - 300	\$456.48
L4079W1000	10 - 150, oil	\$559.00



L91B1019

PROPORTIONAL

Modulating pressure operating control for regulation of liquid or air and other non-corrosive gases.

- Use with steam, air, noncombustible gases, or other fluids noncorrosive 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.

- L91A: Fixed differential
- L91B: Adjustable differential

Honeywell

Part No.	Operating Range (psi)	Differential Midscale (psi)	Price
L91A1037	0 - 15	7 Oz./Sq. In.	\$495.66
L91A1052	5 - 150	5	\$556.58
L91A1078	10 - 300	12	\$617.10
L91B1035	0 - 15	1 to 12	\$553.00
L91B1050	5 - 150	5 to 23	\$614.50
L91B1068	10 - 300	28 to 110	\$671.70
L91B1241	10 - 300	12 to 48	\$671.70



P7810C

PROPORTIONAL

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.
- 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
- Application: On-off, Modulate and Limit Control, (breaks on pressure rise)
- Pipe Connections, Main or High Pressure: 1/2 in. NPT internal thread
- Sensor Element: Stainless Steel, solid state sensor
- Voltage: 120Vac, 50/60

Honeywell

Part No.	Operating Range (psi)	Differential Midscale (psi)	Price
P7810C1000	0 - 15	2 to 10	\$1,409.58
P7810C1026	0 - 300	15 to 50	\$1,459.02

HUMIDITY SENSOR



H46C1166

WALL MOUNT

Provides automatic control of a humidifier or dehumidifier for dehumidification and mildew control in air conditioning systems.

- Fully enclosed, dust free, SPST, snap-acting switch
- 24/120/240 Volt

Honeywell Home

Part No.	Switch	Use with	Humidity (% RH)	Contact Rating (Amps)	Price
H46C1166	SPST, Close on Rise	Dehumidifie	20 to 80	3.8	\$98.22



J10809W

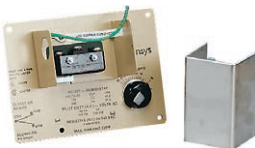
HUMIDISTAT

Ranco humidity controls are designed to regulate the relative humidity of confined air spaces by cyclin humidifying or dehumidifying equipment. J10 controls may be wall mounted and used to control exhaust fans or a furnace humidifier. The J10-808 control may also be

duct mounted. The J10-809 Series can be wired in series or parallel with any 24 volt non-electric thermostat for humidity control in conditioned spaces.

Robertshaw

Part No.	Humidity (% RH)	Function	Voltage	Price
J10809W ¹	20 to 80	Dehumidistat, SPST	24	\$55.32

¹White cover

HC201

2 POSITION HUMIDITY

These controllers provide low or line voltage on-off single stage control of humidifiers, dehumidifiers, valve solenoid valves, compressors, relays, etc.

- Scale range: 15 to 95% RH, 5% switch differential
- SPDT switch

Schneider Electric tac Coleman

Part No.	Description	Price
HC201	Duct Mount Humidity Controller	\$421.00



W42AA1

HUMIDISTAT, LINE VOLTAGE

- Field-adjustable high and low stops. Stops can be set for locked setting.
- Designed for use in Building Automation Systems, BAS, and HVAC applications
- Horizontal or Vertical Mounting
- 4% RH differential

Johnson Controls

Part No.	Description	Price
W42AA1*	Humidistat 10 to 90% RH, SPDT	\$315.00
W43A14*	Humidistat 0 to 70% RH, SPDT	\$315.00



H600A1014

CONVERTIBLE

Operates humidification equipment on relative humidity fall or dehumidification equipment on relative humidity rise.

- Fully enclosed, dust-free, SPDT, snap-acting switch

Honeywell Home

Part No.	Switch	Use with	Humidity (% RH)	Contact Rating (Amps)	Price
H600A1014	SPDT	Universal	20 to 80	3.8 Dehumidifie	\$348.98

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



H8908ASPST

CONVERTIBLE

The H8908B humidistat and H8908C dehumidistat (humidity controllers) provide automatic low voltage control of humidifiers and dehumidifiers or ventilators, respectively, in central heating and air conditioning systems. They have an spst, snap-acting, dust-proof switch and are designed for wall or surface duct mounting.

- Humidity range: 10 to 60% RH
- Temperature range: -20 to 120°F
- Color: premier white®
- Voltage: 24 Vac, 50VA

Honeywell Home

Part No.	Humidity (% RH)	Voltage	Price
H8908ASPST	10 to 60	24 Vac, 50VA	\$114.24
H8908DSPST	10 to 60	24 Vac, 50VA	\$179.22



HE69

DUCT TRANSMITTER

The HE-69xx Sensor Series contains relative humidity (RH) sensing products with $\pm 2\%$ or $\pm 3\%$ accuracy. The HE-69xx Series Duct Probe Humidity and Temperature Sensors combine humidity and temperature sensing in an all-plastic enclosure for use inside ducts.

- Input power options: 14 VDC to 30 VDC or 20 VAC to 30 VAC.

- Output signal: 0 VDC to 10 VDC for humidity indication.
- User-selectable output voltage range allows choice of standard voltage outputs for use with systems in service or new systems.
- All-plastic material for duct probe improves thermal performance.



Part No.	Description	Price
HE69130NP*	Duct Probe Humidity and Temperature Sensor, 1K ohm Nickel sensor, $\pm 3\%$ sensor accuracy	\$491.00



ARH2D

2% ACCURACY RH TRANSMITTER

The A/RH Series relative humidity transmitters utilize a capacitive sensing element to deliver a proportional analog output. This Series features on board DIP switches which allow the user to select the desired output signal. In addition, field calibration can be performed by using the on-board increment and decrement DIP switches. These enhancements

provide increased flexibility and outstanding long term performance. Duct and Outside Air configuration feature conformally coated circuit boards for moisture resistance. Several RTD and thermistor temperature sensing elements are available in this Series.



Part No.	Accuracy	Configuration	Price
A/RH2D	$\pm 2\%$	Duct/Euro	\$420.00
A/RH20	$\pm 2\%$	Outside Air/Euro	\$431.66
A/RH2R	$\pm 2\%$	Room	\$408.34

SOLID STATE

Solid state humidity sensor sense relative humidity in air

- Operating humidity: 10-90% RH

Honeywell

Part No.	Mounting Code	Operating Temp. (°F)	Control Signal	Use with	Price
C7600B2008	Junction Box Wall	32 to 125	2 - 10 Vdc Directly Proportional	T775U	\$221.94
C7600C2001	Any position where it is exposed to freely circulating air	-40 to 150	4 - 20 mA	W7600 or controller requiring 4-20 mA reverse acting input	\$172.48

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

HUMIDITY SENSOR



C7400A2001

ENTHALPY SENSOR

- A solid state enthalpy sensor designed to sense temperature and humidity with 5% accuracy
- C7400A mounts in any position up to 200 ft away from Economizer Logic Module. It uses two sensors for differential control, maximizing energy savings
- C7400S Sylk Bus sensor is powered by and communicates on the Sylk Bus.

Honeywell

Part No.	Control Signal	Description	Use with	Price
C7400A2001	4 - 20 mA output	Enthalpy Sensor	W72XX, W7459, W7460	\$164.10
C7400S1000		Sylk Bus Enthalpy Sensor	W7220	\$139.26



H7625A

Highly accurate, stable humidity transducers designed for use with HVAC controllers such as the T7350 thermostat, H775 remote humidity controller, and W7760 DDC control. The ceramic technology humidity sensor is not affected by condensation and other limitations that sensors that use water

soluble polymer coatings exhibit and provides excellent long-term stability.

- Ceramic Technology allows sensors to recover fully from condensation, fog, and high humidity. (H7655A uses a polymer capacitance humidity sensor)

- Will accept 20KΩ NTC temperature sensor (except H7655A)
- 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 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.

Honeywell

Part No.	Mounting Code	Accuracy	Control Signal	Use with	Price
H7625A2010	Wall	2% from 20 to 95% RH	4-20mA, 0-5Vdc, 0-10Vdc	T7350, XL10, XL15	\$433.54
H7625B2006	Duct	2% from 20 to 95% RH	4-20mA, 0-5Vdc, 0-10Vdc	T7350, XL10, XL15	\$498.50
H7635A2012	Wall	3% from 20 to 95% RH	4-20mA, 0-5Vdc, 0-10Vdc	T7350, XL10, XL15	\$376.34
H7636A2022	Wall	3% from 20 to 95% RH	4-20mA, 0-5Vdc, 0-10Vdc	T7350, XL10, XL15, T775 Series 2000	\$415.18
H7635B2018	Duct	3% from 20 to 95% RH	4-20mA, 0-5Vdc, 0-10Vdc	T7350, XL10, XL15	\$429.94
H7655A1001	Wall	5% from 30 to 70% RH	0-10Vdc	T7350, XL10, XL15	\$174.92
H7655B2014	Duct	±5% from 25 to 95% RH	4-20mA, 0-5Vdc, 0-10Vdc	T7350, XL10, XL15	\$343.94

TEMPERATURE SENSOR



TE60001

PROBE

The TE-6000 sensing elements are typically used with TE-6001 hardware assemblies in a wide variety of temperature sensing applications. All models are nickel wire-wound elements.

Johnson Controls

Part No.	Type	Resistance (Ohm)	Tolerance	Price
TE6000100*	Ultra-precision, Standard	1000	±0.1%	\$95.00

ELEMENT

TE-6100 completed assemblies are used in a wide variety of temperature sensing applications.

Johnson Controls

Part No.	Type	Description	Price
TE61001*	Nickel	17' Averaging Element (10000 1%) w/Handi Box	\$276.00
TE61002*	Nickel	8' Averaging Element(10000 1%) w/Handi Box	\$254.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

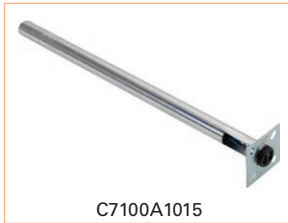
Honeywell

DISCHARGE AIR, C7046 SERIES



Part No.	Description	Resistance (Ohm)	Element Length	Price
C7046A1004	No Setpoint	3000 77°F NTC	8"	\$64.32
C7046A1038	No Setpoint	3000 77°F NTC	12"	\$64.32
C7046B1010	Zone Discharge, Hot Deck, Cold Deck, Remote Return Air	22.8K 77°F NTC	6"	\$111.38
C7046D1008	Discharge Temp.	1097 77°F PTC	8"	\$119.70

DISCHARGE AIR, C7100 SERIES



- Element insertion: 13 1/4"
- Electronic

Honeywell

Part No.	Type	Temperature (°F)	Use with	Element Length	Price
C7100A1015	3484O 77°F	40-220	W7100	13 1/4"	\$158.32
C7100B1013	Thermistor	40-150	W7080	13 1/4"	\$144.34
C7100D1001	PT1000	40-100	XL500, XL600	13 1/4"	\$122.36

AVERAGING



Intended for use with T775 electronic remote temperature controller.

Honeywell

Part No.	Temperature (°F)	Element Length	Price
C7100C1003	40 to 220	13"	\$161.48

WALL, ELECTRONIC



Primary sensor for use with R7380J,L indicating controller and W7100 discharge controllers in indoor spaces.

- Platinum positive temperature coefficient senso
- Sensor can be located up to 300' from controller

Honeywell

Part No.	Temperature (°F)	Resistance (Ohm)	Price
C7130A1001	-40 to 100	3484 77°F	\$90.56
C7130B1009	-40 to 100	1100 77°F	\$92.04

ZIO™ LITE WALL MODULE



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 available with display (TR42) or without display (TR40).

TR42 models have configurable interface: temperature setpoint adjustment, override, fan (with FCU app

Honeywell

Part No.	Description	Price
TR40	Wall Module, Temp Only, Sylk	\$76.52
TR40-CO2	Wall Module, Temp and CO2, Sylk	\$627.14
TR40-H	Wall Module, Temp and Humidity, Sylk	\$386.54
TR40-H-CO2	Wall Module, Temp, CO2 and Humidity, Sylk	\$750.18
TR42/U	LCD Wall Module, Temp Only, Sylk	\$163.48
TR42-CO2	LCD Wall Module, Temp and CO2, Sylk	\$658.72
TR42-H	LCD Wall Module, Temp and Humidity, Sylk	\$428.62
TR42-H-CO2	LCD Wall Module, Temp, CO2 and Humidity, Sylk	\$786.78

TEMPERATURE SENSOR



TR70

ZIO™ LCD WALL MODULE

These sensors are 2-wire, non-polarity sensitive, Sylk™ bus communicating wall modules for use with Spyder™ programmable controllers. All models have a space-temperature sensor, network bus jack, and an LCD with three softkeys and two Up/Down adjustment

keys. The TR70H model includes an onboard humidity sensor.

- Ability to control user access to controller parameters.
- 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 in the wall module configuration tool.

- The Wall Module Configuration Wizard in the WEBs-AX™ Workbench makes it easy to accomplish everything from balancing a VAV box to simply viewing values like duct flow, discharge air temperature or any point in the controller
- 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.
- 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.

Honeywell

Part No.	Description	Price
TR71	Zio LCD Wall Module	\$249.66
TR71H	Zio LCD Wall Module with Humidity Output	\$488.04
TR75	Zio PLUS LCD Wall Module (w/ Scheduling Access)	\$349.88
TR75H	Zio LCD Wall Module with Humidity Output (w/ Scheduling Access)	\$565.92



TR21

WALL MODULE, ELECTRONIC

A family of direct wired wall modules for use with Honeywell Excel 800, 600, 500, 100, 80, 20 (all fully programmable) and W7750, W7751, W7752, W7753, W7761 controllers. All models have a space temperature sensor; some models have setpoint adjustment, override with LED and fan switch.

- Non linear sensor
- TR21A used for averaging in T7350 application

Honeywell

Part No.	Comments	Operating Range (°F)	Resistance (Ohm)	Setpoint Range	Price
TR21	—	45 to 99	20K	—	\$39.32
TR21H	Humidity, Network jack	45 to 99	20K	—	\$270.06
TR21A	For averaging	45 to 99	10K	—	\$56.00
TR21J	Network jack	45 to 99	20K	—	\$50.58
TR22	Selectable setpoint, network jack	45 to 99	20K	Per selection	\$75.76
TR22F5	Network jack, 5 position fan	45 to 99	20K	Per selection	\$145.02
TR23	Selectable setpoint, network jack, override/LED	45 to 99	20K	Selectable	\$115.12
TR23H	Humidity, selectable setpoint knob, network jack, override/LED	45 to 99	20K	55 to 85°F	\$358.06
TR23N	Selectable setpoint knob, network jack, override/LED	45 to 99	20K	Per knob	\$159.62
TR23F3	Selectable setpoint, network jack, override/LED, 3 position fan	45 to 99	20K	Per selection	\$142.38
TR23F5	Selectable setpoint knob, network jack, override/LED, 5 position fan	45 to 99	20K	Per knob	\$146.02
TR24	Network jack, override/LED	45 to 99	20K	—	\$97.44



TR21-WS

WIRELESS WALL SENSOR

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

- 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
- Not compatible with TB7220, TB8220, TB line voltage thermostats, XL15s, W7762, W7763

- Wireless Kits (wall module and receiver) are pre bound at the factory for quick installation

Honeywell

Part No.	Description	Operating Range (°F)	Use with	Price
TR21-WS	Wireless Temperature Sensor	45 to 99	Spyder, Excel 10 W7750, W7751, W7752, W7753, T7350, T7351, TB8575, WEBS-AX™ I/O Module	\$214.54
TR23-WS	Wireless Temperature Sensor with Setpoint (F/C/Relative) and Override Button	45 to 99	Spyder, Excel 10 W7750, W7751, W7752, W7753, T7350, T7351, TB8575, WEBS-AX™ I/O Module	\$293.98
TR21-WK	Wireless Temperature Sensor Kit: includes TR21-WS Sensor and WRECVR Receiver (Bound at Factory)		Spyder, Excel 10 W7750, W7751, W7752, W7753, T7350, T7351, TB8575, WEBS-AX™ I/O Module	\$499.20
TR23-WK	Wireless Temperature Sensor Kit: includes TR23-WS Sensor and WRECVR Receiver (Bound at Factory)		Spyder, Excel 10 W7750, W7751, W7752, W7753, T7350, T7351, TB8575, WEBS-AX™ I/O Module	\$556.64
WRECVR	Receiver Used with Wireless Wall Sensors TR21-WS and TR23-WS	-40 to 150	TR21-WS and TR23-WS	\$275.28



C7170B1000

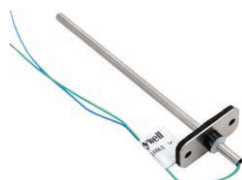
PROBE SENSOR

Primary electronic temperature sensor for the R7380J, L W7100 and W7505 load inputs for immersion, strap-on and duct mounting.

- Two-wire, platinum positive temperature coefficient sensor
- Sensor can be located up to 1195' from controller

Honeywell

Part No.	Temperature (°F)	Resistance (Ohm)	Lead Length	Price
C7170B1000	-40 to 257	1097 77°F	24"	\$111.26



C7770A1006

DUCT

Direct-wired temperature sensor used to sense discharge or return air temperature in a duct controlled by an Excel 10 Series 2000 controller.

- Primary and/or secondary sensor for use with electronic control systems
- Integral 20K Ω non-linear NTC thermistor
- Only available in Long Island NY, West Chester County NY, New York City and Phoenix, AZ. For New York call 914-592-5555. For Phoenix call 877-672-6875.

Honeywell

Part No.	Temperature (°F)	Price
C7770A1006	45-99	\$53.40



C7150B1004

AIR, ELECTRONIC

Used with the W973 single zone system, the M7415A actuator or a solid state economizer module to sense mixed or discharge air in roof-top packaged air conditioning equipment.

- Negative temperature coefficient causes resistance to decrease as sampled air temperature increases.

Honeywell

Part No.	Use with	Price
C7150B1004	W973, W7459, W6210/W7210, W6215/S7215/W7460, M7415	\$45.92



C7250A1001

AIR, ELECTRONIC

Electronic 20K temperature sensor intended for sensing mixed or discharge air in roof top packaged air conditioning equipment.

Thermistor on board with duct mount kit available for use as a probe

Honeywell

Part No.	Use with	Price
C7250A1001	W7220	\$39.20

TEMPERATURE SENSOR

DDC

Electronic temperature sensors used with DDC systems.

- Solid state thermistor element provides accurate sensing of temperature changes.



C7031D

Honeywell

Part No.	Application	Resistance (Ohm)	Use with	Sensor Type	Element Range (°F)	Length (In.)	Price
C7031B2005	Duct Discharge Air	1097 at 77°F		PT1000, PTC	-40 to 250	6	\$103.04
C7031D2003	Hot or Chilled Water, Includes well	1097 at 77°F	Excel 500	PT1000, PTC	40 to 350	5	\$119.28
C7031G2006	Outdoor Air Sensor	1715 at 90°F	W7100 outdoor reset	NTC	-40 to 120	—	\$195.62
C7031J2009	Duct Averaging Sensor	1097 at 77°F	Excel 500	PT1000, PTC	40 to 180	144	\$191.94

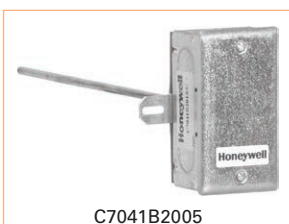
SENSOR

C7023, C7041D are for immersion mounting sense water temperature.

C7041F sense outdoor air temperature and are weatherproof for outdoor use (knockouts allow for 1/2 in. conduit connection).

20 KΩ NTC 77°F sensors designed to be used with Honeywell DDC systems (Excel 500, 100, 80, 50, 10)

Honeywell



C7041B2005

Part No.	Application	Element Range (°F)	Length (In.)	Price
C7023B2005	Duct Mount	-40 to 250	6	\$36.76
C7023B2013	Duct Mount	-40 to 250	12	\$40.54
C7023D2001	Hot or Chilled Water	-40 to 250	5	\$39.34
C7023F2009	Outdoor	-40 to 158	Integral	\$51.18
C7023J2007	Duct Mount, Averaging	-40 to 250	144	\$149.18
C7023K2005	Water/Strap On	-40 to 250	Integral	\$44.32
C7023R2000	Duct Mount, Averaging	-40 to 250	144	\$158.36
C7041B2005	Duct Mount	-40 to 250	6	\$36.58
C7041B2013	Duct Mount	-40 to 250	12	\$39.36
C7041C2003	Duct Mount	-40 to 250	18	\$43.02
C7041D2001	Use Well 50001774-001	-40 to 250	5	\$38.18
C7041K2005	Water/Strap On	-40 to 250	Integral	\$43.02
C7041F2006	Outdoor	-40 to 250	Integral	\$52.16
C7041J2007	Duct Mount, Averaging	-40 to 250	144	\$145.52
C7041R2000 ¹	Duct Mount, Averaging	-40 to 250	144	\$156.74
C7772A1004	Wall Mount/Flush Type	45 to 99	Integral	\$44.26
C7041P2004	Button, Surface Mount	-40 to 250	1 3/16	\$89.76

¹Flexible Copper Averaging Sensor

DUCT

C7660 selectable temperature sensor is used with the W7459, W7460 and W72XX economizer controls which are mounted on an M7415/M7215 Actuator. They permit the use of outdoor air as the first stage of H AC 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.

Honeywell



C7660A1000

Part No.	Control Signal	Price
C7660A1000	4 or 20 mA output	\$89.08



ACI10KCPR20

THERMISTOR

Thermistor sensors for OEM/ Industrial/DDC applications. High accuracy and interchangeability over a wide temperature range. Non polarity sensitive. CE approval (except for averaging sensors, LCDs and units with leads longer than 3 meters)

- Accuracy: $\pm 0.2^{\circ}\text{C}$ (from 0 to 70°C)
- Stability: $\pm 0.13^{\circ}\text{C}$
- Operating Temperature Range: 32 to 122°F
- Operating Humidity: 0 to 90% RH non condensing
- Interchangeability: $\pm 0.2^{\circ}\text{C}$
- Power Dissipation Constant: 3 mW/ $^{\circ}\text{C}$



Part No.	Description	Resistance (Ohm)	Price
ACI10KAND4	Thermistor sensor, 10KO (Type III), duct, 4"	10K (type III)	\$31.50
ACI10KANR2	Thermistor sensor, 10KO (Type III), wall mount room	10K (type III)	\$23.40
ACI10KCPD4	Thermistor sensor, 10KO (Type II), duct, 4"	10K (type II)	\$31.50
ACI10KCPR2	Thermistor sensor, 10KO (Type II), wall mount room	10K (type II)	\$23.40
ACI10KCPR20	Thermistor sensor, 10KO (Type II), wall mount room-override	10K (type II)	\$35.98
ACI10KCPA12	Thermistor sensor, 10KO (Type II), copper averaging, 12ft	10K (type II)	\$145.90
ACI10KCPI4	Thermistor sensor, 10KO (Type II), immersion, 4"	10K (type II)	\$60.70

CO2 SENSOR



C7232A1008

CO2 sensor for Demand Control Ventilation 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.
- Device provides voltage output based on CO levels.
- Models available with SPST relay output.

Honeywell

Part No.	Output	Display	Mounting Code	Price
C7232A1008	0-10Vdc or 4-20mA	Yes	Wall	\$556.76
C7232A1016	0-10Vdc or 4-20mA	No	Wall	\$541.06
C7232B1006	0/2 - 10 Vdc or 0/4 - 20 mA selectable, w/ one relay output	Yes	Duct	\$666.36
C7232B1014	0-10Vdc or 4-20mA	No	Duct	\$649.20



C7632A1004

The CO sensors offer a fixed 0-2000ppm and fixe 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 CO 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 CO in the space.

- Non-Dispersion-Infrared (NDIR) technology used to measure carbon dioxide gas.
- Gold-plated sensor provides long-term calibration stability.
- Used for CO based ventilation control
- Automatic Background Calibration algorithm based on long-term evaluation reduces required typical zero-drift check maintenance.

Honeywell

Part No.	Output	Display	Mounting Code	Carbon Dioxide Range	Price
C7632A1004	0-10Vdc Fixed	No	Wall	0 to 2000 ppm, Fixed	\$475.86
C7632B1002	0-10Vdc Fixed	No	Duct	0 to 2000 ppm, Fixed	\$550.16



CWE

The CWE Series is a non-dispersive infrared analyzer designed for measuring environmental CO concentration in ventilation systems and indoor living spaces. Its measurement range of 0-2000 ppm makes it compliant with ASHRAE and other standards for ventilation control. The CWE Series provides a user-selectable 4-20mA or 0-10VDC output. Microproces sor-based digital

electronics and a unique self-calibration algorithm improves long-term stability and accuracy.

- Accurate to ± 30 ppm $\pm 5\%$ of measured value
- Repeatable to ± 20 ppm $\pm 1\%$ of measured value
- Measurement Range: 0 to 2000 ppm
- 20 to 30 Vdc / 24 Vac; 100 mA maximum
- 5 year calibration interval



Part No.	Output	Input	Description	Price
CWE	4 to 20 mA / 0 to 10 Vdc	20 to 30 Vdc / 24 Vac; 100 mA max.	Carbon Dioxide Wall Sensor	\$618.00

ENVIRONMENTAL SYSTEMS CONTROL



W7100A1053

DISCHARGE AIR TEMPERATURE

Maintains an average discharge air temperature in variable air volume (VAV) systems or other systems requiring discharge air control of multistage cooling or heating. Reduces kilowatt demand and consumption by

maintaining the minimum amount of heating or cooling capacity required to hold the discharge air set point. Utilizes economizer for free cooling when available.

- Supply voltage: 20-30 Vac

Honeywell

Part No.	Stages		Setpoint Range	Price
	Cool	Heat		
W7100A1053	6	None	40 to 90	\$4,242.14
W7100C1018	4	2	40 to 90	\$4,444.12



W7100G1001

DISCHARGE WATER TEMPERATURE

Controls discharge water temperature in reciprocating chiller and cooling tower applications.

- Supply voltage: 20-30 Vac

Honeywell

Part No.	Cooling Stages	Setpoint Range	Price
W7100G1001	6	10 to 60	\$4,343.10



W973J1017

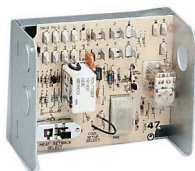
LOGIC PANEL

Controls heating, cooling and economizer operation in commercial air conditioning and heat pump equipment.

- 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.
- Controls up to 3 on/off heat or cool stages or up to 10 on/off heat and/or cool stages using W975 satellite sequencers.
- Supply power: 24 Vac

Honeywell

Part No.	Heat	Cool	Price
W973A1017	2	2	\$2,188.76
W973F1004	4	2	\$2,934.80
W973J1017	4	4	\$3,325.14



W974B1006

SETBACK/SETUP MODULE

Used with W973 logic panel to conserve energy during building unoccupied periods. Provides heating setback and either cooling shutdown or cooling setup. During unoccupied periods, outdoor air damper is closed and system fan is switched from continuous to intermittent operation. In cooling setup

mode, W974B automatically cycles fan with a call for heating, cooling or economizer. In cooling shutdown mode, W974B automatically cycles fan with a call for heating. Economizer provides first stage of cooling i cooling setup mode.

Honeywell

Part No.	Temp. Setback (°F)	Temp. Setup (°F)	Price
W974B1006	5, 10, 15	5, 8, 12	\$1,338.60



JADE™ ECONOMIZER MODULE

The W7220 Economizer Module is the core of the JADE™ system and provides the basic inputs and outputs to provide simple economizer control. When used with the optional Sylk Bus sensors, the Economizer Module provides more advanced economizer functionality.

- W7220 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.

- W7220 automatically detects sensors by polling the Sylk Bus 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 its LCD.
 - The module is designed for use with any Honeywell 2 to 10 Vdc or Honeywell Sylkbus communicating actuator.
 - Use with sensors: dry bulb temperature and mixed air, C7250A; temperature and humidity, C7400S1000 (optional); DCV (CO) sensor (C7232); humidity, C7600 (optional)
- Y7220A7215 includes the W7220A1000 logic module, (2) C7250A1001 sensors for outside and mixed air dry bulb applications, and M7215A1008 25 lb-in, foot mount, spring return actuator motor

Honeywell

Part No.	Control Type	Description	Price
W7220A1000	—	Economizer Logic with DCV and Commissioning	\$490.98
Y7220A7215	Dry Bulb with Black Motor	Jade™ Y-Pack Economizer System, includes W7220A1000, (2) C7250A1001 sensors, M7215A1008 motor	\$1,010.28
Y7220S7215	Enthalpy with Black Motor	Jade™ Y-Pack Economizer System, includes W7220A1000, OAE sensor (C7400S1000), MAT Sensor (C7250A1001), and black motor (M7215A1008)	\$1,105.14
YL7220A7503	Dry Bulb w/ Non-Communicating DCA	Jade™ Y-Pack Economizer System, includes W7220A1000, OAT sensor (C7250A1001), MAT Sensor (C7250A1001), and DCA OA (MS7503A2030)	\$923.52
YL7220S7503	Enthalpy w/ Non-Communicating DCA	Jade™ Y-Pack Economizer System, includes W7220A1000, OAT sensor (C7400S1000), MAT Sensor (C7250A1001), and DCA OA (MS7503A2030)	\$1,011.52
YL7220SJ3103	Enthalpy w/Communicating 27 lb-in DCA	Jade™ Y-Pack Economizer System, includes W7220A1000, OAT sensor (C7400S1000), MAT Sensor (C7250A1001), and DCA OA (MS3105J3030)	\$1,014.66
YL7220SJ3105	Enthalpy w/Communicating 44 lb-in DCA	Jade™ Y-Pack Economizer System, includes W7220A1000, OAT sensor (C7400S1000), MAT Sensor (C7250A1001), and DCA OA (MS3105J3030)	\$1,025.78



ECONOMIZER™ LOGIC MODULE, ENHANCED

Use with C7400, or C7650 and C7150B or C7046 Sensors; indoor air quality (IAQ) sensor (2-10 Vdc); and Honeywell Series 72 actuators, or M7415 Damper Actuator to proportion outdoor and return air dampers for economizer and ventilation control in commercial HVAC equipment.

- All models include air change and shutdown; "A" models also provide prepurge.
- Combines solid state enthalpy or dry bulb changeover control, minimum and maximum damper position potentiometer and DCV setpoint functions.
- Voltage: 24 Vac.

Honeywell

Part No.	Use with	Output	Price
W7215B1004	Series 72 Actuators, Sensors C7150, C7046, C7650, C7232, C7400	2-10Vdc to Actuator	\$737.26

THERMOSTAT



TC1101

2 POSITION DUPLEX

Provides on/off control of heating/cooling systems, lower line voltage, fan coils, motor starters and contactors.



Part No.	Setpoint Range	Differential	Price
TC1101	55 to 85	2°F	\$295.00
TC1102	45 to 75	2°F	\$612.00
TC1151 ¹	55 to 85	1.5°F	\$1,263.00

¹Dual case size—matches TC1161

DUCT SMOKE DETECTOR



DUCTSD

DUCT SMOKE DETECTOR, PHOTOELECTRIC

The System Sensor DUCTSD Series duct smoke detectors with a cover integrated smoke test port and flexible configurations provides efficient installation and maintenance.

- 4-Wire Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min to 4,000 ft/min (0.5 m/s to 20.32 m/sec)
- Versatile mounting options: square or rectangular configuration
- Cover integrated smoke test port
- Plug-in sensor offers the latest sensor technology
- Broad ranges for operating temperature (-4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- Increased wiring space with an added 3/4-inch conduit knockout
- One easy-access Test/Reset button
- Patented interconnect feature for multi-fan shutdown
- High contrast terminal designations and wiring diagram label make wiring easy
- Built-in short circuit protection from operator wiring errors
- Two DPDT Form-C relay contacts
- 24 VAC/DC or 120 VAC
- Compatible with existing System Sensor duct smoke products, including remote accessories RTS151 and RTS151KEY



Part No.	Nb. of Wires	Price
DUCTSD	4	\$232.80



D4120

LOW-FLOW, PHOTOELECTRIC

The InnovairFlex D4120 4-wire photoelectric duct smoke detector features a pivoting housing that fits both square and rectangular footprints and mounts to round or rectangular ductwork.

A plug-in sensor head offers

improved false alarm immunity and simple installation, testing, and maintenance. The InnovairFlex housing provides ample wiring space, a 3/4 inch conduit knockout, and built-in short circuit protection to prevent damage to sensitive components during installation. As many as 50 InnovairFlex detectors can be interconnected. When one unit senses smoke, all interconnected detectors will switch their relays; only the detector sensing smoke will go into alarm, thus pinpointing the fire source.

Three DIP switches can be used to configure field selectable settings: cover tamper delay, number of sensors to be controlled, and shut down on trouble option. The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

- 24 Vac/Vdc or 120 Vac operation
- Built-in reset button
- Remote test station option
- Remote sounder option
- Air velocity rating from 100-4000 fpm
- Two DPDT form-C relay contacts
- Temperature range: -4 to 158°F
- Patented sampling tube installs from front or back of the detector with no tools required
- Listed UL268A



Part No.	Description	Price
D4120	Low-Flow, Photoelectric	\$250.78
D4120W	Low-Flow, NEMA 4, Waterproof	\$366.32



RTS2

MULTI-SIGNALING ACCESSORY

Designed to work with InnovairFlex 4-wire conventional duct smoke detectors. These accessories include a key switch that can be used to select one of two connected sensors to be tested, reset, or both by a push button switch.

The AOS is an optional accessory included with the RTS2-AOS model.



Part No.	Description	Voltage	Price
RTS2	Multi Signaling Accessory	20-29 VDC	\$169.46
RTS2-AOS	Multi Signaling Accessory with Add-On-Strobe (RTS2 & AOS)	20-29 VDC	\$253.34
AOS	Add-On-Strobe for use with RTS2		\$82.50



DH400OE1

WEATHERPROOF ENCLOSURE

The DH400OE-1 all-weather outdoor enclosure is specifically designed to protect the system sensor high-temperature model DH400, D4120 duct smoke detector from harsh elements. This enclosure provides the protection needed to meet agency requirements

in outdoor installations against rain, sleet and snow or indoors against dripping water.

- Special sampling tube gaskets are included as required by U.L. 268A Listing



Part No.	Use With	Price
DH400OE1	DH400, D4120	\$487.84



DST1

SAMPLING TUBES

Used to sample duct airflow for models D4120, D4120W



Part No.	Use for Duct Width (Ft.)	Use With	Price
DST1	to 1	D4120	\$10.10
DST1.5	1 to 2	D4120	\$13.00
DST3	2 to 4	D4120	\$18.82
DST5	4 to 8	D4120	\$22.76
DST-10	8 to 12	D4120	\$48.44



APA151

ANNUNCIATOR

Remote annunciator for InnovairFlex™ duct smoke detectors. Designed for both conventional and intelligent applications. Their red LED provides visual indication of an alarm condition.



Part No.	Description	Use With	Price
APA151	Remote Annunciator w/Piezo Horn	DH100, DH400, D4120	\$56.14
RA100Z	Remote Annunciator	InnovairFlex™ duct smoke detectors	\$32.52



P2R

HORN/STROBE

- Operates on either 12V or 24V
- Tamper resistance capability
- Field selectable candela settings on wall and ceiling units
- Automatic selection of 12 or 24 volt operation at 15 and 15/75 candela

- Minimal intrusion into the back box
- Horn rated at 88+ dbA at 16 volts
- Rotary switch for tone selection
- 3 horn volume settings
- Electrically compatible with existing SpectrAlert products
- Meets UL1971, NFPA72, and ADA signaling requirements



Part No.	Description	Price
P2R	Horn/Strobe	\$117.60
P2WK-P	Outdoor Horn/Strobe	\$163.48



LENS-A

COLORLED LENSES

Lens attachment for all SpectrAlert Advance plain (non-FIRE marked) indoor or outdoor, ceiling- or wall-mounted strobes



Part No.	Description	Price
LENS-A	Horn/Strobe, Yellow	\$20.36
LENS-B	Horn/Strobe, Blue	\$20.36



RTS151

REMOTE TEST STATION

Remote test stations are automatic fire detector accessories designed to test duct smoke detectors from a convenient location. For 4-wire detectors, the RTS151KEY test station features a multi-colored LED that alternates between steady green and red. For 2-wire detectors, the LED illuminates red for alarm.



