

Spring-return actuator, combined with thermo-electric tripping device (72°C), for fire and smoke dampers 90° in ventilation and air-conditioning systems.

- Torque 20/20 Nm
- Nominal voltage AC/DC 24 V
- Control: Open/close
- Running time <60/<30 s
- Damper rotation: 12 mm form-fit



Technical Data

| | | | | |
|----------------------------|--|---|---|--|
| Electrical data | Nominal voltage | AC 24 V, 50/60 Hz / DC 24 V | | |
| | Nominal voltage range | AC 19.2 ... 28.8 V / DC 21.6 ... 28.8 V | | |
| | Power consumption | Motoring | 10 W @ nominal torque | |
| | | Holding | 2 W | |
| | | For wire sizing | 12.5 VA / I _{max} . 8.3 A @ 5 ms | |
| | Auxiliary switch | 2 x SPDT | | |
| | Contact rating (contacts gold plate on silver) | 1 mA ... 6 A (3 A), DC 5 V ... AC 250 V \square | | |
| | Switching points | 5° ... 80° | | |
| | Thermal trips | Tf1: duct outside temperature 72°C Tf2 + Tf3: duct inside temperature 72°C | | |
| | Connecting | Motor | Cable, 1 m, 2 x 0.75 mm ² (halogen-free) | |
| Auxiliary switch | | Cable, 1 m, 6 x 0.75 mm ² (halogen-free) | | |
| Functional data | Torque | Motor | Min. 20 Nm | |
| | | Spring return | Min. 20 Nm | |
| | Direction of rotation | Selected by mounting L/R | | |
| | Angle of rotation | Max. 95° | | |
| | Running time | Motor | <60 s | |
| | | Spring return | <30 s (t _{amb} = 20°C) | |
| | Sound power level | Motor | Max. 55 dB (A) | |
| | | Spring return | ≈62 dB (A) | |
| | Damper rotation | Form-fit 12 mm | | |
| | Position indication | Mechanical with pointer | | |
| Service life | Min. 10'000 safety positions @ 15 Nm followed by 50 safety positions @ 20 Nm | | | |
| Safety | Protection class | III Safety extra-low voltage | | |
| | Degree of protection | IP54 in all mounting positions | | |
| | EMC | CE according to 2014/30/EU | | |
| | Low voltage directive | CE according to 2014/35/EU | | |
| | Mode of operation | Type 1.AA.B (according to EN60730-1) | | |
| | Rated impulse voltage | 0.8 kV (according to EN60730-1) | | |
| | Control pollution degree | 3 (according to EN60730-1) | | |
| | Ambient temperature range | Normal duty | -30 ... +50°C | |
| | | Safety duty | The safe position will be attained up to max. 75°C | |
| | Non-operating temperature | -40 ... +50°C | | |
| | Ambient humidity range | 95% r.H., non-condensating (EN 60730-1) | | |
| | Maintenance | Maintenance-free | | |
| Dimensions / weight | Dimensions | See «Dimensions» on page 3 | | |
| | Weight | Approx. 3.1 kg | | |

Safety notes

- The device must not be used outside the specified field of application, especially not in aircraft or in any other airborne means of transport.
- The actuator is adapted and installed on the fire and smoke damper by the damper manufacturer. For this reason, the actuator is only supplied directly to safety damper manufacturers. The manufacturer then bears full responsibility for the proper functioning of the damper.
- The two switches integrated in the actuator are to be operated either on power supply voltage or at safety extra-low voltage. The combination power supply voltage/ safety extra-low voltage is not permitted.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

Mode of operation

The actuator moves the damper to its normal working position while tensioning the return spring at the same time. If the power supply is interrupted, the energy stored in the spring moves the damper back to its safe position.

Thermo-electric tripping device
BAE72B-S

Thermal trip Tf1 operates if the ambient temperature exceeds 72°C.

Replaceable thermal trip Tf2/Tf3 operates if the temperature inside the duct exceeds 72°C.

Tf1, Tf2 or Tf3 trips cause the power supply to be interrupted permanently so that it cannot be uncanceled.

The LED is lit when

- there is a supply voltage,
- the temperature fuses are OK and
- the test switch is not pressed.

Note

The function of the thermal trip and the test switch is only warranted if the actuator is connected to the power supply and has reached its operating position.

Signalling

Two microswitches with fixed settings are installed in the actuator for indicating the damper end positions.

The position of the damper blade can be read off on a mechanical position indicator.

Manual operation

Without power supply, the damper can be operated manually and fixed in any required position.

Release of the locking mechanism can be achieved manually or automatically by applying the supply voltage.

Standards / Regulations

The design of the actuator is based on the specific requirements from the European standards:

- EN 15650 Ventilation for buildings – Fire dampers
- EN 1366-2 Fire resistance tests on service installations (Part 2: Fire dampers)
- EN 13501-3 Fire classification of construction products and building elements (Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers)

Recommendation for application

Regular operational checks (open-close control of the fire damper) enhance the safety of people, animals, property and the environment. Unless other requirements are stipulated – e. g. in the damper manufacturer's operating instructions – Belimo recommends the performance of monthly operational checks. Fire damper actuators from Belimo are designed in accordance with service life specifications contained in the technical data sheet for regular operational checks. Notes for regular operational checks can be found in the European Product Standard for Fire Dampers (EN 15650) under «Maintenance information».

Accessories

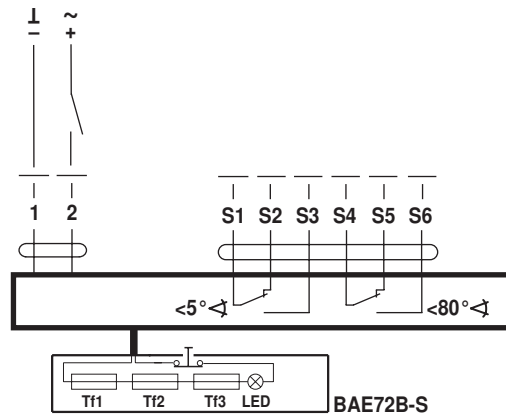
| | Description | Type |
|------------------------|--|--------|
| Electrical accessories | Auxiliary switch, 1 x SPDT 6 A (2.5 A), AC 250 V | SN1 |
| | Auxiliary switch, 2 x SPDT 6 A (2.5 A), AC 250 V | SN2 |
| | Cable set with plug, L = 0.5 m for communication and power supply unit | ZST-BS |
| | Blanking cover for BAE (without thermal fuse for duct inside temperature) | ZBAE0 |
| | Spare tripping element for BAT, duct inside temperature = 72 °C, sensor length = 65 mm | ZBAE72 |
| | Spare tripping element for BAE, duct inside temperature = 95 °C, sensor length = 65 mm | ZBAE95 |

Electrical installation

Wiring diagram

Note

- Supply via safety isolation transformer
- Parallel connection of several actuators possible. Power consumption must be observed!



Dimensions [mm]

Dimensional diagrams

