

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

- Nominal torque 18 Nm / 12 Nm
- Nominal voltage AC/DC 24 V
- Control open-close
- Damper rotation form fit 12 mm (10 mm with enclosed adapter)



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Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2 V ... 28.8 V / DC 21.6 V ... 28.8 V
	Power consumption in operation	7 W
	Power consumption at rest	2 W
	Power consumption for wire sizing	10 VA
	Power consumption for wire sizing note	I _{max} 8.3 A @ 5 ms
	Auxiliary switch	2 x SPDT
	Switching capacity auxiliary switch	Contact gold-plated silver: 1 mA ... 6 (3) A, DC 5 V ... AC 250 V (II Totally insulated)
	Switching points auxiliary switch	5° / 80°
	Connection supply	Cable 1 m, 2 x 0.75 mm ² (halogen-free)
	Connection auxiliary switch	Cable 1 m, 6 x 0.75 mm ² (halogen-free)
	Cable length thermoelectric tripping device	1 m
Functional data	Torque motor	Min. 18 Nm
	Torque spring-return	Min. 12 Nm
	Direction of rotation motor	Can be selected by mounting L / R
	Angle of Rotation	max. 95° (incl. 5° initial spring tension)
	Running time motor	<120 s / 90°
	Running time spring-return	~16 s (t _{amb} =20° C)
	Sound power level motor max.	45 dB (A)
	Sound power level spring-return max.	63 dB (A)
	Damper rotation	Form fit 12 mm (10 mm with enclosed adapter)
	Position indication	Mechanically, with pointer
	Service life	Min. 60,000 safety positions
Safety	Response temperature thermal fuse	Tf1: Duct outside temperature 72° C Tf2 and Tf3: Duct inside temperature 72° C
	Protection class IEC/EN	III Safety extra-low voltage
	Degree of protection IEC/EN	IP54 in all mounting positions
	EMC	CE according to 2004/108/EC
	Low-voltage directive	CE according to 2006/95/EC
	Certification IEC/EN	Certified according to IEC/EN 60730-1 and IEC/EN 60730-2-14
	Mode of operation	Type 1.AA.B
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature normal duty	-30° C ... 50° C
	Ambient temperature safety duty	The safety position will be attained up to max. 75° C
	Non-operating temperature	-40° C ... 50° C
	Ambient humidity range	95% r.h., non-condensing
	Maintenance	Maintenance-free
	Weight approx.	2.8 kg

Safety notes



- The actuator is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- The actuator is adapted and mounted to the fire and smoke damper by the damper manufacturer. For this reason, the actuator is only supplied direct to safety damper manufacturers. The manufacturer then bears full responsibility for the proper functioning of the damper.
- 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 is not allowed to 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 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.
Thermoelectric tripping device	<p>If the ambient temperature of 72°C is exceeded, the thermal fuse Tf1 responds. If the duct inside temperature of 72°C is exceeded, the exchangeable thermal fuse Tf2/Tf3 will respond.</p> <p>When the thermal fuses Tf1, Tf2 or Tf3 respond, the supply voltage is interrupted permanently and irreversibly.</p> <p>The LED is lit when</p> <ul style="list-style-type: none"> – there is a supply voltage, – the temperature fuses are OK and – the test switch is not pressed. <p>The function of the thermal fuse and the test button is only warranted if the actuator is connected to the power supply and has reached its operating position (LED on).</p>
Signalling	<p>Two microswitches with fixed settings are installed in the actuator for indicating the damper end positions.</p> <p>The position of the damper blade can be read off on a mechanical position indication.</p>
Manual operation	Without power supply, the damper can be operated manually and fixed in any required position. It can be unlocked manually or automatically by applying the supply voltage.

