

Customizable Non Fail-Safe actuator for controlling dampers in typical commercial HVAC applications.

- Torque motor 45 in-lb [5 Nm]
- Nominal voltage AC 100...240 V
- Control On/Off, Floating point



Picture may differ from product



5-year warranty



Technical data

Electrical data	Nominal voltage	AC 100...240 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 85...265 V
	Power consumption in operation	2 W
	Power consumption in rest position	0.5 W
	Transformer sizing	4 VA
	Electrical Connection	Options 3 ft [1 m] (default), 10 ft [3 m], 16 ft [5 m]
	Overload Protection	electronic throughout 0...95° rotation
Functional data	Torque motor	45 in-lb [5 Nm]
	Direction of motion motor	selectable with switch 0/1
	Manual override	external push button
	Angle of rotation	Max. 95°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	150 s / 90°
	Running time motor note	constant, independent of load
	Running time motor variable	95, 60, or 35 s
	Noise level, motor	35 dB(A)
	Position indication	Mechanical, 30...65 mm stroke
Safety data	Power source UL	Class 2 Supply
	Degree of protection NEMA/UL	NEMA 2
	Housing	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
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	0.94 lb [0.43 kg]
Materials	Housing material	UL94-5VA

Technical data

Product features

- Application** For on/off and floating point control of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications.
- The LMX...-F actuator allows for fixed mounting to a surface and is provided with a square form fit mechanical coupler for direct connection to a damper shaft. Simple fixed mounting is accomplished via the mounting tabs that extend beyond the actuators housing.
- Operation** The actuator is not provided with and does not require any limit switches, but is electronically protected against overload.
- The LMX series provides 95° of rotation and a visual indicator which indicates position of the actuator. When reaching the damper or actuator end position, the actuator automatically stops. The gears can be disengaged with manual release on the actuator cover.
- The LMX120-3-F actuators use a sensorless, 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** Floating point, on/off 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 from 8x8 mm to 12x12 mm". 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
	Feedback potentiometer 140 Ω add-on, grey	P140A GR
	Feedback potentiometer 500 Ω add-on, grey	P500A GR
	Feedback potentiometer 5 kΩ add-on, grey	P5000A GR
	Feedback potentiometer 1 kΩ add-on, grey	P1000A GR
	Feedback potentiometer 2.8 kΩ add-on, grey	P2800A GR
	Feedback potentiometer 10 kΩ add-on, grey	P10000A GR
	Feedback potentiometer 15 kΩ gray	P15000A-F GR
	Terminal-strip cover for NEMA 2 rating (-T models).	ZS-T
Mechanical accessories	Description	Type
	Weather shield 13x8x6" [330x203x152 mm] (LxWxH)	ZS-100
	Weather shield 406x213x102 mm [16x8-3/8x4"] (LxWxH)	ZS-150
	Wrench 0.32 in and 0.39 in [8 mm and 10 mm]	TOOL-06

Electrical installation

Wire colors:

- 1 = blue
- 2 = brown
- 3 = white

1	2	3		
			stop	stop

Technical drawing of the 1000 Series Hydraulic Pump, showing front and side views with dimensions in inches and millimeters.

Front View Dimensions:

- Overall Width: 4.57" [116]
- Overall Height: 2.4" [61]
- Mounting Flange Width: 0.63" [16]
- Mounting Flange Thickness: 0.79" [20]

Side View Dimensions:

- Overall Length: 3.96" [100.5]
- Overall Height: 2.6" [66]
- Shaft Diameter: 1.2" [30]
- Shaft Key Width: 0.2" [5.2]
- Mounting Flange Width: 0.86" [22]
- Mounting Flange Thickness: 1.61" [41]