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

- **Torque motor 360 in-lb [40 Nm]**
- **Nominal voltage AC/DC 24 V**
- **Control On/Off, Floating point**
- **NEMA 4X**



5-year warranty

Please note: Due to a supplier issue, certain NEMA 4 actuator covers will be supplied in gray instead of orange until further notice. This change ensures uninterrupted shipping and the same protective properties and product specifications.

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	4 W
	Power consumption in rest position	2 W
	Transformer sizing	6 VA
	Electrical Connection	Screw terminal (for 26...14 AWG wire), 1/2" NPT conduit connector
	Overload Protection	electronic throughout 0...95° rotation
Functional data	Torque motor	360 in-lb [40 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
	Sound power level, motor	45 dB(A)
	Position indication	Mechanical
Safety data	Power source UL	Class 2 Supply
	Degree of protection NEMA/UL	NEMA 4X
	Housing	UL Enclosure Type 4X
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1, CSA C22.2 No 24-93, CE acc. to 89/336/EC
	Quality Standard	ISO 9001
	Ambient humidity	Max. 100% RH
	Ambient temperature	-22...122°F [-30...50°C]
	Ambient temperature note	-40...122°F [-40...50°C] for actuator with integrated heating
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	5.3 lb [2.4 kg]
Materials	Housing material	Polycarbonate

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.

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 GMB24-3-T N4 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 after the cover is removed.

The GMB24-3-T N4 actuator uses a sensorless brushless DC motor, which is controlled by an Application Specifi c 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.

For low ambient temperatures, the optional supplemental (-H) Heater add-on is available.

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. 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

Tools

Description	Type
Service tool for wired and wireless setup, on-site operation and troubleshooting.	Belimo Assistant 2
Connecting cable 16 ft [5 m], A: RJ11 6/4 LINK.10, B: 6-pin for connection to service socket	ZK1-GEN
Connecting cable 16 ft [5 m], A: RJ11 6/4 LINK.10, B: free wire end for connection to MP/PP terminal	ZK2-GEN
Connecting cable 16 ft [5 m], A+B: RJ12 6/6	ZK6-GEN

Electrical accessories

Description	Type
Gasket for cable gland (NEMA 4 models)	11097-00001
Cable Gland (NEMA 4 models)	43442-00001
Feedback potentiometer 1 kΩ add-on, grey	P1000A GR
Auxiliary switch 1x SPDT add-on	S1A
Auxiliary switch 2x SPDT add-on	S2A
Cable conduit connector 1/2"	TF-CC US ZS-T

Mechanical accessories

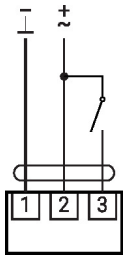
Description	Type
Actuator arm for standard shaft clamp	AH-GMA
Shaft extension 240 mm ø20 mm for damper shaft ø8...22.7 mm	AV8-25
Ball joint suitable for damper crank arm KH8	KG8 K-GM20
Push rod for KG10A ball joint L 36", 3/8" diameter	SH10 SH8
Wrench 0.512 in. [13 mm]	TOOL-07
Mounting bracket for AF..	ZG-100
Mounting bracket for AF / NF	ZG-101 ZG-102

Accessories

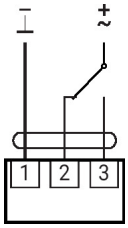
	Description	Type
	Mounting bracket	ZG-103
	Mounting bracket	ZG-104
	Mounting bracket	ZG-109
	Linkage kit	ZG-110
		ZG-DC1
		ZG-DC2
	Mounting kit for linkage operation for flat installation	ZG-GMA
	Baseplate extension for GM..A to GM..	Z-GMA
	Weather shield 13x8x6" [330x203x152 mm] (LxWxH)	ZS-100
	Baseplate, for ZS-100	ZS-101
	Weather shield 406x213x102 mm [16x8-3/8x4"] (LxWxH)	ZS-150
	Explosion proof housing 16x10x6.435" [406x254x164 mm] (LxWxH), UL and CSA, Class I, Zone 1&2, Groups B, C, D, (NEMA 7), Class III, Hazardous (classified) Locations	ZS-260
	Weather shield 17-1/4x8-3/4x5-1/2" [438x222x140 mm] (LxWxH), NEMA 4X, with mounting brackets	ZS-300
	Weather shield 17-1/4x8-3/4x5-1/2" [438x222x140 mm] (LxWxH), NEMA 4X, with mounting brackets	ZS-300-5
	Shaft extension 1/2"	ZS-300-C1
	Shaft extension 3/4"	ZS-300-C2
	Shaft extension 1"	ZS-300-C3
Factory add-on option only	**Description**	**Type**
	Heater, with adjustable thermostat	ACT_PACK_H

