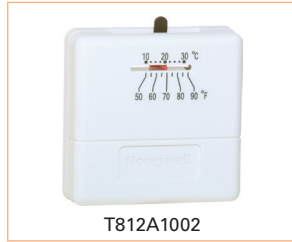


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THERMOSTAT

ELECTROMECHANICAL



T812A1002

HEAT ONLY, T812 SERIES

Provides SPST control of 24 Vac residential heating systems.

- Coiled bimetal element operates snap-action switch

Honeywell Home

Part No.	Stages		Temperature (°F)
	Cool	Heat	
T812A1002	-	1	50-90



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)
	Cool	Heat	
T822K1000	-	1	45-95
T822K1042	-	1	35-85
T822L1000	1	-	45-95
T827K1009	-	1	50-90



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
- Premier

White color

Honeywell Home

Part No.	Stages		Temperature (°F)	Switching		
	Cool	Heat		System	Fan	Changeover
T834N1002	1	1	50-90	H/O/C	A/O	Manual



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.	Stages		Temperature (°F)	Switching	
	Cool	Heat		System	Fan
1C20-102	-	1	50-90	H/O	-
1C26101	1	1	50-90	H/O/C	A/O



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.	Stages		Temperature (°F)
	Cool	Heat	
1E30N910	-	1	50-90



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.	Stages		Temperature (°F)	Switching	
	Cool	Heat		System	Fan
1E56N444	1	1	50-90	C/O/H	A/O
1F56N444	1	1	50-90	C/O/H	A/O

DIGITAL, NON PROGRAMMABLE



TH1110U4000

N100 FOCUSPRO NON-PROGRAMMABLE THERMOSTAT

The Honeywell Home FocusPRO® N100 is designed for pro ease-of-use and profitability. It reduces job complexities and time on-site while supporting recurring business thanks to its broad

system compatibility, UWP® wall plate, large display and clear font, snap-on private label, and competitive price.

- Supports single-stage 1H/1C for TH1110U4000/U or up to 3H/2C heat pump and 2H/2C conventional for TH1320U4002/U
- UWP® wall plate supports speedy installation and easy upgrade
- Private label with customized snap-on accent piece
- Large display with clear font
- Optional always-on backlight when hardwired
- Customizable display settings
- Intuitive interface for easy navigation
- Choose to receive filter reminders
- Heat low limit defaults to 40°F (4°C) but configurable to 32°F (0°C) for garage applications
- Fan lockout after cool call option

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH1110U4000	1	1	H/O/C	A/O
TH1320U4002	3	2	H/O/C/A/EM.HT	A/O



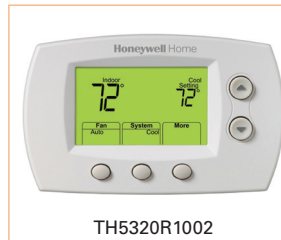
TH1100DV1000

PRO 1000 SERIES

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

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH1100DV1000	1	-	H/O	-
TH1110DV1009	1	1	H/O/C	A/O
TH1210DV1007	2	1	H/O/C/EM. HT	A/O



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
- Battery
- Premier White® finish

Honeywell Home

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



TH1110D2009

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

- Premier White® finish

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH1110D2009	1	1	H/O/C/O	A/O



T87K1007

THE ROUND®, ELECTRONIC

Provide electronic control of 24 Vac heating and cooling systems.

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

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
T87K1007	1	-	O/H	-
T87N1000	1	1	C/O/H	A/O
T87N1026	1	1	C/O/H	A/O



*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

DIGITAL, NON PROGRAMMABLE



HEAT/COOL

80 Series

- Hardwired (1F89), Hardwired or battery (1F83)
- 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	
	Heat	Cool	System	Fan
1F89211	2	1	H/O/C/EM	A/O



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	
	Heat	Cool	System	Fan
1F86344	1	1	H/O/C	A/O



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		Switching	
	Heat	Cool	System	Fan
1F78144	1	1	H/O/C	A/O



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		Switching	
	Heat	Cool	System	Fan
1E78144	1	1	C/O/H	A/O



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.	Stages		Switching		Display
	Heat	Cool	System	Fan	
1F890211	2	1	H/O/C/A/EM	A/O	2"



80 SERIES



1F83C11NP

- 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.	Stages		Switching	
	Heat	Cool	System	Fan
1F83C11NP	1	1	H/O/C	A/O
1F83H21NP	1	2	C/H/O	A/O
1F85U22NP	1 HP, 2 Conv.	2	AUTO	AUTO
1F85U42NP	4	2	AUTO	AUTO

DIGITAL, PROGRAMMABLE

SENSI LITE SMART THERMOSTAT



1F76U22WFB

The Sensi™ Lite smart thermostat puts energy savings in easy reach. Installation is quick and simple—no common wire required with most systems. The controls are familiar and

intuitive. And, best of all, your usage activity and personal data stays private.

- SCREEN TYPE/SIZE - LCD/2.25"
- SYSTEM TYPE - 2H/1C or 1H/2C
- ANNUAL ENERGY SAVINGS1 - About 23%
- MOBILE APP - iOS, Android
- SMART HOME COMPATIBILITY - Alexa, Google, SmartThings
- WI-FI NETWORK COMPATIBILITY - 2.4GHz
- CONTRACTOR BRANDING - Digital
- PRO WARRANTY - 5 years

White-Rodgers

Part No.	Dimensions (In.)			Ship Wgt (Lbs.)
	H	D	W	
1F76U22WFB	3.13	0.88	0.88	1.00

T10+ THERMOSTAT



YTHM1004R3000

The T10 or T10+ Smart Thermostat features an effortless, 7-Day programmable touchscreen thermostat. Compatible with 24 VAC systems including:

- Up to 3 Heat/2 Cool heat pump systems (4 heat with T10+ & EIM)
- Up to 2 Heat/2 Cool conventional (3 Heat/2 Cool with T10+ & EIM)
- Dual Fuel systems
- Radiant hot water systems including hot water fan coil
- Humidification, dehumidification, or ventilation (All three with T10+ & EIM)
- YTHM1004R3000 - T10+ Thermostat, EIM, RATS/DATS, Wireless Indoor Sensor
- YTHM1004R3001 - T10+ Thermostat, EIM, RATS/DATS, Wireless Indoor Sensor, Wireless Outdoor Sensor

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
YTHM1004R3000	4 HP, 3 Conv.	2	H/C/A/O/EM	A/O/CIRC
YTHM1004R3001	3 HP, 2 Conv.	2	H/C/A/O/EM	A/O/CIRC

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You Think!



Local Inventory. Local Experts. Find Your Branch.

THERMOSTAT

DIGITAL, PROGRAMMABLE



SYST0101CW

ION™ SYSTEM CONTROL

- High resolution, smartphone-like touchscreen
- Wi-Fi® enabled for remote access and control
- Pair with our communicating, modulating gas furnace; variable-speed fan coil; inverter-driven

outdoor units; and zoning system for a complete Ion™ Comfort System

- Capable of controlling temperatures and fan speeds in up to eight zones
- Real-time energy use tracking
- Local weather 5-day forecast
- Humidity control for enhanced comfort
- Dual fuel system management capable
- Auto changeover between heating and cooling
- Four levels of "constant ON" fan speeds
- 7-day programming with temperature control throughout the day and week (wake, away, home, sleep)
- Advanced smart setback for optimal energy savings during "away" and ramp up periods
- One-button Touch-N-Go® quick-settings-change feature
- Simple vacation programming controls temperature and humidity
- System maintenance reminders
- 10-Year No Hassle Replacement™ Limited Warranty
- 10-year parts limited warranty



Part No.	Description	Use with
SYST0101CW*	Ion™ System Control, touch-screen, wifi, 7 day programmable. 4.7" H x 5.6" W x 1.1" D	Arcoaire Communicating Equipment



C7089U1006

REMOTE SENSOR

Use with VisionPRO™, regular and IAQ thermostats

Honeywell Home

Part No.	Description
C7089U1006	Remote Outdoor Sensor
C7189U1005	Premier White® Remote Indoor Sensor



C7089R1013

TEMPERATURE AND HUMIDITY SENSOR

Honeywell Home

Part No.	Description
C7089R1013	Outdoor Temperature and Humidity Sensor for RedLINK™ enabled thermostats and accessories
C7189R1004	Wireless Indoor Temperature and Humidity Sensor for RedLINK™ enabled thermostats and accessories



REM5000R1001

PORTABLE COMFORT CONTROL

- No interference with other wireless devices in the home
- Can display outdoor temperature and humidity
- Built-in pager with an audible noise helps locate the device in the home

- Screen-lock feature helps prevent accidental changes
- View and adjust all RedLINK™ enabled thermostats from a single control.
- Controls up to 16 thermostats

Honeywell Home

Part No.	Description
REM5000R1001	Personal Comfort Station™. Works with compatible RedLINK™ enabled thermostats and accessories.



YTHM5421R1010

PRESTIGE® 2-WIRE IAQ EQUIPMENT INTERFACE MODULE KIT WITH 2 DUCT SENSORS

Honeywell Home

Part No.	Description
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.



YTH8321R1002

VISIONPRO® 8000

- RedLINK™ wireless communication.
- Selectable for residential and light commercial applications. Meets commercial code and is title 24 compliant.
- Light commercial - commercial

- language (occupied and unoccupied), schedule holidays and custom events, remote setback, economizer and time of day.
- Remote Setback requires the THM5421R1021 Equipment Interface Module.
- Plain language setup, no manual needed.
- 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.
- MicroSD port for copying the Installer Setup, Customizable Reminders, Custom Events and Holidays to multiple thermostats.
- MicroSD port for adding the dealer's contact information on the screen.
- 1 assignable output on the TH8321 model to control humidification, dehumidification, ventilation or a stage of heating/cooling.
- 1 assignable input can be used with a wired outdoor, indoor or discharge sensor.
- Extend wireless range of the Equipment Interface Module by connecting a THM4000R1000 Wireless Adapter to the ABCD terminals.
- Dual powered - battery or hardwired (C wire).
- Precise temperature control ($\pm 1^\circ\text{F}$) for reliable and consistent temperature.
- Multiple staging options to provide comfort or energy savings.

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
YTH8321R1002	3	2	H/O/C/A/EM	A/O/CIRC



YERM5220R8321

REDLINK EQUIPMENT REMOTE MODULE AND VISIONPRO THERMOSTAT

The Honeywell ERM is like a new cordless tool in your toolbox. Pull it out whenever it's too costly or time-consuming to run wires from a condensing unit or boiler to control devices. There are fewer holes to drill and wires to run. Just faster, easier installation that gives you more profit per job. Make the Honeywell ERM your go-to choice for fast, easy equipment installation.

- Wireless RedLink™ communication between condensing unit/compressor or boiler and thermostat.
- Eliminates the need to run additional wires to your equipment, for example, during a heat pump upgrade.
- Suitable for outdoor use.
- Temperature sensor terminals for outdoor temp sensors or indoor freeze protection.
- LEDs for easy installation checkout.
- May reduce damage to homes since wiring/drilling is eliminated.

Honeywell Home

Part No.	Stages	
	Heat	Cool
YERM5220R8321	2	2



F1451328

REMOTE SENSOR

- Digital output provides superior temperature control
- No temperature variance caused by wire resistance
- Operating range
Indoor: 40 to 99°F
Outdoor: -40 to 140°F

- Maximum wire distance: 300'
- Dimensions: 2 1/8"W x 3 1/2"L x 3/4"D

EMERSON

Part No.	Description
F1451328	Indoor sensor for series 90 W/R digital thermostats
F1451378	Outdoor sensor, 12' lead, for series 90 W/R digital thermostats



F145RF1600

WIRELESS SENSOR

- One remote sensor is configurable for indoor or outdoor use.
- Perfect for securing the interface in one area or room while sensing temperature in the conditioned space.

- Up to 3 indoor and 1 outdoor wireless remote sensors can be used on one 1F98EZ-1621 wireless thermostat system

EMERSON

Part No.	Description
F145RF1600	Wireless remote sensor for use with 1F98EZ1621

⚠️ *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

DIGITAL, PROGRAMMABLE



TH2110U4004

P200 FOCUSPRO PROGRAMMABLE THERMOSTAT

The Honeywell Home FocusPRO® P200 is designed for pro ease-of-use and profitability. It reduces job complexities and time on-site while supporting recurring business thanks to its broad system compatibility, UWP® wall plate,

large display and clear font, snap-on private label, and competitive price

- Supports single-stage 1H/1C for TH2110U4004/U or up to 3H/2C heat pump and 2H/2C conventional for TH2320U4006/U
- UWP® wall plate supports speedy installation and easy upgrade
- Private label with customized snap-on accent piece
- Flexible scheduling in 5-1-1 day, 5-2 day, 7 day, or 1 week increments, or turn scheduling off
- Large display with clear font
- Optional always-on backlight when hardwired
- Customizable display settings
- Intuitive interface for easy navigation
- Choose to receive filter reminders
- Heat low limit defaults to 40°F (4°C) but configurable to 32°F (0°C) for garage applications
- Fan lockout after cool call option

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH2110U4004	1	1	H/O/C/A	A/O
TH2320U4006	3 HP, 2 Conv.	2	H/O/C/A	A/O



TH2320WF4010

S200 FOCUSPRO SMART THERMOSTAT

The Honeywell Home FocusPRO® S200 is ENERGY STAR®; certified and designed for pro ease-of-use and profitability. It reduces job complexities and time on-site while supporting recurring business thanks to its broad system

compatibility, UWP®; wall plate, large display and clear font, snap-on private label, and competitive price.

- Supports single-stage 1H/1C for TH2110WF4008 or up to 3H/2C heat pump and 2H/2C conventional for TH2320WF4010
- UWP® wall plate supports speedy installation and easy upgrade
- Private label with customized snap-on accent piece
- Option to configure thermostat using the Resideo Pro app without referencing an ISU table
- Flexible scheduling in 5-1-1 day, 5-2 day, 7 day, or 1 week increments, or turn scheduling off
- Geofence technology
- Demand response capable
- 2.4GHz or 5GHz WiFi connection
- Homeowners can control from anywhere using the First Alert by Resideo app
- Works with Google Assistant and Amazon Alexa
- Large, bright display with clear font
- Optional always-on backlight
- Customizable display settings
- Intuitive interface for easy navigation
- Choose to receive filter reminders
- Heat low limit defaults to 40°F (4°C) but configurable to 32°F (0°C) for garage applications
- Fan lockout after cool call option
- ENERGY STAR certified

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH2320WF4010	3 HP, 2 Conv.	2	H/O/C/A/EM.HT	A/O
TH2110WF4008	1	1	H/O/C/A	A/O



THX321WF3003W

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.

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

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

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
THX321WF3003W	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O
THX321WFS3001W ¹	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O

¹ With Remote Sensor



TH4110U2005

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.	Stages		Switching		Change-over
	Heat	Cool	System	Fan	
TH4110U2005	1	1	H/O/C/A	A/O	Auto/Manual
TH6210U2001	2 HP, 1 Conv.	1	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	Auto/Manual
TH6220U2000	1 HP, 2 Conv.	2	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	Auto/Manual
TH6320U2008	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE	Auto/Manual
TH4210U2002	2 HP, 1 Conv.	1	H/O/C/A/EM	A/O	Auto/Manual



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.
- 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	
	Heat	Cool	System	Fan
TH6220WF2006	1 HP, 2 Conv.	2	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE
TH6320WF2003	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE



*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

DIGITAL, PROGRAMMABLE



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.

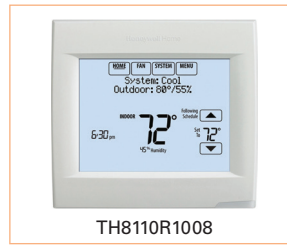
- 7-day, 5-2, 5-1-1 or non-

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: 5.44 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.	Stages		Switching		Changeover
	Heat	Cool	System	Fan	
TH6100AF2004	1, Hot Water and Steam	0	H/O	-	Heat Only



VISIONPRO™ 8000 WITH REDLINK

- 7-day programmable thermostat
- Thermostat works standalone or with the THM5421R1021 Equipment Interface
- Module or with the TrueZONE Wireless Adapter.
- Smart Schedule - programs in

seconds for any lifestyle.

- RedLINK™ wireless communication.
- Plain language setup, no manual needed.
- Alerts and User Interactions Log. Viewable on a computer after you download them from the thermostat to a microSD card.
- 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.
- MicroSD port for easy setup
- Battery and hardwire
- 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.	Stages		Switching	
	Heat	Cool	System	Fan
TH8110R1008	1	1	H/O/C/A	A/O/CIRC
TH8320R1003	3	2	H/O/C/A/EM	A/O/CIRC
TH8321R1001	3	2	H/O/C/A/EM	A/O/CIRC

*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



TH8321WF1001

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 sq in.
- Power: hardwire
- Relay for IAQ Control; no remote sensor required
- Equipment check/change reminders
- Programmable for annual energy savings

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH8321WF1001	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O/CIRC/FOLLOW SCHEDULE



TH6110D1021

FOCUSPRO™ 6000

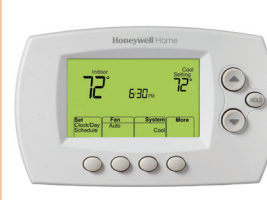
- Separately programmable weekday/weekend schedules.
- One-touch temp control overrides program schedule at any time.
- EnergyStar® compliant to greatly reduce your heating/cooling

expenses.

- 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 or hardwire
- Display: 5.09 sq. in.
- Premier White® finish

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH6110D1021	1	1	H/O/C/A	A/O
TH6220D1028	2	2	H/O/C/A/EM	A/O



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
- Separately programmable weekday/weekend schedules.
- One-touch temp control overrides program schedule at any time.
- 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® finish
- Use with: HZ432 or HZ322 and THM4000R1000, or THM5320R1000

Honeywell Home

Part No.	Stages		Switching		Changeover
	Heat	Cool	System	Fan	
TH6320R1004	3	2	H/O/C/A/EM	A/O	Auto or Manual



TH2110DV1008

PRO2000 SERIES, BUILDER

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

Honeywell Home

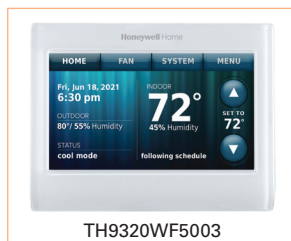
Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH2110DV1008	1	1	C/O/H	A/O
TH2210DV1006	2	1	C/O/H/EM..HT	A/O



*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

DIGITAL, PROGRAMMABLE



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.

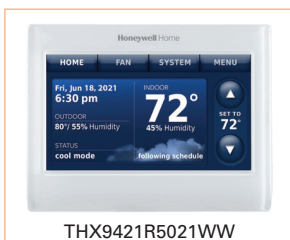
- Connect to home's existing Wi-Fi

network

- Automatic software updates through Wi-Fi
- Selectable to 7 Day or Non-Programmable
- Customize the screen color to match any decor
- Hardwire
- Premier White® finish
- 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

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TH9320WF5003	3 HP, 2 Conv.	2	H/O/C/A/EM	A/O/C



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 TrueZONE® zoning panel with Wireless Adapter.

- Configurable for residential and light commercial applications. Meets commercial code and is title 24 compliant.

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
THX9421R5021WW	4 HP, 3 Conv.	2	H/O/C/A/EM	A/O/CIRC



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.

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
YTHX9421R5085WW	4 HP, 3 Conv.	2	H/C/A/O/EM	A/O/CIRC/FOLLOW SCHEDULE
YTHX9421R5101WW	4 HP, 3 Conv.	2	H/C/A/O/EM.HT	A/O/CIRC/FOLLOW SCHEDULE
YTHX9421R5127WW	4 HP, 3 Conv.	2	H/C/A/O/EM.HT	A/O/CIRC/FOLLOW SCHEDULE

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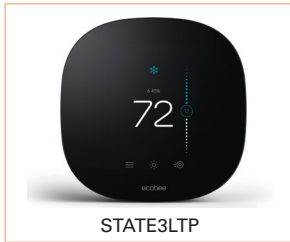
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Replacement Parts & Supersedes
 Ensure compatibility and efficiency with the most up-to-date components.

**SMARTTHERMOSTAT PRO**

- Works with gas, oil, electric, boiler (2-stage heating), dual fuel systems. Supports conventional (2H/2C) and heat pump (4H/2C) systems
- Customers control their ecobee3 lite from anywhere with an iOS or

android device

- Keeps energy use low when no is home, making way for savings where it counts
- Monitors heating and cooling systems and alerts customers if it senses something is wrong
- Pairs with Room Sensors™ to help with hot or cold spots throughout the home (sold separately)
- Designed for quick and easy installation, everything you need is in the box (ecobee3 lite Thermostat, install guide, backplate, trim plate, screws, dry wall plugs, wire labels, power extender kit)
- 3.5" full color touch screen LCD
- 5 year warranty with professional installation

ecobee

Part No.	Stages		Program
	Heat	Cool	
STATE3LTP	4 HP, 2 Conv.	2	Universal

**SMARTTHERMOSTAT PRO WITH VOICE CONTROL**

- Comes with a Power Extender Kit so it doesn't rely on other equipment to charge itself
- Includes a SmartSensor to keep important rooms comfortable by adjusting your thermostat based on occupancy and temperature

- Reduces energy use and helps homeowners save up to 23% on heating and cooling costs
- Works with gas, oil, electric, and dual fuel systems. Supports conventional (2H/2C) and heat pump (4H/2C) systems; ventilator, humidifier, dehumidifier, HRV, or ERV accessories

ecobee

Part No.	Stages	
	Heat	Cool
STATE6P	4 HP, 2 Conv.	2
STATE6LP	3 HP, 2 Conv.	2



RSHM2PK

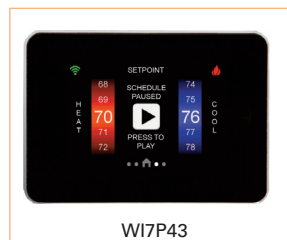
SMARTSENSOR

The fully redesigned SmartSensor unlocks and amplifies the full power of your ecobee thermostat for enhanced comfort when you're home and savings when you're away. Now with

better range and accuracy, your two remote thermostat sensors will detect occupancy and set the temperature for comfort in the rooms that matter most, at the right time.

ecobee

Part No.	Description
RSHM2PK	Remote Sensor 2-pack with Detachable Stand



WI7P43

WI7 WI-FI®

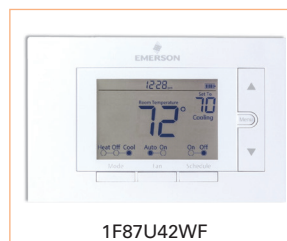
Comfort control from across the room or around the world

- 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

Arcoaire®
Air Conditioning & Heating

Part No.	Stages		Program	Power
	Heat	Cool		
WI7P43	4	3	Universal	N/A



1F87U42WF

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

- 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

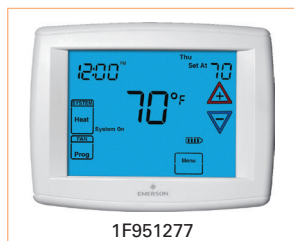
EMERSON

Part No.	Stages		Program	Switching	
	Heat	Cool		System	Fan
1F87U42WF	4 HP, 2 Conv.	2	Universal	A/C/EM.HT	A/O



*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

DIGITAL, PROGRAMMABLE



BIG BLUE™ TOUCHSCREEN, SERIES 90

Simple and logical installer menu set-up, programming and operation is enhanced by audio prompting that confirms touchscreen entries. Features like variable touchscreen security to prevent tampering, temporary and vacation overrides, and filter change reminders add convenience.

