

Modulating damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 0.4 m<sup>2</sup>
- Torque motor 2 Nm
- Nominal voltage AC/DC 24 V
- Control modulating 2...10 V
- Position feedback 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 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 mm <sup>2</sup> Cu wire or 1.0 mm <sup>2</sup> Cu strands (4-wire)
Parallel operation	Yes (note the performance data)	
<b>Functional data</b>	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	clockwise 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°
	Adaptation setting range	manual with magnet (automatic on first power-up)
	Sound power level, motor	35 dB(A)
	Mechanical interface	Universal shaft clamp 6...12.7 mm
Position indication	Mechanically, pluggable (with integrated magnet for gear disengagement)	
<b>Safety data</b>	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	

Storage temperature	-40...80°C
Ambient humidity	Max. 95% r.H., non-condensing
Servicing	maintenance-free
<b>Weight</b>	<b>Weight</b> 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 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 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**

<b>Mode of operation</b>	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.
<b>Simple direct mounting</b>	The actuator is mounted directly on the damper shaft (∅ 6...12.7 mm) with a universal shaft clamp 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.
<b>Manual override</b>	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.
<b>Adjustable angle of rotation</b>	Adjustable angle of rotation with mechanical end stops.
<b>High functional reliability</b>	The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.
<b>Home position</b>	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. 
<b>Adaptation and synchronisation</b>	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.
<b>Hidden synchronisation</b>	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
	Shaft extension 170 mm ∅10 mm for damper shaft ∅ 6...16 mm	AV6-20

Anti-rotation clip, Multipack 20 pcs.  
 End stop clip, Multipack 20 pcs.  
 Gear disengagement magnet, Multipack 20 pcs.  
 Position indicator, Multipack 20 pcs.

Z-ARCM  
 Z-ESCM  
 Z-MA  
 Z-PICM

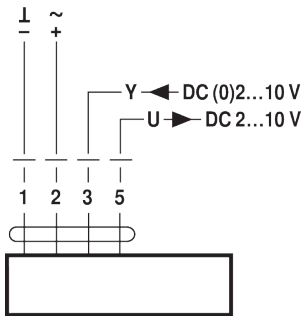
**Electrical installation**



Supply from isolating transformer.  
 Parallel connection of other actuators possible. Observe the performance data.

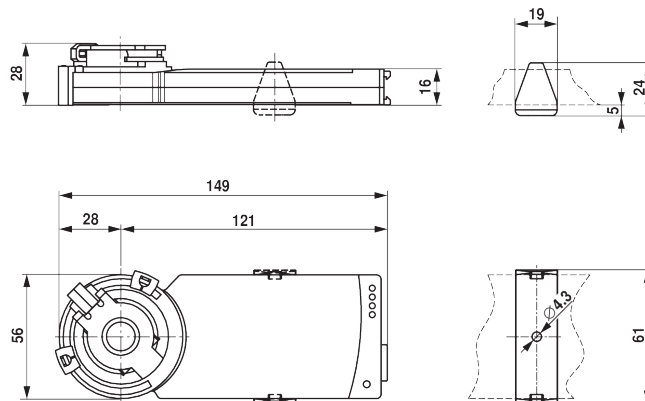
**Wiring diagrams**

AC/DC 24 V, modulating



**Dimensions**

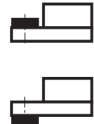
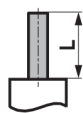
**Dimensional drawings**



**Clamping range**

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

**Shaft length**



Min. 32