Accessories

	Description	Data sheet name
Electrical accessories	Auxiliary switch, 2 x SPDT, 6 A (2.5 A), AC 250 V	SN2-C7
	Cable set with plug, L = 0.5 m for BF.. and BLF.. at communication and power supply units	ZST-BS
	Blanking cover (has no duct sensor function) for BAE..	ZBAE0
	Spare thermoelectric tripping device for BAE..., duct inside temperature 72°C	ZBAE72
	Spare thermoelectric tripping device for BAE..., duct inside temperature 95°C, colour green	ZBAE95
Mechanical accessories	Adapter with clamp for rotary axes up to 20 mm for BF.. and BLF..	ZK-BF
	Adapter with DM18 rotary axis, L = 33 mm for BF.. and BLF..	ZA18-BF
	Adapter 12/8 mm for BF.. and BLF..	ZA8-BF
	Adapter 12/11 mm for BF.. and BLF..	ZA11-BF
	Bracket for SN2-C7 auxiliary switch for BF.. and BR..	ZSN-BF

Electrical installation

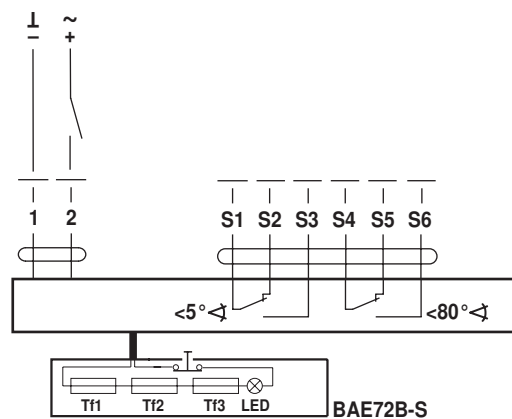


Notes

- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Note the performance data.

Wiring diagrams

AC/DC 24, open-close



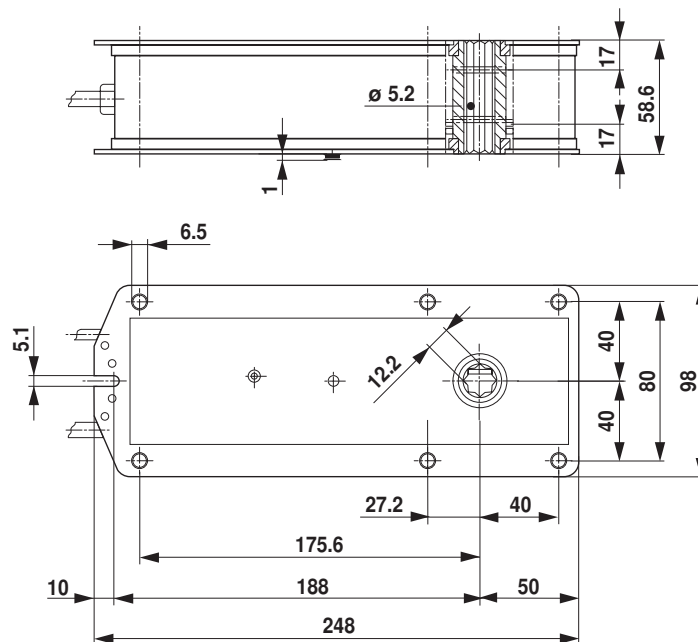
Cable colours:

- 1 = black
2 = white

- S1 = white
S2 = white
S3 = white
S4 = white
S5 = white
S6 = white

Dimensions [mm]

Dimensional drawings



Spring-return actuator, combined with thermoelectric tripping device (72 °C), for fire and smoke dampers 90° in ventilation and air-conditioning systems, with connection plugs for simple integration in control and monitoring systems or bus networks via communication and power supply units

- Nominal torque 18 Nm / 12 Nm
- Nominal voltage AC/DC 24 V
- Control open-close
- Damper rotation form fit 12 mm (10 mm with enclosed adapter)