EMERSON

Part No.	Stages		Program	Switching	
	Heat	Cool		System	Fan
1F951277	3	2	Universal	A/C/EM.HT	A/O
1F971277	1	1	Universal	A/C/EM.HT	A/O
1F951280 ¹	4	2	Universal	A/C/EM.HT	A/O
1F951291 ²	4	2	Universal	A/C/EM.HT	A/O

¹ or by logic program ² Enables remote sensor, programmable fan, enhanced dehumidification fan speed control



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
- Keypad lockout and adjustable

heat/cool temperature limits

- Automatic heat/cool changeover option on universal models
- Built in dual fuel logic program eliminates the need for an outdoor sensor
- Permanent program retention during power loss

EMERSON

Part No.	Stages		Program	Switching	
	Heat	Cool		System	Fan
1F83H21PR	2	1	5+1+1, 5+2, None	H/O/C	A/O
1F85U22PR	1 HP, 2 Conv.	2	5+1+1, 5+2, None	H/O/C	A/O
1F85U42PR	4 HP, 2 Conv.	2	5+1+1, 5+2, None	A/C/H/O	A/O



BLUE™ 6", EASY READER

- 6-square-inch Blue™ display with easy-to-read without glasses characters
- Blue lighted display for easier low-light viewing
- 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%
- Meets ENERGY STAR® specifications
- Patented pre-programmed schedule simplifies time and temperature programming
- Temporary temperature override two-hour minimum or until next program period
- Selectable energy management recovery

EMERSON

Part No.	Stages		Program	Switching	
	Heat	Cool		System	Fan
1F95EZ0671	4	2	Non-Programmable or 5+1+1 or 7	A/C/EM.HT	A/O



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

EMERSON

Part No.	Stages		Program	Switching	
	Heat	Cool		System	Fan
1F83C11PR	1	1	5+1+1, 5+2, None	C/H	A/O



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	
	Heat	Cool		System	Fan
1F80361	1	1	5 + 1 + 1 Day	H/O/C	A/O



1E78151

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.	Stages		Switching	
	Heat	Cool	System	Fan
1E78151	1	1	C/H/O	A/O
1F78151	1	1	H/O/C	A/O



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
	Heat	Cool	
1F82261	2	1	5+1+1



THM4000R1000

WIRELESS ADAPTER

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

Honeywell Home

Part No.	Use with	Description
THM4000R1000 ¹	Wireless Outdoor Sensor, RedLINK® enabled TrueSTEAM™ Humidification System, Dehumidification System	Wireless Adapter allows you to easily add RedLINK™ enabled thermostats to a TrueZONE™ system without running new wires.

¹ One adapter per zone control panel, HZ322 or HZ432 TrueZONE™ panel



YTH6320R1001

WIRELESS THERMOSTAT KIT

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

- Powered by RedLINK™ reliability
- No interference with other wireless devices in the home
- Choose from programmable or non-programmable kits

Honeywell Home

Part No.	Stages		Switching		Temperature (°F)
	Heat	Cool	System	Fan	
YTH6320R1001 ¹	3	2	H/O/C/A/EM.HT	A/O	40-99
YTH5320R1000 ²	3	2	H/O/C/A/EM.HT	A/O	40-99

¹ Programmable ² Non-Programmable



YTH6320R1023

WIRELESS ZONING ADAPTER KIT

Honeywell Home

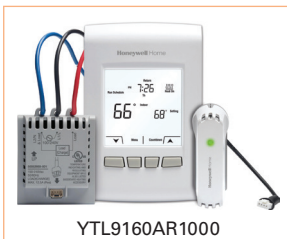
Part No.	Stages		Switching		Temperature (°F)
	Heat	Cool	System	Fan	
YTH6320R1023 ¹	3	2	H/O/C/A/EM.HT	A/O	40-99
YTH5320R1025 ²	3	2	H/O/C/A/EM.HT	A/O	40-99

¹ Programmable ² Non-Programmable

*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

ZONE CONTROL



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.	Description
YTL9160AR1000	Wireless EConnect 7-Day / 5-2 Programmable Thermostat and Electrical Heat Equipment Interface Module
TLM1110R1000	Electrical Heat Equipment Interface Module, Wi-Fi, Programmable Thermostat



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.	Includes	Description
C7835A1009	Sensor, Screw (2)	3 Wire, Indicator Lights
C7735A1000	Mounting hardware	2 Wire

DIGITAL, PROGRAMMABLE, COMMERCIAL



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

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

- Large 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® finish

Honeywell Home

Part No.	Stages		Switching	
	Heat	Cool	System	Fan
TB7100A1000	2	1	H/O/C/A	A/O, H/M/L



ELECTRONIC SENSOR, T7300 SERIES

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

- Taupe

finish

Honeywell

Part No.	Description
T7047C2007	For series 70, 1,420 W 75cF, taupe finish



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

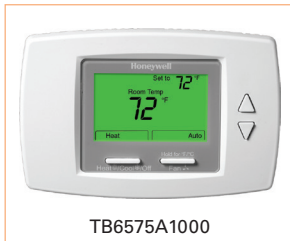
- Limited temperature range
- For 24 VAC or Millivolt Systems
- Large, 6-square-inch display with backlight

EMERSON

Part No.	Stages		Switching		
	Heat	Cool	Program	System	Fan
1F950680	4	2	7, 5+1+1, None	A/C/EM.HT	A/O

⚠️ *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

FAN COIL, LINE VOLTAGE



SUITEPRO

- 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 mode -- external energy savings input from dry contact such as time switch, occupancy sensor, or hotel cardkey overrides comfort setpoint with selectable setback heating or cooling setpoints.
- Energy savings input configurable as a normally open or normally closed dry contact.
- Proportional plus integral (P+I) control algorithm for precision temperature regulation.†

Honeywell

Part No.	Voltage	System Switching	Fan Switching
TB6575A1000	120/240	O/H/C/A	H/M/L/A/O
TB8575A1000	24	O/H/C/A	H/M/L/A/O



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

Part No.	Switch	Temperature (°F)
T651A3018	SPDT	44-86

LINE VOLTAGE



LINEVOLTPRO 7000, NON-PROGRAMMABLE

Honeywell Home

Part No.	Contact Rating (Amps)	Switch	Temperature (°F)
TL7235A1003	15	DPST	32-122



LINEVOLTPRO 8000, 7 DAY PROGRAMMABLE

Voltage: 208-240

Honeywell Home

Part No.	Contact Rating (Amps)	Switch	Temperature (°F)
TL8230A1003	15	DPST	40-86



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.	Contact Rating (Amps)	Switch	Temperature (°F)	Description
T498B1512	22A resistive 240 Vac	DPST, Open Rise	40-80	Thermostat, line voltage, electric heat, electromechanical, DPST, open rise, 22 amps resistive 240 vac, positive off
T498B1553 ¹	22A resistive 240 Vac	DPST, Open Rise	40-80	Thermostat, line voltage, electric heat, electromechanical, DPST, open rise, 22 amps resistive 240 vac

¹ Positive off



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.	Contact Rating (Amps)	Description
TL8100A1008	5 (Resistive), 2 (Inductive) 240 VAC	Thermostat, line voltage (208-240 Vac), 7-day programmable, heat only, 5 (Resistive), 2 (Inductive) 240 VAC



*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

GENERAL PURPOSE, LINE VOLTAGE



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 and leverage provides

close temperature control. Temperature range is 40 to 90°F.



Part No.	Switch	Description
T26S18*	SPDT, Heating & Cooling	Thermostat, line voltage, general purpose, heat/cool, SPDT



HEAT/COOL

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



Part No.	Temperature (°F)	Differential	Switch
1791	55-95	3°F, Fixed	SPDT
1529	55-85	2°F, Fixed	Open on Rise (Heating)

PROPORTIONAL

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

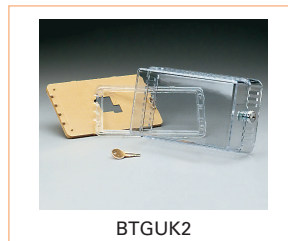
heating and cooling

- Provides night setback terminal for energy savings



Part No.	Temperature (°F)	Description
TB6980A1007	50-95	Stages: 1 Floating
TB6980B1006	50-95	Stages: 1 Analog or Triac / 1 Triac
TB7980A1006	50-95	Stages: 1 Analog
TB7980B1005	50-95	Stages: 1 Analog / 1 Analog or Triac / 1 Triac

GUARD



U SERIES

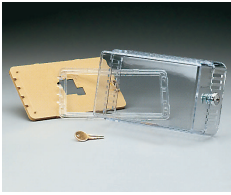
Specifications:

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.	Dimensions (In.)		Description
	W	L	
BTGUK2	6.70	10.60	Clear Plastic Guard with Solid and Ringed Bases
BTGUM	6.00	3.75	Metal Guard and Solid Base
BTGUWM	5.90	8.60	Metal Guard and Ring Base



BTGK

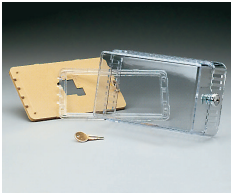
K SERIES**Specifications:**

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.	Dimensions (In.)		Description
	W	L	
BTGK	6.20	7.20	Clear Plastic Guard with Solid & Ringed Bases



BTGRK

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.	Dimensions (In.)		Description
	W	L	
BTGRK	5.10	8.60	Clear Plastic Guard with Solid & Ringed Bases
BTGRWM	5.20	8.50	Metal Guard with Ring Base



BTG54VL

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.	Dimensions (In.)		Description
	W	L	
BTG54VL	6.80	7.60	Metal Hinged Guard with Solid Base



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.	Dimensions (In.)		Description
	W	L	
BTG54VLW	6.80	7.60	Metal Hinged Guard with Ring Base



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
	W	D	L		
TG511A1000	7.00	2 15/16	7.90	Clear	TH3000 Series, TH4000 Series, TH5000 Series, TH6000 Series, TH8000 Series, Others thermostats of similar size
TG512A1009	3.40	3 3/8	7.10	Clear	TH5000 Series, TH6000 Series, TH8000 Series, Others Thermostats of Similar Size



F336

REPLACEMENT KEY

- For BTG Guards



Part No.	Dimensions (In.)		Description
	W	L	
F336	1.00	2.00	Universal Key



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Ensure compatibility and efficiency with the most up-to-date components.

*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

WIDE RANGE, ADJUSTABLE DIFFERENTIAL

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



A19ABA40

WIDE RANGE, ADJUSTABLE DIFFERENTIAL



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



A19AAF12

FIXED DIFFERENTIAL



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



A19AAD5

CLOSE DIFFERENTIAL



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

¹ Bulk Milk Cooler

 *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



A19ACA14

MANUAL RESET



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

¹ Direct immersion



T4031A1073

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)
T4031A1073	SPST, Close Rise	-30 to 90	3.5 to 12	8'	5.1
T6031A1011	SPDT	15 to 90	3.5 to 16	5'	5.1
T6031A1029	SPDT	-30 to 90	3.5 to 16	8'	5.1
T6031A1060	SPDT	-30 to 90	3.5 to 16	20'	5.1
T6031C1009	SPDT	40 to 180	2°F, Fixed	5.5'	5.1
T6031D1049	SPDT	30 to 270	7°F, Fixed	5.5'	5.1



060100

WIDE RANGE

Wide range temperature controls.

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

RANCO

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



060L5201

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)
060L5201*	SPDT	-20 to 60	2.5 to 40°F	None	80"	250	24
060L5206*	SPDT	-20 to 60	2.5 to 40°F	1 1/2 x 1 1/4	None	250	24
060L5215*	SPDT	25 to 95	3 to 45°F	1 1/2 x 1 1/4	None	250	24
060L5208*	SPDT	-15 to 60	5 to 50°F	3/8 x 3 3/8	80"	175	24
060L5218	SPDT	25 to 70	4 to 18°F	3/8 x 4 1/2	80"	175	24



A19ANC1

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)
A19ANC1*	SPDT	0 to 150	6, Fixed	0.290 x 2 1/2	10'	190	8



A72AE1

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)
A72AE1*	DPST, Close High	24 to 90	4 to 25°F	3/8 x 6 3/4	6'	170	24



A28AA29

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)
A28AA29*	2-SPDT	-30 to 110	5, Fixed	2 to 7	3/8 x 4	140	8'	8
A28AA36C*	2-SPDT	40 to 90	3, Fixed	2 to 7	3/8 x 4	140	6'	8



*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



WEL11A601R

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	
	A	B	C		Connector	Tube
WEL11A601R*	2 3/8	2 5/16	.299	1/2	Brass	Copper
WEL14A602R*	4 15/16	1 13/16	.430	1/2	Brass	Copper
WEL14A603R*	5 13/16	1 13/16	.430	1/2	Brass	Copper



121371A

BULB WELL

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

resideo

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



107408

HEAT CONDUCTIVE COMPOUND

For efficient bulb/well heat transfer to aid accurate sensing

Honeywell

Part No.	Container Size
107408	4 Oz.



T675A1102

SINGLE STAGE, GENERAL PURPOSE

Honeywell

Part No.	Switch	Temperature (°F)	Differential (°F)	Bulb (In.)	Capillary Length	Fast Response	FLA (@ 240 V)
T675A1102	SPDT	160 to 260	3 to 10°F	1/2 x 4 3/16	20'	No	5.1
T675A1136	SPDT	0 to 100	1°F, Fixed	1/2 x 4 3/16	20'	No	5.1
T675A1425	SPDT	55 to 175	3.6 to 12°F	1/2 x 3 9/16	20'	No	5.1
T675A1508	SPDT	0 to 100	3 to 10°F	1/2 x 4 3/16	5'	No	5.1
T675A1524	SPDT	55 to 175	1°F, Fixed	1/2 x 3 9/16	20'	No	5.1
T675A1532	SPDT	160 to 260	3 to 10°F	1/2 x 4 3/16	5'	No	5.1
T675A1540	SPDT	55 to 175	3.6 to 12°F	1/2 x 3 9/16	5'	No	5.1
T675A1565	SPDT	0 to 100	3 to 10°F	1/2 x 4 3/16	20'	No	5.1
T675B1002	SPST, Open Fall	30 to 50	Manual	1/2 x 4 3/16	10'	No	5.1



T678A1015

TWO STAGE, GENERAL PURPOSE

Honeywell

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



T678C1005

CHANGEOVER

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

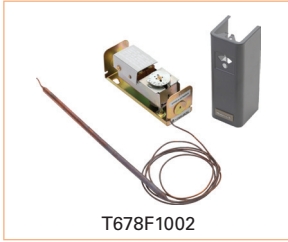
- Bulb size: 3/8" x 3"

Honeywell

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

TEMPERATURE

REMOTE BULB



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)
T678F1002	2-SPDT	55 to 85	2°F	2.5	5/16" x 11 11/16"	5.5'	5.1



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)
160990	SPST, close rise	-20 to 50	3 to 25°F	3/8 x 5 1/4	8'	3.7
1609101	SPST, close rise	-30 to 90	3.5 to 40°F	3/8 x 5 1/4	5'	8
1609103	SPST, close rise	-30 to 90	3.5 to 40°F	3/8 x 5 1/4	10'	8
1609104	SPST, close rise	-30 to 90	3.5 to 40°F	3/8 x 5 1/4	20'	8
1609105	SPST, close rise	-30 to 90	3.5 to 40°F	3/8 x 5 1/4	5'	8
16879 ¹	SPDT, close rise	-30 to 90	4.5 to 40°F	3/8 x 5 1/4	8'	3.7

¹ SPDT



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)
160994	SPST, close rise	35 to 57	3 to 20°F	3/8 x 6 3/4	6'	8



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 bath with ice bank reserve capacity.



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



0101010

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)
0101010	SPST, Open Low	0 to 55	7 to 55°F	4'	24
0101072	SPST, Open Low	-15 to 40	3 to 20°F	Air Coil	24
0101408	SPST, Open Low	-15 to 40	3 to 20°F	6', w/Bulb	24
0101409	SPST, Open Low	0 to 55	3 to 20°F	6', w/Bulb	24
0101410	SPST, Open Low	25 to 75	3 to 20°F	6', w/Bulb	24
0101416	SPST, Open Low	0 to 55	3 to 20°F	6'	24
0101418	SPST, Open Low	0 to 55	3 to 20°F	Air Coil	24
0101419	SPST, Open Low	-35 to 15	3 to 20°F	6'	24
0101433*	SPST, Open Low	-35 to 15	3 to 20°F	6', w/Bulb	24
0101473	SPST, Open Low	0 to 55	7 to 55°F	6', w/Bulb	24
0101491	SPST, Open Low	25 to 75	2°F, Fixed	6', w/Bulb	24
0101802	SPST, Open Low	25 to 75	3 to 20°F	Air Coil	24
016104	SPDT	0 to 55	3 to 20°F	6', w/Bulb	24
016111*	SPDT	0 to 55	3 to 20°F	6'	24
016601	SPDT	22.5 to 47.5	1.5°F, Fixed	3', Cross Ambient Bulb	24
0207041	DPST, Open Low	0 to 100	6 to 20°F	8', Cross Ambient	24

SPACE

A19BAC1

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)
A19BAC1*	SPDT	30 to 110	3 1/2, Fixed	1 3/8 x 2 1/4 Coiled	140	8
A19BBC2*	SPDT	-30 to 100	3 to 12°F	1 3/8 x 2 1/4 Coiled	140	8

*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



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

Honeywell

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



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

Johnson Controls

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



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

Johnson Controls

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



FARM-STAT

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

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

- Treated to resist corrosion

Honeywell

Part No.	Switch	Temperature (°F)	Differential
T631A1006	SPDT	35 to 100	2°F
T631A1022	SPDT	70 to 140	2°F
T631A1030	SPDT	0 to 70	3°F
T631B1005	2-SPDT	35 to 100	2°F
T631C1012	SPDT, 5.1A	20 to 90	3°F
T631C1103	SPDT, 5.1A	-30 to 100	5°F



T631F1068

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
T631F1068	SPDT	35 to 100	2°F



A28AA4

2 STAGE, COILED BULB

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

Johnson Controls

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

DEFROST TERMINATION, FAN DELAY

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

RANCO

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

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

Johnson Controls

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

*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



A70GA1

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.
- 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)	
	Main	Auxiliary						Main	Auxiliary
A70GA1* ¹	Open Low	Close Low	15 to 55	5, Fixed	1/8 O.D. Tubing	20'	400	8	3
A70GA2C*	Open Low	Close Low	35 to 80	3 to 30°F	3/8 x 3	6'	250	8	3
A70HA1* ¹	Open Low	Close Low	15 to 55	Manual Reset	1/8 O.D. Tubing	20'	400	8	3
A70HA2*	Open Low	Close Low	35 to 80	Manual Reset	3/8 x 3	6'	250	8	3
A70KA1*	Open High	Close High	100 to 170	Manual Reset	3/8 x 10	6'	240	8	3

¹ 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.



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)
16A609	SPST, open fall	3/8 x 5 1/2	10'	-20 to 50	Manual Reset	7.0 F.L. Amp 240 Vac

ELECTRONIC



TR29

WALL MOUNTED REMOTE BULB ENCLOSURE

- The TR29 is a wall mount enclosure only and can be used to wall-mount any 1/4" or 3/8" diameter probe sensor.
- Sensor can be mounted inside of the enclosure or directly to the wall or duct using the mounting clips supplied with the unit.
 - Enclosure has the same look and feel of our TR21 wall module.

Honeywell

Part No.	Description
TR29	Wall mounted remote bulb enclosure



XIOCIMS

NOVAR

Honeywell Home

Part No.	Description
RCCST2K8TJ	Novar Sensor/Cable Assembly
XI08DOBH	Novar 8 Relay Output with HOA
XI08UB	Novar BACnet 8 Universal Inputs/Analog Output
XI0RIMS	Novar Spectrum XIO Enhanced with Rack Input
XCMLCDC	Novar XCM Override Panel, LCD Screen
732203000	Novar FTS-1 Zone Temperature Sensor 20'-120'
733093500	Novar Transducer and Cable Kit, 0-400 PSI
UCMB3336	Novar UCM-BACnet RTU Controller
RCC1081	Novar BACnet Refrigeration Case/Superheat Controller
XI08DOB	Novar 8 Relay Output, BACnet
XI08IMS	Novar Spectrum XIO Enhanced with 8 Input
XI0CCMSH	Novar Spectrum XIO Enhanced with CCM
XI0ROMS	Novar Spectrum XIO Enhanced with ROM
XI04U4DOB	Novar 4 Input/Output Combination Module
XIOCIMS	Spectrum XIO Enhanced with Case, Input Module CIM
712006000	Novar Remote Sensor



A421ABC02C

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
- 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	Temperature (°F)	Length (In.)	Enclosure	Voltage	Operating Ambient (°F)	Lead Length	FLA (@ 240 V)
A421ABC02C	Line Voltage	-40 to 212	2.38	NEMA 1	120, 208/240	-40 to 150	79 1/5"	8 FL. Amp 240V
A421ABC03C*	Line Voltage	-40 to 212	1.00	NEMA 1	120, 208/240	-40 to 150	118 4/5"	8 FL. Amp 240V
A421AEC01C	Line Voltage	-40 to 212	1.00	NEMA 4X	120, 208/240	-40 to 140	9 7/8"	8 FL. Amp 240V
A421AEC02C*	Line Voltage	-40 to 212	1.00	NEMA 4X	120, 208/240	-40 to 140	79 1/5"	8 FL. Amp 240V
A421AED02C*	Line Voltage with Off-Cycle Defrost Timer	-40 to 212	1.00	NEMA 4X	120, 208/240	-40 to 140	78"	8 FL. Amp 240V
A421GBF02C	Low Voltage	-40 to 212	1.00	NEMA 1	24	-40 to 150	79 1/5"	-
A421GEF01C*	Low Voltage	-40 to 212	1.00	NEMA 4X	24	-40 to 140	9 7/8"	-
A421ABJ02C*	Line Voltage, with Single Power Cord and Piggyback Plug	-40 to 212	1.00	NEMA 1	120	-40 to 150	79 1/5"	12 120
A421ABD02C	Line Voltage with Off-Cycle Defrost Timer	-40 to 212	2.38	NEMA 1	120, 208/240	-40 to 150	79 1/5"	8 FL. Amp 240V



*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



A99BB25C

PTC SENSOR, A99B SERIES

- Passive PTC silicon sensor (1035 Ω 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.)
A99BB25C*	PVC Cable	-40 to 212	9.75
A99BB200C*	PVC Cable	-40 to 212	6.00
A99BB300C*	PVC Cable	-40 to 212	4.50
A99BC25C*	HiTemp Silicon Cable	-40 to 248	4.50
A99BC100C*	HiTemp Silicon Cable	-40 to 248	18.75
A99BC300*	HiTemp Silicon Cable	-40 to 248	1.00



ETC111000

REMOTE SENSOR, ETC SERIES

The Ranco® ETC Series Electronic Temperature Control offers a full-featured electronic replacement for electrical-mechanical temperature controls used in many commercial refrigeration applications. With its

wide temperature range, one and two stage capability, selectable heating/cooling modes and multi-voltage input, the ETC is designed to provide application flexibility. Models available include 120/208/240V AC and 24V AC.

- Anti-short cycle compressor delay for cooling applications
- Wide temperature range (-30°F to 220°F) (-34.4°C to 104.4°C)
- Wide differential adjustment (1°F to 30°F) (-17°C to -1°C)
- LCD read-out for sensor temperature, control settings, and relay status

- High Amp output relay (FLA 16 Amps @ 120V AC and 8 Amps @ 208/240V AC) single stage
- EEPROM memory retains control settings during power outages
- Keypad lockout to prevent end-user alteration of settings
- 8 foot lead with sensor is extendable up to 400 feet using 18 or 22-gauge thermostat wire
- Easy 4-step set-up
- Heavy-duty relay is 1 HP rated
- Selectable °F or °C heating/cooling modes
- Single and two stage models
- NEMA 1 case and cover
- NEMA 4X models available
- White backlight on display
- Sensor rated IP67 for dust and water (<1m) resistance



Part No.	Input Voltage	Stages	Enclosure	Length (In.)
ETC111000	120/240	1	NEMA1	9.00
ETC122000	24	1	NEMA 1	8.90
ETC141000	120/240	1	Watertight, NEMA4	5.90
ETC211000	120/240	2	NEMA1	9.00
ETC212000	24	2	NEMA1	9.00
ETC241000	120/240	2	Watertight, NEMA4	0.00



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.	Stages	Enclosure
16E09101	1	NEMA 1

*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



T775SENSOAT

ENCAPSULATED TEMPERATURE SENSOR

Use with T775 series.

