

Damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 4 m²
- Torque motor 20 Nm
- Nominal voltage AC/DC 24 V
- Control Open/close, 3-point
- with integrated auxiliary switch



Technical data

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Nominal voltage	AC/DC 24 V
Nominal voltage frequency	50/60 Hz
Nominal voltage range	AC 19.228.8 V / DC 19.228.8 V
Power consumption in operation	2 W
Power consumption in rest position	0.2 W
Power consumption for wire sizing	4 VA
Auxiliary switch	1 x SPDT, 0100%
Switching capacity auxiliary switch	1 mA3 A (0.5 A inductive), DC 5 VAC 250 V
Connection supply / control	Cable 1 m, 3 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	20 Nm
Direction of motion motor	selectable with switch 0 (ccw rotation) / 1 (cw rotation)
Manual override	with push-button, can be locked
Angle of rotation	Max. 95°
Angle of rotation note	can be limited on both sides with adjustable mechanical end stops
Running time motor	150 s / 90°
Sound power level, motor	45 dB(A)
Mechanical interface	Universal shaft clamp reversible 1020 mm
Position indication	Mechanical, pluggable
Protection class IFC/FN	III. Safety Extra-Low Voltage (SELV)

Safety data

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Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
Power source UL	Class 2 Supply
Protection class auxiliary switch IEC/EN	II, reinforced insulation
Degree of protection IEC/EN	IP54
Degree of protection NEMA/UL	NEMA 2
Enclosure	UL Enclosure Type 2
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
UL Approval	cULus according to UL60730-1A, UL60730-2-14 and CAN/CSA E60730-1 The UL marking on the actuator depends on the production site, the device is UL-compliant in any case
Type of action	Type 1.B
Rated impulse voltage supply / control	0.8 kV
Rated impulse voltage auxiliary switch	2.5 kV
Pollution degree	3
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	Technical data sheet		SM24A-S
Safety data	Ambient humidity	Max. 95% RH, non-condensing	
	Ambient temperature	-3050°C [-22122°F]	
	Storage temperature	-4080°C [-40176°F]	

maintenance-free

Weight V

Servicing

Weight 1.0 kg

Safety notes



- This device has been designed for use in stationary heating, ventilation and air-conditioning
 systems and must not be used outside the specified field of application, especially 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 device and that it is ensured that the ambient
 conditions remain within the thresholds according to the data sheet at any time.
- 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 situation 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

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.

Manual override Manual override with push-button possible (the gear train is disengaged for as long as the

button is pressed or remains locked).

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 signalling With adjustable auxiliary switch (0...100%)

Accessories

Electrical accessories	Description	Туре
	Auxiliary switch 1 x SPDT add-on	S1A
	Auxiliary switch 2 x SPDT add-on	S2A
	Feedback potentiometer 140 Ω add-on	P140A
	Feedback potentiometer 200 Ω add-on	P200A
	Feedback potentiometer 500 Ω add-on	P500A
	Feedback potentiometer 1 kΩ add-on	P1000A
	Feedback potentiometer 2.8 kΩ add-on	P2800A
	Feedback potentiometer 5 kΩ add-on	P5000A
	Feedback potentiometer 10 kΩ add-on	P10000A



Technical data sheet SM24A-S

Mechanical accessories

Description	Туре
Actuator arm for standard shaft clamp (reversible)	AH-20
Shaft extension 240 mm Ø20 mm for damper shaft Ø 1221 mm CrNi	AV12-25-I
Shaft extension 240 mm Ø20 mm for damper shaft Ø 822.7 mm	AV8-25
Ball joint suitable for damper crank arm KH8, Multipack 10 pcs.	KG8
Ball joint suitable for damper crank arm KH8 / KH10, Multipack 10 pcs.	KG10A
Damper crank arm Slot width 8.2 mm, clamping range Ø1018 mm	KH8
Shaft clamp one-sided, clamping range Ø826 mm, Multipack 20 pcs.	K-ENSA
Shaft clamp one-sided, clamping range Ø1226 mm, for CrNi shaft	K-ENSA-I
(INOX), Multipack 20 pcs.	
Shaft clamp reversible, clamping range Ø1020 mm	K-SA
Anti-rotation mechanism 180 mm, Multipack 20 pcs.	Z-ARS180
Anti-rotation mechanism 230 mm, Multipack 20 pcs.	Z-ARS230
Form fit insert 10x10 mm, Multipack 20 pcs.	ZF10-NSA
Form fit insert 12x12 mm, Multipack 20 pcs.	ZF12-NSA
Form fit insert 15x15 mm, Multipack 20 pcs.	ZF15-NSA
Form fit insert 16x16 mm, Multipack 20 pcs.	ZF16-NSA
Mounting kit for linkage operation for flat installation	ZG-SMA
Position indicator, Multipack 20 pcs.	Z-PI
Base plate extension for SMA to SM/AM/SMD24R	Z-SMA

Electrical installation



Supply from isolating transformer.

Parallel connection of other actuators possible. Observe the performance data.

