

Rotary actuator fail-safe for adjusting dampers in technical building installations

- Air damper size up to approx. 0.8 m²
- Torque motor 4 Nm
- Nominal voltage AC/DC 24 V
- Control Open/close
- with integrated auxiliary switch


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 VA	
	Power consumption for wire sizing note	I _{max} 5.8 A @ 5 ms	
	Auxiliary switch	1 x SPDT, 0...100%	
	Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), AC 250 V	
	Connection supply / control	Cable 1 m, 2 x 0.75 mm ²	
	Connection auxiliary switch	Cable 1 m, 3 x 0.75 mm ²	
	Parallel operation	Yes (note the performance data)	
	Functional data	Torque motor	4 Nm
		Torque fail-safe	4 Nm
Direction of motion motor		selectable by mounting L/R	
Direction of motion fail-safe		selectable by mounting L/R	
Manual override		No	
Angle of rotation		Max. 95°	
Angle of rotation note		Adjustable 37...100% with integrated mechanical limitation	
Running time motor		40...75 s / 90°	
Running time fail-safe		<20 s / 90°	
Running time fail-safe note		@ -20...50°C / <60 s @ -30°C	
Sound power level, motor		50 dB(A)	
Mechanical interface		Universal shaft clamp 8...16 mm	
Position indication		Mechanical	
Service life		Min. 60'000 fail-safe positions	
Safety	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	
	Rated impulse voltage auxiliary switch	2.5 kV	
	Control pollution degree	3	
	Ambient temperature	-30...50°C	
	Storage temperature	-40...80°C	
	Ambient humidity	Max. 95% r.H., non-condensing	
	Servicing	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.
- 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 safety position by spring energy when the supply voltage is interrupted.
Simple direct mounting	Simple direct mounting on the damper shaft with a universal shaft clamp, supplied with an anti-rotation device to prevent the actuator from rotating.
Adjustable angle of rotation	Adjustable angle of rotation with mechanical end stops.
High functional reliability	The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.
Flexible signalization	With adjustable auxiliary switch (0...100%)

Accessories

	Description	Type
Electrical accessories	Auxiliary switch 2 x SPDT	S2A-F
	Feedback potentiometer 200 Ω	P200A-F
	Feedback potentiometer 1 kΩ	P1000A-F
	Description	Type
Mechanical accessories	Shaft extension 170 mm Ø10 mm for damper shaft Ø 6...16 mm	AV6-20
	Shaft extension 240 mm Ø20 mm for damper shaft Ø 8...22.7 mm	AV8-25
	Shaft clamp reversible, clamping range Ø16...20 mm	K6-1
	Ball joint suitable for damper crank arm KH8 / KH10	KG10A
	Ball joint suitable for damper crank arm KH8	KG8
	Damper crank arm Slot width 8.2 mm, clamping range Ø10...18 mm	KH8
	Actuator arm, clamping range Ø8...16 mm, Slot width 8.2 mm	KH-LF
	Angle of rotation limiter, with end stop	ZDB-LF
	Form fit adapter 8x8 mm	ZF8-LF
	Mounting kit for linkage operation for flat installation	ZG-LF1
	Mounting kit for linkage operation for side installation Slot width 6.2 mm	ZG-LF3
	Anti-rotation mechanism 180 mm, Multipack 20 pcs.	Z-ARS180L

Electrical installation



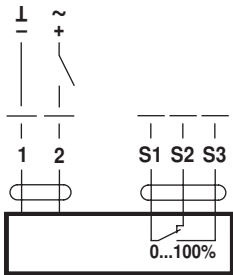
Notes

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

Electrical installation

Wiring diagrams

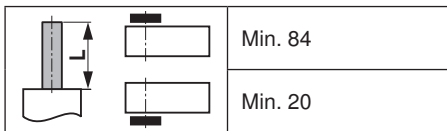
AC/DC 24 V, open/close



Cable colours:
 1 = black
 2 = red
 S1 = white
 S2 = white
 S3 = white

Dimensions [mm]