- Sensors are 1097? at 77°F PTC

Honeywell

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



T775S2008

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 (°F)	Enclosure	Comments
		Relay	Analog	Floating			
T775S2008	-	4	-	-		NEMA 1	Relay Expansion Module only, use with T775L, T775P
T775A2009	1	1	-	-	-60 to 270	NEMA 1	Standard
T775B2016	2	2	-	1	-60 to 270	NEMA 4X	Standard, Floating
T775B2024	2	4	-	2	-60 to 270	NEMA 4X	Standard, Floating
T775B2032	2	2	-	1	-60 to 270	NEMA 1	Standard, Floating
T775B2040	2	4	-	2	-60 to 270	NEMA 1	Standard, Floating
T775M2006	2	-	2	-	-60 to 270	NEMA 1	Modulating
T775M2014	2	4	2	-	-60 to 270	NEMA 4X	Modulating
T775M2022	2	2	2	-	-60 to 270	NEMA 4X	Modulating
T775M2030	2	4	2	-	-60 to 270	NEMA 1	Modulating
T775M2048	2	2	2	-	-60 to 270	NEMA 1	Modulating
T775R2001	2	4	-	2	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included
T775R2019	2	4	2	-	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included
T775R2027	2	2	2	-	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included
T775R2035	2	2	-	1	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included
T775R2043	2	-	2	-	-60 to 270	NEMA 1	Outdoor reset, 2 sensors included
T775U2006	2	2	2	-	-60 to 270	NEMA 1	Universal; Humidity, Pressure, Temperature (less sensor)
T775U2016	2	2	2	-	-60 to 270	NEMA 1	Universal; Humidity, Pressure, Temperature. Control to Sensor A (Universal Input) or Sensor B (temp) Independently.
T775L2007	2	4(2)	-	-	-60 to 270	NEMA 1	Stage Sequencer with Reset
T775P2003	3	4	-	-	-60 to 270	NEMA 1	Boiler Reset, 3 input sensors, digital alarm

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TEMPERATURE

PROPORTIONAL, REMOTE BULB



T991A1012

MODULATING

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

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

Honeywell

Part No.	Temperature (°F)	Throttling Range	Capillary Length	Bulb (In.)
T991A1012	0 to 100	3 to 30	20'	1/2 x 4 3/16
T991A1079	160 to 260	3 to 30	20'	1/2 x 4 3/16
T991A1244	55 to 175	3.5 to 36	5'	1/2 x 3 9/16
T991A1426	0 to 100	3 to 30	5'	1/2 x 4 3/16
T991A1764	0 to 100	3 to 30	24'	Averaging

APPLIANCE



A121506

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

RANCO

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



A22391

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

RANCO

Part No.	Temperature (°F)	Differential	Switch	Capillary Length
A22391	11 to 51	8°F	SPDT, No Off	66"
A22392	14 to 61.5	23.5°F	SPDT, No Off	48"
A221112	25 to 44	5°F	SPST, Open Low, No Off	72"
A30180	-4 to 41	12°F	SPST, Open Low	42"
A30181	-4 to 41	12°F	SPST, Open Low	84"
A30182	-6 to 44	17°F	SPST, Open Low	42"
A30184	-7 to 40	19°F	SPST, Open Low	42"
A30185	-15 to 36	15.5°F	SPST, Open Low	42"
A30260*	-0.5 to 32	6°F	SPST, Open Low	72"
A30261	32 to 61	6°F	SPST, Open Low	84"

Continued on next page

Part No.	Temperature (°F)	Differential	Switch	Capillary Length
A30262	3 to 43	12°F	SPST, Open Low	84"
A30263	0.5 to 47	22.5°F	SPST, Open Low	84"
A30301*	-24 to 20.5	8.5°F	SPST, Open Low, No Off	84"
A30304*	-21.5 to 19.5	15.5°F	SPST, Open Low, No Off	84"
A30308*	-30.5 to 12.5	11°F	SPST, Open Low, No Off	84"
A30310*	-24 to 23	20°F	SPST, Open Low	36"
A30311*	-22 to 24	14°F	SPST, Open Low	42"
A30313*	-20 to 21	8°F	SPST, Open Low	42"
A30314*	-21.5 to 23	8°F	SPST, Open Low	54"
A30323*	-11 to 10.5	10°F	SPST, Open Low	48"
A30543	7 to 45	12°F	SPST, Open Low	27'
A302209	35 to 48	8°F	SPST, Open Low	48"
A302210	30 to 42	8°F	SPST, Open Low	48"
A302211	-10.5 to 17.5	10°F	SPST, Open Low	48"
A303618*	17 to 45	17°F	SPST, Open Low	30"
A303725	16 to 50	19°F	SPST, Open Low	60", w/Bulb



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
A302311*	SPST	30



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
A221129	35 to 51	6°F	SPDT	48"



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
A224506	-19 to 22	8°F	SPDT	72"

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TEMPERATURE

APPLIANCE



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
K3001*	37 to 61	7°F	48"
K3002*	7 to 66	27°F	36"



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
C122001	-1 to 63	5°F	SPDT	30", w/Bulb



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
C125010	60 to 98	3°F	SPDT	36", w/Bulb
C17100	64 to 101	3.5°F	2 SPDT	26", w/Bulb



C129024

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)
C129024	4°F	36", w/Bulb	67 to 83
C179043	4°F	36", w/Bulb	68 to 86



A221114

ROOM AIR CONDITIONER

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

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

ARANGO

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

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PRESSURE

ENCAPSULATED

AUTO RESET, OPEN HIGH

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



SHP200150

AUTO RESET, OPEN HIGH



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



P100CP140C

AUTO RESET, OPEN HIGH



Part No.	Pressure (psi)	
	Open	Close
P100CP140C*	350	245
P100CP38C*	500	325
P100CP1C*	400	300
P100CP85C*	665	565
P100CP2C*	425	325



SFC150225

AUTO RESET, OPEN LOW, FAN CYCLING



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



P100AP3C

AUTO RESET, OPEN LOW, FAN CYCLING



Part No.	Pressure (psi)	
	Open	Close
P100AP3C*	150	225
P100AP4C*	170	250
P100AP332C*	300	400



SLP0520

AUTO RESET, OPEN LOW



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



SMR375

MANUAL RESET, OPEN HIGH



Part No.	Pressure (psi)		Connection Size (In.)
	Open		
SMR375*	375		1/4
SMR410*	410		1/4
SMR440	440		1/4
SMR610*	610		1/4



P100DA1

MANUAL RESET, OPEN HIGH



Part No.	Pressure (psi)		Connection Size (In.)
	Open		
P100DA1*	410		1/4
P100DA2*	475		1/4
P100DA81C* ¹	630		1/4

¹ Compatible with R410A



061F7523

AUTO RESET

- 1/4" FFL with depressor pin

ENGINEERING
TOMORROW



Part No.	Description	Pressure (psi)		Connection Size (In.)
		Open	Close	
061F7523	Open Low	10	25	1/4 FFL with Depressor Pin
061F8333	Fan Cycling	188	232	1/4 FFL with Depressor Pin
061F8492	Open High	450	348	1/4 FFL with Depressor Pin

SYSTEM 450B,,B

CONTROL MODULE

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 systems
- 4.9 F.L. Amps 240Vac



C450CBN4C

CONTROL MODULE



Part No.	Description	Length (In.)
C450CBN4C	Control Module with 1 SPDT Output Relay	2.40
C450CCN4C	Control Module with 2 SPDT Output Relays	2.40
C450CPN4C	Control Module with 1 Analog Output (4-20 mA / 0-10 VDC)	2.40
C450CQN4C*	Control Module with 2 Analog Outputs (4-20 mA / 0-10 VDC)	2.40
C450SCN4C*	System 450 Expansion Module with 2 SPDT Output Relay	2.40



C450YNN1C

POWER MODULE



Part No.	Description	Length (In.)
C450YNN1C	Provides 24 V to System 450™ Module Assembly; 120 or 240 VAC Supply Power Input Terminals	10.50

*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

SINGLE FUNCTION



P470EB1

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 HVAC/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
P470EB1*	120/208-230	SPDT
P470FB1*	24	SPDT



P29NC2

LOW PRESSURE TIME DELAY

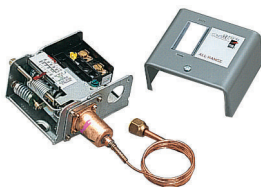
P29NC provides a low pressure cutout control with time delay and lockout, which requires manual reset. Standard time delay is 60 seconds. The control provides equipment shutdown on extended low pressure conditions. The time

delay prevents nuisance shutdowns due to momentary fluctuations 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.)
P29NC2*	SPST	20 to 100	1/4 M Flare
P29NC3*	SPST	20 to 100	1/4 F Flare; 36" Capillary



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
P70AA118*	SPST, Open Low	100 to 400	35 to 200	1/4 FFL	3'	17.0
P170AA118*	SPST, Open Low	100 to 400	35 to 200	1/4 MFL	None	17.0
P70AA2*	SPST, Open Low	0 to 150	10 to 70	1/4 FFL	3'	17.0
P70AA400C*	SPST, Open Low	100 to 470	35 to 200	1/4 FFL	3'	17.0
P70AA119* ¹	SPST, Open Low	50 to 300	20 to 100	1/4 FPT	None	17.0
P72AA27*	DPST, Open Low	100 to 400	35 to 200	1/4 FFL	3'	24.0

¹ For ammonia service. Maximum over pressure: 400 psig



P170AA2C

HIGH PRESSURE



Part No.	Switch	Pressure Range (psig)	Differential	Connection Size (In.)	Capillary Length	Contact Rating (at 240 V) 1 Phase
P170AA2C*	SPST, Open Low	0 to 150	10 to 70	1/4 MFL	None	17.0
P170AA400C*	SPST, Open Low	100 to 470	35 to 200	1/4 MFL	None	17.0
P70CA2*	SPST, Open High	50 to 500	60 to 150	1/4 MFL	None	17.0
P70CA3*	SPST, Open High	50 to 500	60 to 150	1/4 FFL	3'	17.0
P170CA3*	SPST, Open High	50 to 500	60 to 150	1/4 MFL	None	17.0
P70DA1*	SPST, Open High	50 to 500	Manual Reset	1/4 FFL	3'	17.0
P170DA1*	SPST, Open High	50 to 500	Manual Reset	1/4 MFL	None	17.0
P70DA2* ¹	SPST, Open High	50 to 500	Manual Reset	1/4 FPT	None	17.0
P170CA400C*	SPST, Open High	200 to 610	60 to 150	1/4 MFL	None	17.0
P170DA400C*	SPST, Open High	200 to 610	Manual Reset	1/4 MFL	None	17.0
P70CA400C*	SPST, Open High	200 to 610	60 to 150	1/4 MFL	3'	17.0
P70DA400C*	SPST, Open High	200 to 610	Manual Reset	1/4 MFL	3'	17.0

¹ For ammonia service



P70KA1

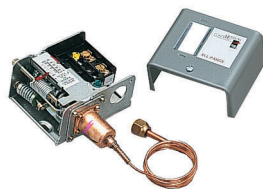
HIGH PRESSURE/ALARM CIRCUIT

Maximum over pressure: 525 psig



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

¹ L-M1 close high; L-M2 open high



P70AB12

LOW PRESSURE

Maximum over pressure: 325 psig

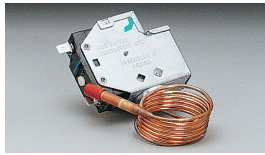


Part No.	Switch	Pressure Range (psig)	Differential	Connection Size (In.)	Capillary Length	Contact Rating (at 240 V) 1 Phase
P70AB12* ¹	SPST, Open Low	12" to 80	5 to 35	1/4 FFL	3'	17.0
P170AB12* ¹	SPST, Open Low	12" to 80	5 to 35	1/4 MFL	None	17.0
P70AB2*	SPST, Open Low	20" to 100	6 to 50	1/4 FFL	3'	17.0
P170AB2*	SPST, Open Low	20" to 100	7 to 50	1/4 MFL	None	17.0
P70CA1*	SPST, Open High	20" to 100	6 to 50	1/4 FFL	3'	17.0
P170CA1*	SPST, Open High	20" to 100	7 to 50	1/4 MFL	None	17.0
P70AA5* ²	SPST, Open Low	20" to 100	6 to 50	1/4 FPT	None	17.0
P70CA4* ²	SPST, Open High	20" to 100	6 to 50	1/4 FPT	None	17.0

¹ Micro set control ² For 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

SINGLE FUNCTION



P20BB1

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

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



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



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
016107	10" to 100	10 to 40	SPDT	None	1/4 Flare	M
016527	10" to 100	10 to 40	SPDT	3'	1/4 Flare	F
016120	12" to 50	5 to 35	SPDT	None	1/4 Flare	M
016557	12" to 50	5 to 35	SPDT	3'	1/4 Flare	F
016108 ¹	100 to 400	40 to 150	SPDT	3'	1/4 Flare	F
016570 ¹	100 to 400	40 to 150	SPDT	None	1/4 Flare	M
016142*	100 to 400	17, Fixed	SPDT	3'	1/4 Flare	F
016166	50 to 150	10 to 40	SPDT	3'	1/4 Flare	F
016624	12" to 80	4 to 38	SPST, Opens Low	3'	1/4 Flare	F
016261	10" to 100	Manual Reset	SPDT, Locks on Decrease	4'	1/4 Flare	F
016585	10" to 100	Manual Reset	SPDT, Locks on Decrease	None	1/4 Flare	M
016200	150 to 450	Manual Reset	SPDT, Locks on Increase	4'	1/4 Flare	F
016209	150 to 450	Manual Reset	SPDT, Locks on Increase	None	1/4 Flare	M

¹ Suitable for Head Pressure Fan Cycling Application



0101401

SINGLE FUNCTION



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

*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



FAN CYCLING

ARANGO

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

¹ Suitable for head pressure for cycling application.



HIGH PRESSURE

ARANGO

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



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
060-5231*	6" to 108	10 to 60 psi	SPDT	None	1/4 Flare	M
060-5233*	6" to 108	10 to 60 psi	SPDT	3'	1/4 Flare	F
060-5232*	28" to 100	10 psi fixed	SPDT	None	1/4 Flare	M
060-5234*	28" to 100	10 psi fixed	SPDT	3'	1/4 Flare	F
060-5237*	6" to 73	6 to 30 psi	SPST, open low	None	1/4 Flare	M
060-5235*	6" to 73	6 to 30 psi	SPST, open low	3'	1/4 Flare	F
060-5239*	6" to 73	6 to 30 psi	SPDT	None	1/4 Flare	M
060-5241*	100 to 465	25 to 85 psi	SPST, open low	None	1/4 Flare	M
060-5242*	100 to 465	25 to 85 psi	SPST, open low	3'	1/4 Flare	F
060-5243*	100 to 600	58 to 145 psi	SPDT	None	1/4 Flare	M
060-5244*	100 to 600	60 psi fixed	SPDT, Man Reset	None	1/4 Flare	M
060-5245*	100 to 600	58 to 145 psi	SPDT	3'	1/4 Flare	F
060-5246*	100 to 600	60 psi fixed	SPDT, Man Reset	3'	1/4 Flare	F

*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

SINGLE POLE

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



	Low Pressure	High Pressure		Reset		Connection
Part No.	Range (psig)	Range (psig)	Differential (psi)	High	Capillary Length	Size
P70LB1*	20" to 100	100 - 500 psig	7 to 50	Auto	3'	1/4 FFL
P170LB1*	20" to 100	100 - 500 psig	7 to 50	Auto	None	1/4 MFL
P70LB6* ¹	12" to 80	100 - 500 psig	5 to 35	Auto	3'	1/4 FFL
P170LB6* ¹	12" to 80	100 - 500 psig	5 to 35	Auto	None	1/4 MFL
P70MA18* ¹	12" to 80	100 - 500 psig	5 to 35	Manual	3'	1/4 FFL
P70MA1*	20" to 100	100 - 500 psig	7 to 50	Manual	3'	1/4 FFL
P170MA1*	20" to 100	100 - 500 psig	7 to 50	Manual	None	1/4 MFL
P70NA1*	20" to 100	100 - 500 psig	Manual Reset	Manual	3'	1/4 FFL
P70MA2* ²	20" to 100	100 - 500 psig	7 to 50	Manual	None	1/4 FPT

¹ Micro set control ² For ammonia service



P72MA1

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
P72MA1*	DPST	20" to 100	6 to 50	100 - 425 psig	Manual	3'	1/4 FFL

*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



0121502

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.	Switch	Low Pressure		High Pressure		Reset		Capillary Length	Connection	
		Range (psig)	Differential (psi)	Range (psig)	Differential (psi)	Low	High		Size	Gender
0121502	12 F.L. Amp 240 Vac	12" to 50	5 to 35	150 to 450	70, Fixed	Automatic	Automatic	3'	1/4 Flare	F
0121505	12 F.L. Amp 240 Vac	12" to 50	5 to 35	100 to 250	50, Fixed	Automatic	Automatic	None	1/4 Flare	M
0121506*	12 F.L. Amp 240 Vac	12" to 50	5 to 35	100 to 250	50, Fixed	Automatic	Automatic	3'	1/4 Flare	F
0121549	12 F.L. Amp 240 Vac	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Automatic	3'	1/4 Flare	F
0121550*	12 F.L. Amp 240 Vac	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Automatic	None	1/4 Flare	M
0124833*	12 F.L. Amp 240 Vac	12" to 50	5 to 35	150 to 450	70, Fixed	Automatic	Convertible	4'	1/4 Flare	F
0124834*	12 F.L. Amp 240 Vac	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Convertible	4'	1/4 Flare	F
0124846	12 F.L. Amp 240 Vac	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Convertible	None	1/4 Flare	M
0121594	12 F.L. Amp 240 Vac	10" to 100	Manual	150 to 450	Manual	Manual	Manual	3'	1/4 Flare	F
0227706	12 F.L. Amp 240 Vac	10" to 100	10 to 40	150 to 450	70, Fixed	Automatic	Convertible	3'	1/4 Flare	F



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 than 0.1 psi drift, even after 400 000 cycles



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

*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

CRITICAL CHARGE HOSE



NTPH8Y1

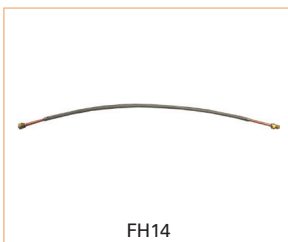
CRITICAL CHARGE HOSE KIT

- 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	
		Size (In.)	Type
NTPH8Y1*	6.00	1/4	FFL
NTPH12Y1*	6.00	1/4	FFL
NTPH8RBY1*	6.00	1/4	FFL
NTPH12RBY1*	6.00	1/4	FFL
NTPH18RBY1*	6.00	1/4	FFL

CONTROL HOSE



FH14

FLEXIBLE TUBING



Part No.	Length (In.)	Connection	
		Size (In.)	Type
FH14	14.00	1/4	MFL
FH38	14.00	3/8	MFL
FH12	14.00	1/2	MFL
FH58	14.00	5/8	MFL



NTFH18

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
- Applications:
 - Pressure Sensing Applications
 - Low and high Pressure Safety Controls
 - Oil Flow Controls
 - Oil Pressure Controls
 - Water Flow Controls
 - Refrigerant Gauges
 - Capacity Control Regulators
- Maximum temperature ratings: -40°F to 266°F



Part No.	Length (In.)	Connection	
		Size (In.)	Type
NTFH18*	1.00	1/4	FFL
NTFH24*	1.00	1/4	FFL
NTFH30*	1.00	1/4	FFL
NTFH36*	1.00	1/4	FFL
NTFH48*	1.00	1/4	FFL
NTFH60*	1.00	1/4	FFL
78760	60.00		

*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



NPCH18

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



Part No.	Length (In.)	Connection	
		Size (In.)	Type
NPCH18	11.30	1/4	FFL
NPCH24	11.00	1/4	FFL
NPCH30	11.80	1/4	FFL
NPCH36	14.00	1/4	FFL
NPCH48	14.50	1/4	FFL
NPCH60	13.50	1/4	FFL
NPCH96	1.00	1/4	FFL

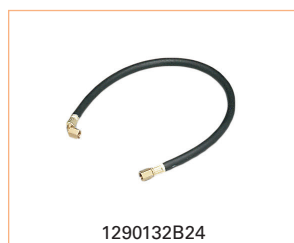


NTPH18

- 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 flare
- Oil and UV resistant, mineral, alkyl benzene, polyester, PAG



Part No.	Length (In.)	Connection	
		Size (In.)	Type
NTPH18*	1.00	1/4	FFL
NTPH24*	1.00	1/4	FFL
NTPH30*	1.00	1/4	FFL
NTPH36*	1.00	1/4	FFL
NTPH48*	1.00	1/4	FFL
NTPH60*	1.00	1/4	FFL



1290132B24

- 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 flare



Part No.	Length (In.)	Connection	
		Size (In.)	Type
1290132B24	0.00	1/4	FFL
1290132B36	0.00	1/4	FFL
1290132B48	0.00	1/4	FFL

*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

CONTROL HOSE



SEC99AA24C

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	
		Size (In.)	Type
SEC99AA24C*	0.00	1/4	FFL
SEC99AA36C*	0.00	1/4	FFL
SEC99AB18*	5.00	1/4	FFL
SEC99AB24*	5.20	1/4	FFL
SEC99AB36*	5.00	1/4	FFL
SEC99AB48*	5.00	1/4	FFL
SEC99AB60*	0.00	1/4	FFL
SEC99AD18*	5.20	1/4	FFL
SEC99AD24*	1.00	1/4	FFL
SEC99AD36*	1.00	1/4	FFL
SEC99AD48*	1.00	1/4	FFL

HEAD PRESSURE, FAN SPEED CONTROL



P266ABA100C

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
P266ABA100C*	208 - 240 Vac	3	3	8.0
P266ACA100C*	208 - 240 Vac	1	0	8.0
P266BCA100C*	440 to 575 Vac	1	0	4.0
P266BHA100C*	440 to 575 Vac	2	3	4.0



P266SNR1C

PRESSURE TRANSDUCER

Electronic pressure transducer for P266 fan speed control modules

- Includes 6.6' cable
- 1/4 FFL connection



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

*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



P499RAP101C

PRESSURE TRANSDUCER 1/8" MPT



Part No.	Description	Length (In.)	Output Voltage	Pressure Range (psi)
P499RAP101C*	Individual	1.00	0.5 to 4.5 Vdc	0 to 100
P499RAP102C*	Individual	1.00	0.5 to 4.5 Vdc	0 to 200
P499RAP105C*	Individual	4.00	0.5 to 4.5 Vdc	0 to 500
P499AAP105C*	Individual	1.00	4 to 20 mA	0 to 500
P499RAP101K*	Kit	1.00	0.5 to 4.5 Vdc	0 to 100
P499RAP105K*	Kit	1.00	0.5 to 4.5 Vdc	0 to 500



P499RCP101

PRESSURE TRANSDUCER 1/4" SAE

1/4" female flare connection with depressor



Part No.	Description	Length (In.)	Output Voltage	Pressure Range (psi)
P499RCP101*	Individual	4.00	0.5 to 4.5 Vdc	0 to 100
P499RCP102C	Individual	1.00	0.5 to 4.5 Vdc	0 to 200
P499RCP105*	Individual	4.25	0.5 to 4.5 Vdc	0 to 500
P499ACP107*	Individual	1.00	4 to 20 mA	0 to 750
P499RCP101K*	Kit	6.75	0.5 to 4.5 Vdc	0 to 100
P499RCP105K*	Kit	6.75	0.5 to 4.5 Vdc	0 to 500
P499ACP105K*	Kit	1.00	4 to 20 mA	0 to 500
P499ACP107K*	Kit	1.00	4 to 20 mA	0 to 750
P499RCP107K*	Kit	5.70	0.5 to 4.5 Vdc	0 to 750
P499VCP105K ¹	Kit	1.00	0 to 10 Vdc	0 to 500 psig

¹ Includes transducer, 6.5' wire harness



WHAPKD3200C

WIRING HARNESS

Use WHAP with 499 pressure transducer.



