BELIMO

Technical data sheet SF24A

Spring-return actuator with emergency control function for adjusting dampers in technical building installations

- **Air damper size up to approx. 4 m²**
- **Nominal torque 20 Nm**
- **Nominal voltage AC/DC 24 V**
- **Control Open-close**

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
	Power consumption in operation	5 W
	Power consumption in rest position	2.5 W
	Power consumption for wire sizing	7.5 VA
	Connection supply / control	Cable 1 m, 2 x 0.75 mm²
	Parallel operation	Yes (note the performance data)
Functional data	Torque motor	Min. 20 Nm
	Torque spring return	Min. 20 Nm
	Direction of motion motor	Selectable by mounting L / R
	Direction of motion emergency control function	Selectable by mounting L / R
	Manual override	By means of hand crank and locking switch
	Angle of rotation	Max. 95°
	Angle of rotation note	can be limited by adjustable mechanical end stop
	Running time motor	75 s / 90°
	Running time emergency control position	<20 s / 90°
	Running time emergency setting position note	<20 s @ -20...50°C / <60 s @ -30°C
	Sound power level motor	45 dB(A)
	Spindle driver	Universal spindle clamp 10...25.4 mm
	Position indication	Mechanical
	Service life	Min. 60,000 emergency positions
Safety	Protection class IEC/EN	III Safety extra-low voltage
	Protection class UL	UL Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2, UL Enclosure Type 2
	EMC	CE according to 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Certification UL	cULus according to UL 60730-1A, UL 60730-2-14 and CAN/CSA E60730-1:02
	Mode of operation	Type 1.AA
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature	-30...50°C
	Non-operating temperature	-40...80°C
	Ambient humidity	95% r.h., non-condensing
	Maintenance	Maintenance-free
Weight	Weight	2.3 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.

Safety notes

- Outdoor application: only possible in case that no (sea)water, snow, ice, insolation or aggressive gases interfere directly with the actuator and that is ensured that the ambient conditions remain at any time within the thresholds according to the data sheet.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- 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.
- Cables must not be removed from the device.
- To calculate the torque required, the specifications supplied by the damper manufacturers concerning the cross-section, the design, the installation site and the ventilation conditions must be observed.
- 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 emergency position by spring force when the supply voltage is interrupted.

Simple direct mounting
Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating.

Manual override
By using the hand crank the damper can be actuated manually and engaged with the locking switch at any position. Unlocking is carried out manually or automatically by applying the operating voltage.

High functional reliability
The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

Adjustable angle of rotation
Adjustable angle of rotation with mechanical end stops.

Accessories

Electrical accessories

Description	Type
Auxiliary switch, 2 x SPDT	S2A-F
Feedback potentiometer, 200 Ohm, incl. installation accessories	P200A-F
Feedback potentiometer 1 kOhm, incl. installation accessories	P1000A-F

Mechanical accessories

Description	Type
Shaft extension 250 mm, for damper spindles Ø 8...25 mm	AV8-25
End stop indicator for NF..A / SF..A	IND-AFB
Spindle clamp set for NF..A/SF..A (1", 3/4", 1/2")	K7-2
Straight ball joint with M8, suitable for damper crank arms KH8	KG10A
Angled ball joint with M8, suitable for damper crank arms KH8	KG8
Damper crank arm, for damper spindles	KH8
Damper crank arm for NF..A / SF..A, for 3/4" spindles	KH-AFB
Form fit insert 10x10 mm, for spring return actuators NG	ZF10-NSA-F
Form fit insert 12x12 mm, for spring return actuators NG	ZF12-NSA-F
Form fit insert 16x16 mm, for spring return actuators NG	ZF16-NSA-F
Damper crank arm, for spring return actuators NG	ZG-AFB
Base plate extensions for NF..A/SF..A	Z-SF

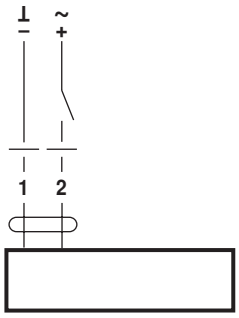
Electrical installation

Notes

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

Wiring diagrams

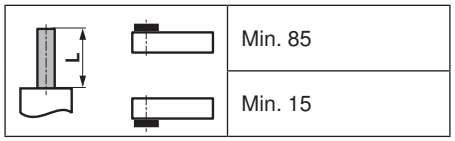
AC/DC 24 V, open-close



Cable colours:
1 = black
2 = red

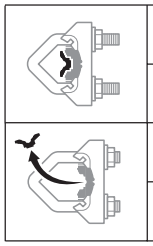
Dimensions [mm]

Spindle length



	Min. 85
	Min. 15

Clamping range



10...22	10	14...25.4
19...25.4	12...18	

Dimensional drawings