

# F7100HD, 4", 3-Way Butterfly Valve

## Resilient Seat, 304 Stainless Steel Disc



### Technical Data

|                                 |   |
|---------------------------------|---|
| Service                         | chilled, hot water, up to 60% glycol    |
| Flow Characteristic             | modified linear                         |
| Controllable Flow Range         | 90° rotation                            |
| Valve Size                      | 4 " [100]                               |
| End Fitting                     | for use with ANSI class 125/150 flanges |
| Body                            | ductile iron ASTM A536                  |
| Body Finish                     | epoxy powder coated                     |
| Seat                            | EPDM standard                           |
| Shaft                           | 416 stainless steel                     |
| Bushings                        | RPTFE                                   |
| Disc                            | 304 stainless steel                     |
| Body Pressure Rating            | 200 psi at -20°F to +150°F              |
| ANSI Class                      | 125                                     |
| Number of Bolt Holes            | 8                                       |
| Lug Threads                     | 5/8-11 UNC                              |
| Media Temperature Range (Water) | -22°F to 250°F [-30°C to 120°C]         |
| Close-Off Pressure              | 200 psi                                 |
| Rangeability                    | 10:1 (for 30° to 70° range)             |
| Maximum Velocity                | 12 FPS                                  |
| Cv                              | 600                                     |
| Weight                          | 85.8 lb [38.9 kg]                       |
| Leakage                         | 0%                                      |
| Servicing                       | maintenance free                        |

### Application

Valve is designed for use in ANSI flanged piping systems to meet the needs of bi-directional high flow HVAC hydronic applications with 0% leakage. Typical applications include cooling tower bypass, primary flow change-over systems, and large air handler coil control. Valve face-to-face dimensions comply with API 609 & MSS-SP-67, Completely assembled and tested, Ready for installation.

### Jobsite Note

Valve assembly should be stored in a weather protected area prior to installation. Reference the butterfly valve installation instruction for additional information.

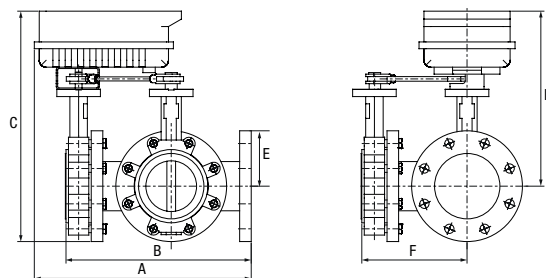
### Flow/Cv

| Cv 10° | Cv 20° | Cv 30° | Cv 40° | Cv 50° | Cv 60° | Cv 70° | Cv 80° | Cv 90° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.3    | 17     | 36     | 78     | 139    | 230    | 364    | 546    | 600    |

### Suitable Actuators

|         | Non-Spring | Electronic Fail-Safe |
|---------|------------|----------------------|
| F7100HD | PRB(X)     | PKRB(X)              |

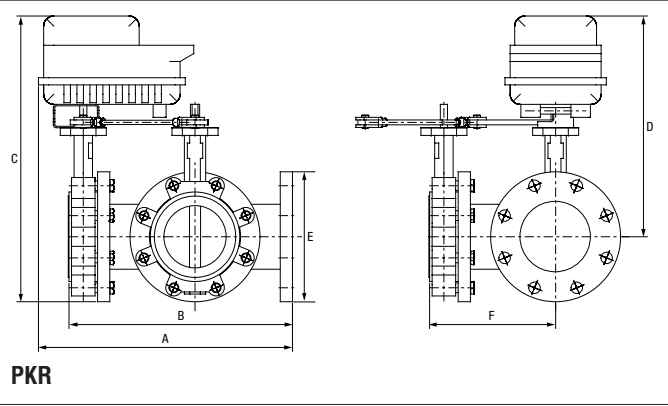
### Dimensions (Inches [mm])



### PRB, PRX

| A                 | B                 | C                 | D                 | E          | F                |
|-------------------|-------------------|-------------------|-------------------|------------|------------------|
| 17.63"<br>[447.8] | 15.05"<br>[382.3] | 18.72"<br>[475.5] | 14.22"<br>[361.2] | 4.5" [114] | 8.55"<br>[217.2] |

Dimensions (Inches [mm])



| A                 | B                 | C               | D           | E        | F                |
|-------------------|-------------------|-----------------|-------------|----------|------------------|
| 17.63"<br>[447.8] | 15.05"<br>[382.3] | 20.99"<br>[533] | 16.5" [419] | 9" [229] | 8.55"<br>[217.2] |