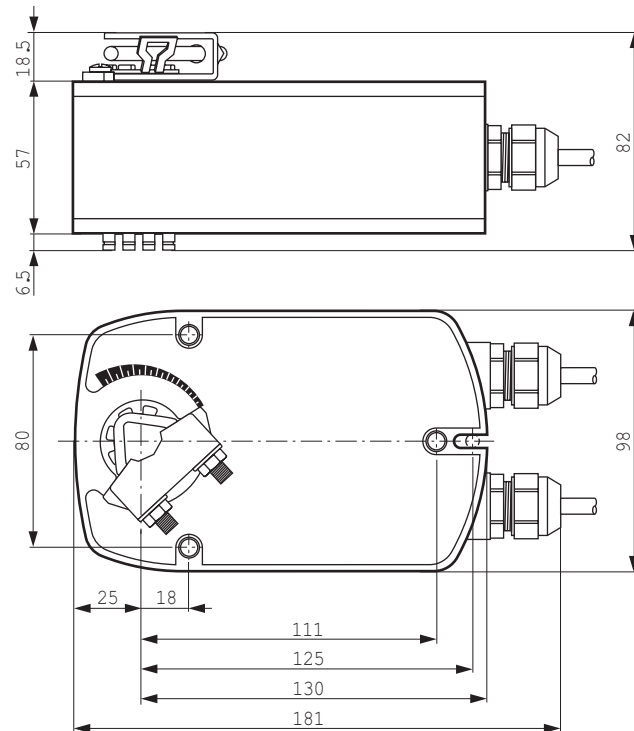
Spindle length



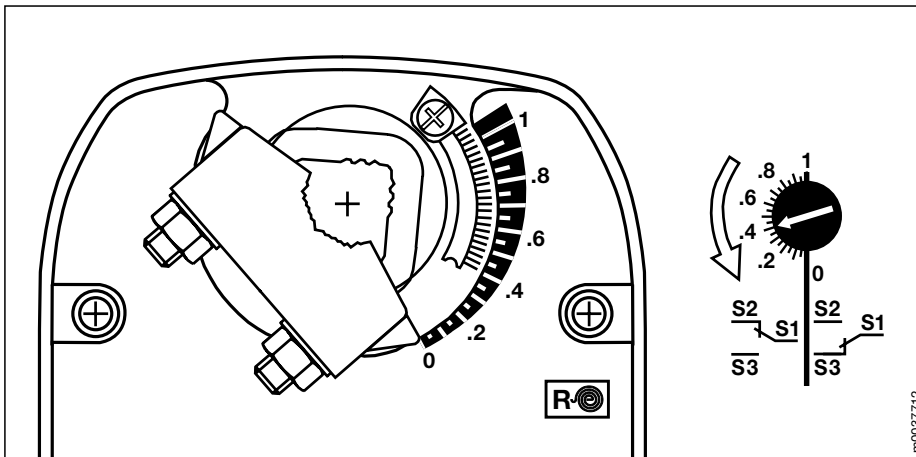
Clamping range

8...16	8...16

Dimensional drawings



Mounting side R

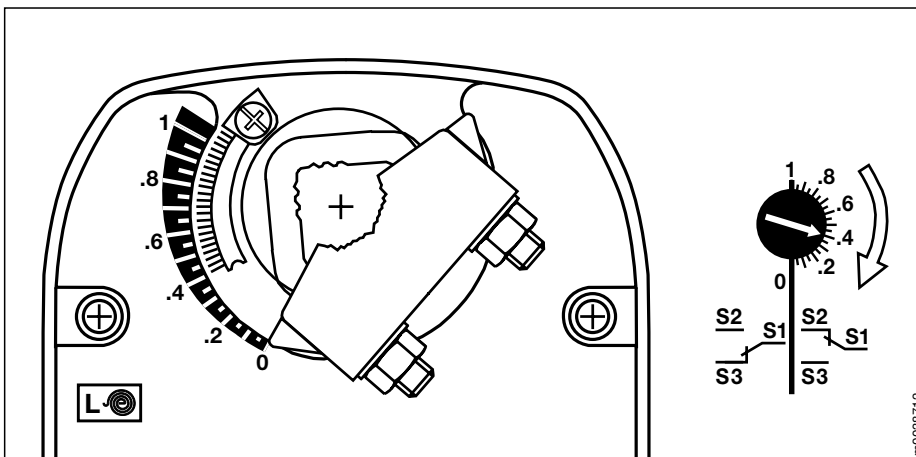


Starting point:
Actuator in safe position

Procedure

- Turn the knob of the auxiliary switch until the tip of the arrow is pointing to the required switching position (see left).
Example: Switching point setting = .4 corresponds to 40% angle of rotation.
- When the actuator runs to the operating position (ccw ↺), the switch knob will also rotate counter-clockwise (ccw ↺) and the auxiliary switch will operate as the tip of the arrow passes the scale zero (S1-S3 linked).

Mounting side L



Starting point:
Actuator in safe position

Procedure

- Turn the knob of the auxiliary switch until the tip of the arrow is pointing to the required switching position (see left).
Example: Switching point setting = .4 corresponds to 40% angle of rotation.
- When the actuator runs to the operating position (cw ↻), the switch knob will also rotate clockwise (cw ↻) and the auxiliary switch will operate as the tip of the arrow passes the scale zero (S1-S3 linked).