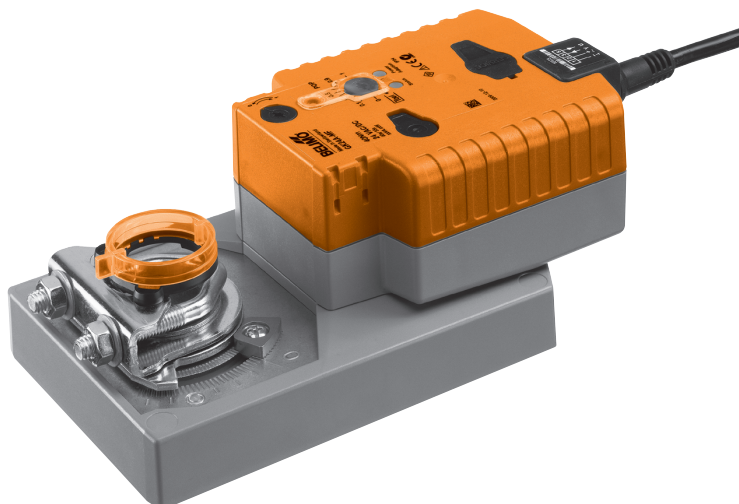


SuperCap rotary actuator
with emergency setting function and
extended functionalities for adjusting
air dampers in ventilation and
air-conditioning systems for building
services installations and in laboratories

- For air dampers up to approx. 8 m²
- Torque 40 Nm
- Nominal voltage AC/DC 24 V
- Control: Open-close
- Design life SuperCaps 15 years



Technical data

Electrical data	Nominal voltage	AC 24 V, 50/60 Hz / DC 24 V
	Nominal voltage range	AC 19.2 ... 28.8 V / DC 21.6 ... 28.8 V
	Power consumption	11 W @ nominal torque
	At rest	3 W
	For wire sizing	21 VA (I _{max} 20 A @ 5 ms)
Functional data	Connection	Cable 1 m, 3 x 0.75 mm ²
	Parallel operation	Yes (note the performance data)
	Torque	≥40 Nm
	Inhibiting torque	≥40 Nm
	Setting emergency position (POP)	0 ... 100%, adjustable (POP rotary button) of maximum angle of rotation
	Bridging time with voltage interruption	2 s
	Position accuracy	±5%
	Direction of rotation	Reversible with switch ↺ / ↻
	Emergency setting position	Reversible with switch 0 ... 100%
	Direction of rotation	At switch position 1 ↺ and 0 ↻, respectively
	Manual override	Gearing latch disengaged with push button
	Angle of rotation	Max. 95°↺, can be limited at both ends with adjustable mechanical end stops
	Running time	150 s / 90°↺
	Emergency setting position	35 s @ 0 ... 50°C
	Sound power level	≤53 dB (A) @ 90 s running time ≤52 dB (A) @ 150 s running time
Safety	Emergency setting position	≤61 dB (A)
	Position indication	Mechanical, pluggable
	Protection class	III Safety extra-low voltage UL Class 2 Supply
	Degree of protection	IP54 NEMA 2, UL Enclosure Type 2
	EMC	CE according to 2004/108/EC
	Certification	Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14 cULus according to UL 60730-1A and UL 60730-2-14 and CAN/CSA E60730-1:02
	Mode of operation	Type 1.AA
	Rated impulse voltage	0.8 kV
	Control pollution degree	3
	Ambient temperature	-30 ... +50°C
	Non-operating temperature	-40 ... +80°C
	Ambient humidity	95% r.h., non-condensating
	Maintenance	Maintenance-free

Technical data

(continued)

Dimensions / Weight

Dimensions

See «Dimensions» on page 4

Weight

Approx. 1.8 kg

Safety notes



- The actuator is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel. Any legal regulations or regulations issued by authorities must be observed 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.
- The cable must not be removed from the device.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

Mode of operation

The actuator moves the air damper to the desired operating position at the same time as the integrated capacitors are loaded (open-closed). Interrupting the supply voltage causes the air damper to be rotated to the selected emergency setting position (POP) by means of stored electrical energy.