# PRXUP-MFT-T

## Modulating, Non Fail-Safe, 24-240 V, NEMA 4X with BACnet



### Technical Data

|                                    |   |
|------------------------------------|---|
| Power Supply                       | 24...240 VAC, -20% / +10%, 50/60 Hz,<br>24...125 VDC, -20% / +10%                                 |
| Power consumption in operation     | 20 W  |
| Power consumption in rest position | 6 W   |
| Transformer sizing                 | 20 VA @ 24 VAC/DC (class 2 power source),<br>23 VA @ 120 VAC/DC, 52 VA @ 230 VAC                  |
| Electrical Connection              | terminal blocks   |
| Overload Protection                | electronic throughout 0° to 90° rotation  |
| Operating Range                    | DC 2...10 V (default), 4 to 20 mA, variable<br>(VDC, floating point, on/off)                      |
| Operating range Y variable         | starting point DC 0.5...30 V<br>end point DC 2.5...32 V   |
| Input Impedance                    | 100 kΩ for 2 to 10 VDC (0.1 mA), 500 Ω<br>for 4 to 20 mA, 1500 Ω for On/Off                       |
| Position Feedback                  | DC 2...10 V, Max. 0.5 mA, VDC variable  |
| Angle of rotation                  | 90°   |
| Torque motor                       | 1400 in-lbs [160 Nm]  |
| direction of rotation motor        | reversible with app   |
| Position indication                | top mounted domed indicator   |
| Manual override                    | 7 mm hex crank, supplied  |
| Running time motor                 | default 35 sec, variable 30...120 sec   |
| Ambient humidity                   | 5 to 95% RH non condensing (EN 60730-1)   |
| Ambient temperature                | -22...122 °F [-30...50 °C]  |
| Non-operating temperature          | -40...176 °F [-40...80 °C]  |
| Degree of Protection               | IP66/67, NEMA 4X, UL Enclosure Type 4X  |
| Housing material                   | Aluminum die cast and plastic casing  |
| Agency Listing                     | cULus acc. to UL60730-1A/-2-14, CAN/CSA<br>E60730-1:02, CE acc. to 2004/108/EC and<br>2006/95/EC  |
| Noise level, motor                 | 68 dB (A)   |
| Maintenance                        | maintenance free  |
| Quality Standard                   | ISO 9001  |
| Weight                             | 13 lb [5.8 kg]  |
| Auxiliary switch                   | 2 x SPDT, 3A resistive (0.5A inductive) @<br>250 VAC, one set at 10°, one adjustable 0°<br>to 90° |
| Communication                      | BACnet MS/TP  |
| Passive Sensor Inputs              | 2 (PT1000) (NI1000) (NTC)   |

### Application

PR Series valve actuators are designed with an integrated linkage and visual position indicators. For outdoor applications, the installed valve must be mounted with the actuator at or above horizontal. For indoor applications the actuator can be in any location including directly under the valve.

### Operation

The PR series actuator provides 90° of rotation and a visual indicator shows the position of the valve. The PR Series actuator uses a low power consumption brushless DC motor and is electronically protected against overload. A universal power supply is furnished to connect supply voltage in the range of 24-240 VAC and 24-125 VDC. Included is a smart heater with thermostat to eliminate condensation. Two auxiliary switches are provided; one set at 10° open and the other is field adjustable. Running time is field adjustable from 30-120 seconds by using the Near Field Communication (NFC) app and a smart phone.

†Use 60°C/75°C copper wire size range 12-28 AWG, stranded or solid. Use flexible metal conduit. Push the listed conduit fitting device over the actuator's cable to butt against the enclosure. Screw in conduit connector. Jacket the actuators input wiring with listed flexible conduit. Properly terminate the conduit in a suitable junction box. Rated impulse Voltage 4000V. Type of action 1. Control pollution degree 3.

## Wiring Diagrams



Meets cULus requirements without the need of an electrical ground connection.



Universal Power Supply (UP) models can be supplied with 24 VAC up to 240 VAC, or 24 VDC up to 240 VDC.



Disconnect power.



Provide overload protection and disconnect as required.



Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.



Only connect common to negative (-) leg of control circuits.

