

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

- Actuating force motor 450 N [100 lbf]
- Nominal voltage AC 100...240 V
- Control modulating
- Position feedback 2...10 V



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	5 W
	Power consumption in rest position	1.2 W
	Transformer sizing	7.5 VA
	Electrical Connection	18 GA appliance cable, 1 m, 3 m or 5 m, with 1/2" conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic throughout full stroke
Functional data	Actuating force motor	450 N [100 lbf]
	Operating range Y	2...10 V
	Operating range Y note	4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
	Input impedance	100 kΩ for 2...10 V (0.1 mA), 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	4" [100 mm]
	Running Time (Motor)	150 s / 100 mm
	Noise level, motor	35 dB(A)
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	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
	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 [1.2 kg]
Materials	Housing material	UL94-5VA

Footnotes †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 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 AHX120 series provides 4 or 8 inches 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.
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 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 AHX120-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.
- Typical specification** Proportional control damper actuators shall be electronic type, with integrated linear stroking arm. Actuators must provide control in response to a 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. 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.

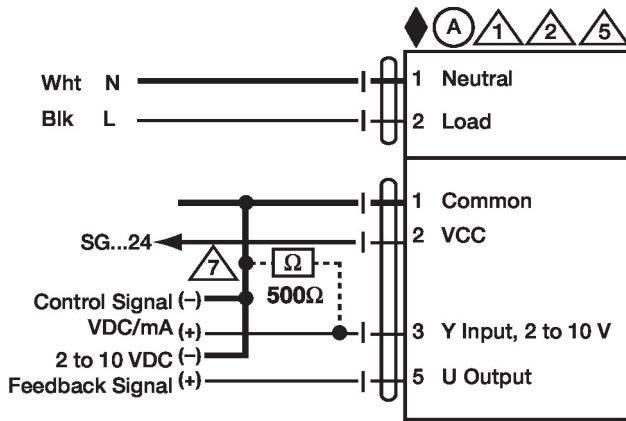
Accessories

Electrical accessories	Description	Type
	DC Voltage Input Rescaling Module	IRM-100
	Convert Pulse Width Modulated Signal to a 2...10 V Signal for Belimo Proportional Actuators	PTA-250
	Positioner for wall mounting	SGA24
	Resistor, 500 Ω, 1/4" wire resistor with 6" pigtail wires	ZG-R01
	Resistor kit, 50% voltage divider	ZG-R02
	Transformer, AC 120 V to AC 24 V, 40 VA	ZG-X40
	Cable conduit connector 1/2"	TF-CC US
Mechanical accessories	Description	Type
	Ball joint suitable for damper crank arm KH8 / KH10, Multipack 10 pcs.	KG10A
	Ball joint suitable for damper crank arm KH8, Multipack 10 pcs.	KG6
	Ball joint suitable for damper crank arm KH8, Multipack 10 pcs.	KG8
	Push rod for KG6 & KG8 ball joints (36" L, 5/16" diameter).	SH8
	Rotary support, for linear actuator, for compensation of transverse forces	Z-DS1
	3/8"-16 shaft clevis for AHK/AH.	Z-KSC
	Bracket for AHK/AH/LH linear actuators.	ZG-119

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