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Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2 V ... 28.8 V / DC 21.6 V ... 28.8 V
	Power consumption in operation	7 W
	Power consumption at rest	2 W
	Power consumption for wire sizing	10 VA
	Power consumption for wire sizing note	I _{max} 8.3 A @ 5 ms
	Auxiliary switch	2 x SPDT
	Switching capacity auxiliary switch	Contact gold-plated silver: 1 mA ... 3 (0.5) A, DC 5 V ... AC 250 V (II Totally insulated)
	Switching points auxiliary switch	5° / 80°
	Connection supply	Cable 1 m, 2 x 0.75 mm ² (halogen-free)
	Connection auxiliary switch	Cable 1 m, 6 x 0.75 mm ² (halogen-free)
	Connection plug	Supply: 3-pole plug, suitable for communication and power supply units (see "Accessories") Auxiliary switch: 6-pole plug, suitable for communication and power supply units (see "Accessories")
	Cable length thermoelectric tripping device	1 m
Functional data	Torque motor	Min. 18 Nm
	Torque spring-return	Min. 12 Nm
	Direction of rotation motor	Can be selected by mounting L / R
	Angle of rotation	Max. 95° (incl. 5° initial spring tension)
	Running time motor	<120 s / 90°
	Running time spring-return	~16 s (tamb = 20 °C)
	Sound power level motor max.	45 dB (A)
	Sound power level spring-return max.	63 dB (A)
	Damper rotation	Form fit 12 mm (10 mm with enclosed adapter)
	Position indication	Mechanically, with pointer
Safety	Service life	Min. 60,000 safety positions
	Response temperature thermal fuse	Tf1: Duct outside temperature 72 °C Tf2 and Tf3: Duct inside temperature 72 °C
	Protection class IEC/EN	III Safety extra-low voltage
	Degree of protection IEC/EN	IP54 in all mounting positions
	EMC	CE according to 2004/108/EC
	Low-voltage directive	CE according to 2006/95/EC
	Certification IEC/EN	Certified according to IEC/EN 60730-1 and IEC/EN 60730-2-14
	Mode of operation	Type 1.AA.B
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature normal duty	-30 °C ... 50 °C
	Ambient temperature safety duty	The safety position will be attained up to max. 75 °C

Technical data

Safety	Non-operating temperature	-40°C ... 50°C
	Ambient humidity	95% r.h., non-condensing
	Maintenance	Maintenance-free
Weight	Weight approx.	2.8 kg

Safety notes



- The actuator is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- The actuator is adapted and mounted to the fire and smoke damper by the damper manufacturer. For this reason, the actuator is only supplied direct to safety damper manufacturers. The manufacturer then bears full responsibility for the proper functioning of the damper.
- 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 is not allowed to 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 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.
Thermoelectric tripping device	<p>If the ambient temperature of 72°C is exceeded, the thermal fuse Tf1 responds. If the duct inside temperature of 72°C is exceeded, the exchangeable thermal fuse Tf2/Tf3 will respond.</p> <p>When the thermal fuses Tf1, Tf2 or Tf3 respond, the supply voltage is interrupted permanently and irreversibly.</p> <p>The LED is lit when</p> <ul style="list-style-type: none"> – there is a supply voltage, – the temperature fuses are OK and – the test switch is not pressed. <p>The function of the thermal fuse and the test button is only warranted if the actuator is connected to the power supply and has reached its operating position (LED on).</p>
Signalling	<p>Two microswitches with fixed settings are installed in the actuator for indicating the damper end positions.</p> <p>The position of the damper blade can be read off on a mechanical position indicator.</p>
Manual operation	Without power supply, the damper can be operated manually and fixed in any required position. It can be unlocked manually or automatically by applying the supply voltage.
Connecting	The actuator is fitted with plugs. This means that it can be integrated via a communication and power supply unit (see "Accessories") in the control and monitoring systems (e.g. SBS control) or in bus networks (e.g. MP bus solutions).



