

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

- Torque motor 90 in-lb [10 Nm]
- Nominal voltage AC/DC 24 V
- Control On/Off, Floating point



5-year warranty



Picture may differ from product



Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	2 W
	Power consumption in rest position	0.2 W
	Transformer sizing	4 VA
	Overload Protection	electronic throughout 0...95° rotation
Functional data	Torque motor	90 in-lb [10 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)	95 s / 90°
	Running time motor note	constant, independent of load
	Noise level, motor	45 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	2.9 lb [1.3 kg]
Materials	Housing material	UL94-5VA

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

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 actuator is mounted directly to a damper shaft up to 1.05" in diameter by means of its universal clamp. A crank arm and several mounting brackets are available for applications where the actuator cannot be direct coupled to the damper shaft.
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 NMB(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 NMB(X)24-3... 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 up to 1.05" diameter. 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. If required, actuators will be provided with a screw terminal strip for electrical connections (NMX24-3-T). 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

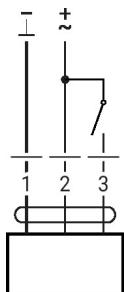
Electrical accessories	Description	Type
Auxiliary switch 1x SPDT add-on		S1A
Auxiliary switch 2x SPDT add-on		S2A
Feedback potentiometer 140 Ω add-on, grey		P140A GR
Feedback potentiometer 1 kΩ add-on, grey		P1000A GR
Feedback potentiometer 10 kΩ add-on, grey		P10000A GR
Feedback potentiometer 2.8 kΩ add-on, grey		P2800A GR
Feedback potentiometer 500 Ω add-on, grey		P500A GR
Feedback potentiometer 5 kΩ add-on, grey		P5000A GR
Terminal-strip cover for NEMA 2 rating (-T models).		ZS-T
Mechanical accessories	Description	Type
Shaft clamp reversible, clamping range ø8...20 mm		K-NA
Mounting bracket for AF..		ZG-100
Mounting bracket for AF / NF		ZG-101
Mounting bracket		ZG-103
Mounting bracket		ZG-104
Mounting kit for linkage operation for flat installation		ZG-NMA
Shaft extension 240 mm ø20 mm for damper shaft ø8...22.7 mm		AV8-25
Shaft extension for 1/2" diameter shafts (3.8" L).		ZG-NMSA-1
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
Linkage kit		ZG-JSL
Jackshaft RetroFIT+ Linkage with Belimo Rotary Actuators		

Electrical installation

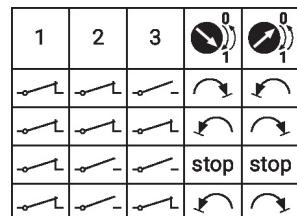
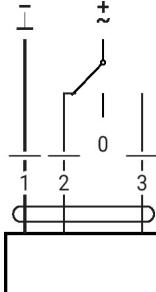
Wire colors:

- 1 = black
- 2 = red
- 3 = white

AC/DC 24 V, on/off



AC/DC 24 V, 3-point



Dimensions

PC

