

# **Technical data sheet**

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

- Torque motor 18 Nm / 12 Nm
- Nominal voltage AC/DC 24 V
- Control Open/close
- Mechanical interface Form fit 12x12 mm, noncontinuous hollow shaft



## Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.228.8 V / DC 21.628.8 V
	Power consumption in operation	7 W
	Power consumption in rest position	2 W
	Power consumption for wire sizing	10 VA
	Power consumption for wire sizing note	Imax 8.3 A @ 5 ms
	Auxiliary switch	2x SPDT
	Switching capacity auxiliary switch	1 mA6 A (3 A inductive), DC 5 VAC 250 V (II,
		reinforced insulation)
	Switching points auxiliary switch	5° / 80°
	Connection supply / control	Cable 1 m, 2x 0.75 mm <sup>2</sup> (halogen-free)
	Connection auxiliary switch	Cable 1 m, 6x 0.75 mm² (halogen-free)
Functional data	Torque motor	18 Nm
	Torque fail-safe	12 Nm
	Direction of motion motor	selectable by mounting L/R
	Manual override	with position stop
	Angle of rotation	Max. 95°
	Running time motor	<120 s / 90°
	Running time fail-safe	16 s @ 20°C
	Sound power level, motor	45 dB(A)
	Sound power level, fail-safe	63 dB(A)
	Mechanical interface	Form fit 12x12 mm, non-continuous hollow shaft
	Position indication	Mechanical, with pointer
	Service life	Min. 60'000 safety positions
Safety data	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Protection class auxiliary switch IEC/EN	II, reinforced insulation
	Degree of protection IEC/EN	IP54
		IP protection in all mounting orientations
	EMC	CE according to 2014/30/EU
	Low voltage directive	CE according to 2014/35/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Type of action	Туре 1.АА.В
	Rated impulse voltage supply / control	0.8 kV
	Pollution degree	3



Safety data	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature normal operation	-3050°C [-22122°F]
	Ambient temperature safety operation	The safety position will be attained up to max.
		75°C
	Storage temperature	-4050°C [-40122°F]
	Servicing	maintenance-free
Weight	Weight	2.6 kg

# Safety notes

	<ul> <li>The device must not be used outside the specified field of application, especially not in aircraft or in any other airborne means of transport.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>
Product features	
Operating mode	The actuator moves the damper to the operating position at the same time as tensioning the return spring. The damper is turned back to the safety position by spring energy when the supply voltage is interrupted.
Manual override	Without power supply, the actuator can be operated manually and fixed in any required position. It can be unlocked manually or automatically by applying the supply voltage.
Signalling	Two microswitches with fixed settings are installed in the actuator for indicating the damper end positions. The electrical contacts of these microswitches are equipped with a gold/silver coating that permits integration both in circuits with low currents (mA range) and in ones with larger-sized currents (A range) in accordance with the specifications in the data sheet. It should be noted with this application however that the contacts can no longer be used in the milliampere range after larger currents have been applied to them, even if this has taken place only once. The position of the damper blade can be read off on a mechanical position indication.
Standards / Regulations	The design of the actuator is based on the specific requirements from the European
Standards / Regulations	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)



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people, animals, property and the environment. Unless other requirement e.g. in the damper manufacturer's operating instructions – Belimo recomperformance of a monthly operational check. Fire damper actuators from designed in accordance with service life specifications contained in the terfor regular operational checks. Notes for regular operational checks can	nts are stipulated – imends the i Belimo are ichnical data sheet be found in the
Hand crank Pointer Protective bag Form fit insert 12/10 mm	
Description         Auxiliary switch 2x SPDT         Thermoelectric tripping device with control key, Duct inside         temperature 72°C (colour black), Duct outside temperature 72°C, Probe         length 65 mm         Thermoelectric tripping device with control key, Duct inside         temperature 72°C (colour black), Duct outside temperature 72°C, Probe         length 90 mm         Cable set with plug 0.5 m for communication and power supply unit         Description         Bracket for SN2-C7 for BF         Adapter, for form fit 12 mm on round shaft 18 mm, L = 33 mm         Adapter for form fit 12 mm on round shaft 18 mm, L = 33 mm	Type SN2-C7 BAT72 BAT72/9 ZST-BS Type ZSN-BF ZA18-BF ZKD5
Adapter, for form fit with clamp for round shaft 1020 mm / square 1016 mm Pointer 12x12 mm Hand crank 40 mm	ZK-BF ZZ12-B ZK1-B
	Pointer Protective bag Form fit insert 12/10 mm

#### **Electrical installation**



Supply from isolating transformer.

Parallel connection of other actuators possible. Observe the performance data.

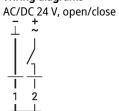
#### Wire colours:

1 = black 2 = white S1 = violet S2 = red S3 = white S4 = orange S5 = pink S6 = grey

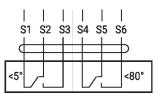


## **Electrical installation**

## Wiring diagrams



Auxiliary switch



## Dimensions

