



5-year warranty

Technical data

|                           |                      |                            |
|---------------------------|----------------------|----------------------------|
| <b>Functional data</b>    | Mounting Position    | 90° to 180°                |
|                           | <hr/>                |                            |
| <b>Safety data</b>        | Ambient temperature  | -22...122°F [-30...50°C]   |
|                           | 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)<br>GMB(X)<br>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.  
For close-off pressure reference Select Pro or retrofit technical documentation.

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 100...240 V   |
|                        | Nominal voltage frequency          | 50/60 Hz   |
|                        | Power consumption in operation     | 3.5 W  |
|                        | Power consumption in rest position | 0.6 W  |
|                        | Transformer sizing                 | 5.5 VA (class 2 power source)  |
|                        | Electrical Connection              | 18 GA appliance cable, 3ft [1m] 10ft [3m] and 16ft [5m], with 1/2" conduit connector, degree of protection NEMA 2 / IP54 |
|                        | Overload Protection                | electronic throughout 0...95° rotation   |
| <b>Functional data</b> | Torque motor                       | 90 in-lb [10 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)               | default 95 s, variable 45, 60, 150 s, constant, independent of load  |
|                        | Running time motor note            | constant, independent of load  |
|                        | Running time motor variable        | 45, 60, 150 s  |
|                        | 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        | 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                                |
|                        | 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                             | 1.1 lb [0.51 kg]   |
| <b>Materials</b>       | Housing material                   | UL94-5VA   |




### Product features

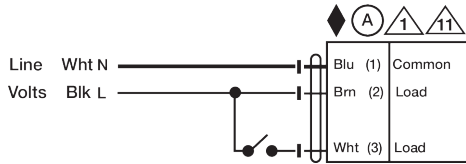
- Application** For on/off and floating point control of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications.
- The actuator is mounted directly to a damper shaft up to 1.05" diameter by means of its universal clamp, 1/2" self-centered default. 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 NMX series 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 NMX120-3... 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.
- 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 type, with integrated linear stroking arm. Actuators shall have brushless DC motor technology and be protected from overload at all positions of linear stroke. Actuators shall have reversing switch and manual override on the cover. Run time shall be constant and independent of torque. Actuators shall be cUL listed, have a 5-year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

**Accessories**

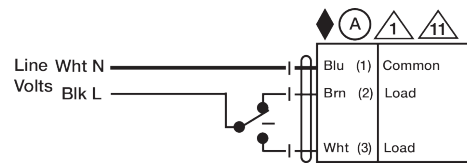
| Electrical accessories | Description  | Type       |
|------------------------|--|------------|
|                        | Feedback potentiometer 10 kΩ add-on, grey                    | P10000A GR |
|                        | Feedback potentiometer 1 kΩ add-on, grey                     | P1000A GR  |
|                        | Feedback potentiometer 140 Ω add-on, grey                    | P140A GR   |
|                        | Feedback potentiometer 2.8 kΩ add-on, grey                   | P2800A GR  |
|                        | Feedback potentiometer 5 kΩ add-on, grey                     | P5000A GR  |
|                        | Feedback potentiometer 500 Ω add-on, grey                    | P500A GR   |
|                        | Auxiliary switch 1 x SPDT add-on                             | S1A        |
|                        | Auxiliary switch 2 x SPDT add-on                             | S2A        |
| Mechanical accessories | Description  | Type       |
|                        | Shaft extension 240 mm Ø20 mm for damper shaft Ø 8...22.7 mm | AV8-25     |
|                        | Shaft clamp reversible, clamping range Ø8...20 mm            | K-NA       |
|                        | Wrench 8 mm and 10 mm  | TOOL-06    |
|                        | 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     |
|                        | Mounting kit for linkage operation for flat installation     | ZG-NMA     |
|                        | Shaft extension for 1/2" diameter shafts (3.8" L).           | ZG-NMSA-1  |
|                        | Weather shield 13x8x6" [330x203x152 mm] (LxWxH)              | ZS-100     |
|                        | Weather shield 16x8-3/8x4" [406x213x102 mm] (LxWxH)          | ZS-150     |
|                        | 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 be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.



On/Off AC 100...240 V



Floating Point AC 100...240 V

**Dimensions**

**Dimensional drawings**