Part No.	Length (In.)	Use with
WHAPKD3200C*	1.00	P399/P499 Transducer

*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

LUBE OIL



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
P128AA1*	90 Sec.	8-70 psig	Manual	1/4 M Flare	None	120/240 Vac
P128AA17*	120 Sec.	8-70 psig	Manual	1/4 M Flare	None	120/240 Vac



P45NAA5

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
P45NAA5*	120 Sec.	Manual	1/4 F Flare	3'	24 Vac	9.0	No	
P145NCB12*	120 Sec.	Manual	1/4 M Flare	None	120/240 Vac	9.0	Yes	Copeland
P145NCB82*	45 Sec.	Manual	1/4 M Flare	None	120/240 Vac	6.5	Yes	Carlyle



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

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



de-energizes the compressor if lube oil pressure falls below the

Part No.	Description	Pressure Open (psid)	Application
P545NCB22*	Control, 120 sec. delay, with switch and wire harness	7.0±1.0	Copeland
P545NCB82*	Control, 120 sec. delay, w/ switch and wire harness	12.75±0.75	Carlyle
P545NCB25*	Control, 90 sec. delay, w/ switch and wire harness	10.0±1.5	Bitzer



*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



P303701

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

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



pressure does not recover within the set period, the control

Part No.	Time Delay	Pressure Range (psi)	Pressure Connection (In.)	Capillary Connection (In.)
P303701*	90 Seconds	8-60		36
P305826*	120 Seconds	9	36	36, 1/4 Female SAE
P303801*	120 Seconds	8-60	36	



060B2002

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

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

ENGINEERING
TOMORROW



time period has elapsed.

Part No.	Time Delay	Pressure Range (psi)	Reset	Pressure Connection (In.)	Capillary Length	Factory Setting (Lbs.)	Alarm Circuit
060B2002*	90 Sec.	29" to 170	Manual	1/4 M Flare	None	9 psi, fixed	No
060B2008*	45 Sec.	29" to 170	Manual	1/4 M Flare	None	6 psi, fixed	No

WATER REGULATING, PRESSURE ACTUATED



V146GL1001C

DIRECT ACTING, V146 SERIES, TWO-WAY

Pressure-Actuated Water-Regulating Valves designed to regulate water flow and control refrigerant head pressure in systems with water-cooled condensers. Ideal for applications

with system water pressures of up to 350 psi, such as high-rise buildings.

- No Close-Fitting or Sliding Parts in Water Passages
- High-Pressure Design
- Pressure-Balanced Design
- Corrosion-Resistant Material for Internal Parts
- Accessible Range Spring
- Take-Apart Construction



V146GL1001C

DIRECT ACTING, V146 SERIES, TWO-WAY



Part No.	Size (In.)	Type	Opening Point Range (psi)	Pressure Connection (In.)
V146GL1001C*	1 1/8	Union Sweat	200 to 400	1/4 F Flare

*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

WATER REGULATING, PRESSURE ACTUATED



V148GL1001C

V148 SERIES, THREE-WAY



Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)
	Size (In.)	Type		
V148GL1001C*	1 1/8	Union Sweat	200 to 400	1/4 F Flare



V46AA1

DIRECT ACTING, V46 SERIES



Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)	Capillary Length
	Size (In.)	Type			
V46AA1*	3/8	FPT	70 to 260	1/4 F Flare	30"
V46DA2* ¹	3/8	FPT	70 to 260	1/4 F Flare	30"
V46AB1*	1/2	FPT	70 to 260	1/4 F Flare	30"
V46AC1*	3/4	FPT	70 to 260	1/4 F Flare	30"
V46AC3*	3/4	FPT	70 to 260	1/4 F Flare	48"
V46AD1*	1	FPT	70 to 260	1/4 F Flare	30"
V46AD13C*	1	FPT	70 to 260	1/4 M Flare	None
V46AE1*	1 1/4	FPT	70 to 260	1/4 F Flare	30"
V46AR1*	1 1/2	4 Hole, ASME Flange	70 to 260	1/4 F Flare	30"
V46AS1*	2	4 Hole, ASME Flange	70 to 170	1/4 M Flare	None
V46AS2*	2	4 Hole, ASME Flange	160 to 260	1/4 M Flare	None
V46AT1*	2 1/2	4 Hole, ASME Flange	70 to 170	1/4 M Flare	None
V46AT2*	2 1/2	4 Hole, ASME Flange	160 to 260	1/4 M Flare	None

¹ Low flow model, 2.5 GPM maximum



V46BB2

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
	Size (In.)	Type			
V46BB2*	1/2	FPT	70 to 260	1/4 Sweat	30"
V46BC2*	3/4	FPT	70 to 260	1/4 Sweat	30"
V46BD2*	1	FPT	70 to 260	1/4 Sweat	30"



V48AB2C

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)
V48AB2C*	1/2 FPT	1/4 F Flare	30"	145 to 190	320
V48AD2*	1 FPT	1/4 F Flare	30"	145 to 190	320



V246GA1001C

DIRECT ACTING, V246 SERIES, TWO-WAY



Part No.	Connection		Opening Point Range (psi)	Pressure Connection (In.)
	Size (In.)	Type		
V246GA1001C*	3/8	FPT	200 to 400	1/4 M Flare
V246GB1001C*	1/2	FPT	200 to 400	1/4 M Flare
V246GC1001C*	3/4	FPT	200 to 400	1/4 M Flare
V246GD1001C*	1	FPT	200 to 400	1/4 M Flare
V246GE1001C*	1 1/4	FPT	200 to 400	1/4 M Flare
V246GM1001C*	1 1/4	Union Sweat	200 to 400	1/4 M Flare
V246GR1001C*	1 1/2	Flange	200 to 400	1/4 M Flare



V246HD1001C

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.)
	Size (In.)	Type		
V246HD1001C*	1	FPT	200 to 400	1/4 M Flare

*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



V248GD1001C

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.)
	Size (In.)	Type		
V248GD1001C*	1	FPT	200 to 400	1/4 M Flare
V248GE1001C*	1 1/4	FPT	200 to 400	1/4 M Flare
V248GL1001C*	1 1/8	Union Sweat	200 to 400	1/4 M Flare
V248GM1001C*	1 3/8	Union Sweat	200 to 400	1/4 M Flare



V47AA1

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

- Maximum bulb temperature: 20°F above range

- Maximum water temperature: 170°F
- Maximum water pressure: 150 psig
- Capillary: 6' nylon armor



Part No.	Pipe Size (In.)	Opening Point Range (psi)	Bulb (In.)
V47AA1*	3/8 FPT	115 to 180	11/16 x 3 1/4
V47AA3*	3/8 FPT	75 to 135	11/16 x 6 Cross Ambient
V47AB3*	1/2 FPT	115 to 180	11/16 x 3 1/4
V47AB5*	1/2 FPT	75 to 135	11/16 x 10 Cross Ambient
V47AC3*	3/4 FPT	115 to 180	11/16 x 3 1/4
V47AC6*	3/4 FPT	75 to 135	11/16 x 10 Cross Ambient
V47AD1*	1 FPT	75 to 135	11/16 x 16 1/4 Cross Ambient
V47AD2C*	1 FPT	115 to 180	11/16 x 6
V47AE1C*	1 1/4 FPT	75 to 135	11/16 x 16 1/4 Cross Ambient
V47AE2C*	1 1/4 FPT	115 to 180	11/16 x 6
V47AE3C*	1 1/4 FPT	160 to 230	11/16 x 6
V47AR2*	1 1/2 FPT	115 to 180	11/16 x 6

*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



804100

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
804100*	2-NC/1-NO	120
804120*	2-NC/1-NO	208/240
804500*	SPDT	120
804520*	SPDT	208/240
804700*	2-NO/1-NC	120
804720*	2-NO/1-NC	208/240



BTT4100

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
BTT4100*	2-NC/1-NO	120
BTT4120*	2-NC/1-NO	208/240
BTT4500*	SPDT	120
BTT4520*	SPDT	208/240



814100

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
814100*	2-NC/1-NO	120
814120*	2-NC/1-NO	208/240
814300*	2-NO/1-NC	120
814320*	2-NO/1-NC	208/240
814500*	SPDT	120
814520*	SPDT	208/240
814520B* ¹	SPDT	208/240

¹ Bracket 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
BTP4100*	2-NC/1-NO	120
BTP4120*	2-NC/1-NO	208/240
BTP4500*	SPDT	120
BTP4520*	SPDT	208/240

*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

AUTO VOLTAGE TIMER



8145AV

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
8145AV*	2-NC/1-NO	120-240

ELECTRONIC



904500

- 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)
904500*	Time Initiate/Time Terminate Defrost Timer with Metal Enclosure, SPST	30 amp (NC)
914500*	Time Initiate/Temperature, Pressure Terminate Defrost Timer with Metal Enclosure, SPDT	15 amp (NC)/30 amp (NO) resistive



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.

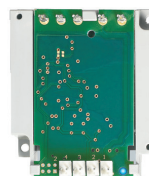
- Reduce installation time
- Heavy-duty 40 Amp mechanical

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
DTAV40	40 Amp Auto Volt Defrost Control w/ Outdoor Enclosure	NEMA 3R Raintight Plastic
DTAV40M	40 Amp Auto Volt Defrost Control, Mechanism Only	None
DTAV40Q	40 Amp Auto Volt Defrost Control, Quartz, 7 Day Carryover	NEMA 3R Raintight Plastic



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
DDFM	ICUBE™ Adaptive Defrost Refrigeration Module with Sensor
DDT40	Adaptive Defrost Refrigeration Time Control with ICUBE™ Module, Sensor, and Type 3R Enclosure

*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



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 timer, 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
ERC2212111	Universal Control, Integrated Display
ERC222111*	Universal Control, Remote Display



1309007045

SENSOR, ERC2 SERIES

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



Part No.	Description
1309007045*	NTC Sensor, 120"

MULTI-CIRCUIT



A87999

FRAME MODULE

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



Part No.	Module Capacity
A87999*	4
A88099*	8



B87699

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
B87699*	Even 1/2 Hour	No	-
D87699*	Odd Hour	No	-
A87699*	Even Hour	No	120
E87699*	Odd 1/2 Hour	No	-
A87700*	Even Hour	Yes	120
D87700*	Odd Hour	Yes	120
A87720*	Even Hour	Yes	208/240
B87720*	Even 1/2 Hour	Yes	208/240
D87720*	Odd Hour	Yes	208/240
E87720*	Odd 1/2 Hour	Yes	208/240



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)
T7401B	4PST	125	40
T7402B	4PST	208-277	40
T7801B	2NO/2NC	125	40
T7802B	2NO/2NC	208-277	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

ELECTROMECHANICAL



STUZ24

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)
STUZ24	SPDT	24	21
STUZ120	SPDT	120	21
STUZ220	SPDT	240	21



MIL72ASTUZ120

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)
MIL72ASTUZ120	SPDT	120	21
MIL72ASTUZ240	SPDT	240	21



GM40AV

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)
GM40AV	DPDT/SPDT	120-277	40



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)
GMXST1120	SPDT	120	21

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
CT2000	SPST	120/240 VAC, 50/60 Hz

MECHANICAL



FF15MC

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. Time 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.



Part No.	Switch	Timing	Comments
FF15MC	SPST	0 to 15 Minutes	No Hold
FF4H	SPST	0 to 4 Hours	No Hold
FF6H	SPST	0 to 6 Hours	No Hold
FF6HH	SPST	0 to 6 Hours	Hold
FF12HC	SPST	0 to 12 Hours	No Hold
FF315M	SPDT	0 to 15 Minutes	No Hold
FF312HH	SPDT	0 to 12 Hours	Hold



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)
TDOM*	Dial	2 - 600	18 - 240 Vac/Vdc	1.5



TDOB

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)
TDOB*	Dial	2 - 600 Sec.	18 - 240	1.5 amps
ICM206B	Dial	2 - 600 Sec.	18 - 30	1.5 amps



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)
32395*	6 Sec.-8 Min.	19-240	Dial	1



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)
ICM175B	10 - 1000	18 - 240	Dial	1

DELAY TIMER



RTEP1AD24

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
RTEP1AD24	24 Vac/Vdc	Power On Trigger (Maintained Start Signal)	8 Pin Plug-In
RTEP1AF20	120-240 Vac	Power On Trigger (Maintained Start Signal)	8 Pin Plug-In
RTEP2AD24	24 Vac/Vdc	Dry Contact Trigger (Momentary Start Signal)	11 Pin Plug-In
RTEP2AF20	120-240 Vac	Dry Contact Trigger (Momentary Start Signal)	11 Pin Plug-In



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
SR2P06	Socket for 8 Pin Timers (RTEP, RR1PA, RR2P, GE1A, GT5P, GT3)
SR3P06	Socket for 11 Pin Timers (RTEP, RR3PA, GT3)



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.

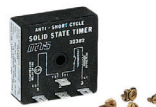
A one second interrogation delay

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)
ICM253	18 - 30	Dial	12 - 390	1



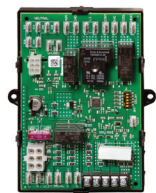
32382

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)
32382*	5	24	1



ST9120U1011

ELECTRONIC FAN TIMER, GAS

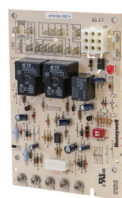
Integrate control of combustion blower and circulating fan operations in a gas warm air appliance. A single circuit board providing combustion air blower control, two speed circulating air blower control, limit circuit inputs,

thermostat wiring terminations.

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

resideo

Part No.	Description
ST9120U1011	Furnace Timer, Adjustable Settings, Universal



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 fixed furnace

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

resideo

Part No.	Description
ST9103A1002	Furnace Timer, Adjustable Off Delay



S9200U1000

UNIVERSAL INTEGRATED FURNACE TIMER

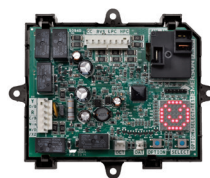
Can be used with conventional thermostats as well as the EnviraCOM™ enabled VisionPRO IAQ and FocusPRO. The S9200U1000 Universal Integrated Furnace Control is intended for residential natural or liquid

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.

resideo

Part No.	Description
S9200U1000	Universal Hot Surface Ignition Integrated Furnace Control



47D01U843

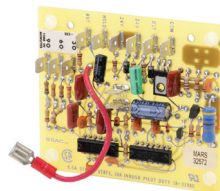
HEAT PUMP DEFROST, UNIVERSAL

Introducing the industry's first universal heat pump defrost control, 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



Part No.	Description
47D01U843	Universal Heat Pump Defrost Control



32572

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)
32572*	30, 60, 90	18 - 31	10, Fixed



32392

DELAY ON BREAK

- Maximum amps: 1



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

TIMER

DELAY TIMER



DELAY ON MAKE

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



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

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
A140000	6 hours	21 minutes



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
EDT10	120	1/3	10
EDT20	208/240	1/3	5
EDT11	120	3/4	15
EDT21	208/240	3/4	20

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)
MR4PMUHV12C*	Electronic Refrigeration Control	(compressor, heater relays), 12 F.L. Amp 240 Vac

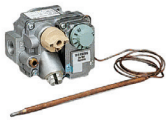


Your URI Branch Is Closer Than You Think!



Local Inventory. Local Experts. Find Your Branch.

VALVE, COMBINATION



700204

HYDRAULIC SNAP-THROTTLE

The 700-200 Series snap-action and snap-throttle (modulating) hydraulic controls are combination gas valves, thermostatically operated by a remote temperature sensing bulb. Two types of temperature adjustment models

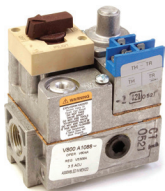
are available. One type is a single capillary model with the temperature adjustment knob on the gas valve itself. The second type is the remote dial, dual capillary model designed for cabinet mounting. These have an 18" capillary from the valve to the sensing bulb and a 48" capillary between the bulb and the remote temperature adjustment knob. The snap-throttle type controls are factory-set to snap on at 50% of the appliance

capacity. From this 50% rate, the control will modulate up to full input rate if the demand for heat is great enough (as sensed by the remote bulb). As the temperature increase is sensed by the remote bulb, the control throttles the input back down to the minimum rate and when the temperature requirement is satisfied, the control snaps "off". These controls combine a manual valve (gas cock), an automatic pilot safety valve, pressure regulator (optional by model) and a snap-acting or snap-throttle hydraulic operator for total temperature control. All models feature 3-position main gas outlets and pilot outlet, pilot gas filter, pilot adjustment key and automatic pilot valve. The automatic pilot valve is separate from the gas cock and provides gas shutoff in case of pilot outage.

Robertshaw

Part No.	Pressure Regulator (in. WC)	Capacity (BTUH)	FPT (In.)	3-Position Outlet (In.)	Capillary Length
700204 ¹	None	160,000	1/2 Inlet	1/2	3'
700205*	3.5, Natural	100,000	1/2 Inlet	1/2	3'

¹ Separate regulator may be required.



V800A1476

CONTINUOUS PILOT

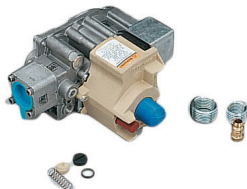
Provides complete control of continuous pilot gas-fired central furnaces and boilers.

- Includes pilot flow adjustment screw
- Easy to install, adjust and service

- Includes reducer bushings to adapt line size

resideo

Part No.	Application	Size (In.)	Capacity (CFH)	Gas	Includes
V800A1476	24V, Use with 30mV Thermocouple	1/2 x 3/4	250	Natural	A manual gas valve, Safety shutoff, Single millivoltage automatic operator, Pressure regulator, Pilot gas filter and flow adjustment, Pressure tapping, Thermocouple connector
VS820A1047	Self Powered, Use with 750mV Thermopile	1/2 x 3/4	250	Natural	One 3/4 x 1/2 Reducer Bushing, One 1/2 in x 3/8 in Reducer Bushing



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

- 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

resideo

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Includes
VR4300A4502	3/4 x 3/4	200	Natural	Standard	Two 3/4 x 1/2 in Reducer Bushings, 393691 Natural to LP Gas Conversion Kit, One 1/2 in x 3/8 in Reducer Bushing



*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, COMBINATION



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

resideo

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Includes
VR8200A2124	1/2 x 1/2	130	Natural	Standard	One 3/4" straight flange; One 1/2" x 3/8" reducer bushing; Q340 Thermocouple; Natural to LP conversion kit
VR8200A2132	1/2 x 1/2	130	Natural	Standard	Natural to LP Conversion Kit; One 1/2" x 3/8" reducer bushing; One 3/4" straight flange; One 3/4" straight flange; One 1/2" x 3/8" reducer bushing; Natural to LP conversion kit
VR8200H1251	1/2 x 1/2	130	Natural	Slow Open	One 3/4" straight flange; One 1/2" x 3/8" reducer bushings; Natural to LP Conversion Kit



VR8300A3500

CONTINUOUS PILOT, LOW VOLTAGE, VR8300 SERIES

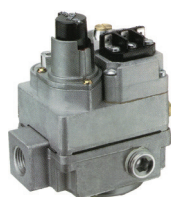
Combination gas controls for use in 24 Vac, gas-fired, standing pilot appliances with capacities from 30 to 300 cfh.

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

resideo

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator	Includes
VR8300A3500	1/2 x 3/4	190	Natural	Standard	Natural to LP Conversion Kit; One 3/4" x 1/2" reducer bushing
VR8300A3518 ¹	1/2 x 3/4	190	Natural	Standard	reducer bushings, conversion kit
VR8300A4508	3/4 x 3/4	200	Natural	Standard	Natural to LP conversion kit; Two 3/4" x 1/2" reducer bushings
VR8300A4516 ¹	3/4 x 3/4	200	Natural	Standard	Two 3/4 in x 1/2 in Reducer Bushing, 393200 ECO Adapter, Q340 (36 in) Thermocouple with Adapters, 393691 Natural to LP Gas Conversion Kit
VR8300C4506	3/4 x 3/4	200	Natural	Step Open	Two 3/4" x 1/2" reducer bushings

¹ Includes 36" thermocouple, ECO adapter



36C03300

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

EMERSON

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



36C53418

CONTINUOUS PILOT, SLOW OPENING

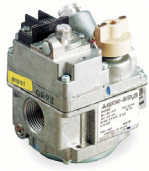
Model 36C53 complete gas control combines into a single compact package that functions as a 3-position gas cock, pressure regulator, 100% shut-off automated pilot and main operator. This model

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
	Inlet	Outlet		
36C53418	3/4	3/4	280000	24 Vac



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 key. 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

Robertshaw

Part No.	Connection Size (In.)			Pressure Regulator (in. WC)	Capacity (BTUH)
	Inlet	Outlet	Side (In.)		
700400	1/2	3/4	Straight-Thru	Uni-Kit	240,000
700406	3/4	3/4	Straight-Thru	Uni-Kit	300,000
700426	3/4	3/4	Straight-Thru	3.5, Natural	300,000
700442	1	1	Straight-Thru	3.5, Natural	600,000
700402	1/2	3/4	Straight-Thru	Uni-Kit	240,000



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.

Robertshaw

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

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



*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

VALVE, COMBINATION



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

Robertshaw

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



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.

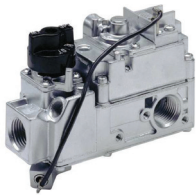
Note: Valves can be mounted in any position except upside down.

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

Robertshaw

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

¹ Slow opening feature for soft ignition, no reducer bushings



710402

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

Robertshaw

Part No.	Pressure Regulator (in. WC)
710402	3.5, Natural
710501 ¹	None
710502	3.5, Natural

¹ Separate pressure regulator may be required



720400

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

Robertshaw

Part No.	Connection Size (In.)			Capacity (BTUH)
	Inlet	Outlet	Side (In.)	
720400*1	1/2	3/4	Straight-Thru	150,000
720402*2	1/2	3/4	1/2	150,000
720406*2	3/4	3/4	Straight-Thru	150,000
720472*3	1/2	1/2	1/2	150,000
720474*	1/2	1/2	1/2	150,000

1 Uni-Kit® regulator conversion included 2 Uni-Kit® regulator conversion included 3 Convertible 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

resideo

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



VR8304M4507

INTERMITTENT PILOT, LOW VOLTAGE, VR8304 SERIES

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

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

resideo

Part No.	Size (In.)	Capacity (CFH)	Gas	Regulator
VR8304M4507	3/4 x 3/4	300	Natural	Standard
VR8304P4330	3/4 x 3/4	-	LP	Step Open
VR8304P4504	3/4 x 3/4	300	Natural	Step Open
VR8304Q4511	3/4 x 3/4	-	Natural	Slow Open



*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, COMBINATION



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.

resideo

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



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 appliances 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

resideo

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



SV9501M2528

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 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

intermittent pilot gas ignition sequencing, pilot flame sensing, and both pilot and main gas control functions in a single control. They are directly compatible with the Q3450 or Q3480

resideo

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



SV9601M4571

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.

resideo

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



SV9641M4510

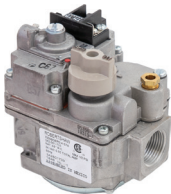
SMARTVALVE™, SV9641 SERIES

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.

resideo

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

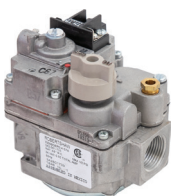


700056

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

Robertshaw

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



700053

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

Robertshaw

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

⚠ *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, COMBINATION



720050

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
	Inlet	Outlet	Side	
720050 ¹	1/2	1/2	Straight-Thru	Slow Opening
720051	1/2	3/4	1/2	Standard
720079 ²	1/2	3/4	1/2	Universal

1 Has Pilot Outlet 2 Has Pilot Valve



36C84912

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


EMERSON

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



36H32304

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


EMERSON

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

 *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



36H64463

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
	Inlet	Outlet	
36H64463	3/4	3/4	24 Vac



36J24214

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

Designed for direct spark ignition and hot surface ignition system applications.

