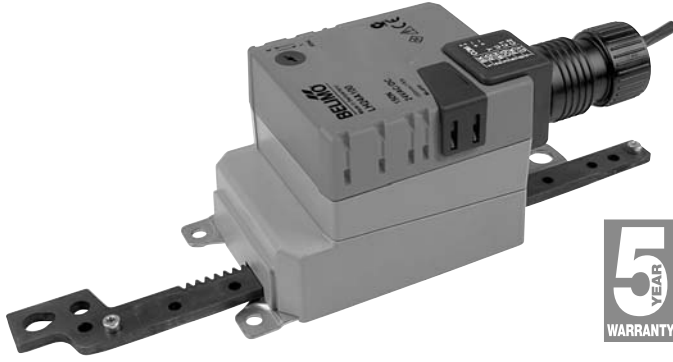


LHB(X)24-SR(-100)(-200)

Proportional Control, Non-Spring Return, Linear Stroke, 24V, for 2 to 10 VDC and 4 to 20 mA



| Technical Data | LHB(X)24-SR(-100)(-200) |
|-----------------------|---|
| Power supply | 24 VAC ± 20% 50/60 Hz 24 VDC ± 20% |
| Power consumption | 1.5 W (0.5 W) |
| Transformer sizing | 3 VA (Class 2 power source) |
| Electrical connection | 18 GA appliance rated cable 1/2" conduit connector protected NEMA 2 (IP54) 3 ft [1m] 10 ft [3m] 16 ft [5m] |
| Overload protection | electronic throughout full stroke |
| Control | 2 to 10 VDC, 4 to 20 mA |
| Input impedance | 100 kΩ (0.1 mA), 500 Ω |
| Feedback output U | 2 to 10 VDC (max 0.5 mA) |
| Linear stroke | |
| LHB(X)24-SR-100 | 4 in [100 mm] |
| LHB(X)24-SR-200 | 8 in [200 mm] |
| Linear force | 34 lbf [150 N] |
| Stroke direction | reversible with ↓/↑ switch actuator will move in the selected direction with increasing control signal (2 to 10V) |
| Manual override | external push button |
| Running time | 150, 95, or 75 seconds per 4" [100mm] |
| Humidity | 5 to 95% RH non condensing (EN 60730-1) |
| Ambient temperature | -22°F to 122°F [-30°C to 50°C] |
| Storage temperature | -40°F to 176°F [-40°C to 80°C] |
| Housing | NEMA 2, IP54, UL enclosure type 2 |
| Housing material | UL94-5VA |
| Agency listings | cULus acc. to UL 60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EEC and 2006/95/EC |
| Noise level (max) | 35dB(A) |
| Servicing | maintenance free |
| Quality standard | ISO 9001 |
| Weight | |
| LHB(X)24-SR-100 | 0.81 lbs [0.37 kg] |
| LHB(X)24-SR-200 | 0.86 lbs [0.39 kg] |

†Rated Impulse Voltage 800V, Type of action 1, Control Pollution Degree 3.

Force min. 34 lbf for control of damper surfaces up to 11 sq. ft.

Application

For proportional modulation of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications.

The actuator operates 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. A 2 to 10 VDC feedback signal is provided for position indication or master-slave applications.

Operation

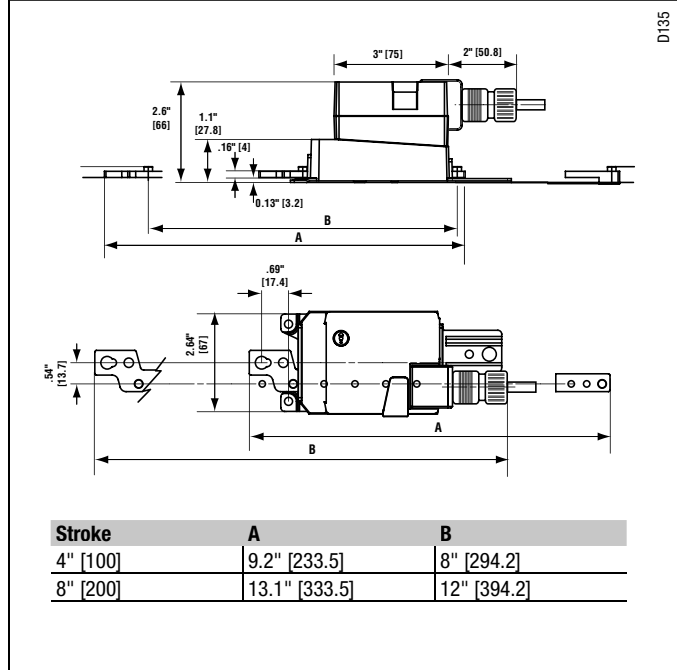
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The anti-rotation strap supplied with the actuator will prevent lateral movement.

The LHB(X)24-SR... series provides 4 or 8 in of linear stroke. 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-SR... 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.

Dimensions (Inches [mm])



M40024 - 05/10 - Subject to change. © Belimo Aircontrols (USA), Inc.

Accessories

| | |
|----------|---|
| Z-DS1 | Rotary Support to Compensate Lateral Forces |
| Z-KSA | Linear Coupling |
| P370 | Shaft Mount Auxiliary Switch |
| SGA24 | Min Positioners in NEMA 4 Housing |
| SGF24 | Min Positioners for Flush Panel Mounting |
| PTA-250 | Pulse Width Modulation Interface |
| IRM-100 | Input Rescaling Module |
| ADS-100 | Analog to Digital Switch |
| ZG-R01 | Resistor for 4 to 20 mA Conversion |
| NSV24 US | Battery Back-Up Module |
| ZG-X40 | Transformer |

NOTE: When using LHB(X)24-SR... actuators, only use accessories listed on this page.

Typical Specification

Proportional control damper actuators shall be electronic type, with integrated linear stroking arm. 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. A 2 to 10 VDC feedback signal shall be provided for position indication. Actuators shall be cUL Approved, have a 5-year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

Wiring Diagrams

INSTALLATION NOTES

- 1 Provide overload protection and disconnect as required.
- 2 **CAUTION Equipment Damage!**
Actuators may be connected in parallel.
Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by 24 VDC.
- 5 Only connect common to neg. (-) leg of control circuits.

APPLICATION NOTES

- ◆ The ZG-R01 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC, up to 2 actuators may be connected in parallel.

WARNING Live Electrical Components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

