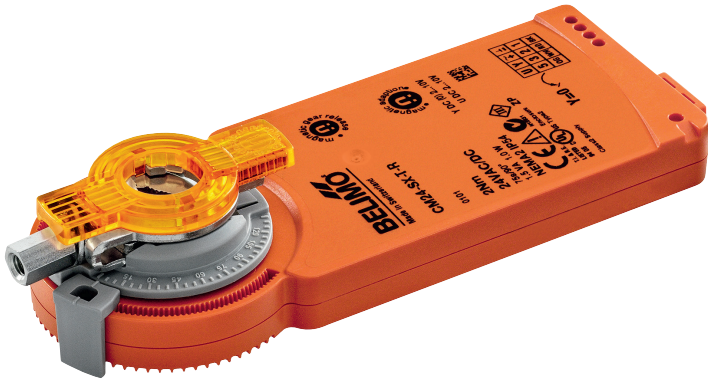
Technical data sheet CM24-SX-T-R

Modulating damper actuator for adjusting dampers in technical building installations

- **Air damper size up to approx. 0.4 m²**
- **Nominal torque 2 Nm**
- **Nominal voltage AC/DC 24 V**
- **Control modulating DC (0)2...10 V**
- **Position feedback DC 2...10 V**



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 19.2...28.8 V
	Power consumption in operation	1 W
	Power consumption in rest position	0.5 W
	Power consumption for wire sizing	1.5 VA
	Connection supply / control	Terminals 1.5 mm² Cu wire or 1.0 mm² Cu strands (4-wire)
	Parallel operation	Yes (note the performance data)
Functional data	Torque motor	Min. 2 Nm
	Positioning signal Y	DC 0...10 V
	Positioning signal Y note	Input impedance 100 kΩ
	Operating range Y	DC 2...10 V
	Position feedback U	DC 2...10 V
	Position feedback U note	Max. 1 mA
	Position accuracy	±5%
	Direction of motion motor	cw rotation
	Direction of motion note	Y = 0 V: right end stop, position 0
	Manual override	with magnet
	Angle of rotation	0...287.5°,
	Angle of rotation note	fixed or 0...287.5° with two end stop clips mounted on the actuator, adjustable in 2.5° increments 315° with one end stop clip mounted on the actuator Max. 3600°, limited by two mechanical end stops on-site application
	Running time motor	75 s / 90°
	Adaption setting range	manual with magnet (automatic on first power-up)
	Sound power level motor	35 dB(A)
	Spindle driver	Universal spindle clamp 6...12.7 mm
	Position indication	Mechanically, pluggable (with integrated magnet for gear disengagement)
Safety	Protection class IEC/EN	III Safety Extra-Low Voltage (SELV)
	Protection class UL	UL Class 2 Supply
	Degree of protection IEC/EN	IP20
	Degree of protection NEMA/UL	NEMA 1, UL Enclosure Type 1
	EMC	CE according to 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Mode of operation	Type 1
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	2
	Ambient temperature	-30...50°C
	Non-operating temperature	-40...80°C
	Ambient humidity	95% r.h., non-condensing
	Maintenance	Maintenance-free
Weight	Weight	0.20 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 mechanical end stops for limiting the angle of rotation may only be removed for adjustment. They must always be mounted during operation.
- 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.
- 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 is connected with a standard modulating signal of DC 0...10V and drives to the position defined by the positioning signal. Measuring voltage U serves for the electrical display of the damper position 0...100% and as slave control signal for other actuators.

Simple direct mounting

The actuator is mounted directly on the damper spindle (∅ 6...12.7 mm) with an universal spindle clamp and then secured with the anti-rotation device supplied, to prevent it from rotating.

Manual override

Manual override with magnet possible (the gear is disengaged as long as the magnet adheres to the magnet symbol). The magnet for gear disengagement is integrated in the position indication.
After a manual override, it is mandatory that an adaption via magnet be triggered at the position intended for this purpose.

Adjustable angle of rotation

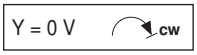
Adjustable angle of rotation with mechanical end stops.

High functional reliability

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

Home position

The first time the supply voltage is switched on, i.e. at the time of commissioning, the actuator carries out an adaption, which is when the operating range and position feedback adjust themselves to the mechanical setting range.
The actuator then moves into the position defined by the positioning signal.



Adaption and synchronisation

An adaption can be triggered manually through use of the magnet at the position intended for this purpose.
The actuator then moves into the position defined by the positioning signal.

Hidden synchronisation

If the actuator drives to the lower end stop during ongoing operation, then it performs a synchronisation of the positioning signal at DC 2 V. This ensures that the signal range also corresponds to the effective functional range in ongoing operation. The bottom end stop is actively approached as soon as the positioning signal is < DC 2.1 V. The actuator drives to the new specified position as soon as the positioning signal is once again > DC 2.3 V.

Accessories

	Description	Type
Mechanical accessories	Anti-rotation clip for CM..	Z-ARCM
	Magnet disengagement	Z-MA
	Position indicator CM..	Z-PICM
	End stop clips CM.. / CQ..	Z-ESCM
	Shaft extension 170 mm, for damper spindles Ø 6...20 mm	AV6-20

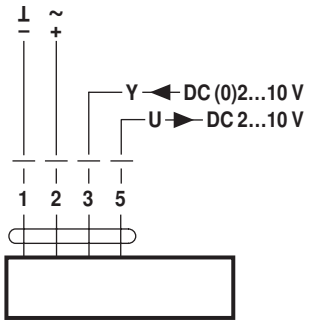
Electrical installation

Notes

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

Wiring diagrams

AC/DC 24 V, modulating



Dimensions [mm]

Spindle length

L	Min. 32
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Clamping range

6...12.7	6 / 8 / 10	6...12.7

Dimensional drawings