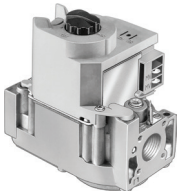
This valve is equipped with redundant and main solenoid valves that control gas flow to the main burners, a pressure regulator

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)
	Inlet	Outlet	
36J24214	1/2	1/2	140000



VR8205A2024

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

resideo

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



VR8305M3506

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

Combination gas control for use with hot surface/direct spark systems in 24 Vac, gas-fired 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

resideo

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

¹ 2-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
	Inlet	Outlet		
36H32423	3/4	3/4	Fast	1
36H33412	3/4	3/4	Slow	1
36H65401	3/4	3/4	Slow	2



V4943A1011

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

- 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

with a straight through pattern

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



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

Robertshaw

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



710203

HYDRAULIC LOW PROFILE

- Supplied with pipe bushings

Robertshaw

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

¹ Separate regulator may be required.



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.

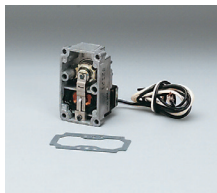
Johnson Controls

Part No.	Description
Y99AP1	1/2" MPT x 3/8" FPT Bushing
Y99AP2	3/4" MPT x 1/2" FPT Bushing

*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 VALVE ACCESSORIES



705452

VALVE OPERATOR, LINE VOLTAGE

The 705 Series line voltage operator kit is designed to allow field conversion of the 700 and 710 Series manual gas valves to wall thermostat control. These operators are also replacements for specific

700-450 Series and 700-460 Series gas valves. **Robertshaw**

Part No.	Voltage
705452	120



1751003

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

Robertshaw

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

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.

resideo

Part No.	Description	Gas	Replaces
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	Natural, LP	Q314A, Q350A
Q345U1005	Target Style Pilot Burner. Non-Primary Aeration, BCR-20, BCR-18, BBR-12, BBR-11 Orifices, Adjustable Tip Style, Universal Mounting Bracket	Natural, LP	Q345A

Continued on next page

Part No.	Description	Gas	Replaces
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	Natural, LP	Q3451B/K
Q348U1009	Intermittent Batwing Style Pilot Burner. Primary Aeration, NE22, KF24, A26, KR14 Orifices, Universal Mounting Bracket	Natural, LP	Q348A



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

resideo

Part No.	Tip Style	Gas	Bracket
Q314A3547	A	Natural	Side
Q314A4586	B	Natural, LP	End
Q314A6094	A	Natural, LP	End
Q314A6102	C	Natural, LP	End



Q345A1305

IGNITER/SENSOR

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

resideo

Part No.	Tip Style	Gas	Bracket
Q345A1305	B	Natural	End
Q345A1313	A	Natural	End
Q345A1321	C	Natural	End



Q327A1626

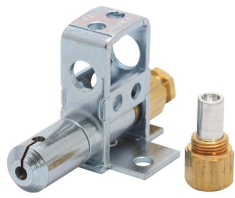
PILOT BURNER, Q327 SERIES

Primary-aerated, spud orifice-type pilotburner for main burner ignition with Q340 or Q390 thermocouple for pilotstat safety control operation.

resideo

Part No.	Gas	Bracket
Q327A1626	Natural, LP	End

⚠ *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



J991MDA2

PILOT BURNER

Universal replacement models replace J12, J13 pilots.

- A dimension: .850"



BASO Gas Products LLC

Part No.	Figure
J991MDA2	1
J992MDA2	2
J993MDA2	3
J994MDA2	4
J995MDA2	5
J996MDA2	6
J997MDA2	7
J998MDA2	8
J999MDA2	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.

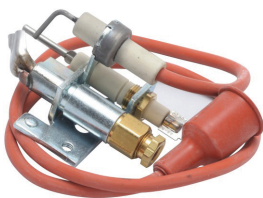
- Natural and LP gas



BASO Gas Products LLC

Part No.	Pilot Type	Figure
J999MHA2	L Channel	1
J999MKA2	Shell	2
J999MYA2	Y Channel	3

orifice supplied



Q90AA1C

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
Q90AA1C	J989EKW	Lennox
Q90BB1	J996DKW	Carrier
Q90CC1	J986HXW	Reznor
Q90DD1	J993HHW	Reznor



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

Robertshaw

Part No.	Replaces	Flame Pattern
1820009*	PG9A42JTL020	90° Right
1820019	PG9A41JTL020	90° Left



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.

Robertshaw

Part No.	Replaces	Flame Pattern
1830001	2CH-6	Standard
1830005	4CH-6	3-Way
1830110*	2CH-1	Standard
1830111	2CHL-1	25° Left
1830112*	2CHR-1	25° Right

HEATING, GAS BURNER

GAS PILOT

GAS ORIFICE



10021

Robertshaw

Part No.	Gas	Used with Pilot Burners	Tube Length
10021	Natural	2C, 2CH	1/4"
10114	L.P.	2C, 2CH	1/4"



81LB4

Part No.	Description
81LB4	PilotTubing Nut, 1/4"



Y99AR1



BASO Gas Products LLC

Part No.	Description
Y99AR1	1/4 O.D. x 60" Aluminum Tube



11193

Robertshaw

Part No.	Description
11193	PilotTubing, Aluminum, 1/4" OD x 50'
11291	PilotTubing, Aluminum, 1/8" OD x 5'

THERMOCOUPLE

UNIVERSAL

Universal 30 mV thermocouple.

- Average operating life of 10 years



Q340A1066

Part No.	Lead Length	Length (In.)
Q340A1066	18"	4.50
Q340A1074	24"	4.60
Q340A1082	30"	4.70
Q340A1090	36"	4.50
Q340A1108	48"	4.60

resideo

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



Q390A1046

Part No.	Lead Length	Length (In.)
Q390A1046	24"	0.00
Q390A1053	30"	4.50
Q390A1061	36"	0.00

resideo

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



Q313A1022

Part No.	Lead Length	Includes
Q313A1022	35"	Spade Terminals , 35 in Leads, Attaching Nut
Q313A1055	47"	Spade Terminals , 47 in Leads, Attaching Nut
Q313A1139	35"	Push-in Clip, 35 in Lead
Q313A1170	35"	Push-in clip, PG9 adapter, Attaching Nut
Q313A1188	35"	Push-in clip, split nut, and adapter assembly
Q313B1005	35"	Terminal Block

resideo



K16BT18

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



BASO Gas Products LLC

replacements, multi-mount

Part No.	Length (In.)	Carton Qty
K16BT18	18.00	10
K16BT24	24.00	10
K16BT30	30.00	10
K16BT36	36.00	10
K16RA48C	48.00	5
K16RA72C	72.00	5
K16WT48	48.00	5
K16WT60	60.00	5
K16WT72	72.00	5



K19AT18

UNIVERSAL

Super Slim Jim universal K19AT 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
K19AT18	18.00	10
K19AT24	24.00	10
K19AT30	30.00	10
K19AT36	36.00	10
K19AT48	48.00	5
K19AT60	60.00	5
K19AT72	72.00	5



1980018

SNAP-FIT®

The 1980 Series snap-fit thermocouples offer easy installation into the majority of pilot burners.

Robertshaw

Part No.	Length (In.)
1980018*	18.00
1980024*	24.00
1980036*	36.00
1980048*	48.00
1980030*	30.00



1950001

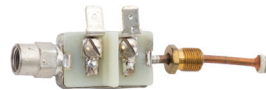
THERMOPILE

Designed for use on self-powered gas and control systems. Can be used to replace all Robertshaw and similar competitive devices.

Robertshaw

Part No.	Lead Length	Connection Type
1950001 ¹	36"	Two Lead
1950532	36"	Two Lead
1951001 ¹	36"	Coaxial
1951536	36"	Coaxial

¹ Includes 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.	Length (In.)	Description
Y99AN1	5.50	Junction Block Adapter



*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

MERCURY FLAME SENSOR



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
3049115	20	48"
3098134	19	48"
3098156	20	48"

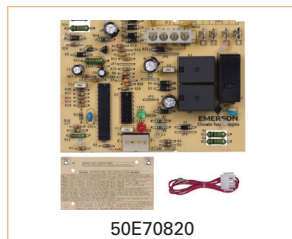
GLOW COIL



Y80 Series glow coils are designed for use with G19, G21, and G29 ignition systems. They are used as replacements on existing pilot burners.



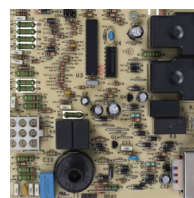
Part No.	Lead Length	Used with Pilot Burners
Y80AA48	48"	J(-)DHD, J(-)DLG, J(-)EKD, J(-)GHD, J(-)VHD
Y80EA36	36"	J(-)HHD



TRANE HOT SURFACE MODULE, NON-INTEGRATED



Part No.	Description	Prepurge Time (Sec.)	Post Purge (Sec.)	Supply Voltage
50E70820	Trane non-integrated HSI ignition module kit. Auto reset time: 60 min, ignitor warm-up: 45 sec.	0	0	120



50N02A820

TRANE DIRECT SPARK IGNITION MODULE, INTEGRATED



Part No.	Description	Prepurge Time (Sec.)
50N02A820	Trane integrated DSI ignition module kit. Auto reset time: 60 min. Cool delay to fan off: 0/80	20
50N02B820	Trane integrated DSI ignition module kit. Auto reset time: 60 min. Cool delay to fan off: 0/45	20



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.

Robertshaw

Part No.	Supply Voltage	Timer Type	Ignition Attempts (before lockout)	Valve Trial Time (Sec.)
780783	120	Prepurge, 34 Sec.	3	8
780785	120	Ignitor Warm-up, 34 Sec.	3	6
780790	120	Ignitor Warm-up, 17 Sec.	1	4



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 flame 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

resideo

Part No.	Description	Supply Voltage
S8910U3000	Universal Hot Surface Ignition Control	24V



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 sense

EMERSON

Part No.	Description
50E47-843	Universal (NI) HSI Module



HOT SURFACE MODULE, INTEGRATED

Universal replacements for existing W/R integrated silicon carbide (50A50/50A55) and silicon nitride (50A65) modules.

EMERSON

Part No.	Description
50A55843	Silicon Carbide Module
50A65-843	Silicon Nitride Module



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 Output
- 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

EMERSON

Part No.	Description
50A55743	Single-Stage HSI Integrated Furnace Control Kit



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 Output
- 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

EMERSON

Part No.	Description
50A56956	York Single-Stage HSI Integrated Furnace Control Kit



*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

IGNITION CONTROL



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.

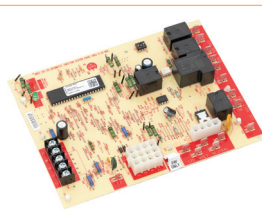
- System diagnostic LED with fault

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
50M56743	Nitride Multi Speed Integrated Furnace Control, HSI
50M56X843	Universal Integrated Single Stage 120V Hot Surface Ignition Control Kit



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

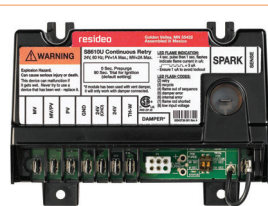
- (1) Wiring harness (9-pin to 12-pin)
- (1) Wiring harness (4-pin to 6-pin)
- (1) Mounting panel
- (4) Stand-off fasteners
- (1) Circuit breaker
- (1) 4" blue wire
- (2) Wiring diagrams

Features:

- Includes diagnostic indicator flash codes
- 3 fan speeds
- Remote flame sense
- Humidifier and electronic air cleaner connections (optional)



Part No.	Description
21D83M843	Single-Stage HSI Integrated Furnace Control Kit



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

resideo

Part No.	Lockout Time (Sec.)
S8610U3009	15 or 90



C610U1C

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



BASO Gas Products LLC

Part No.	Contact Rating (Amps)	Min. Flange Current (MicroAmps)
C610U1C	2	0.15



*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



C670AGA1C

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
BG1600M00FP1AD	None	G770MHC1C
C670AGA1C	5 Minutes	BG1600M00ER1BD
BG1600M01ER1AD	5 Minutes	G775RGA
C670JGA1C	5 Minutes	BG1600M01CR1BD
C661PGA1	60 Minutes	BG1600M02CR1AD
BG1600M10EK1AA	None	G600AX1
BG1600M10ER1AD	None	G770RHA
BG1600M10FF1AA	None	G600LX1
BG1600M11ER1AD	5 Minutes	G775RHA



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 stops ignition sparking and opens the main valve portion of the gas

valve. Pilot burner flame is continuously 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.

Robertshaw

Part No.	Description
780845	Intermittent Lockout Module
953623E	S3C Valve Module



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 sensing
- 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.	Prepurge Time (Sec.)	Ignition Attempts (before lockout)	Ignition Trial Time (Sec.)	Replaces
C161FJD1C	None	3	4	BG110MAAK1G
C161KKD1C	30	3	8	BG1100MADL1G



*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



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
BGN8911C	Lennox Pulse Replacement for G891



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.

Robertshaw

Part No.	Old Fenwall Number	Use with
3570460005	05-142301-005	Lennox 31C0801



DIRECT SPARK MODULE, S87 SERIES

Provides electronic control of direct spark ignition systems used on gas fired furnaces, boilers, and other heating appliances.

- Includes alarm terminal

Honeywell Home

Part No.	Lockout Time (Sec.)
S87D1004	6
S87D1012	11



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.

Robertshaw

Part No.	Old Fenwall Number	Prepurge Time (Sec.)	Ignition Attempts (before lockout)	Valve Trial Time (Sec.)
35605601003*	05-296426-753	None	1	7
35605601005	05-296426-755	None	1	10
35605606223	05-296466-253	30	3	7
35605606111*		15	3	4



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
ICM280	115/1	White-Rodgers: 50T35-790, 50T35-743
ICM281	115/1	Carrier CESO1100570(0,1,2)
ICM291	208-240/1	Carrier LH33WP003/3A
ICM2812KIT	120	Universal





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
780001*	Non-Lockout
780002*	Lockout, 60 Seconds

Robertshaw



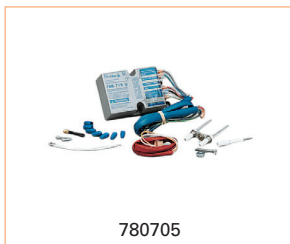
780715

MODULE ONLY

Not for hot surface.

Part No.	Type	Description
780715*	Non-Lockout	Flame Rectification, Use w/7000BDER, 7100DER, 7200IPER
780735*	Lockout	Flame Rectification, Use w/7000BDER, 7100DER, 60 SecondTiming

Robertshaw



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
780705*	Non-Lockout

Robertshaw



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
5059134	24	Spike Connector



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

Robertshaw

Part No.	Ignition Rating (Vac)	Voltage
785001*	120/24	15 kV Minimum



*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

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

resideo

Part No.	Gas	Includes
Y8610U4001	Natural or LP	VR8204A2142 valve
Y8610U6006	Natural or LP	VR8304M3558 gas valve, Ignition module, Pilot burner hardware, Ignition cable, Wiring harness



712008

IGNITION, LOCKOUT

- Lockout model: 90 second spark, 6 minute delay, 3 tries, 1 hour lockout
- LP regulator included with kit

Robertshaw

Part No.	Gas Valve Part Number	Size (In.)	Module Part Number	Natural Gas Capacity (Btuh)
712008	720070	1/2 x 3/4	780735	200000
712006	700056	3/4 x 3/4	780735	350000



712017

IGNITION, NON-LOCKOUT

- Natural gas only.

Robertshaw

Part No.	Gas Valve Part Number	Size (In.)	Module Part Number	Natural Gas Capacity (Btuh)
712017	720070	1/2 x 3/4	780715	200000
712016	700056	3/4 x 3/4	780715	350000
712019*	700059	1 x 1	780715	720000

SENSOR



Q347A1004

SPARK IGNITOR

Produces spark for direct ignition of main burner.

- Use with S87C, D, S89E, F; and Q354A

Honeywell Home

Part No.	Ground Strap Orientation	Electrode Length (In.)
Q347A1004	Standard	2 1/32
Q347A1012	90° Angle	2 1/32



Q354A1018

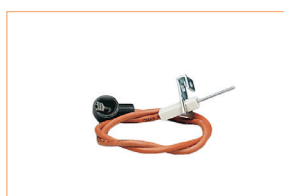
FLAME RECTIFICATION

Detects the presence of a main burner flame.

- Use with S825, S87C, D, K or S89E, F

Honeywell Home

Part No.	Flame Rod Length (In.)
Q354A1018	6



76056

CYCLE-PILOT ELECTRODE

Replaces cycle-pilot ignition electrodes and cable assemblies.

EMERSON

Part No.	Description
76056	24" Lead with Slip On Bracket



760401

HOT SURFACE IGNITION, FLAME

Can be remotely mounted on multiple burners or adjacent to ignitor. Designed to detect the presence of flame. 760802 is exact replacement for OEM mode;

EMERSON

Part No.	Lead Length
760401	30"
760802	30"

FLAME SENSOR



FLS010



Part No.	Description
FLS010*	Replaces Goodman 0130F00010, B1172606, ICP 1380687
FLS013*	Replaces Carrier LH33WZ514, LH33WZ516, LH680013
FLS014*	Replaces Carrier LH33WZ511, LH33WZ515, LH680012, LH680014
FLS301*	Replaces Rheem 62-23543-01, Packard PFS301
FLS700*	Replaces York 025-27773-700, ICP 1380679
790843A1	Universal Replacement Flame Sensor



FSC10

FLAME SENSOR CLEANER

- Easily clean sensor
- Prevent false starts
- Convenient key ring



Part No.	Description
FSC10	Flame Sensor Cleaner

GAS CONTROL



Q3200U1004

GLOWFLY™

Designed to provide a robust field service replacement ignitor in gas fired 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 in the appliance. The kit includes the specially designed silicon nitride igniter and six different bracket configurations to adapt the ignitor to the specific appliance application.

resideo

Part No.	Description
Q3200U1004	Universal hot surface ignitor, single kit
Q3200U2002	Universal 120Vac Hot Surface Igniter. Pack of 6
Q3205U1107	Pro Universal 120Vac Hot Surface Igniter



SIG1100

IGNITOR

- Lower power consumption
- Engineered reaction bonded silicon carbide design - greater physical strength
- Superior gas lighting ability
- Includes: Ignitor, 3 mounting brackets, 1 self tapping screw, 2 porcelain wire nuts
- Replaces many OEM ignitors



Part No.	Description
SIG1100	Universal



IG101

IGNITOR

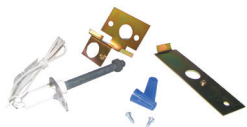
- Replaces exact OEM ignitors
- Highest density silicon carbide - greater physical strength
- Double helix design
- IG1000 by using one of two included brackets replaces up to 100 original part numbers including

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
IG101	Nordyne
IG102	York



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
SSN2000	Universal Silicon Nitride Ignitor



*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



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
SSN24	Universal 24-Volt Silicon Nitride Ignitor and Flame Rod Assembly Kit



41602

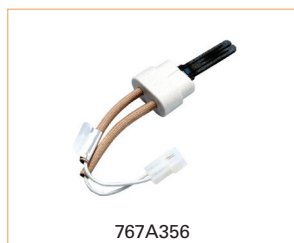
IGNITOR, NORTON MINI

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)

Robertshaw

Part No.	Factory Number	Housing	Use with
41602	601TB	None	Amana 20165702
41603	601XBM	2.5"	York 025-33421-000
41605	601XBM	2.5"	York 473-20937-001
41-604	601XBM	4"	Armstrong 44744-2



767A356

IGNITOR, CARBIDE



Part No.	Terminals	Lead Length	Insertion Length (In.)
767A356	0.093" Male Pins	6"	2.0
767A357	0.093" Male Pins	5.25"	2.25
767A361	0.093" Male Pins	5.25"	2.25
767A365	0.25" female spade	5.688"	1.87
767A370	0.093" male pins	5.25"	2.22
767A369	Molex Internally Keyed Connector with .093" Male Pins	5.50"	2.0
767A371	Stripped ends	19.125"	2.25
767A372	Modex side lock connector with 0.092" male pins	5.25"	2.25
767A373	Receptacle with .093" Male Pins	5.25"	2.25
767A374	Stripped Ends	11	



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
SKIT03033	Replaces Trane® KIT03033



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.

Robertshaw

Part No.	Lead Length	Factory Number	Ceramic Block Width (in.)	Ceramic Block Style	Connector Style
41401*	4 1/2"	271A	1 5/8	A	A
41402*	19"	271W	1 1/4	B	None
41403*	5 1/2"	271M	2	C	None
41404	4 1/2"	271M	2	C	D
41405	5 1/2"	271D	1 1/4	D	None
41-406* ¹	10 1/2"	271Y	2 1/8	E	None
41407*	4 1/2"	271	2	C	B
41408*	5"	271N	1 1/4	B	C
41409	4 1/2"	271	2	C	D
41410*	4 1/2"	271N	1 1/4	B	B
41411	4 1/2"	271N	1 1/4	B	C
R41412*	5 1/4"		1 1/4	F	D
41413 ²	1 3/8"	201C	1 3/8 Dia.		1/4" QC
41414	5 1/4"	271NM	1 1/4	F	D
41418	5 1/4"	271NM	1 1/4	B	C

¹ 1 7/8" Hole centers ² 2" long, 1 3/8 diameter



768A842

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
768A842	Amana, 11111701	0.093
768A843	Thermo, 768A-143	0.084
768A844	Lennox, 41K5601	0.084
768A845	Trane, B340970P01	0.084



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

- 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
- Super tough nitride ignitor construction; no more broken ignitors
- Easy ignitor replacement.
- 3 year warranty



Part No.	Description
21D642	Nitride Upgrade Kit

UR UNITED REFRIGERATION INC.

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- Exclusive URI.com Access - Thousands of technical documents, videos, & product info
- Hands-On Help - Branch experts ready to guide you



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

MAXITROL

Part No.	FPT (In.)	Range of Regulation (BTUH)		Standard Spring (WC)	Height (In.)	Length (In.)
		Main Burner	Burner and Pilot			
RV481/2	1/2	150 to 230,000	150 to 230,000	3.0 to 6.0	2 3/4	3 3/8
RV483/4	3/4	150 to 250,000	150 to 250,000	3.0 to 6.0	2 3/4	3 3/8



RV521/2

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.

