

Modulating damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 8 m<sup>2</sup>
- Torque motor 40 Nm
- Nominal voltage AC/DC 24 V
- Control modulating 2...10 V
- Position feedback 2...10 V
- Optimum weather protection for use outdoors (for use in ambient temperatures up to -40 °C, there is a separate actuator available with built-in heater ex works)


**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	4.5 W
	Power consumption in rest position	2 W
	Power consumption for wire sizing	6.5 VA
	Connection supply / control	Terminals 4 mm <sup>2</sup> (cable Ø4...10 mm, 4-wire)
	Parallel operation	Yes (note the performance data)
<b>Functional data</b>	Torque motor	40 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	selectable with switch 0/1
	Direction of motion note	Y = 0 V: At switch position 0 (ccw rotation) / 1 (cw rotation)
	Manual override	with push-button, can be locked (under protective housing)
	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 14...26.7 mm
	Position indication	Mechanically, pluggable
<b>Safety</b>	Protection class IEC/EN	III Safety Extra-Low Voltage (SELV)
	Protection class UL	UL Class 2 Supply
	Degree of protection IEC/EN	IP66/67
	Degree of protection NEMA/UL	NEMA 4X
	Enclosure	UL Enclosure Type 4X
	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
	Certification UL note	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	4
	Ambient temperature	-30...50 °C
Ambient temperature note	-40...50 °C for actuator with integrated heating	
Storage temperature	-40...80 °C	
Ambient humidity	Max. 100% r.H.	
Servicing	maintenance-free	
<b>Weight</b>	Weight	4.2 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.
- 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!
- The cover of the protective housing may be opened for adjustment and servicing. When it is closed afterwards, the housing must seal tight (see installation instructions).
- 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.
- The actuator is not designed for applications where chemical influences (gases, fluids) are present or for utilisation in corrosive environments in general.
- The actuator may not be used in plenary applications (e.g. suspended ceilings or raised floors).
- The materials used may be subjected to external influences (temperature, pressure, construction fastening, effect of chemical substances, etc.), which cannot be simulated in laboratory tests or field trials. In case of doubt, we definitely recommend that you carry out a test. This information does not imply any legal entitlement. Belimo will not be held liable and will provide no warranty.
- If cables which are not authorised for UL (NEMA) Type 4X applications are used, then flexible metallic cable conduits or suitable threaded cable conduits of equal value are to be used.
- When used under high UV loads, e.g. extreme sunlight, the use of flexible metallic or equivalent cable conduits is recommended.

## Product features

<b>Fields of application</b>	The actuator is particularly suitable for utilisation in outdoor applications and is protected against the following weather conditions: - UV radiation - Rain / Snow - Dirt / Dust - Air humidity - Alternating climate / frequent and severe temperature fluctuations (Recommendation: use the actuator with integrated factory-installed heating which can be ordered separately to prevent internal condensation)
<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>	Simple direct mounting on the damper shaft with a universal shaft clamp, supplied with an anti-rotation device to prevent the actuator from rotating.
<b>Manual override</b>	Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). The housing cover must be removed for manual override.
<b>Adjustable angle of rotation</b>	Adjustable angle of rotation with mechanical end stops. Standard setting 0 ... 90°. The housing cover must be removed to set the angle of rotation.
<b>High functional reliability</b>	The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

## Accessories

	Description	Type	
<b>Electrical accessories</b>	Auxiliary switch 1 x SPDT add-on	S1A	
	Auxiliary switch 2 x SPDT add-on	S2A	
	Auxiliary switch 2 x SPDT add-on, grau	S2A GR	
	Auxiliary switch 2 x SPDT add-on, grau	S2A/300 GR	
	Auxiliary switch 2 x SPDT add-on, grau	S2A/500 GR	
	Feedback potentiometer 140 $\Omega$ add-on	P140A	
	Feedback potentiometer 140 $\Omega$ add-on, grau	P140A GR	
	Feedback potentiometer 200 $\Omega$ add-on	P200A	
	Feedback potentiometer 500 $\Omega$ add-on	P500A	
	Feedback potentiometer 500 $\Omega$ add-on, grau	P500A GR	
	Feedback potentiometer 1 k $\Omega$ add-on	P1000A	
	Feedback potentiometer 1 k $\Omega$ add-on, grau	P1000A GR	
	Feedback potentiometer 2.8 k $\Omega$ add-on	P2800A	
	Feedback potentiometer 2.8 k $\Omega$ add-on, grau	P2800A GR	
	Feedback potentiometer 5 k $\Omega$ add-on	P5000A	
	Feedback potentiometer 5 k $\Omega$ add-on, grau	P5000A GR	
	Feedback potentiometer 10 k $\Omega$ add-on	P10000A	
	Feedback potentiometer 10 k $\Omega$ add-on, grau	P10000A GR	
	Adapter for auxiliary switch and feedback potentiometer	Z-SPA	
	Signal converter voltage/current 100 k $\Omega$ Supply AC/DC 24 V	Z-UIC	
	Range controller for wall mounting	SBG24	
	Positioner for wall mounting	SGA24	
	Positioner for built-in mounting	SGE24	
	Positioner for front-panel mounting	SGF24	
	Positioner for wall mounting	CRP24-B1	
		Description	Type
	<b>Mechanical accessories</b>	Cable gland for cable diameter $\varnothing$ 4...10 mm	Z-KB-PG11

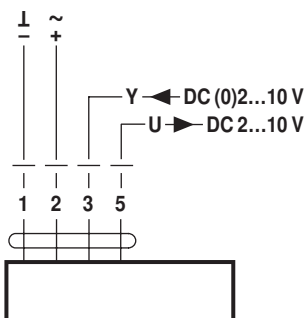
## Electrical installation

**Notes**

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

## Wiring diagrams

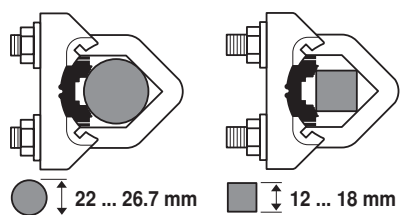
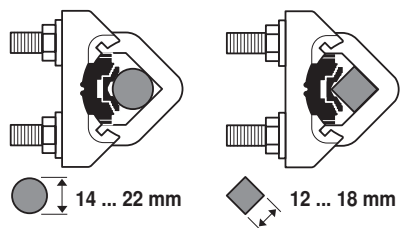
AC/DC 24 V, modulating



Dimensions [mm]

Spindle length

	-
	16...75



Dimensional drawings

