

Modulating damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 0.4 m²
- Torque motor 2 Nm
- Nominal voltage AC/DC 24 V
- Control modulating 2...10 V
- Position feedback 2...10 V
- Degree of protection IEC/EN IP66
- Mechanical interface Form fit 8x8 mm



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	Cable 1 m, 4 x 0.75 mm ²
	Parallel operation	Yes (note the performance data)
Functional data	Torque motor	2 Nm
	Operating range Y	2...10 V
	Input Impedance	100 kΩ
	Position feedback U	2...10 V
	Position feedback U note	Max. 1 mA
	Position accuracy	±5%
	Direction of motion motor	counter-clockwise rotation
	Direction of motion note	Y = 0 V: left end stop, position 0
	Manual override	with magnet
	Angle of rotation	95°, fixed setting
	Running time motor	75 s / 90°
	Sound power level, motor	35 dB(A)
	Mechanical interface	Form fit 8x8 mm
Position indication	Mechanically, pluggable (with integrated magnet for gear disengagement)	
Safety data	Protection class IEC/EN	III Safety Extra-Low Voltage (SELV)
	Protection class UL	UL Class 2 Supply
	Degree of protection IEC/EN	IP66
	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 UL60730-1A, UL60730-2-14 and CAN/CSA E60730-1:02 The UL marking on the actuator depends on the production site, the device is UL-compliant in any case
	Mode of operation	Type 1
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature	-30...50°C
	Storage temperature	-40...80°C
	Ambient humidity	Max. 95% r.H., non-condensing
Servicing	maintenance-free	

Weight Weight 0.25 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 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.
- Junction boxes must at least correspond with enclosure IP degree of protection!
- In order to ensure that the IP66 protection can be guaranteed, the device must be mounted with its rear side tightly up against the damper housing.
- In the event the device is installed with a 180° rotation (front side pressed against the damper housing), then only a protection of IP54 is guaranteed.
- 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.
- 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

Mode of operation	The actuator is connected with a standard modulating signal of 0...10 V and drives to the position defined by the positioning signal. Measuring voltage U serves for the electrical display of the damper position 0.5...100% and as slave control signal for other actuators.
Simple direct mounting	The actuator with its hollow spindle is mounted in a form-fit manner directly on the damper shaft and then secured with the anti-rotation clip, to prevent it from rotating. The anti-rotation clip Z-ARCM is included in the scope of delivery.
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.
Adjustable angle of rotation	Adjustable angle of rotation (max. 95°) 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.
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 2.3 V.

Accessories

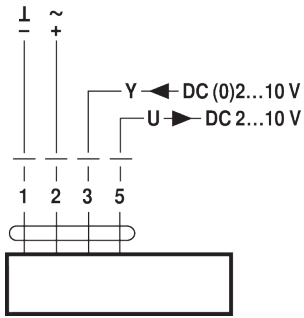
Mechanical accessories	Description	Type
	Anti-rotation clip, Multipack 20 pcs.	Z-ARCM
	End stop clip, Multipack 20 pcs.	Z-ESCM
	Gear disengagement magnet, Multipack 20 pcs.	Z-MA
	Position indicator, Multipack 20 pcs.	Z-PICM

Electrical installation


Supply from 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

Installation notes

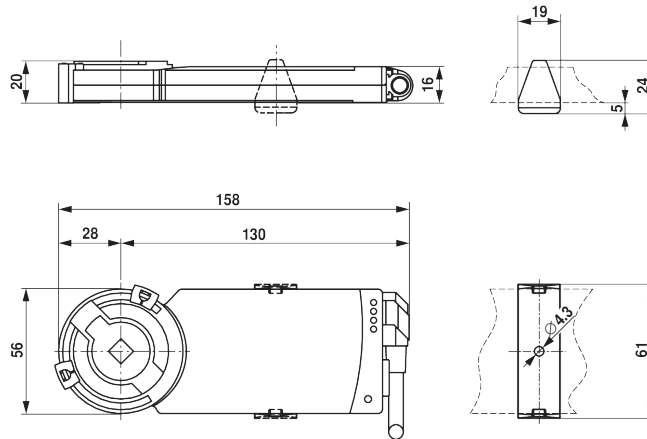


In order to ensure that the IP66 protection can be guaranteed, the device must be mounted with its rear side tightly up against the damper housing.

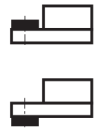
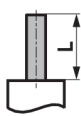
In the event the device is installed with a 180° rotation (front side pressed against the damper housing), then only a protection of IP54 is guaranteed.

Dimensions

Dimensional drawings



Shaft length



Min. 25