



5-year warranty



MFT

Technical data

Electrical data	Nominal voltage	AC/DC 24 V	
	Nominal voltage frequency	50/60 Hz	
	Power consumption in operation	13 W	
	Power consumption in rest position	1.5 W	
	Transformer sizing	23 VA (class 2 power source) (Imax 20A @ 5ms)	
	Overload Protection	electronic throughout 0...95° rotation	
Functional data	Torque motor	35 in-lb [4 Nm]	
	Operating range Y	2...10 V	
	Operating range Y note	4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)	
	Input Impedance	100 kΩ (0.1 mA), 500 Ω, 1000 Ω (on/off)	
	Operating range Y variable	Start point	0.5...30 V
		End point	2.5...32 V
	Options positioning signal	variable (VDC, on/off)	
	Position feedback U	2...10 V	
	Position feedback U note	Max. 0.5 mA	
	Position feedback U variable	VDC variable	
	Direction of motion motor	selectable with switch 0/1	
	Manual override	external push button	
	Angle of rotation	adjustable with mechanical end stop, 30...95°	
	Angle of rotation note	adjustable with mechanical end stop, 30...95°	
	Running Time (Motor)	default 2.5 s, variable 5 or 10 s	
	Running time motor variable	5 or 10 s	
Noise level, motor	52 dB(A)		
Shaft Diameter	1/2...1.05" round, centers on 1/2" and 3/4" with insert, 1.05" without insert		
Position indication	Mechanically, 30...65 mm stroke		
Safety data	Degree of protection IEC/EN	IP54	
	Degree of protection NEMA/UL	NEMA 2 UL Enclosure Type 2	
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU; Listed to UL 2043 - suitable for use in air plenums per Section 300.22(c) of the NEC and Section 602.2 of the IMC	
	Quality Standard	ISO 9001	
	Ambient temperature	-22...122°F [-30...50°C]	
	Storage temperature	-40...176°F [-40...80°C]	
	Ambient humidity	max. 95% r.H., non-condensing	
	Servicing	maintenance-free	

Weight	Weight	2.4 lb [1.1 kg]
Materials	Housing material	UL94-5VA

Product features

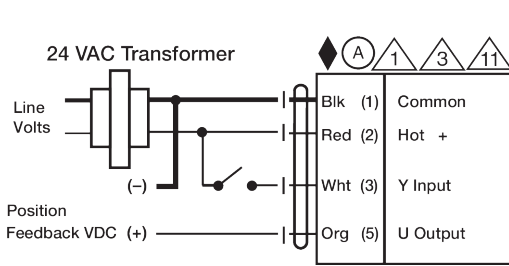
- Application** For proportional modulation of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications. The actuator is mounted directly to a damper shaft from ½" up to 1.05" in diameter by means of its universal clamp. The default parameters for 2 to 10 VDC applications of the ...MFT actuator are assigned during manufacturing. If necessary, custom versions of the actuators can be ordered. The parameters can be changed by two means: pre-set and custom configurations from Belimo or on-site configurations using the Belimo PC-Tool software (version 3.3 or later).
- Operation** The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The anti-rotation strap supplied with the actuator will prevent lateral movement. The LMQB(X) series provides 95° of rotation and a visual indicator indicates position of the actuator. When reaching the damper or actuator end position, the actuator automatically stops. The gears can be manually disengaged with a button on the actuator cover.
- The LMQB(X)24-MFT actuators use a brushless DC motor, which is controlled by an Application Specific Integrated Circuit (ASIC). The ASIC monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode.
- Add-on auxiliary switches or feedback potentiometers are easily fastened directly onto the actuator body for signaling and switching functions.
- Typical specification** Proportional control damper actuators shall be electronic direct-coupled type, which require no crank arm and linkage and be capable of direct mounting to a shaft up to ¾" diameter. Actuators must provide proportional damper control in response to a 2 to 10 VDC or, with the addition of a 500 Ω resistor, a 4 to 20 mA control input from an electronic controller or positioner. Actuators shall have brushless DC motor technology and be protected from overload at all angles of rotation. Actuators shall have reversing switch and manual override on the cover. Run time shall be constant and independent of torque. Actuators shall be cULus listed, have a 5-year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

Accessories

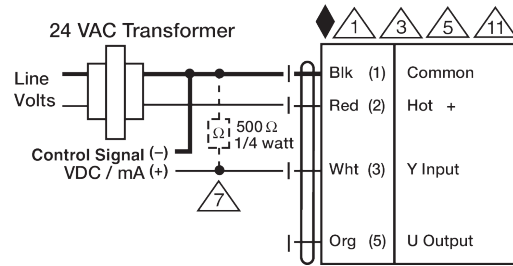
Electrical accessories	Description	Type
	Auxiliary switch 2 x SPDT add-on	S2A

Electrical installation

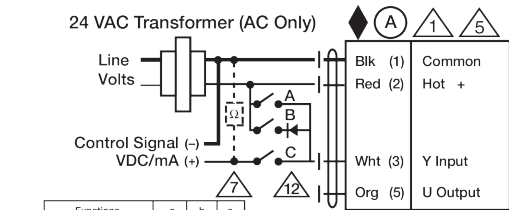
- Ⓐ Actuators with appliance cables are numbered.
- ⚠️ Provide overload protection and disconnect as required.
- ⚠️ Actuators may also be powered by 24 VDC.
- ⚠️ Only connect common to negative (-) leg of control circuits.
- ⚠️ A 500 Ω resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.
- ⚠️ 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).



On/Off



VDC/mA Control



Functions	a	b	c
Min 0%	✓	✓	✓
Mid 50%	✓	✓	✓
Max 100%	✓	✓	✓
Normal Control mode acc. to Y	✓	✓	✓

Override Control

Dimensions

Dimensional drawings

