

Technical data sheet

BLF24-T

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

- Nominal torque 6 Nm / 4 Nm
- Nominal voltage AC/DC 24 V
- Control open-close
- Damper rotation form fit 12 mm (10 mm with enclosed adapter)



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	5 W
	Power consumption at rest	2.5 W
	Power consumption for wire sizing	7 VA
	Power consumption for wire sizing note	Imax 5.8 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. 6 Nm
	Torque spring-return	Min. 4 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	40 75 s (0 6 Nm) / 90°
	Running time spring-return	~20 s @ -20 50 °C / max. 60 s @ -30 °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	95% r.h., non-condensing
	Maintenance	Maintenance-free
Weight	Weight approx.	1.6 kg



Safety notes		
\bigwedge	 The actuator is not allowed to be used outside the specified field of especially in aircraft or in any other airborne means of transport. The actuator is adapted and mounted to the fire and smoke damper manufacturer. For this reason, the actuator is only supplied direct the manufacturers. The manufacturer then bears full responsibility for functioning of the damper. The device may only be opened at the manufacturer's site. It does parts that can be replaced or repaired by the user. The device contains electrical and electronic components and is n disposed of as household refuse. All locally valid regulations and r be observed. 	r by the damper o safety damper the proper not contain any ot allowed to be
Product features		
Mode of operation	The actuator moves the damper to the operating position at the same tensioning the return spring. The damper is turned back to the safety energy when the supply voltage is interrupted.	
Thermoelectric tripping device		
Signalling	Two microswitches with fixed settings are installed in the actuator for damper end positions. The position of the damper blade can be read off on a mechanical position.	C C
Manual operation	Without power supply, the damper can be operated manually and fix position. It can be unlocked manually or automatically by applying th	
Accessories		
	Description	Data sheet name
Electrical accessories	Auxiliary switch, 2 x SPDT, 6 A (2.5 A), AC 250 V Cable set with plug, L = 0.5 m for BF and BLF on communication and power supply units	SN2-C7 ZST-BS
	Blanking cover (has no duct sensor function) for BAE	ZBAE0
	Spare thermoelectric tripping device for BAE, duct inside temperature 72°C	ZBAE72

ZBAE95

ZK-BF

ZA18-BF

ZA8-BF

ZA11-BF

ZSN-BF

95°C, colour green

Adapter 12/8 mm for BF.. and BLF..

Adapter 12/11 mm for BF.. and BLF..

Mechanical accessories

Spare thermoelectric tripping device for BAE.., duct inside temperature

Adapter with clamp for rotary axes up to 20 mm for BF.. and BLF..

Adapter with DM18 rotary axis, L = 33 mm for BF.. and BLF..

Bracket for SN2-C7 auxiliary switch for BF.. and BR..

Spring-return actuator 90 $^{\circ},$ AC/DC 24 V, 6 Nm / 4 Nm, with BAE..

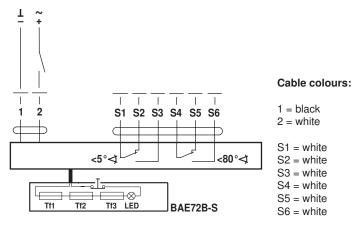


Electrical installation

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

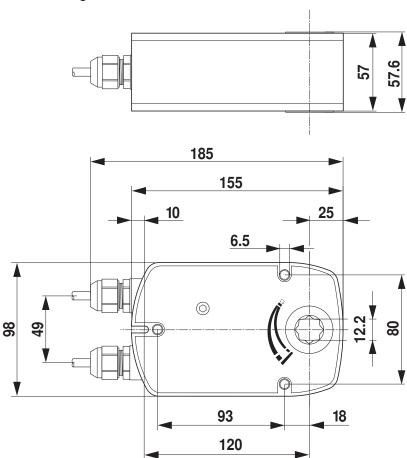
Wiring diagrams

AC/DC 24, open-close



Dimensions [mm]

Dimensional drawings





Technical data sheet

BLF24-T-ST

PROTECT C LIFE

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 6 Nm / 4 Nm
- Nominal voltage AC/DC 24 V
- Control open-close
- Damper rotation form fit 12 mm (10 mm with enclosed adapter)