Part No.	Description	Price
RTS151	Test Station	\$67.62
RTS151KEY	Test Station with Key Switch	\$98.94

COMBUSTIBLE GAS DETECTOR



GD2A

METHANE AND PROPANE GAS DETECTION

Low voltage electronic detector of combustible, heating type gases. Designed for connection to UL Listed Fire Alarm/Burglary Control Panels. Alarm control panels that work on 12 or 24 VDC can provide battery backup

to the GD-2A detectors. For use in ordinary indoor locations of family living units and office workspaces. Intended for installation in building in non-hazardous locations such as residences, retail stores, office buildings, and institutional buildings. This combustible gas detector has been evaluated by UL for methane (natural gas) and propane (LP) gas. It is NOT designed to detect smoke, fire or carbon monoxide

- Supervised Sensor
- SPDT Alarm and N.C. Trouble Relay
- Can be self-restoring or latching
- Solid State Electronic sensors: no maintenance or recalibration
- Voltage: 12 to 24 VAC or VDC

MACURCO
GAS DETECTION

Part No.	Description	Price
GD2A	Combustible Gas Detector For Use With Alarm Control Panels	\$254.50



GD6

METHANE, PROPANE OR HYDROGEN GAS DETECTION

Combustible gas detectors will respond to a wide range of hydrocarbons, including aerosol sprays, cleaning solvents, paint thinner and other common volatile organic compounds. This low voltage detector provides

automatic feedback and fan or valve control that can help reduce combustible gas concentrations in parking garages, battery rooms, maintenance facilities, and other locations that require combustible gas detection.

- Target Gas: Methane (NG), Propane (LP) or Hydrogen (H2)
- Output: Fan relay, Alarm relay and 4-20mA current loop
- Controls: Digital display (0-50% LEL), buzzer, fan delay, fan minimum runtime
- Mounts on a standard 4" x 4" electrical box
- 5 A SPDT fan relay controls valves, louvers or exhaust fans
- 0.5 A N.O. or N.C alarm relay connects to warning devices or control panels
- 4-20mA current loop, compatible with the Macurco DVP-120 Control Panel
- Factory calibrated
- Supervised system design: detector problem will cause the fan and alarm relay to activate
- Power: 3 W (max) from 12 to 24 VAC or 12 to 48 VDC

MACURCO
GAS DETECTION

Part No.	Description	Price
GD6	Combustible Gas Detector Controller and Transducer	\$840.48

CARBON MONOXIDE DETECTOR



CM6

DETECTOR, CONTROLLER AND TRANSDUCER

Electronic detection system used to measure the concentration of CO and provide feedback and automatic exhaust fan or valve control to help reduce CO concentrations in parking garages, maintenance facilities or other commercial applications.

- Fan relay actuation: selectable at 15, 25, 35 (default), 50 or 100 ppm CO
- Output: Fan relay, Alarm relay and 4-20mA current loop
- Controls: Digital display (0-200 ppm), buzzer, fan delay, fan minimum runtime
- Mounts on a standard 4" x 4" electrical box
- 5 A SPDT fan relay controls valves, louvers or exhaust fans
- 0.5 A N.O. or N.C alarm relay connects to warning devices or control panels
- Factory calibrated
- Supervised system design: detector problem will cause the fan and alarm relay to activate
- Power: 3 W (max) from 12 to 24 VAC or 12 to 32 VDC

MACURCO
GAS DETECTION

Part No.	Description	Price
CM6	Carbon Monoxide Detector, Controller and Transducer	\$840.48

THERMOSTAT



T3610-1001

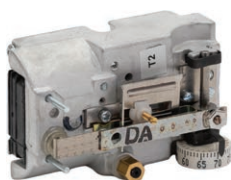
LOW VOLUME

The T-3610 pneumatic thermostat is a low volume proportional controller providing temperature control for a wide variety of applications including return air, mixed air, and unit ventilator control.

Johnson Controls

Part No.	Includes	Price
T3610-1001*	8' Averaging Element, 5 Holders	\$659.00
T36101003*	18" Rigid Stem Element with Duct Mounting Bracket	\$600.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



T4002201

HIGH VOLUME, SINGLE TEMPERATURE

The T4002 is a high volume output, single temperature thermostat.
Note: Requires mounting bracket and cover to complete installation

Note: Requires mounting bracket and cover to complete installation



Part No.	Action	Mounting Code	Price
T4002201*	DA	Horizontal	\$255.00
T4002202*	RA	Horizontal	\$255.00
T4002203*	DA	Vertical	\$255.00
T4002204*	RA	Vertical	\$255.00



T4054-1

2 PIPE, HIGH VOLUME, ENERGY MANAGER

The T-4054 heating-cooling, energy manager thermostat is a high volume output, with an adjustable deadband of 0 to 30°F between heating and cooling set points.

Note: Requires mounting bracket and cover to complete installation



Part No.	Action	Price
T4054-1*	DA	\$365.00
T4054-2*	RA	\$437.00



T41002

2 PIPE, LOW VOLUME, SINGLE TEMPERATURE

The T4100 is a low volume output, single temperature thermostat.



Part No.	Action	Price
T41001*	DA	\$280.00
T41002*	RA	\$288.00



T4506201

2 PIPE, HIGH VOLUME, DAY/ NIGHT

The 4506 is a high volume output, dual temperature, dual dial thermostat. The T4506 provides individual day and night, or two setpoint temperature control.

Note: Requires mounting bracket and cover to complete installation



Part No.	Description	Price
T4506201*	Direct Acting, Horiz. Mounting, w/Indexing Switch, Switchover 17 psi	\$525.00
T4506202*	Direct Acting, Vert. Mounting, w/Indexing Switch, Switchover 17 psi	\$540.00
T4506209*	Reverse Acting, Horiz. Mounting, w/Indexing Switch, Switchover 17 psi	\$616.00
T4506203*	Direct Acting, Horiz. Mounting, w/o Indexing Switch, Switchover 17 psi	\$468.00
T4506204*	Direct Acting, Vert. Mounting, w/o Indexing Switch, Switchover 17 psi	\$468.00
T4506217*	Reverse Acting, Horiz. Mounting, w/o Indexing Switch, Switchover 17 psi	\$468.00



T46002

2 PIPE, LOW VOLUME, ENERGY MANAGER

The T-4600 is a low volume output, energy managing, heating-cooling thermostat. The independent setpoints can result in a deadband to encourage energy conservation by eliminating heating and cooling overlap.



Part No.	Action	Price
T46001*	DA	\$488.00
T46002*	RA	\$488.00



T4756205

2 PIPE, HIGH VOLUME, DUAL TEMPERATURE

The T-4756 is a high volume output, dual-temperature, dual-dial, heating-cooling thermostat. The T-4756 provides automatic changeover between direct and reverse actions when supply pressure changes from 15 to 20 psig.

Note: Requires mounting bracket and cover to complete installation



Part No.	Action	Mounting Code	Price
T4756205*	15 psig Reverse/20 psig Direct	Horizontal	\$458.00



*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

PNEUMATIC, JOHNSON CONTROLS

THERMOSTAT



T31002

SINGLE TEMPERATURE, SINGLE PRESSURE

- External set point adjustment
- Includes protective snap-on cover
- Includes pointer tabs to restrict the temperature adjustment range to as little as $\pm 2.5^{\circ}\text{F}$

- Factory calibrated for a nominal adjustment of $\pm 7.5^{\circ}\text{F}$, from a set point of 75°F
- Includes attached mounting bracket



Part No.	Action	Price
T31002*	DA	\$830.00



T4752201

2 PIPE, HIGH VOLUME, ENERGY MANAGER

A high volume output, heating-cooling thermostat. Provides automatic changeover between Direct Acting (DIR) and Reverse Acting (REV) when supply pressure changes from 15 to 20 psig (105 to 40 kPa).

Includes fahrenheit dial
Order cover and mounting bracket separately



Part No.	Action	Pressure Range (psig)	Price
T4752201*	DA/RA	15-DA/20-RA	\$433.00
T4752205*	RA/DA	20-DA/15-RA	\$433.00



T40002138

COVERS

Covers for T4000 Series thermostats.



Part No.	Material	Ther-mometer	Mounting Code	Win-dow	Price
T40002138*	Beige Plastic	No	Horiz. or Vert	No	\$39.20
T40002139*	Beige Plastic	No	Horiz.	No	\$39.20
T40002140*	Beige Plastic	Yes	Horiz.	No	\$57.00
T40002141*	Beige Plastic	No	Horiz.	1	\$39.20
T40002142*	Beige Plastic	Yes	Horiz.	1	\$51.00
T40002144*	Beige Plastic	No	Vert.	No	\$43.50
T40002145*	Beige Plastic	No	Vert.	1	\$41.10
T40002146*	Beige Plastic	Yes	Vert.	1	\$51.00
T40003139*	White Plastic	No	Horiz.	No	\$41.10
T40003141*	White Plastic	No	Horiz.	1	\$41.10



T4002124

ACCESSORIES

See Thermostat Conversion Kit section for additional mounting brackets.



Part No.	Description	Price
T4002124*	T4000 Thermostat Mounting Bracket	\$19.70



T4516201

3 PIPE, HIGH VOLUME, DAY NIGHT

A high volume output, dual temperature, dual dial thermostat. The T -4516 provides individual day and night control, or weekend setback.

- Available in direct acting with auto switchover at 17 psig
- Additional output air terminal which can be used as an on-off switchline pressure
- Includes Fahrenheit dial
- Provided with an optional manual indexing switch that permits you to restore the day temperature of the individual thermostat without affecting the other system thermostats. Indexing switch can be unlatched manually or will automatically reset with the day cycle.



Part No.	Action	Price
T4516201*	Dual DA	\$540.00

THERMOSTAT KIT



T4002303

2 PIPE, HIGH VOLUME CONVERSION KIT

The T4002-30X thermostat with cover and two-pipe conversion kits feature a T4002201 (DA) or a T4002202 (RA) thermostat. The kits also contain a white or beige cover and cover plate, a selection of faceplates, and all other

necessary parts and mounting hardware required to convert a wide array of two-pipe competitors' thermostats.



Part No.	Action	Color	Price
T4002301*	DA	White	\$343.00
T4002302*	RA	White	\$343.00
T4002303*	DA	Beige	\$343.00
T4002304*	RA	Beige	\$343.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

THERMOSTAT REMODEL KIT



T4000605

CONVERSION KIT

The T-4000-605 (beige) universal conversion kits provide all the parts necessary to remodel existing room installations of both Johnson Controls and non-Johnson Controls thermostats. These kits can be applied to existing instrument

installations with exposed or concealed tubing.

Includes terminal connector and tubing, T-400 air fittings, adjustable pipehead, tube couplings and clamps, and mounting hardware. Convert T400 models to T4000.

Note: Requires T4002 thermostat and cover



Part No.	Description	Price
T4000605*	Universal Conversion Kit	\$135.00
T4000611*	Bakelite Back Adaptor Style for Dual Temperature Vertical or Horizontal Instruments with Two Pipehead Adaptors	\$76.00
T4000612*	Metal Back Subplate Style for Single or Dual Temperature Vertical or Horizontal Instruments with Two Pipehead Adaptors	\$223.00

TEMPERATURE TRANSMITTER



T5002201

ROOM TEMPERATURE

The T-5002 Series room transmitters measure space or mass temperature and transmit a proportional 3 to 15 psig pneumatic output signal to an indicator, receiver-controller, or building automation system (BAS) for automatic temperature control.

Note: Requires T4002 mounting bracket and cover to complete installation



Part No.	Action	Temperature (°F)	Price
T5002201*	DA	50 to 100	\$522.00
T5002202*	DA	60 to 85	\$522.00



T52101114

COPPER BULB

The T-5210 pneumatic temperature transmitter measures temperature and converts this measurement to an air pressure signal that is transmitted to a pneumatic receiver, controller, or receiver-indicator.



Part No.	Operating Temperature (°F)	Capillary Length	Price
T52101001*	50 to 100	5 1/2"	\$558.00
T52101002*	0 to 100	5 1/2"	\$558.00
T52101004*	40 to 240	5 1/2"	\$558.00
T52101008*	50 to 150	5 1/2"	\$558.00
T52101113*	-40 to 160	48"	\$586.00
T52101114*	0 to 100	48"	\$586.00
T52101123*	60 to 85	5 1/2"	\$614.00
T52101151*	20 to 120	48"	\$645.00



T52101009

COPPER AVERAGING

The T-5210 pneumatic temperature transmitter measures temperature and converts this measurement to an air pressure signal that is transmitted to a pneumatic receiver, controller, or receiver-indicator.



Part No.	Element Length	Operating Temperature (°F)	Price
T52101005*	8'	50 to 100	\$695.00
T52101006*	8'	40 to 240	\$632.00
T52101007*	8'	50 to 150	\$632.00
T52101116*	17'	50 to 150	\$645.00
T52101009*	8'	0 to 100	\$632.00
T52101124*	8'	40 to 65	\$695.00

CONTROLLER



T53121

RECEIVER CONTROLLER, T5312 SERIES

The T-5312 receiver-controller directly controls dampers, valves, and other devices in a pneumatic transmission system. The T-5312 produces a proportional 3 to 15 psig pressure signal from a remotely located transmitter.



Part No.	Action	Price
T53121*	Proportional	\$1,421.00
T53123*	Two-Position	\$1,699.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

CONTROLLER



T80003

REMOTE BULB, TEMPERATURE

The T-8000 bulb element thermostat provides proportional, two-position, direct action, or reverse action temperature control. The T-8000 is designed for applications which require the sensing element to be located where extreme conditions do

not permit controller mounting or where operational adjustments to the controller would be inconvenient. This relay-type instrument is ideally suited for installations requiring the controller to be mounted on a local control panel.

Proportional action, non-compensated capillary, includes two-sided dial: -10 to 124°F or 110 to 244°F.



Part No.	Element	Capillary Length	Price
T80001*	Bulb	4'	\$1,583.00
T80003*	Bulb	15'	\$1,583.00

IMMERSION TEMPERATURE

The T-8020 immersion thermostat provides control of liquid temperatures. The T-8020 can function as a proportional, direct action, or reverse action instrument.



Part No.	Action	Price
T80201*	Proportional	\$1,758.00



T58001

RECEIVER CONTROLLER, T5800 SERIES

The T-5800 pneumatic receiver-controller is designed for use with remote temperature, humidity, or pressure transmitters that are connected to a control variable (CV) input. The controller provides precise control of pneumatic devices.

The T-5800 is capable of providing restricted supply air to low volume remote transmitters, reducing the number of air line connections needed between instruments to only one line. The CV input accepts the transmitted output of any pneumatic device with a calibrated output of 3 to 15 psig.



Part No.	Action	Input	Price
T58001*	Proportional	Single	\$1,661.00
T58002*	Proportional Plus Integral	Single	\$2,349.00
T58003*	Proportional	Dual	\$2,295.00
T58004*	Proportional Plus Integral	Dual	\$3,153.00



P38001

RESET VOLUME, VAV

The P-3800 reset volume controller regulates the flow of air in variable air volume boxes. The P-3800 controls the output volume, between adjustable minimum and maximum limits, in response to a reset signal from a thermostat or some other master controller.



Part No.	Thermostat Type	Configuration	Price
P38001*	DA, RA	(DADR), (RARR)	\$375.00
P38002*	RA, DA	(DARR), (RADR)	\$375.00



P80001

PRESSURE

The P-8000 pressure controller provides proportional or two-position control in applications that require the controller to be located on a local control panel.



Part No.	Action	Dial (2-sided)	Price
P80001*	Proportional	30" HG to 10 psig/0 to 25 psi	\$1,610.00

ACTUATOR, DAMPER



D30621

2" STROKE

The D-3062 pneumatic actuator is a multipurpose positioning device used to accurately position small dampers primarily on variable air volume, terminal units and small ventilating dampers in response to output signals of a pneumatic controller or electro-pneumatic transducer.

The actuator is also recommended for use on other air flow control dampers in interior locations up to a maximum area of 4 square feet for proportional volume control and 6.25 square feet for two-position actuation, provided that the torque requirements are compatible with the specific application

- Requires actuator linkage kit to complete installation



Part No.	Nominal Spring Range (psig)	Price
D30621*	3 to 7	\$210.00
D30622*	5 to 10	\$210.00
D30623*	8 to 13	\$210.00
D30624*	11 to 15	\$229.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



3" STROKE

The D-3153 pneumatic actuator is a multipurpose positioning device used primarily for operating ventilating dampers in response to the output signals of a pneumatic controller or electro-pneumatic transducer.

The D-3153 can be used with dampers up to a maximum area of 16 square feet for proportional volume control, and 25 square feet for two-position actuation, provided that the torque requirements are compatible with the specific application.



Part No.	Nominal Spring Range (psig)	Includes	Price
D31531*	8 to 13	Pilot Positioner, Universal Mounting Bracket	\$1,021.00
D31532*	8 to 13	Universal Mounting Bracket	\$735.00
D31533*	5 to 10	Universal Mounting Bracket	\$721.00
D31535*	8 to 13	Auxiliary Mounting Bracket	\$702.00
D31537*	3 to 7	Auxiliary Mounting Bracket	\$689.00



4", 6" STROKE, SWIVEL MOUNT

The D-3240 Series pneumatic piston actuators are multipurpose positioning devices designed for operating inlet vanes on centrifugal fans and compressors in direct response to the output signal of a pneumatic controller.

These actuators can also be used on other applications that require a large amount of positioning power from a single actuator, such as large damper applications, provided that the damper is designed to withstand the high torque capabilities of the actuator.



Part No.	Nominal Spring Range (psig)	Stroke Distance (In.)	Includes	Price
D32444*	8 to 13	4	Swivel Mount Bracket, Clevis, and Crank Arm	\$1,112.00
D32461*	8 to 13	6	Swivel Mount Bracket, Clevis, and Crank Arm	\$1,722.00



3" STROKE

The D-4073 pneumatic actuator is a multipurpose positioning device used to accurately position small dampers primarily on unit ventilator, variable air volume terminal units, and small ventilating dampers in response to output signals of a pneumatic controller or electro-pneumatic transducer.

The actuator is also recommended for use on other air flow control dampers in interior locations up to a maximum area of 6.75 square feet for proportional volume control, and 11.7 square feet for two-position actuation, provided that the torque requirements are compatible with the specific application.

Where precision sequential operation is desired, or additional positioning power is necessary, use a D-9502 pilot positioner. Up to four more D-4073 actuators may be slaved from one pilot positioner for coupled dampers.



Part No.	Nominal Spring Range (psig)	Includes	Price
D40731*	8 to 13	D9502, Universal Mounting Bracket	\$789.00
D40732*	8 to 13	Universal Mounting Bracket	\$537.00
D40733*	5 to 10	Universal Mounting Bracket	\$537.00
D40735*	8 to 13	Auxiliary Mounting Bracket	\$444.00
D40736*	5 to 10	Auxiliary Mounting Bracket	\$438.00



ACTUATOR POSITIONER

The D-9502 pneumatic damper actuator positioners are precision relay devices used to adjust and maintain damper actuators in exact positions on those applications requiring precise or otherwise special damper positioning.

- Provides dynamic stabilization and/or sequential control of pneumatic damper actuators
- For D3246 also order spring D9502612, and pilot spring bracket D9502100



Part No.	Use with	Price
D95025*	D3244/D3246 Actuator	\$466.00
D95028*	D3153 Actuator	\$497.00
D950212*	D4073 Actuator	\$548.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

PNEUMATIC, JOHNSON CONTROLS

VALVE ACTUATOR



PNEUMATIC ACTUATOR

Pneumatic valve actuators are designed to accurately position steam or water valve modulating plugs in response to a pneumatic signal from a controller. The actuators have a molded synthetic rubber diaphragm design.

- Universal valve mounting design is compatible for use on all Johnson Controls valves with V-3000 mounting configuration



Part No.	Description	Price
V30001*	Valve Actuator, Replaceable Diaphragm	\$196.20
V30008003*	Valve Actuator, Enclosed	\$260.10



PNEUMATIC ACTUATOR

The V-3802 Pneumatic Oval Top Actuator positions steam or water valve modulating plugs in response to a pneumatic signal from a controller.

- Comparatively small oval enclosed actuator has sufficient force to handle most seating pressures
- Easily field mounted to the valve bonnet with a single set screw. Refer to linkage and mounting kits in Linkage Kits for Field Coupling Johnson Controls Actuators to VT Series Valves only. Also available to replace older, installed V-3800 Series Oval Top Actuators.



Part No.	Description	Price
V38021*	Valve Actuator, VT, V-3800 Valves	\$245.00

SMALL PNEUMATIC ACTUATOR

Accurately positions the modulating plugs of chilled or hot water control valves in response to a pneumatic signal from a controller.

- Directly replaces field installed V-3854 and V-3800 models
- Tailored for small terminal unit valve applications
- Direct replacement for oval top actuators (VT Series and older oval top series) and (V-3800 Series) actuators (except V-3801-8001 on VG7000 Series valves)



Part No.	Description	Price
V40001*	Valve Actuator, Small	\$301.00

VALVE ACTUATOR ASSEMBLY



TWO-WAY, NORMALLY OPEN, PDTC, BRONZE VALVE

- NPT end connections



Part No.	Connection		Flow (Cv)	Nominal Spring Range (psig)	Price
	Size (In.)	Type			
VG7241CT+3008B*	1/2	NPT	0.73	3 to 6	\$459.90
VG7241ET+3008B*	1/2	NPT	1.8	3 to 6	\$459.90
VG7241ET+3008D*	1/2	NPT	1.8	4 to 8	\$459.90
VG7241ET+3008E*	1/2	NPT	1.8	9 to 13	\$459.90
VG7241GT+3008B*	1/2	NPT	4.6	3 to 6	\$460.80
VG7241GT+3008D*	1/2	NPT	4.6	4 to 8	\$460.80
VG7241GT+3008E*	1/2	NPT	4.6	9 to 13	\$460.80
VG7241LT+3008B*	3/4	NPT	7.3	3 to 6	\$550.80
VG7241LT+3008D*	3/4	NPT	7.3	4 to 8	\$550.80
VG7241LT+3008E*	3/4	NPT	7.3	9 to 13	\$550.80
VG7241NT+3008B*	1	NPT	11.6	3 to 6	\$643.50
VG7241NT+3008E*	1	NPT	11.6	9 to 13	\$643.50
VG7241PT+3008B*	1 1/4	NPT	18.5	3 to 6	\$799.20
VG7241PT+3008D*	1 1/4	NPT	18.5	4 to 8	\$799.20
VG7241RT+3008B*	1 1/2	NPT	28.9	3 to 6	\$1,019.70
VG7241RT+3008E*	1 1/2	NPT	28.9	9 to 13	\$1,019.70
VG7241RT+823C00*	1 1/2	NPT	28.9	3 to 6	\$1,546.20
VG7241ST+823C00*	2	NPT	46.2	3 to 6	\$1,709.10
VG7251CT+3008B*	1/2	Union Globe	0.73	3 to 6	\$502.20
VG7251ET+3008B*	1/2	Union Globe	1.8	3 to 6	\$515.70
VG7551CT+3008B*	1/2	Union Angle	0.73	3 to 6	\$654.30
VG7251LT+3008B*	3/4	Union Globe	7.3	3 to 6	\$621.00
VG7551ET+3008B*	1/2	Union Angle	1.8	3 to 6	\$654.30
VG7251NT+3008B*	1	Union Globe	11.6	3 to 6	\$727.20
VG7551GT+3008B*	1/2	Union Angle	4.6	3 to 6	\$657.00
VG7551LT+3008B*	3/4	Union Angle	7.3	3 to 6	\$696.60
VG7551NT+3008B*	1	Union Angle	11.6	3 to 6	\$829.80



VG7441ST823E00

TWO-WAY, NORMALLY CLOSED, PDT0, BRONZE VALVE

- NPT end connections



VG7842GT3008D

THREE-WAY, BRONZE

- NPT end connections



Part No.	Connection Size (In.)	Flow (Cv)	Nominal Spring Range (psig)	Price
VG7441CT+3008E*	1/2	0.73	9 to 13	\$488.70
VG7441ET+3008B*	1/2	1.8	3 to 6	\$488.70
VG7441ET+3008D*	1/2	1.8	4 to 8	\$488.70
VG7441ET+3008E*	1/2	1.8	9 to 13	\$488.70
VG7441GT+3008D*	1/2	4.6	4 to 8	\$490.50
VG7441GT+3008E*	1/2	4.6	9 to 13	\$490.50
VG7441LT+3008E*	3/4	7.3	9 to 13	\$589.50
VG7441NT+3008E*	1	11.6	9 to 13	\$696.60
VG7441PT+3008E*	1 1/4	18.5	9 to 13	\$872.10
VG7441RT+3008E*	1 1/2	28.9	9 to 13	\$1,117.80
VG7441RT+823E00*	1 1/2	28.9	9 to 13	\$1,643.40
VG7441ST+823E00*	2	46.2	9 to 13	\$1,832.40

Part No.	Connection Size (In.)	Flow (Cv)	Nominal Spring Range (psig)	Price
VG7842ET+3008B*	1/2	1.8	3 to 6	\$505.80
VG7842ET+3008D*	1/2	1.8	4 to 8	\$505.80
VG7842ET+3008E*	1/2	1.8	9 to 13	\$505.80
VG7842GT+3008D*	1/2	4.6	4 to 8	\$507.60
VG7842GT+3008E*	1/2	4.6	9 to 13	\$507.60
VG7842LT+3008B*	3/4	7.3	3 to 6	\$626.40
VG7842LT+3008D*	3/4	7.3	4 to 8	\$626.40
VG7842LT+3008E*	3/4	7.3	9 to 13	\$626.40
VG7842NT+3008B*	1	11.6	3 to 6	\$735.30
VG7842NT+3008D*	1	11.6	4 to 8	\$735.30
VG7842NT+3008E*	1	11.6	9 to 13	\$735.30
VG7842PT+3008B*	1 1/4	18.5	3 to 6	\$1,197.00
VG7842PT+3008E*	1 1/4	18.5	9 to 13	\$1,028.70
VG7842RT+3008D*	1 1/2	28.9	4 to 8	\$1,223.10
VG7842RT+3008E*	1 1/2	28.9	9 to 13	\$1,223.10
VG7842RT+823D00*	1 1/2	28.9	4 to 8	\$1,748.70
VG7842RT+823E00*	1 1/2	28.9	9 to 13	\$1,748.70
VG7842ST+823D00*	2	46.2	4 to 8	\$1,998.00
VG7842ST+823E00*	2	46.2	9 to 13	\$1,998.00

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V43321009

FLARE VALVE

These 1/2" two-way and three-way flare valves accurately regulate the fl w of hot and cold water in small HVAC terminal units, including fan coils, perimeter radiation, and reheat coils.



Part No.	Type	Size (In.)	Flow (Cv)	Nominal Spring Range (psig)	Price
V37661002*	Two-Way, NO	1/2	1.7	3 to 6	\$604.00
V37661003*	Two-Way, NO	1/2	3.2	3 to 6	\$604.00
V43321009*	Three-Way	1/2	1.7 NO, 2.3 NC	4 to 8	\$709.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

SWITCH



P10BC7

PRESSURE ELECTRIC, AIR

These pressure controls open or close electrical circuits from a change in operating air pressure.

- For pneumatic systems, pumps, or small air compressors
- Pressure to electric switch



Part No.	Stages	Switch	Pressure Differential	Switch Differential (psi)	Connection Size (In.)	FLA (@ 240 V)	Price
P10BC7*	1	SPDT	3 to 20 psi	2, Fixed	Barbed	8	\$194.00
P10BG3*	1	SPDT	2 to 20 psi	0.2, Fixed	1/8 NPSF	8	\$235.00
P10FC4C*	2	SPDT	3 to 20 psi	2 Low Stage, 2 High Stage	1/8 Barbed Fitting	8	\$340.00



P67AA1

LOW PRESSURE

P67 pressure controls are used to close (or open) an electrical circuit on the basis of a predetermined air pressure signal. Typical applications include the control of air compressors, fans, pilot lights, and resistance heating elements.

- Maximum over pressure: 50 psig
- Temperature range: 32 to 140°F



Part No.	Switch	Pressure Differential	FLA (@ 240 V)	Pressure Range (psig)	Connection Type	Price
P67AA1*	DPST, Open Fall	1 1/2 to 20 psi	12	3 to 30	Angle Barbed	\$386.00
P67CA1*	DPST, Open Rise	1 1/2 to 20 psi	12	3 to 30	Angle Barbed	\$396.00



A40EA1

REMOTE BULB, TEMPERATURE

A40 temperature actuated pneumatic switches control when the sensed temperature reaches the control setpoint.

- Automatic reset
- A barb fitting permits push-on 1/4" tubing connectio



Part No.	Switch	Temperature (°F)	Differential	Max. Bulb Temperature (°F)	Bulb (In.)	Capillary Length	Price
A40EA1*	Opens on Fall	15 to 55	5, Fixed	400	1/8" x 20'	—	\$560.00
A40EA4*	Opens on Fall	50 to 90	4, Fixed	250	11/16" x 6 3/4"	6'	\$613.00
A40FA1C* ¹	Opens on Fall	15 to 55	5, Manual Reset	400	1/8" x 20'	—	\$580.00
A40GA2*	Opens on Rise	50 to 90	5, Fixed	250	11/16" x 6 3/4"	6'	\$630.00

¹On low cutout manual reset models, the temperature must increase the amount of the differential before pneumatic switch can be closed

VALVE AIR SOLENOID



V24102

3-WAY

Used in applications where an electrical circuit operates a pneumatic control device. This valve diverts the air signal to the pneumatic device when the coil is energized or de-energized, depending on the choice of air connection.

- Air connections:NO or NC/Common
- compact size with durable, solid brass construction
- positive air seal
- Can be used in smoke control applications



Part No.	Voltage	Price
V24102*	120	\$610.00



V11HGA100

3-WAY

The V11 three-way solenoid valve is used in applications where an electrical circuit operates a pneumatic control device.

- 50/60 Hz



Part No.	Voltage	Price
V11HAA100*	110-120	\$415.00
V11HBA100*	220/240	\$410.00
V11HDA100*	440/480	\$410.00
V11HGA100*	24	\$442.00



V61351

3-WAY

Switches the flow of air from one ai line to another. For day night switching, heating/cooling, enthalpy switchover

- V6135: no exhaust function
- V6137: after switchover, the non active line exhausts to atmosphere

- Fast acting two-position switching mechanism
- Factory supplied with an integral mounting bracket for surface mounting



Part No.	Pressure Range (psig)	Price
V61351*	2 to 4	\$627.00
V61352*	11 to 15	\$627.00
V61353*	15 to 19	\$627.00
V61371*	15 to 19	\$627.00

TRANSDUCER, ELECTRO PNEUMATIC



EP80002

The EP-8000 electro-pneumatic transducer converts a 0 to 10 Vdc or 4 to 20 mA signal from an electric controller into a proportional pneumatic output pressure signal.

- Proportional: direct acting



Part No.	Input Range	Input Type	Output Type	Output Range	Price
EP80001*	.5 to 9 Vdc	Voltage	Low Volume	1 to 18 psi	\$393.00
EP80002*	.25 to 9.5 Vdc	Voltage	High Volume	5 to 19 psi	\$410.00
EP80003*	4 to 20 mA DC	Current	Low Volume	3 to 15 psi	\$393.00
EP80004*	4 to 20 mA DC	Current	High Volume	3 to 15 psi	\$410.00



EP313

This unit has no air consumption and is immune to mounting orientation or supply line pressure fluctuations. I incorporates a manual override switch and, in the manual mode, the pressure can be increased or decreased with two pushbutton switches.

- Powered by 18-28 Vac/Vdc
- Proportional: direct acting



Part No.	Input Range	Output Type	Output Range	Price
EP313020	4-20 mA, 0-5 or 0-10 Vdc	High Volume	0 to 20 psi	\$360.00



C222011

HIGH-LOW PRESSURE SELECTOR

The C-2220 high-low pressure selector selects and transmits control pressure signals from a group of thermostats or controllers. The appropriate C-2220 module must be selected to work with either high or low volume thermostats

or controllers. The C-2220 high-low pressure selector can be combined in master and slave module groups for applications using both high and low volume output thermostats or controllers.

- One master can combine with as many as 19 slaves to control 20 zones



Part No.	Function	Input	Price
C222011*	Master	Low Volume	\$262.00
C222012*	Slave	Low Volume	\$201.00
C222013*	Master	High Volume	\$238.00
C222014*	Slave	High Volume	\$182.00
Part No.	Description		Price
C22205	Mounting Bracket		\$182.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

PNEUMATIC, JOHNSON CONTROLS

RELAY



C52302

SIGNAL LIMITER

The C-5230 pneumatic signal limiter imposes high and/or low limits on any pneumatic signal.



Part No.	Description	Price
C52302*	High or Low Limit	\$376.00
C52303*	High and Low Limit	\$453.00



C52263

SIGNAL TRANSMITTER

The C-5226 pneumatic signal transmitter repeats pneumatic transmission signals or selects the higher or lower of two pneumatic signal levels directly from the output of a controller. The C-5226 may also be used as a high or low signal limiter or a differential switchover device.



Part No.	Description	Price
C52263*	Signal Repeater	\$144.00



C20401

AVERAGING CUMULATOR

The C-2040 averaging cumulator is a low volume output device designed to operate a controlled device or receiver-controller by averaging the output signals of two, three, or four controllers or transmitters. The cumulator produces an output signal equal to the average of the input signals.



Part No.	Description	Price
C20401*	Averaging Cumulator	\$674.00



C95061

SWITCHING CUMULATOR

The C-9506 air switching cumulator switches output pressure from zero to full supply pressure when the pilot pressure reaches the switch point.

- Switch point: 2-12 psig
- Differential: 1 psig



Part No.	Differential	Description	Price
C95061*	1 psig	2 Position, DA	\$558.00



R20801

BOOSTER

The R-2080 booster relay operates as a pneumatic repeater and volume amplifier. The pilot signal is repeated at its output at a 1:1 ratio.

- Amplifies a pilot signal from a non-relay, low volume controller to a large volume output signal



Part No.	Description	Price
R20801*	Booster Relay	\$385.00



R30301

REVERSING

The R-3030 reversing relay functions as a 1:1 pneumatic inverter, volume amplifier, and inverse sequencer.



Part No.	Description	Price
R30301*	Reversing Relay	\$561.00

ACCESSORIES



A4000138

PRESSURE REDUCING STATION

The remote mounted pressure reducing station regulates the output pressure in a pneumatic system to within 0.02 psi with a 20 psi variation in input pressure.

- Input maximum: 300 psig
- Output: 0-50 psig

- Flow capacity: 25 scfm
- Safety relief valve: 25 psi



Part No.	Description	Price
A4000138*	Pressure Reducing Station	\$520.00



R40003

MINIATURE PRESSURE REGULATOR

The R-4000 miniature pressure regulator provides a method to readjust the setpoint of pneumatic controllers in low volume applications. The output pressure varies in proportion to the rotation of the adjusting knob.



Part No.	Output Range	Price
R40003*	12 psig	\$383.00
R40004*	1, 2, 3, 5, 6 psig	\$383.00



R1301

PRESSURE REDUCING VALVE

The R130 air pressure reducing valve reduces the primary air supply pressure to a selected pressure in a compressed air system. The reducing valve can also be used as a minimum set point regulator.

- When used as minimum setpoint regulator, an R3710 Series .005 restrictor must be used in output line



Part No.	Fitting Size (In.)	Flow (SCFM)	Price
R1301*	1/8	1	\$147.00
R13015*	3/8	20	\$281.00



A4000144

PRESSURE REDUCING VALVE ACCESSORY



Part No.	Description	Price
A4000144*	1/4" NPT, 25 psi Safety Relief Valve	\$100.00
A4000143*	Mounting Bracket (R13014 Only)	\$50.00
R130100*	Post Mounting Bracket (R1301 & R13014)	\$72.00



A4000137

FILTER, OIL REMOVAL

Combining coalescing and activated carbon filters in series provides clean, oil free air by removing both oil aerosols and vapors in pneumatic control systems.



Part No.	Connection		Flow (SCFM)	Type	Price
	Size (In.)	Type			
A40001037*	1/4	Barb	1.50 Max	In-Line	\$62.00
A4000146*	1/2	FPT	23 Max	Activated Carbon	\$1,015.00
A4000147*	1/2	FPT	12 Max	Activated Carbon	\$911.00
A40001048*	3/8	FPT	17 Max	Coalescing	\$532.00
A40001049*	3/8	FPT	30 Max	Coalescing	\$619.00
A40006001*	3/8	FPT	50 Max	Coalescing	\$1,133.00
A4000152*	3/8, 1/2	FPT	—	Universal Mounting Kit	\$216.00



A4000604

FILTER, REPLACEMENT CARTRIDGES



Part No.	Type	Fits	Price
A4000604*	Coalescing	A4000149	\$134.00
A4000605*	Coalescing	A4000601	\$262.00
A4000632*	Carbon	A4000147	\$533.00
A4000633*	Carbon	A4000146	\$409.00
A4110604*	Coalescing	A4000148	\$134.00



G20105

AIR PRESSURE GAUGE

The G2010 air pressure gauge provides continuous indication of air pressure in pneumatic control systems.



