



5-year warranty



Technical data

| | | |
|------------------------|--|--|
| Electrical data | Nominal voltage | AC/DC 24 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Power consumption in operation | 1.5 W |
| | Power consumption in rest position | 0.5 W |
| | Transformer sizing | 3 VA (class 2 power source) |
| | 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 | 150 N [35 lbf] |
| | 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 | 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; 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% RH, non-condensing |
| | Servicing | maintenance-free |
| | Weight | Weight |
| Materials | Housing material | UL94-5VA |
| Footnotes | †Rated Impulse Voltage 4kV, Type of Action 1.AA.B, Control Pollution Degree 3. | |

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.

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 LHB(X)24-3... series provides 4, 8, or 12 in of linear force. 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. 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 LHB(X)24-3... 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.

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.

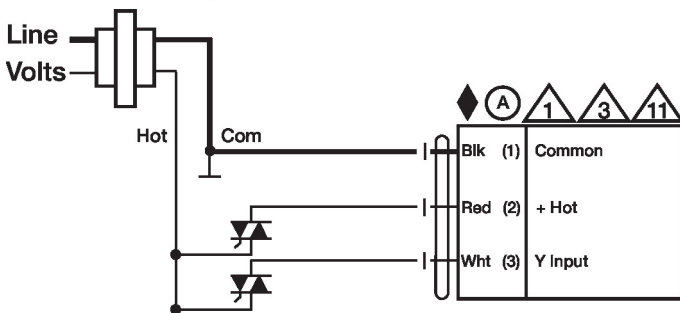
Accessories

| Electrical accessories | Description | Type |
|------------------------|--|----------|
| | Signal simulator, Power supply AC 120 V | PS-100 |
| | Battery backup system, for non-spring return models | NSV24 US |
| | Battery, 12 V, 1.2 Ah (two required) | NSV-BAT |
| | 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.
- ⚠️ Actuators may also be powered by DC 24 V.
- ⚠️ 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.
- ⚠️ Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.

24 VAC Transformer

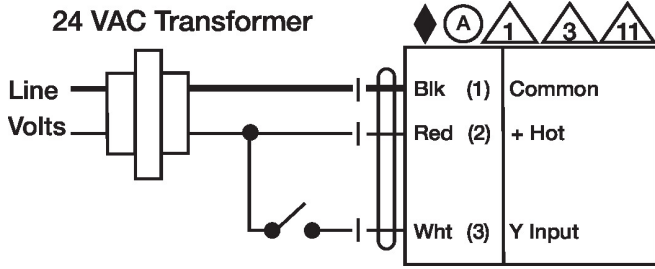


Floating Point - Triac Source

Wiring diagrams

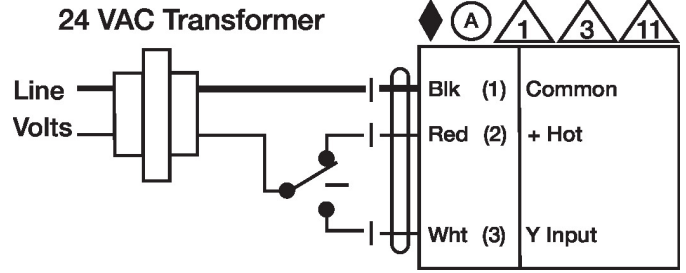
On/Off

24 VAC Transformer



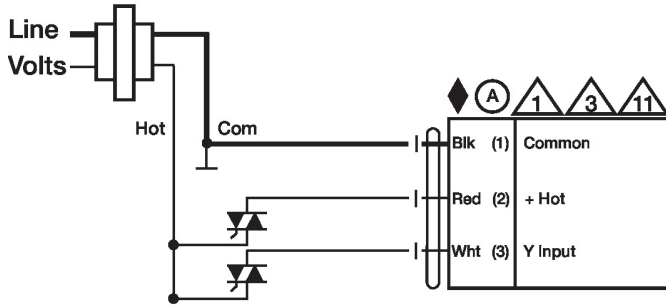
Floating Point

24 VAC Transformer



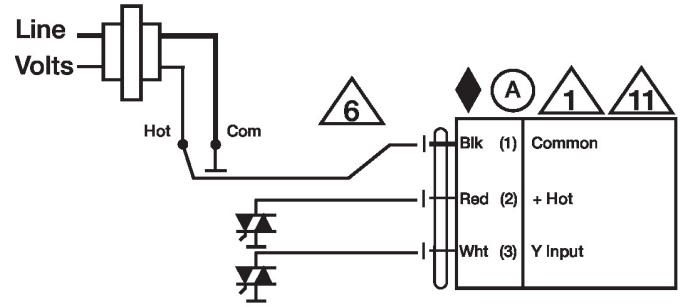
Floating Point - Triac Source

24 VAC Transformer

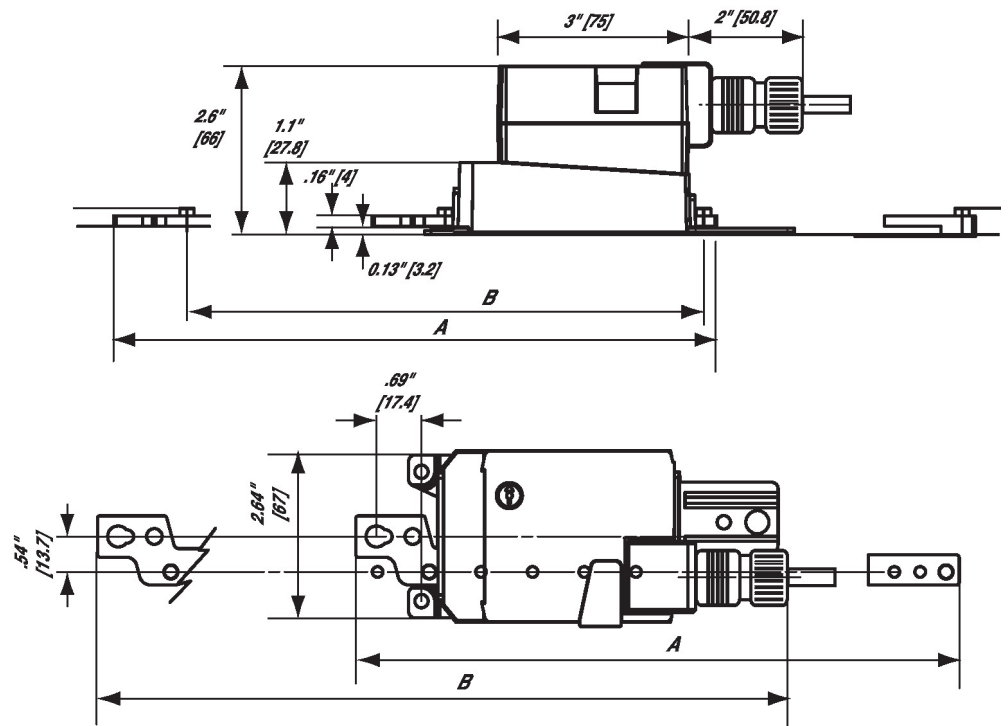


Floating Point - Triac Sink

24 VAC Transformer



Dimensions



| Stroke | A | B |
|-----------|---------------|---------------|
| 4" [100] | 9.2" [233.5] | 10.4" [264.2] |
| 8" [200] | 13.1" [333.5] | 14.3" [364.2] |
| 12" [300] | 17.1" [433.5] | 18.3" [464.2] |