MAXITROL

Part No.	FPT (In.)	Regulation Range (CFH)	Standard Spring (WC)	AGA Max (CFH)	Height (In.)	Length (In.)
RV521/2	1/2	151 to 956	3" to 6"	450	4 7/8	3 3/16
RV523/4	3/4	151 to 956	3" to 6"	450	4 7/8	3 3/16
RV533/4	3/4	217 to 1,369	3" to 6"	710	5 13/16	3 3/4
RV531	1	217 to 1,369	3" to 6"	710	5 13/16	3 3/4
RV611	1	379 to 2,464	3" to 6"	1,100	6 7/16	4 3/8



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.)
32531/2 ¹	1/2	100 to 320	150	3 1/2	4 1/4
3257AL11/4	1 1/4	650 to 2,060	-	7 1/4	8.00
3257AL11/2	1 1/2	650 to 2,060	-	7 1/4	8.00

1 Based on use as an appliance regulator



R400S

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.)
R400S	1/2	86 to 303	3" to 6"	3 1/4	2.00
R500S	3/4	196 to 876	3" to 6"	4 2/3	3 1/8



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.)
210E11/2	1 1/2	4,450 to 10,500	3" to 6"	11 1/4	7 5/8



12A04

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
12A04	IAS Certification 14" W.C., 1/8" MPT	RV53, RV61
12A06	Orifice Only, Less Ball Check	RV53, RV61
12A09	IAS Certification 2 psi LP 5 psi Natural with Model 325-3, 1/8" MPT	325-3, R & RS
12A39	IAS Certification 2 psi LP 5 psi Natural with Model 325-5A, 3/8" MPT	325-5A



R521036

SPRINGS**MAXITROL**

Part No.	Use with	Outlet Pressure Range (WC)	Color
R521036	RV52, RV500S	3 to 6	Plated
R811036	RV81, 210D	3 to 6	Plated
R811048	RV81, 210D	4 to 8	Orange
R8110412	RV81, 210D	4 to 12	Violet
R81101022	RV81, 210D	10 to 22	Red
R9110412	RV91, 210E	4 to 12	Violet

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, fixed
- 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

resideo

Part No.	Element Length	Mounting Bracket
L4064B2210	11 1/2"	Surface
L4064B2228	5"	Surface
L4064B2236	8"	Surface

CONTROLS & ELECTRICAL ACCESSORIES

*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

WARM AIR CONTROL



5D5135

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, fixed
- Switch: fan SPST, close rise, 7.0 F.L. Amp 240 Vac
- Limit: SPST, open rise, 6.0 F.L. Amp 240 Vac



Part No.	Element Length	Limit Differential (°F)	Limit Temperature Range (°F)
5D5135	5"	25, fixed	100 to 300
5D5190	8"	25, fixed	100 to 300
5D5178	11"	25, fixed	100 to 300



FALTS57C13BT120A

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



Part No.	Element Length	Fan Off Temperature Range (°F)	Limit Temperature Range (°F)	Limit Differential (°F)	Comments
FALTS57C13BT120A*	7"	90 to 120	150 to 250	30, Fixed	SPDT



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



Part No.	Fixed Cutout Setting (°F)	Contact Rating (Amps)
L4029E1227	125	5 F.L. Amp 240 Vac
L4029E1011	135	5 F.L. Amp 240 Vac
L4029E1219	165	5 F.L. Amp 240 Vac
L4029E1029	200	5 F.L. Amp 240 Vac
L4029E1045	240	5 F.L. Amp 240 Vac



L593BA

LIMIT

Safety device which cycles the blower and gas valve in case the fan control device fails.

- SPDT switching action
- Fan off temperature: 120 to 250°F



Part No.	Element Length	Switch	Off Temperature Range (°F)
L593BA*	3"	SPDT	120 to 250



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



Part No.	Extension Width (In.)	Element Length
F473TD12025C*	7/16	3"
F477TD12025C*	7/16	7"
F21412A140	1 1/16	3"
F21413A140	1 1/16	7"



*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



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
FA47TS3110*	3"
FA47TS7110*	7"



S1061A5040C

TIME DELAY

Used in controlling high current blowers, relays and contactors.

- 24 Vac input
- Available in SPST and SPDT configurations
- 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.)	
		On	Off
S1061A5040C*	SPST	45 to 55	30 to 50



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)
A25AN1*	SPDT, Open High	25 to 215	Manual Reset	125	300	8



A19EAF2

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)
A19EAF2*	SPDT	30 to 110	2, Fixed	140	3

REMOTE BULB

A19AAB10

HIGH RANGE

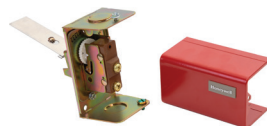
The A19 Series are single stage temperature controls that incorporate liquid filled sensing elements.

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)
A19AAB10* ¹	SPST, Open High	200 to 550	10°F, Fixed	3/16 x 6	8'	620	8
A19AAC9*	SPDT	100 to 240	5°F, Fixed	3/16 x 3 7/8	6'	290	8

¹ Oven thermostat

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.)	Dimensions (In.)	
				H	W
S437A1009	SPST	1,900 - 2,250	1 x 3	2.75	4.25

*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



SAIL SWITCH, LOW VELOCITY

Used in forced air systems to activate electronic air cleaners, humidifiers 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.)	Dimensions (In.)	
				H	W
S688A1007	SPDT	75 to 250	5 x 10	2.80	4.40



WINTER WATCHMAN

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

- Lamp plugs into receptacle at bottom of Winter Watchman device

- Useful when house is unoccupied to notify a neighbor of a temperature drop so heating source fault can be rectified before freeze-up occurs

Honeywell Home

Part No.	Temperature (°F)	Description
S483B1002	30-60	Winter Watchman 120 V for Freeze Warning



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

ARANGO

Part No.	Switch	Supply Voltage	Capillary Length
E152601	SPDT	240	60", w/Bulb

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



OPPOSED PARALLEL

V10-414140-470 is used for heat recovery applications

ARANGO

Part No.	Capacity (Tons)			Connection Size (In.)		Replaces
	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
V6-412080-170*	1.1 to 5.4	1.0 to 5.5	1.3 to 6.7	3/4	1/2	V62101
V6-414080-170*	1.1 to 5.4	1.0 to 5.5	1.3 to 6.7	7/8	1/2	V62103
V6-414120-170*	1.1 to 5.4		1.3 to 6.8	7/8	3/4	
V10-414080-170*	3.2 to 9.4	3.0 to 8.5	3.8 to 10.1	7/8	1/2	V102500
V10-414120-170*	3.2 to 9.4	3.0 to 8.5	3.8 to 10.1	7/8	3/4	V102750
V10-418140-170*	3.2 to 10.7	3.0 to 9.5	3.8 to 11.7	1 1/8	7/8	V102762
V10-414140-470*	3.2 to 9.4	3.0 to 8.5	3.8 to 10.1	7/8	7/8	V102765



LOOPBACK PARALLEL

ARANGO

Part No.	Capacity (Tons)			Connection Size (In.)		Replaces
	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
V2-408060-270*	0.8 to 1.8	.75 to 2.0	.9 to 2.2	1/2	3/8	V2100

*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



V12-4220T0-270

OPPOSED OFFSET PARALLEL

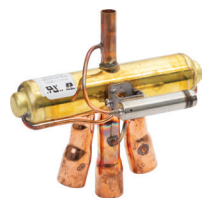
Part No.	Capacity (Tons)			Connection Size (In.)		Replaces
	R407C	R22	R410A	Suction	High	
V12-4220T0-270*	6.5 to 13.3	6.0 to 14.0	6.3 to 16.8	1 3/8	1 1/8 OD	V12-321



V3-410080-770

OPPOSED OFFSET FLARE

Part No.	Capacity (Tons)			Connection Size (In.)		Replaces
	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
V3-412080-870*	1.1 to 2.8	1.0 to 3.0	1.3 to 3.5	3/4	1/2	V31004



V2-4100F0-370

OPPOSED FLARE

Part No.	Capacity (Tons)			Connection Size (In.)		Replaces
	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



V2-410060-470

LOOPBACK FLARE

Part No.	Capacity (Tons)			Connection Size (In.)		Replaces
	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



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
LDK-110000-070	24	Red
LDK-310000-070	120	Black
LDK-410000-070	240	Green
LDK-510000-070	277	Blue

HYDRONIC CONTROL, TEMPERATURE



L6006A1145

AQUASTAT®

Immersion-type controllers for limiting or regulating temperatures of liquids in boilers or tanks.

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

Part No.	Application	Switch	Temperature (°F)	Differential	Includes
L6006A1145	Circulator, High/Low Limit	SPDT	100 to 240	5 to 30°F	Stop factory-set at 240 F (116 C); Heat-conductive compound
L6006C1018	Circulator, High/Low Limit	SPDT	65 to 200	5 to 30°F	Stop factory-set at 200 F (93 C)

*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



L4008A1015

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

resideo

Part No.	Application	Switch	Temperature (°F)	Differential	Includes
L4008A1015	High/Low Limit	SPST, Open Rise	100 to 240	5 to 30°F	5 1/2 ft (1.7 m) capillary
L4008A1130	High/Low Limit	SPST, Open Rise	130 to 270	5 to 30°F	10 ft Capillary, 3.04 m Capillary
L4008B1013	Circulator	SPST, Open Rise	100 to 240	5 to 30°F	5 1/2 ft Capillary, 1.7 m Capillary
L4008E1156	High Limit	SPST, Open Rise	130 to 270	Manual Reset	5 1/2 ft (1.7 m) capillary; Stop factory-set at 250 F (121 C); Heat-conductive compound
L6008A1192	Circulator, Low Limit	SPDT	100 to 240	5 to 30°F	66 in. capillary; Stop factory-set at 240 F (116 C)



L4081A1023

AQUASTAT®, MULTIPLE

High limit, low limit and/or circulator controllers used to regulate boiler water temperature in gas- or oil-fired 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

resideo

Part No.	Application	Switch
L4081A1023	High/Low Limit	2-SPST



L8100B1128

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, fixed
- ECO: 20°F, fixed
- Contact rating: 2 amps 24V

resideo

Part No.	Switch	Differential	Capillary Length	Operating Range (psi)
L8100B1128	SPST, Opens on Rise	5°F, fixed	39"	100-180



L8124A1007

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, fixed
 - Low limit/Circulator: 110-220°F
 - Differential: 10-25°F
- Contact rating—Circulator: 3.7 F.L. Amp
- 240 Vac

resideo

Part No.	Burner Voltage	Mounting Code	Insulation Depth (In.)	Includes	High Limit (°F)
L8124A1007	120	Vertical	1 1/2	3" Insertion Well	130-240
L8124A1015	120	Vertical	3	3 in. insertion well and ground screw	130-240
L8124E1016	24	Vertical/Horizontal	1 1/2	Universal Element, Well Adapter	130-240
L8124G1020	120	Vertical/Horizontal	1 1/2	Universal Element, Well Adapter	130-240
L8124L1011	120	Vertical/Horizontal	3	Universal Element, Well Adapter	130-240



*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



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 L7224U controls the circulator, oil burner and boiler temperature.
- It replaces the L8124A, L8124C, L7124U, L7148A, L7248A,C, L7224A,C, 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

resideo

Part No.	Differential	Dimensions (In.)			Mounting
		H	W	D	
L7224U1002	High Limit: 5 to 20 °F adj.	4.60	4.50	2 5/8	Well mount, horizontal or vertical position, or flush mounted remote from the well



W8735S1000

AQUARESET™ KITS

Outdoor Reset Kit

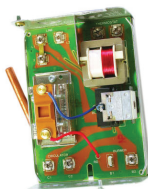
- Simple installation with three wire connection to the Aquastat
- Compatible with any L7224/L7248 Outdoor Reset Ready Aquastat, S9361A Integrated Boiler Control, and R7910 SOLA Controls

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

resideo

Part No.	Dimensions (In.)		Description
	H	W	
W8735S1000	1.00	1.00	AquaReset™ Outdoor Reset Module
W8735S3000	1.00	1.00	EnviraCOM™ Alarm Module



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

resideo

Part No.	Dimensions (In.)		Mounting Code	Burner Circuit	High Limit (°F)
	H	W			
L8148A1017	5.00	5.00	Horizontal	Line Voltage	120-240
L8148E1265	5.00	5.00	Vertical	Low Voltage	180-240
L8148E1299	5.00	5.00	Vertical	Low Voltage	120-240
L8148J1009	5.00	5.00	Horizontal and vertical	Low, mV Voltage	120-240



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)
A19ABC11*1	SPDT	100 to 240	6 to 24°F	6.0 @ 240 Vac	Flush	250
A19ABC12*	SPDT	100 to 240	6 to 24°F	6.0 @ 240 Vac	8'	290

1 Pictured



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)
A19DAC1*	SPDT	100 to 240	10, Fixed	6.0 @ 240 Vac	250

*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

HYDRONIC CONTROL, TEMPERATURE



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



Part No.	Switch	Temperature (°F)	Differential	FLA
11272	SPDT	100 to 240	10°F, Fixed	3.7 @ 240 Vac

VALVE, HYDRONIC CONTROL



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	
					Size (In.)	Type
V4043A1002	Straight-Thru	Normally Closed	120	3.5	1/2	Flare
V4043A1010	Straight-Thru	Normally Closed	120	3.5	1/2	Sweat
V4043A1259	Straight-Thru	Normally Closed	120	8.0	3/4	Sweat
V4043A1697	Straight-Thru	Normally Closed	120	10.0	1	NPT
V4043B1018	Straight-Thru	Normally Open	120	3.5	1/2	Sweat
V4043E1003 ¹	Straight-Thru	Normally Closed	120	3.5	1/2	Sweat
V4044A1019	2-Position Diverting	Port A Normally Closed	120	4.0	1/2	Sweat
V4044A1191	2-Position Diverting	Port A Normally Closed	120	7.0	3/4	Sweat

¹ Steam only



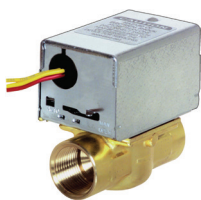
ZONE, LOW VOLTAGE

Control voltage: 24 Vac.

Honeywell Home

Part No.	Pattern	De-Energized Position	Flow (Cv)	Connection	End Switch
V8043A1011	Straight-Thru	Normally Closed	3.5	1/2 Sweat	No
V8043A1029	Straight-Thru	Normally Closed	3.5	3/4 Sweat	No
V8043B1076	Straight-Thru	Normally Open	3.5	3/4 NPT	No
V8043E1004	Straight-Thru	Normally Closed	3.5	1/2 Sweat	Yes
V8043E1012	Straight-Thru	Normally Closed	3.5	3/4 Sweat	Yes
V8043E1020	Straight-Thru	Normally Closed	3.5	1 Sweat	Yes
V8043E1061	Straight-Thru	Normally Closed	8.0	3/4 Sweat	Yes
V8043E1145	Straight-Thru	Normally Closed	3.5	3/4 NPT	Yes
V8043F1028	Straight-Thru	Normally Closed	3.5	1/2 Sweat	Yes
V8043F1036	Straight-Thru	Normally Closed	3.5	3/4 Sweat	Yes
V8043F1051	Straight-Thru	Normally Closed	3.5	1 Sweat	Yes
V8043J1029 ¹	Straight-Thru	Normally Open	3.5	1/2 NPT	No
V8043J1037 ¹	Straight-Thru	Normally Open	3.5	3/4 NPT	No
V8044A1002	2-Position Diverting	Port A Normally Closed	4.0	1/2 Flare	No
V8044A1010	2-Position Diverting	Port A Normally Closed	4.0	1/2 Sweat	No
V8044A1044	2-Position Diverting	Port A Normally Closed	7.0	3/4 Sweat	No
V8044A1135	2-Position Diverting	Port A Normally Closed	4.0	1/2 NPT	No
V8044E1003	2-Position Diverting	Port A Normally Closed	4.0	1/2 Sweat	Yes
V8044E1011	2-Position Diverting	Port A Normally Closed	7.0	3/4 Sweat	Yes

¹ Steam only



V8043E5012

ZONE, LOW VOLTAGE

- Control voltage: 24 Vac.
- Install without disassembly, compact construction for easy installation
- Manual opener

Honeywell Home

V5862A2005

2 WAY, CARTRIDGE GLOBE, FPT**Honeywell**

Part No.	Pattern	De-Energized Position	Flow (Cv)	Connection Size (In.)	End Switch
V8043E5012	Straight-Thru	Normally Closed	3.5	3/4 Sweat	Yes
V8043E5020	Straight-Thru	Normally Closed	3.5	1 Sweat	Yes
V8043E1137					



V5852A2007

2 WAY, SWEAT**Honeywell**

Part No.	Flow (Cv)	Connection		Use with
		Nom. Size (In.)	Type	
V5852A2007	0.19	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2015	0.29	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2023	0.47	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2031	0.74	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2049	1.2	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2056	1.9	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2064	2.9	3/4	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5852A2072	4.9	3/4	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958

Part No.	Flow (Cv)	Connection		Use with
		Nom. Size (In.)	Type	
V5862A2005	0.19	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A2013	0.29	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A2021	0.47	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A2039	0.74	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A2047	1.2	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A2054	1.9	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A2062	2.9	3/4	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5862A3003	5.5	1	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5862A3011	7.8	1	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5862A3029	11.0	1	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5862A3037	18.0	1 1/4	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5862A3045	25.0	1 1/2	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007

*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



V5853A2006

3 WAY, SWEAT

Honeywell

Part No.	Flow (Cv)	Connection		Use with
		Nom. Size (In.)	Type	
V5853A2006	0.29	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2014	0.47	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2022	0.74	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2030	1.2	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2048	1.9	1/2	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2055	2.9	3/4	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A2063	4.9	3/4	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5853A1016	4.9	3/4	Sweat	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001



V5863A2004

3 WAY, FPT

Honeywell

Part No.	Flow (Cv)	Connection		Use with
		Nom. Size (In.)	Type	
V5863A2004	0.29	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A2012	0.47	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A2020	0.74	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A2038	1.2	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958

Continued on next page

Part No.	Flow (Cv)	Connection		Use with
		Nom. Size (In.)	Type	
V5863A2046	1.9	1/2	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A2053	2.9	3/4	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A2061	4.9	3/4	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001; MP958
V5863A1006	2.9	3/4	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001
V5863A1014	4.9	3/4	FPT	Actuators M6410A1029; M7410F1000; M6435A1004; M7435F1001
V5863A3002	5.5	1	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5863A3010	7.8	1	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5863A3028	11.0	1	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5863A3036	18.0	1 1/4	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007
V5863A3044	25.0	1 1/2	FPT	Actuators M6410A3017; M7410F3006; M6435A3000; M7435F3007



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 signals
- 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
M6410A1029	SPDT Floating	40.50	UL94-5V Plenum Rated	1/2, 3/4" Valves
M6410A3017	SPDT Floating	67.50	UL94-5V Plenum Rated	1 to 1 1/2" Valves
M7410F1000	0-10 Vdc, 2-10 Vdc	40.50	DA/RA	1/2, 3/4" Valves
M7410F3006	0-10 Vdc, 2-10 Vdc	67.50	DA/RA	1 to 1 1/2" Valves



M6435A1004

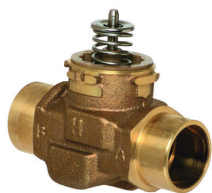
CARTRIDGE GLOBE VALVE ACTUATOR, SPRING RETURN

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
M6435A1004	Floating, SPDT	No	40.50	1/2 in. and 3/4 in. V58XX Cartridge Globe Valves
M7435F1001	0-10 or 2-10 Vdc Modulating	Yes	40.50	1/2 in. and 3/4 in. V58XX Cartridge Globe Valves
M7435F3007	0-10 or 2-10 Vdc Modulating	Yes	90	1 to 1 1/2 in. V58XX Cartridge Globe Valves



VCZAA1100

2-WAY, CARTRIDGE CAGE, WATER

Honeywell Home

Part No.	Nominal Size (In.)	Flow (Cv)	Con-nection Type	Use with
VCZAA1100	1/2	3.2	Sweat	On-Off VC Actuators
VCZAA3100	1/2	3.5	Sweat	VC6830/VC6831/VC6834, VC6930/VC6931/VC6934, VC7930/VC7931/VC7934,
VCZBB1100	1/2	3.2	FPT	On-Off VC Actuators
VCZAL1100	3/4	4.7	FPT	On-Off VC Actuators
VCZAM1100	3/4	4.6	Sweat	On-Off VC Actuators
VCZAR1100	1	6.6	FPT	VC actuators, On-Off Type
VCZAS1100	1	6.6	Sweat	VC actuators, On-Off Type



VCZNB6100

3-WAY, CARTRIDGE CAGE, WATER

Honeywell Home

Part No.	Nominal Size (In.)	Flow (Cv)	Con-nection Type	Use with
VCZNB6100	1/2	3.7	FPT	On-Off 2-position VC Actuators
VCZMA6100	1/2	3.8	Sweat	On-Off 2-position VC Actuators
VCZMK6100	3/4	6.6	FPT	VC actuators, 2-position, On-Off Type
VCZML6100	3/4	5.9	Sweat	On-Off 2-position VC Actuators
VCZMR6100	1	8.6	FPT	On-Off 2-position VC Actuators
VCZNE6100	1 1/4	9.0	Sweat	On-Off 2-position VC Actuators



VC8114ZZ11

ACTUATOR

- Use with VCZXX1100 and VCZXX6100 valves

Honeywell Home

Part No.	Voltage	Timing	Control Type
VC8114ZZ11	24	6 Sec.	2-Wire
VC8111ZZ11	24	6 Sec.	2-Wire
VC8714ZZ11	24	6 Sec.	2-Wire + Com
VC4011ZZ11	120	6 Sec.	2-Wire + Com
VC6934ZZ11	24	120 Sec.	3-Wire
VC7934ZZ11	24	120 Sec.	3-Wire



1361102

2 WAY, ZONE, 2-WIRE

EMERSON

Part No.	Nominal Tube Size (In.)	Flow (Cv)
1361102	3/4	23.5
1361103	1	37.0

HEATING

VALVE, HYDRONIC CONTROL



2 WAY, ZONE, 3-WIRE

Part No.	Nominal Tube Size (In.)	Flow (Cv)
1311102	3/4	23.5
1311103	1	37.0
1311104	1 1/4	42.2



MOTOR, REPLACEMENT

- Replacement motor for C Series classic zone valve

Part No.	Voltage
30A118A	24
30A118V	208-240/1
30118B	120



ACTUATOR, 2 POSITION, VT SERIES

Spring return actuators for VT2xxx and VT3xxx series valves.

Part No.	Application	Voltage
AG13A020	Normally Closed	24
AG13A02A	Normally Closed (End Switch)	24
AG13B020	Normally Closed	120
AG13T020	Normally Closed	277
AG13U020	Normally Closed	208-240/1
AG23A020	Normally Open	24
AG23B020	Normally Open	120
AG23D020	Normally Open	208



2 WAY, ZONE

VT2212



Part No.	Connection		Flow (Cv)
	Size (In.)	Type	
VT2212	1/2	Sweat	2.5
VT2213	1/2	Sweat	3.5
VT2222	1/2	FPT	2.5
VT2223	1/2	FPT	3.5
VT2313	3/4	Sweat	3.5
VT2315	3/4	Sweat	5.0
VT2317	3/4	Sweat	7.0
VT2323	3/4	FPT	3.5
VT2325	3/4	FPT	5.0
VT2327	3/4	FPT	7.0
VT2415	1	Sweat	5.0
VT2417	1	Sweat	7.0
VT2427	1	FPT	8.0



3 WAY, ZONE

VT3212



Part No.	Connection		Flow (Cv)
	Size (In.)	Type	
VT3212	1/2	Sweat	3.0
VT3213	1/2	Sweat	4.0
VT3222	1/2	FPT	3.0
VT3223	1/2	FPT	4.0
VT3313	3/4	Sweat	4.0
VT3315	3/4	Sweat	5.0
VT3317	3/4	Sweat	7.0
VT3323	3/4	FPT	4.0
VT3325	3/4	FPT	5.0
VT3327	3/4	FPT	7.0
VT3342	3/4	IFL	3.0
VT3343	3/4	IFL	4.0
VT3415	1	Sweat	5.0
VT3417	1	Sweat	7.0
VT3427	1	FPT	7.5



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** **Efe**

Part No.	Application	Voltage
AP13A000	Spring Return, Normally Closed	24
AP23A000	Spring Return, Normally Open	24
AP33A000	Non Spring Return	24



VM2213

2 WAY, ZONE, MODULATING

Schneider Electric **tac** **Efe**

Part No.	Connection		Flow (Cv)
	Size (In.)	Type	
VM2213	1/2	Sweat	4.0
VM2223	1/2	FPT	4.0
VM2313	3/4	Sweat	4.0
VM2323	3/4	FPT	4.0



VM3213

3 WAY, ZONE, MODULATING

Schneider Electric **tac** **Efe**

Part No.	Connection		Flow (Cv)
	Size (In.)	Type	
VM3213	1/2	Sweat	4.0
VM3223	1/2	FPT	4.0
VM3313	3/4	Sweat	4.0
VM3427	1	FPT	7.0
VM3323	3/4	FPT	4.0



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

BELIMO

Part No.	Application	Voltage
ZONE24NC*	Normally Closed	24
ZONE24NCS*	Normally Closed, with Auxiliary Switch	24
ZONE24NOS*	Normally Open, with Auxiliary Switch	24
ZONE120NC*	Normally Closed	120
ZONE120NCS*	Normally Closed, with Auxiliary Switch	120
ZONE120NOS*	Normally Open, with Auxiliary Switch	120



ZONE215S25

2 WAY, ZONE

- Flow characteristics: on/off
- Chilled or hot water, 50% glycol
- Pressure rating: 300 Psi

BELIMO

Part No.	Nominal Size (In.)	Connection Type	Flow (Cv)
ZONE215S25*	1/2	Sweat	2.5
ZONE215N25*	1/2	FPT	2.5
ZONE215N35*	1/2	FPT	3.5
ZONE220S35*	3/4	Sweat	3.5
ZONE220S50*	3/4	Sweat	5.0
ZONE220N35*	3/4	FPT	3.5
ZONE220N50*	3/4	FPT	5.0
ZONE225S80*	1	Sweat	8.0
ZONE225N80*	1	FPT	8.0

*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

VALVE, HYDRONIC CONTROL



ZONE315S25

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)
ZONE315S25*	1/2	Sweat	2.5
ZONE315S35*	1/2	Sweat	3.5
ZONE315N25*	1/2	FPT	2.5
ZONE315N35*	1/2	FPT	3.5
ZONE320S35*	3/4	Sweat	3.5
ZONE320S50*	3/4	Sweat	5.0
ZONE320N35*	3/4	FPT	3.5
ZONE320N50*	3/4	FPT	5.0
ZONE325S80*	1	Sweat	8.0
ZONE325N80*	1	FPT	8.0



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.