Part No.	Gauge Size (In.)	Pressure Range (psi)	Stem Mount (In.)	Mounting	Price
G20105*	1 1/2	0 to 30	1/8 NPT Center Back	Stem	\$65.00
G20101*	1 1/2	On/Off Indicator	1/8 NPT Center Back	Flush or Surface	\$277.00
G201011*	2	0 to 30	1/8 NPT Center Back	Stem	\$72.00
G2010101*	2	0 to 30	1/8 NPT Center Back	Flush or Surface	\$92.00
G201023*	2	0 to 100	1/8 NPT Center Back	Stem	\$107.00
G201016*	2	0 to 160	1/4 NPT Center Bottom	Stem	\$107.00
G2010400*	3 1/2	0 to 30	1/8 NPT Center Back	Flush or Surface	\$237.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

PNEUMATIC, JOHNSON CONTROLS

ACCESSORIES



T55001051

THERMOMETER

The T-5500 Series pneumatic temperature indicator provides continuous indication of the temperature measurement of a transmitter in a 3 to 15 psig pneumatic transmission system.



3 1/2" DIAL

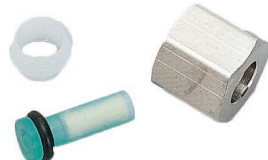
Part No.	Temperature (°F)	Price
T55001051*	50 to 100	\$454.00
T55001052*	0 to 100	\$391.00
T55001053*	50 to 150	\$454.00
T55001054*	-40 to 160	\$391.00
T55001055*	40 to 240	\$391.00
T55001057*	20 to 120	\$454.00
T55001058*	40 to 65	\$391.00
T55001059*	60 to 85	\$454.00

2 1/2" DIAL

Part No.	Temperature (°F)	Price
T55021001*	50 to 100	\$221.00
T55021002*	0 to 100	\$190.00
T55021003*	50 to 150	\$221.00
T55021004*	-40 to 160	\$221.00
T55021005*	40 to 240	\$190.00

R3710 SERIES

The R3710 Series restrictors limit pressure and flow direction in pneumatic systems.



R37101007

RESTRICTOR, IN-LINE, COMPRESSION



Part No.	Description	Price
R37101005*	For Inserting 1/4" Tubing, Compression Connection .005", Red	\$23.30
R37101007*	For Inserting 1/4" Tubing, Compression Connection .007", Aqua	\$23.30



R37102005

RESTRICTOR, IN-LINE, BARBED



Part No.	Description	Price
R37102005*	1/4" Barbed Fitting, .005 In.	\$19.20
R37102007*	1/4" Barbed Fitting, .007 In.	\$19.20



R37103107

RESTRICTOR, IN-LINE, 1/8" NPT



Part No.	Description	Price
R37103105*	Red 1/4" Barbed x 1/8" NPT, .005 In.	\$32.60
R37103107*	Aqua 1/4" Barbed x 1/8" NPT, .007 In.	\$28.10



R37102010

RESTRICTOR, IN-LINE, ADJUSTABLE

- Furnished with 2 3/4" lengths, 5/32" tubing, and 2 1/4" x 5/32" couplings



Part No.	Description	Price
R37102010*	Pin Valve Adjuster	\$145.00



R37103007

RESTRICTOR, IN-LINE, BARBED



Part No.	Description	Price
R37103007*	1/4" Barbed Connection, .007 In.	\$22.50

RESTRICTOR, DIODE TEE

The R-3712 diode restrictor tee allows air flow through the bottom of the tee, in one direction only. The R-3712 is designed for inline installation using 1/4" O.D. flexible tubing



Part No.	Description	Price
R37123007*	1/4" Barbed Connection, .007 In.	\$75.00



R37143000

RESTRICTOR, LOW VOLUME EXHAUST, DIODE TEE

Provides through line low volume exhaust whenever the pressure to the diode branch is at a lower value than pressure on the through line. A higher pressure at the diode branch closes the diode and allows normal operation in

the through line. Air can flow out of the bottom of the tee causing slight reverse flow. Not designed for systems where the reverse flow through the restrictor can be trapped between a shut off device and an actuator.



Part No.	Description	Price
R37143000*	Pressure Regulator, 1/4" Barbed Connection	\$75.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

THERMOSTAT

**2 PIPE, SINGLE SETPOINT**

Two pipe, single setpoint, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems.

- Throttling range: 2-10°F

Honeywell

Part No.	Action	Scale Range	Includes	Price
TP970A2004	DA	60 to 90°F	Cover not Included	\$215.84
TP970A2012	DA	40 to 70°F	Cover not Included	\$240.68
TP970A2038	DA	60 to 90°F	Modernization Kit	\$356.30
TP970A2145 ¹	DA	60 to 90°F	Convertastat™ Kit	\$231.60
TP970B2002	RA	60 to 90°F	Cover not Included	\$213.76
TP970B2077 ¹	RA	60 to 90°F	Convertastat™ Kit	\$233.80

¹Includes universal adapter wall plate, universal cover

**2 PIPE, SETBACK**

Pneumatic thermostat with night setback used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems.

- Two pipe direct acting two temperature scale range:
Day: 60-90°F, 13 psi
Night: 50-75°F, 18 psi
- Throttling range: 2-10°F

Honeywell

Part No.	Includes	Price
TP971A2003	Order Cover Separately	\$380.32
TP971A2102	Convertastat™ Kit Includes Adapter Plate, Wall Plate & Satin Chrome Cover	\$421.46

**2 PIPE, HEATING/COOLING**

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.

- Throttling range: 2-10°F
- DA heating 18 psi
- RA cooling 13 psi

Honeywell

Part No.	Description	Scale Range	Comments	Price
TP972A2036	2 Pipe, 2 Temp.	55 - 75°F Heating, 60 - 90°F Cooling	Two Concealed Setpoint Knobs 78°F Min. Cooling, 72°F Max. Heating, Order Cover Separately	\$375.52
TP972A2002	2 Pipe, 1 Temp.	60 to 90°F	Sensor only	\$337.18

**1 OR 2 PIPE, SINGLE TEMPERATURE**

One-pipe 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.

- Scale range: 60-90°F
- Throttling range: 2-10°F
- Requires .005 in. restrictor for one-pipe installation

Honeywell

Part No.	Description	Scale Range	Features	Price
TP973A2076	1 or 2 Pipe, DA1 Temp., Low Capacity	60 to 90°F	Order Cover Separately	\$193.54
TP973B2066	1 or 2 Pipe, RA1 Temp., Low Capacity	60 to 90°F	Order Cover Separately	\$183.56

THERMOSTAT



LP907A1002

1 PIPE, AIRSTREAM

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.

- Pressure ratings:
- Operating: 25 psi
- Supply: 3 to 15 psi
- Throttling range: 10-70°F

Honeywell

Part No.	Scale Range	Throttling Range	Type	Price
LP907A1002	40 to 140°F	10 to 70	1-Pipe, DA	\$499.24



LP916A1019

2 PIPE, REMOTE BULB

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.

Honeywell

Part No.	Scale Range	Throttling Range	Description	Comments	Price
LP916A1019	65 to 85°F	3.5	2-Pipe, DA, Single Temp., .007 in Restriction	For Unit Ventilators, 1/2" x 5 7/8" Bulb	\$491.46
LP916A1134	65 to 85°F	3.5	2-Pipe, DA, Single Temp., .005 in Restriction	For Induction, Fan Coil Systems, 3/8" x 7" Bulb	\$455.58
LP916B1082	65 to 85°F	3.5	2-Pipe, 18 psi Heating DA, 13 psi Cooling RA, Single Temp., .005 in Restriction	For Induction, Fan Coil Systems, 3/8" x 9" Bulb	\$584.08

TRANSMITTER



LP914A1011

TEMPERATURE, INSERTION

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.

- Controls are one-pipe direct acting

Honeywell

Part No.	Sensing Range (°F)	Element Length	Mounting Code	Price
LP914A1003	-40 to 160	15"	Duct	\$455.74
LP914A1011	-40 to 160	15"	Well	\$1,300.82
LP914A1052	40 to 240	7"	Well	\$381.24
LP914A1060	-40 to 160	7"	Well	\$413.90
LP914A1144	25 to 125	15"	Duct	\$521.78



TP974A2000

TEMPERATURE, WALL MOUNT

One-pipe or two-pipe direct-acting temperature sensor used with RP908/RP920 controllers to provide proportional control of pneumatic valve and damper actuators.

- 1 or 2 pipe, DA

Honeywell

Part No.	Sensing Range (°F)	Type	Price
TP974A2000	50-100	1 or 2 Pipe, DA Less Cover	\$404.60



LP915A1044

TEMPERATURE, AVERAGING

One-pipe, direct-acting temperature sensor, used with RP908 or RP920 controllers to provide proportional control of pneumatic valve or damper actuators. Averaging, liquid-filled element for duct mounting

Honeywell

Part No.	Sensing Range (°F)	Element Length	Mounting Code	Price
LP915A1044	0-200	18 1/2"	Duct	\$631.50



HP971A1008

HUMIDITY

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

- Pressure ratings: Operating: 25 psi, Supply: 3 to 15 psi

Honeywell

Part No.	Type	Scale Range	Price
HP971A1008	1-, 2-Pipe, DA	15 to 75%	\$769.70

HUMIDISTAT



HP970B1007

Two-pipe, single setpoint, pneumatic humidistat used to provide proportional control of pneumatic valves on humidification or dehumidification system

- Direct Acting (DA) and Reverse Acting (RA) models are available.

Honeywell

Part No.	Type	Scale Range	Throttling Range	Comments	Price
HP970A1009	2-Pipe, DA	15 to 75%	3 to 15	Order Cover Separately	\$679.42
HP970B1007	2-Pipe, RA	15 to 75%	3 to 15	Order Cover Separately	\$679.42

CONTROLLER



LP920A1039

REMOTE BULB TEMPERATURE

Two-pipe, single temperature, pneumatic temperature controller used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems.

- Control is direct-acting, single temperature
- Scale range: 30-150°F
- Throttling range: 5-25°F

Honeywell

Part No.	Element	Capillary Length	Scale Range	Throttling Range	Price
LP920A1005	Averaging, Length	96"	30 to 150°F	5 - 25°F	\$670.76
LP920A1021	3/8 x 5 1/4" Bulb	10'	30 to 150°F	5 - 25°F	\$748.28
LP920A1039	3/8 x 5 1/4" Bulb	60"	30 to 150°F	5 - 25°F	\$763.08



RP920B1056

RECEIVER CONTROLLER

Proportional, high capacity, single or dual input pneumatic controller used in conjunction with remote sensors to provide proportional (P) or proportional

plus (P+I) control of temperature, humidity, pressure, or dewpoint for heating and air conditioning systems.

- Input signal: 3-15 psi
- Output signal: 3-13 psi

Honeywell

Part No.	Action	Input	Type	Remote Adjustment	Price
RP920A1025	DA	Single	Proportional	With	\$586.88
RP920A1033	DA	Single	Proportional	Without	\$592.46
RP920B1031	DA	Dual	Proportional	Without	\$731.50
RP920B1056	RA	Dual	Proportional	Without	\$710.14
RP920C1021	DA	Single	P+I	With	\$985.70

ACTUATOR, DAMPER



MP909D1227

MP909D SERIES

Used for pneumatic proportional control of variable volume terminal units and small dampers.

- Damper load area: 3 sq. in.
- 2 3/8" stroke

Honeywell

Part No.	Stroke Distance (In.)	Spring Range	Price
MP909D1227	2 3/8	5 to 10	\$98.10



MP909E1034

MP909E SERIES

Used for pneumatic proportional control of dampers and high velocity air valves. The MP909E has an optional adjustable stroke feature.

- Damper load area: 6.6 sq. in.

Honeywell

Part No.	Stroke Distance (In.)	Spring Range	Includes	Price
MP909E1018	4.0	3 to 13	Mounting Bracket, Ball Joint	\$340.60
MP909E1026	4.0	3 to 13	—	\$307.62
MP909E1034	4.0	5 to 10	Mounting Bracket, Ball Joint, Linkage Kit	\$347.20
MP909E1174	3.1	9 to 13	Mounting Bracket, Ball Joint	\$347.20
MP909E1349	4.0	3 to 13	Internal N.C. Trunnion Bracket	\$336.60
MP909E1364	4.0	5 to 10	External Trunnion Bracket	\$340.86

ACTUATOR



MP918B1006

HEAVY DUTY ACTUATOR

Used for proportional control of medium to large-size dampers in HVAC systems. The MP918 is a rolling diaphragm, piston-type actuator.

- Damper load area: 23.8 sq. in.
- 3 1/2" stroke, 6" stroke (MP920)

Honeywell

Part No.	Stroke Distance (In.)	Spring Range	Includes	Price
MP918B1006	3 1/2	3 to 13	External Mounting Bracket, Crank Arm	\$428.32
MP918B1030	3 1/2	3 to 13	Actuator Only	\$388.34
MP920B1002	6	7 to 13	Actuator Only	\$1,411.54



MP953C1026

COIL VALVE ACTUATOR

Pneumatic actuators provide proportional control of steam or hot or cold liquids in HVAC systems by operating V33XX, V34XX, V5011 and V5013 valve assemblies.

- 3/4" valve travel
- DA Actuator + DA Valve Body = Normally Open
- RA Actuator + DA Valve Body = Normally Closed

Honeywell

Part No.	Diameter (In.)	Action	Spring Range	Includes	Price
MP953C1000	5	DA	2-7	Standard	\$156.46
MP953C1018	5	DA	8-12	Standard	\$156.46
MP953C1026	5	DA	4-11	Standard	\$156.46
MP953C1067	8	DA	2-7	Standard	\$599.62
MP953C1075	8	DA	8-12	Standard	\$599.62
MP953D1107	7 1/8	RA	8-13	EPDM Diaphragm	\$640.72
MP953D1172	7 1/8	RA	3-7	EPDM Diaphragm	\$646.96
MP953E1319	5	DA	4-11	Positive Positioner 5 psi span	\$606.06
MP953E1376	8	DA	4-11	Positive Positioner 5 psi span	\$857.78
MP953F1101	7 1/8	RA	8-13	Positive Positioner 5 psi span, EPDM Diaphragm	\$1,116.02



MP958A1017

BRAUKMAN ACTUATOR

The MP958 pneumatic valve actuator is direct-acting and used only with Honeywell-Braukman V5852A2xx, V5862A2xx, V5853A2xx, and V5863A2xx terminal unit valves to control hot and/or chilled water.

Honeywell

Part No.	Pressure Range (psi)	Price
MP958A1017	3 to 10	\$133.74
MP958A1025	8 to 11	\$142.92

SWITCH



P643A1007

PNEUMATIC/ELECTRIC, P643 SERIES

Used to convert a pneumatic signal from a controller to an electric switching action to provide start and stop control of equipment such as fans and pumps.

- Differential: 3-13 psi
- Contact rating: 5.1 F.L. Amp 240 Vac

- Setpoint: 0-22 1/2 psi

Honeywell

Part No.	Switch	Price
P643A1007	SPDT	\$796.52



P658B1012

PNEUMATIC/ELECTRIC, P658 SERIES

Pneumatic-electric switches (P658A, B) 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.

- Setpoint range: 2-24 psi, adjustable differential: 2 psi, fixe
- Switch: SPDT

Honeywell

Part No.	Mounting Code	Factory Set Defaults	Comments	Switch	Price
P658A1013	Surface	10 psi	Includes Case	SPDT	\$167.44
P658B1012	Panel	10 psi	No Case	SPDT	\$151.40



SP470A1000

DIVERTING

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.

Honeywell

Part No.	Mount	Nb. of Positions	Comments	Price
SP470A1000	Panel	2	Includes Knob, Scale Plate	\$196.22
SP470A1018	Panel	3	Includes Knob, Scale Plate	\$223.34



SP970A1005

MANUAL/MINIMUM POSITION

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 branchline to the damper actuator.

- Includes knob, scaleplate, and locknuts

Honeywell

Part No.	Span (psi)	Description	Price
SP970A1005	10	3 Port Manual/Minimum w/ Bleed	\$129.70
SP970A1013	5	3 Port Manual/Minimum w/ Bleed	\$128.44
SP970C1043	5	4 Port Manual/Isolated Pilot Chamber	\$171.60

RELAY



RP470A1033

SELECTOR

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.

- Operating range: 0-18 psi

Honeywell

Part No.	Description	Price
RP470A1003	High/Low/Lockout Selector	\$94.78



RP471A1002

SNAP ACTING

The four port, snap acting relay converts a proportional air pressure change a controller to a positive (two-position) pressure change. It can also divert a supply line to one of two branches.

- Setpoint range: 3-15 psi
- Differential: 1 psi, fixe

Honeywell

Part No.	Setpoint Range	Differential	Price
RP471A1002	3 - 15 psi	1 psi, fixe	\$156.96



RP670B

SWITCHING

Pneumatic switching relays block, divert, or bleed pneumatic air lines when pilot pressure is changed from one specific value to anothe . 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.

Honeywell

Part No.	Switch	Switch Pressure	Comments	Price
RP670A1001	SPDT	3 and 7	Standard	\$143.94
RP670B1009	DPDT	3 and 7	Standard	\$316.22



RP7517A1017

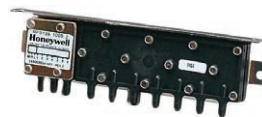
PROPORTIONAL E/P TRANSDUCER

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.

- Nominal range: 3-15 psi at 2-10 Vdc
- Only available in Long Island NY, West Chester County NY, New York City and Phoenix, AZ. For New York call 914-592-5555. For Phoenix call 877-672-6875.

Honeywell

Part No.	Includes	Price
RP7517A1017	2-Wire, No Cover without Internal Power Supply	\$566.04
RP7517B1016	3-Wire, Cover with Internal Power Supply	\$589.96



RP913A1008

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.

- Seven input manifold containing logic diaphragm, air filte , and restrictions
- Two analyzers can be connected together to increase inputs to twelve.

Honeywell

Part No.	Description	Price
RP913A1008	7 Input Relay	\$421.60



RP971A1007

RATIO SPAN

A four port non-bleed pneumatic relay which produces a modulating pressure output, proportional in a fixed ratio t pilot input changes. It is used to control pneumatic valve or damper actuators in sequence from a single thermostat.

Honeywell

Part No.	Description	Price
RP971A1007	3 psi Input Span for 3 - 13 psi Output	\$208.66



RP970A1008

CAPACITY

Direct acting, modulating relay provides increased capacity of the branchline pressure to the final control device

Honeywell

Part No.	Description	Price
RP970A1008	Capacity Relay	\$150.34



RP972A1006

REVERSING

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 to the input with an adjustable offset.

Honeywell

Part No.	Comments	Price
RP972A1006	Standard with Mounting Clip Only	\$142.08



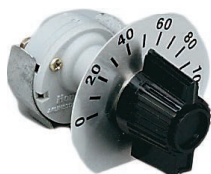
RP973A1005

AVERAGING

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.

Honeywell

Part No.	Comments	Price
RP973A1005	Standard with Mounting Clip Only	\$127.14



RP975A1003

HESITATION

A three-port hesitation relay provides minimum outside air damper position plus controlled ventilation for large volume unit ventilators.

Honeywell

Part No.	Comments	Price
RP975A1003	Standard with Mounting Clip	\$204.38

VALVE



VP522A1039

3-PIPE SEQUENCING

Three-pipe, sequencing, pneumatically operated water valve for controlling both hot and cold water flow in fan-coil and induction units.

Honeywell

Part No.	Tube Size (In.)	Flow (Cv)		Price
		Port A	Port B	
VP522A1039	5/8	2.5	1.6	\$995.80
VP522A1047	7/8	4.0	2.5	\$984.32



VP526A1076

3-WAY MIXING

Three-way pneumatic mixing valve provides proportional control of hot and/or cold water in unit air conditioners and fan coil systems.

- M flare connection
- Lower port normally open

- Spring range: 3 to 10 psi
- Flow: 1.6 Cv

Honeywell

Part No.	Tube Size (In.)	Flow (Cv)	Price
VP526A1076	1/2	1.6	\$371.44

ACCESSORIES



PP901A1004

PRESSURE REDUCING VALVE

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 setting to a higher setting when main air is applied to the pilot port. Models also available including a sub-micron filter assembly and pressure gauges.

- Built-in adjustable safety relief valve for limiting downstream pressure
- Inlet pressure: 45-150 psi
- Outlet pressure: 0-25 psi, factory 18 psi
- Safety relief pressure: 12-25 psi, factory 22-25 psi
- Secondary pressure: 0-5 psi above primary setting
- Factory set: 4.5 psi

Honeywell

Part No.	Description	Includes	Price
PP901A1004	Single Pressure	—	\$551.86
PP902C1009	Single Pressure	Submicron Filter, 2 Gauges	\$1,225.28
PP901B1002	Two Pressure	—	\$659.98
PP902D1007	Two Pressure	Submicron Filter, 2 Gauges	\$1,299.26

THERMOSTAT



R2211012

These pneumatic room thermostats are designed for proportional temperature control of pneumatic valves and damper actuators to maintain room air temperatures in heating, ventilating and air conditioning systems.

- Small size, approximately 2" x 2"
- Factory calibrated. S.S. ball-in-seat provides pneumatic feedback for linear, stable operation.
- Easy-to-use throttling range adjustment and recalibration
- Includes tubing reducers, tubing, wall plate, mounting plate, 2 mounting screw

1 PIPE, ROOM TEMPERATURE



Part No.	Dial Range (°F)	Dial Limit Stops	Price
R2211012	55 to 85	No	\$278.00
R2211013	55 to 85	No	\$278.00

2 PIPE, ROOM TEMPERATURE

Part No.	Dial Range (°F)	Dial Limit Stops	Price
R2212118	55 to 85	No	\$322.00
R2212119	55 to 85	No	\$322.00

2 PIPE, DAY/NIGHT

Part No.	Dial Range (°F)	Dial Limit Stops	Price
R2214121	55 to 85 Day, 50 to 80 Night	No	\$593.00
R2214122	55 to 85 Day, 50 to 80 Night	No	\$593.00



R2212318

2-PIPE, DUAL SETPOINT/DEADBAND ROOM

Dual setpoint/deadband pneumatic room thermostats are designed for proportional control of pneumatic valves, damper actuators, and other final control devices in environmental control systems. These devices are for

use when it is desirable to set up a temperature span within which the HVAC system uses no energy for heating or cooling between selected heating and cooling setpoints. The high capacity, two pipe, pilot-operated relay type design provides pneumatic feedback for accuracy and stability over the entire operating range.



Part No.	Action	Price
R2212318	DA, Proportional	\$420.00
R2212319	RA, Proportional	\$429.00



R21928

COVER

These thermostat covers are designed for use with 2" x 2" pneumatic controls only.

- Satin color
- Metal



Part No.	Type	Dial Markings	Exterior Thermometer	Adjustment Type	Price
R21928	Blank	None	No	Concealed	\$72.00
R21933	Full	55 to 85	Yes	Exposed	\$72.00

TRANSMITTER

ROOM TEMPERATURE

The temperature transmitter measures room temperature and transmits a proportional pneumatic signal to a calibrated receiver gauge and/or receiver controller. The device is factory set to transmit a 3 to 15 psig signal over a 50 to 90°F range.

- Permits remote readout and control of room temperature
- Highly sensitive bimetal sensing element
- Linear response to room temperature changes
- Field adjustable zero adjustment
- Temperature range: 50 to 90°F, non adjustable



Part No.	Action	Temperature (°F)	Price
R2220053	DA, Proportional	50 to 90	\$557.00

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R2252110

TEMPERATURE

Designed to measure air or fluid temperatures in pneumatic control systems and transmit a fixed span, 3 to 15 psig signal to controlling and indicating devices such as receiver controllers, receiver gauges, sensitive pressure switches, or snap-acting

R503-1 diverting relays. These transmitters are available with several types of sensing elements. These transmitters are one-pipe devices requiring an externally restricted source of constant pressure control air. Their design features pneumatic feedback to assure accuracy and stability over their temperature span.



Part No.	Mounting Code	Element	Temperature (°F)	Price
R2252110	Duct or Immersion	Rigid, 1/4" x 7 1/16	-40 to 160	\$1,181.00
R2252151 ¹	Duct or Outdoor Air	Bulb, 1/4" x 4" 3' Cap.	-25 to 125	\$1,109.00
R2252250	Duct or Immersion	Rigid, 1/4" x 9 3/8"	0 to 100	\$938.00
R2252502	Duct	Rigid Coiled, 10"	40 to 140	\$755.00
R2252610	Duct or Immersion	Rigid, 1/4" x 7 1/16	40 to 240	\$906.00

¹3' capillary length

RELAY



R2372351

PRESSURE SELECTOR

These pressure selector relays are designed for use in pneumatic control systems where the application requires the comparison, selection, and transmission of the higher or lower of two proportional signals. R2372351 can also be used as a booster relay.

- Proportional output



Part No.	Action	Price
R2372351	Selects Lowest of 2 Inputs	\$208.00
R2372352	Selects Highest of 2 Inputs	\$185.00

SWITCH



R2364220

PNEUMATIC/ELECTRIC

Pneumatic electric switches are used in control systems requiring conversion of gradual air pressure changes to positive electrical switching actions.



Part No.	Switch	Setpoint Range (psig)	Differential (psi)	Price
R2364211	1-SPDT	3 to 25	2, Fixed	\$326.00
R2364220	2-SPDT	4 to 20	2.5 to 3.0, Fixed	\$1,574.00

PNEUMODULAR® CONTROL

The Pneumatic Modular Control System (MCS) is designed to ease the assembly and installation of a pneumatic control system in several ways. The modularity of design and assembly speeds the prebuilding of panels and simplifies field hookup through the use of easily identified connections. The modular format allows the use of simplified engineering drawing symbols developed specifically for modular controls so that panels may be built as drawn directly from the submittal drawings. In addition, final system start-up and calibration checks are made easier because the panels match the drawings they were built from, thereby saving field labor time

- Most compact panel-mounted pneumatic control system. Several control devices perform dual functions. No control device need be made up of separate parts.
- All modular control devices mount on MCS-S socket, which snaplocks to MCS-BP backplate (available in several sizes)
- Sockets form pneumatic piping field above control devices, and provide places for slip-in electrical connectors below them, physically separating pneumatic tubing and wiring
- Control devices may be removed from socket and replaced without disturbing tubing, wiring, or other control devices
- Pneumodular controllers, relays and switches may be mounted as stand-alone devices using available mounting brackets



R2360501

REVERSING RELAY

A proportioning device designed for use in pneumatic control systems where the application requires the reversing of a proportional signal from a controlling device. The branch line pressure decreases in direct proportion to an increase

in input signal pressure and also amplifies the volume of air available for the final control device, thereby minimizing system lag. The unit is factory calibrated to decrease the branch line pressure from 16 psig to 0 psig as the signal pressure increases from 0 psig to 16 psig.



Part No.	Action	Price
R2360501	Reverses Input Signal, Proportional	\$309.00

PNEUMODULAR® CONTROL



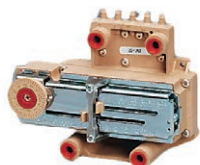
CCE1002

ELECTRIC PNEUMATIC RELAY

The electric pneumatic relays are three-way two-position, electrically activated air valves for use in pneumatic control systems where the application requires a variety of switching, diverting, or interlocking functions, actuated by an electrical circuit.



Part No.	Coil Voltage	Price
R2368501	24 Vac	\$915.00
R2368502	110	\$834.00



R2341521

RECEIVER CONTROLLER

The receiver controllers are used with remote pneumatic transmitters to provide proportional control in pneumatic control systems. They are designed primarily for use with pneumatic transmitters; however, they may be used with any pneumatic device

having an output of 3 to 15 psig, such as thermostats or humidistats. Both direct and reverse acting models are available and each device is of the dual input type, with remote setpoint capability. These devices may be used as single input devices by using only the desired input.

- Nozzle and flapper relay-type receive -controller; linear, stable and responsive. Three inputs for primary, reset and remote control point adjustment (may be used with one or two inputs).
- Slide-type throttling range and authority adjustments



Part No.	Action	Price
R2341521	DA	\$1,150.00
R2341522	RA	\$1,505.00
R2341501	DA	\$850.00
R2341502	RA	\$1,061.00



R2353502

DIVERTING RELAY, R2353 SERIES

Snap-acting devices with adjustable setpoints designed for a variety of switching and interlocking functions in pneumatic control systems where the application requires one or more of the following functions: feeding and

exhausting branch lines, diverting a supply line to either one of two branch lines, or diverting one of two supply lines to one branch line. The primary function of these devices is to convert a proportional pneumatic signal, at a predetermined setting, into a positive pneumatic switching action.

R2353503 is a nonadjustable, snap-acting, signal-comparing diverting relay designed for use in pneumatic control systems where the application requires a pneumatic switching function based on the comparison of two proportional pneumatic input signals.

- Positive two-position snap-action, SPDT pneumatic switching



Part No.	Setpoint Range	Differential	Application	Price
R2353501	3 to 20	0.2 to 0.6	Transmitter Pilot	\$557.00
R2353502	4.5 to 20	2 to 4	Controller Pilot	\$877.00



R2372501

PRESSURE RELAY

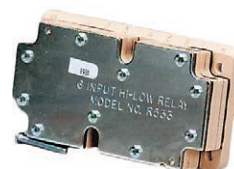
The volume booster relay is a proportioning device designed for use in pneumatic control systems where the application requires amplifying the volume of control air to final control devices. System transmission lag is minimized by using this relay

in conjunction with a proportional controller operating several diaphragm valves or damper actuators. This device may also be used as a low pressure selector when the application requires the comparison, selection and transmission of the lower of two proportional input signals.

The high pressure selector relay is a device designed for use in pneumatic control systems where the application requires the comparison, selection, and transmission of the higher of two proportional input signals.



Part No.	Application	Price
R2372501	Volume Booster/Low Pressure Selector	\$344.00
R2372502	High Pressure Selector	\$204.00



R2373501

HI/LOW SELECTOR RELAY

A device designed for use in pneumatic control systems where the application requires the comparison, selection, and transmission of the highest and/or the lowest of up to six pneumatic input signals. All input ports are dead-ended and no signal

air passes through the relay to the output ports.



Part No.	Description	Price
R2373501	6 Input Selector Relay	\$864.00

ACCESSORIES

CONTROLLER



R2420001

PRESSURE GAUGE

Pressure gauges for continuous indication of air pressure in pneumatic control systems.



Part No.	Dial Size (In.)	Pressure Range (psig)	Mounting Code	Air Connection (In.)	Price
R2420001	1 1/2	0 to 30	Stem	1/8" MPT, Back	\$60.00
R2420002	2	0 to 30	Stem	1/8" MPT, Bottom	\$84.00
R2420003	2	0 to 30	Stem	1/8" MPT, Back	\$70.00



R2422001

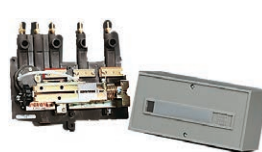
RECEIVER GAUGE

Receiver gauges for continuous indication of temperature, differential static pressure, differential pressure, pressure, enthalpy, or humidity in conjunction with a transmitter-receiver system.

- Adjustable pointer: dial face overlay required (supplied in kit)



Part No.	Dial Size (In.)	Mounting Code	Air Connection (In.)	Price
R2422001	2 1/2	Flush, U-Clamp	3/16" Barb	\$244.00
R2422002	3 1/2	Flush, U-Clamp	3/16" Barb	\$478.00
R2422003	2	Stem	1/8" MPT, Center Back	\$218.00



RKS4000

RECEIVER CONTROLLER

For use in conjunction with remote proportional transmitters for proportional control of pneumatic actuated dampers, valves, etc., in air conditioning systems. The transmitter-receiver-controller system may be used to control temperature, humidity, or pressure.

- Nozzle and flapper relay type receiver controller
 - Direct acting. Field changeable to reverse acting
 - Two pipe
 - Proportional band: 2 1/2% to 40% of primary span
- Note: RKS4002 input 2 has a reverse acting reset only. For direct acting the output pressure increases as input 2 increases. For reverse acting the output pressure increases as input 2 decreases



Part No.	Description	Authority	Price
RKS4000	Replacement, Single or Dual Input	10% to 200% of Primary Span	\$1,641.00

ACTUATOR



MK6821

PROPORTIONAL VALVE TO 6"

Proportional pneumatic actuator with 50 sq. in. effective diaphragm area used to control 1 1/2" to 4" VB-9X13 Series and 1 1/2" to 6" VB-9323 Series valves.

Requires AV430 Linkage for VB7000 Series valves

Requires AV495 Linkage for VB9000 Series valves

- Spring range: 8 to 13 psig
- Nominal stroke: 1"



Part No.	Nominal Stroke (In.)	Spring Range	Price
MK6821	1	8 to 13 psig	\$811.00



MK2690

PROPORTIONAL VALVE TO 1 1/4"

For proportional pneumatic control of 1/2" to 1 1/4" VB-111 and VB-7000, VB9000 Series valves. Requires AV400 linkage for all applications.



Part No.	Nominal Stroke (In.)	Price
MK2690	1/2" Nominal	\$154.00

RELAY



AK42309500

POSITIVE POSITIONING

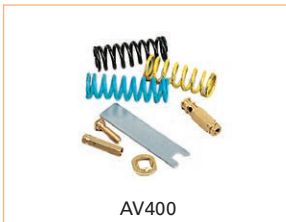
Positive positioner pneumatic relay is used to accurately position an actuator stroke with respect to signal pressure from the controller. It can also be used to change the effective spring range of an actuator and increase the capacity of a controller.

- All necessary linkage provided to assemble AK-42309-500 to MK-2690-0-0-1, 3000, 4600-0-0-2, 4700, 4800, 6800, 6900, 7000, 8800 and 8900 actuators



Part No.	Action	Price
AK42309500	DA	\$543.00

ACTUATOR ACCESSORIES



AV400

VALVE LINKAGE

AV400 includes parts for VB-7xxx valves and discontinued 1/2 to 1 1/4" VB-9xxx valves.
AV7400 is for VB-7xxx valves only



Part No.	Use with	Valve Size (In.)	Price
AV400	MK2690	1/2 to 1 1/4	\$47.00
AV7400	MK2690	1/2 to 1 1/4	\$47.00
AV401	MK46	1/2 to 1 1/4	\$47.00



AV430

VALVE LINKAGE KIT

For assembling MS-80000 and MSR-80000 Series hydraulic actuators to 1 1/2 to 2" VB-92XX and VB-9313, 1 1/2" to 3" VB-9323 valve bodies.
For assembling MK-6800 Series 50 sq. in. pneumatic actuators to 1 1/2" to 2" VB-9XXX and 1 1/2" to 6" VB-9323 valve bodies.



Part No.	Description	Price
AV430	MK6800 Series with VB7000 Series Valve	\$190.00



AV495

VALVE LINKAGE KIT

For assembling MS-80000 and MSR-80000 Series hydraulic actuators to 2 1/2 to 4" VB-92XX and VB-931X valve bodies.
For assembling MK-68X1 pneumatic actuators to 2 1/2" to 4" VB-92XX and VB-931X valve bodies.



Part No.	Description	Price
AV495	MK6800 Series with VB9000 Series Valve	\$190.00



AV601

LINKAGE EXTENSION

The AV-601 valve extension kit is used to increase the allowable ambient temperature ratings of MA, MF, MP-5X1X-XXX, MPR-5X1X and M P-541X Series actuators on applications with hot water or steam. The MF-5X1X, MP-541X, and MPR-5X1X Series of actuators require the A-601 extension.



Part No.	Description	Price
AV601	MA Extension	\$184.00

THERMOSTAT



CTC1621

Designed for proportional control of pneumatic valve and damper actuators used in HVAC systems. A highly sensitive bimetal element with feedback is used for accuracy and stability. The throttling range is factory set at 3°F and is field adjustable

- Setpoint range: 55 to 85°F
- Throttling range: 3 to 12°F
- HFO0010—restrictor tee (14.4 scim) required for CTC16 series
Requires cover and/or scaleplate for complete installation

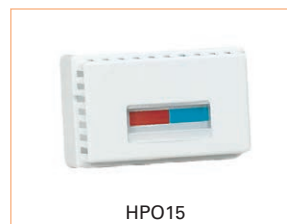


1 PIPE, ROOM TEMPERATURE

Part No.	Type	Action	Price
CTC1611	1 Pipe	DA	\$80.38
CTC1612	1 Pipe	RA	\$80.38

2 PIPE, ROOM TEMPERATURE

Part No.	Type	Action	Price
CTC1621	2 Pipe	DA	\$147.38
CTC1622	2 Pipe	RA	\$147.38



HPO15

COVER

Covers for CTC16 Series thermostats



Part No.	Type	Color	Construction	Price
HPO1501	Blank	Almond	ABS	\$15.78
HPO1511	Window	Almond	ABS	\$15.78

CONTROLLER



CSC2003

RESET VOLUME, VAV

- Designed for use on VAV terminal units in HVAC systems
- Submaster air velocity controllers whose velocity setpoint is reset between adjustable minimum and maximum limits by a master controller, typically a room thermostat

- For DA cooling or RA heating applications, no dampers
- Set point range: Minimum—0 to 1" wg
Maximum—min. + 1" wg



Part No.	Description	Price
CSC2003	Reset Volume Control	\$234.40



CSC301110

RESET VOLUME, UNIVERSAL

Designed for use on variable air volume terminal units in HVAC systems. It is a submaster air velocity controller whose velocity setpoint is reset between an adjustable minimum and maximum limit by a master controller, typically a room thermostat.