Wire colours:

1 = black

2 = red

3 = white

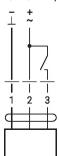
S1 = white

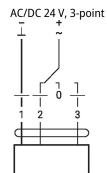
S2 = white

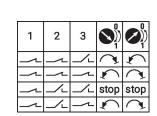
S3 = white

Wiring diagrams

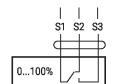
AC/DC 24 V, open/close





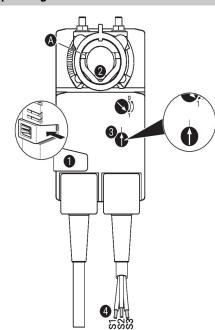








Operating controls and indicators



Auxiliary switch settings

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Note: Perform settings on the actuator only in deenergised state.

For the auxiliary switch position settings, carry out points 1 to 4 successively.

Manual override button

Holding button pressed down: Gear train disengages. Manual override is possible.

2 Shaft clamp

Turn until edge line (A) displays the desired switching position of the actuator and release button (1).

3 Auxiliary switch

Turn rotary knob until the arrow points to the vertical line.

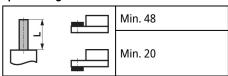
4 Cable

Connect continuity tester to S1 + S2 or to S1 + S3.

If the auxiliary switch should switch in the opposite direction, rotate the auxiliary switch by 180°.

Dimensions

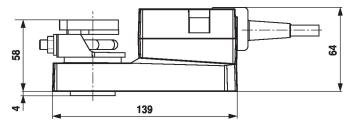
Spindle length

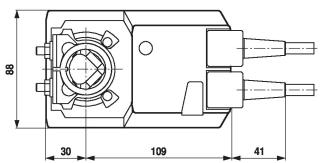


Clamping range

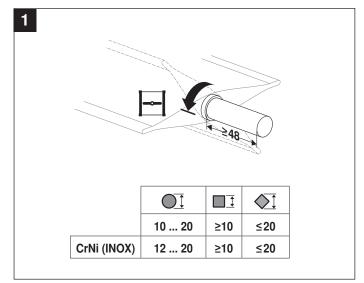
	OI.		♦ I
	1020	≥10	≤20
CrNi (INOX)	1220	≥10	≤20

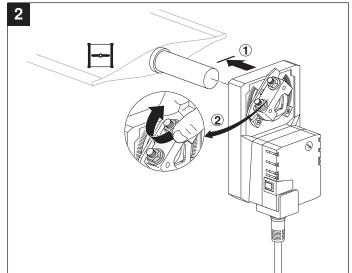
When using a round shaft made of CrNi (INOX): Ø 12...20 mm

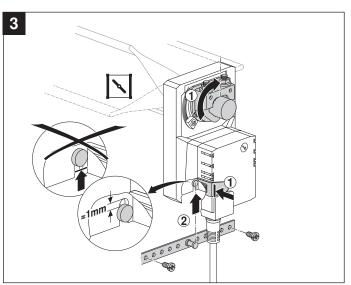


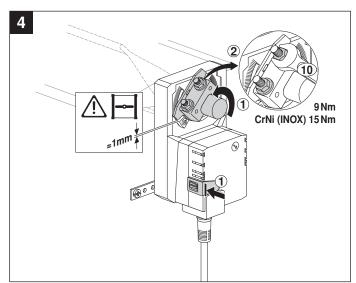


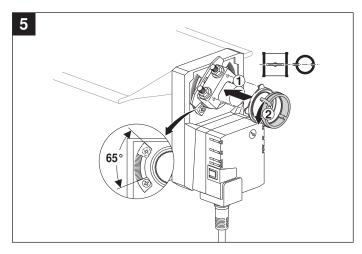


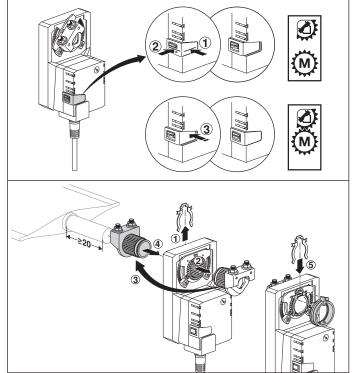






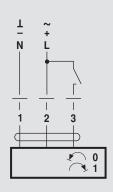


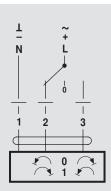






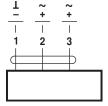




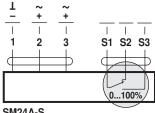




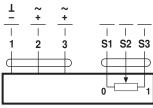
AC 24 V / DC 24 V



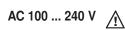
SM24A.. SMD24A..

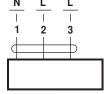


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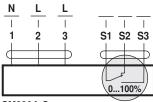


SM24AP5..

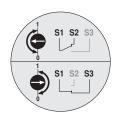




SM230A.. SMD230A..

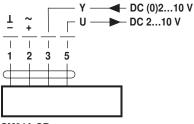


SM230A-S..



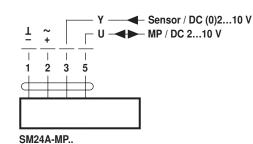


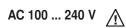
AC 24 V / DC 24 V

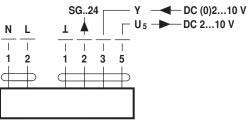


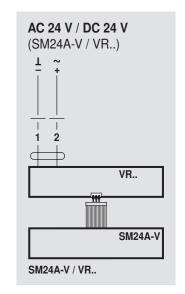
SM24A-SR.. SM24A-MF..

SM230ASR..









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