Part No.	Nominal Size (In.)	Length (In.)	Flow (Cv)
Z050C21*	1/2	3.00	4.9
Z075C21	3/4	3.00	10.3
Z100C21*	1	3.00	8.9



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.)
570	1/2	3 1/8
571	3/4	3 3/8
572	1	3 5/8
573	1 1/4	3 7/8

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
PC700	Add-On Power Control





SR502

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 Wiring
- 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
SR502	15 Amp	2 with Priority
SR503	15 Amp	3 with Priority
SR504EXP	20	4 with Priority, 3 Power Ports



ZVC403

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 Wiring
- Extra Set of Dry Contacts
- Contractor Friendly PC Board Layout
- Universal Thermostat Compatibility
- UL and CSA Approved
- Extended 3 Year Warranty

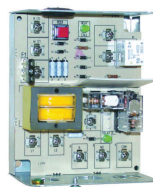
Additional -EXP features:

- 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	Length (In.)
ZVC403	3	40	10.75
ZVC404	4 with Priority	40	11.25
ZVC406EXP	6 with Priority, 2 Power Ports	80	12.50

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

resideo

Part No.	Description
R8845U1003	Switching Relay

OIL BURNER CONTROL



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
R8182D1079	1 1/2	3/4	None	Auxiliary ZC and ZR terminals may be used to provide circulator zone control through an R845A Switching Relay, Heat-conductive compound, vertical case.
R8182H1070	1 1/2	3/4	5'	Auxiliary ZC and ZR terminals may be used to provide circulator zone control through an R845A Switching Relay, Heat-conductive compound, Horizontal case



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, controls 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.

resideo

Part No.	Safety Timing (sec)	Contact Rating (Amps)	Diagnostics
R7284U1004	Settable 15, 30 or 45	3.7	2 Line LCD Display
R7284B1024	15	3.7	Using LED only



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

resideo

Part No.	Safety Timing (sec)	Contact Rating (Amps)
R8184G4009	45	3.7
R8184G4066	15	5.0



PROTECTORELAY™, 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

resideo

Part No.	Safety Timing (sec)	Contact Rating (Amps)
R8184M1051	45	3.7 F.L. Amp 240 Vac



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

resideo

Part No.	Description
C554A1463	Flame Detector, 5 Bracket 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

FLAME CONTROL, 7800 SERIES



RM7800G1018

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.

- 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.
- Only available in NJ / Eastern-Southern NY. Call 914-592-5555 to order.

Part No.	Replaces	Frequency	Establishing Period		Initiate Time (Sec.)
			Pilot Flame	Main Flame	
RM7800G1018 ¹	BC7000L; PM720G	60	4 or 10 sec.	10, 15 or Intermittent	10
RM7800L1012 ¹	BC7000L; PM720L	50/60	4 or 10 sec.	10, 15 or Intermittent	10
RM7800M1011 ¹	BC7000L; PM720M	60	4 or 10 sec.	10 sec or Intermittent	10
RM7840E1016 ²		50/60	4 or 10 sec.	10 or 15 sec.	10
RM7840G1014 ³	R4140G	60	4 or 10 sec.	10, 15 or Intermittent	10
RM7840L1018 ³	R4140L	50/60	4 or 10 sec.	10, 15 or Intermittent	10
RM7840M1017 ³	R4140M	60	4 or 10 sec.	10 sec. or Intermittent	10

¹ Control w/Display ² Energy Saving Prepurge ³ Relay Module, No Display



R7140G1000

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
- Purge time determined by card selected

Part No.	Pilot Type	Replaces	Establishing Period	
			Pilot Flame	Main Flame
R7140G1000	Interrupted or Intermittent	R4140G w/ preignition interlocks	4 or 10 sec.	10, 15, 30 sec. or int.



RM7890A1015

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.

Part No.	Pilot Flame	Initiate Time (Sec.)	Comments
RM7890A1015	4, 10, 30	10	Replaces RA890F, G, H
RM7890A1031	30 Fixed	10	Replaces RA890F, G, H
RM7890A1056	4, 10	10	Includes Programmable Valve Proving Switch Check Feature and Blinking LED Fault Annunciation

*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 CONTROL, 7800 SERIES



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.
- Only available in NJ / Eastern-Southern NY. Call 914-592-5555 to order.

Honeywell

Part No.	Replaces	Establishing Period		Main Valve (DMV)	Initiate Time (Sec.)
		Pilot Flame	Main Flame		
RM7895A1014	R7795A, B	4 or 10 sec.	No	No	10
RM7895B1013	R7795E, F	Intermittent	No	No	10
RM7895C1012	R7795C, D	4 or 10 sec.	10 sec.	Yes	10



RM7896A1012

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
- STANDBY and RUN can be an infinite time period.

Honeywell

Part No.	Type	Establishing Period		
		Pilot Flame	Main Flame	Main Valve (DMV)
RM7896A1012	Intermittent	4 or 10 sec.	Intermittent	No
RM7896C1010	Interrupted	4 or 10 sec.	10 Sec	Yes



RM7897A1002

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

Part No.	Type	Establishing Period
		Pilot Flame
RM7897A1002	Selectable	4 or 10 sec.



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

Honeywell

NY. Call 914-592-5555 to order.

Part No.	Description
Q7800A1005	Universal—Panel Mount
Q7800B1003	Universal—Burner, Wall Mount
Q7800F1004	Adapter—RA890



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

Honeywell

NY. Call 914-592-5555 to order.

Part No.	Description	Use with
S7800A1001	Display Module, English	RM7800, RM7840, RM7838
S7800A1142	Display Module for Valve Proving Setup, English	RM7800, RM7840, RM7838, RM7890, RM7897, RM7898



*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



R7847A1025

SIGNAL AMPLIFIER, PLUG-IN

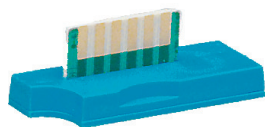
Solid state plug-in amplifiers that respond to flame detector inputs to indicate the presence of flame when used with 7800 Series relay modules.

- Only available in NJ / Eastern-Southern

NY. Call 914-592-5555 to order.

Honeywell

Part No.	Pilot Type	Flame Failure Response (sec.)	Type Fuel
R7847A1025	Rectification (Green)	0.8 or 1.0	Gas, Oil
R7847A1033	Rectification (Green)	2.0 or 3.0	Gas, Oil
R7849A1015	UV (Purple)	0.8 or 1.0	Gas, Oil
R7849A1023	UV (Purple)	2.0 or 3.0	Gas, Oil
R7851B1000	Optical (White), Ampli-Check	2.0 or 3.0	Gas, Oil, Coal
R7851B1018	Optical (White), Ampli-Check	0.8 or 1.0	Gas, Oil, Coal
R7852A1001	Infrared (Red/White)	2.0 or 3.0	Gas, Oil, Coal
R7861A1026	UV (Purple) Dynamic Self-Check	2.0 or 3.0	Gas, Oil, Coal



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.)
ST7800A1013	7
ST7800A1021	10
ST7800A1039	30
ST7800A1054	60
ST7800A1062	90

GAS/AIR PRESSURE SWITCH

C6097A3012

C6097 SERIES**Honeywell**

Part No.	Pressure Range (psi)	Switch	Differential Pressure	Action
C6097A3012	1 - 20 in. wc	Manual Reset	Additive	Breaks NO to COM on fall
C6097A3038	12 - 60 in. wc	Manual Reset	Additive	Breaks NO to COM on fall
C6097A3053	1 - 20 in. wc	Auto Reset	0.3 - 0.6 in. wc	Breaks NO to COM on fall
C6097B3002	12 - 60 in. wc	Manual Reset	Subtractive	Breaks on rise
C6097B3028	1 - 20 in. wc	Manual Reset	Subtractive	Breaks on rise
C6097B3051	1 - 20 in. wc	Manual Reset	Subtractive	Breaks on rise

FLAME DETECTOR

C7027A1023

MINIPEEPER ULTRAVIOLET

Compact flame detector for use with flame safeguard controls with 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
C7027A1023	Romex Connector, Low Temperature	6'	0 to 215°F
C7027A1031	1/2" Spud Connector	6'	-40 to 215°F
C7027A1072	1/2" Spud Connector (Included)	6'	-40 to 215°F
C7027A1049	Romex Connector	6'	0 to 215°F

*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

FLAME DETECTOR

COMPACT

Compact flame detector for use with flame safeguard controls with ultraviolet amplifiers.

- Only available in Long Island NY, West Chester County NY, New York City. Call 914-592-5555 to order.

Honeywell



C7035A1031

Part No.	Lead Length	Ambient Temperature
C7035A1031	6'	-40 to 250°F
C7035A1080 ¹	6'	-0 to 250°F

¹ Includes 600F Leads

GAS PILOT

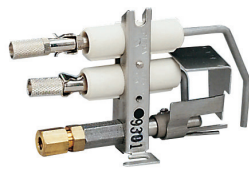
FLAME RECTIFIER

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



Q179A1001

Part No.	Tip Style	Wing Span (In.)	Application
Q179A1001	I	4.0	Intermittent Ignition
Q179A1035	45° RH	4.0	Intermittent Ignition
Q179A1050	T	4.0	Intermittent Ignition
Q179A1076	45° Y	4.0	Intermittent Ignition
Q179A1092	45° T	4.0	Intermittent Ignition
Q179A1118	45° LH	4.0	Intermittent Ignition



H17BB1

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)
H17BB1	1/4	1/8-27 NPT	75000	50
H17CB3	3/8	1/8-27 NPT	125000	50
H17DB5	1/2	1/8-27 NPT	200000	50

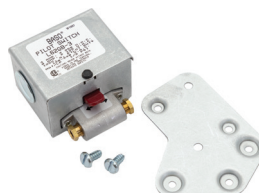
SHUTOFF, L60 SERIES

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



BASO Gas Products LLC



L61LL1

(suitable for natural gas only)

Part No.	Reset	Shut-Off	Switch	Contact Rating (Amps)
L61LL1	Automatic	No	SPDT	4 A, 240 Vac
L62AA5	Manual	No	SPST	3 A, 250 Vac
L62GB3	Manual	Yes	SPST	4 A, 250 Vac





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)
V4046C1005	1/8 FPT	20
V4046C1047	1/4 FPT	55
V4046C1054	3/8 FPT	67
V8046C1006	1/8 FPT	20
V8046C1014	1/4 FPT	20
V8046C1022	1/4 FPT	55
V8046C1030	3/8 FPT	67



V4295A1106

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)

Honeywell

Part No.	Pipe Size (In.)	Capacity (CFH)	Coil Voltage
V4295A1106	1/2 FPT	210	120
V4295A1114	3/4 FPT	610	120
V4295A1122	1 FPT	825	120
V4295A1130	1 1/4 FPT	1950	120
V4295A1148	1 1/2 FPT	2270	120
V8295A1016	1/2 FPT	250	24 Vac
V8295A1024	3/4 FPT	645	24 Vac
V8295A1032	1 FPT	790	24 Vac
V8295A1040	1 1/4 FPT	1450	24 Vac
V8295A1057	1 1/2 FPT	2190	24 Vac



H15DA3

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
H15DA3 ¹	3/4	1/8-27 NPT	402000	Internal
H15DH3 ²	3/4	1/4 cc	402000	Internal

¹ Packaged with reducer bushings ² With rotor pilot "B" valve



V88A1659

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	Voltage
V88A1659	3/4 FPT	668	1/2	24
V88A1667	3/4 FPT	668	1	24
V88A1675	1 FPT	1021	1	24
V48A2334	1 FPT	1021	1	120
V88A1683	1 1/4 FPT	2100	1	24
V48A2177	1 1/4 FPT	2100	1/2	120
V88A1634	1 1/2 FPT	2400	1/2	24
V88A1691	1 1/2 FPT	2400	1	24
V88A1709	2 FPT	4178	1	24
V88A1717	2 1/2 FPT	5100	1	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

VALVE, GAS CONTROL



V4055A1007

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.)
V4055A1007	26	No	No	26
V4055A1031	13	No	No	13
V4055A1098	13	Yes	No	13
V4055A1296	13	No	Yes, adjusted to 90° stroke	13
V4055D1001	26	Yes	No	26
V4055D1019	13	Yes	No	13
V4055D1043	13	No	No	13



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.)
V4062A1008	26	Yes	No	26



V5055A1004

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
V5055A1004	1 FPT	960	Low Pressure On/Off (Quick Open Guide)
V5055A1038	2 FPT	3620	Low Pressure On/Off (Quick Open Guide)

Continued on next page

Part No.	Pipe Size (In.)	AGA Capacity (CFH)	Application
V5055B1002	1 FPT	960	Low Pressure On/Off Characterized Guide (Slow Increase Upon Opening)
V5055B1010	1 1/4 FPT	1406	Low Pressure On/Off Characterized Guide (Slow Increase Upon Opening)
V5055B1028	1 1/2 FPT	1717	Low Pressure On/Off Characterized Guide (Slow Increase Upon Opening)
V5055B1069	2 FPT	3620	Low Pressure On/Off Characterized Guide (Slow Increase Upon Opening)
V5055C1059	1 1/2 FPT	1717	Low Pressure On/Off Double Seal
V5055C1000	2 FPT	3620	Low Pressure On/Off Double Seal
V5055A1053	3 FPT	5230	Low Pressure On/Off (Quick Open Guide)



V8943N1039

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.

Honeywell

Part No.	Capacity (CFH)	Gas	Connection Size (In.)	Voltage	Application	Opening Time (Sec.)	Opening Time (Sec.)
V8943N1039	780 to 2300	NAT	1 1/2 FPT	24	Low Pressure On/Off Double Seal	6	6

OVEN CONTROL



5500202

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

Robertshaw

- Universal mounting

Part No.	Supply Voltage	% Input at Low	Color Dial Included
5500202*	240	5.0	None
5500235*1	240	5.0	White

1 Reverse rotation



*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



VG7241ET

2-WAY, BRONZE VALVE, PDTCT

- Two-way push-down to close (NO/PDTC)
- FPT connection
- Brass trim, equal % flow



Part No.	Female Pipe Thread (In.)	Flow (Cv)
VG7241ET*	1/2	1.8
VG7241GT*	1/2	4.6
VG7241LT*	3/4	7.3
VG7241NT*	1	11.6
VG7241PT*	1 1/4	18.5
VG7241RT*	1 1/2	28.9
VG7241ST*	2	46.2



VG7441ET

2-WAY, BRONZE VALVE, PDTO

- Two-way push-down to open (NC/PDTO)
- FPT connection
- Brass trim, equal % flow



Part No.	Female Pipe Thread (In.)	Flow (Cv)
VG7441ET*	1/2	1.8
VG7441GT*	1/2	4.6
VG7441LT*	3/4	7.3
VG7441NT*	1	11.6
VG7441PT*	1 1/4	18.5
VG7441RT*	1 1/2	28.9
VG7441ST*	2	46.2



VG7842ET

3-WAY, BRONZE VALVE

- FPT connection
- Three-way mixing
- Brass trim, linear



Part No.	Female Pipe Thread (In.)	Flow (Cv)
VG7842ET*	1/2	1.8
VG7842GT*	1/2	4.6
VG7842LT*	3/4	7.3
VG7842NT*	1	11.6
VG7842PT*	1 1/4	18.5
VG7842RT*	1 1/2	28.9
VG7842ST*	2	46.2



V5011N1024

2-WAY, GLOBE, THREADED, PDTC

Honeywell

Part No.	Connection Size (In.)	Flow (Cv)	Type	Media
V5011N1024	1/2	1.85	Equal %	Hot/Cold Water
V5011N1032	1/2	2.9	Equal %	Hot/Cold Water
V5011N1040	1/2	4.7	Equal %	Hot/Cold Water
V5011N1057	3/4	7.3	Equal %	Hot/Cold Water
V5011N1065	1	11.7	Equal %	Hot/Cold Water
V5011N1073	1 1/4	18.7	Equal %	Hot/Cold Water
V5011N1081	1 1/2	29.3	Equal %	Hot/Cold Water
V5011N1099	2	46.8	Equal %	Hot/Cold Water
V5011N2022	1/2	1.85	Linear	Steam
V5011N2048	1/2	4.7	Linear	Steam
V5011N2055	3/4	7.3	Linear	Steam
V5011N2063	1	11.7	Linear	Steam
V5011N2071	1 1/4	18.7	Linear	Steam
V5011N2089	1 1/2	29.3	Linear	Steam
V5011N2097	2	46.8	Linear	Steam

WATER AND STEAM VALVE



V5011N3012

2-WAY, GLOBE, THREADED, PDTO

Honeywell

Part No.	Connection Size (In.)	Flow (Cv)	Type	Media
V5011N3012	1/2	4.7	Equal %	Hot/Cold Water
V5011N3020	3/4	7.3	Equal %	Hot/Cold Water
V5011N3038	1	11.7	Equal %	Hot/Cold Water
V5011N3046	1 1/4	18.7	Equal %	Hot/Cold Water

WATER AND STEAM VALVE



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
V5011G1111	2 1/2	63	Linear	Steam
V5011G1129	3	100	Linear	Steam
V5011F1105	2 1/2	63	Equal Percentage	Water or Glycol
V5011F1113	3	100	Equal Percentage	Water or Glycol



V5013N1048

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
V5013N1048	1/2	4.7	4
V5013N1055	3/4	7.3	4
V5013N1063	1	11.7	4
V5013N1071	1 1/4	18.7	4
V5013N1089	1 1/2	29.3	4
V5013N1097	2	46.8	4



VB72110404

2-WAY, NORMALLY OPEN, MPT X FPT

Schneider Electric **tac** colman

Part No.	Connection Size (In.)	Flow (Cv)
VB72110404	1/2	4.4
VB72110406	3/4	7.5
VB72110408	1	14.0
VB72110409	1 1/4	20.0



VB72130402

2-WAY, NORMALLY OPEN, FPT

Schneider Electric **tac** colman

Part No.	Connection Size (In.)	Flow (Cv)
VB72130402	1/2	1.3
VB72130403	1/2	2.2
VB72130404	1/2	4.4
VB72130406	3/4	7.5
VB72130407	1	10.0
VB72130408	1	14.0
VB72130409	1 1/4	20.0
VB72130410	1 1/2	28.0
VB72130411	2	40.0



2-WAY, NORMALLY CLOSED, FPT

VB72230402



Part No.	Connection Size (In.)	Flow (Cv)
VB72230402	1/2	1.3
VB72230403	1/2	2.2
VB72230404	1/2	4.4
VB72230406	3/4	7.5
VB72230407	1	10.0
VB72230408	1	14.0
VB72230409	1 1/4	20.0
VB72230410	1 1/2	28.0
VB72230411	2	40.0



3-WAY, MIXING, FPT

- Hot or chilled water service

VB73130402



Part No.	Connection Size (In.)	Flow (Cv)
VB73130402	1/2	2.2
VB73130404	1/2	4.4
VB73130406	3/4	7.5
VB73130408	1	14.0
VB73130409	1 1/4	20.0
VB73130410	1 1/2	28.0
VB73130411	2	41.0

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)
VK7221203404	1/2	4.4
VK7221203406	3/4	7.5

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VALVE ACTUATOR

ADAPTER KITS



Y20EBE2



Part No.	Description	Adapts
Y20EBE2*	Mount Kit	VT Valve, VA7150 Actuator



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
VA4233GGA2*	Proportional



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
VA80201*	24 Vac, Three-Wire Incremental
VA81221*	0 - 10 Vdc, Proportional
VA80501	Electric Valve Actuator, 50Lb, 24V Floating Control



VA74800312

ELECTRIC VALVE ACTUATOR

The VA748 series provides floating or proportional control in HVAC applications. The compact design of this actuator makes it suitable for installation in confined spaces, such as 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.



Part No.	Description
VA74800312*	24 VAC Floating



SGVL+LVKX24-3

ACTUATOR WITH GLOBE VALVE LINKAGE KIT

The new actuators and retrofit linkages are highly adaptable making selection, installation and service hassle-free.