Used for either direct or reverse acting reset for normally open or normally closed VAV terminal units. It has a factory set reset start point and reset span which can be field adjusted. The reset span is always constant no matter what minimum and maximum limits have been set.

- For cooling or heating, DA or RA applications



Part No.	Description	Price
CSC301110	0 to 1" Range; 8 Psig Start	\$312.52
CSC302110	0 to 1" Range; 3 Psig Start	\$312.52
CSC302510	0 to 2" Range; 8 Psig Start (High Flow, for Trane® Units)	\$312.52

RELAY



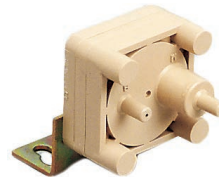
CCE1001

PNEUMATIC-ELECTRIC

- Designed for use in control circuits of HVAC systems
- Ideal for applications such as starting fan coil unit fans, exhaust fans, and direct control of electric duct heaters
- With case and cover



Part No.	Switch	Price
CCE1001	SPDT	\$168.72



RCC1102

AVERAGING

Designed for applications that do not require large amounts of output air volume. Suitable for room or zone applications such as VAV terminals. Use where desired output signal to the controlled device is to be the average of two source signals.



- With bracket

Part No.	Description	Price
RCC1102	Averaging Relay	\$40.76



RCC1501

REVERSING

Designed for reversing a proportional signal from a controlling device. Factory adjusted to decrease branch line pressure as the input pressure increases.



- With bracket

Part No.	Type	Price
RCC1101	Pilot, 9 psi Calibration	\$44.88
RCC1501	Main, 8 psi Calibration	\$123.26



RCC1109

DIVERTING

Adjustable diverting relays are SPDT devices that divert one signal to either of two branch circuits or select one of two inputs and transmit it to another control device. They also can be used to feed or exhaust a circuit.



Part No.	Description	Price
RCC1109	Diverting Relay	\$79.34

DIFFERENTIAL PRESSURE FLOW SENSOR



SSS1005

Designed to sense differential pressure in the inlet section of variable air volume terminal units and fan terminal units. They can also be used to sense differential pressure at other locations in the main or branch duct systems. Normally used in conjunction with the CSC-1000, 2000, and 3000 series of VAV terminal controllers for individual zone control in HVAC systems.



Part No.	Sensing length (In.)	Price
SSS1003	5 13/32	\$32.40
SSS1005	9 29/32	\$44.40

ACTUATOR



MCP80313101

HYDRAULIC, 1 11/16" STROKE

Designed to control small dampers such as air terminal units. Furnished with a right-angle mounting bracket for mounting to the side of a VAV terminal. The bronze bushing actuator may be rotated in the bracket so the air connection can be placed

where desired. The end of the shaft has a slot and clevis pin to allow direct connection to the damper linkage of a VAV terminal. The metal body allows them to be used in ceiling plenums where concern for local safety codes is a factor.

- Effective area: 8 sq. in.



Part No.	Spring Range	Description	Price
MCP80312101	3 to 12	Bronze Bushing with Clevis and Cotter Pins	\$141.48
MCP80313101	5 to 10	Bronze Bushing with Clevis and Cotter Pins	\$141.48
MCP80313102	5 to 10	Delrin Bushing without Clevis and Cotter Pins	\$141.48
MCP80315101	8 to 13	Bronze Bushing with Clevis and Cotter Pins	\$141.48

Designed for use in pneumatic control systems positioning automatic air dampers and can be used for gradual or two position applications.

- With 1/2" crank arm, bracket mount
- Effective area 1030: 7 sq. in.; 1040:11 sq. in.



MCP

HYDRAULIC, 3" STROKE



Part No.	Spring Range	Price
MCP10302111	3 to 12	\$368.48
MCP10303111	5 to 10	\$368.48
MCP10305111	8 to 13	\$368.48



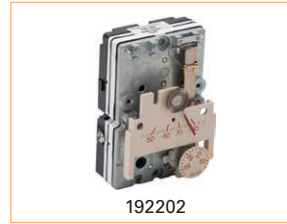
MCP10405211

HYDRAULIC, 4" STROKE



Part No.	Spring Range	Price
MCP10402211	3 to 12	\$442.16
MCP10403211	5 to 10	\$442.16
MCP10405211	8 to 13	\$442.16

THERMOSTAT



192202

2 PIPE, HIGH VOLUME

Provides proportional single output, single setpoint, 2-pipe pneumatic room temperature control.

- Requires cover to complete installation



Part No.	Action	Price
192202	DA	\$243.94
192203	RA	\$243.94



192841

2 PIPE, CONVERSION KIT

Pneumatic room thermostat kit converts most existing pneumatic room thermostats to a Powerstar 192, 2-pipe, single setpoint unit.

- Includes cover and back plate



Part No.	Action	Price
192840	DA	\$276.12
192841	RA	\$276.12



192868

COVER KIT

Retrostat plastic thermostat cover kit with dial plates that expose or conceal the setpoint indicator and/or thermometer. Thumb wheel covers to conceal setpoint adjustment. Snap-out tab for day/night lever.

- Desert beige (standard)
- For use with 192 series pneumatic thermostats



Part No.	Description	Price
192868	PowersThermostat Cover Kit	\$76.74

CONTROLLER



1950011

RECEIVER CONTROLLER

The 195 series controller receives a pneumatic input of 3 to 15 psi from a transmitter and then provides a pneumatic output based on the net pneumatic input and the mechanical settings of the setpoint and proportional band. The controller can be easily

changed from direct to reverse acting.



Part No.	Transmitter Inputs	Price
1950011	One	\$638.64
1950003	Up to three	\$916.46

ACTUATOR DAMPER



3312904

4" STROKE

Designed with a 4-inch stroke, the No. 4 pneumatic actuator is a rugged, metal-fabricated device that provides gradual or positive actuation of HVAC and fire smoke dampers.

- Replacement purposes, integral pivot mounting (no bracket)
- UL recognized

SIEMENS

Part No.	Spring Range	Price
3312904	3 to 7 psi	\$230.58
3312906	5 to 10 psi	\$230.58
3312961	8 to 13 psi	\$230.58

TUBING



PT532BLK

PLEXCO flame retardant polyethylene tubing is produced for pneumatic control applications where high quality plastic tubing with flame retardant and superior stress-crack resistance properties are required for long term, reliable performance. Its light weight and flexibility provide for ease of

handling and installation. Tubing systems are marked with a white ink numbering system over the full length of the tubing. Flame Retardant indicates that the tubing materials have the ability to retard and extinguish the flame once its source is removed. Standard test results on actual extruded tubing meet or exceed the requirements of ASTM D-635.

5/32" OD

- Nominal I.D.: .096"
- Nominal wall thickness: .030"
- Coil length: 500'
- Burst pressure: > 500 psi 75°F
- P532TT are twin connected tubes

CPChem
PERFORMANCE PIPE™

Part No.	Color	ID Stripe	Price
PT532BLK	Black	None	\$90.54
PT532TT ¹	Black	None	\$228.72

¹Twin connected tubes.

1/4" OD

- Nominal I.D.: .170"
- Nominal wall thickness: .040"
- Coil length: 250'
- Burst pressure: > 500 psi 75°F
- PT14TT are twin connected tubes

CPChem
PERFORMANCE PIPE™

Part No.	Color	ID Stripe	Price
PT14BLK	Black	None	\$61.28
PT14TT ¹	Black	None	\$176.84
PT14BLU	Black	Blue	\$74.18

Continued...

1/4" OD (CONT'D.)

Part No.	Color	ID Stripe	Price
PT14GRN	Black	Green	\$74.18
PT14ORG	Black	Orange	\$74.18
PT14RED	Black	Red	\$74.18
PT14VIO	Black	Violet	\$74.18
PT14WHT	Black	White	\$74.18
PT14YEL	Black	Yellow	\$74.18

¹Twin connected tubes.

CPChem
PERFORMANCE PIPE™

3/8" OD

- Nominal I.D.: .250"
- Nominal wall thickness: .062"
- Coil length: 250'
- Burst pressure: > 500 psi 75°F

CPChem
PERFORMANCE PIPE™

Part No.	Color	ID Stripe	Price
PT38BLK	Black	None	\$138.54
PT38BLU	Black	Blue	\$165.46
PT38GRN	Black	Green	\$165.46
PT38ORG	Black	Orange	\$165.46
PT38RED	Black	Red	\$165.46
PT38VIO	Black	Violet	\$165.46
PT38WHT	Black	White	\$165.46
PT38YEL	Black	Yellow	\$165.46

1/2" OD

- Nominal I.D.: .375"
- Nominal wall thickness: .062"
- Coil length: 250'
- Burst pressure: > 350 psi 75°F

CPChem
PERFORMANCE PIPE™

Part No.	Color	ID Stripe	Price
PT12BLK	Black	None	\$210.00



SNAT

NEOPRENE

- Pressure Range -20 to 20" W.C.
- Temperature Range 0°F to 160°F
- Black neoprene
- Use with air pressure switches (i.e.: Robertshaw 2374499)

Supco

Part No.	Size (In.)	Length (Ft.)	Price
SNAT3165	3/16 ID	5.0	\$10.84



SSRT

SILICONE

- Temperature Range -100°F to 500°F
- NSF 51, Soft, Red
- 5 Foot Rolls

Supco

Part No.	Size (In.)	Length (Ft.)	Working Pressure	Price
SSRT185	1/8 ID x 5/16 OD	5.0	25 psi	\$10.84
SSRT145	1/4 ID x 3/8 OD	5.0	5 psi	\$10.84

ACCESSORIES

PLEXCO flame retardant polyethylene tubing is produced for pneumatic control applications where high quality plastic tubing with flame retardant and superior stress-crack resistance properties are required for long term, reliable performance. Its light weight and flexibility provide for ease of handling and installation. Tubing systems are marked with a white ink numbering system over the full length of the tubing. Flame Retardant indicates that the tubing materials have the ability to retard and extinguish the flame once its source is removed. Standard test results on actual extruded tubing meet or exceed the requirements of ASTM D-635.



HPR5-10

AIR DRYER

- Eliminate water from your compressed air lines
- Improve the efficiency of your compressed air system
- Reduce operating costs
- Designed to cool your air supply to the specified dew point with minimum pressure drop
- Two stage separator efficiently removes condensed moisture
- Automatic condensate drain
- Cooling temperatures are automatically and accurately controlled over a wide range of load and ambient conditions
- Voltage: 115/1/60

Hankison

Part No.	Flow (SCFM)	Connection		Dimensions (In.)			Ship Wgt (Lbs.)	Price
		Size (In.)	Type	H	W	D		
HPR5-10	5 to 10	3/8	OD	15	13	13	35.67	\$1,762.00
HPR25	25	3/4	MPT	22	15	15	95	\$2,848.00
HPR35	35	3/4	MPT	22	15	15	105	\$3,648.00



DP3800

AIR COMPRESSOR, TANK DRAIN, ELECTRIC

Electrically operated automatic condensate drain for pneumatic control systems and all other compressed air services. Voltage: 110V/60Hz

DRAINVIEW PRODUCTS

Part No.	FPT (In.)	Max. Operating Pressure (psi)	Price
DP150	1/2	150.0	\$465.50
DP3800	3/8	300.0	\$418.50

VOLTAGE MONITOR



ICM400C

3 PHASE

- Identifies front and back side fault
- Built-in short cycle protection, knob adjustable delay on break, 0.1 to 5 minutes
- Monitors: voltage unbalance, high/low voltage, phase loss, reversal, incorrect sequencing, rapid short cycling

• Input:

Voltage: 190-630 Vac, 50/60 Hz
Voltage unbalance: Adjustable 2-25%
Control: 18-240 Vac

• Output:

Relay, SPDT—Normally open: 10 amps
Normally closed: 6 amps



Part No.	Description	Price
ICM400C	3-Phase Voltage Monitor	\$270.96



ICM450C

3 PHASE, DISPLAY

- Monitors front and back side of system
- Programmable: 25-fault memory storage
- Independent high/low voltage settings for dual voltage compressor applications

• High temperature LCD to 167°F

- Simultaneous voltage display: No scrolling
- Line voltage programmable
- Reset: Auto or manual
- Monitors: Voltage unbalance, high/low voltage, phase loss, reversal, incorrect sequencing, rapid short cycling
- Does not require control voltage for operation

• Input:

Voltage: 190-630 Vac
Voltage unbalance: Adjustable 2-25%
Control: 18-240 Vac

• Output:

Relay, SPDT—Normally open: 10 amps
Normally closed: 6 amps



Part No.	Description	Price
ICM450C	3-Phase Voltage Monitor w/Display	\$329.14



ICM402

3 PHASE, SINGLE SIDE ECONOMY

- Low cost, single side 3-phase protection
- Monitors for phase reversal, phase loss, phase unbalance % as a function of input voltage

- Less than 1 second phase loss response
- Automatic reset from a fault condition
- **Input:**
Line voltage: 190-600 Vac
Control voltage: 115-230 Vac
50/60 Hz

- **Output:**
Relay, SPST normally open: 30 amps



Part No.	Description	Price
ICM402	3-Phase Monitor	\$68.04



ICM491C

1 PHASE

Protects against high/low voltage and rapid system recycling, 95-270 Vac operation and adjustable anti short-cycle timer.

- Integral anti short-cycle protection delay on break circuit provides adjustable (.1-10 minute) lockout delay to prevent rapid system recycling
- Contact rating: SPDT 5 amps 240 Vac
- Voltage dropout: $\pm 12\%$
- Voltage pickup: $\pm 8\%$



Part No.	Description	Price
ICM491C	Single Phase Monitor	\$75.84



ICM493

1 PHASE WITH SURGE PROTECTION

The ICM493 is an advanced, single-phase line voltage monitor with a bank of surge arresters for added protection against lightning strikes. Includes a built-in 40A contactor. Ideal for Mini-Splits or other single phase equipment.

- Voltage Setpoint: 200-240 VAC
- Anti-Short Cycle Delay: 0.5-10 Minutes
- Number of Surge Arresters Required for Operation: 0-5
- Number of Retries: 1-5, Auto
- Input Line Voltage: 180-264 VAC, 50-60 Hz
- Accuracy: $\pm 2\%$, User Calibration
- Type: Contactor; 2-Pole
- Contactor Ratings: 40A FLA, 240A LRA
- NEMA Rated 3R Outdoor Enclosure
- Dimensions: 8"L x 8"W x 4"H



Part No.	Description	Price
ICM493	Single Phase Monitor With Surge Protection	\$507.02



102A

3 PHASE

Auto-ranging, dual-range voltage monitor that protects 190-480 VAC, 50/60Hz motors regardless of size. The product provides a user selectable nominal voltage setpoint and the voltage monitor automatically selects between the 200V and 400V range. Includes advanced single LED diagnostics. Five different light patterns distinguish between faults and normal conditions. This unique microcontroller-based voltage and phase-sensing device constantly monitors the 3-phase voltages to detect harmful power line conditions. When a harmful condition is detected, the MotorSaver's output relay is deactivated after a specified trip delay. The output relay reactivates after power line conditions return to acceptable levels.

- Low voltage trip, single-phase trip, reverse-phase trip
- High voltage trip for 250A (optional for 102A, 201A)
- Fixed 6% voltage unbalance trip
- 10A 240VAC General Purpose
- Adjustable or manual restart delay (102A and 250A only)



Part No.	Description	Switch	Price
102A	3-Phase Voltage Monitor, Panel Mount	SPDT	\$456.06
201A	3-Phase Voltage Monitor, 8-Pin Socket mount	SPDT	\$315.68
250A	3-Phase Voltage Monitor, Panel Mount	DPDT	\$543.28

POWER MONITORING



R310AD1

- Switches upon activation of current in sensed line



Part No.	Input Range	Output Voltage	Price
R310AD1*	0.5 to 200 Amps	24	\$167.00
R310AE2*	0.75 to 200 Amps	120/240	\$183.00



RIBXGTA

ENCLOSED SPLIT CORE SENSOR

- Operating Temperature: -30 to 140°F
- Max Sense Voltage: 600 Vac
- Adjustable threshold
- Mounting/Installation: removable mounting tab provided. The wire clamp locks against the load wire, securing the unit in place.



Part No.	Input Range	Output	Switch	Price
RIBXGTA	0.75 to 150 A	30 Vac/dc; 0.4 Amps Max (Terminal Strip, Accepts 14-22 AWG Wire)	Solid State Switch SPST	\$66.60

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRICAL DEVICES AND ACCESSORIES

POWER MONITORING



H608

SENSOR

Application:

- Detect belt loss, coupling shear and motor failure; ideal for fan and pump status
- Replace pressure switches-mechanical devices

- Verify lighting circuit loads and run times
- Monitor critical motors
- Monitor industrial process equipment status

Features:

- Output status LEDs for easy setup and local indication
- 100% solid state; no mechanical parts
- Adjustable setpoint
- Output amps rated at 30 Vac/Vdc



Part No.	Input Range	Price
H608	1.25 to 50 Amps	\$71.64
908H	2.5 to 135 Amps	\$134.64



RP50

SENSOR

Senses air handler motor amperage to initiate humidifier or electronic air cleaner operation

- Requires minimum 4 amps to activate relay



Part No.	Voltage	Price
RP50	24	\$61.78
RP51	120	\$77.56



H735

SENSOR RELAY

The Hawkeye 735 Series is the ideal solution for the automation installer. It combines a current switch and relay into a single package, reducing the space required for total control of fans and pumps. The integral current switch and relay operate independently of one

another. H735 facilitates the functions of start/stop and status with one device instead of two.

Applications

- Starting/stopping and monitoring positive status of fan and pump motors
- Replaces pressure switches and other electromechanical devices

Features

- Reduces number of components installed; fits better in small starter enclosures
- Commands relay and status in a single unit
- Replaces pressure switches and other electromechanical devices
- Detects belt loss and motor failure...ideal for fan and pump status



Part No.	Input Range	Price
H735	1 to 135 Amps	\$142.16



RIBXKF

SENSOR ASSEMBLY

The X Series contains current sensors with or without a 10 or 20 amp relay. An internal 10 amp relay can be used to activate an external contactor, and currents up to 150 amps are sensed externally with a solid or split current sensing ring. Other units

control and sense up to 20 amp loads, without the use of an external current ring, greatly reducing installation time. Externally visible LEDs indicate the status of the relay coil and current sensor trigger. Sensor-relay X Series models have been packaged to save the installer the time, trouble and expense of buying separate components (current sensor, relay, LED indicator, socket, mounting rail and housing) and assembling them on the job or at the shop.

- Adjustable threshold for sensor/relay combinations, fixed threshold for solid core sensor RIBXKF



Part No.	Description	Input Range	Switch	Inductive Load (VA)	Over-ride Switch	Price
RIBXKF	Sensor	0.25 to 150 A	SPNO	—	—	\$39.40
RIBX24SBA	Internal Sensor/Relay	0.50 to 20 A	SPST	1110	Yes	\$123.44
RIBXLSRA	External Sensor/Relay	1.25 to 150 A	SPST	480	Yes	\$129.84

TRANSFORMER



Y65T420

MULTI-MOUNT

- Y65 Series transformers have energy limiting overload protection ONLY; all others have integral circuit breakers
- Y65G130 is a low voltage isolation transformer for sensitive digital circuitry



Part No.	Power (Va)	Voltage		Mount	Price
		Primary	Secondary		
Y65G130*	40	24	24	Foot	\$73.00
Y65T420*	40	120/208-240	24	Plate	\$88.00
Y65F420*	40	277/480	24	Plate	\$75.00



AT87A1155

FOOT MOUNT NEMA STANDARD

Honeywell Home

Part No.	Power (Va)	Voltage		Mount	Price
		Primary	Secondary		
AT87A1106	50	120/208/240	24	Foot, Plate	\$85.42
AT87A1189	48	277	24	Foot	\$101.26
AT87A1155	48	480	24	Foot	\$117.18



AT88A1005

FOOT MOUNT

- Foot mount
- Connection: 12" lead wires

Honeywell Home

Part No.	Power (Va)	Voltage		Mount	Price
		Primary	Secondary		
AT88A1005	75	120	24	Foot	\$197.88
AT88A1047	75	480	24	Foot	\$199.04



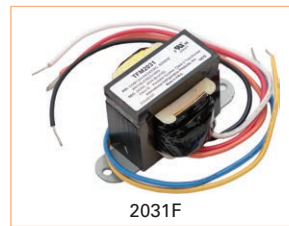
AT72D1683

MULTI-MOUNT NEMA STANDARD

- Foot mounted
- Screw terminal secondary

Honeywell Home

Part No.	Power (Va)	Voltage		Price
		Primary	Secondary	
AT72D1683	40	120	24	\$64.34
AT72D1691	40	208/240	24	\$71.82



2031F

FOOT MOUNTED

Open construction, wire leads.

- Safety agency approved
- Inherently limited design provides protection from short circuiting



Part No.	Power (Va)	Voltage		Price
		Primary	Secondary	
2031F	20	120/208/240	24	\$23.76
4031F	40	120/208/240	24	\$32.34
40271F	40	277	24	\$24.98
5031F	50	120/208/240	24	\$33.98
5032F	50	120/208/240	24/12/2.5	\$42.22
10048PC	100	208-240	120/24	\$152.72



4031M

MULTI-MOUNT

Closed construction, 4" x 4" plate.

- Optional 3-way mounting for maximum flexibility: foot, plate or conduit
- Safety agency approved
- Welded laminations for quiet operation



Part No.	Power (Va)	Voltage		Price
		Primary	Secondary	
4031M	40	120/208/240	24	\$37.74
5031M	50	120/208/240	24	\$45.00
7541M ¹	75	120/208/240/480	24	\$75.38
TMM15052	150	240/480	120/240	\$161.46

¹In-Line Fuse

AT140A1018

MULTI-MOUNT

- 9" lead wire primary connection
- Screw terminal secondary connection
- Foot, plate (2" x 4" or 4" x 4" outlet box) clamp or panel mounting
- 60 Hz only

Honeywell Home

Part No.	Power (Va)	Voltage		Price
		Primary	Secondary	
AT140A1000	40	120	24	\$35.04
AT140A1018	40	120/208/240	24	\$38.50
AT150A1007	50	120/208/240	24	\$45.00
AT175A1008	75	120/208/240	24	\$98.32

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRICAL DEVICES AND ACCESSORIES

TRANSFORMER



7541C

CIRCUIT BREAKER

- All models feature a UL recognized manual reset circuit breaker
- Safety agency approved
- Foot mounted



Part No.	Power (Va)	Voltage		Mount	Price
		Primary	Secondary		
5041C	50	120/208/240/480	24	Foot	\$63.72
7541C	75	120/208/240/480	24	Foot	\$81.84
10041C	100	120/208/240/480	24	Foot	\$98.88



AT175F1023

CIRCUIT BREAKER

Intended for use in systems with predictable, uniform loads. Includes button for manually resetting the circuit breaker.

- Foot mounted

Honeywell Home

Part No.	Power (Va)	Voltage		Mount	Price
		Primary	Secondary		
AT150F1022	50	120/208/240	24	Foot	\$76.18
AT150F1030	50	208/277/480	24	Foot	\$78.18
AT175F1023	75	120/208/240	24	Foot	\$121.84
AT175F1031	75	208/277/480	24	Foot	\$123.58



POP3

LI'L POPPER CONTROL CIRCUIT BREAKER

Saves the technician dozens of blown fuses while he diagnoses control circuit failures. Simply plug the leads in the ATC fuse receptacle on the board, and manually reset the Li'L Popper each time the breaker blows. Has a quick

setting thermal cut out. Self adhering backing allows the contractor to leave the unit on the job site overnight if he is out of fuses. For residential or commercial amp applications.



Part No.	Description	Price
POP3	3 Amp, 24-250 Vac	\$23.34
POP5	5 Amp, 24-250 Vac	\$23.34



Y65T420

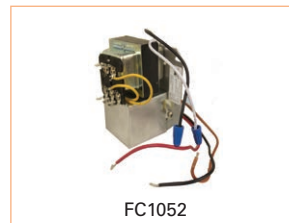
JOHNSON CONTROL



Part No.	Power (Va)	Voltage		Mount	Price
		Primary	Secondary		
Y63T220* ¹	50	120/208-240	24	Plate	\$112.00
Y63F220*	50	277/480	24	Plate	\$131.00
Y66T120*	75	120/208-240	24	Foot	\$200.00
Y66F120*	75	277/480	24	Foot	\$225.00
Y64T220*	92	120/208-240	24	Plate	\$201.00

¹Circuit breaker

FAN CONTROL CENTER



FC1052

ENCLOSED RELAY

- Relay: 24 VAC, 60 Hz
- Class 2, not wet
- Class B insulation
- Metal Enclosure
- Replaceable relay



Part No.	Switch	Voltage		Power (Va)	Price
		Primary	Secondary		
FC1052	SPDT	120	24	40	\$73.64



R8239A1052

ENCLOSED RELAY

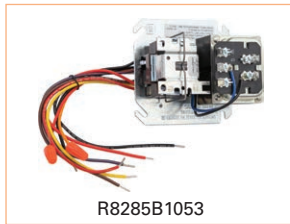
Provides low voltage control of line voltage fan motors and auxiliary circuits in heating, cooling or heating-cooling circuits.

- Enclosed relay
- Power contact rating: 6.9 full load amps 240 Vac

Honeywell Home

Part No.	Switch	Voltage		Power (Va)	Price
		Primary	Secondary		
R8239A1052	SPDT	120	26.5	40	\$114.30
R8239B1076	DPDT	120/208/240	26.5	50	\$160.90

ELECTRICAL DEVICES AND ACCESSORIES



R8285B1053

OPEN RELAY

Contact rating: 6 full load amps 240 Vac.

Honeywell Home

Part No.	Switch	Voltage		Power (Va)	Price
		Primary	Secondary		
R8285B1053	DPDT	120/208/240	26.5	40	\$136.18
R8285D5001	DPST	120	26.5	50	\$104.64



90294Q

SPDT

- Quick connect terminals
- 50/60 Hz

IRP International Refrigeration Products

Part No.	Contact Rating (Amps)	Coil Voltage	Price
90293Q	8	24 Vac	\$18.42
90294Q	8	120	\$25.64
90295Q	8	208/240	\$29.42



24010

OPEN RELAY

- 40 VA transformer
- 6.9 full load amp relay contacts 240V

MARS

Part No.	Switch	Voltage		Price
		Primary	Secondary	
24010*	DPDT	120/240	24	\$48.34



90340

DPDT

- General purpose switching
- 50/60 Hz

IRP International Refrigeration Products

Part No.	Pole Usage	Coil Voltage	Price
90340	Power-Power	24 Vac	\$17.42
90341	Power-Power	120	\$18.08
90342	Power-Power	208/240	\$17.42
90343	Power-Pilot	24 Vac	\$29.96



90113

OPEN RELAY

- 40 VA transformer
- 6.9 full load amp relay contacts 240V

EMERSON

Part No.	Switch	Voltage		Mars Equivalent	Price
		Primary	Secondary		
90113	SPDT	120	24	24013	\$74.84



R8222N1011

GENERAL PURPOSE

Provides general purpose and heavy duty switching for refrigeration and air conditioning equipment, appliances, vending machines and similar applications.

- Power poles: 6 full load amps 277 Vac
- Pilot poles: 125 VA 480 Vac
- R4228: 12 full load amps 277 Vac

Honeywell Home

Part No.	Switch	Pole A	Pole B	Coil Voltage	Price
R8222B1067	SPDT	Power	None	24 Vac	\$40.18
R8222D1014	DPDT	Power	Power	24 Vac	\$43.04
R8222N1011	DPDT	Pilot	Pilot	24 Vac	\$43.62
R8222V1003	DPDT	Pilot	Power	24 Vac	\$46.56
R4222B1082	SPDT	Power	None	120	\$44.68
R4222D1013	DPDT	Power	Power	120	\$46.30
R4222D1021	DPDT	Power	Power	240	\$48.40
R4222N1002	DPDT	Pilot	Pilot	120	\$67.22
R8228B1012	SPDT	Power	Power	24 Vac	\$68.54

RELAY, SWITCHING



90290Q

SPNO

- Quick connect terminals
- 50/60 Hz

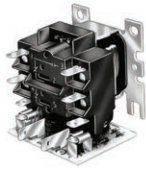
IRP International Refrigeration Products

Part No.	Contact Rating (Amps)	Coil Voltage	Price
90290Q	8	24 Vac	\$15.14
90291Q	8	120	\$18.96
90292Q	8	208/240	\$22.28

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRICAL DEVICES AND ACCESSORIES

RELAY, SWITCHING



ST82D1004

TIME DELAY RELAY

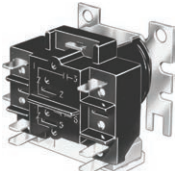
- 80-second delay on break.
- Combination electronic time delay board and R8222 relay saves wiring time.
- Molded terminal numbers and circuit diagram on top of relay and letter-coded terminals on time delay

board provide easy identification for wiring and system checkout.

- Laminated magnet construction for high efficiency .
- Reduces stratification and saves energy .
- Contact ratings: 6 FLA 240 Vac

Honeywell Home

Part No.	Switch	Time Delay	Contact Rating (Amps)	Coil Voltage	Price
ST82D1004	DPDT	80 Seconds	6	24 Vac	\$76.64



R8229A1005

ELECTRIC HEAT

Provides conventional on-off control of heating elements and fan in an electric furnace.

- Maximum temperature rating: 165°F
- Coil voltage: 24 Vac

Honeywell Home

Part No.	1st Pole Resistive Amps (at 277 Vac)	Number 5 kW Elements	Coil Voltage	Includes	Price
R8229A1005	25	2	24 Vac	—	\$151.64
R8229A1021	25	2	24 Vac	Mounting Plate, Hardware	\$198.62
R8246A1038	48	4	24 Vac	Mounting Plate, Hardware	\$218.54



90380

HEAVY DUTY

- Switches 18 amp resistive loads
- 50/60 Hz

IRP International
Refrigeration Products

Part No.	Contact Rating (Amps)	Switch	Coil Voltage	Price
90370	8	SPDT	24 Vac	\$16.34
90380	8	SPNO-SPNC	24 Vac	\$19.28



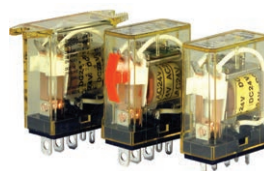
43053

ENCLOSED

- 50/60 Hz
- 3/16" blade terminals

DAFS

Part No.	Switch	Contact Rating (Amps)	Coil Voltage	Price
43053*	DPDT	12	24 Vac	\$49.68
43056*	3PDT	11	24 Vac	\$59.22
43057*	3PDT	11	120	\$59.22
43058*	3PDT	11	240	\$62.38
43063*	DPDT	12	24 Vac	\$47.58
43066*	3PDT	11	24 Vac	\$61.40
43067*	3PDT	11	120	\$61.40
43068*	3PDT	11	240	\$63.30



RH1B

ENCLOSED

RH series uses silver cadmium oxide contacts to help reduce voltage arcing. Available in 1 to 4 poles, with either .187" blade plug-in (stock) or PCB terminals (special order). Options include manual check buttons, LED indicators, and top flange covers for

direct surface mounting. All models carry worldwide approvals including UL, CSA, TUV and CE. Using a standard terminal arrangement, the RH series will plug into many competitors' sockets.

- Compact midsize size saves space
- High switching capacity
- LAC, ULAC models feature indicator light, RH3BULCAC24V has indicator light and momentary check button

IDEC

Part No.	Switch	Contact Rating (Amps)	Coil Voltage	Price
RH1BUAC24V	SPDT	10	24 Vac	\$24.50
RH1BULAC24V	SPDT	10	24 Vac	\$18.04
RH1BUAC120V	SPDT	10	120	\$17.32
RH1BULAC120V	SPDT	10	120	\$30.00
RH2BUAC24V	DPDT	10	24 Vac	\$35.38
RH2BULAC24V	DPDT	10	24 Vac	\$20.60
RH2BUAC120V	DPDT	10	120	\$28.30
RH2BULAC120V	DPDT	10	120	\$20.80
RH2BULAC240V	DPDT	10	240	\$31.84
RH3BULAC24V	3PDT	7.5	24 Vac	\$32.50
RH3BULCAC24V	3PDT	7.5	24 Vac	\$45.46
RH3BULAC120V	3PDT	7.5	120	\$32.62
RH3BULAC240V	3PDT	7.5	240	\$35.00
RH4BULAC24V	4PDT	7.5	24 Vac	\$48.04
RH4BUAC120V	4PDT	7.5	120	\$42.40
RH4BULAC120V	4PDT	7.5	120	\$49.68

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



SH1B05

SOCKET

- Worldwide Approvals: UL, CSA, TUV, CE
- UL94-V0 flame resistant material
- Unbreakable nylon construction
- Hold-down springs and clips available for most models

- Receptacles with four contact points per blade



Part No.	Description	Price
SH1B05	Socket, DIN/Surface mount, RH1B	\$8.60
SH3B05	Socket, DIN/Surface mount, RH3B, RH2LB	\$11.74
SH4B05	Socket, DIN/Surface mount, RH4B	\$22.30



17015

TOTALLY ENCLOSED

- Replaces WR/Essex 90-12 relays



Part No.	Contact Rating (Amps)	Switch	Coil Voltage	Price
17015*	18	SPST	24 Vac	\$81.16
17018*	18	SPDT	24 Vac	\$59.48



R8225A1017

ADD-A-RELAY

Provides control of line voltage fan motors and auxiliary circuits in heating, cooling or heating-cooling systems.

- Contact rating: 7.0 full load amps 240 Vac
- Auxiliary rating: 2.0 full load amps 240 Vac

- Coil voltage: 24 Vac

Honeywell Home

Part No.	Coil Voltage	Switch	Price
R8225A1017	24 Vac	SPDT	\$150.96
R8225D1003	24 Vac	DPST, Normally Open, 1-Main, 1-Auxiliary	\$169.00



R847A1085

HEAVY DUTY

Provides switching for high-current loads such as cooling compressors.

- Contact rating: 10 FLamps 240 Vac
- Integral transformer for control circuit
- Coil voltage: 24V

Honeywell Home

Part No.	Input Voltage	Switch	Price
R847A1085	120	DPST	\$245.94



RIBU1C

RELAY IN A BOX, ENCLOSED

- In enclosed plastic box
- All wires exiting from nipple
- Selected models have override switch which allows manual control of switching action
- Pilot duty rated at 277 Vac

Functional Devices, Inc. RIB

Part No.	Coil Voltage	Switch	Resistive Amps	Inductive Load (VA)	Price
RIBU1C	10 - 30 ac/dc, 120 ac	SPDT	10	480	\$29.48
RIBU2C	10 - 30 ac/dc, 120 ac	2-SPDT	10	480	\$54.60
RIBU1S ¹	10 - 30 ac/dc, 120 ac	SPNO	10	480	\$50.38
RIBU1S-NC ¹	10 - 30 ac/dc, 120 ac	SPNC	10	480	\$51.74
RIBH1S ¹	10 - 30 ac/dc, 208/240/277 ac	SPNO	10	480	\$52.84
RIBH1C	10 - 30 ac/dc, 208/240/277 ac	SPDT	10	480	\$33.44
RIB2401D	24 ac/dc, 120 ac	DPDT	10	180	\$49.82
RIB2401B	24 ac/dc, 120 ac	SPDT	20	1110	\$44.26
RIB24P	24 ac/dc	DPDT	20	1110	\$88.86
RIB243P	24 ac/dc	3PNO	20	1110	\$140.50
RIB01P	120 ac	DPDT	20	1110	\$111.80
RIB02P	208/240/277 ac	DPDT	20	1110	\$113.26

¹Override switch



RIBMU1C

RELAY IN A BOX, PANEL STYLE

Panel style relays are exposed track mount suitable for wiring enclosures.

- Selected models have override switch which allows manual control of switching action

Functional Devices, Inc. RIB

Part No.	Coil Voltage	Switch	Resistive Amps	Inductive Load (VA)	Override Switch	Price
RIBMU1C	10 - 30 ac/dc, 120 ac	SPDT	15	480	—	\$30.74
RIBMU2C	10 - 30 ac/dc, 120 ac	2-SPDT	15	480	—	\$52.96
RIBM24C	24 ac/dc	SPDT	15	470	—	\$20.82
RIBM24S ¹	24 ac/dc	SPST	15	470	Yes	\$25.02

¹Must cut appropriate jumper to select N.O. or N.C.. Override switch.

ELECTRICAL DEVICES AND ACCESSORIES

RELAY, SWITCHING



RIBH1CW

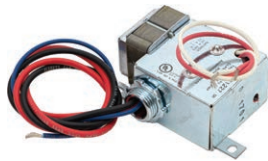
RELAY IN A BOX, T STYLE

T style relays have a class 2 wiring compartment with terminal strips for high/low voltage separation.

