

On/Off, Non-Spring Return, Linear, 24 V

On/Off, Non-Spring Return, Linear Stroke, 24 V,
Linear force min. 44 lbf for control of damper
surfaces up to 12 sq. ft.



5-year warranty


Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	13 W
	Power consumption in rest position	1.5 W
	Transformer sizing	23 VA (class 2 power source) (Imax 20A @ 5ms)
	Electrical Connection	18 GA plenum cable with 1/2" conduit connector, degree of protection NEMA 2 / IP54, 3 ft [1 m] 10 ft [3 m] and 16ft [5 m]
	Overload Protection	electronic throughout full stroke
Functional data	Actuating force motor	45 lbf [200 N]
	Input Impedance	1000 Ω
	Direction of motion motor	reversible with switch
	Manual override	external push button
	Stroke	1.6...4.0" [40...100 mm]
	Running Time (Motor)	7 s, constant, independent of load
	Running time motor note	constant, independent of load
Safety data	Noise level, motor	52 dB(A)
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2 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% r.H., non-condensing
Servicing	maintenance-free	
Weight	Weight	2.9 lb [1.2 kg]
Materials	Housing material	UL94-5VA

Product features

Application For On/Off control of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications.

Operation The actuator is not provided with and does not require and limit switches, but is electronically protected against overload. The anti-rotation strap supplied with the actuator will prevent lateral movement. The actuator provides 4" [100 mm] of linear stroke. The stroke of the gear rack can be adjusted on both sides in increments of 0.8" [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.

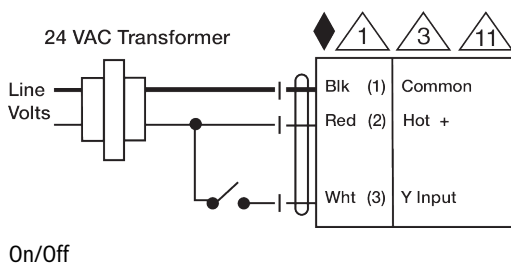
Typical specification Proportional control damper actuators shall be electronic direct-coupled type, which require no crank arm and linkage and be capable of direct mounting to a shaft up to 1.05" diameter. Actuators must provide proportional damper control in response to a 2 to 10 VDC or, with the addition 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. 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
	Battery, 12 V, 1.2 Ah (two required)	NSV-BAT
	Battery backup system, for non-spring return models	NSV24 US
	Signal Simulator, Power supply AC 230 V	PS-100
	Cable Conduit Connector 1/2"	TF-CC US
	Transformer, AC 120 V to AC 24 V, 40 VA	ZG-X40
Mechanical accessories	Description	Type
	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
	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

- Provide overload protection and disconnect as required.
- Actuators may also be powered by 24 VDC.
- Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.



Dimensions

Dimensional drawings