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	5 W
	Power consumption at rest	2.5 W
	Power consumption for wire sizing	7 VA
	Power consumption for wire sizing note	Imax 5.8 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 / control: 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. 6 Nm
Functional data	Torque motor Torque spring-return	Min. 6 Nm Min. 4 Nm
Functional data		Min. 4 Nm Can be selected by mounting L / R
Functional data	Torque spring-return	Min. 4 Nm
Functional data	Torque spring-return Direction of rotation motor	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90°
Functional data	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C
Functional data	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max.	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C 45 dB (A)
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Functional data	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C 45 dB (A) 63 dB (A) Form fit 12 mm (10 mm with enclosed adapter)
Functional data	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation Position indication	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C 45 dB (A) 63 dB (A) Form fit 12 mm (10 mm with enclosed adapter) Mechanically, with pointer
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	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation Position indication Service life	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C 45 dB (A) 63 dB (A) Form fit 12 mm (10 mm with enclosed adapter) Mechanically, with pointer Min. 60,000 safety positions Tf1: Duct outside temperature 72°C
	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation Position indication Service life Response temperature thermal fuse	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C 45 dB (A) 63 dB (A) Form fit 12 mm (10 mm with enclosed adapter) Mechanically, with pointer Min. 60,000 safety positions Tf1: Duct outside temperature 72°C Tf2 and Tf3: Duct inside temperature 72°C
	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation Position indication Service life Response temperature thermal fuse Protection class IEC/EN	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C 45 dB (A) 63 dB (A) Form fit 12 mm (10 mm with enclosed adapter) Mechanically, with pointer Min. 60,000 safety positions Tf1: Duct outside temperature 72°C Tf2 and Tf3: Duct inside temperature 72°C III Safety extra-low voltage
	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation Position indication Service life Response temperature thermal fuse Protection class IEC/EN Degree of protection IEC/EN	Min. 4 NmCan be selected by mounting L / RMax. 95° (incl. 5° initial spring tension)40 75 s (0 6 Nm) / 90°~20 s @ -20 50°C / max. 60 s @ -30°C45 dB (A)63 dB (A)Form fit 12 mm (10 mm with enclosed adapter)Mechanically, with pointerMin. 60,000 safety positionsTf1: Duct outside temperature 72°CTf2 and Tf3: Duct inside temperature 72°CIII Safety extra-low voltageIP54 in all mounting positions
	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation Position indication Service life Response temperature thermal fuse Protection class IEC/EN Degree of protection IEC/EN EMC	Min. 4 NmCan be selected by mounting L / RMax. 95° (incl. 5° initial spring tension)40 75 s (0 6 Nm) / 90°~20 s @ -20 50°C / max. 60 s @ -30°C45 dB (A)63 dB (A)Form fit 12 mm (10 mm with enclosed adapter)Mechanically, with pointerMin. 60,000 safety positionsTf1: Duct outside temperature 72°CTf2 and Tf3: Duct inside temperature 72°CIII Safety extra-low voltageIP54 in all mounting positionsCE according to 2004/108/EC
	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation Position indication Service life Response temperature thermal fuse Protection class IEC/EN Degree of protection IEC/EN EMC Low-voltage directive Certification IEC/EN Mode of operation	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C 45 dB (A) 63 dB (A) Form fit 12 mm (10 mm with enclosed adapter) Mechanically, with pointer Min. 60,000 safety positions Tf1: Duct outside temperature 72°C Tf2 and Tf3: Duct inside temperature 72°C III Safety extra-low voltage IP54 in all mounting positions CE according to 2004/108/EC CE according to 2006/95/EC Certified according to IEC/EN 60730-1 and IEC/EN 60730-2-14 Type 1.AA.B
	Torque spring-return Direction of rotation motor Angle of rotation Running time motor Running time spring-return Sound power level motor max. Sound power level spring-return max. Damper rotation Position indication Service life Response temperature thermal fuse Protection class IEC/EN Degree of protection IEC/EN EMC Low-voltage directive Certification IEC/EN	Min. 4 Nm Can be selected by mounting L / R Max. 95° (incl. 5° initial spring tension) 40 75 s (0 6 Nm) / 90° ~20 s @ -20 50°C / max. 60 s @ -30°C 45 dB (A) 63 dB (A) Form fit 12 mm (10 mm with enclosed adapter) Mechanically, with pointer Min. 60,000 safety positions Tf1: Duct outside temperature 72°C Tf2 and Tf3: Duct inside temperature 72°C III Safety extra-low voltage IP54 in all mounting positions CE according to 2004/108/EC CE according to 2006/95/EC Certified according to IEC/EN 60730-1 and IEC/EN 60730-2-14

-30°C ... 50°C

max. 75°C

The safety position will be attained up to

Ambient temperature normal duty

Ambient temperature safety duty

BLF24-T-ST

Spring-return actuator 90 $^\circ,$ AC/DC 24 V, 6 Nm / 4 Nm, with BAE.., with plug



