



5-year warranty



Technical data

Electrical data	Nominal voltage	AC 100...240 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	3.5 W
	Power consumption in rest position	1 W
	Transformer sizing	6.5 VA (class 2 power source)
	Electrical Connection	18 GA appliance cable, 3ft [1m] 10ft [3m] and 16ft [5m], with 1/2" conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic throughout 0...95° rotation
Functional data	Torque motor	90 in-lb [10 Nm]
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	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)	95 s / 90°
	Running time motor note	constant, independent of load
	Running time motor variable	45, 60, 150 s
	Noise level, motor	45 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
Degree of protection NEMA/UL		NEMA 2
Enclosure		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% RH, non-condensing
Servicing		maintenance-free
Materials		Housing material

Footnotes †Rated Impulse Voltage 4kV, Type of action 1, Control Pollution Degree 3.

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 up to 1.05" diameter by means of its universal clamp, 1/2" self centered default. A crank arm and several mounting brackets are available for applications where the actuator cannot be direct coupled to the damper shaft.

The actuator operates 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. A 2 to 10 VDC feedback signal is provided for position indication or master-slave applications.
- 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 NMX 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 NMX120-SR 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.

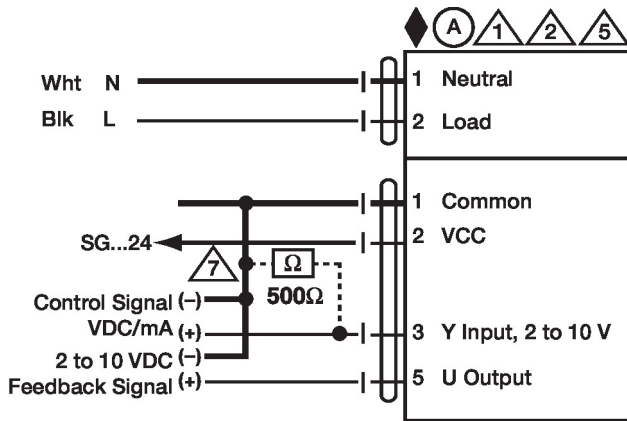
Add-on auxiliary switches or feedback potentiometers are easily fastened directly onto the actuator body for signaling and switching functions.
- Typical specification** Proportional control damper actuators shall be electronic direct-coupled type, which require no crank arm and linkage and be capable of direct mounting to a shaft from 1/4" to 1/2" diameter. Actuators must provide proportional damper control response to a 2 to 10 VDC or, with the addition of a 500Ω 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 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

Mechanical accessories	Description	Type
	Shaft clamp reversible, clamping range Ø8...20 mm	K-NA
	<p>17" Mounting Bracket for AF,NF,GM,AM,SM</p>	ZG-100
	<p>Mounting Bracket: AF,NF,LF,GM,AM,NM,SM</p>	ZG-101
	<p>Mounting Bracket: GM,AM,SM</p>	ZG-103
	<p>Mounting Bracket: GM,AM,SM</p>	ZG-104
	Mounting kit for linkage operation for flat installation	ZG-NMA
	Shaft extension 240 mm Ø20 mm for damper shaft Ø 8...22.7 mm	AV8-25
	Shaft extension for 1/2" diameter shafts (3.8" L).	ZG-NMSA-1
	Weather shield 330x203x152 mm [13x8x6"] (LxBxH)	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

- Ⓐ Actuators with appliance cables are numbered.
- ⚠️ Provide overload protection and disconnect as required.
- ⚠️ 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.



2...10 V / 4...20 mA Control AC 100...240 V

Dimensions

∅ 1/2" to 1.05" [12.7 to 26.67]

□ 2/5" to 1.05" [10 to 26.67]