- Wires exit from nipple

Functional Devices, Inc. RIB

Part No.	Coil Voltage	Switch	Resistive Amps	Inductive Load (VA)	Price
RIBH1CW	10 - 30 ac/dc, 208/240/277 ac	SPDT	15	480	\$45.98



R841C1227

ELECTRIC HEAT

Use with 2-wire, 24 Vac thermostat to control electric heating equipment such as baseboards, ceiling cables and duct heaters.

Honeywell Home

Part No.	Switch	Voltage Primary	Application	Price
R841C1227	SPST	240	Controls 1 Load, Integral Transformer	\$183.92
R841E1068	DPST	240	Controls 2 Loads, Integral Transformer	\$375.44



RA889A1001

SWITCHING RELAY

Provides intermediate switching of a line voltage device from a low voltage controller.

- Integral transformer provides low voltage power for control circuit

Honeywell Home

Part No.	Volt	Switch	Application	FLA	Price
RA889A1001	120	SPDT + PowerPile® rated low voltage SPST relay	1-Line Voltage Load, 1-Low/Millivolt Load, 2- or 3-Wire Control	15 120 Vac	\$140.44
RA89A1074	120	SPST	1-Line Voltage Load, 2-Wire Control	5.1 240 Vac	\$158.86
RA832A1066	120	DPST	1-Line Voltage Load, 1-Low/Millivolt Load, 2-Wire Control	3.7 240 Vac	\$200.58
R845A1030	120	DPST	1-Line Voltage Load, 1 Low Voltage Load	—	\$197.74

CONTACTOR, IEC



CA7910

IEC CONTACTOR, NON-REVERSING, 3 POLE, SERIES CA7

The CA7 power control contactors control motors up to 75HP, in frame sizes ranging from 1-3/4" to a maximum of 2-3/4" wide. Because of its modular design, CA7 is flexible and easy to use.

All CA7 contactors use the same accessories, reducing the need to stock additional inventory. They are also mechanically and electrically compatible with Sprecher + Schuh's CEP7 electronic overload relay and KT7 motor circuit controller. This provides easy, clean installation for a variety of motor starter applications.

- CA7 contactors meet IEC, UL and CSA standard requirements
- Non-reversing, 3 poles, opn type only, with AC Coil
- CA7-30 through 97 contactors are designed with two power terminals for all three poles. This simplifies power wiring of interconnected contactors in reversing, reduced voltage and two-speed applications.
- Voltage 230/460/3/60

sprecher+schuh

Part No.	HP	Resistive Amps	Aux. Switch	Includes	Price
CA7910120	2 @ 230 V, 5 @ 460 V	9	1 NO	120 V Coil	\$59.52
CA7910220W	2 @ 230 V, 5 @ 460 V	9	1 NO	208-240 V Coil	\$59.52
CA7910480	2 @ 230 V, 5 @ 460 V	9	1 NO	480 V Coil	\$59.52
CA71210220W	3 @ 230 V, 7-1/2 @ 460 V	12	1 NO	208-240 V Coil	\$65.62
CA71210120	3 @ 230 V, 7-1/2 @ 460 V	12	1 NO	120 V Coil	\$65.62
CA71210480	3 @ 230 V, 7-1/2 @ 460 V	12	1 NO	480 V Coil	\$65.62
CA71610120	5 @ 230 V, 10 @ 460 V	16	1 NO	120 V Coil	\$89.42
CA71610220W	5 @ 230 V, 10 @ 460 V	16	1 NO	208-240 V Coil	\$89.42
CA71610480	5 @ 230 V, 10 @ 460 V	16	1 NO	480 V Coil	\$89.42
CA72310220W	7-1/2 @ 230 V, 15 @ 460 V	23	1 NO	208-240 V Coil	\$98.68
CA72310480	7-1/2 @ 230 V, 15 @ 460 V	23	1 NO	480 V Coil	\$98.68
CA73000220W	10 @ 230 V, 20 @ 460 V	30	None	208-240 V Coil	\$151.14
CA73000480	10 @ 230 V, 20 @ 460 V	30	None	480 V Coil	\$151.14
CA74300220W	15 @ 230 V, 30 @ 460 V	43	None	208-240 V Coil	\$171.46
CA75500220W	20 @ 230 V, 40 @ 460 V	55	None	208-240 V Coil	\$217.62



CEP7EECB

CEP7 SOLID STATE OVERLOAD RELAYS

- Advanced Solid State Motor Protection

CEP7-EE is a full-featured, selectable trip class (10, 15, 20 & 30) 3-phase application overload relay with provision for field-mountable module

to handle remote reset, ground fault and other functions previously available only in higher priced electronic overload relays. Manual reset or automatic reset can be selected with dip switches on the CEP7-EE models.



Part No.	Amps	Fits	Price
CEP7EECB	1.0 - 5.0	CA79 - CA723	\$123.36
CEP7EEDB	3.2 - 16.0	CA79 - CA723	\$123.36
CEP7EEEB	5.4 - 27.0	CA79 - CA723	\$123.36
CEP7EEFD	9.0 - 45.0	CA730 - CA743	\$140.02



CA7PA11

CS7 CONTROL RELAYS

Compact and designed for heavy-duty industrial control applications where reliability and versatility are essential. Interchangeable coils on the CS7 and CA7 lines mean less inventory. The CS7 is the standard relay with a general purpose UL rating of 25 amps. Snap-on design.

Top Mounting features (CS7)

- Electronic compatible standard contacts down to 17V, 5mA, bifurcated version 5V, 3mA
- Mechanically linked between N.O. and N.C. poles and to the control relay poles (excluding L types).
- Several terminal numbering choices even for models with equal function

Side Mounting features (CA7)

- Two way numbering for right or left mounting on the contactor
- Electronic compatible contacts 17V, 10mA
- Mirror contact performance to control relay poles



Part No.	Auxiliary Switch	Description	Price
CA7PA11	1 NO / 1 NC	Side Mount	\$19.28
CS7PV22	2 NO / 2 NC	Front Mount	\$37.94



CEP7EPB

IEC CONTACTOR ACCESSORIES



Part No.	Description	Price
CEP7EPB	Separate Mounting Base for CEP7ED1*B	\$30.00
CEP7EPD	Separate Mounting Base for CEP7EE*D	\$30.00

CONTACTOR, DEFINITE PURPOSE

Non-reversing contactor

Open with metal mounting plate

Power Terminals Keys:

B: Binding Head Screw and Quick Connect Terminals (Side by Side)

D: Screw/Pressure Plate and Quick Connect Terminals (Side by Side)

E: Box Lugs (Posidrive Setscrew)

F: Box Lugs (Posidrive Setscrew) and Quick Connect Terminals (Side by Side)

J: Box Lugs (Posidrive Setscrew) and Quick Connect Terminals (Vertical In-Line)



C25CNB125T

COMPACT 1 POLE W/SHUNT



Powering Business Worldwide

Part No.	FLA	Coil Voltage	Price
C25CNB125T	25	24 Vac	\$22.94
C25CNB125A	25	110/120	\$22.94
C25CNB130T	30	24 Vac	\$23.56
C25CNB130A	30	110/120	\$23.96
C25CNB130B	30	208/240	\$23.56
C25CNB140T	40	24 Vac	\$29.12



C25BNF240A

COMPACT 2 POLE



Powering Business Worldwide

Part No.	FLA	Coil Voltage	Price
C25BNB220T	20	24 Vac	\$25.46
C25BNB220A	20	110/120	\$25.46
C25BNB220B	20	208/240	\$25.46
C25BNB225T	25	24 Vac	\$27.64
C25BNB225A	25	110/120	\$26.70
C25BNB230T	30	24 Vac	\$28.18
C25BNB230A	30	110/120	\$28.18
C25BNB230B	30	208/240	\$28.18
C25BNB230H	30	277	\$29.68
C25BNB230C	30	480	\$29.24
C25BNB240T	40	24 Vac	\$34.40
C25BNF240T	40	24 Vac	\$41.20
C25BNB240A	40	110/120	\$37.96
C25BNB240B	40	208/240	\$37.96

ELECTRICAL DEVICES AND ACCESSORIES

CONTACTOR, DEFINITE PURPOSE



C25DNF240T

2 POLE



Part No.	FLA	Coil Voltage	Price
C25DND230B	30	220	\$54.70
C25DNF240T	40	24 Vac	\$57.42



C25DND325B

3 POLE

C25GNF features:

- 100% increase in electrical and mechanical life - 200,000 and 500,000 operations
- RoHS compliance
- cULus certificatio

- Panel space savings due to shallower depth
- Load-side coil quick connection for easy installation



Part No.	FLA	Coil Voltage	Price
C25DND325T	25	24 Vac	\$55.38
C25DND325A	25	110/120	\$53.68
C25DND325B	25	208/240	\$53.68
C25DND330T	30	24 Vac	\$52.36
C25DND330A	30	110/120	\$52.18
C25DND330B	30	208/240	\$52.36
C25DNF330T	30	24 Vac	\$55.38
C25DNF330A	30	110/120	\$55.38
C25DNF330B	30	208/240	\$55.38
C25DNF340T	40	24 Vac	\$56.54
C25DNF340A	40	110/120	\$56.54
C25DNF340H	40	277	\$67.56
C25DNF340B	40	208/240	\$56.54
C25DNF340C	40	440/480	\$58.18
C25DNJ350T	50	24 Vac	\$95.50
C25DNJ350A	50	110/120	\$95.92
C25DNJ350B	50	208/240	\$95.50
C25FNF360T	60	24 Vac	\$138.72
C25FNF360A	60	110/120	\$137.74
C25FNF360B	60	208/240	\$137.74
C25FNF375T	75	24 Vac	\$189.74
C25FNF375A	75	110/120	\$189.74
C25FNF375B	75	208/240	\$195.64
C25GNF390T	90	24 Vac	\$317.12
C25GNF390A	90	110/120	\$319.42
C25GNF390B	90	208/240	\$311.64
C25HNE3120A	120	110/120	\$539.02
C25HNE3120B	120	208/240	\$539.02



C25EN

4 POLE



Part No.	FLA	Coil Voltage	Price
C25END430T	30	24 Vac	\$92.84
C25END430A	30	110/120	\$93.82
C25END430B	30	208/240	\$93.24
C25ENF440T	40	24 Vac	\$98.80
C25ENF440A	40	110/120	\$98.80
C25ENF440B	40	208/240	\$95.86



C320KG3

SIDE MOUNTED AUXILIARY CONTACT

C320DPG features:

- 100% increase in electrical and mechanical life - 200,000 and 500,000 operations
- RoHS compliance

- cULus certificatio
- Panel space savings due to shallower depth
- Load-side coil quick connection for easy installation



Part No.	Circuit	Type	Use with	Price
C320KG1	With Standard Pressure Plate Terminals	1-NO	15-75 Amps Contactor	\$20.58
C320KG3	With Standard Pressure Plate Terminals	1-NO 1-NC	15-75 Amps Contactor	\$24.98
F1C320DPG01	With Pressure Plate and Quick Connect Terminals	1-NC	90 Amps Contactor	\$57.42
F1C320DPG10	With Pressure Plate and Quick Connect Terminals	1-NO	90 Amps Contactor	\$57.42
F1C320DPG11	With Pressure Plate and Quick Connect Terminals	1-NO 1-NC	90 Amps Contactor	\$84.88
C320KGS20	With Standard Pressure Plate Terminals	1-NO	120-360 Amps Contactor	\$89.78
C320KGS21	With Standard Pressure Plate Terminals	1-NC	120-360 Amps Contactor	\$89.78
C320KGS22	With Standard Pressure Plate Terminals	1-NO 1-NC	120-360 Amps Contactor	\$138.18
C320KGS31	N/A	1-NO	120 Amps Contactor	\$86.70
C320KGS32	N/A	1-NO 1-NC	120 Amps Contactor	\$138.18



C320SNP11

SIDE MOUNTED SNAP SWITCH

- With Quick Connect Terminals



Powering Business Worldwide

Part No.	Amps	Type	Price
C320SNP11	15-75	1-NO 1-NC	\$23.06
C320SNP22	15-75	2-NO 2-NC	\$23.78



9-3256-1

REPLACEMENT COIL



Powering Business Worldwide

Part No.	Class	Coil Voltage	Price
927562	90A, 2 and 3 Pole	208/240	\$516.80
9-3079-3	25-40A, 4 Pole	104/120	\$362.84
9-3185-1	15-40A, 2 and 3 Pole (Series D1)	110/120	\$28.36
9-3186-1	50A, 2 and 3 Pole (Series D1)	110/120	\$28.32
931852	15-40A, 2 and 3 Pole (Series D1)	208/240	\$43.74
931856	15-40A, 2 and 3 Pole (Series D1)	24 Vac	\$43.74
9-3256-1	25-40A, 4 Pole	104/120	\$33.96
932562	25-40A, 4 Pole	208/240	\$36.80
932566	25-40A, 4 Pole	24 Vac	\$36.84
932563	25-40A, 4 Pole	440/480	\$36.84



49P11843

SURESWITCH™ RELAY

Universal electronic upgrade for mechanical compressor contactors: 5x contactor life, sealed to keep out ants and debris.

- Microprocessor controlled sealed compressor switching

- Line voltage brownout protection
- Short cycle protection
- Tricolor LED displays
- Heavy-duty lug connectors
- Zero chatter latching relay
- Four-hole mounting matches mechanical contactors
- Random start delay on power up and brownout recovery
- Compressor test and cycle count by push-button
- Microprocessor controlled switching algorithms reduce arcing, virtually eliminating contact pitting and welding.



Part No.	FLA	Coil Voltage	Price
49P11843	30	24 Vac	\$104.72

Silver cadmium oxide contacts for longer life
Quiet, reliable operation with adjusting magnet armatures
Compact design
Snap-on accessories
Quick connect terminals
Non-position sensitive for convenient mounting



912204000

2 POLE

COPELAND™

Part No.	FLA	Coil Voltage	Price
912202500*	25	24 Vac	\$75.06
912203000*	30	24 Vac	\$25.20
912203001*	30	120	\$25.20
912203002*	30	208/240	\$25.20
912204000*	40	24 Vac	\$45.10



912306001

3 POLE

COPELAND™

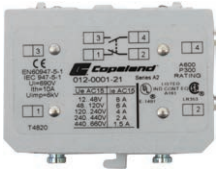
Part No.	FLA	Coil Voltage	Price
912302500*	25	24 Vac	\$62.44
912302501*	25	120	\$62.44
912302502*	25	208/240	\$62.44
912303000*	30	24 Vac	\$61.80
912303001*	30	120	\$61.80
912303002*	30	208/240	\$61.80
912304000*	40	24 Vac	\$67.96
912304001*	40	120	\$67.96
912304002*	40	208/240	\$67.96
912305000*	50	24 Vac	\$164.34
912305001*	50	120	\$164.34
912305002*	50	208/240	\$164.34
912306001*	60	120	\$191.34
912306002*	60	208/240	\$191.34
912307501*	75	120	\$317.60
912307502*	75	208/240	\$317.60
912312001*	120	120	\$788.64
912312002*	120	208/240	\$788.64
912320001*	200	120	\$2,342.68
912320002*	200	208/240	\$2,342.68

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRICAL DEVICES AND ACCESSORIES

CONTACTOR, DEFINITE PURPOSE

AUXILIARY SWITCH



912000121

COPELAND

Part No.	Application	Switch	Price
912000112*	15 to 75 Amp	1 NO/1 NC	\$63.30
912000113*	15 to 75 Amp	2 NO	\$106.20
912000120*	120 to 360 Amp	1 NC	\$102.50
912000121*	120 to 360 Amp	1 NO/1 NC	\$118.74



DP13024F

1 POLE WITH SHUNT

Features for F Series

- Furnas style definite purpos
- UL recognized
- Heavy duty silver contacts

IRP International
Refrigeration Products

Part No.	FLA	Coil Voltage	Price
DP13024F	30	24 Vac	\$21.88
DP130120F	30	120	\$21.88
DP130240F	30	240	\$21.88
DP14024F	40	24 Vac	\$26.48



DP23024F

2 POLE

Features for F Series

- Furnas style definite purpos
- UL recognized
- Heavy duty silver contacts

IRP International
Refrigeration Products

Part No.	FLA	Coil Voltage	Price
DP22024F	20	24 Vac	\$23.42
DP220120F	20	120	\$23.42
DP220240F	20	240	\$23.42
DP23024F	30	24 Vac	\$25.38
DP23024LF ¹	30	24 Vac	\$25.82
DP230120F	30	120	\$25.38
DP230240F	30	240	\$25.38
DP230277F	30	277	\$35.30
DP230480F	30	480	\$26.36
DP24024F	40	24 Vac	\$35.30
DP240120F	40	120	\$35.30
DP240240F	40	240	\$35.30

¹With Lugs



DP2X4024

2 POLE IN 3 POLE BASE

- Furnas style definite purpos
- UL recognized
- Heavy duty silver contacts

IRP International
Refrigeration Products

Part No.	FLA	Coil Voltage	Price
DP2X4024F	40	24 Vac	\$43.60



DP340240F

3 POLE

- Furnas style definite purpos
- UL recognized
- Heavy duty silver contacts

IRP International
Refrigeration Products

Part No.	FLA	Coil Voltage	Price
DP33024F	30	24 Vac	\$50.72
DP330120F	30	120	\$50.72
DP330240F	30	240	\$50.72
DP330277F	30	277	\$55.44
DP330480F	30	480	\$55.44
DP34024F	40	24 Vac	\$52.50
DP340120F	40	120	\$52.32
DP340240F	40	240	\$52.50
DP340480F	40	480	\$57.64
DP35024F	50	24 Vac	\$90.46
DP350120F	50	120	\$90.46
DP350240F	50	240	\$90.46
DP36024F	60	24 Vac	\$134.06
DP360120F	60	120	\$134.06
DP360240F	60	240	\$134.06
DP37524F	75	24 Vac	\$192.86
DP375120F	75	120	\$192.86
DP375240F	75	240	\$192.86
DP39024F	90	24 Vac	\$293.32
DP390120F	90	120	\$293.32
DP390240F	90	240	\$293.32
DP312024	120	24 Vac	\$416.32
DP3120120	120	120	\$454.94
DP3120240	120	240	\$454.94



DP440120F

4 POLE

- Furnas style definite purpos
- UL recognized
- Heavy duty silver contacts

IRP International
Refrigeration Products

Part No.	FLA	Coil Voltage	Price
DP44024F	40	24 Vac	\$85.30
DP440120F	40	120	\$90.86
DP440240F	40	240	\$90.86

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



AUXILIARY CONTACT SWITCH

Use with NEW IRP contactors F Series



Part No.	Description	Price
1950243	For All 3 and 4 Pole Contactors below 75 Amps	\$23.92
1950244	For All 3 Pole Contactors 75 to 120 Amps	\$23.92



OPEN DRIVES

Specifically engineered for H AC, pump, and fluid control applications. The ultra-efficient DC capacitor and power structure allows the drives to consume less energy, lowering greenhouse gases.

Patented Active energy control

algorithm: achieves an additional 2% to 8% energy savings when compared to competitive products

- HAND/OFF/AUTO and DRIVE/BYPASS selector on keypad simplifies control
- Copy/paste function allows the transfer of parameter settings from one drive to the next
- Versatile keypad displays up to nine monitored parameters simultaneously
- Motor overload, underload, and stall protections protect against premature motor failure
- BACnet® MS/TP, BACnet IP, Modbus®, and N2 Network Protocols provide a wide variety of communication protocols to meet the needs of many applications
- Anti-trip DC bus regulation
- Additional I/O and communication cards provide plug-and-play functionality
- Real-time clock with PLC functionality
- Two independent PID functions
- On-screen troubleshooting diagnostics with embedded manual assistance
- Onboard RS-485 (BACnet, N2, Modbus)
- Onboard Ethernet-based communications (BACnet/IP, Modbus/TCP)
- Standard NEMA Type 12 keypad on all drives
- Quickstart wizard built into programming of drive ensures a smooth startup
- I/O connections with simple quick connection terminals
- Standard I/O, 6DI, 2AI, 1AO 2 Form C RO (NO/NC), 1 Form A RO (NO)
- Hard-wired external/damper interlock
- Nema 1



VSD SERIES II



VARIABLE SPEED MICRO DRIVES

Specifically engineered for today's HVAC mid-market applications. These micro-processor-based drives have standard features that can be programmed to tailor the drive's performance to suit a wide variety

of application requirements. The JC-VSM II product line uses a 32-bit microprocessor and insulated gate bipolar transistors (IGBTs) that provide quiet operation, high efficiency, and smooth low-speed performance for three-phase induction motors.

- Preset application macros, startup wizard, and diagnostic capabilities allow for quick and easy startup
- Rugged construction offers 122°F rated, conformal coated boards
- DIN rail and screw mountable chassis reduces installation time
- Compact, space saving design allows for side-by-side installation resulting in less mounting space
- Integrated EMC filters and brake choppers are standard features in 3-phase applications, which make the unit suitable for commercial and industrial applications.
- IP 20 Enclosure Class Available as Standard
- Temperature-controlled fan ensures extended product reliability
- RS-485/Modbus® includes a standard communication protocol
- PID Controller provides stand-alone, closed-loop control
- Nema 1



Part No.	HP	Voltage	Amps	Price
VS017203BM0000*	5	230	17.0	\$2,149.66
VS9D0403BM0000*	5	480	9.0	\$1,813.90
VS025203BM0000*	8	230	25.0	\$2,529.60
VS012403BM0000*	8	480	12.0	\$2,019.60
VS031203BM0000*	10	230	31.0	\$2,960.56
VS014403BM0000*	10	480	14.0	\$2,229.56

Part No.	HP	Voltage	Amps	Price
VS011210B00000*	3	208-230	11.0	\$2,011.10
VS5D6410B00000*	3	480	5.6	\$1,729.76
VS012210B00000*	4	208-230	12.0	\$2,250.80
VS8D0410B00000*	4	480	8.0	\$1,773.96
VS018210B00000*	5	208-230	18.0	\$2,368.10
VS9D6410B00000*	5	480	9.6	\$1,876.80
VS024210B00000*	8	208-230	24.0	\$2,750.60
VS012410B00000*	8	480	12.0	\$2,096.96
VS031210B00000*	10	208-230	31.0	\$3,162.86
VS016410B00000*	10	480	16.0	\$2,513.46
VS048210B00000*	15	208-230	48.0	\$3,423.80
VS023410B00000*	15	480	23.0	\$3,227.46
VS062210B00000*	20	208-230	62.0	\$4,063.86
VS031410B00000*	20	480	31.0	\$4,016.26
VS075210B00000*	25	208-230	75.0	\$4,679.26
VS038410B00000*	25	480	38.0	\$4,987.80
VS088210B00000*	30	208-230	88.0	\$5,375.40
VS046410B00000*	30	480	46.0	\$5,993.36
VS105210B00000*	40	208-230	105.0	\$7,976.40
VS061410B00000*	40	480	61.0	\$7,302.36

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



VARIABLE SPEED DRIVES

MICRO DRIVE

Three-Phase Input

- 1-25HP @ 480 VAC
- 1-15HP @ 230 VAC
- 1-7.5HP @ 575 VAC

Single-Phase Input

- 1/4-1.5HP @ 115V
- 1/4-3HP @ 230V

OnBoard Communication

- RS-485: Modbus

Features

- Setup Wizard/Preset Applications
- Temperature Controlled Fan
- Conformal Coated Boards
- 50C Standard
- PID / Sleep Modes
- Plenum Rated



TYPICAL APPLICATIONS

Application

Controlling the speed of the condenser fan(s) to maintain a constant head pressure.

Input Sensor

Pressure Transducer connected to the high side of the refrigeration circuit.

Benefits

Maintain a constant temperature and pressure of the liquid refrigerant to the expansion valve, optimizing performance.



OPEN DRIVE

Three-Phase Input

- 1-250HP @ 480 VAC
- 1-125HP @ 208-230 VAC

OnBoard Communication

- RS-485: Modbus, BACnet, N2
- Ethernet: Modbus TCP, BACnet IP

Features

- Active Energy Control Algorithm
- Setup Wizard
- Graphic Display and Keypad
- Real Time Clock / Calendaring
- 5% DC Link Choke
- Thin Film High Efficiency Capacitors (five year shelf life)
- Conformal Coated Boards
- EN 61800-3 C2 Filtration for Commercial Networks



TYPICAL APPLICATIONS

Application

Controlling the speed of the Supply Fan in a Variable Air Volume (VAV) Airhandler (AHU).

Input Sensor

Static Pressure Transducer connected 2/3 down stream on the longest duct run.

Benefits

Maintain a constant static pressure on the supply duct feeding air to VAV boxes.



FEATURING THE NEXT GENERATION OF VARIABLE SPEED DRIVES
AVAILABLE THROUGH ALL UNITED REFRIGERATION LOCATIONS

ENCLOSED DRIVE

Three-Phase Input

- 1-150HP @ 480 VAC
- 1-75HP @ 208 or 230 VAC

OnBoard Communication

- RS-485: Modbus, BACnet, N2
- Ethernet: Modbus TCP, BACnet IP

Enclosure Type

- NEMA 1 (indoor)
- NEMA 12 (dust tight)
- NEMA 3R (outdoor)

Features

- Industrial Grade Enclosure
- Two or Three Contactor Bypass
- Disconnect
- PSG Power Supply
- UL508C Listed
- MMP – Motor Controller/Disconnect, Overload & Short Circuit Protection



TYPICAL APPLICATIONS

Application

Controlling the speed of tower fan(s) to maintain a constant condenser water temperature entering the water cooled chillers



Input Sensor

Condenser Water Supply Temperature Sensor

Benefits

Water cooled chillers performance increases with lower condenser water temperatures and less variation in the supply temperature.



THE RIGHT DRIVE?

APPLICATION	COMMUNICATION REQUIRED	MANUAL OR ELECTRONIC
HP OR FLA	BYPASS REQUIRED	FUSES OR MMP
VOLTAGE	DISCONNECT	PILOT LIGHTS
ENCLOSURE TYPE REQUIRED	2 OR 3 CONTACTOR	

Product	Full Load Amps	VAC	Encl Rating	Drive Style	Rev. #	Dash	Comm Trunk	1	2	3	4
V S	1 D 7	0	0	4	B	-	M	0	0	0	0
BASE PRODUCT VS = VSD Series II		VOLTAGE 0 = 120 VAC 2 = 230 VAC 4 = 480 VAC 5 = 575 VAC		STYLE 3 = 3 Phase 4 = 1 Phase		OPTION 000 = None EM00 = EMC Filter					

1 PHASE			3 PHASE				
HP	AMPS		120 VAC	230 VAC	208/230 VAC	480 VAC	575 VAC
1/4	1.7	1D7	X	X	X		
1/2	2.4	2D4	X	X	X		
3/4	2.8	2D8	X	X	X		
1.0	3.7	3D7	X	X	X		
1.5	4.8	4D8	X	X	X		
2	7.0	7D0		X	X		
3	9.6	9D6		X			
3	11	011			X		
5	17	017			X		
7.5	25	025			X		
10	31	031			X		
15	38	038			X		
1/2	1.3	1D3				X	
3/4	1.9	1D9				X	
1	2.4	2D4				X	
1.5	3.3	3D3				X	
2	4.3	4D3				X	
3	5.6	5D6				X	
4	7.6	7D6				X	
5	9.0	9D0				X	
7.5	12	012				X	
10	16	016				X	
15	23	023				X	
20	31	031				X	
25	38	038				X	
1	1.7	1D7					X
2	2.7	2D7					X
3	3.9	3D9					X
5	6.1	6D1					X
7.5	9.0	9D0					X

MICRO DRIVE OPTIONS Ordered Separately

VSM2-IP21-FS1 = Type 1/IP21 kit
 VSM2-IP21-FS2 = Type 1/IP21 kit
 VSM2-IP21-FS3 = Type 1/IP21 kit
 VSM2-TEXTKEYPAD = Micro Drive Keypad
 VSM2-PCADAPTER = For MaxConnect
 VSM2-KEY ADAPTER = Remote Keypad Kit



Product	Full Load Amps	VAC	Encl Rating	Drive Style	Rev. #	Dash	Comm Trunk	1	2	3	4
V S	3 D 7	2	1	0	B	-	0	0	0	0	0
BASE PRODUCT VS = VSD Series II		VOLTAGE 2= 230 VAC 4 = 480 VAC	ENCLOSURE 1 = NEMA 1 2 = NEMA 12	RS-485 COMMUNICATION 0=STD (BACnet/N2 Bus/Modbus) S=JCI SA Bus L=Lon Works		OPTION 000 = None EM00 = EMC Filter					

480 VAC			230 VAC		
	HP	AMP		HP	AMP
3D4	1.5	3.4	3D7	3/4	3.7
4D8	2	4.8	4D8	1	4.8
5D6	3	5.6	6D6	1.5	6.6
8D0	4	8	011	3	11
9D6	5	9.6	012	4	12
012	7.5	12	018	5	18
016	10	16	024	7.5	24
023	15	23	031	10	31
031	20	31	048	15	48
038	25	38	062	20	62
046	30	46	075	25	75
061	40	61	088	30	88
072	50	72	105	40	105
087	60	87	140	50	140
105	75	105	170	60	170
140	100	140	205	75	205
170	125	170	261	100	261
205	150	205			
261	200	261			
310	250	310			



Product	Full Load Amps	VAC	Encl Rating	Drive Style	Rev. #	Dash	Comm Trunk	1	2	3	4
V S	4 D 6	1	1	1	B	-	M	0	0	0	0
BASE PRODUCT VS= VSD Series II		VOLTAGE 1= 208 VAC 2= 230 VAC 4= 480 VAC	ENCLOSURE 1= NEMA 1 2= NEMA 12 3= NEMA 3R	STYLE 1= Bypass 2= Disconnect	OPTION 0000 = None EM00 = EMC Filter M1 = Manual Bypass Switch - on front door (for FS 4-7 IPASS that includes L4 = HMAX Pilot Lights) P3 = Drive Isolation Fuses (for FS 4-7 IPASS & IDisc - not available with IPASS, P6 option) P4= Drive Output contactor (IDisc only) P6 = Drive Isolation Contactor includes drive test switch (for FS 4-7 IPASS - not available with P3 option) P7 = Drive Isolation Fuses and Drive Output Contactor (IDisc only) P9 = Both P3 and P6 available only in Type 3R (or larger FS8 & FS9 Type12 boxes) L3 = HMAX Pilot Lights (IDisc only) L4 = HMAX Pilot Lights (IPASS only)						

208 VAC			480 VAC		
	HP	AMP		HP	AMP
4D6	1	4.6	2D1	1	2.1
7D5	2	7.5	3D4	2	3.4
011	3	10.6	5D6	3	4.8
017	5	16.7	7D6	5	7.6
025	7.5	24.2	11	7.5	11.0
031	10	30.8	014	10	14.0
047	15	46.2	021	15	21.0
060	20	59.4	027	20	27.0
075	25	74.8	034	25	34.0
088	30	88.0	040	30	34.0
			052	40	52.0
			065	50	65.0
			077	60	65.0
			096	75	96.0

230 VAC		
	HP	AMP
4D2	1	4.2
6D8	2	6.8
9D6	3	9.6
016	5	15.2
022	7.5	22.0
028	10	28.0
042	15	42.0
054	20	54.0
068	25	68.0
080	30	80.0
104	40	104



VSD SERIES II



VSD-IntelliPass

ENCLOSED INTELLIPASS DRIVES

The IntelliPass bypass is a two- or three-contactor design using the Eaton 24 VDC Series of contactors and power supplies. The features, function, and form allow the drive and bypass to become an integrated design. The IntelliPass drives come standard with

an Eaton/Cutler-Hammer® MMP integrated into the drive and bypass design.

- Network Connectivity for Drive and Bypass (BACnet®, SA Bus, N2, and LON) allows for compatibility with current and future Johnson Controls network architecture
- Software Parameters That Utilize Engineering Units Common to the HVAC Industry allow for quick and easy startup using the onboard startup wizard with engineering units transmitted over a communications bus
- Top and Bottom Removal Conduit Plate provides access to cabling and components for ease of installation

- Johnson Controls Support That Includes Ordering, Estimating, and Project Management Tools: Advanced Order Management System (AOMS), Advanced Installation Management (AIM) Tools - QuickLIT, Catalog, PRESTO, and STORE allow users to easily identify and order products
- Closed-Loop Control Programmed with Engineering Units for Specific H AC Applications: Standard, PID, or multi-pump provide software parameters using engineering units common to the HVAC industry
- Standard TYPE 12 Keypad on all Drives with Copy and Paste Function; Capable of Monitoring Three Parameters Simultaneously
- Drive Programming Capability Using Auxiliary 24 V Power Supply (VS-AUX24V) allows variable speed drive programming (including network communication validation) prior to wiring 3-phase power to the drive
- Nema 1



Part No.	HP	Voltage	Amps	Comments	Price
VS2D1411B00000*	1	480	2.1	With Bypass	\$3,553.86
VS2D1411B0M100*	1	480	2.1	3-Contactor Bypass with Manual Switch	\$4,419.16
VS5D6411B00000*	3	480	4.8	With Bypass	\$3,879.40
VS5D6411B0M100*	3	480	4.8	3-Contactor Bypass with Manual Switch	\$4,800.80
VS017111B00000*	5	208	16.7	With Bypass	\$5,304.86
VS016211B0M100*	5	230	15.2	3-Contactor Bypass with Manual Switch	\$6,084.30
VS7D6411B00000*	5	480	7.6	With Bypass	\$4,001.80
VS7D6411B0M100*	5	480	7.6	3-Contactor Bypass with Manual Switch	\$4,922.36
VS022211B00000*	8	230	22.0	With Bypass	\$5,637.20
VS022211B0M100*	8	230	22.0	3-Contactor Bypass with Manual Switch	\$6,570.50
VS011411B00000*	8	480	11.0	With Bypass	\$4,270.40
VS011411B0M100*	8	480	11.0	3-Contactor Bypass with Manual Switch	\$5,190.96
VS028211B00000*	10	230	28.0	With Bypass	\$6,501.66
VS028211B0M100*	10	230	28.0	3-Contactor Bypass with Manual Switch	\$7,521.66
VS014411B00000*	10	480	14.0	With Bypass	\$4,755.76
VS014411B0M100*	10	480	14.0	3-Contactor Bypass with Manual Switch	\$5,756.20
VS042211B00000*	15	230	42.0	With Bypass	\$6,931.76
VS021411B00000*	15	480	21.0	With Bypass	\$5,251.30
VS021411B0M100*	15	480	21.0	3-Contactor Bypass with Manual Switch	\$6,266.20
VS054211B00000*	20	230	54.0	With Bypass	\$7,353.36
VS054211B0M100*	20	230	54.0	3-Contactor Bypass with Manual Switch	\$8,593.50
VS027411B00000*	20	480	27.0	With Bypass	\$6,255.16
VS027411B0M100*	20	480	27.0	3-Contactor Bypass with Manual Switch	\$7,362.70
VS034411B00000*	25	480	34.0	With Bypass	\$7,614.30
VS034411B0M100*	25	480	34.0	3-Contactor Bypass with Manual Switch	\$8,840.00
VS080211B00000*	30	230	80.0	With Bypass	\$9,520.00
VS080211B0M100*	30	230	80.0	3-Contactor Bypass with Manual Switch	\$10,880.00
VS040411B00000*	30	480	40.0	With Bypass	\$8,576.50
VS040411B0M100*	30	480	40.0	3-Contactor Bypass with Manual Switch	\$9,809.00
VS052411B00000*	40	480	52.0	With Bypass	\$9,885.50
VS052411B0M100*	40	480	52.0	3-Contactor Bypass with Manual Switch	\$11,237.00

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

MOTOR STARTER



SOLID STATE ELEMENT

Class 14 industrial magnetic starters are designed for across the line starting of single phase and polyphase motors. Across the line or full voltage starting is used when motor starting torque can be applied safely and current inrush does not

produce an objectional voltage drop. All starters are supplied with a NO holding interlock that in conjunction with an appropriate pilot device will provide low voltage protection or release. ESP200™ starters (14*U models only; 14*S models provide ESP100 overloads) combine the rugged NEMA contactors with a state of the art solid state overload that provides phase loss, phase unbalance ground fault protection. It offers the user greater motor protection and extended life in heavy duty applications. The ESP200™ ultimately results in a cost savings to the user.

