

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

- Torque motor 18 in-lb [2 Nm]
- Nominal voltage AC/DC 24 V
- Control On/Off, Floating point



5-year warranty



### Technical data

|                 |                                    |   |
|-----------------|------------------------------------|---|
| Electrical data | 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     | 1 W   |
|                 | Power consumption in rest position | 0.2 W   |
|                 | Transformer sizing                 | 1.5 VA  |
|                 | Electrical Connection              | Screw terminal (for 26 to 14 GA wire)   |
|                 | Overload Protection                | electronic throughout full rotation   |
| Functional data | Torque motor                       | 18 in-lb [2 Nm]   |
|                 | Direction of motion motor          | by electrical installation  |
|                 | Manual override                    | disengage with magnet   |
|                 | Angle of rotation                  | 0...287.5°  |
|                 | Angle of rotation note             | Without limitation: endless<br>With one end stop clip Z-ESCM: 315°                          |
|                 | Running Time (Motor)               | 35 s / 90°  |
|                 | Running time motor note            | constant, independent of load   |
|                 | Noise level, motor                 | 45 dB(A)  |
|                 | Position indication                | Mechanical, pluggable (with integrated magnet for gear train disengagement)                 |
| Safety data     | Power source UL                    | Class 2 Supply  |
|                 | Degree of protection IEC/EN        | IP20  |
|                 | Degree of protection NEMA/UL       | NEMA 1  |
|                 | Enclosure                          | UL Enclosure Type 1   |
|                 | Agency Listing                     | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02<br>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                             | 0.46 lb [0.21 kg]   |
|                 | Materials                          | Housing material  |
|                 |                                    | UL94-5VA  |

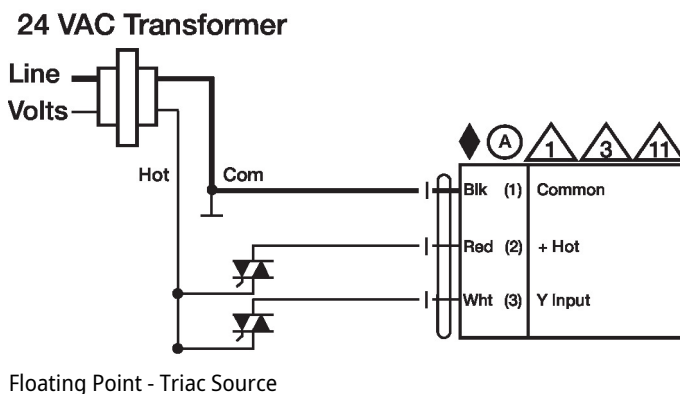
**Footnotes** †Rated Impulse Voltage 800V, Type of Action 1, Control Pollution Degree 2.

**Product features**

- Application** Damper actuator for operating air control dampers in ventilation and air-conditioning systems for building services installations.
- For air control dampers up to approximately 4.5 sq ft
  - Torque 18 in-lb [2 Nm]
  - Nominal voltage AC/DC 24 V
  - Control: Open-close or 3-point
  - Running time 35 s @ 90°
- Operation** Simple direct mounting on the damper spindle with a universal spindle clamp or form fit, supplied with an anti-rotation bracket to prevent the actuator from rotating. Manual operation is possible with a magnet (the gear latch remains disengaged as long as the magnet is in place). Adjustable angle of rotation with mechanical end stops, that requires no tools to move or remove. The actuator is overload-proof, requires no limit switches and automatically stops when the end stops is reached. The actuator uses a brushless DC motor, which is controlled by an Application Specific Integrated Circuit (ASIC). The ASIC monitors and controls the actuator's rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in holding mode. Belimo's Halomo sensorless brushless DC motor spins by reversing the poles of stationary electromagnets housed inside rotational permanent magnets. The electromagnetic poles are switched by the an ASIC developed by Belimo. Unlike the conventional DC motor, there are no brushes to wear or commutators to foul. This means the brushless DC motor adds accuracy and reduces power consumption in a holding mode.
- 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 from 1/4" to 1/2". Actuators shall have brushless DC motor technology and be protected from overload at all angles of rotation. Actuators shall have manual override on the cover. If required, actuators will be provided with screw terminal strip for electrical connections (CMB24-3-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 Internation Quality Control Standards. Actuators shall be as manufactured by Belimo.

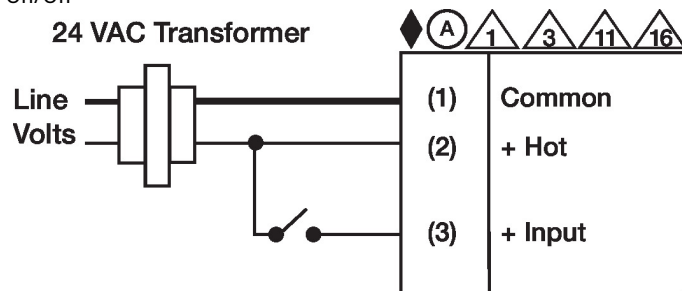
**Electrical installation**

- Ⓐ Actuators with appliance cables are numbered.
- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by DC 24 V.
- 6 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.
- 11 Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- 16 Actuators are provided with a numbered screw terminal strip instead of a cable.

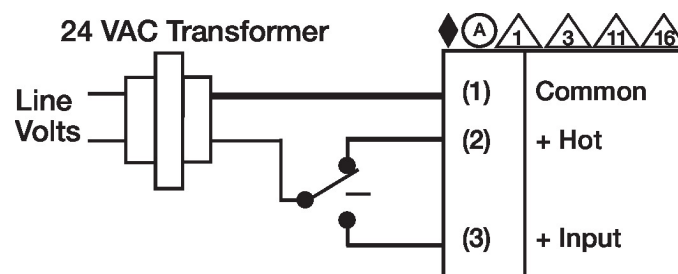


**Wiring diagrams**

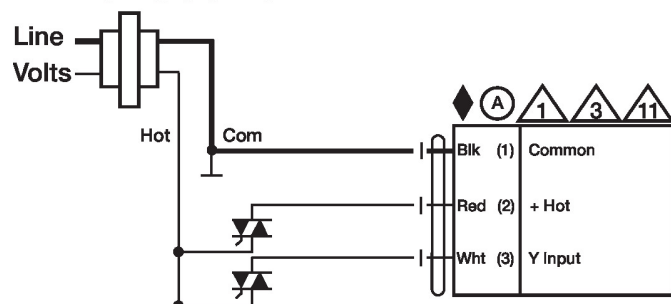
On/Off



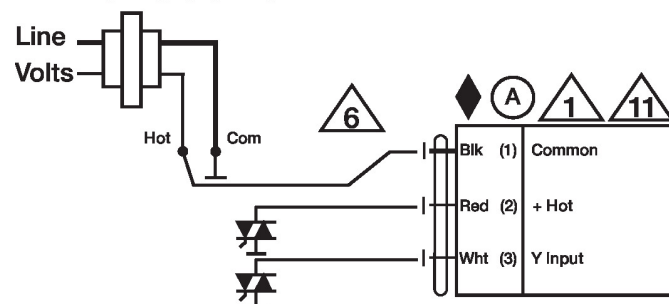
Floating Point



Floating Point - Triac Source

**24 VAC Transformer**


Floating Point - Triac Sink

**24 VAC Transformer**

**Dimensions**