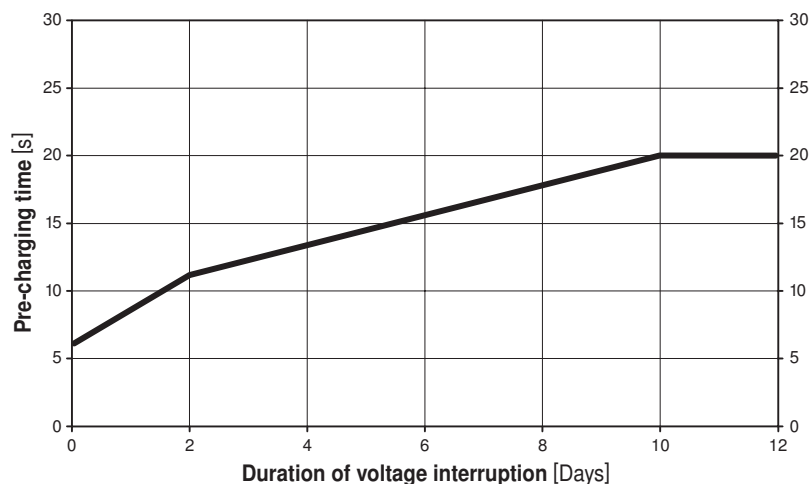
Pre-charging time (start up)

The capacitor actuators require a pre-charging time. This time is used for charging the capacitors up to a usable voltage level. This ensures that, in the event of an electricity interruption, the actuator can be moved at any time from its current position into the preset emergency setting position (POP).

The duration of the pre-charging time depends mainly on how long the power was interrupted.

Typical pre-charging times

	Duration of voltage interruption [Days]				
	0	1	2	7	≥10
Pre-charging time [s]	6	9	11	16	20



Delivery condition (capacitors)

The actuator is completely discharged after delivery from the factory, which is why the actuator requires approximately 20 s pre-charging time before initial commissioning in order to bring the capacitors up to the required voltage level.

Simple direct mounting

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

Manual override

Manual override with push button possible (the gear is disengaged for as long as the button remains pressed down).

High operational reliability

The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

Home position / Start

The spindle clamp of the actuator is set ex-works to 0°.-<3 eingestellt.
After the supply voltage has been applied, the actuator moves into the selected position.

Product features

(continued)

Direction of rotation switch	When actuated, the direction of rotation switch changes the running direction in normal operation. The direction of rotation switch has no influence on the emergency setting position (POP) which has been set.
Emergency setting position (POP) rotary button	The «Emergency setting position» rotary button can be used to adjust the desired emergency setting position (POP). The POP range is in reference to the maximum angle of rotation of the actuator. The rotary button is always in reference to an angle of rotation of 95°↺ and does not take into consideration any end stops which were set retroactively. In the event of a voltage interruption, the actuator will move into the selected emergency setting position, taking into account the bridging time (PF) of 2 s which was set ex-works.

Accessories

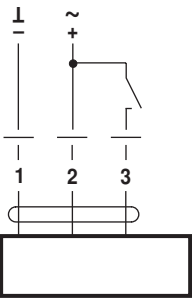
	Description	Data sheet
Electrical accessories	Auxiliary switch S..A..	T2 - S..A..
	Feedback potentiometer P..A..	T2 - P..A..
	Adapter Z-SPA It is imperative that this adapter be ordered if an auxiliary switch or a feedback potentiometer is required and if at the same time the shaft adapter is installed on the rear side of the actuator (e.g. with short-spindle installation).	
Mechanical accessories	Various accessories	T2 - Z-GM..A../GK..A..

Electrical installation

Wiring diagram

Notes

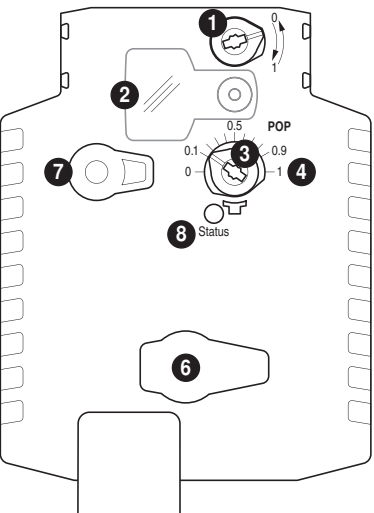
- Connection via safety isolation transformer.
- Parallel connection of other actuators possible.
Note the performance data.



Cable colours:

- 1 = black
- 2 = red
- 3 = white

Operating controls and indicators



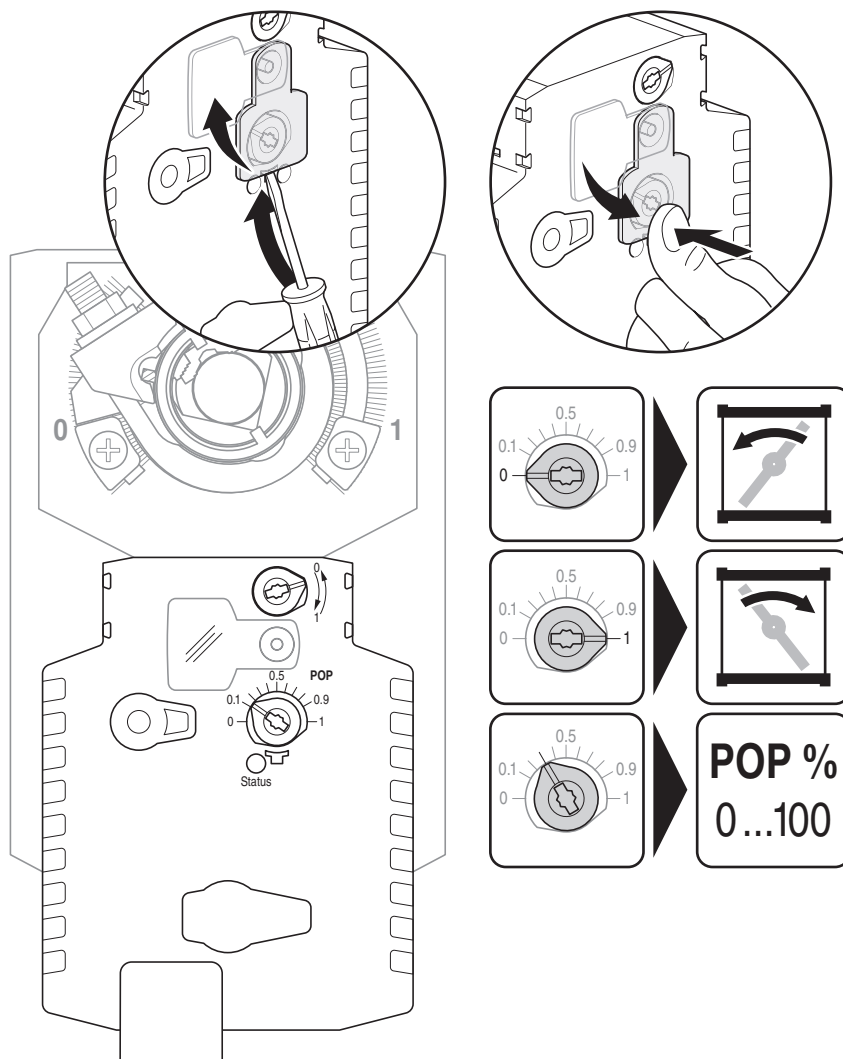
- ➊ Direction of rotation switch
- ➋ Cover, POP button
- ➌ POP button
- ➍ Scale for manual adjustment
- ➎ (no function)
- ➏ Disengagement button

LED display ➐ green	Meaning / function
Illuminated	Operation OK / without fault
Blinking	POP function active
Off	– Not in operation – Pre-charging time SuperCap – Fault SuperCap

Operating controls and indicators

(continued)

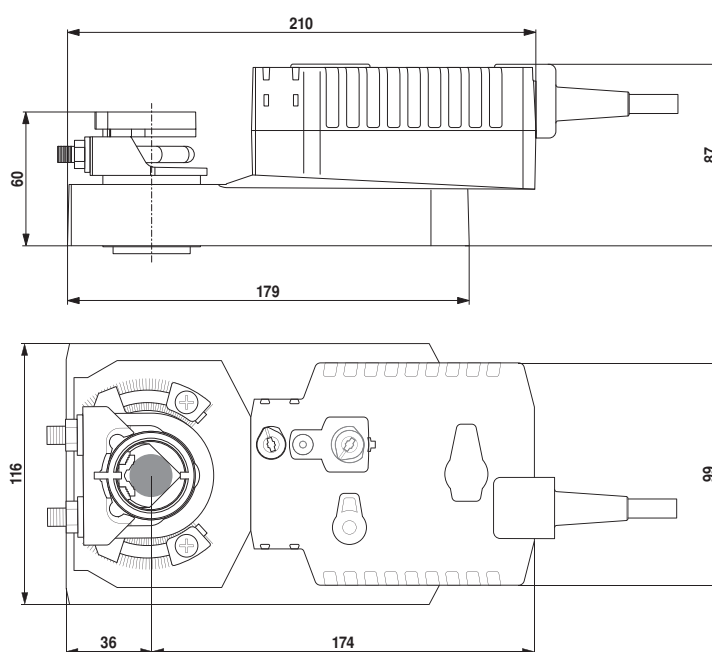
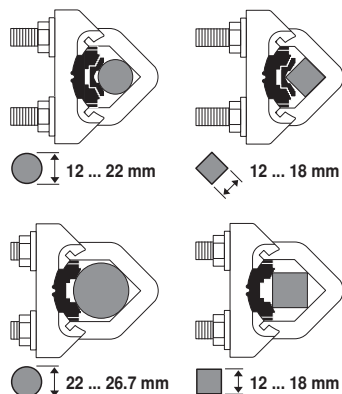
Setting the POP Power off position



Dimensions [mm]

Dimensional drawings

Damper spindle	Length	●	■	◆
	≥52	12 ... 26.7	≥12	≤25.5
	≥20	12 ... 26.7	≥12	≤25.5



* When an auxiliary switch or a feedback potentiometer is used, see «Accessories»