Standard Features

- True phase loss protection; trips within 3 seconds
- Phase unbalanced prevents motor running inefficient
- Ground fault trip when selected
- Selectable trip class 5, 10, 20 or 30
- Reset trip can be selected
- Auto/Manual restart
- Easy to select and use, Dip Switch selectable
- Overload is self powered, no need for external power source

Furnas

Part No.	Enclosure	NEMA Rating	Size	Amps	Coil Voltage	Price
14CUB32AA	Open	0	0	0.75 - 3.4A	120/240	\$735.48
14CUB32BA	NEMA 1	0	0	0.75 - 3.4A	120/240	\$733.68
14CUC32AA	Open	0	0	3 - 12A	120/240	\$735.48
14CUC32BA	NEMA 1	0	0	3 - 12A	120/240	\$733.68
14CUC32BJ	NEMA 1	0	0	3 - 12A	24 Vac	\$733.68
14CUD32BA	NEMA 1	0	0	5.5 - 22A	120/240	\$770.68
14DUC32AA	Open	1	1	3 - 12A	120/240	\$835.90
14DUC32BA	NEMA 1	1	1	3 - 12A	120/240	\$829.14
14DUD32AA	Open	1	1	5.5 - 22A	120/240	\$835.90
14DUD32BA	NEMA 1	1	1	5.5 - 22A	110/240	\$829.14
14DUE32AC	Open	1	1	10 - 40	220/440	\$835.90
14DUE32BA	NEMA 1	1	1	10 - 40	120/240	\$829.14
14EUE32AA	Open	—	1 3/4	10 - 40	110/240	\$1,109.16
14EUE32BA	NEMA 1	—	1 3/4	13 - 27A	110/240	\$1,099.02
14FUF32BA	NEMA 1	2	2	13 - 52A	110/240	\$1,555.38
14GUG32AA	Open	—	2 1/2	25 - 100A	120/240	\$2,017.44
14GUG32BA	NEMA 1	—	2 1/2	25 - 100A	120/240	\$2,044.50
14HUG32AA	Open	3	3	25 - 100A	120/240	\$2,230.12
14HUG32BA	NEMA 1	3	3	25 - 100A	120/240	\$2,532.10



75DF14

CONTACT KIT

Kit includes 1 pole stationary and movable contacts and contact springs.

Use with Models P or S (4th position in part)

Fits classes 14, 17, 18, 22, 25, 26, 30, 32, 40, 43, 83, 84, 87, 88

Furnas

Part No.	NEMA Rating	Price
75DF14	1	\$150.10
75FP14	2	\$195.98
75HF14	3	\$366.30



75D73070A

AC COIL

Use with Models P or S (4th position in part)

Fits classes 14, 17, 18, 22, 25, 26, 30, 32, 40, 43

Furnas

Part No.	NEMA Rating	Voltage	Price
75D73070J	00 - 2.5	24	\$190.28
75D73070A	00 - 2.5	110-120/220-240	\$199.78
75D73070C	00 - 2.5	220-240/440-480	\$199.78



49AB01

ACCESSORIES

Push buttons and selector switches for NEMA 1 enclosures only; Class 14, 40 and LEN

Auxiliary switches universally fit classes 14, 17, 18, 22, 25, 26, 30, 32, 36, 37, 40, 43, 83, 84, 87, 88

Furnas

Part No.	NEMA Rating	Price
49AB10	00 to 4	\$39.98
49AB01	00 to 4	\$38.08
49SBPB5	00 to 4	\$151.30
49SBSB1	00 to 4	\$151.30
49SBSB4	00 to 4	\$158.86

Saving Energy the Smart Way **Honeywell**

Buildings consume more than 70% of the electricity produced in North America — and roughly half of that is used to circulate air and water. Honeywell SmartVFD HVAC, BYPASS and COMPACT variable frequency drives maximize energy savings by modulating the speed of fans and pumps. VFDs achieve these savings by operating within a building's control system or independently through its internal PID capabilities. Additionally, Honeywell's VFDs are loaded with labor-saving features such as startup wizards, PC programming, and an intuitive graphical interface that allows for faster, more accurate commissioning and reliable maintenance over the life of the drive.

SmartVFD HVAC

The Honeywell SmartVFD HVAC makes installation and commissioning easy while providing significant energy savings! The easy-to-use, high-resolution graphic interface displays industry-leading system details and allows for easy commissioning via the startup wizard. Plus, parameters can be uploaded and downloaded to the keypad for transferring from drive to drive. Analyzing and making energy-saving adjustments is easy thanks to the nine data element, multi-monitor display, freeware PC programming tool and intuitive, easy-to-read menu structure. Building integration is a snap with the wide range of communication protocols available out of the box, including BACnet® and Modbus® — available in RS-485 and over Ethernet and N2. LonWorks™ and other industrial protocols are available as option cards.



Pick the Right VFD for the Application

- Drives are typically sized to match the horsepower rating of the motor, which will be accurate 95% of the time. But for the greatest accuracy, drives should be sized based upon the Full Load Amps or current draw of the motor. The VFD must have a slightly larger current rating maximum.
- The environment the drive will operate in is critical for selection. Honeywell offers NEMA1, NEMA12 and NEMA 3R enclosures.
- Because of the complexity of VFDs, a clean, conditioned space with temperatures between 14° F and 140° F provides an environment for ideal operation.

	HP	AMPS	Frame	NEMA1 Drive Alone	NEMA12 Drive Alone	NEMA 3R Drive Alone
460 Vac	1.5	3.4	4	HVFDSD3C0015G100	HVFDSD3C0015G200	HVFDSD3C0015G300
	2	4.8	4	HVFDSD3C0020G100	HVFDSD3C0020G200	HVFDSD3C0020G300
	3	5.6	4	HVFDSD3C0030G100	HVFDSD3C0030G200	HVFDSD3C0030G300
	4	8	4	HVFDSD3C0040G100	HVFDSD3C0040G200	HVFDSD3C0040G300
	5	9.6	4	HVFDSD3C0050G100	HVFDSD3C0050G200	HVFDSD3C0050G300
	7.5	12	4	HVFDSD3C0075G100	HVFDSD3C0075G200	HVFDSD3C0075G300
	10	16	5	HVFDSD3C0100G100	HVFDSD3C0100G200	HVFDSD3C0100G300
	15	23	5	HVFDSD3C0150G100	HVFDSD3C0150G200	HVFDSD3C0150G300
	20	31	5	HVFDSD3C0200G100	HVFDSD3C0200G200	HVFDSD3C0200G300
	25	38	6	HVFDSD3C0250G100	HVFDSD3C0250G200	HVFDSD3C0250G300
	30	46	6	HVFDSD3C0300G100	HVFDSD3C0300G200	HVFDSD3C0300G300
	40	61	6	HVFDSD3C0400G100	HVFDSD3C0400G200	HVFDSD3C0400G300
	50	72	7	HVFDSD3C0500G100	HVFDSD3C0500G200	HVFDSD3C0500G300
	60	87	7	HVFDSD3C0600G100	HVFDSD3C0600G200	HVFDSD3C0600G300
	75	105	7	HVFDSD3C0750G100	HVFDSD3C0750G200	HVFDSD3C0750G300
208/230Vac	HP	AMPS	Frame	NEMA1 Drive Alone	NEMA12 Drive Alone	NEMA 3R Drive Alone
	.75	3.7	4	HVFDSD3A0007G100	HVFDSD3A0007G200	HVFDSD3A0007G300
	1	4.8	4	HVFDSD3A0010G100	HVFDSD3A0010G200	HVFDSD3A0010G300
	1.5	6.6	4	HVFDSD3A0015G100	HVFDSD3A0015G200	HVFDSD3A0015G300
	2	8	4	HVFDSD3A0020G100	HVFDSD3A0020G200	HVFDSD3A0020G300
	3	11	4	HVFDSD3A0030G100	HVFDSD3A0030G200	HVFDSD3A0030G300
	5	18	5	HVFDSD3A0050G100	HVFDSD3A0050G200	HVFDSD3A0050G300
	7.5	24	5	HVFDSD3A0075G100	HVFDSD3A0075G200	HVFDSD3A0075G300
	10	31	5	HVFDSD3A0100G100	HVFDSD3A0100G200	HVFDSD3A0100G300
	15	48	6	HVFDSD3A0150G100	HVFDSD3A0150G200	HVFDSD3A0150G300
	20	62	6	HVFDSD3A0200G100	HVFDSD3A0200G200	HVFDSD3A0200G300
	25	75	7	HVFDSD3A0250G100	HVFDSD3A0250G200	HVFDSD3A0250G300
	30	88	7	HVFDSD3A0300G100	HVFDSD3A0300G200	HVFDSD3A0300G300
	40	105	7	HVFDSD3A0400G100	HVFDSD3A0400G200	HVFDSD3A0400G300



SmartVFD BYPASS

The SmartVFD BYPASS is easy to specify, select and install. It's the perfect complement to the advanced capabilities of the SmartVFD family. The SmartVFD BYPASS is available in four configurations to meet your application needs: Disconnect Only, Two Contactor Bypass, Three Contactor Bypass, and Three Contactor Bypass with Auto-Bypass.

SmartVFD HVAC NEMA 1 Disconnect and SmartVFD BYPASS

	HP	AMPS	Frame	NEMA1 Fused Disconnect	NEMA1 2-Contactor Bypass	NEMA1 3-Contactor Bypass	NEMA1 3-Cont. Bypass + Auto-Bypass
460 Vac	1.5	3.4	4	HVFD8B3C0015G110	HVFD8B3C0015G120	HVFD8B3C0015G130	HVFD8B3C0015G131
	2	4.8	4	HVFD8B3C0020G110	HVFD8B3C0020G120	HVFD8B3C0020G130	HVFD8B3C0020G131
	3	5.6	4	HVFD8B3C0030G110	HVFD8B3C0030G120	HVFD8B3C0030G130	HVFD8B3C0030G131
	4	8	4	HVFD8B3C0040G110	HVFD8B3C0040G120	HVFD8B3C0040G130	HVFD8B3C0040G131
	5	9.6	4	HVFD8B3C0050G110	HVFD8B3C0050G120	HVFD8B3C0050G130	HVFD8B3C0050G131
	7.5	12	4	HVFD8B3C0075G110	HVFD8B3C0075G120	HVFD8B3C0075G130	HVFD8B3C0075G131
	10	16	5	HVFD8B3C0100G110	HVFD8B3C0100G120	HVFD8B3C0100G130	HVFD8B3C0100G131
	15	23	5	HVFD8B3C0150G110	HVFD8B3C0150G120	HVFD8B3C0150G130	HVFD8B3C0150G131
	20	31	5	HVFD8B3C0200G110	HVFD8B3C0200G120	HVFD8B3C0200G130	HVFD8B3C0200G131
	25	38	6	HVFD8B3C0250G110	HVFD8B3C0250G120	HVFD8B3C0250G130	HVFD8B3C0250G131
	30	46	6	HVFD8B3C0300G110	HVFD8B3C0300G120	HVFD8B3C0300G130	HVFD8B3C0300G131
	40	61	6	HVFD8B3C0400G110	HVFD8B3C0400G120	HVFD8B3C0400G130	HVFD8B3C0400G131
	50	72	7	HVFD8B3C0500G110	HVFD8B3C0500G120	HVFD8B3C0500G130	HVFD8B3C0500G131
	60	87	7	HVFD8B3C0600G110	HVFD8B3C0600G120	HVFD8B3C0600G130	HVFD8B3C0600G131
	75	105	7	HVFD8B3C0750G110	HVFD8B3C0750G120	HVFD8B3C0750G130	HVFD8B3C0750G131
	HP	AMPS	Frame	NEMA1 Fused Disconnect	NEMA1 2-Contactor Bypass	NEMA1 3-Contactor Bypass	NEMA1 3-Cont. Bypass + Auto-Bypass
208 Vac	.75	3.7	4	HVFD8B3A0007G110	HVFD8B3A0007G120	HVFD8B3A0007G130	HVFD8B3A0007G131
	1	4.8	4	HVFD8B3A0010G110	HVFD8B3A0010G120	HVFD8B3A0010G130	HVFD8B3A0010G131
	1.5	6.6	4	HVFD8B3A0015G110	HVFD8B3A0015G120	HVFD8B3A0015G130	HVFD8B3A0015G131
	2	8	4	HVFD8B3A0020G110	HVFD8B3A0020G120	HVFD8B3A0020G130	HVFD8B3A0020G131
	3	11	4	HVFD8B3A0030G110	HVFD8B3A0030G120	HVFD8B3A0030G130	HVFD8B3A0030G131
	5	18	5	HVFD8B3A0050G110	HVFD8B3A0050G120	HVFD8B3A0050G130	HVFD8B3A0050G131
	7.5	24	5	HVFD8B3A0075G110	HVFD8B3A0075G120	HVFD8B3A0075G130	HVFD8B3A0075G131
	10	31	5	HVFD8B3A0100G110	HVFD8B3A0100G120	HVFD8B3A0100G130	HVFD8B3A0100G131
	15	48	6	HVFD8B3A0150G110	HVFD8B3A0150G120	HVFD8B3A0150G130	HVFD8B3A0150G131
	20	62	6	HVFD8B3A0200G110	HVFD8B3A0200G120	HVFD8B3A0200G130	HVFD8B3A0200G131
	25	75	7	HVFD8B3A0250G110	HVFD8B3A0250G120	HVFD8B3A0250G130	HVFD8B3A0250G131
	30	88	7	HVFD8B3A0300G110	HVFD8B3A0300G120	HVFD8B3A0300G130	HVFD8B3A0300G131
	40	105	7	HVFD8B3A0400G110	HVFD8B3A0400G120	HVFD8B3A0400G130	HVFD8B3A0400G131
	HP	AMPS	Frame	NEMA1 Fused Disconnect	NEMA1 2-Contactor Bypass	NEMA1 3-Contactor Bypass	NEMA1 3-Cont. Bypass + Auto-Bypass
230 Vac	.75	3.7	4	HVFD8B3B0007G110	HVFD8B3B0007G120	HVFD8B3B0007G130	HVFD8B3B0007G131
	1	4.8	4	HVFD8B3B0010G110	HVFD8B3B0010G120	HVFD8B3B0010G130	HVFD8B3B0010G131
	1.5	6.6	4	HVFD8B3B0015G110	HVFD8B3B0015G120	HVFD8B3B0015G130	HVFD8B3B0015G131
	2	8	4	HVFD8B3B0020G110	HVFD8B3B0020G120	HVFD8B3B0020G130	HVFD8B3B0020G131
	3	11	4	HVFD8B3B0030G110	HVFD8B3B0030G120	HVFD8B3B0030G130	HVFD8B3B0030G131
	5	18	5	HVFD8B3B0050G110	HVFD8B3B0050G120	HVFD8B3B0050G130	HVFD8B3B0050G131
	7.5	24	5	HVFD8B3B0075G110	HVFD8B3B0075G120	HVFD8B3B0075G130	HVFD8B3B0075G131
	10	31	5	HVFD8B3B0100G110	HVFD8B3B0100G120	HVFD8B3B0100G130	HVFD8B3B0100G131
	15	48	6	HVFD8B3B0150G110	HVFD8B3B0150G120	HVFD8B3B0150G130	HVFD8B3B0150G131
	20	62	6	HVFD8B3B0200G110	HVFD8B3B0200G120	HVFD8B3B0200G130	HVFD8B3B0200G131
	25	75	7	HVFD8B3B0250G110	HVFD8B3B0250G120	HVFD8B3B0250G130	HVFD8B3B0250G131
	30	88	7	HVFD8B3B0300G110	HVFD8B3B0300G120	HVFD8B3B0300G130	HVFD8B3B0300G131
	40	105	7	HVFD8B3B0400G110	HVFD8B3B0400G120	HVFD8B3B0400G130	HVFD8B3B0400G131



ELECTRICAL DEVICES AND ACCESSORIES

MOTOR ASSISTS/RELAYS



ICG1

CURRENT RELAY

- One size for all compressors from 1/12-1/2 horsepower
- These solid state relays will replace all current type relays
- Can be used with or without a start capacitor



Part No.	Voltage	Price
ICG1	120	\$10.84



P0115

PUSH-ON RELAY

- One size for all compressors from 1/12-1/2 horsepower
- Replaces all push-on current type relays
- For use on compressors with pin type terminals

- Can be used on all capacitor and noncapacitor start motors



Part No.	Voltage	Price
P0115	115	\$12.84
P0230	230	\$14.66



R041

RELAY OVERLOAD

- Relay & overload in one combination unit
- Prewired for fast, simple installation
- Superior locked rotor protection eliminates start winding overheating



Part No.	HP	Voltage	Price
R041	1/4, 1/3	115	\$15.00
R081	1/12 to 1/5	115	\$15.00
R042	1/4, 1/3	230	\$23.16
R082	1/12 to 1/5	230	\$23.16



UPRO

RELAY OVERLOAD/PUSH-ON, ULTIMATE SERIES

- Push-on relay overload
- Quick connect push-on terminals for run and/or start capacitor



Part No.	HP	Voltage	Price
UPR081	1/12 to 1/5	115	\$25.00
UPR041	1/4 to 1/3	115	\$25.00
UPR021	1/3 to 1/2	115	\$25.00



PR041

RELAY OVERLOAD/PUSH-ON

Same as R0 Series but pushes onto compressor pin terminals.



Part No.	HP	Voltage	Price
PR041	1/4, 1/3	115	\$15.00



HS206

RELAY, CAP, OVERLOAD

Designed to be the most reliable and efficient starting capacitor in its class

- Protection timing circuit
- Instantaneous starting
- Voltage monitoring
- Compressor leads with flag terminals

- Solid state design
- UL recognized



Part No.	HP	Voltage	Price
HS206*	1/4-1/3	115	\$20.06
HS207*	1/12 to 1/5	115	\$19.98
HS210*	1/2	115	\$29.62



RCO410

RELAY, CAP, OVERLOAD

This all-in-one unit replaces all 3 electrical components—relay, overload and start capacitor, on all capillary systems.

- For units without run capacitor



Part No.	HP	Voltage	Price
RCO810	1/12 to 1/5	115	\$22.50
RCO410	1/4, 1/3	115	\$22.50
RCO210*	1/2	115	\$33.16
RCO220	1/2	230	\$33.16



URCO

4 N' 1 ULTIMATE SERIES RELAY, CAPACITOR, OVERLOAD AND RUN CAPACITOR

- Push-on compressor terminals, and 1/4" capacitor terminals
- Designed for modern high efficiency compressors

- Helps older compressors to start and run cooler
- Easy mount clip for quick installation
- Prevents low voltage starting problems
- Adds a closely matched system run capacitor



Part No.	HP	Run Cap. (µf x Volt)	Voltage	Price
URCO810RC	1/12 to 1/5	12.5	115	\$33.30
URCO410RC	1/4 to 1/3	15	115	\$33.30
URCO210RC	1/3 to 1/2	20	115	\$39.16

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov



RELAY, CAPACITOR

- A combined solid state starting relay and capacitor
- Replaces current type relays
- Provides added boost for hard start and unbalanced systems



Part No.	HP	Voltage	Price
RSC10	1/12 to 1/2	115	\$29.84



START RELAY

Voltage: 115/230 Vac.

SPP



Part No.	Increased Torque (Oz In)	Price
SPP	210	\$16.50



SPP5

RELAY, CAPACITOR

- For low voltage and hard starting compressors
- Room air conditioning units
- Residential and commercial PSC air conditioning units and heat pumps
- For all PSC air conditioning units from 4,000 through 120,000 BTU's (1/2-10 horsepower)

- Can be used on 120-288 Vac units



Part No.	Increased Torque (Oz In)	Price
SPP5	270	\$15.16
SPP6	390	\$21.84



HS195

RELAY, CAPACITOR

Hard Start Kit



Part No.	Use with	Price
HS195*	120-288V, 1/2 to 5 HP	\$13.50
HS196*	120-288V, 1/2 to 10 HP	\$19.50



T05

RELAY, CAPACITOR

For single phase 208/265V A/C, refrigeration, heat pump compressors. 2 wire preassembled start assist device utilizing a potential relay and start capacitor.

- Restarts instantly™
- UL, CSA recognized
- Senses motor starting

Kickstart®

Part No.	Use with	Price
T05	1 to 3 HP	\$94.34
KS1	3.5 to 5 HP	\$111.16



SPP8E

ELECTRONIC RELAY, CAP

The SUPCO E-Class Series comprise the most advanced developments in start device technology:

- Electronic potential relay technology
- Backup electronic timing circuit to protect the compressor



Part No.	Use with	Price
SPP4E	90-130V, 1/8 to 1 HP	\$53.16
SPP5E	90-277V, 1/3 to 2 HP	\$42.50
SPP6E	90-277V, 1/2 to 3 HP	\$48.34
SPP7E	90-277V, 1 to 4 HP	\$58.34
SPP8E	90-277V, 1 HP and up	\$56.50
SPP10E	90-277V, 3 HP and up	\$99.84



3W1

3-WIRE MECHANICAL POTENTIAL RELAY, CAPACITOR

The 3 Series Hard Starts provide the service professional with an OEM option when the application calls for a hard start.

- Voltage sensing
- Instant re-start
- 35 amp relay contacts
- 208/ 240 volts
- Includes EZ snap bracket for quick installation
- For use on all 208/ 240 V single phase compressors, scroll, reciprocating compressors and single or dual run capacitors



Part No.	HP	Capacitor	Price
3W1	1 to 3	88 - 108 μ F, 330V	\$51.66
3W2	3.5 to 4.5	189 - 227 μ F, 330V	\$60.00
3W3	4 to 5	270 - 324 μ F, 330V	\$70.00

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ELECTRICAL DEVICES AND ACCESSORIES

MOTOR ASSISTS/RELAYS



SPR1

ULTRASTART

- Mechanical Potential Relay
- Easy 2-wire installation
- Voltage sensing
- Instant re-start
- OEM approved technology
- Can be used on PSC and CSIR type compressors
- UL® Recognized



Part No.	HP	Capacitor	Price
SPR1*	3.5 to 5	270-324µF, 330V	\$74.16
SPR5*	1 to 3	189-227µF, 330V	\$67.50



APR5

POTENTIAL RELAY, ADJUSTABLE

APR5 allows the exact wire by wire replacement of virtually all potential relays on the market. The patented state-of-the-art electronic circuitry also provides additional motor protection. The contacts of the APR5 will open after 1-1 1/2 seconds if the motor does not

start for any reason. This important safety feature prevents the start winding from overloading during a locked rotor condition by removing it from the circuit. You can preset the pick-up voltage of the APR5 to the voltage of the defective relay.



Part No.	Pick-Up Voltage (Vac)	Price
APR5	130 - 370	\$49.84



SUPR

UNIVERSAL POTENTIAL RELAY

SUPR is a time function potential relay designed to be a wire-to-wire replacement for virtually any potential relay on the market. It can be used on any single phase motor or air conditioning and refrigeration compressor up to 5 hp.

- Operating voltage: 110-270 vac, single phase
- Start time: 0.5 ±0.1 seconds
- Terminals: screw on; push-on adapters provided



Part No.	Description	Price
SUPR	Universal Potential Relay	\$43.34



19002

POTENTIAL RELAY SCREW-ON TERMINAL

- Conversion kit included for quick connect fitting



Part No.	Mars No.	Continuous Coil Voltage	Min. Pick-Up	Max. Pick-Up	Max. Drop-Out	Price
19002*	63	170	139	153.0	55	\$67.20
19003*	64	395	260	275.0	120	\$73.40
19004*	65	332	168	182.0	90	\$70.66
19005*	66	395	215	225.0	120	\$73.40
19006*	67	420	295	315.0	125	\$76.16
19007*	68	502	325	345.0	135	\$80.42
19008*	69	336	180	195.0	105	\$78.54
19009*	70	253	285	305.0	77	\$69.76
19010*	71	420	212	232.0	121	\$76.16



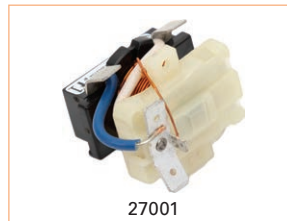
19163

POTENTIAL RELAY QUICK CONNECT

- Economy model



Part No.	Mars No.	Continuous Coil Voltage	Min. Pick-Up	Max. Pick-Up	Max. Drop-Out	Price
19163*	63	170	139	153.0	55	\$30.06
19164*	64	395	260	275.0	120	\$30.06
19165*	65	332	168	182.0	90	\$30.06
19166*	66	395	215	225.0	120	\$30.06
19167*	67	420	295	315.0	125	\$30.06
19168*	68	502	325	345.0	135	\$30.06
19169*	69	336	180	195.0	105	\$30.06
19170*	70	253	285	305.0	77	\$30.06
19171*	71	420	212	232.0	121	\$30.06



27001

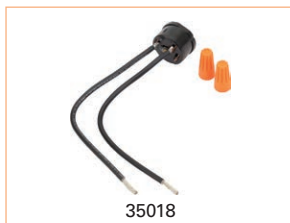
UNIVERSAL CURRENT

- Replaces plug-on, bracket-type, split-phase and capacitor-start current relays



Part No.	Max. Pick-Up	Min. Drop-Out	Most Commonly Used HP at 115V	Price
27001*	3.8	3.2	1/12	\$30.06
27002*	5.2	4.4	1/8	\$24.08
27012*	31.0	25.0	1/2, 3/4	\$11.42

OVERLOAD



35018

UNIVERSAL, LIGHT DUTY

Used in refrigeration, room air conditioners, heating, appliances and electric motors.

Typical applications are noted below.

- 3/4" diameter



Part No.	Most Commonly Used HP		Price
	at 115V	at 230V	
35001*	1/20	1/12, 1/8, 1/6	\$59.22
35003*	1/20, 1/12	1/6, 1/5, 1/4	\$19.74
35004*	1/12	1/5, 1/4, 1/3	\$190.92
35006*	1/12, 1/8	1/4, 1/3	\$20.70
35009*	1/8, 1/6, 1/5	1/3, 1/2	\$21.36
35010*	1/8, 1/6, 1/5, 1/4	1/3, 1/2	\$20.70
35011*	1/6, 1/5, 1/4	1/3, 1/2	\$21.94
35012*	1/6, 1/5, 1/4	1/3, 1/2	\$21.94
35014*	1/5, 1/4	1/2	\$21.94
35015*	1/5, 1/4, 1/3	1/2	\$20.70
35016*	1/5, 1/4, 1/3	1/2	\$20.70
35018*	1/4, 1/3, 1/2	1	\$20.70
35019*	1/3, 1/2	—	\$20.70



OV50

OVERLOAD



Part No.	Locked Rotor Amps	Normal Usage Type Condenser	HP	Price
OV32	12.0 - 13.5	Fan, Static	1/12	\$14.16
OV34	14.0 - 15.5	Fan	1/8	\$14.16
OV36	16.0 - 18.0	Fan, Static	1/6, 1/8	\$14.16
OV38	18.5 - 22.0	Fan, Static	1/5, 1/8	\$14.16
OV40	22.5 - 26.5	Static	1/5	\$14.16
OV42	27.0 - 31.0	Fan	1/4	\$14.16
OV44	31.5 - 35.5	Static	1/4	\$14.16
OV46	36.0 - 40.0	Fan	1/3	\$14.16
OV48	40.5 - 44.5	Static	1/3	\$14.16
OV50	45.0 - 49.0	Fan	1/2	\$14.16

CAPACITOR



CR2X370

RUN, 370 VOLT

- Physical interrupter design for safety



Part No.	Microfarad	Price
CR4X370	4.0	\$4.96
CR5X370	5.0	\$4.74
CR7.5X370	7.5	\$5.98
CR10X370	10.0	\$6.18
CR12.5X370	12.5	\$9.82
CR15X370	15.0	\$9.76
CR17.5X370	17.5	\$11.58
CR20X370	20.0	\$11.88
CR25X370	25.0	\$13.68
CR30X370	30.0	\$15.42
CR35X370	35.0	\$15.48
CR40X370	40.0	\$15.94
CR45X370	45.0	\$17.50
CR50X370	50.0	\$18.58
CR70X370	70.0	\$27.60
CR80X370	80.0	\$27.34



CR2X440

RUN, 440 VOLT



Part No.	Microfarad	Price
CR2X440	2.0	\$5.32
CR3X440	3.0	\$5.90
CR4X440	4.0	\$5.34
CR5X440	5.0	\$5.10
CR6X440	6.0	\$6.58
CR7.5X440	7.5	\$6.48
CR10X440	10.0	\$6.72
CR12.5X440	12.5	\$10.14
CR15X440	15.0	\$10.56
CR17.5X440	17.5	\$11.88
CR20X440	20.0	\$12.84
CR25X440	25.0	\$14.08
CR30X440	30.0	\$16.64
CR35X440	35.0	\$16.78
CR40X440	40.0	\$17.22
CR45X440	45.0	\$18.92
CR50X440	50.0	\$20.08
CR55X440	55.0	\$21.44
CR60X440	60.0	\$24.54
CR70X440	70.0	\$33.46

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ELECTRICAL DEVICES AND ACCESSORIES

CAPACITOR



CR15X370R

RUN, 370 VOLT, ROUND



Part No.	Microfarad Value 1	Price
CR10X370R	10.0	\$6.52
CR5X370R	5.0	\$5.70
CR15X370R	15.0	\$9.90
CR7.5X370R	7.5	\$6.26
CR30X370R	30.0	\$14.86
CR35X370R	35.0	\$16.78
CR45X370R	45.0	\$20.60
CR50X370R	50.0	\$17.66
CR60X370R	60.0	\$21.92



CR5X440R

RUN, 440 VOLT, ROUND



Part No.	Microfarad Value 1	Price
CR5X440R	5.0	\$5.88
CR7.5X440R	7.5	\$7.34
CR10X440R	10.0	\$7.94
CR15X440R	15.0	\$10.74
CR20X440R	20.0	\$13.24
CR25X440R	25.0	\$16.06
CR30X440R	30.0	\$16.04
CR35X440R	35.0	\$13.62
CR40X440R	40.0	\$15.76
CR45X440R	45.0	\$18.92
CR50X440R	50.0	\$18.20
CR55X440R	55.0	\$21.54
CR60X440R	60.0	\$23.74
CR80X440R	80.0	\$25.18

TITAN HD™ CAPACITOR

- Made in USA
- 60,000 hours operating life
- Meets the rigorous EIA-456-A industry standard for performance and quality
- Contains metalized polypropylene film technology for self restoration in the event of a breakdown
- Sophisticated UL-approved pressure sensitive interrupter to remove the capacitor from circuit at end of life
- Patented, environmentally-friendly oil prevents corrosion and aids in optimum heat transfer



USACR

TITAN HD™, RUN, 440/370 VOLT



Part No.	Microfarad Value 1	Price
USA-CR5X440	5.0	\$10.98
USA-CR7.5X440	7.5	\$12.40
USA-CR10X440	10.0	\$14.14
USA-CR12.5X440	12.5	\$16.38
USA-CR15X440	15.0	\$16.68



USACRR

TITAN HD™, RUN, 440/370 VOLT, ROUND



Part No.	Microfarad Value 1	Price
USA-CR5X440R	5.0	\$14.24
USA-CR7.5X440R	7.5	\$15.60
USA-CR10X440R	10.0	\$14.16
USA-CR15X440R	15.0	\$16.40
USA-CR20X440R	20.0	\$18.56
USA-CR25X440R	25.0	\$21.96
USA-CR30X440R	30.0	\$25.76
USA-CR35X440R	35.0	\$27.76
USA-CR40X440R	40.0	\$31.04
USA-CR45X440R	45.0	\$35.16
USA-CR50X440R	50.0	\$38.32
USA-CR55X440R	55.0	\$40.56
USA-CR60X440R	60.0	\$48.04
USA-CR70X440R	70.0	\$57.24
USA-CR80X440R	80.0	\$65.72



USA-CD205X440

**TITAN HD™, DUAL,
440/370 VOLT**

Part No.	Microfarad		Price
	Value 1	Value 2	
USA-CD20/5X440	20.0	5.0	\$45.08
USA-CD35/3X440	35.0	3.0	\$27.16
USA-CD50/5X440	50.0	5.0	\$36.66
USA-CD55/5X440	55.0	5.0	\$36.80



USACDR

**TITAN HD™, DUAL,
440/370 VOLT, ROUND**

Part No.	Microfarad		Price
	Value 1	Value 2	
USA-CD25/5X440R	25.0	5.0	\$26.86
USA-CD30/3X440R	30.0	3.0	\$31.76
USA-CD30/5X440R	30.0	5.0	\$28.08
USA-CD30/7.5X440R	30.0	7.5	\$48.80
USA-CD35/3X440R	35.0	3.0	\$28.96
USA-CD35/5X440R	35.0	5.0	\$28.98
USA-CD35/7.5X440R	35.0	7.5	\$31.72
USA-CD40/3X440R	40.0	3.0	\$31.72
USA-CD40/5X440R	40.0	5.0	\$31.06
USA-CD40/7.5X440R	40.0	7.5	\$33.40
USA-CD40/10X440R	40.0	10.0	\$41.56
USA-CD45/5X440R	45.0	5.0	\$35.14
USA-CD45/7.5X440R	45.0	7.5	\$35.48
USA-CD45/10X440R	45.0	10.0	\$46.60
USA-CD50/7.5X440R	50.0	7.5	\$38.72
USA-CD55/5X440R	55.0	5.0	\$39.24
USA-CD55/7.5X440R	55.0	7.5	\$40.84
USA-CD55/10X440R	55.0	10.0	\$46.16
USA-CD60/5X440R	60.0	5.0	\$41.22
USA-CD60/7.5X440R	60.0	7.5	\$41.68
USA-CD60/10X440R	60.0	10.0	\$42.48
USA-CD70/5X440R	70.0	5.0	\$62.60
USA-CD70/7.5X440R	70.0	7.5	\$63.20
USA-CD70/10X440R	70.0	10.0	\$68.00
USA-CD80/5X440R	80.0	5.0	\$75.68
USA-CD80/7.5X440R	80.0	7.5	\$78.04
USA-CD80/10X440R	80.0	10.0	\$81.36



CD355X440

DUAL CAPACITOR

Used primarily to serve two separate applications. May be connected in parallel to obtain other ratings.