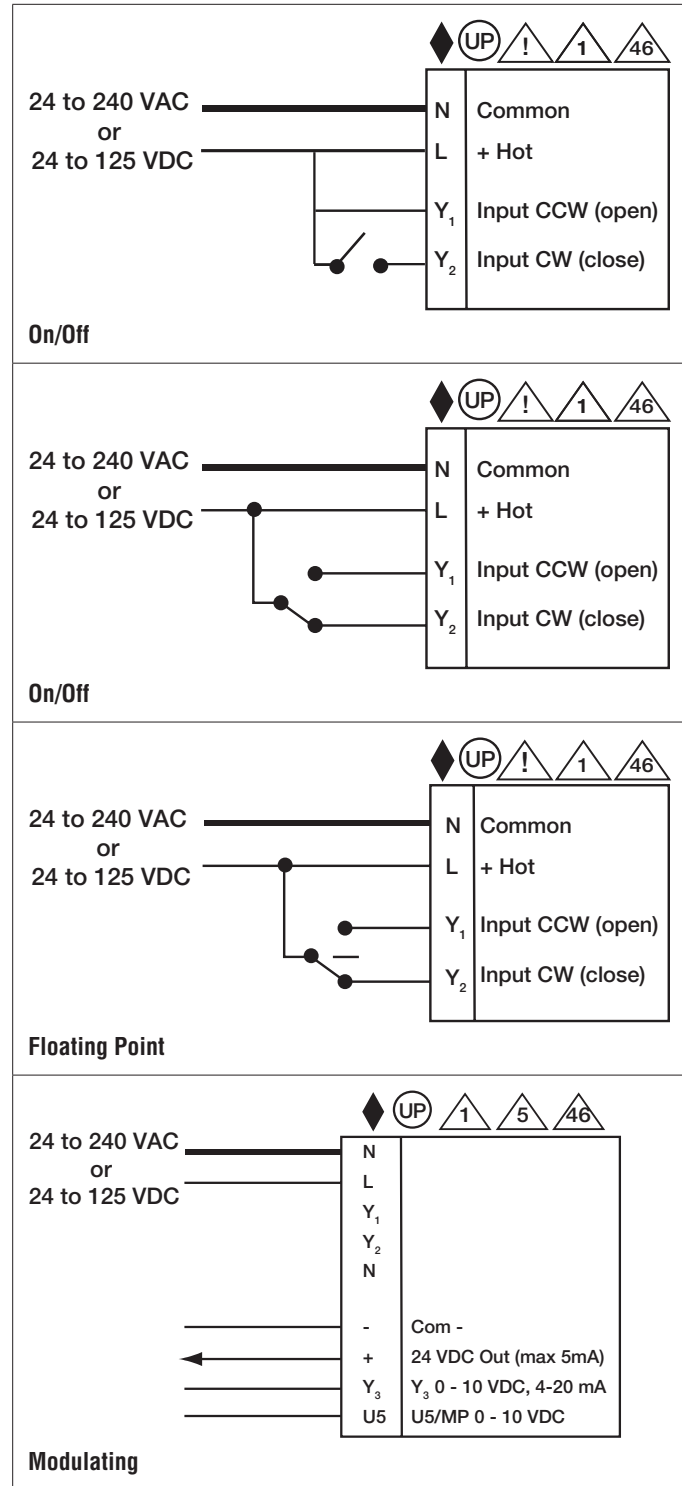


Actuators may be controlled in parallel. Current draw and input impedance must be observed.

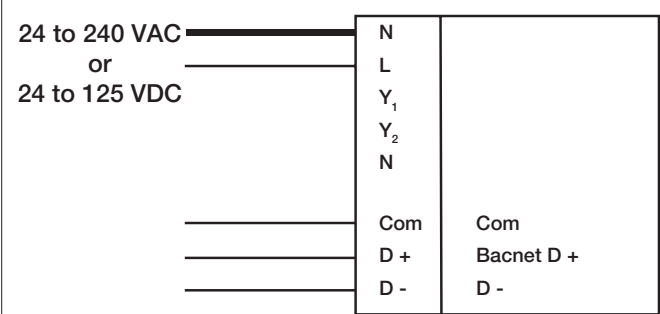


**WARNING! LIVE ELECTRICAL COMPONENTS!**

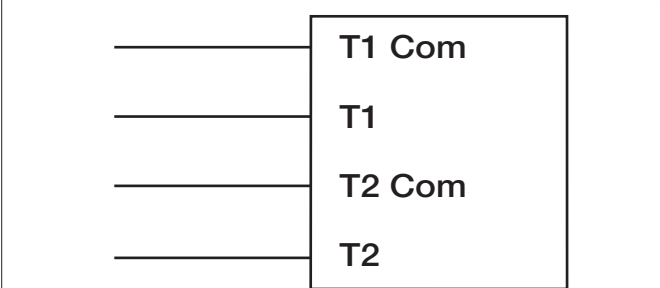
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



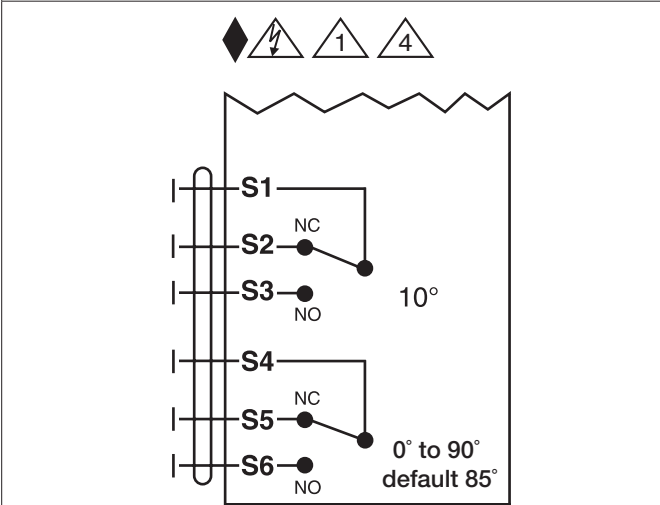
**PRXUP-MFT-T**  
Modulating, Non Fail-Safe, 24-240 V, NEMA 4X with BACnet



**BACnet**



**Temperature Sensors**



**Auxiliary Switches**

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