

Modulating spring-return actuator with emergency control function for adjusting dampers in technical building installations

- Air damper size up to approx. 4 m<sup>2</sup>
- Nominal torque 20 Nm
- Nominal voltage AC/DC 24 V
- Control modulating DC (0)2...10 V
- Position feedback DC 2...10 V



## Technical data

<b>Electrical data</b>	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	3 W
	Power consumption for wire sizing	7 VA
	Connection supply / control	Cable 1 m, 4 x 0.75 mm <sup>2</sup>
	Parallel operation	Yes (note the performance data)
<b>Functional data</b>	Torque motor	Min. 20 Nm
	Torque spring return	Min. 20 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. 0.5 mA
	Position accuracy	±5%
	Direction of motion motor	Selectable with switch L / R
	Direction of motion emergency control function	Selectable by mounting L / R
	Manual override	By means of hand crank and locking switch
	Angle of rotation	Max. 95°
	Angle of rotation note	can be limited by adjustable mechanical end stop
	Running time motor	150 s / 90°
	Running time emergency control position	<20 s / 90°
	Running time emergency setting position note	<20 s @ -20...50°C / <60 s @ -30°C
	Sound power level motor	40 dB(A)
	Spindle driver	Universal spindle clamp 10...25.4 mm
	Position indication	Mechanical
	Service life	Min. 60,000 emergency positions
<b>Safety</b>	Protection class IEC/EN	III Safety extra-low voltage
	Protection class UL	UL Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2, UL Enclosure Type 2
	EMC	CE according to 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Certification UL	cULus according to UL 60730-1A, UL 60730-2-14 and CAN/CSA E60730-1:02
	Mode of operation	Type 1.AA
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature	-30...50°C
	Non-operating temperature	-40...80°C
	Ambient humidity	95% r.h., non-condensing
	Maintenance	Maintenance-free
<b>Weight</b>	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

<b>Mode of operation</b>	The actuator is connected with a standard modulating signal of DC 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 emergency position by spring force when the supply voltage is interrupted.
<b>Simple direct mounting</b>	Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating.
<b>Manual override</b>	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.
<b>High functional reliability</b>	The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.
<b>Adjustable angle of rotation</b>	Adjustable angle of rotation with mechanical end stops.

## Accessories

	Description	Type
<b>Electrical accessories</b>	Auxiliary switch, 2 x SPDT	S2A-F
	Feedback potentiometer, 200 Ohm, incl. installation accessories	P200A-F
	Feedback potentiometer 1 kOhm, incl. installation accessories	P1000A-F
	Signal converter voltage/current, supply AC/DC 24V	Z-UIC
	Digital position indicator for front-panel mounting, 0...99%, front mass 72 x 72 mm	ZAD24
	Range controller for wall mounting, adjustable electron. Min./max. angle of rotation limitation	SBG24
	Positioner for wall mounting, range 0...100%	SGA24
	Positioner in a conduit box, range 0...100%	SGE24
	Positioner for front-panel mounting, range 0...100%	SGF24
	Positioner for wall mounting, range 0...100%	CRP24-B1
	Description	Type
<b>Mechanical accessories</b>	Shaft extension 250 mm, for damper spindles Ø 8...25 mm	AV8-25
	End stop indicator for NF..A / SF..A	IND-AFB
	Spindle clamp set for NF..A/SF..A (1", 3/4", 1/2")	K7-2
	Straight ball joint with M8, suitable for damper crank arms KH8	KG10A
	Angled ball joint with M8, suitable for damper crank arms KH8	KG8
	Damper crank arm, for damper spindles	KH8
	Damper crank arm for NF..A / SF..A, for 3/4" spindles	KH-AFB
	Form fit insert 10x10 mm, for spring return actuators NG	ZF10-NSA-F
	Form fit insert 12x12 mm, for spring return actuators NG	ZF12-NSA-F

## Accessories

## Description

Form fit insert 16x16 mm, for spring return actuators NG  
 Damper crank arm, for spring return actuators NG  
 Base plate extensions for NF../SF../A

## Type

ZF16-NSA-F  
 ZG-AFB  
 Z-SF

## Electrical installation

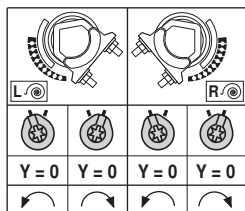
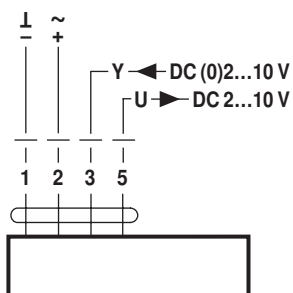


## Notes

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

## Wiring diagrams

AC/DC 24 V, modulating

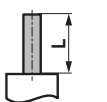


## Cable colours:

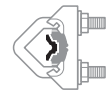
- 1 = black  
 2 = red  
 3 = white  
 5 = orange

## Dimensions [mm]

## Spindle length

	Min. 85
	Min. 15

## Clamping range

	10...22	10	14...25.4
	19...25.4	12...18	

## Dimensional drawings