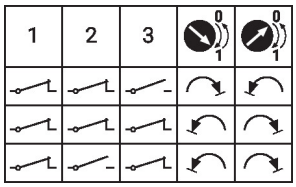
Electrical installation

AC/DC 24 V, on/off



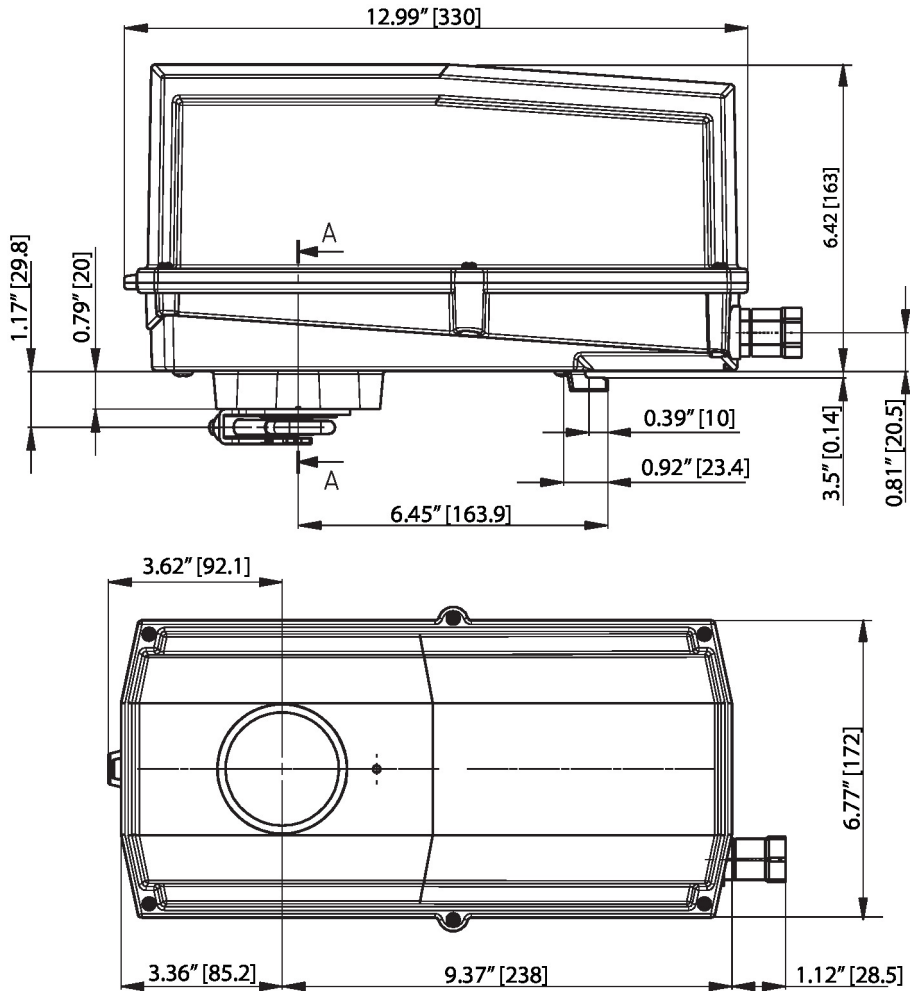
AC/DC 24 V, on/off (2-wire)





Dimensions

PC



Further documentation

• Quick Guide – Belimo Assistant 2