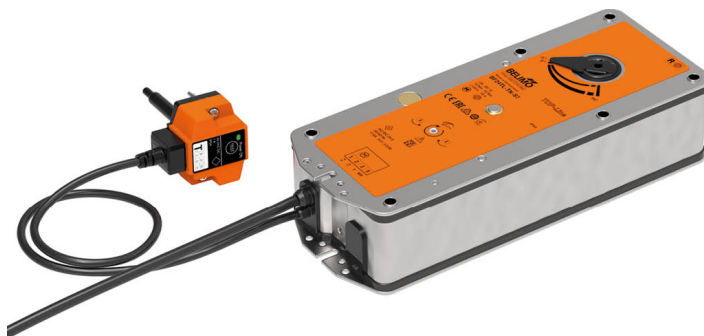


Top-Line spring-return actuator, combined with thermoelectric tripping device BAT (72°C), for fire and smoke dampers 90° in ventilation and air-conditioning systems, integrated in LONWORKS® or BELIMO MP-Bus networks

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



### Technical data

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	8 W
	Power consumption in rest position	3.5 W
	Power consumption for wire sizing	11 VA
	Power consumption for wire sizing note	Imax 8.3 A @ 5 ms
	Connection supply / control	Cable 1 m, 4 x 0.75 mm <sup>2</sup> (halogen-free)
	Connection plug	Supply / control: 4-pole plug, suitable for BKN230-24LON and BKN230-24MP
	Cable length thermoelectric tripping device	1 m
<b>Functional data</b>	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° incl. 5° initial spring tension
	Angle of rotation note	incl. 5° initial spring tension
	Running time motor	<120 s / 90°
	Running time fail-safe	16 s t <sub>amb</sub> = 20°C
	Sound power level, motor	45 dB(A)
	Sound power level, fail-safe	63 dB(A)
	Mechanical interface	Form fit 12x12 mm, continuous hollow shaft
	Position indication	Mechanically, with pointer
Service life	Min. 60'000 safety positions	
<b>Safety data</b>	Response temperature thermal fuse	Duct outside temperature 72°C Duct inside temperature 72°C (color black)
	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
	Degree of protection note	IP protection in all mounting positions
	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
	Mode of operation	Type 1.AA.B
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature normal operation	-30...50°C
	Ambient temperature safety operation	The safety position will be attained up to max. 75°C
	Storage temperature	-40...50°C
	Ambient humidity	Max. 95% r.H., non-condensing
Servicing	maintenance-free	

<b>Weight</b>	<b>Weight</b>	2.8 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 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 the operating position at the same time as tensioning the return spring. The damper is turned back to the safety position by spring force if the supply voltage is interrupted or if the temperature fuse is tripped.
- Safety through permanent monitoring:  
If there is integration in bus systems, then additional information can be called up and monitored by the actuator:
- Message regarding the current position OPEN / runs OPEN or CLOSED / CLOSED
  - Status of the BAT tripping device
  - Error messages, e.g. damper blocked, BAT triggered
  - Central triggering of a function test
  - Evaluation of a smoke detector contact
  - Watchdog function (actuator moves to the safety position), if no communication is possible for longer than 60 seconds.
- Note: if the actuator is used with the BKN230-24LON, then the watchdog function of the BKN module has to be activated.
- Thermoelectric tripping device** Complies with the specific requirements of the standard ISO 10294-4.  
BAT: if the ambient temperature of 72°C is exceeded, then the duct outside temperature fuse will respond. If the duct inside temperature of 72°C is exceeded, then the duct inside temperature fuse will respond.
- Signalling** The position of the damper blade can be read off on a mechanical position indication.
- Manual operation** 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.
- 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** The regular operational check (open/close control of the fire damper) enhances 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 a monthly operational check. 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".
- Connection** The actuator is equipped with a connection plug. This means that it can be integrated via communication and power supply unit (see «Accessories») in LONWORKS® or in MP-Bus networks.



**Delivery notes** Incl. Hand crank, Pointer, Protective bag, Form fit insert 12/10 mm

**Accessories**

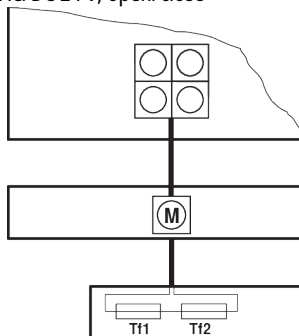
Electrical accessories	Description	Type
	Communication and power supply unit for fire damper actuators 24 V with connector	BKN230-24MP
	Belimo PC-Tool, Software for adjustments and diagnostics	MFT-P
	Auxiliary switch 2 x SPDT	SN2-C7
	Blanking cover for BAT (without thermal fuse for duct inside temperature), 20 pcs.	ZBAT0
	Spare tripping element for BAT, Probe length 65 mm	ZBAT120
	Spare tripping element for BAT, Probe length 65 mm	ZBAT140
	Spare tripping element for BAT, Probe length 65 mm	ZBAT72
	Spare tripping element for BAT, Probe length 90 mm	ZBAT72/9
	Spare tripping element for BAT, Probe length 65 mm	ZBAT95
	Spare tripping element for BAT	ZBAT95/9
	Service Tool, with ZIP-USB function, for parametrisable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH EU
Mechanical accessories	Description	Type
	Adapter for form fit with clamp for round shaft 10...20 mm / square 10...16 mm for BF, BLF	ZK-BF
	Hand crank 40 mm for BLF, BF, BLE, BE	ZK1-B
	Hand crank 70 mm for BLF, BF, BLE, BE	ZK2-B
	Protective bag with wire, 100 pcs.	ZSD-B.1
	Bracket for SN2-C7 for BF	ZSN-BF
	Pointer 12x12 mm for BLF, BF, BLE	ZZ12-B

**Electrical installation**


**Supply from isolating transformer.**

**Wiring diagrams**

AC/DC 24 V, open/close



**BKN230-24MP**  
**BKN230-24LON**

**BF(G)24TL-T-ST**

**BAT72TL**

**Dimensions**

Dimensional drawings