- 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
- Lower power consumption during operation
- Steam inlet ranges up to 100 psi
- Innovative valve clamp and quick connect coupler



Part No.	Torque	Retrofit Linkage	Fail-Safe	Control Type
SGVL+LVKX24-3*	112 lbf	SGVL	Electronic Fail-Safe	On/Off, Floating Point
SGVL+LVKX24-MFT*	112 lbf	SGVL	Electronic Fail-Safe	Proportional/MFT, 2 to 10 Vdc
SGVL+LVX24-3*	112 lbf	SGVL	Non-Spring Return	On/Off, Floating Point
SGVL+LVX24-MFT*	112 lbf	SGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc
SGVL+SVX24-3*	337 lbf	SGVL	Non-Spring Return	On/Off, Floating Point
SGVL+SVX24-MFT*	337 lbf	SGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc
UGVL+LVKX24-3*	112 lbf	UGVL	Electronic Fail-Safe	On/Off, Floating Point
UGVL+LVKX24-MFT*	112 lbf	UGVL	Electronic Fail-Safe	Proportional/MFT, 2 to 10 Vdc
UGVL+LVX24-3*	112 lbf	UGVL	Non-Spring Return	On/Off, Floating Point
UGVL+LVX24-MFT*	112 lbf	UGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc
UGVL+SVX24-3*	337 lbf	UGVL	Non-Spring Return	On/Off, Floating Point

Continued on next page



Part No.	Torque	Retrofit Linkage	Fail-Safe	Control Type
FGVLEVB243* ¹	562 lbf	FGVL	Non-Spring Return	On/Off, Floating Point
UGVL+SVX24-MFT*	337 lbf	UGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc
FGVLEVB24MFT* ¹	562 lbf	FGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc
FGVLRVB243* ²	1011 lbf	FGVL	Non-Spring Return	On/Off, Floating Point
FGVLRVB24MFT* ²	1011 lbf	FGVL	Non-Spring Return	Proportional/MFT, 2 to 10 Vdc

¹ For 2.5" to 4" globe valves ² For 4" to 6" globe valves

CHARACTERIZED CONTROL VALVE

2-WAY 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



B209-BEL

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)
B209-BEL*	1/2	0.8
B210-BEL*	1/2	1.2
B211-BEL*	1/2	1.9
B212-BEL*	1/2	3.0
B213-BEL*	1/2	4.7
B214-BEL*	1/2	7.4
B215-BEL*	1/2	10.0
B216-BEL* ¹	1/2	16.0
B217-BEL*	3/4	4.7
B218-BEL*	3/4	7.4
B219-BEL*	3/4	10.0

Continued on next page

Part No.	Connection Size (In.)	Flow (Cv)
B220-BEL*	3/4	14.0
B221-BEL* ¹	3/4	24.0
B223-BEL*	1	10.0
B224-BEL*	1	19.0
B225-BEL* ¹	1	30.0
B230-BEL*	1 1/4	19.0
B231-BEL*	1 1/4	25.0
B232-BEL* ¹	1 1/4	37.0
B238-BEL*	1 1/2	19.0
B239-BEL*	1 1/2	29.0
B240-BEL*	1 1/2	37.0
B249-BEL*	2	46.0
B250-BEL* ¹	2	57.0
B251-BEL*	2	65.0
B252-BEL*	2	85.0
B253-BEL*	2	120.0
B263-BEL*	2 1/2	110.0
B265-BEL* ¹	2 1/2	210.0

¹ Full Port



B309-BEL

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

BELIMO

- NPT female ends

Part No.	Connection Size (In.)	Flow (Cv)
B309-BEL*	1/2	0.8
B310-BEL*	1/2	1.2
B311-BEL*	1/2	1.9
B312-BEL*	1/2	3.0
B313-BEL*	1/2	4.7
B315-BEL*	1/2	10.0
B316-BEL* ¹	1/2	16.0
B317-BEL*	3/4	4.7
B318-BEL*	3/4	7.4
B320-BEL* ¹	3/4	24.0
B323-BEL*	1	10.0
B325-BEL* ¹	1	30.0
B330-BEL*	1 1/4	19.0
B331-BEL*	1 1/4	25.0
B339-BEL*	1 1/2	29.0
B340-BEL*	1 1/2	37.0
B341-BEL*	1 1/2	46.0
B348-BEL*	2	37.0
B349-BEL*	2	46.0
B350-BEL*	2	57.0
B351-BEL*	2	68.0

¹ Full Port



*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

CHARACTERIZED CONTROL VALVE



2-WAY VALVE, HIGH TEMPERATURE, STEAM

This valve is designed to fit in compact areas where on/off or floating point 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)
B215HT186*	1/2	1.86
B215HT290*	1/2	2.9
B215HT455*	1/2	4.55
B220HT1320*	3/4	13.2
B220HT731*	3/4	7.31
B220HT928*	3/4	9.28
B225HT1160*	1	11.6
B225HT1856*	1	18.56



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)	Supply Voltage
TR243*	On/Off, Floating	18	24 Vac/Vdc
TR24SR*	Proportional, 2-10 Vdc	18	24 Vac/Vdc
LRB243*	On/Off, Floating	45	24 Vac/Vdc
LRX24MFT*	Proportional, 2-10 Vdc, MFT	45	24 Vac/Vdc
ARB243*	2 Position, On/Off, Floating	180	24 Vac/Vdc
ARB24SR*	Modulating, 2-10 Vdc	180	24 Vac/Vdc
ARX24MFT*	Proportional, 2-10 Vdc, MFT	180	24 Vac/Vdc



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
TFRB24*	On/Off	22	24 Vac/Vdc
TFRB243*	Floating, 3-Wire	22	24 Vac/Vdc
TFRX24MFT*	Proportional/MFT	22	24 Vac/Vdc
TFRB120*	On/Off	22	24 to 125 Vdc
AFRB24*	On/Off	180	24 Vac/Vdc
AFRB24SR*	Proportional	180	24 Vac/Vdc
AFRX24MFT*	Floating/Proportional/MFT	180	24 Vac/Vdc
AFRBUP*	On/Off	180	24 to 125 Vdc

DIRECT COUPLED



TFB24SR

SPRING RETURN, 22 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
TFB24SR*	22	Proportional	24 Vac/Vdc



LF24

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.

BELIMO

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
LF24*	35	On/Off	24 Vac/Vdc
LF120*	35	On/Off	120 Vac
LF243*	35	Tri State, Floating	24 Vac/Vdc
LF24S*	35	On/Off, 1 SPDT Aux	24 Vac/Vdc
LF24SR*	35	Proportional	24 Vac/Vdc
LF24SRS* ¹	35	Proportional	24 Vac/Vdc
LF24MFT*	35	Proportional/MFT	24 Vac/Vdc
LF24MFTS* ¹	35	Proportional/MFT	24 Vac/Vdc

¹ With Built-In Auxiliary Switch



NFB24

SPRING RETURN, 90 LB.-IN.

BELIMO

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
NFB24*	90	On/Off	24 Vac/Vdc
NFB24S*	90	On/Off, 2 SPDT Aux	24 Vac/Vdc
NFB24SR*	90	Proportional	24 Vac/Vdc
NFBUP*	90	On/Off	24 to 125 Vdc
NFBUPS*	90	On/Off, 2 SPDT Aux	24 to 125 Vdc



LMB243

NON-SPRING RETURN, 45 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
LMB243T*	45	On/Off, Floating	24 Vac/Vdc
LMB243*	45	On/Off, Floating	24 Vac/Vdc
LMB243S*	45	On/Off, Floating, 1 SPDT aux	24 Vac/Vdc
LMB24SR*	45	Proportional	24 Vac/Vdc



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.	Torque (In.-Lb)	Control Type	Supply Voltage
AFB24*	180	On/Off	24 Vac/Vdc
AFB24MFTS*	180	Proportional/MFT	24 Vac/Vdc
AFB24S*	180	On/Off, 2 SPDT Aux	24 Vac/Vdc
AFB24SR*	180	Proportional	24 Vac/Vdc
AFBUP*	180	On/Off	24 to 125 Vdc
AFB24MFT*	180	Proportional, MFT	24 Vac/Vdc
AFBUPS*	180	On/Off, 2 SPDT Aux	24 to 125 Vdc



NMB243

NON-SPRING RETURN, 90 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
NMB243*	90	On/Off, Floating	24 Vac/Vdc
NMB24SR*	90	Proportional	24 Vac/Vdc



EFB24

SPRING RETURN, 270 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
EFB24*	270	On/Off	24 Vac/Vdc
EFB24SR*	270	Proportional	24 Vac/Vdc



AMB243

NON-SPRING RETURN, 180 LB.-IN.

- Power Supply: 24 Vac/Vdc

BELIMO

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
AMB243*	180	On/Off, Floating	24 Vac/Vdc
AMB243S*	180	On/Off, Floating, 1 SPDT Aux	24 Vac/Vdc
AMB24SR*	180	Proportional	24 Vac/Vdc



*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



GMB243

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.



Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
GMB243*	360	On/Off, Floating	24 Vac/Vdc
GMB24SR*	360	Proportional	24 Vac/Vdc
GMX24MFT*	360	On/Off, MFT	24 Vac/Vdc



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

Part No.	Torque (In.-Lb)	Control Type	Supply Voltage
FSLF120*	30	On/Off	120 Vac
FSLF120S* ¹	30	On/Off	120 Vac
FSNF120*	70	On/Off	120 Vac
FSAF120*	133	On/Off	120 Vac

¹ With Built-In Auxiliary Switch



KH6

LINKAGE ACCESSORIES



Part No.	Description	Use with
KH6*	Universal Crank Arm (For KG6 Ball Joint)	NFB,NFX,LF,TF Series
KH8*	Universal Crank Arm (For KG8 Ball Joint)	AFB,AFX,AF,NFB,NFX,LF,TF Series
KG8*	Ball Joint (5/16", 90)	AF,NFB,LF,TF,GM,AM,LM,AH Series
WAF4*	Valve Actuator Linkage Kit	AFB series
WLF*	Valve Actuator Linkage Kit	LF Series
WTF*	Valve Actuator Linkage Kit	TF Series

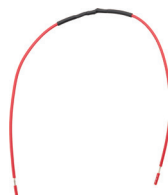


ZGAF

CRANK ARM ADAPTOR KIT



Part No.	Description	Use with
ZGAF*	Crank Arm Adaptor Kit (includes mounting hardware)	AF Series
ZGNMA*	Crank Arm Adaptor Kit (includes mounting hardware)	AM, NM Series
KHLF*	Crank Arm for Shafts to 1/2"	LF Series



ZGR01

CONTROL AND POSITIONING



Part No.	Description	Use with
ZGR01*	4 to 20 mA Adaptor, 5000, 1/2" W	All Belimo Actuators



M9116AGA2

NON-SPRING RETURN, 140 LB.-IN.



Part No.	Torque (In.-Lb)	Control Input
M9116AGA2*	140	24 Vac, Floating
M9116GGA2*	140	0 to 10 Vdc (0 - 20 mA)



M9124AGA2

NON-SPRING RETURN, 210 LB.-IN.



Part No.	Torque (In.-Lb)	Control Input
M9124AGA2*	210	24 Vac, Floating
M9124GGA2*	210	0 to 10 Vdc (0 - 20 mA)



*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



M9208AGA2

SPRING RETURN, 70 LB.-IN.



Part No.	Torque (In.-Lb)	Control Input
M9208AGA2*	70	24 Vac, On/Off Floating
M9208AGC3*	70	24 Vac, On/Off Floating, 2 Aux
M9208BGA3*	70	On/Off
M9208GGA2	70	0 to 10 Vdc (0-20 mA)



M9220AGA3

SPRING RETURN, 177 LB.-IN.



Part No.	Torque (In.-Lb)	Control Input
M9220AGA3*	177	Floating
M9220BGC3*	177	On/Off, 2 Aux. Switches
M9220BGA3*	177	On/Off
M9220AGC3*	177	Floating, 2 Aux. Switches
M9220HGA3*	177	Vdc and mA w/Zero and Span
M9220GGA3*	177	Proportional



MN6105A1011

NON-SPRING RETURN, 44 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type
MN6105A1011	44	2 Position, Floating
MN6105A1201 ¹	44	2 Position, Floating
MN7505A2001	44	Modulating, Floating

¹ 2 Aux.



MN6110A1003

NON-SPRING RETURN, 88 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type
MN6110A1003	88	2 Position, Floating
MN6110A1201 ¹	88	2 Position, Floating
MN7510A2001	88	Modulating, Floating
MN7510A2209 ¹	88	Modulating, Floating

¹ 2 Aux.



MN6120A1002

NON-SPRING RETURN, 175 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type
MN6120A1002	175	2 Position, Floating
MN7220A2205 ¹	175	Modulating

¹ 2 Aux.



MN7234A2008

NON-SPRING RETURN, 300 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type
MN7234A2008	300	Modulating

 *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



MS8103A1030

SPRING RETURN, 27 LB.-IN.

Zelix, compact actuator

Honeywell

Part No.	Torque (In.-Lb)	Control Type
MS8103A1030	27	2 Position / 24 Vac/dc
MS8103A1130 ¹	27	2 Position / 24 Vac/dc
MS4103A1030	27	2 Position / 120 Vac
MS4103A1130 ¹	27	2 Position / 120 Vac
MS7503A2030	27	Modulating, Floating, 24 Vac/dc
MS7503A2130 ¹	27	Modulating, Floating, 24 Vac/dc

1 1 Aux



MS4105A1030

SPRING RETURN, 44 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type
MS4105A1030	44	2 Position / 120 Vac
MS4105A1130 ¹	44	2 Position / 120 Vac
MS7405A2030	44	Economizer 3-Position
MS7505A2030	44	Modulating, Floating, 24 Vac/dc
MS7505A2130 ¹	44	Modulating, Floating, 24 Vac/dc
MS8105A1030	44	2 Position / 24 Vac/dc
MS8105A1130 ¹	44	2 Position / 24 Vac/dc

1 1 Aux



MS4110A1002

SPRING RETURN, 88 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type
MS4110A1002	88	2 Position / 120 Vac
MS4110A1200 ¹	88	2 Position / 120 Vac
MS7510A2008	88	Modulating, Floating
MS7510A2206 ¹	88	Modulating, Floating
MS8110A1008	88	2 Position / 24 Vac
MS8110A1206 ¹	88	2 Position / 24 Vac

1 2 Aux



MS4120A1001

SPRING RETURN, 175 LB.-IN.

Honeywell

Part No.	Torque (In.-Lb)	Control Type
MS4120A1001 ¹	175	2 Position / 120 Vac
MS4120A1209 ²	175	2 Position / 120 Vac
MS4120F1006 ³	175	2 Position / 120 Vac
MS4120F1204 ⁴	175	2 Position / 120 Vac
MS7520A2007	175	Floating, Modulating
MS7520A2205 ⁵	175	Floating, Modulating
MS7520H2208 ⁵	175	Floating, Modulating
MS8120A1007	175	2 Position
MS8120A1205 ⁵	175	2 Position

1 45 Sec 2 45 Sec, 2 Aux 3 15 Sec 4 15 Sec, 2 Aux 5 2 Aux



ML6161A2009

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.	Torque (In.-Lb)	Supply Voltage	Control Signal
ML6161A2009	35	24 Vac	SPDT floating, two position
ML6161A2017	35	24 Vac	SPDT floating, two position
ML6161B2024	35	24 Vac	SPDT floating, two position
ML6161B2032	35	24 Vac	SPDT floating, two position



*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



ML6174A2002

NON-SPRING RETURN, 70 LB.-IN.

Used to control dampers in applications such as variable air volume terminal units; suitable for use with SPDT floating 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.	Torque (In.-Lb)	Supply Voltage	Control Mode	Control Signal
ML6174A2002	70	24 Vac	Series 60	SPDT Floating and On-Off



MS4104F1010

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.	Torque (In.-Lb)	Supply Voltage	Control Signal
MS4104F1010	30	120 Vac	2-Position, SPST
MS4109F1010	80	120 Vac	2-Position, SPST
MS4104F1210 ¹	30	120 Vac	2-Position, SPST

¹ 2 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
MS8120F1002 ¹	175	2 Position / 24 Vac
MS8120F1200 ²	175	2 Position / 24 Vac

¹ 15 Sec. ² 15 Sec, 2 Aux



MS7103A1021

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.	Torque (In.-Lb)	Description	Control Type	Supply Voltage
MS7103A1021	27	Round Damper Shafts: 3/8 to 5/8", Square Damper Shafts: 1/4 to 1/2"	2-10 Vdc	24 Vac or Vdc
MS7103A2221 ¹	27	Round Damper Shafts: 3/8 to 5/8", Square Damper Shafts: 1/4 to 1/2"	2-10 Vdc	24 Vac or Vdc
MS7103A2024	27	Round Damper Shafts: 1/4 to 3/4", Square Damper Shafts: 1/4 to 1/2"	2-10 Vdc	24 Vac or Vdc
MS7103A2224 ¹	27	Round Damper Shafts: 1/4 to 3/4", Square Damper Shafts: 1/4 to 1/2"	2-10 Vdc	24 Vac or Vdc

¹ 2 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

DIRECT COUPLED



ML6420A3049

LINEAR VALVE OPERATOR, NON-SPRING RETURN

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.)	Stem Force (Lbf)	Control Signal	Timing
ML6420A3049	3/4	135	SPDT, Floating, On/Off	60 Sec.
ML7420A3055	3/4	135	2 to 10 Vdc	60 Sec.



ML6421A1017

LINEAR VALVE OPERATOR, NON-SPRING RETURN

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.)	Stem Force (Lbf)	Control Signal	Timing
ML6421A1017	3/4	405	SPDT, Floating, On/Off	95 Sec.
ML6421B1040	1 1/2	405	SPST. On/Off	175 Sec.
ML7421A1032	3/4	405	2 to 10 Vdc	95 Sec.
ML7421B1023	1 1/2	405	2 to 10 Vdc	175 Sec.



ML6425A3022

LINEAR VALVE OPERATOR, SPRING RETURN

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.)	Stem Force (Lbf)	Control Signal
ML6425A3022 ¹	3/4	135	SPDT Floating
ML6425B3013 ²	3/4	135	SPDT Floating
ML7425A3013 ¹	3/4	135	0 to 10 Vdc
ML7425B3012 ²	3/4	135	0 to 10 Vdc

¹ Extends Stem Down on Power Failure ² Retracts Stem Up on Power Failure



ML6984A4000

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
ML6984A4000	3 or 5 Wire Floating, Low Volts SPDT, ON/OFF
ML7984A4009	2 to 10 Vdc, 4 to 20 mA, 135O, Series 90



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**

Part No.	Stem Force (Lbf)	Control Signal	Timing
M400A	90	Proportional, Floating	60 or 300 Sec. selectable
M800A	180	Proportional, Floating	60 or 300 Sec. selectable
M1500A	337	Proportional, Floating	60 or 300 Sec. selectable

NON-SPRING RETURN, 70 LB.-IN.

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



M9108AGA2

NON-SPRING RETURN, 70 LB.-IN.



Part No.	Torque (In.-Lb)	Control Input
M9108AGA2*	70	24 Vac, Floating



ML6174A2002

NON-SPRING RETURN, 70 LB.-IN.

Used to control dampers in applications such as variable air volume terminal units; suitable for use with SPDT floating 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.	Torque (In.-Lb)	Supply Voltage	Control Mode	Control Signal
ML6174B2019	70	24 Vac	Series 60	SPDT Floating and 2-Position

NON-SPRING RETURN, 70 LB.-IN.

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



M9108GGA2

NON-SPRING RETURN, 70 LB.-IN.



Part No.	Torque (In.-Lb)	Control Input
M9108GGA2*	70	0 to 10 Vdc (0 - 20 mA)

SPECIAL PURPOSE MOUNT



M847A1072

2-POSITION, SPRING RETURN

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.	Tim-ing	Stroke (Degrees)	Supply Voltage	Includes	Torque (In.-Oz)	Linkage (In.)
M847A1072	20 Sec.	45	24 Vac	38 in linkage chain	30	3.8, Arm
M847A1080	20 Sec.	45	24 Vac	38 in linkage chain	30	3.8, Chain



*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

SPECIAL PURPOSE MOUNT



CP8301120

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
CP8301120	1 to 15 Vdc	120
CP830124	1 to 15 Vdc	24

FOOT MOUNT



M4185B1009

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	Torque (In.-Lb)	Timing	Stroke (Degrees)
M4185B1009 ¹	120	60	60 Sec.	160
M4185B1058 ¹	120/208/240	60	30 Sec.	90
M8185D1006	24	60	30 to 60 Sec.	90 to 160

¹ 1-SPDT Auxiliary Switch



M6184D1035

REVERSING, 3-WIRE SPDT, FLOATING

Reversing, 3-wire SPDT or floating control motors used to operate dampers and valves.

- Modutrol IV Series

Honeywell

Part No.	Torque (In.-Lb)	Supply Voltage	Timing	Stroke (Degrees)
M6184D1035	150	24	30 to 60 Sec.	90 to 160
M6194D1017	300	24	120 to 240 Sec.	90 to 160



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
M6415A1016	CCW	SPDT Floating
M8405A1006	CCW	3-Position, Adjustable Minimum
M8415A1004	CW	2-Position, Adjustable Auxiliary



M7284A1004

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)
M7284A1004	150	120	30 Sec.	90
M7284C1000 ¹	150	120	30 Sec.	90

¹ 2-Auxiliary Switch



M9182A1011

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)
M9182A1011	24 Vac	60	60 Sec.	160
M9185A1018	24 Vac	60	60 Sec.	160
M9185D1004	24 Vac	60	30 to 60 Sec.	90 to 160



M9174B1027

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)
M9174B1027 ¹	75	120	30 to 60 Sec.	90 to 160
M9174C1025 ²	75	120	30 Sec.	90

¹ 1-SPDT Auxiliary ² 2-SPDT Auxiliary



M9484E1017

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 ?
- Stroke is field-adjustable to 90 or 160 degrees.
- Supply power: 24 Vac

Honeywell

Part No.	Torque (In.-Lb)	Supply Voltage	Timing	Stroke (Degrees)	Includes
M9484E1017	150	24 Vac	30 to 60 Sec.	90 to 160	1 Aux Switch (1°)
M9484E1033	150	24 Vac	30 to 60 Sec.	90 to 160	1 Aux Switch (7°)
M9484F1007	150	24 Vac	30 to 60 Sec.	90 to 160	2 Aux Switch (7° + 80°)
M9484F1023	75	24 Vac	15 to 30 Sec.	90 to 160	2 Aux Switch
M9484F1031	150	24 Vac	30 to 60 Sec.	90 to 160	2 Aux Switch (7° + 80°)



M9184A1019

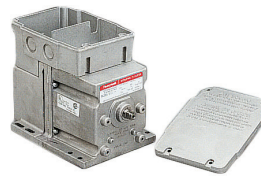
PROPORTIONAL, REVERSING, NON-SPRING RETURN, 150-300 LB. IN.

- For Series 90 control circuit
- Supply power: 24 Vac

Honeywell

Part No.	Torque (In.-Lb)	Supply Voltage	Timing	Stroke (Degrees)
M9184A1019	150	24 Vac	60 Sec.	160
M9184D1021	150	24 Vac	30 to 60 Sec.	90 to 160
M9194D1003	300	24 Vac	120 to 240 Sec.	90 to 160
M9194E1000 ¹	300	24 Vac	120 to 240 Sec.	90 to 160

¹ 1-Aux. Switch



M7164A1017

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.	Torque (In.-Lb)	Supply Voltage	Timing	Stroke (Degrees)	Voltage
M7164A1017	60	24 Vac	30-60 Sec.	90 to 160, Asymmetrical	24
M7164G1030 ¹	60	24 Vac	30-60 Sec.	90 to 160, Symmetrical	120

¹ Includes a transformer



*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

FOOT MOUNT



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



Part No.	Supply Voltage	Torque (In.-Lb)	Spring Return
MA418	120	60	CCW to origin



REVERSIBLE PROPORTIONAL ELECTRIC

The MP Series actuators are used for 2-position, floating, and proportional 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°)



Part No.	Supply Voltage	Torque (In.-Lb)	Timing	Spring Return	Auxiliary Switch
MP381	24	220	130 Sec.	CW	SPDT
MP485	120	220	130 Sec.	NO	SPDT
MP461600	120	50	90 Sec.	CW	SPDT

ACTUATOR ACCESSORIES



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)
Q5001D1000	80, 160
Q5001D1018	160, 320



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
Q5024B2240	1.57	2



Q7230A1005

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
Q7230A1005	Adj zero and span, 4-20 ma or 2-10 Vdc



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)
S443A1007	135

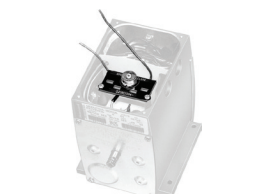


27518

DAMPER LINKAGE, Q298 SERIES

Honeywell

Part No.	Description
27518	Crankarm balljoint with 1/4 - 28 UNF male threads, fits 5-16" push rods



Q209E1002

MANUAL POTENTIOMETER, Q209 SERIES

Used to limit minimum position of a proportioning Modutrol motor.

Honeywell

Part No.	Mount Location	Resistance (Ohm)	Use with
Q209E1002	Internal, Cover Box	150	Modutrol IV



S963B1128

MANUAL POTENTIOMETER, S963 SERIES

For remote setpoint control of electronic (Series 70) motors and panels.

Honeywell

Part No.	Resistance (Ohm)	Scale Range	Use with
S963B1128	135	Open/Closed	Proportional Motors
S963B1136	270	Open/Closed	Proportional Motors



MP5210

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 Amps



Part No.	Supply Voltage	Auxiliary Switch
MP5210	120	No
MP5210500 ¹	120	Yes
MP5213	24	No
MP5213500 ¹	24	Yes
MP5230 ²	120	No

1 SPDT 10 Amp auxiliary switch 2 Damper actuation only



MP5410

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
MP5410	120
MP5413	24



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COMMERCIAL, ACTUATOR

HYDRAULIC



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
MP5513	24



MA5210

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
MA5210	120	No
MA5210500 ¹	120	Yes
MA5213	24	No
MA5213500 ¹	24	Yes

¹ SPDT 10 Amp auxiliary switch

ACCESSORIES



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
AV600	VB9000 Series Body Linkage
AV7600	VB7000 Series Body Linkage

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