

Modulating rotary actuator fail-safe 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 modulating 2...10 V
- Position feedback 2...10 V



Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.228.8 V / DC 21.628.8 V
	Power consumption in operation	5 W
	Power consumption in rest position	3 W
	Power consumption for wire sizing	7 VA
	Connection supply / control	Cable 1 m, 4x 0.75 mm ²

Functional data

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Parallel operation	Yes (note the performance data)
Torque motor	20 Nm
Torque fail-safe	20 Nm
Operating range Y	210 V
Input impedance	100 kΩ
Position feedback U	210 V
Position feedback U note	Max. 0.5 mA
Position accuracy	±5%
Direction of motion motor	selectable with switch L/R
Direction of motion fail-safe	selectable by mounting L/R
Manual override	by means of hand crank and locking switch
Angle of rotation	Max. 95°
Angle of rotation note	adjustable starting at 33% in 2.5% steps (with mechanical end stop)
Running time motor	150 s / 90°
Running time fail-safe	<20 s @ -2050°C / <60 s @ -30°C
Sound power level, motor	40 dB(A)
Mechanical interface	Universal shaft clamp 1025.4 mm
Position indication	Mechanical
Service life	Min. 60'000 fail-safe positions
Protection class IEC/EN	III. Safety Extra-Low Voltage (SELV)

Safety data

Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
Power source UL	Class 2 Supply
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
Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14



Technical data

Safety data	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	
	Hygiene test	According to VDI 6022 Part 1 / SWKI VA 104-01, cleanable and disinfectable, low emission	
	Type of action	Type 1.AA	
	Rated impulse voltage supply / control	0.8 kV	
	Pollution degree	3	
	Ambient humidity	Max. 95% RH, non-condensing	
	Ambient temperature	-3050°C [-22122°F]	
	Storage temperature	-4080°C [-40176°F]	
	Servicing	maintenance-free	
Weight	Weight	2.2 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 with 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 and the design, as well as 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

Operating mode

The actuator is connected with a standard control signal of 0...10 V and moves the damper to the operating position at the same time as tensioning the return spring. The damper is turned back to the fail-safe position by spring force 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.

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.

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.



Accessories

Electrical accessories	Description	Туре
	Auxiliary switch 2x SPDT	S2A-F
	Feedback potentiometer 1 kΩ	P1000A-F
	Signal converter voltage/current 100 kΩ 420 mA, Supply AC/DC 24 V	Z-UIC
	Positioner for wall mounting	SGA24
	Positioner for built-in mounting	SGE24
	Positioner for front-panel mounting	SGF24
	Positioner for wall mounting	CRP24-B1
Mechanical accessories	Description	Туре
	Shaft extension 240 mm ø20 mm for damper shaft ø822.7 mm	AV8-25
	End stop indicator	IND-AFB
	Shaft clamp reversible, for central mounting, for damper shafts ø12.7 / 19.0 / 25.4 mm	K7-2
	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 ø1018 mm	KH8
	Actuator arm, for 3/4" shafts, clamping range ø1022 mm, Slot width 8.2 mm	KH-AFB
	Form fit insert 10x10 mm, Multipack 20 pcs.	ZF10-NSA-F
	Form fit insert 12x12 mm, Multipack 20 pcs.	ZF12-NSA-F
	Form fit insert 15x15 mm, Multipack 20 pcs.	ZF15-NSA-F
	Form fit insert 16x16 mm, Multipack 20 pcs.	ZF16-NSA-F
	Mounting kit for linkage operation for flat and side installation	ZG-AFB
	Baseplate extension	Z-SF
	Anti-rotation mechanism 230 mm, Multipack 20 pcs.	Z-ARS230L
	Hand crank 63 mm	ZKN2-B

Electrical installation



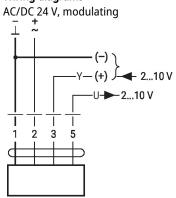
Supply from isolating transformer.

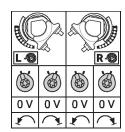
Parallel connection of other actuators possible. Observe the performance data.

Wire colours:

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

Wiring diagrams







Dimensions

Spindle length



Clamping range

