

B219VSS, 2-Way, Ball Valve

Stainless Steel Body, Ball and Stem



Application

These threaded valves are designed to provide modulating or two position control of hot or chilled water and saturated steam systems under 50 psi. Typical applications include reheat coils, VAV terminal control, unit ventilators, and air handlers, especially in areas which have minimum profile requirements. Up to 50 psi steam
 1/2" - 2000 PSIG WOG, Cold Non-Shock
 Federal Specification: WW-V-35C, Type II
 Composition: SS
 Style: 3

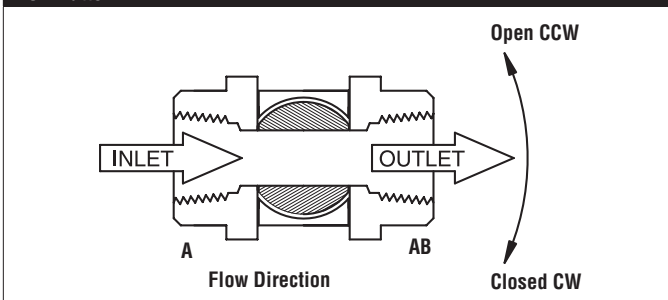
Suitable Actuators

| | Non-Spring | Spring |
|---------|-------------|--------|
| B219VSS | NMB(X), SY1 | LF |

Technical Data

| | |
|---------------------------------------|---|
| Service | chilled or hot water, up to 60% glycol, steam |
| Flow Characteristic | modified equal percentage |
| Controllable Flow Range | 90° rotation, A to AB open CCW, B to AB open CW |
| Size [mm] | 0.75" [20] |
| End Fitting | sae npt (female connections) |
| Body | A351-CF8M 316 Stainless Steel |
| Body Seal | PTFE |
| Ball | 316 stainless steel |
| Gland | A276-316 |
| Stem | 316 stainless steel |
| Stem Packing | reinforced PTFE |
| Stem Bearing | reinforced PTFE |
| Jam Nut | stainless steel |
| Seat | reinforced PTFE w/ Durafill |
| Body Pressure Rating [psi] | 1500 psig WOG |
| Max Inlet Pressure (Steam) | 50 psi |
| Media Temperature Range (Water) | -22°F to 298°F [-30°C to 148°C] |
| Maximum Differential Pressure (Steam) | 50 psi |
| Max Differential Pressure (Water) | <600 psig |
| Close-Off Pressure | 1000 psi |
| Maximum Velocity | 15 FPS |
| Cv | 30 |
| Weight | 1.3 lb [0.6 kg] |
| Leakage | ANSI Class VI |

Flow Pattern



NFX24-MFT-S-X1

Modulating, Spring Return, 24 V, Multi-Function Technology®



Technical Data

| | |
|-----------------------------------|--|
| Power Supply | 24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10% |
| Power Consumption Running | 6.5 W |
| Power Consumption Holding | 3 W |
| Transformer Sizing | 9 VA (class 2 power source) |
| Electrical Connection | (2) 3ft [1m], 18 GA appliance cables with 1/2" conduit connectors |
| Overload Protection | electronic throughout 0° to 95° rotation |
| Operating Range Y | 2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor) |
| Feedback Output U | 2 to 10 VDC, 0.5 mA max, VDC variable |
| Angle of Rotation | 95° |
| Torque motor | Min. 90 in-lbs [10 Nm] |
| Direction of Rotation (Motor) | reversible with built-in switch |
| Direction of Rotation (Fail-Safe) | reversible with CW/CCW mounting |
| Position Indication | visual indicator, 0° to 95° (0° is full spring return position) |
| Manual Override | 5 mm hex crank (3/16" Allen), supplied |
| Running Time (Motor) | 150 sec |
| Running Time (Fail-Safe) | <20 sec @ -4°F to 122°F [-20°C to 50°C], <60 sec @ -22°F [-30°C] |
| Override Control | min. position = 0% , mid. Position = 50% , max. position = 100% (Default) |
| Ambient Humidity | max. 95% RH non-condensing |
| Ambient Temperature Range | -22°F to 122°F [-30°C to 50°C] |
| Storage Temperature Range | -40°F to 176°F [-40°C to 80°C] |
| Housing | NEMA 2, IP54, UL Enclosure Type 2 |
| Agency Listings† | UL 873 listed, CSA C22.2 No. 24 certified |
| Noise Level (Motor) | <50 dB (A) |
| Noise Level (Fail-Safe) | <62 dB (A) |
| Servicing | maintenance free |
| Quality Standard | ISO 9001 |
| Weight | 4.4 lb [2 kg] |
| Auxiliary switch | 2 x SPDT, 3A resistive (0.5A inductive) @ 250 VAC, one set at 10°, one adjustable 10° to 90° |

*Variable when configured with MFT options.