**DUAL, 370 VOLT**

Part No.	Microfarad		Price
	Value 1	Value 2	
CD15/3X370	15.0	3.0	\$15.22
CD15/4X370	15.0	4.0	\$14.64
CD15/5X370	15.0	5.0	\$15.34
CD15/10X370	15.0	10.0	\$15.06
CD20/4X370	20.0	4.0	\$14.46
CD25/3X370	25.0	3.0	\$16.90
CD25/4X370	25.0	4.0	\$17.06
CD25/5X370	25.0	5.0	\$15.70
CD25/10X370	25.0	10.0	\$18.28
CD30/3X370	30.0	3.0	\$19.92
CD30/5X370	30.0	5.0	\$16.62
CD35/3X370	35.0	3.0	\$18.54
CD35/4X370	35.0	4.0	\$18.38
CD35/5X370	35.0	5.0	\$14.92
CD40/5X370	40.0	5.0	\$19.86
CD45/5X370	45.0	5.0	\$20.70
CD55/5X370	55.0	5.0	\$24.60
CD55/10X370	55.0	10.0	\$42.12
CD60/5X370	60.0	5.0	\$24.22
CD60/10X370	60.0	10.0	\$24.90
CD60/7.5X370	60.0	7.5	\$24.52

**DUAL, 440 VOLT**

Part No.	Microfarad		Price
	Value 1	Value 2	
CD30/3X440	30.0	3.0	\$21.74
CD20/5X440	20.0	5.0	\$16.10
CD15/5X440	15.0	5.0	\$18.60
CD20/15X440	20.0	15.0	\$16.46
CD25/5X440	25.0	5.0	\$16.20
CD30/5X440	30.0	5.0	\$17.94
CD35/3X440	35.0	3.0	\$19.08
CD35/5X440	35.0	5.0	\$16.12
CD40/5X440	40.0	5.0	\$21.50
CD45/5X440	45.0	5.0	\$22.38
CD50/5X440	50.0	5.0	\$28.40
CD55/5X440	55.0	5.0	\$25.32
CD60/5X440	60.0	5.0	\$24.94

ELECTRICAL DEVICES AND ACCESSORIES

CAPACITOR

DUAL, 370 VOLT, ROUND



Part No.	Microfarad		Price
	Value 1	Value 2	
CD20/5X370R	20.0	5.0	\$13.48
CD25/5X370R	25.0	5.0	\$15.96
CD30/3X370R	30.0	3.0	\$17.66
CD30/5X370R	30.0	5.0	\$17.28
CD35/5X370R	35.0	5.0	\$17.80
CD40/7.5X370R	40.0	7.5	\$24.16
CD60/5X370R	60.0	5.0	\$25.84
CD70/5X370R	70.0	5.0	\$38.80
CD80/7.5X370R	80.0	7.5	\$38.84
CD80/10X370R	80.0	10.0	\$39.90



CD60x440r

DUAL, 440 VOLT, ROUND



Part No.	Microfarad		Price
	Value 1	Value 2	
CD25/5X440R	25.0	5.0	\$17.28
CD30/3X440R	30.0	3.0	\$18.76
CD30/4X440R	30.0	4.0	\$28.56
CD30/5X440R	30.0	5.0	\$18.72
CD35/4X440R	35.0	4.0	\$24.32
CD35/5X440R	35.0	5.0	\$19.26
CD35/7.5X440R	35.0	7.5	\$20.64
CD40/3X440R	40.0	3.0	\$23.10
CD40/5X440R	40.0	5.0	\$21.40
CD40/7.5X440R	40.0	7.5	\$22.20
CD45/5X440R	45.0	5.0	\$21.24
CD45/7.5X440R	45.0	7.5	\$22.20
CD50/3X440R	50.0	3.0	\$29.40
CD50/5X440R	50.0	5.0	\$25.32
CD50/7.5X440R	50.0	7.5	\$22.66
CD50/10X440R	50.0	10.0	\$29.76
CD55/5X440R	55.0	5.0	\$25.60
CD55/7.5X440R	55.0	7.5	\$22.66
CD55/10X440R	55.0	10.0	\$33.08
CD60/5X440R	60.0	5.0	\$27.96
CD60/7.5X440R	60.0	7.5	\$25.58
CD70/5X440R	70.0	5.0	\$35.66
CD60/10X440R	60.0	10.0	\$26.50
CD75/10X440R	75.0	10.0	\$51.98
CD80/5X440R	80.0	5.0	\$30.00
CD80/10X440R	80.0	10.0	\$43.16
CD80/7.5X440R	80.0	7.5	\$42.00



CS400X110

START, 110 VOLT

- Round body



Part No.	Microfarad Range	Price
CS21X110	21 - 25	\$7.60
CS25X110	25 - 30	\$8.18
CS36X110	36 - 43	\$10.72
CS43X110	43 - 56	\$9.88
CS56X110	56 - 72	\$8.86
CS72X110	72 - 88	\$10.08
CS88X110	88 - 108	\$10.08
CS108X110	108 - 130	\$9.88
CS124X110	124 - 156	\$10.02
CS130X110	130 - 156	\$16.24
CS145X110	145 - 175	\$10.22
CS161X110	161 - 193	\$10.50
CS189X110	189 - 227	\$10.86
CS189X165	189 - 227	\$18.84
CS200X110	200 - 240	\$12.46
CS216X110	216 - 259	\$11.76
CS233X110	233 - 292	\$11.98
CS270X110	270 - 324	\$12.66
CS300X110	300 - 360	\$14.14
CS324X110	324 - 388	\$12.96
CS340X110	340 - 408	\$17.08
CS378X110	378 - 440	\$14.98
CS400X110	400 - 480	\$21.14
CS430X110	430 - 520	\$16.38
CS460X110	460 - 552	\$16.44
CS540X110	540 - 648	\$19.68
CS590X110	590 - 708	\$20.02
CS708X110	708 - 850	\$16.48
CS1000X110	1000 - 1200	\$28.84



CS145X220

START, 165 VOLT



Part No.	Microfarad Range	Price
CS34X165	34 - 41	\$7.88
CS124X165	124 - 156	\$14.76
CS145X165	145 - 175	\$14.98
CS161X165	161 - 193	\$18.54
CS233X165	233 - 292	\$20.02
CS270X165	270 - 324	\$16.28

ELECTRICAL DEVICES AND ACCESSORIES



CS145X220

START, 220 VOLT



Part No.	Microfarad	Price
	Range	
CS21X220	21 - 25	\$10.36
CS25X220	25 - 30	\$10.50
CS36X220	36 - 43	\$10.14
CS43X220	43 - 56	\$12.66
CS56X220	56 - 72	\$11.62
CS64X220	64 - 77	\$11.44
CS72X220	72 - 88	\$14.00
CS88X220	88 - 108	\$15.12
CS108X220	108 - 130	\$16.32
CS124X220	124 - 156	\$19.54
CS145X220	145 - 175	\$19.88
CS161X220	161 - 193	\$16.28
CS189X220	189 - 227	\$18.86
CS216X220	216 - 259	\$20.54
CS233X220	233 - 292	\$21.42
CS270X220	270 - 324	\$24.16



CS145X330

START, 330 VOLT



Part No.	Microfarad	Price
	Range	
CS21X330	21 - 25	\$10.50
CS25X330	25 - 30	\$10.56
CS30X330	30 - 36	\$10.86
CS36X330	36 - 43	\$9.80
CS43X330	43 - 56	\$11.82
CS53X330	53 - 70	\$12.82
CS56X330	56 - 72	\$12.82
CS72X330	72 - 88	\$17.58
CS88X330	88 - 108	\$18.12
CS108X330	108 - 130	\$18.76
CS130X330	130 - 156	\$16.24
CS145X330	145 - 175	\$18.28
CS161X330	161 - 193	\$19.12
CS189X330	189 - 227	\$20.90
CS216X330	216 - 259	\$20.54
CS270X330	270 - 324	\$25.20



12100

UNIVERSAL

The world's first multiple tapped, fluid-filled, metal can, motor-run capacitor, which eliminates the need to inventory more than 200 individual single or dual value capacitors. Universal HardStart Replacement. One 2-Wire Turbo® Easy-Start 4 Hardstart

can replace any one of four compressor hardstart kits on the market. The Turbo®200 is manufactured using AmRad Engineering's patented Ultramet™ capacitor technology, which allows a metallized film capacitor to be tapped with a built-in common or ground connection and eliminates the necessity of separate capacitors or of packaging two or more capacitors in one can.



Part No.	Description	Price
12100*	Turbo®200 Mini Run Capacitor Replacement, 2.5 to 12.5 µf, 370V or 440V	\$21.86
TURBO200*	Turbo®200 Run Capacitor Replacement, 2.5 to 67.5 µf, 370V or 440V	\$138.56
12300*	Turbo®200X Run Capacitor Replacement, 5.0 to 97.5 µf, 370V or 440V	\$179.22
11200*	Turbolytic™ 50 Universal Motor Start Capacitor, 23 to 302 µf, 125V to 330V	\$197.88

THERMOSTAT



SL79002

TUBE MOUNT

The SL series line of exact replacement heavy-duty sealed bimetal disc controls meets the higher electrical requirements of commercial applications. Can handle electrical loads up to 25 amps at 120/240VAC.

- 42" leads
- Metal case
- Rated 10A/120V, 5A/240V
- Sealed construction provides moisture resistance for moisture prone environments
- High-speed contact separation ensures long contact life
- UL® recognized
- CSA approved



Part No.	Temperature (°F)		Tube Size (In.)	Price
	Close	Open		
SL79002*	30	55	5/8	\$66.66

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRICAL DEVICES AND ACCESSORIES

THERMOSTAT



33435

TUBE MOUNT

- Maximum load:
L, F, D Primary: 10A 240V
D Secondary: 3A 240V
Type Code:
D = SPDT, L = Open High, F = Open Low
- Includes listed



size clip

Part No.	Temperature (°F)		Tube Size (In.)	Temperature Code	Price
	Close	Open			
33405* ¹	20	70	5/8	D70-5	\$83.64
33415MA* ¹	20	65	5/8	D65-4.5	\$101.52
33420* ¹	55	35	3/8	F55-2	\$81.38
33430* ¹	35	50	1/2	D50-1.5	\$99.10
33435* ¹	5	20	3/4	L20-1.5	\$93.10
33440* ¹	30	20	3/4	F30-1	\$61.62
33455* ¹	60	20	5/8	F60-4	\$70.58
33460* ¹	5	35	5/8	L35-3	\$89.38
33470* ¹	30	50	5/8	L50-2	\$93.10
33475* ¹	20	40	5/8	L40-2	\$93.10
33480* ¹	50	80	5/8	L80-3	\$189.36
33490* ²	30	80	3/8	L80-5	\$54.92
33492* ²	30	80	1/2	L80-5	\$48.34

¹Mounting designed for, but not limited to posted size. ²Mounting designed for, but not limited to posted size. Designed for heat pump usage.



33008

TUBE MOUNT OR SURFACE

- Maximum load: 2.9A 240 Vac



Part No.	Temperature Code	Temperature (°F)		Price
		Close	Open	
33008*	L45-3	15	45	\$28.70
33010*	L55-3	25	55	\$28.70
33011*	L60-3	30	60	\$28.70
33020*	L80-3	50	80	\$28.70



SL5709

HEATCRAFT REPLACEMENTS

Replaces common flush mount defrost controls on Heatcraft evaporators



Part No.	Description	Price
SL5708*	Defrost Termination, SPST, L75-35	\$53.34
SL5709*	Defrost Termination, SPDT, D55-20	\$68.18



SFPC

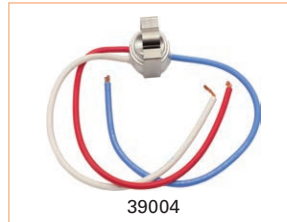
FREEZE PROTECTION CONTROL

Freeze Protection Control

- Protects air conditioning evaporator coil from freezing.
- Opens 35°F/Close 50°F
- Replaces: Trol A Temp FPC



Part No.	Description	Price
SFPC*	Freeze Protection Control	\$29.84



39004

CHANGEOVER SWITCH

For summer-winter changeover in hydronic heat/cool fan coil units.

- SPDT switch
- Contact rating: Term 1 and 3, 25A 240V
Term 1 and 2, 5A 240V



Part No.	Temperature (°F)		Price
	Open	Close	
39004*	88	73	\$51.04



7521

CHANGEOVER SWITCH

Provides automatic changeover of thermostat to permit proper operation of zone valve on combination hot and chilled water systems.

- Switch: SPDT
- Contact rating: 3.75 F.L. Amp 240 Vac



Part No.	Temperature Setting (°F)	Differential	Temperature Code	Price
7521	85	15°F	D85-1.5	\$85.12



SC060

CONSTRUCTION

Low cost single set-point thermostats intended for use as a temporary device to provide heating to allow drywall to dry during construction.

- 2- wire, 24 volt, 2 amp maximum
- Accuracy: ±5°F



Part No.	Temperature Setting (°F)	Application	Price
SC060	60	Heat	\$13.96
SC065	65	Heat	\$13.96
SC070	70	Heat	\$13.96
SC075	75	Cool	\$17.46

DISC FAN AND LIMIT



3F01150

FAN

Snap disc fan controls for regulation of fan or blower.

- Last three numbers indicate cut-in temperatures on fan controls
- Switch: SPST, close rise
- Contact rating: 5 F.L. Amp 240 Vac



Part No.	Cut-In (°F)	Cut-Out (°F)	Differential	Temperature Code	Price
3F01110	110	90	20°F	F110-2	\$12.14
3F01120	120	110	10°F	F120-1	\$12.14
3F01130	130	115	15°F	F130-1.5	\$12.14
3F01140	140	120	20°F	F140-2	\$12.14
3F01150	150	130	20°F	F150-2	\$12.14
3F01160	160	140	20°F	F160-2	\$12.14
3F01180	180	160	20°F	F180-2	\$12.14
3F01200	200	180	20°F	F200-2	\$12.14
3F01350	350	320	30°F	F350-3	\$12.14



AT021

FAN, ADJUSTABLE

This adjustable snap disc thermostat allows you to vary the temperature set- point to match your specific needs

- Adjustable snap disc controls
- Switch: SPST, close rise
- Contact rating: 10 F.L. Amp 240 Vac



Part No.	Temperature (°F)	Differential	Includes	Price
AT021*	90 to 130	20°F	1/4" Q.C terminals	\$23.82
AT023*	90 to 130	20°F	1/4" Q.C terminals	\$25.98
AT022*	140 to 180	20°F	1/4" Q.C terminals	\$23.82
39205* ¹	90 to 130	20°F	—	\$36.38
39210* ¹	140 to 180	20°F	—	\$36.38

¹Mars

AT012

LIMIT, ADJUSTABLE

This adjustable snap disc thermostat allows you to set the temperature set point to match your specific needs

- Adjustable snap disc controls
- Switch: SPST, open rise
- Contact rating: 10 F.L. Amp 240 Vac



Part No.	Differential	Includes	Temperature (°F)	Price
AT012*	40°F	1/4" Q.C terminals	135 to 175	\$23.82
3L0510	20°F	Tab to Screw Terminals	135 to 175	\$30.36
AT013*	40°F	1/4" Q.C terminals	175 to 215	\$23.82
AT014*	40°F	1/4" Q.C terminals	210 to 250	\$23.82
AT015	40°F	1/4" Q.C terminals	250 to 290	\$19.64
3L0513	40°F	Tab to Screw Terminals	250 to 290	\$30.36
39220* ¹	40°F	—	135 to 175	\$36.38
39225* ¹	40°F	—	175 to 215	\$36.38
39230* ¹	40°F	—	210 to 250	\$36.38

¹Mars

3L01150

HIGH LIMIT

- Snap disc control for high limit safety
- Switch: SPST, open rise
- Contact rating: 5 F.L. Amp, 25 Resistive Amp 240 Vac



Part No.	Cut-Out (°F)	Cut-In (°F)	Differential	Temperature Code	Price
39310* ¹	110	90	20°F	L110-2	\$35.76
3L01120	120	110	10°F	L120-1	\$12.14
3L01130	130	115	15°F	L130-1.5	\$12.14
3L01140	140	100	40°F	L140-4	\$12.14
3L01150	150	110	40°F	L150-4	\$12.14
3L01165	165	125	40°F	L165-4	\$12.14
3L01170	170	130	40°F	L170-4	\$12.14
3L01180	180	140	40°F	L180-4	\$12.14
3L01190	190	150	40°F	L190-4	\$12.14
3L01200	200	160	40°F	L200-4	\$12.14
3L01230	230	190	40°F	L230-4	\$12.14
3L01250	250	210	40°F	L250-4	\$12.14
3L01300	300	250	50°F	L300-5	\$12.14
3L01350	350	310	40°F	L350-4	\$12.14

¹Mars

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRICAL DEVICES AND ACCESSORIES

DISC FAN AND LIMIT



SHL120

HIGH LIMIT

- Switch: SPST, open rise
- Contact rating: 10 F.L. Amp, 25 Resistive Amp 240 Vac
- Adapter flange plate include



Part No.	Cut-Out (°F)	Cut-In (°F)	Differential	Price
SHL120	120	110	10°F	\$12.34
SHL140	140	100	40°F	\$12.34
SHL150	150	110	40°F	\$12.34
SHL160	160	120	40°F	\$12.34
SHL170	170	130	40°F	\$12.34



3L02160

LIMIT, MANUAL RESET

- Switch : SPST, open rise
- Contact rating : 5 FL Amp, 25 Resistive Amp 240 Vac



Part No.	Cut-Out (°F)	Price
3L02160	160	\$20.12
3L02170	170	\$20.12
3L02180	180	\$20.12
3L02190	190	\$20.12
3L02200	200	\$20.12



SRL350

LIMIT, AUTOMATIC RESET

- Switch: SPST, open rise
- Contact rating: 1.5 F.L. Amp, 10 Resistive Amp 240 Vac
- Terminals: vertical 1/4"



Part No.	Cut-Out (°F)	Replaces	Price
SRL135	135	Rheem 47-22453-02	\$13.84
SRL220	220	Nordyne 626354	\$13.84
SRL230	230	Nordyne 626353	\$13.84
SRL240	240	Nordyne 626355	\$13.84
SRL250	250	Nordyne 626352	\$13.84
SRL260	260	Nordyne 626350	\$13.84
SRL300	300	Rheem 47-22861-02	\$13.84
SRL350	350	Goodman B13701-54	\$13.84



3L03140

LIMIT, SPDT

- 20°F differential



Part No.	Cut-Out (°F)	Price
3L03140	140	\$18.80
3L03190	190	\$18.80



SLS140

LIMIT, AUTOMATIC RESET

- Switch: SPST, open rise
- Contact rating: 1.5 F.L. Amp, 10 Resistive Amp 240 Vac
- Terminals: 45° angle 1/4"



Part No.	Cut-Out (°F)	Cut-In (°F)	Differential	Price
SLS140	140	100	40°F	\$12.16
SLS150	150	110	40°F	\$12.16
SLS160	160	120	40°F	\$12.16
SLS170	170	130	40°F	\$12.16
SLS180	180	140	40°F	\$12.16
SLS200	190	150	40°F	\$12.16



HL502

OEM REPLACEMENT

Direct replacement gas furnace limits



Part No.	Temperature (°F)		Replaces	Price
	Open	Close		
HL501	170	130	BDP HH12ZA174A, HH12ZA176A, P331-2203	\$20.84
HL502	180	150	Carrier B1370001	\$20.84
HL503	190	150	BDP HH12ZA189, HH12ZB190, HH12ZA193A, P331-2205	\$20.84
HL504	240	200	BDP HH12ZA240, HH12ZA252A, P331-2217	\$20.84
HL507	140	110	York 025-29041-0055	\$20.84
HL508	190	170	York 025-29041-006	\$20.84
HL509	240	210	Carrier B1370903	\$20.84
HL512	170	150	Lennox 47-25350-06	\$20.84
HL513	170	130	Rheem SWT1258	\$20.84
HL515	200	160	York 025-29041-006	\$20.84
HL516	210	170	Carrier HH12ZB210	\$20.84

ELECTRIC HEAT STAGING

SEQUENCER, DISC



Q103



Part No.	Nb. of Timings	Nb. of Switches	Klixon Number	Switch	Price
Q101*	1	1	60000A0M-98	SPNO	\$21.52
Q102*	1	1	60000A0M-97	SPNO	\$21.52
Q103*	1	2	60000EOM-84	DPST, N.O.	\$25.02
Q104*	1	2	60000EOM-86	DPST, N.O.	\$25.02
Q105*	2	3	51172-32	DPST, SPST, N.O.	\$40.76
Q106*	2	4	51172-33	(2) DPST, N.O.	\$48.48
Q114*	4	5	—		\$51.22

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 last element is off



R8330D1039

- Control voltage: 24 Vac
- Contact rating: 25A resistive 240 Vac

Honeywell Home

Part No.	Nb. of Switches	Stages	Price
R8330D1039	4	3	\$346.12

SEQUENCER

- Direct replacement for most fan/heat sequencing functions
- Solid-state reliability
- Ambient rated from -40 to +165°F
- Multi-poise mounting
- Single load rating 240 Vac, 30 resistive



33243

- Delay times are random between range



Part No.	Klixon Number	Switch	Price
33243*	6000AOM	SPST/NO	\$32.46
33246*	6000EOM	DPST/NO	\$43.20
33247*	6000COM-21	SPDT	\$37.14
33255* ¹	6000E4	DPST/NO	\$35.64

¹Control voltage 120Vac



33222

SEQUENCER, 2 SWITCH

- Single load rating 240 Vac, 30A resistive, all contacts including auxiliary
- Supply voltage: 24 Vac



Part No.	Nb. of Timings	Klixon Number	Switch	Price
33222*	2	51172-22	2 - SPST/NO	\$79.58

ELECTRIC HEAT

ELEMENT, REPAIR KIT

Each kit contains one close wound, stretch to length, resistance coil with welded terminal bolts; two each male and female ceramic terminal insulators; two each .375 and .450 inch standard ceramic bushings; two each .375 and .450 inch extra long ceramic bushings;

necessary nuts, washers, and installation instructions.



34604



Part No.	Watts	Voltage	Price
34604*	5,000	480	\$24.26
34606*	5,000	277	\$28.30
34610*	3,500	480	\$18.60
34616*	2,500	240	\$17.60

ELEMENT, REPAIR KIT

- Nichrome heavy gauge construction.
- Welded terminal bolts for low resistance and longer life.
- Contains close wound coil to fit many applications, two male and two female bushings, terminal



DH500

screws, nuts, washers to make a proper repair and the SUPCO STC in line series thermal cutoffs.



Part No.	Watts	Voltage	Length (In.)	Price
DH500FC	5,000	240	12	\$34.14
DH500	5,000	240	18	\$30.84

ELECTRICAL DEVICES AND ACCESSORIES

ELECTRIC HEAT



34702

THERMAL CUTOFFS

Part No.	Temperature Limit (°F)	Description	Price
34702*	283	Fuse Link Only	\$3.52
34706*	300	Fuse Link Only	\$3.14
34708*	300	Round Ceramic Base	\$10.54
34710*	227	Oblong Ceramic Base	\$10.54
34712*	300	Oblong Ceramic Base	\$8.80



STC4257

THERMAL CUTOFFS

- Provides reliable back up protection for temperature controlling thermostats and other over temperature conditions
- One time operation
- Three configurations available to accommodate in line or face plate mounting

- Rated for continuous operating currents of up to:
15 amps 120 VAC (Series 1)
25 amps 120 VAC (Series 2)
- Used with the Supco DH series duct heaters.



Part No.	Temperature Limit (°F)	Description	Price
STC4257*	262	In Line	\$2.34
STC4283*	291	In Line	\$2.34
STC4333*	333	In Line	\$1.96
STC5257*	262	Face Plate Straight	\$6.00
STC5333*	333	Face Plate Straight	\$6.00
STC6257*	262	Face Plate Right Angle	\$6.00
STC6300* ¹	300	-	\$6.00
STC6333* ¹	333	-	\$6.00

¹15 Amps

CRANKCASE HEATER



32409

INSERTION, 1/2" NPT

- Copeland replacement



Part No.	Length (In.)	Watts	Voltage	Application	Price
32408*	4.25	100	480	4R, 6R, 6T, 4D, 6D	\$193.62
32409*	4.25	100	240	4R, 6R, 6T, 4D, 6D	\$170.94
32410*	4.25	100	120	4R, 6R, 6T, 4D, 6D	\$170.94



32432

INSERTION, 1/2" DIAMETER, ELBOW

- Copeland replacement



Part No.	Length (In.)	Watts	Voltage	Application	Price
32432*	3.5	200	240	6RJ, 4RJ, 4RR	\$230.70



32439

BAR, BOLT ON

- Copeland replacement



Part No.	Length (In.)	Watts	Voltage	Application	Price
32439*	5	50	120	K, H	\$230.70

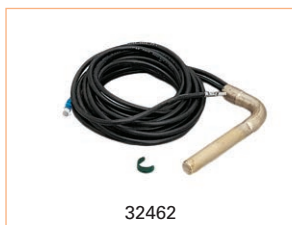


32416

BAR



Part No.	Length (In.)	Watts	Voltage	Application	Price
32416*	10	65	240	E, 9R, 3A, 3R, LA, MR, NR	\$230.70



INSERTION, 1/2" DIAMETER, ELBOW

- Carlyle replacement



Part No.	Length (In.)	Watts	Voltage	Application	Price
32462*	2.75	75	230	6D, 06D	\$230.70



DRAIN

Durable Metal Braid

- Heater tip 7/16" diameter
- Silicone construction
- Designed for waterproof low wattage heat



Part No.	Length (In.)	Lead Length	Voltage	Watts	Price
SH500	9	18"	115	11	\$34.16
SH502	13	18"	115	15	\$34.16
SH503	13	18"	230	15	\$34.16
SH504	21	18"	115	25	\$34.16
SH505	21	18"	230	25	\$34.16

DEFROST HEATER



BRAIDED HEATER

Flexible braided aluminum heaters are designed for use in heating drain troughs, drain tubes and drain pans.



Part No.	Length (In.)	Lead Length	Voltage	Watts	Price
SH201	18	23"	115	15	\$26.50
SH202	29	23"	115	45	\$33.16
SH203	44	23"	115	55	\$33.16
SH204	44	23"	115	75	\$32.50

CONDENSATE PAN



EVAPORATOR PAN, SELF-REGULATING

- State-of-the-art, solid state, PTC control
- Self-regulating, conserves power, eliminates thermostat
- Removable cord set for ease of cleaning and installation



DOOR AND MULLION

For commercial refrigeration applications to prevent moisture and eliminate frost build-up on door and cabinet fronts



Part No.	Watt/ Foot	Voltage	Heating Length (In.)	Lead Length	Price
SH281	3	120	36 1/2	6"	\$41.00
GH282	3	120	18	6"	\$32.66

Part No.	Voltage	Watts	Capacity (Oz.)	Evaporation Rate (Oz/Hr)	Dimensions (In.)			Price
					H	W	L	
N070	115	300	50	6.0	3	4 3/4	12 1/4	\$168.34



EVAPORATOR PAN

Standard cast aluminum condensate drains complete with long life heating element and mounting legs.



UNIVERSAL DRAIN HEATER

Used with existing heater or where no heater exists
Designed for series wiring connection only.



Part No.	Lead Length	Voltage	Watts	Diameter (In.)	Price
SH250	56"	115	3	0.91	\$29.84

Part No.	Voltage	Watts	Capacity (Oz.)	Evaporation Rate (Oz/Hr)	Dimensions (In.)			Price
					H	W	L	
300S	120	160	38	8.0	2 7/8	4	10	\$71.66
N075	120	320	75	14.0	2 3/4	9	10	\$260.00
75220	240	320	75	14.0	2 3/4	9	10	\$260.00

ELECTRICAL DEVICES AND ACCESSORIES

CONDENSATE PAN



CP802

EVAPORATOR PAN, SELF-REGULATING

For condensate applications where no drain is available

- Corrosion resistant stainless steel construction
- High limit safety and float switch operation
- UL, NSF approved



CPH802

REPAIR PARTS

Repair parts for CP800 series condensate evaporators



Part No.	Description	Voltage	Use with	Price
CPH801*	400W Heater	120	CP801	\$46.66
CPH802*	800W Heater	120	CP802	\$46.66
CPH8047*	1000W Heater	120	CP804	\$56.66
CPH804-240	1000W Heater	240	CP804-240	\$56.66
CPH804HD*	1000W Heater	120	CP804HD	\$90.00
CPH807-240*	1000W Heater	240	CP807-240	\$56.66
CPH815*	1500W Heater	120	CP815	\$90.00
CPH815-240*	1500W Heater	240	CP815-240	\$90.00
CPH816	500W Heater	120	CP816	\$90.00
CPH817	1000W Heater	208	CP817	\$90.00
CPH818*	1000W Heater	208	CP818	\$56.66
CPH819*	1500W Heater	120	CP819	\$90.00
CPH820*	1500W Heater	208	CP820	\$90.00
CPH821*	1500W Heater	208	CP821	\$90.00
CPFLOAT*	3" Float		CP801, CP802	\$50.00
CPFLOAT4*	4.5" Float		CP804, CP807, CP815	\$40.00
CPS800	Microswitch		All	\$45.00
CPT800*	Thermostat		All	\$36.66

Part No.	Volt	Watts	Capacity (Oz.)	Evaporation Rate (Oz/Hr)	Dimensions (In.)			Price
					H	W	L	
CP801*	120	400	56	16.0	2 1/2	7	10	\$220.00
CP802*	120	800	80	32.0	2 1/2	7	13	\$253.16
CP804*	120	1000	144	53.3	4	7	13	\$256.50
CP804-240*	240	1000	144	32.0	4	7	13	\$266.50
CP816*	120	500	224	24.0	4	10	13	\$266.66
CP817*	208	1000	224	42.7	4	10	13	\$286.66
CP818*	208	1000	224	42.7	4	10	13	\$286.66
CP819*	120	1500	224	64.0	4	10	13	\$266.66
CP820*	208	1500	224	64.0	4	10	13	\$285.84
CP804HD*	120	1000	240	32.0	4	10	13	\$269.84
CP807*	120	1000	240	53.3	4	10	13	\$266.50
CP807-240*	240	1000	240	53.3	4	10	13	\$279.84
CP815-240*	240	1440	480	64.0	4	13	21	\$363.34
CP815*	120	1440	480	64.0	4	13	21	\$353.34
CP821*	208	1500	224	64.0	4	13	21	\$366.66

FLEXIBLE CONDUIT



12SEALTITE

TUBING

- Nonmetallic seal tight
- Flexible conduit



Part No.	Description	Roll Length (Ft.)	Price
12SEALTITE	Flexible Conduit, 1/2"	100	\$1.26
34SEALTITE	Flexible Conduit, 3/4"	100	\$1.68



LT7501S

FITTING

- Nonmetallic liquid tight conduit fitting
- Sealtight connection x box fitting



Part No.	Description	Price
LT7500S	1/2" Straight Connection	\$2.32
LT7501S	3/4" Straight Connection	\$2.94
LT7504S	1/2" 90° Connection	\$3.08
LT7505S	3/4" 90° Connection	\$4.16

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OUTSIDE DISCONNECT



83325

HEAT PUMP

Multiple disconnect devices are offered for heat pump applications that require individual disconnects for the heating and cooling cycles. Units require four fuses.



Part No.	Description	Price
83325*	100 Amps, Fused	\$291.84



83336

CARTRIDGE FUSE, UL LISTED



Part No.	Description	Price
83336*	30 Amps, 240V, 3-Pole Exterior Switch	\$236.98
7714*	60 Amps, 240V, 3-Pole Exterior Switch	\$308.44



HF361R

HEAVY DUTY, OUTDOOR

Type 3R NEMA case.



Part No.	Description	Price
HF361R	30 Amps, 600V, 3-Pole, Outdoor Fused	\$773.04
HF362R	60 Amps, 600V, 3-Pole, Outdoor Fused	\$1,001.54



7711

PULLOUT

Offers both fusible and non-fusible single phase air conditioner disconnects. These units provide a disconnecting means which should be located within sight to and readily accessible from air conditioning or refrigerating equipment. UL Listed.



Part No.	Description	Price
7711*	60 Amps, Non Fused, 1F	\$35.22
7712*	60 Amps, Fused, 1F	\$39.60
7713*	30 Amps, Fused, 1F	\$40.72



DPU222R

PULLOUT

- ON/OFF control provided by a pullout handle
- Pullout handle can be conveniently stored in the compartment in the OFF position, helping to prevent the handle from being misplaced

- Protective shield cannot be removed until the pullout handle is removed, disconnecting the power
- Voltage: 120/240



Part No.	Description	H. (In.)	HP	Price
DPU222R*	60 Amps, Fused, #14-3 AWG Cu/Al	2	10 hp at 240 V	\$29.52
DPF221R*	30 Amps, Fused, #14-3 AWG Cu/Al	8.7	2 hp at 120 V, 3 hp at 240 V	\$32.80
DPF222R*	60 Amps, Non Fused, #14-3 AWG Cu/Al	8.7	3 hp at 120 V, 10 hp at 240 V	\$32.80



83306

NONMETALLIC

These horse power rated units are constructed of Noryl® thermoplastic for extended and rugged durability. Units are corrosion resistant, weatherproof, and maintenance free. UL Listed and CSA Certified



Part No.	Description	Price
83306*	30 Amps, Fused, 1F	\$57.38
83307*	60 Amps, Fused, 1F	\$57.38

SURGE PROTECTION



AG3000

Protects high-efficiency furnaces, hydronic heating systems, and ductless mini-splits from surges and spikes.

- Unmatched surge protection ratings
- 120/240 VAC single split phase SPD for use on a variety of HVAC equipment

- Green LED protection indicator
- 18 in. 10 gauge leads
- Type 4x Enclosure



Part No.	Description	Price
AG3000	Surge Protective Device	\$121.38

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRICAL DEVICES AND ACCESSORIES

FUSE, POWER



FRNR30

DUAL ELEMENT, TIME DELAY, 250 VAC

- Class RK5
- 250 Vac maximum, 125 Vdc
- Interrupting rating—200,000A RMS symmetrical
- 10 seconds delay (minimum) at 500% rated current

- Blade connections 70 amps and larger

Bussmann
by **FAT-N**

Part No.	Amps	Interrupt Rating Amps	Price
FRNR3-2/10	3 2/10	200,000A RMS symmetrical	\$15.06
FRNR4	4.0	200,000A RMS symmetrical	\$15.06
FRNR5	5.0	200,000A RMS symmetrical	\$14.36
FRNR8	8.0	200,000A RMS symmetrical	\$15.06
FRNR10	10	200,000A RMS symmetrical	\$14.12
FRNR12	12.0	200,000A RMS symmetrical	\$15.06
FRNR15	15.0	200,000A RMS symmetrical	\$11.54
FRNR20	20	200,000A RMS symmetrical	\$11.54
FRNR25	25.0	200,000A RMS symmetrical	\$11.54
FRNR30	30	200,000A RMS symmetrical	\$11.54
FRNR35	35.0	200,000A RMS symmetrical	\$21.06
FRNR40	40.0	200,000A RMS symmetrical	\$21.06
FRNR45	45.0	200,000A RMS symmetrical	\$21.06
FRNR50	50	200,000A RMS symmetrical	\$21.06
FRNR60	60	200,000A RMS symmetrical	\$21.06
FRNR70	70	200,000A RMS symmetrical	\$47.88
FRNR80	80	200,000A RMS symmetrical	\$47.88
FRNR90	90	200,000A RMS symmetrical	\$47.88
FRNR100	100	200,000A RMS symmetrical	\$47.88
FRNR110	110	200,000A RMS symmetrical	\$116.04
FRNR125	125	200,000A RMS symmetrical	\$104.10
FRNR150	150	200,000A RMS symmetrical	\$104.10
FRNR175	175	200,000A RMS symmetrical	\$105.84
FRNR200	200	200,000A RMS symmetrical	\$104.10
FRN350	350	200,000A RMS symmetrical	\$369.26
FRNR600	600	200,000A RMS symmetrical	\$307.54



FRSR30

DUAL ELEMENT, TIME DELAY, 600 VAC

- Class RK5
- 600 Vac maximum, 300 Vdc
- Interrupting rating—200,000A RMS symmetrical
- 10 seconds delay (minimum) at 500% rated current

- Blade connections 70 amps and larger

Bussmann
by **FAT-N**

Part No.	Amps	Interrupt Rating Amps	Price
FRSR1	1	200,000A RMS symmetrical	\$32.74
FRSR2	2.0	200,000A RMS symmetrical	\$31.16
FRSR5	5.0	200,000A RMS symmetrical	\$28.94
FRSR10	10	200,000A RMS symmetrical	\$28.94
FRSR15	15.0	200,000A RMS symmetrical	\$25.54
FRSR20	20	200,000A RMS symmetrical	\$25.54
FRSR25	25.0	200,000A RMS symmetrical	\$25.54
FRSR30	30	200,000A RMS symmetrical	\$25.54
FRSR35	35.0	200,000A RMS symmetrical	\$43.84
FRSR40	40.0	200,000A RMS symmetrical	\$43.84
FRSR45	45.0	200,000A RMS symmetrical	\$43.84
FRSR50	50	200,000A RMS symmetrical	\$43.84
FRSR60	60	200,000A RMS symmetrical	\$43.84
FRSR70	70	200,000A RMS symmetrical	\$90.64
FRSR80	80	200,000A RMS symmetrical	\$90.64
FRSR90	90	200,000A RMS symmetrical	\$90.64
FRSR100	100	200,000A RMS symmetrical	\$90.64
FRSR110	110	200,000A RMS symmetrical	\$181.26
FRSR125	125	200,000A RMS symmetrical	\$181.26
FRSR150	150	200,000A RMS symmetrical	\$181.26
FRSR175	175	200,000A RMS symmetrical	\$181.26
FRSR200	200	200,000A RMS symmetrical	\$181.26
FRSR250	250	200,000A RMS symmetrical	\$362.44

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SC10

MELAMINE, TIME DELAY

- Class G
- 480 Vac maximum, 300 Vdc (25 to 60A)
- Interrupting rating—100,000A RMS symmetrical
- Diameter—.41"

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
SC-1	1	100,000A RMS symmetrical	\$14.26
SC-2	2.0	100,000A RMS symmetrical	\$14.26
SC-3	3.0	100,000A RMS symmetrical	\$14.26
SC-4	4.0	100,000A RMS symmetrical	\$14.06
SC-5	5.0	100,000A RMS symmetrical	\$13.36
SC-6	6.0	100,000A RMS symmetrical	\$13.36
SC10	10	100,000A RMS symmetrical	\$13.36
SC15	15.0	100,000A RMS symmetrical	\$9.86
SC20	20	100,000A RMS symmetrical	\$10.30
SC25	25.0	100,000A RMS symmetrical	\$23.60
SC30	30	100,000A RMS symmetrical	\$18.40
SC40	40.0	100,000A RMS symmetrical	\$20.46
SC45	45.0	100,000A RMS symmetrical	\$23.10
SC50	50	100,000A RMS symmetrical	\$23.10



KTK5

MELAMINE, FAST ACTING

- Supplementary fuse
- Dimension—13/32" diameter x 1 1/2" length
- 600 Vac maximum
- Interrupting rating—100,000A RMS symmetrical

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
KTK2	2.0	100,000A RMS symmetrical	\$26.14
KTK3	3.0	100,000A RMS symmetrical	\$26.14
KTK4	4.0	100,000A RMS symmetrical	\$26.64
KTK5	5.0	100,000A RMS symmetrical	\$26.14
KTK6	6.0	100,000A RMS symmetrical	\$25.44
KTK10	10	100,000A RMS symmetrical	\$26.14
KTK15	15.0	100,000A RMS symmetrical	\$26.14
KTK20	20	100,000A RMS symmetrical	\$26.74



KTKR10

MELAMINE, FAST ACTING, CLASS CC

- Class CC—Rejection type
- Dimension—13/32" diameter x 1 1/2" length
- 600 Vac maximum
- Interrupting rating—200,000A

Bussmann
by **F.T.N**

- Branch circuit

Part No.	Amps	Interrupt Rating Amps	Price
KTKR10	10	200,000A	\$28.08
KTKR15	15.0	200,000A	\$28.08



FNQR

MELAMINE, TIME DELAY, 600 VAC

- Rejection-type fuse
- Dimension—13/32" diameter x 1 1/2" length
- 600 Vac maximum
- Interrupting rating—200,000A RMS symmetrical

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
FNQR5	5.0	200,000A	\$34.34
FNQR7	7.0	200,000A	\$40.10
FNQR15	15.0	200,000A	\$34.14
FNQR20	20	200,000A	\$35.32



FNM10

FIBRE TUBE, TIME DELAY, 250 VAC

- Supplementary fuse
- Dimension—13/32" diameter x 1 1/2" length
- 250 Vac (1-10 amps) maximum
- 32 Vac (20-30 amps) maximum

- Interrupting rating—10,000A 125 Vac

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
FNM1	1	10,000A 125 Vac	\$11.78
FNM2	2.0	10,000A 125 Vac	\$10.74
FNM7	7.0	10,000A 125 Vac	\$12.06
FNM10	10	10,000A 125 Vac	\$11.36
FNM20	20	10,000A 125 Vac	\$11.24
FNM25	25.0	10,000A 125 Vac	\$12.76
FNM30	30	10,000A 125 Vac	\$11.24



FNQ10

FIBRE TUBE, TIME DELAY, 500 VAC

- Supplementary fuse
- Dimension—13/32" diameter x 1 1/2" length
- 500 Vac maximum
- Interrupting rating—10,000A

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
FNQ5	5.0	10,000A	\$30.96
FNQ10	10	10,000A	\$30.96
FNQ15	15.0	10,000A	\$30.96
FNQ20	20	10,000A	\$30.96

ELECTRICAL DEVICES AND ACCESSORIES

FUSE, POWER



T15

PLUG, TIME DELAY

- 125 Vac maximum
- Dual element
- Edison base

Bussmann
by **F.T.N**

Part No.	Amps	Price
T8	8.0	\$8.90
T10	10	\$31.74
T15	15.0	\$13.76
T20	20	\$13.76
T25	25.0	\$13.76
T30	30	\$13.76



S5

PLUG, TIME DELAY, REJECTING BASE

- 125 Vac maximum
- Dual element
- Rejection base

Bussmann
by **F.T.N**

Part No.	Amps	Price
S3-2/10	3 2/10	\$33.64
S-5	5.0	\$35.38
S-8	8.0	\$35.38
S9	9.0	\$37.96
S10	10	\$33.64
S15	15.0	\$14.08
S20	20	\$14.08
S25	25.0	\$14.08
S30	30	\$14.08



AGC1

GLASS TUBE, FAST ACTING

- Dimension— 1/4" diameter x 1 1/4" length
- 250 Vac maximum to 10 amps
- 32 Vac maximum to 30 amps

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
AGC1/2	1/2	35	\$1.38
AGC34	3/4	35	\$1.38
AGC1	1	35	\$0.86
AGC1-1/2	1 1/2	100	\$0.86
AGC2	2.0	100	\$0.86
AGC3	3.0	100	\$0.86
AGC4	4.0	200	\$1.12
AGC5	5.0	200	\$1.34
AGC6	6.0	200	\$1.34
AGC7R	7.0	200	\$1.34
AGC8	8.0	200	\$1.12
AGC10	10	200	\$1.12
AGC15	15.0	1,000	\$1.08
AGC20	20	1,000	\$1.08
AGC25	25.0	1,000	\$1.08
AGC30	30	1,000	\$1.08

FUSE, ELECTRONIC, PC BOARD



ABC25

CERAMIC TUBE, FAST ACTING

- Dimension— 1/4" diameter x 1 1/4" length
- 250 Vac maximum

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
ABC1	1	35	\$2.06
ABC2	2.0	100	\$2.06
ABC3	3.0	100	\$2.06
ABC4	4.0	200	\$2.06
ABC5	5.0	200	\$2.04
ABC6	6.0	200	\$2.04
ABC8	8.0	200	\$2.04
ABC10	10	200	\$2.04
ABC12	12.0	750	\$2.04
ABC15	15.0	750	\$2.04
ABC25 ¹	25.0	1,000	\$2.84

¹125V AC maximum

**CERAMIC TUBE, TIME DELAY**

- 250 Vac maximum
- Dimension—1/4" diameter x 1 1/4" length

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
MDA5	5.0	200	\$3.44
MDA10	10	200	\$3.32
MDA20	20	400	\$3.52

**BLADE TYPE, FAST ACTING**

- 32 Vac maximum

Bussmann
by **F.T.N**

Part No.	Amps	Color	Price
ATC2	2.0	Gray	\$1.58
ATC3	3.0	Violet	\$1.14
ATC4	4.0	Pink	\$1.14
ATC5	5.0	Tan	\$1.14
ATC15	15.0	Blue	\$1.14
ATC20	20	Yellow	\$1.14
ATC30	30	Green	\$1.14

**GLASS TUBE, TIME DELAY**

- Dimension—1/4" diameter x 1 1/4" length

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
MDL8	8.0	200	\$2.14
MDL15	15.0	1,000	\$3.04

FUSE, IN LINE**CERAMIC, TIME DELAY, GMQ**

- Size rejecting
- 300 Vac maximum
- Interrupt rating—10,000A
- Use fuse holder HLQ3210

Bussmann
by **F.T.N**

Part No.	Amps	Interrupt Rating Amps	Price
GMQ3210	3 2/10	10,000A	\$7.72

FUSE, ACCESSORIES**FUSE TESTING SUPERKIT**

The SUPCO® Fuse Testing Superkit is a 6 piece kit that includes everything technicians need to test and troubleshoot low voltage circuits without wasting fuses.

