

B249VSS, 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

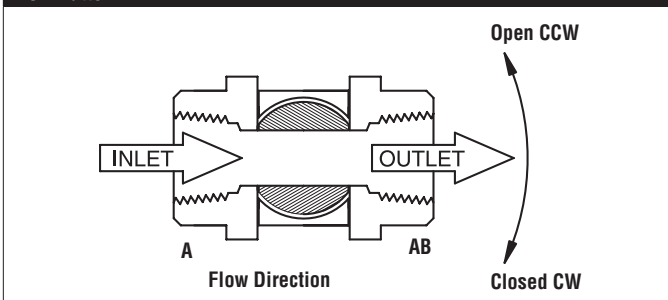
Suitable Actuators

	Non-Spring	Spring	Electronic Fail-Safe
B249VSS	GMB(X), SY2	AFB(X)	GKB(X)

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]	2" [50]
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	108
Weight	6.2 lb [2.8 kg]
Leakage	ANSI Class VI

Flow Pattern



GKX24-MFT-X1

Modulating, Electronic Fail-Safe, 24 V, for 2 to 10 VDC or 4 to 20 mA Control Signal



Technical Data

Power Supply	24 VAC \pm 20%, 50/60 Hz, 24 VDC \pm 10%
Power Consumption Running	12 W
Power Consumption Holding	3 W
Transformer Sizing	21 VA (class 2 power source)
Electrical Connection	18 GA plenum rated cable with 1/2" conduit connector protected NEMA 2 (IP54) 3ft [1m] 10 ft [3m] and 16 ft [5m]
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), variable (VDC, floating point, on/off)
Input Impedance	100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA, 1500 Ω for PWM, floating point and On/Off
Feedback Output U	2 to 10 VDC, 0.5 mA max, VDC variable
Angle of Rotation	max. 95°, adjustable with mechanical stop
Direction of Rotation (Motor)	reversible with built-in switch
Direction of Rotation (Fail-Safe)	reversible with switch
Position Indication	reflective visual indicator (snap on)
Manual Override	external push button
Running Time (Motor)	150 sec (default), variable (95 to 150 sec)
Running Time (Fail-Safe)	35 sec
Bridge Time	programmable 0 to 10 sec (2 sec default) delay before fail-safe activates
Pre-charging Time	5 to 20 seconds
Humidity	5 to 95% RH non condensing (EN 60730-1)
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
Housing Material	UL94-5VA
Agency Listings†	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC
Noise Level (Motor)	<45 dB (A)
Noise Level (Fail-Safe)	<45 dB (A)
Servicing	maintenance free
Quality Standard	ISO 9001
Weight	4 lb [1.8 kg]

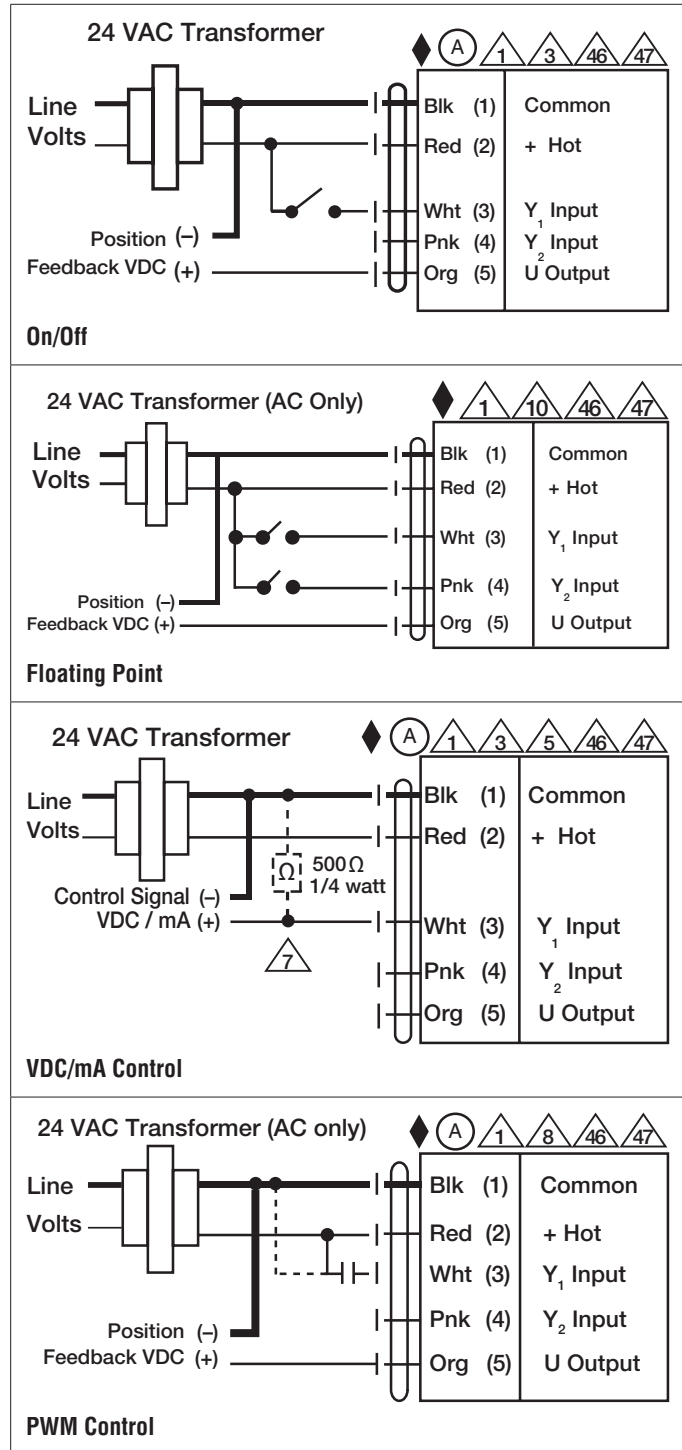
†Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

Date created, 09/01/2016 - Subject to change. © Belimo Aircontrols (USA), Inc.

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.
- 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.
- IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).
- Actuators may be controlled in parallel. Current draw and input impedance must be observed.
- Master-Slave wiring required for piggy-back applications. Feedback from Master to control input(s) of Slave(s).
- 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.



GKX24-MFT-X1

Modulating, Electronic Fail-Safe, 24 V, for 2 to 10 VDC or 4 to 20 mA Control Signal