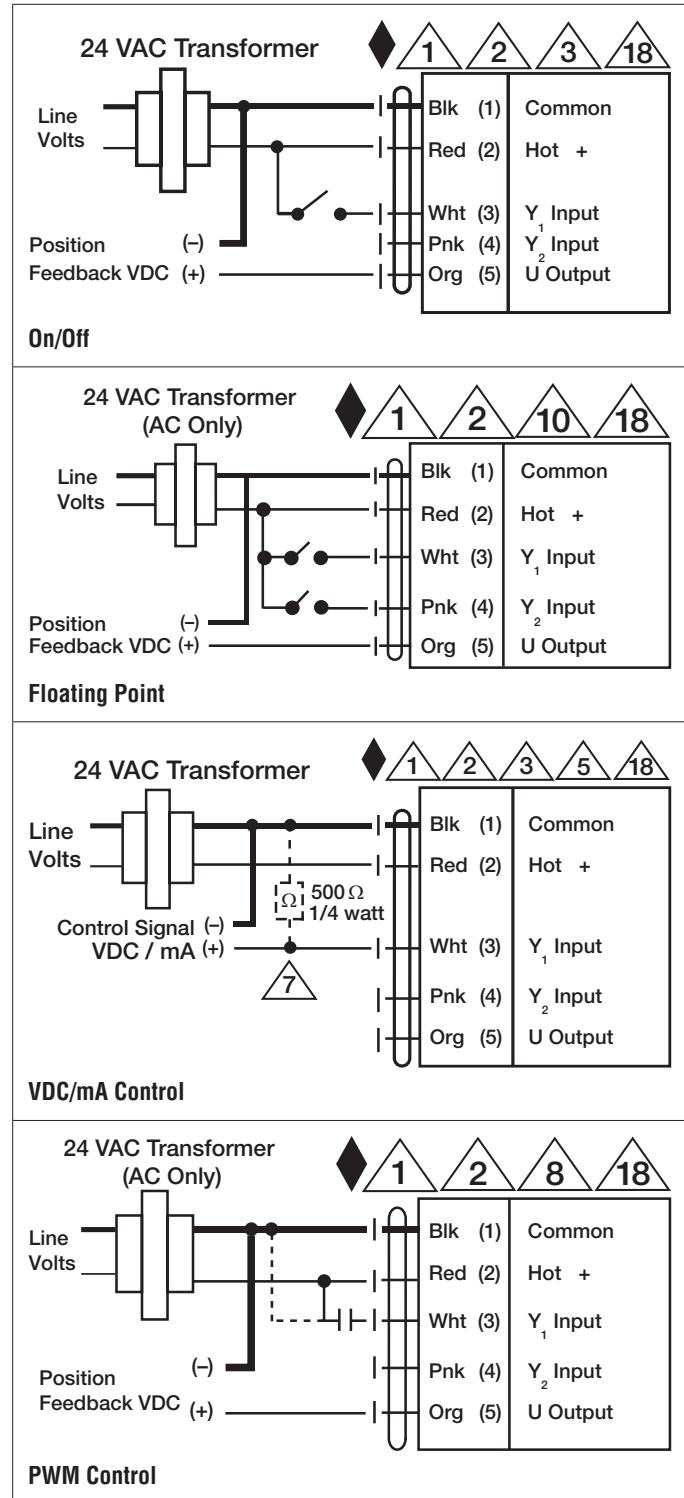
†Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

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Wiring Diagrams
INSTALLATION NOTES

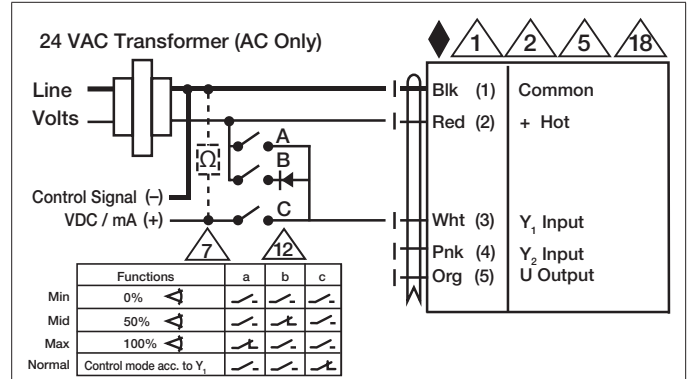
- Actuators with appliance cables are numbered.
- Provide overload protection and disconnect as required.
- Actuators may also be powered by 24 VDC.
- Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.
- Only connect common to negative (-) leg of control circuits.
- A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller; the actuator internal common reference is not compatible.
- Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).
- Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.
- Meets cULus requirements without the need of an electrical ground connection.

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.

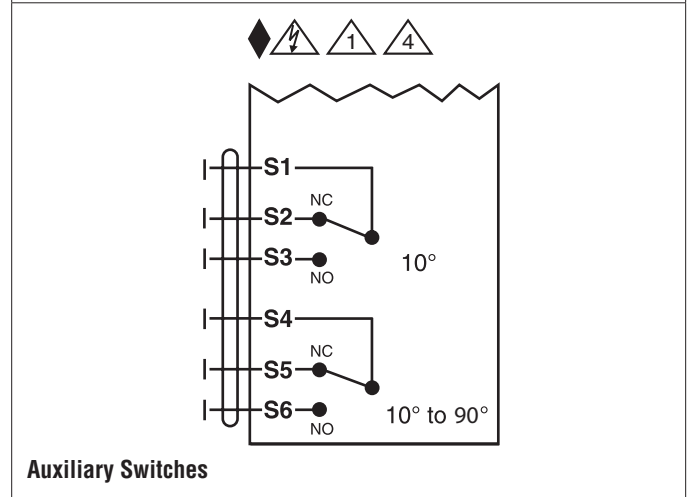


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Override Control



Auxiliary Switches

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