- Convenient 6 piece kit
- 3 fuse adapters to cover the majority of low voltage fuses
- Eliminates wasted fuses
- Packaged in a hard plastic case
- Built-in light for dark control board locations

Supco

Part No.	Includes	Price
BRKPRO	(1) Standard Blade to 1/4" Fuse Adapter, (1) Supco Fuse Pro 3 AMP Tester with Light, (1) Standard Blade to 5mm Fuse Adapter, (1) Supco Fuse Pro 5 AMP Tester with Light, (1) Standard Blade to 4.5 mm Fuse Adapter Auxiliary Wire Harness	\$66.50

**FUSE TESTER WITH LIGHT**

Plugs into PC board on furnaces, boilers, air handlers or any system with a fused PCB.

- Auxiliary wires for more applications
- Built-in light for dark, hard to reach areas.

- For low voltage circuit testing w/o wasting fast-blow fuses
- NOT for permanent use, does not replace a factory accepted fuse.

Supco

Part No.	Application	Fuse Amps	Price
BRK3	Furnaces, Boilers, Air Handlers, Unit Heaters, Rooftop Units, Water Heaters	3	\$25.84

**PLUG FUSE BOX COVER**

- Single fuse
- Switch control
- Installs easily in standard electrical box
- 125 Vac, 15A

Bussmann
by **F.T.N**

Part No.	Type Box	Price
SSU	2 1/4" Handy	\$64.76
SSY	4" Square	\$118.88

ELECTRICAL DEVICES AND ACCESSORIES

FUSE, ACCESSORIES



HRK

IN LINE FUSE HOLDER

- Furnished with 3 springs for different length fuses
- 8" leads
- 1/4" diameter, 7/8" to 1 1/4" length fuse

Bussmann
by **F.T.N**

Part No.	Description	Price
HRK	Fuse Holder	\$11.50



FP2

FUSE PULLER

Bussmann
by **F.T.N**

Part No.	Application Diameter (In.)	Price
FP2	13/32 to 13/16	\$54.96
FP3	1 to 1 3/4	\$70.00
FP6	0 to 60AT-Tron Fuse	\$104.00

CONDUIT FITTING



N1340

COMBINATION CABLE CONNECTOR

NRP NATIONAL REFRIGERATION PRODUCTS

Part No.	Description	Pkg Qty	Price
N1340	Combination cable connector, Romex, BX, Greenfield, 1/2" kno kouts, 3/8" trade, 8 pack	8	\$11.06



N2307

EMT STRAP

NRP NATIONAL REFRIGERATION PRODUCTS

Part No.	Description	Pkg Qty	Price
N2307	2-Hole EMT Straps	12	\$4.32



N0028

BUSHING

NRP NATIONAL REFRIGERATION PRODUCTS

Part No.	Description	Pkg Qty	Price
N0028	Bushing, Screw-On Washer	5	\$11.90



N0310

REDUCING WASHER

NRP NATIONAL REFRIGERATION PRODUCTS

Part No.	Description	Pkg Qty	Price
N0310	Reducing Washer, 3/4" - 1/2"	28	\$8.40
N0305	Reducing Washer, 1" - 3/4"	25	\$9.94



N1307

CONDUIT STRAP

NRP NATIONAL REFRIGERATION PRODUCTS

Part No.	Pkg Qty	Price
N1306	20	\$5.90
N1307	12	\$5.20
N1304	8	\$5.70
N1305	6	\$7.20



N1315

CONNECTOR, 90

NRP NATIONAL REFRIGERATION PRODUCTS

Part No.	Description	Pkg Qty	Price
N1315	90° Connector, Steel Cover, 1/2" Knockouts, 3/8" Trade	3	\$8.30

ELECTRICAL DEVICES AND ACCESSORIES



N1320

CONNECTOR, ROMEX



Part No.	Description	Pkg Qty	Price
N1320	Romex Connector, Clamp Type, 1/2" Knockouts, 3/8" Trade	25	\$23.80
N1319	Romex connector, clamp type, 3/4" knockouts, 3/4" trade	4	\$9.24



69522

PATCH CORD

- Female plug x (3) large alligator clips
- 12" long



Part No.	Description	Price
69522*	15A Patch Cord	\$57.60



MCLTCA

LIQUID TIGHT CONNECTOR

Alloy steel MC connectors, liquid-tight, zinc plated.



Part No.	Length (In.)	Diameter (In.)	Hex Size (In.)	Type	Price
MCLTCA	3 1/2	2	1 1/8	90 Degree	\$25.80
MCLTCS	1 31/32	1 13/16	1 1/8	Straight	\$20.12

PLUG ADAPTER

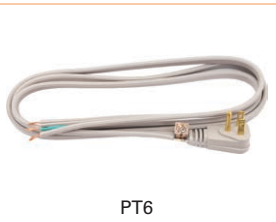


N2867

PLUG



Part No.	Description	Pkg Qty	Price
N2867*	Armored Plug, Male, 2 Pole, 3 Wire 15A-125V	1	\$8.60
N2887*	Armored Connector, Female, 2 Pole, 3 Wire, 15A-125V	1	\$14.40
N5223	Triple Outlet, Heavy Duty Grounding Adapter, 15A-125V	1	\$12.64



PT6

PIGTAIL

- UL/CSA Listed
- 16/3 AWG (PT6), 14/3 AWG (PT9)
- PT6S is straight out, PT6/PT9 are top out



Part No.	Length (Ft.)	Wgt (Lbs.)	Price
PT6	6.0	1.0	\$10.64
PT6S	6.0	1.0	\$11.96
PT9	9.0	1.0	\$31.00



N0270

RECEPTACLE



Part No.	Description	Pkg Qty	Price
N0270*	Duplex Receptacle, 2 Pole, 3 Wire, 15A-125V	1	\$5.18



N0777

WALL SWITCH



Part No.	Description	Pkg Qty	Price
N0777*	On-Off, 15A, 120V	1	\$6.60
N1262	Silent, 2 Pole, 15A-120/277 Vac	1	\$20.40

*WARNING: This item may contain chemicals known to cause cancer and/or reproductive harm in the state of California. For more information go to www.P65Warnings.ca.gov

ELECTRICAL DEVICES AND ACCESSORIES

BOX, SWITCH, COVER



N0447

TOGGLE SWITCH

- Bat handle
- All switches rated 15A, 125/250 Vac



Part No.	Description	Pkg Qty	Price
N0447	SPST, On-Off	1	\$12.20
N0455	DPST, On-Off	1	\$17.20
N0494	DPDT, On-Off-On	1	\$20.64



N0360

BOX, ELECTRICAL

- Steel



Part No.	Description	Dimensions (In.)			Price
		L	W	D	
N0360	Utility, 1/2" Knockouts	4	2 1/8	1 7/8	\$6.70
N0361	Utility, 1/2" Knockouts, Deep	4	2 1/8	2 7/8	\$7.40
N0362	1900 Shallow, 21.0 cu. in., 1/2" and 3/4" Knockouts	4	4	1 1/2	\$6.50
N0363	1900 Deep, 30.3 cu. in., 1/2" and 3/4" Knockouts	4	4	2 1/8	\$8.30



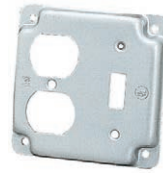
N0365

BOX COVER, UTILITY

- Covers 2 1/8" x 4" box
- Plated finish



Part No.	Description	Price
N0365	Wall Switch Utility Cover, 2 1/8" x 4 1/8"	\$3.30
N0366	Duplex Receptable Cover, 2 1/8" x 4 1/8"	\$3.30
N0367	Blank Utility Cover, 2 1/8" x 4 1/8"	\$3.00



N0368

BOX COVER, 1900 BOX

- Covers 4" x 4" box
- Plated finish



Part No.	Description	Price
N0368	Wall Toggle Duplex Cover, 4" Square	\$6.50
N0371	Square Cover, Blank, 4" x 4"	\$2.90



N0384

BOX ASSEMBLY

- Dimensions—4 9/16" x 2 7/8" x 2 1/8"



Part No.	Description	Price
N0384	Weatherproof Box w/Switch and Cover, 4 9/16" x 2 7/8" x 2 1/8"	\$29.70

SOLDERLESS TERMINAL



N6217

BUTT CONNECTOR, INSULATED



Part No.	Wire Size (AWG)	Pkg Qty	Price
N6217	16-14	24	\$8.22
N6217L	16-14	50	\$12.96
N6231	12-10	19	\$8.30
N6217HS ¹	16-14	10	\$11.78
N6232L	22-18	50	\$12.06
N6231HS ¹	22-18	10	\$17.06

¹with heat shrink

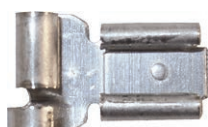


N6223L

DEAD-END CONNECTOR, INSULATED



Part No.	Wire Size (AWG)	Pkg Qty	Price
N6222L	22-14	50	\$9.34
N6223L	16-10	50	\$11.48
N6250N	18-8	25	\$11.48



N6258C

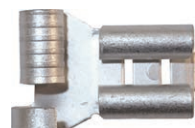
FEMALE FLAG SLIP ON

- Compressor applications



Part No.	Wire Size (AWG)	Tab Size (In.)	Pkg Qty	Price
N6258C	16-14	.250	100	\$33.00
N6270L ¹	12-8	.250	50	\$24.70

¹Shown



N6213C

FEMALE FLAG SLIP ON



Part No.	Wire Size (AWG)	Tab Size (In.)	Insulated	Pkg Qty	Price
N6213C	16-14	.250	No	100	\$32.10
N6224C	12-10	.250	No	100	\$30.54
N6277N	16-14	.250	Yes	25	\$13.58



N61234L

FULLY INSULATED SLIP ON



Part No.	Wire Size (AWG)	Tab Size (In.)	Gender	Pkg Qty	Price
N6229L ¹	16-14	.250	F	50	\$18.28
N6233L	16-14	.250	F	50	\$19.58
N6234L	16-14	.250	M	50	\$15.14
N61234L ²	12-10	.250	F	50	\$18.48
N6240	16-14	.250	M/F	25 pairs	\$17.74
N61235L ²	12-10	.250	M	50	\$18.48
N6220	16-14	.250	M/F	11	\$4.94

¹With insulated grip ²With Nylon insulation



N6251L

FEMALE INSULATED SLIP ON



Part No.	Wire Size (AWG)	Tab Size (In.)	Insulated	Pkg Qty	Price
N6214C	16-14	.250	No	100	\$13.06
N6218	16-14	.250	Yes	24	\$7.00
N6218L	16-14	.250	Yes	50	\$11.48
N6235L	22-18	.250	Yes	50	\$11.48
N6251	12-10	.250	Yes	19	\$7.26
N6251L	12-10	.250	Yes	50	\$14.10
N6281L	16-14	.187	Yes	50	\$10.96
N6282L	22-18	.187	Yes	50	\$11.48



N6219

MALE INSULATED SLIP ON



Part No.	Wire Size (AWG)	Tab Size (In.)	Pkg Qty	Price
N6219	16-14	.250	24	\$6.78



N6285L

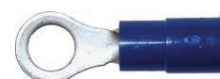
BULLET PLUG/RECEPTACLE

- Insulated



Part No.	Wire Size (AWG)	Tab Size (In.)	Pkg Qty	Price
N6285L ¹	16-14	Plug/.157	50	\$18.64
N6286L	16-14	Receptacle/.157	50	\$13.06

¹Pictured



N6216L

INSULATED RING



Part No.	Wire Size (AWG)	Stud Size	Pkg Qty	Price
N6216L	16-14	10.0	50	\$11.70
N6236L	22-18	8.0	50	\$10.44
N6252L	12-10	10.0	50	\$16.72
N6253L	12-10	0.25	50	\$19.16
N6257N	8	0.25	25	\$16.72
N6272L	16-14	8.0	50	\$11.44

ELECTRICAL DEVICES AND ACCESSORIES

SOLDERLESS TERMINAL



N6227

INSULATED SPADE



Part No.	Wire Size (AWG)	Stud Size	Pkg Qty	Price
N6227L	16-14	8.0	50	\$11.94
N6228L	16-14	10.0	50	\$11.94
N6237L	22-18	8.0	50	\$10.44
N6255L	12-10	10.0	50	\$15.66
N6274L	16-14	6.0	50	\$11.94



N6238L

INSULATED SPRING SPADE



Part No.	Wire Size (AWG)	Stud Size	Pkg Qty	Price
N6238L	22-18	8.0	50	\$10.86
N6239L	16-14	8.0	50	\$11.40
N6276L	16-14	8.0	50	\$11.40



N6210

TAB ADAPTER



Part No.	Tab Size (In.)	Gender	Pkg Qty	Price
N6210	.250	1 M/1 F	24	\$8.30
N6211C	.250	2 M/1 F	100	\$21.06
N6212	.250	2 M/1 F	24	\$7.96



N6200E

TERMINAL KIT



Part No.	Includes	Price
N6200A	N6211 (15), N6213 (20), N6217 (10), N6218 (15), N6227 (10)	\$37.70
N6200D	N6211 (10), N6224 (10), N6231 (10), N6251 (10), N6252 (10), N6255 (15)	\$39.60
N6200E	- Butt connectors: (10) 12-10 AWG wire, (10) 16-14 AWG wire, (10) 22-18 AWG wire - Dead end connectors: (10) 16 AWG wire, (10) 22-14 AWG wire - Female slip-Ons: (10) 12-10 AWG wire, (15) 16-14 AWG wire, (15) 22-18 AWG wire (0.250 tab each) - Ring Terminals: (10) 12-10 AWG wire, (10) 16-14 AWG wire (#10 stud each) - Spage terminals: (15) 12-10 AWG wire #10 stud, (10) 16-14 AWG wire #8 stud	\$63.92
N6200G	(10) Fully insulated female slip-on, 16-14 AWG wire, 0.250 tab (10) Fully insulated flag female slip-on, 16-14 AWG wire, 0.250 tab (10) Fully insulated male slip-on, 16-14 AWG wire, 0.250 tab (10) Insulated butt connector, 12-10 AWG wire (15) Insulated butt connector, 16-14 AWG wire (15) Insulated butt connector, 22-18 AWG wire (10) Insulated female slip-on, 12-10 AWG wire, 0.250 tab (15) Insulated female slip-on, 16-14 AWG wire, 0.250 tab (15) Insulated female slip-on, 22-18 AWG wire, 0.250 tab (10) Insulated male slip-on, 16-14 AWG wire, 0.250 tab (10) Tab adapter, 2 male/1 female, 0.250 tab (15) Tab adapter, 3-way, 0.250 tab	\$72.40



N4200A

TERMINAL KIT - HIGH TEMPERATURE



Part No.	Description	Price
N4200A	Includes: (8) 16-14 high temp (900°) female and flag female slip-ons (4 pieces of each item), (4) 16-14 high temp butt connector, (4) 16-14 high temp ring for #10 stud	\$6.12

WIRE

18 GAUGE

- UL Listed type CL2
- CUL Listed type CM or CHM/FT1
- NEC article 725



UL1882

Part No.	Nb. of Conductors	Length Reel (Ft.)	Price
UL1825	2	500	\$126.64
UL1825S ¹	2	500	\$188.76
UL1835	3	500	\$187.54
UL1835S ¹	3	500	\$270.00
UL184250	4	250	\$127.24
UL1842S ¹	4	250	\$163.80
UL1852	5	250	\$126.94
UL1852S	5	250	\$237.94
UL1862	6	250	\$183.04
UL1872	7	250	\$203.80
UL1882	8	250	\$191.74
UL1882S ¹	8	250	\$297.94
UL1892	9	250	\$258.00
UL18102	10	250	\$285.00
UL18122	12	250	\$359.46

¹Shielded

18 GAUGE PLENUM CABLE

- UL Listed type CMP/MPP/CL2P
- CUL Listed type CMP/FT6
- NEC article 725 and 800



PLN5502

Part No.	Nb. of Conductors	Length Reel (Ft.)	Wgt (Lbs.)	Price
PLN5502	2	500	10.25	\$178.10
PLN5503	3	500	11.0	\$209.96
PLN5504	4	250	7.25	\$146.40
PLN5505	5	250	8.75	\$160.16
PLN5506	6	250	10.5	\$203.50
PLN5508	8	250	11.25	\$271.06
PLN5510	10	250	15.25	\$384.00

TERMINAL REPAIR

- Includes 3 color coded wires and hex wrench



TLC310



Part No.	Description	Price
TLC310	10 Gauge Compressor Stake Kit	\$57.76
TLC312	12 Gauge Compressor Stake Kit	\$52.50

MAGJUMPER™

- Ideal for recessed terminals, and low voltage troubleshooting
- No more popping off terminals
- Stays flexible in cold weather
- Great for troubleshooting thermostats, control boards, sensors and



MJ1

switches



Part No.	Description	Price
MJ1	MagJumper 20" Leads, 1/4" Yellow Tip	\$23.30

QWIKLUG™ TERMINAL REPAIR KIT

QwikLug™ easily attaches to damaged or corroded spade connectors. Simply push the connector on and tighten it from the front with a Phillips screwdriver. QwikLug™ comes with color coded leads for connecting to



QT2810

existing wiring. The outer connector housing is a nylon insulator so the connectors can touch without shorting.



Part No.	Description	Price
QT2810	Terminal Lugs, 30 Amps, 10 AWG / 2 ft. Leads with Nut, Pkg of 3	\$58.34
QT2812	Terminal Lugs, 20 Amps, 12 AWG / 2 ft. Leads with Spade, pkg of 3	\$57.04
QT2910	Terminal lugs, 30 Amps, 10 AWG / 4 ft. Leads with Nut, pkg of 3	\$64.06

Honeywell We've Got a Cable for That!



Mini Split Brand	Models	Cable Description	Honeywell #
Carrier®	RASLK/RASLA, 40GXM/38GXM	14/4 Stranded THHN 600V cable	1070
	40QNC/38HDF, 40KMC/38HDF	18/2 Stranded CM/CL2 Cable (up to 50 feet)	1118
		16/2 Stranded CM/CL2 Cable (up to 200 feet)	1125
	40GXQ/38GXQ, 40GXC/38GXC, 40MVQ/38MVQ, 40MVC/38MVC	18/4 Stranded CM/CL2 Cable (up to 50 feet)	1119
		16/4 Stranded CM/CL2 Cable (up to 65 feet)	1126
	40QAQ/38QRR	18/5 CL2 T-Stat Cable	4713
	40QAC/38HDR	18/2 CL2 T-Stat Cable	4710
Environair	Cooling Only Models	14/4 Stranded THHN 600V cable	1070
	Heating Models	14/7 Stranded THHN 600V cable (uses 6 conductors)	1073
	WLCG, UNCG, CACG, CACH (Cooling Only)	18/2 Stranded CM/CL2	1118
Friedrich®		14/4 Stranded THHN 600V cable	1070
Fujitsu®		14/4 Stranded THHN 600V cable	1070
Grunaire		14/4 Stranded THHN 600V cable	1070
Heat Controller Inc.		14/4 Stranded THHN 600V cable	1070
LG®		18/4 Stranded CM/CL2 cable	1119
		If the installation location requires a shielded cable, use	1215
	Line Voltage – Inverter Models	14/4 Stranded THHN 600V cable	1070
Mitsubishi®		14/4 Stranded THHN 600V cable	1070
	City-Multi Units	16/2 Stranded CM/CL2 Cable	1125
NORDYNE	IQ Drive	T-Stat: 18/4 Stranded OAS CM/CL2 cable	1215
		Communication: 18/3 Stranded Shielded CM/CL2	1228
		Power: 18/2 Stranded CM/CL2	1118
Quietside®	Single & Multizone Inverter Models: QSVSI, QSVMI	14/4 Stranded THHN 600V cable	1070
	Single-Zone Rotary Models	14/7 Stranded THHN 600V cable (uses 6 conductors)	1073
Samsung®	(Both cables required)	Power: 14/3 Stranded THHN 600V cable	1069
		Comm: 16/2 Stranded Shielded CM/CL2	1221
York®	Cooling Only Models	14/4 Stranded THHN 600V cable	1070
	Heat Pump Models	14/5 Stranded THHN 600V cable	1071

Cable Description	Voltage Rating & Listing	Part #
18/2 STR	300V CM	1118
18/4 STR	300V CM	1119
16/2 STR	300V CM	1125
16/4 STR	300V CM	1126
18/2 STR OAS	300V CM	1214
18/4 STR OAS	300V CM	1215
16/2 STR OAS	300V CM	1221
16/4 STR OAS	300V CM	1222
14/3 STR	600V THHN	1069
14/4 STR	600V THHN	1070
14/5 STR	600V THHN	1071
14/7 STR	600V THHN	1073



Contact your local United Refrigeration Branch to order

HVAC AND CONTROL CABLES

Honeywell Building Automation System

Application	Cable Description	Honeywell #
C-Bus™ (EIA-485 / BACnet®)	22/1PR STR OAS CMP	3320
LonWorks® / E-Bus	22/1PR STR CMP	3252

Alerton®

Application	Cable Description	Honeywell #
TUX Trunk/Sensors	18/2 STR OAS CMP	3214
BACtalk® MS/TP, Sensors, VLX	22/1PR STR OAS CMP	3320
IBEX Microset	18/3 STR CMP	3126
BACtalk Microset	18/3 STR OAS CMP	3226

Automated Logic®

Application	Cable Description	Honeywell #
ARC156	22/1PR STR OAS CMP	3320
Logistat	22/4 STR CMP	3104

Carrier®

Application	Cable Description	Honeywell #
MS/TP Network (EIA-485)	22/1PR STR OAS CMP	3320
Rnet	18/4 STR CMP	3115
Power	18/2 STR CMP	3114
Analog & Discrete Sensor Wiring	18/2 STR CMP	3114
	18/2 STR OAS CMP	3214

Fujitsu®

Application	Cable Description	Honeywell #
LON® Communication	22/1PR STR OAS CMP	3254
	22/2PR STR OAS CMP	3255

Johnson Controls®

Application	Cable Description	Honeywell #
24VAC Power	18/2 STR CMP	3114
Inputs & Outputs (AI/AO/DI/DO)	18/2 STR CMP	3114
	18/3 STR CMP	3126
N2 BUS EIA-485	22/1PR OAS CMP	3320
FC BUS (EIA-485)	22/1PR OAS CMP	3320
SA BUS (EIA-485)	22/2PR OAS CMP	3255
Metasys® Thermostat	24/3PR Cat 3 CMP	5042
	24/4PR Cat 3 CMP	5043

Schneider Electric® – TAC Controls

Application	Cable Description	Honeywell #
Type H (DO), Type D (AI/DI)	18/2 STR CMP	3114
Type I (AO/DO)	18/3 STR CMP	3126
Lon	22/1PR STR CMP	3252

Siemens®

Application	Cable Description	Honeywell #
Power	14/2 STR CMP	3123
TEC Valves/Dampers	18/2 STR CMP	3114
	18/3 STR CMP STR	3126
M/RBC DO	18/2 STR CMP STR	3114
SBT M/RBC AI	18/2 STR CMP STR	3114
DI, DO, AI, AO	18/2 STR CMP STR	3114
	18/3 STR CMP STR	3126
Field Level Network (FLN) BACnet	22/1PR STR OAS CMP	3320
Building Level Network (BLN) BACnet	22/1PR STR OAS CMP	3320
Automation Level Network (ALN) BACnet	22/1PR STR OAS CMP	3320
TEC Stat	24/3PR Cat 3 CMP	5042
Lon	22/1PR STR CMP	3252

Trane®

Application	Cable Description	Honeywell #
Comm 3/4	18/1PR STR TC OAS CMP	4652
	22/1PR STR CMP	3252
Comm 5 (Echelon)	22/1PR STR OAS CMP	3254
	22/2PR STR CMP	3253
	18/2 STR OAS CMP	3214
Sensors	18/3 STR OAS CMP	3226
	18/4 STR OAS CMP	3215

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 Metasys® is a registered trademark of Johnson Controls.
 All other trademarks property of their respective owners.

Application	Cable Description	Recommended Genesis Cables	
		Gen. Purpose CM	Plenum CMP
Echelon LonWorks	22/1PR STR Unshd	1061	3252
	22/2PR STR Unshd	1062	3253
	22/1PR STR OAS	1063	3254
	22/2PR STR OAS	1064	3255
BACnet MS/TP EIA-485	22/1PR STR OAS (EIA-485)	—	3320
Misc. Other	18/1PR STR TC OAS (25 pF/ft., 60 Ω)	—	4652
Inputs & Outputs	18/2 STR	1118	3114
	18/3 STR	1130	3126
	18/4 STR	1119	3115
	18/2 STR OAS	1214	3214
	18/3 STR OAS	1228	3226
	18/4 STR OAS	1215	3215

Honeywell | Contractor PRO™

Are you a CPRO member? Earn points and rewards when you purchase select Honeywell Cables.

ELECTRICAL DEVICES AND ACCESSORIES

WIRE



32175012

18 GAUGE PLENUM CABLE

- Plenum rated: CMP, CL2P, C(UL), FT6 LISTED
- Overall shielded
- Stranded

Part No.	Nb. of Conductors	Length Reel (Ft.)	Wgt (Lbs.)	Price
32145012	2	500	9.98	\$175.24
32141012	2	1000	19.96	\$370.56
32265012	3	500	13.12	\$226.04
32261012	3	1000	26.24	\$452.14
32155012	4	500	13.36	\$281.56
32151012	4	500	32.72	\$563.14
32765012	5	500	19.37	\$402.54
32761012	5	1000	38.63	\$805.06
32165012	6	500	22.72	\$394.24
32161012	6	1000	45.45	\$785.54
32175012	8	500	29.19	\$571.86
32171012	8	1000	58.38	\$1,081.50



N633B

HOOK-UP WIRE

- Stranded
- Capacity—600V
- 48' lengths
- UL Listed



Part No.	Gauge	Color	Price
N632B	16.0	Black	\$21.70
N632R	16.0	Red	\$21.70
N632W	16.0	White	\$21.70
N633B	14.0	Black	\$26.30
N633R	14.0	Red	\$26.30
N633W	14.0	White	\$26.30
N634B	12.0	Black	\$39.30
N634R	12.0	Red	\$39.30
N634W	12.0	White	\$39.30
N635B	10.0	Black	\$61.00
N635R	10.0	Red	\$61.00
N635W	10.0	White	\$61.00
N631B	8.0	Black	\$92.58
N631R	8.0	Red	\$92.58



N6336

THERMOSTAT WIRE



Part No.	Wire Size (In.)	Nb. of Conductors	Pkg Length (Ft)	Price
N6336	18	3	40	\$26.30
N6337	18	5	40	\$43.60
N6338	18	8	40	\$60.32



N6343

SJT SERVICE CORD

- 300V capacity
- UL listed



Part No.	Nb. of Conductors	Pkg Length (Ft)	Gauge	Price
N6341	3	20	16.0	\$30.50
N6343	3	20	14.0	\$45.00

Have access to 1000's of replacement parts & accessories on

uri.com

With 350+ locations nationwide we have the right part where you need it, when you need it.

Register Today



WIRE MANAGEMENT



56250

WIRE MARKER BOOK

- Larger, easy-to-read print on 0.2" x 1.5" labels
- Each page is perforated so that a third, two-thirds or entire the page can be easily detached
- Strong tack for lasting adhesion on oily wires

- Markers are a vinyl coated white cloth, 8 mils thick



Part No.	Description	Price
56250	1 to 48 (14 pages)	\$20.46
56253	A-Z, 0-15, plus (+), minus (-), and forward slash (/) (10 pages)	\$18.36



N1328

WIRE CONNECTOR



Part No.	Description	Pkg Qty	Price
N1328	Split Bolt Connector, 6 Wire	3	\$22.90



N63126

WHIP

- Nonmetallic sealite



Part No.	Length (Ft.)	Connection Size (In.)	Wire Size	Price
N63124	4.0	1/2	10	\$26.34
N63126	6.0	1/2	10	\$31.94
N63344	4.0	3/4	8	\$34.60
N63346	6.0	3/4	8	\$38.78



N0273

CABLE STAPLE



Part No.	Description	Pkg Qty	Price
N0273	Insulated Staples, 5/8" x 1/4"	50	\$5.32



N6291C

WIRE NUT

Color-coded connector shells are made from high dielectric, smooth polypropylene plastic to eliminate porosity and surface cracking. Resists practically all chemical action—unaffected by gasolines, oils, diluted acids and alkaline solutions. Heat-resistant up to 105°C (221°F).

N6295 contents = 15 each Yellow, Orange, Grey, 10 each Red



Part No.	Color	Size	Style	Pkg Qty	Price
N6291C	Grey	Mini	Non-Winged	100	\$12.30
N6292C	Blue	Mini	Non Winged	100	\$13.70
N6293C	Orange	Small	Non Winged	100	\$15.50
N6294C	Yellow	Medium	Winged	100	\$23.18
N6296C	Red	Large	Winged	100	\$29.34
N6295	G,O,Y,R	All		55	\$12.00



N6183

TERMINAL BLOCK



Part No.	Description	Price
N6183	6 Position, 20A, 250V, 14 AWG Maximum	\$7.10
N6185	10 Position, 20A, 250V, 14 AWG Maximum	\$9.70
N6187	14 Position, 20A, 250V, 14 AWG Maximum	\$13.32
N6193	6 Position, 30A, 600V, 12 AWG Maximum	\$10.18
N6195	10 Position, 30A, 600V, 12 AWG Maximum	\$16.08



N6262BC

CABLE TIE, BLACK

- Ties rated to 50 lb. tensile strength



Part No.	Length (In.)	Diameter Max. (In.)	Pkg Qty	Price
N6262BC	7	1.75	100	\$7.66
N6262BM	7	1.75	1,000	\$70.74
N6263BC	11	3.0	100	\$9.96
N6263BD	11	3.0	500	\$49.28
N6265BC	14	4.0	100	\$17.46

ELECTRICAL DEVICES AND ACCESSORIES

WIRE MANAGEMENT



CABLE TIE, NYLON

- Ties rated to 50 lb. tensile strength



Part No.	Length (In.)	Diameter Max. (In.)	Pkg Qty	Price
N6261L ¹	5	1.375	50	\$3.36
N6262L	7	1.75	50	\$3.54
N6262M	7	1.75	1,000	\$58.34
N6263D	11	3.0	500	\$64.76
N6263L	11	3.0	50	\$7.14

¹40 lb. tensile strength



CABLE TIE, MOUNTING HOLE



Part No.	Length (In.)	Diameter Max. (In.)	Pkg Qty	Price
N6264N	7	1.75	25	\$3.74
N6264C	7	1.75	100	\$12.30



CABLE TIE MOUNT



Part No.	Pkg Qty	Description	Price
N6269L	50	1", Adhesive Backing	\$21.98



NYLON CABLE CLAMP



Part No.	Pipe OD (In.)	Pkg Qty	Price
N5381	1/8	54	\$5.38
N5382	1/4	45	\$6.22
N5383	3/8	41	\$6.22
N5384	1/2	39	\$6.22
N5385	5/8	37	\$6.22



HEAT SHRINK TUBE ASSORTMENT

- Assorted 6" lengths
- Includes 2 pieces each of:
 - 1/8" Black
 - 1/8" White
 - 1/4" Black
 - 1/4" White

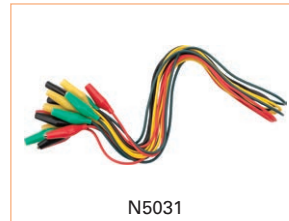


1/2" Black
1/2" White

Part No.	Description	Price
N6370	Heat Shrink Tube Assortment	\$18.64

TEST LEAD

TEST LEADS



Part No.	Description	Price
N5031	Leads, Color Coded, Alligator Clip, Small	\$14.70
N5032	Leads, 18" Wire, Alligator Clip, Medium	\$15.96
N5035	Alligator Clip, 2", Medium	\$10.86
N5036	Test Clip, 2 1/2", Large	\$9.50
N5042	EZ Hook, 18 Ga.	\$31.32
N6025	Compressor Lead Kit	\$22.10