BELIMO

Technical data sheet BE24-12-ST

Actuator for smoke control dampers 90°, with connection plugs for simple integration in control and monitoring systems

- **Torque motor 40 Nm**
- **Nominal voltage AC/DC 24 V**
- **Control Open/close**
- **Mechanical interface Form fit 12x12 mm, continuous hollow shaft**

Technical data

Electrical data	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
	Switching thresholds min. ON voltage	AC 19.2 V / DC 21.6 V
	Switching thresholds max. OFF voltage	AC 6.5 V / DC 6.5 V
	Power consumption in operation	12 W
	Power consumption in rest position	0.5 W
	Power consumption for wire sizing	18 VA
	Power consumption for wire sizing note	Imax 8.2 A @ 5 ms
	Auxiliary switch	2 x SPDT
	Switching capacity auxiliary switch	1 mA...6 A (3 A inductive), DC 5 V...AC 250 V
	Switching points auxiliary switch	3° / 87°
	Tolerance	±2°
	Connection supply / control	Cable with connector plug 1 m, 3 x 0.75 mm², halogen-free
	Connection auxiliary switch	Cable with connector plug 1 m, 6 x 0.75 mm², halogen-free
	Connection plug	Supply: 3-pole plug, suitable for BKNE230-24 Auxiliary switch: 6-pole plug, suitable for BKNE230-24
Functional data	Torque motor	40 Nm
	Inhibiting torque dynamic	40 Nm
	Inhibiting torque static (voltage-free)	50 Nm
	Direction of motion motor	selectable by mounting L/R
	Manual override	with hand crank
	Angle of rotation	Max. 100°
	Angle of rotation note	Including 5° mechanical overrun at both sides
	Running time motor	<60 s / 90°
	Sound power level, motor	62 dB(A)
	Mechanical interface	Form fit 12x12 mm, continuous hollow shaft
	Position indication	Mechanically, with pointer
	Service life	Min. 10'000 cycles
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
	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.B
	Rated impulse voltage supply / control	0.8 kV

Safety data	Rated impulse voltage auxiliary switch	2.5 kV
	Pollution degree	3
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-30...50°C [-22...122°F]
	Storage temperature	-40...80°C [-40...176°F]
	Servicing	maintenance-free
Weight	Weight	2.7 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 to and installed on the smoke control 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 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.
- Because of the fact that very high torques are applied to the damper shaft, the use of St50 (as a minimum) is recommended.
- 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 open/close control is accomplished by means of the communication and power supply unit BKNE230-24.

Manual override
The hand crank included in the shipment can be used for manual operation of the actuator.

Signalling
Two microswitches with fixed settings are installed in the actuator for indicating the damper end positions. 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:

• EN 12101-8: Smoke and heat control systems - Part 8: Smoke control dampers

• EN 1366-10: Fire resistance tests for service installations - Part 10: Smoke control dampers

• EN 13501-4: Fire classification of construction products and building elements - Part 4: Classification using data from fire resistance tests on components of smoke control systems

Connection
The actuator is fitted with connection plugs. This means that it can be integrated via communication and the power supply unit (see «Accessories») in the control and monitoring system SBSE-Control.

Connection plug

Delivery notes
Incl. Hand crank, Pointer, Protective bag

Accessories

Electrical accessories	Description	Type
	Communication and power supply unit for smoke control dampers actuators 24 V with connector	BKNE230-24

Mechanical accessories	Description	Type
	Pointer 12x12 mm	ZZ12-B
	Hand crank 40 mm	ZK1-B
	Hand crank 70 mm	ZK2-B
	Protective bag with wire, Multipack 100 pcs.	ZSD-B.1

Electrical installation

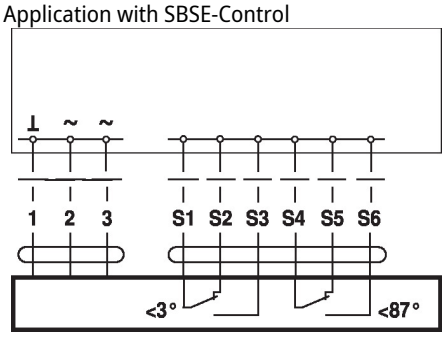
Supply from isolating transformer.

Parallel connection of other actuators possible. Observe the performance data and the switching thresholds.

Combination of power supply voltage and safety extra-low voltage not permitted at the both auxiliary switches.

Wiring diagrams

Application with SBSE-Control



Dimensions