

Spring return actuator for fire and smoke dampers 90°↻ in ventilation and air-conditioning systems

- Torque 12/9 Nm
- Nominal voltage AC 230 V
- Control: Open-close
- Running time 62/~16 s
- Damper rotation: 10 mm form-fit
- SiHF connecting cables



## Technical Data

|                            |  |  |  |  |
|----------------------------|--|--|--|--|
| <b>Electrical data</b>     | Nominal voltage                                | AC 230 V, 50/60 Hz   |  |  |
|                            | Nominal voltage range                          | AC 198 ... 264 V   |  |  |
|                            | Power consumption                              | Motoring   | 8 W @ nominal torque   |  |
|                            |  | Holding  | 3 W  |  |
|                            |  | For wire sizing  | 12.5 VA / I <sub>max</sub> . 500 mA @ 5 ms   |  |
|                            | Auxiliary switch                               | 2 x SPST   |  |  |
|                            | Contact rating (contacts gold plate on silver) | 1 mA ... 6 A (3 A), DC 5 V ... AC 250 V <input type="checkbox"/> |  |  |
|                            | Switching points                               | 5°↻ / 80°↻   |  |  |
|                            | Connecting                                     | Motor  | SiHF cable, 1.2 m, 2 x 0.75 mm <sup>2</sup> (silicone, halogen-free)                   |  |
|                            |  | Auxiliary switch   | SiHF cable, 1.2 m, 4 x 0.75 mm <sup>2</sup> (silicone, halogen-free)                   |  |
| <b>Functional data</b>     | Torque   | Motor  | Min. 12 Nm   |  |
|                            |  | Spring return  | Min. 9 Nm  |  |
|                            | Direction of rotation                          | Selected by mounting L / R                                       |  |  |
|                            | Angle of rotation                              | Max. 95°↻ (incl. 5°↻ spring pretensioning)                       |  |  |
|                            | Running time                                   | Motor  | 62 s   |  |
|                            |  | Spring return  | 16 s (t <sub>amb</sub> = 20 °C)  |  |
|                            | Sound power level                              | Motor  | Max. 45 dB (A)   |  |
|                            |  | Spring return  | ≈62 dB (A)   |  |
|                            | Damper rotation                                | Form-fit 10 mm   |  |  |
|                            | Position indication                            | Mechanical with pointer  |  |  |
| Service life               | Min. 60'000 safety positions                   |  |  |  |
| <b>Safety</b>              | Protection class                               | II totally insulated <input type="checkbox"/>                    |  |  |
|                            | 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 (EN60730-1)  |  |  |
|                            | Rated impulse voltage                          | 4 kV (EN60730-1)   |  |  |
|                            | Control pollution degree                       | 3 (EN60730-1)  |  |  |
|                            | Ambient temperature                            | Normal duty  | -30 ... +50 °C   |  |
|                            |  | Safety duty  | The safety position will be attained up to max. 75 °C when initiated by a thermal trip |  |
|                            | Non-operating temperature                      | -40 ... +80 °C   |  |  |
| Ambient humidity           | 95% r.H., non-condensating (EN 60730-1)        |  |  |  |
| Maintenance                | Maintenance-free                               |  |  |  |
| <b>Dimensions / weight</b> | 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.
- Caution: Power supply voltage!
- 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

|                                       |   |
|---------------------------------------|---|
| <b>Mode of operation</b>              | 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 safety position.   |
| <b>Signalling</b>                     | 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.   |
| <b>Manual operation</b>               | 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.  |
| <b>Standards / Regulations</b>        | The design of the actuator is based on the specific requirements from the European standards: <ul style="list-style-type: none"> <li>- EN 15650 Ventilation for buildings – Fire dampers</li> <li>- EN 1366-2 Fire resistance tests on service installations (Part 2: Fire dampers)</li> <li>- 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)</li> </ul>   |
| <b>Recommendation for application</b> | 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

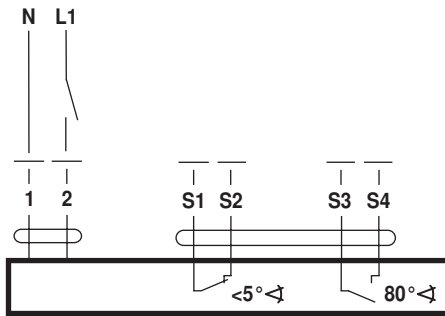
|                               | Description  | Type    |
|-------------------------------|--|---------|
| <b>Electrical accessories</b> | Auxiliary switch, 1 x SPDT 6 A (2.5 A), AC 250 V                           | SN1     |
|                               | Auxiliary switch, 2 x SPDT 6 A (2.5 A), AC 250 V                           | SN2     |
| <b>Mechanical accessories</b> | Adapter with clamp for round spindle 10...20 mm / square 10...16 mm for BF | ZK-BF   |
|                               | Adapter for form fit 12 mm with round spindle 18 mm, L = 33 mm for BF      | ZA18-BF |
|                               | Adapter 12/8 mm for BF.. and BLF..   | ZA8-BF  |
|                               | Adapter 12/11 mm for BF.. and BLF..  | ZA11-BF |
|                               | Bracket for auxiliary switch (SN2-C7) for BF, BR                           | ZSN-BF  |

Electrical installation

Wiring diagram

Note

- Caution: Power supply voltage!
- Parallel connection of several actuators possible. Power consumption must be observed!



Dimensions [mm]

Dimensional drawings

