



5-year warranty

**Technical data**

<b>Functional data</b>	Mounting Position	90° to 180°
	<b>Safety data</b>	Ambient temperature
	Storage temperature	-40...176°F [-40...80°C]
<b>Materials</b>	Housing material	galvanized steel
	Stem	steel
	Frame, plate, base	galvanized steel
	Bearing	GF Delrin
<b>Suitable actuators</b>	Non-Spring	AMB(X) GMB(X) NMB(X)
	Electronic fail-safe	NKQB(X)

\* ZG-121 adapter must be used with EF. \*\* GM/GK not for use with 1/2" shafts. \*\*\* K6-1 clamp must be used with LF. For close-off pressure reference Select Pro or Retrofit Technical Documentation.  
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**Product features**

- Default/Configuration** The ZG-JSL linkage can also be configured by moving the anti-rotation plate 90° for space-saving applications. See mounting configurations below. The ZG-JSLA will have a factory mounted actuator on the linkage in the vertical position only.
- Application** The ZG-JSL jackshaft linkage is designed to easily attach to any part of a jackshaft and allow easy installation of select Belimo actuators. The unique open ended design and clamp insert allows the ZG-JSL to be used with any jackshaft from 1/2" to 3/4" in diameter. Removal of the insert will allow the linkage to attach to a maximum shaft diameter of 1.05". Changing the antirotation plate will allow various actuators to be mounted.
- Operation** The 3/4" diameter built-in steel shaft allows direct coupling to the Belimo series actuators in the chart below. There is a torque reduction when using the ZG-JSL linkage. Verify application requirements before use.

**Flow/Mounting details**



**Dimensions**

## Dimensional drawings





5-year warranty



Technical data

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	2.5 W
	Power consumption in rest position	0.2 W
	Transformer sizing	5.5 VA (class 2 power source)
	Electrical Connection	Screw terminal (for 26 to 14 GA wire)
	Overload Protection	electronic throughout 0...95° rotation
<b>Functional data</b>	Torque motor	180 in-lb [20 Nm]
	Input Impedance	600 Ω
	Direction of motion motor	selectable with switch 0/1
	Manual override	external push button
	Angle of rotation	Max. 95°, adjustable with mechanical stop
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	90 s, constant, independent of load
	Running time motor note	constant, independent of load
	Noise level, motor	45 dB(A)
	Shaft Diameter	1/2...1.05" round, centers on 1/2" and 3/4" with insert, 1.05" without insert
Position indication	Mechanically, 30...65 mm stroke	
<b>Safety data</b>	Degree of protection IEC/EN	IP20
	Degree of protection NEMA/UL	NEMA 1 UL Enclosure Type 1
	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
	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
<b>Weight</b>	Weight	1.4 lb [0.64 kg]
<b>Materials</b>	Housing material	UL94-5VA

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, self-centered default. 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 actuator 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 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. The -S version is provided with 1 built-in auxiliary switch. This SPDT switch is provided for safety interfacing or signaling, for example, for fan start-up. The switching function is adjustable 0 to 95°. The auxiliary switch is double insulated so an electrical ground connection is not necessary. 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 shall be provided with one adjustable SPDT auxiliary switch. Actuators with auxiliary switches must be constructed to meet the requirements for double insulation so an electrical ground is not required to meet agency listings. If required, actuators will be provided with a screw terminal strip for electrical connections (AMX24-3-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.

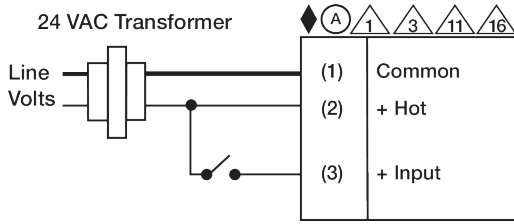
**Accessories**

Electrical accessories	Description	Type
	Auxiliary switch 2 x SPDT add-on	S2A
Mechanical accessories	Description	Type
	Actuator arm for standard shaft clamp	AH-GMA
	Shaft extension 240 mm Ø20 mm for damper shaft Ø 8...22.7 mm	AV8-25
	Clamp NM/AM 1/2", 3/4", 1"	K-AM25
	Shaft clamp reversible, clamping range Ø10...20 mm	K-SA
	Wrench 8 mm and 10 mm	TOOL-06
	Base plate extension for SM..A to SM../AM../SMD24R, pcs.	Z-SMA
	17" Mounting Bracket for AF,NF,GM,AM,SM	ZG-100
	Mounting Bracket: AF,NF,LF,GM,AM,NM,SM	ZG-101
	Mounting Bracket: GM,AM,SM	ZG-103
	Mounting Bracket: GM,AM,SM	ZG-104
	1" diameter jackshaft adaptor (11" L).	ZG-JSA-1
	1-5/16" diameter jackshaft adaptor (12" L).	ZG-JSA-2
	1.05" diameter jackshaft adaptor (12" L).	ZG-JSA-3
	Mounting kit for linkage operation for flat installation	ZG-NMA
	Weather shield 13x8x6" [330x203x152 mm] (LxWxH)	ZS-100
	Weather shield 16x8-3/8x4" [406x213x102 mm] (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)	ZS-260
	Locations	
	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
	Terminal-strip cover for NEMA 2 rating (-T models).	ZS-T

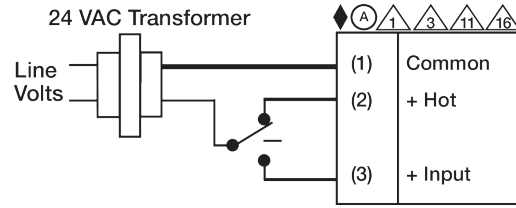
**Electrical installation**

-  Actuators with appliance cables are numbered.
-  Provide overload protection and disconnect as required.
-  Actuators may also be powered by 24 VDC.
-  Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.

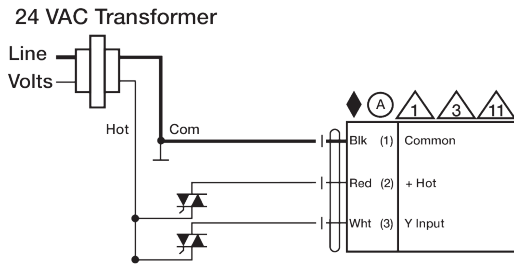
- ▲<sup>11</sup> Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- ▲<sup>16</sup> Actuators are provided with a numbered screw terminal strip instead of a cable.



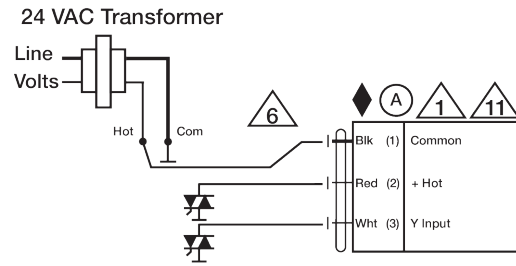
On/Off



Floating Point



Floating Point - Triac Source



Floating Point - Triac Sink

**Dimensions**

**Dimensional drawings**