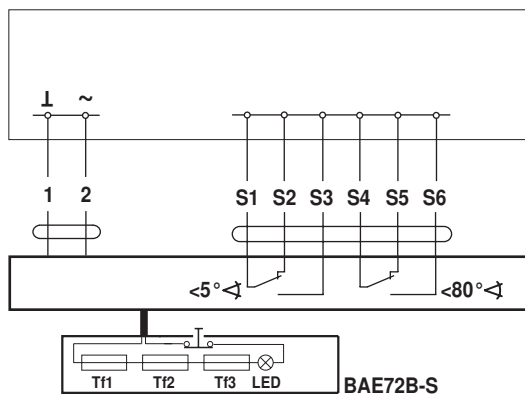
Accessories

	Description	Data sheet name
Electrical accessories	Auxiliary switch, 2 x SPDT, 6 A (2.5 A), AC 250 V	SN2-C7
	Cable set with plug, L = 0.5 m for BF.. and BLF.. on communication and power supply units	ZST-BS
	Blanking cover (has no duct sensor function) for BAE..	ZBAE0
	Spare thermoelectric tripping device for BAE..., duct inside temperature 72°C	ZBAE72
	Spare thermoelectric tripping device for BAE..., duct inside temperature 95°C, colour green	ZBAE95
	Communication and power supply unit for integration in SBS control networks	BKN230-24
	Communication and power supply unit for integration in SBS control and MP bus networks	BKN230-24-C-MP
Mechanical accessories	Adapter with clamp for rotary axes up to 20 mm for BF.. and BLF..	ZK-BF
	Adapter with DM18 rotary axis, L = 33 mm for BF.. and BLF..	ZA18-BF
	Adapter 12/8 mm for BF.. and BLF..	ZA8-BF
	Adapter 12/11 mm for BF.. and BLF..	ZA11-BF
	Bracket for SN2-C7 auxiliary switch for BF.. and BR..	ZSN-BF

Electrical installation

Wiring diagrams

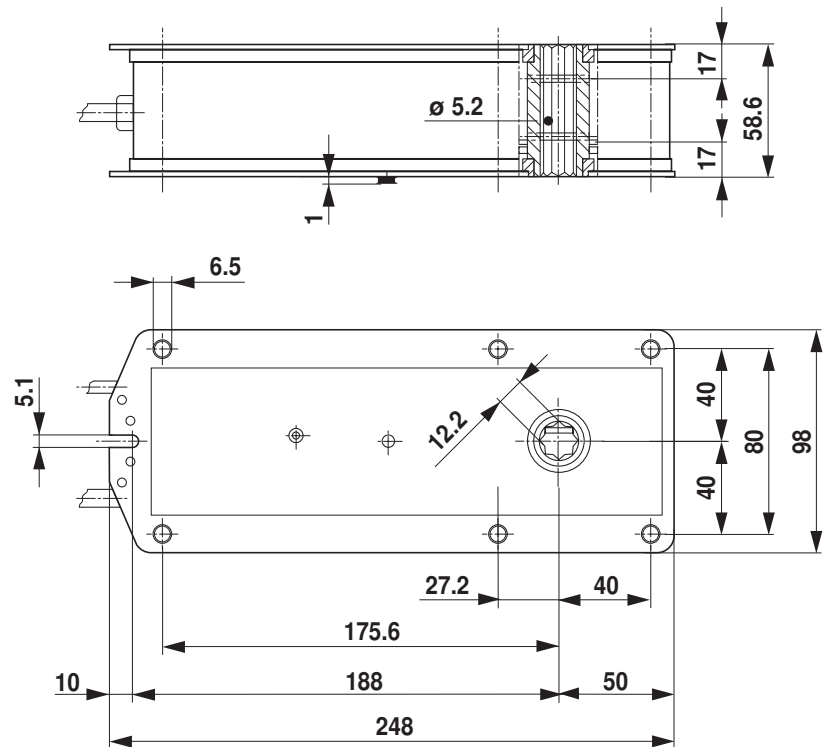
AC/DC 24, open-close


**Connection by means of plug
at communication and power
supply units:**

Application examples for the integration into monitoring and control systems or into bus networks can be in the documentation of the connected communication and power supply unit (see "Accessories").

Dimensions [mm]

Dimensional drawings



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

- Nominal torque 18 Nm / 12 Nm
- Nominal voltage AC 230 V
- Control open-close
- Damper rotation form fit 12 mm (10 mm with enclosed adapter)