Technical data		
Safety	Non-operating temperature Ambient humidity Maintenance	-40°C 50°C 95% r.h., non-condensing Maintenance-free
Weight	Weight approx.	1.6 kg
Safety notes		
\bigwedge	 especially in aircraft or in any o The actuator is adapted and mo manufacturer. For this reason, t manufacturers. The manufactur functioning of the damper. The device may only be opened parts that can be replaced or re The device contains electrical a 	be used outside the specified field of application, ther airborne means of transport. bunted to the fire and smoke damper by the damper the actuator is only supplied direct to safety damper rer then bears full responsibility for the proper d at the manufacturer's site. It does not contain any epaired by the user. and electronic components and is not allowed to be se. All locally valid regulations and requirements mus
Product features		
Mode of operation		to the operating position while tensioning the return oper is turned back to the safety position by spring s interrupted.
Thermoelectric tripping device	If the duct inside temperature of 7 Tf2/Tf3 will respond. When the thermal fuses Tf1, Tf2 of permanently and irreversibly. The LED is lit when – there is a supply voltage, – the temperature fuses are OK a – the test switch is not pressed. The function of the thermal fuse a	² C is exceeded, the thermal fuse Tf1 responds. 72°C is exceeded, the exchangeable thermal fuse or Tf3 respond, the supply voltage is interrupted and and the test button is only warranted if the actuator is nd has reached its operating position (LED on).
Signalling	damper end positions.	ings are installed in the actuator for indicating the can be read off on a mechanical position indication
Manual operation	Without power supply, the dampe	er can be operated manually and fixed in any require ually or automatically by applying the supply voltage.
Connecting	The actuator is fitted with plugs. T communication and power supply	This means that it can be integrated via a v unit (see "Accessories") in the control and ntrol) or in bus networks (e.g. MP bus solutions).



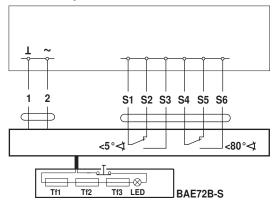
Accessories

	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



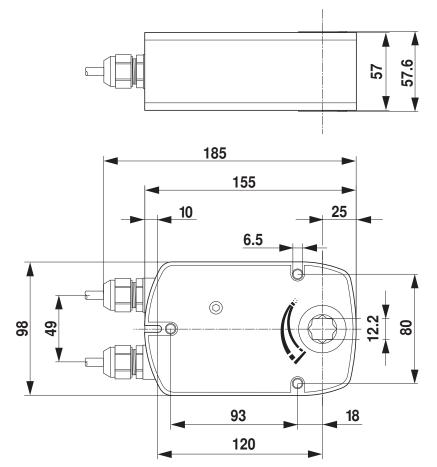
Connection by means of plug at communication and power supply units:

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





Technical data sheet

BLF230-T

FAIL-SAFE SOLUTIONS E

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

- Nominal torque 6 Nm / 4 Nm
- Nominal voltage AC 230 V
- Control open-close
- Damper rotation form fit 12 mm (10 mm with enclosed adapter)



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	6 W
	Power consumption at rest	3 W
	Power consumption for wire sizing	7 VA
	Power consumption for wire sizing note	lmax 150 mA @ 10 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. 6 Nm
	Torque spring-return	Min. 4 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	40 75 s / (0 6 Nm) / 90°
	Running time spring-return	~20 s @ –20 50°C / max. 60 s @ –30°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	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.	1.73 kg



Safety notes		
	 The actuator is not allowed to be used outside the specified field 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 damp manufacturer. For this reason, the actuator is only supplied direct manufacturers. The manufacturer then bears full responsibility for functioning of the damper. The device may only be opened at the manufacturer's site. It does parts that can be replaced or repaired by the user. The device contains electrical and electronic components and is disposed of as household refuse. All locally valid regulations and be observed. 	er by the damper to safety damper r the proper s not contain any not allowed to be
Product features		
Mode of operation	The actuator moves the damper to the operating position at the sar tensioning the return spring. The damper is turned back to the safe energy when the supply voltage is interrupted.	
Thermoelectric tripping device		
Signalling	Two microswitches with fixed settings are installed in the actuator for damper end positions. The position of the damper blade can be read off on a mechanical	-
Manual operation	Without power supply, the damper can be operated manually and fi position. It can be unlocked manually or automatically by applying t	
Accessories		
Electrical accessories	Description Auxiliary switch, 2 x SPDT, 6 A (2.5 A), AC 250 V Blanking cover (has no duct sensor function) Spare thermoelectric tripping device, duct inside temperature 72°C	Data sheet name SN2-C7 ZBAE0 ZBAE72
	Spare thermoelectric tripping device, duct inside temperature 95°C, colour green	ZBAE95

Mechanical accessories Adapter with clamp for rotary axes up to 20 mm for BF.. and BLF.. Adapter with DM18 rotary axis, L = 33 mm, for BF.. and BLF.. ZK-BF

ZA18-BF

ZA8-BF

ZA11-BF

ZSN-BLF

Adapter 12/8 mm for BF.. and BLF..

Adapter 12/11 mm for BF.. and BLF..

Bracket for SN1 and SN2 auxiliary switches, For BLF.. actuators

Spring-return actuator 90 $^\circ,$ AC 230 V, 6 Nm / 4 Nm, with BAE..



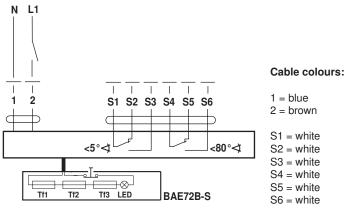
Electrical installation

 Notes
 • Caution: Power supply voltage!

 • Parallel connection of other actuators possible. Note the performance data.

Wiring diagrams

AC 230 V, open-close



Dimensions [mm]

Dimensional drawings

