

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

- Actuating force motor 450 N [100 lbf]
- Nominal voltage AC/DC 24 V
- Control Modulating
- Position feedback 2...10 V



Picture may differ from product



5-year warranty



### Technical data

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 19.2...28.8 V
	Power consumption in operation	2.5 W
	Power consumption in rest position	0.5 W
	Transformer sizing	4.5 VA
	Electrical Connection	18 AWG plenum cable, 1 m, with 1/2" NPT conduit connector
	Overload Protection	electronic throughout full stroke
	<b>Functional data</b>	Actuating force motor
Operating range Y		2...10 V
Operating range Y note		4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
Input impedance		500 Ω for 4...20 mA
Position feedback U		2...10 V
Position feedback U note		Max. 0.5 mA
Direction of motion motor		reversible with switch
Manual override		external push button
Stroke		8" [200 mm]
Running Time (Motor)		150 s / 100 mm
Sound power level, motor		35 dB(A)
Position indication		Mechanical
<b>Safety data</b>	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

**Technical data**

<b>Weight</b>	Weight	2.8 lb [1.3 kg]
<b>Materials</b>	Housing material	UL94-5VA
<b>Footnotes</b>	†Rated Impulse Voltage 800V, Type of Action 1, Control Pollution Degree 2.	

**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 operates in response to a 2...10 V, or with the addition of a 500 Ω resistor, a 4...20 mA control input from an electronic controller or positioner.

A 2...10 V feedback signal is provided for position indication or primary/secondary operation.

**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 actuator provides 8" [200 mm] of linear stroke. The stroke of the gear rack can be adjusted on both sides in increments of 0.8 in [20 mm] by means of the mechanical end stops. 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 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.

**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 1.05" 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. If required, actuator will be provided with screw terminal strip for electrical connections (NMX24-SR-T). Run time shall be constant and independent of torque. A 2 to 10 VDC feedback signal shall be provided for position indication. 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**

<b>Electrical accessories</b>	<b>Description</b>	<b>Type</b>
	Signal simulator, Power supply AC 120 V	IRM-100
	Convert Pulse Width Modulated Signal to a 2...10 V Signal for Belimo Proportional Actuators	PS-100
	Positioner for wall mounting	PTA-250
	Positioner for front-panel mounting	SGA24
	Cable conduit connector 1/2"	SGF24
	Resistor, 500 Ω, 1/4" wire resistor with 6" pigtail wires	TF-CC US
	Resistor kit, 50% voltage divider	ZG-R01
	Transformer, AC 120 V to AC 24 V, 40 VA	ZG-R02
		ZG-X40
		ZS-T
<b>Mechanical accessories</b>	<b>Description</b>	<b>Type</b>
	Ball joint suitable for damper crank arm KH8 / KH10	KG10A
	Ball joint suitable for damper crank arm KH8	KG6
	Ball joint suitable for damper crank arm KH8	KG8
		SH8
	Rotary support, for linear actuator, for compensation of transverse forces	Z-DS1
		Z-KSC

Accessories

Description

Type

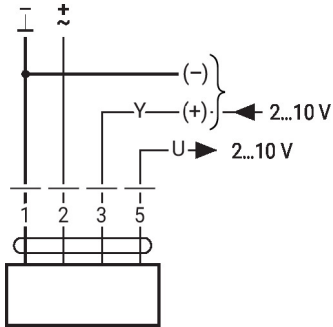
ZG-119

Electrical installation

Wire colors:

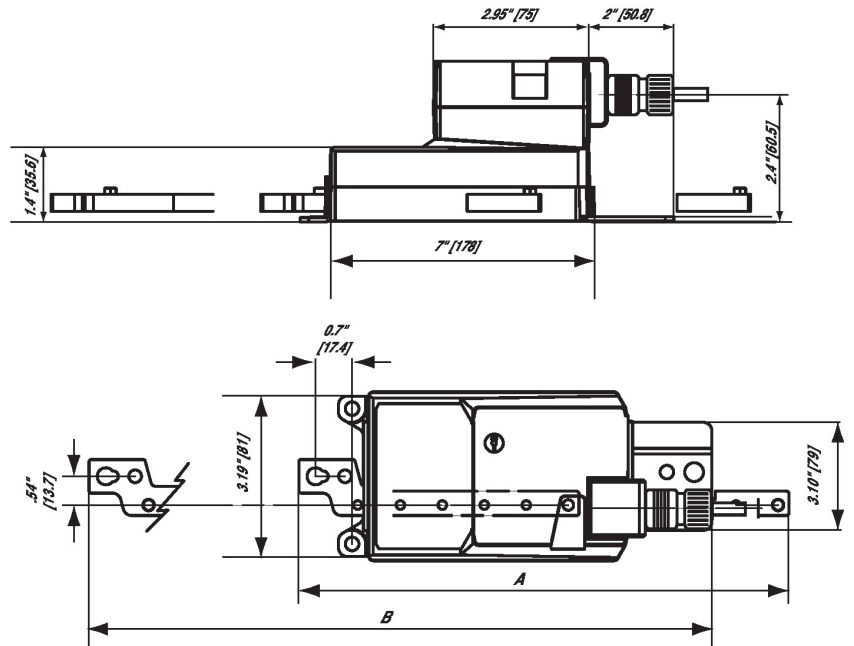
- 1 = black
- 2 = red
- 3 = white
- 5 = orange

AC/DC 24 V, modulating



1	2	3		
		2 V		
		10 V		

Dimensions



Stroke	A	B
4" [100]	9.2" [233.5]	8" [203.2]
8" [200]	13.1" [333.5]	12" [304.8]
12" [300]	17.1" [433.5]	16" [406.4]