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Technical data

Electrical data	Nominal voltage	AC 230 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 198 V ... 264 V
	Power consumption in operation	8.5 W
	Power consumption at rest	3 W
	Power consumption for wire sizing	11 VA
	Power consumption for wire sizing note	I _{max} 0.5 A @ 5 ms
	Auxiliary switch	2 x SPDT
	Switching capacity auxiliary switch	Contact gold-plated silver: 1 mA ... 3 (0.5) A, DC 5 V ... AC 250 V (II Totally insulated)
	Switching points auxiliary switch	5° / 80°
	Connection supply	Cable 1 m, 2 x 0.75 mm ² (halogen-free)
	Connection auxiliary switch	Cable 1 m, 6 x 0.75 mm ² (halogen-free)
	Cable length thermoelectric tripping device	1 m
Functional data	Torque motor	Min. 18 Nm
	Torque spring-return	Min. 12 Nm
	Direction of rotation motor	Can be selected by mounting L / R
	Angle of rotation	Max. 95° (incl. 5° initial spring tension)
	Running time motor	<120 s / 90°
	Running time spring-return	~16 s (t _{amb} = 20 °C)
	Sound power level motor max.	45 dB (A)
	Sound power level spring-return max.	63 dB (A)
	Damper rotation	Form fit 12 mm (10 mm with enclosed adapter)
	Position indication	Mechanically, with pointer
Safety	Service life	Min. 60,000 safety positions
	Response temperature thermal fuse	Tf1: Duct outside temperature 72 °C Tf2 and Tf3: Duct inside temperature 72 °C
	Protection class IEC/EN	II Totally insulated
	Degree of protection IEC/EN	IP54 in all mounting positions
	EMC	CE according to 2004/108/EC
	Low-voltage directive	CE according to 2006/95/EC
	Certification IEC/EN	Certified according to IEC/EN 60730-1 and IEC/EN 60730-2-14
	Mode of operation	Type 1.AA.B
	Rated impulse voltage supply / control	4 kV
	Control pollution degree	3
	Ambient temperature normal duty	-30 °C ... 50 °C
	Ambient temperature safety duty	The safety position will be attained up to max. 75 °C when triggered by a thermal fuse
	Non-operating temperature	-40 °C ... 50 °C
	Ambient humidity	95% r.h., non-condensing
	Maintenance	Maintenance-free
Weight	Weight approx.	3.1 kg

Safety notes



- The actuator is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Caution: Power supply voltage!
- The actuator is adapted and mounted to the fire and smoke damper by the damper manufacturer. For this reason, the actuator is only supplied direct to safety damper manufacturers. The manufacturer then bears full responsibility for the proper functioning of the damper.
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Manual operation	Without power supply, the damper can be operated manually and fixed in any required position. It can be unlocked manually or automatically by applying the supply voltage.

Accessories

	Description	Data sheet name
Electrical accessories	Auxiliary switch, 2 x SPDT, 6 A (2.5 A), AC 250 V	SN2-C7
	Blanking cover (has no duct sensor function) for BAE..	ZBAE0
	Spare thermoelectric tripping device for BAE..., duct inside temperature 72°C	ZBAE72
	Spare thermoelectric tripping device for BAE..., duct inside temperature 95°C, colour green	ZBAE95
Mechanical accessories	Adapter with clamp for rotary axes up to 20 mm for BF.. and BLF..	ZK-BF
	Adapter with DM18 rotary axis, L = 33 mm for BF.. and BLF..	ZA18-BF
	Adapter 12/8 mm for BF.. and BLF..	ZA8-BF
	Adapter 12/11 mm for BF.. and BLF..	ZA11-BF
	Bracket for SN2-C7 auxiliary switch for BF.. and BR..	ZSN-BF

Electrical installation

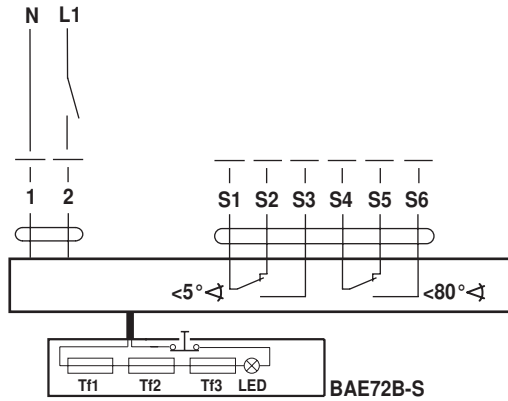


Notes

- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Note the performance data.

Wiring diagrams

AC 230 V, open-close



Cable colours:

- 1 = blue
- 2 = brown

- S1 = white
- S2 = white
- S3 = white
- S4 = white
- S5 = white
- S6 = white

Dimensions [mm]

Dimensional drawings

