# Technical data sheet CHB24-3-T-100.1

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

- **Actuating force motor 125 N [30 lbf]**
- **Nominal voltage AC/DC 24 V**
- **Control On/Off, Floating point**



Picture may differ from product

5-year warranty

## Technical data

| | | |
|---|---|---|
| **Electrical data** | Nominal voltage | AC/DC 24 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Power consumption in operation | 0.5 W |
| | Power consumption in rest position | 0.2 W |
| | Transformer sizing | 1 VA |
| | Electrical Connection | Screw terminal (for 26...14 AWG wire) |
| | Overload Protection | electronic throughout full stroke |
| **Functional data** | Actuating force motor | 125 N [30 lbf] |
| | Manual override | disengage with magnet |
| | Stroke | 4" [100 mm] |
| | Running Time (Motor) | 380 s / 100 mm |
| | Position indication | Mechanical |
| **Safety data** | Power source UL | Class 2 Supply |
| | Degree of protection NEMA/UL | NEMA 1 |
| | Housing | 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 |
| | 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] |
| **Weight** | Weight | 0.92 lb [0.42 kg] |
| | Packaging quantity | Multipack 20 pcs. |
| **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.

## Product features

**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 4" [100 mm] 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 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 |
| Transformer, AC 120 V to AC 24 V, 40 VA | ZG-X40 |

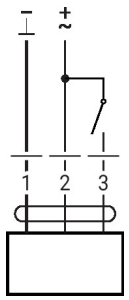
**Mechanical accessories**

| Description | Type |
|---|---|
| Ball joint suitable for damper crank arm KH8 / KH10 | KG10A |
| Ball joint suitable for damper crank arm KH8 | KG6 |
| Ball joint suitable for damper crank arm KH8 | KG8 |
| | SH8 |
| Rotary support, for linear actuator, for compensation of transverse forces | Z-DS1 |
| | Z-KSC |

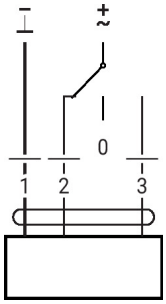
## Electrical installation

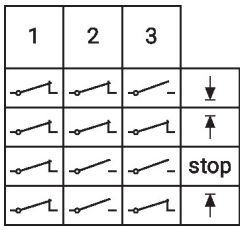
**Wire colors:**
1 = black
2 = red
3 = white

AC/DC 24 V, on/off




AC/DC 24 V, 3-point



## Dimensions

