

Modulating damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 1 m<sup>2</sup>
- Nominal torque 5 Nm
- Nominal voltage AC/DC 24 V
- Control Modulating DC (0)2...10 V
- Position feedback DC 2...10 V
- Spindle driver Form fit 8x8 mm


**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     | 0.4 W   |
|                           | Power consumption for wire sizing      | 2 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. 5 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. 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                        | Gear disengagement with push-button, can be locked                    |
|                           | 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                | 35 dB(A)  |
| Spindle driver            | Form fit 8x8 mm                        |   |
| Position indication       | Mechanically, pluggable                |   |
| <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 2004/108/EC   |
|                           | 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  |
|                           | 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 approx.                         | 0.49 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...10V and drives to the position defined by the positioning signal. Measuring voltage U serves for the electrical display of the damper position 0...100% and as slave control signal for other actuators. |
| <b>Simple direct mounting</b>       | Simple direct mounting on the damper spindle with form-fit hollow spindle. For screw fitting to the application the actuator is supplied with two fastening clips, one on each short side.   |
| <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).   |
| <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, add-on, 1 x SPDT  | S1A        |
|   | Auxiliary switch, add-on, 2 x SPDT  | S2A        |
|   | Auxiliary switch, add-on, 2 x SPDT, grey  | S2A GR     |
|   | Feedback potentiometer 140 Ohm, add-on  | P140A      |
|   | Feedback potentiometer 140 Ohm, add-on, grey  | P140A GR   |
|   | Feedback potentiometer 200 Ohm, add-on  | P200A      |
|   | Feedback potentiometer 500 Ohm, add-on  | P500A      |
|   | Feedback potentiometer 500 Ohm, add-on, grey  | P500A GR   |
|   | Feedback potentiometer 1 kOhm, add-on   | P1000A     |
|   | Feedback potentiometer 2.8 kOhm, add-on   | P2800A     |
|   | Feedback potentiometer 2.8 kOhm, add-on, grey   | P2800A GR  |
|   | Feedback potentiometer 1 kOhm, add-on, grey   | P1000A GR  |
|   | Feedback potentiometer 5 kOhm, add-on   | P5000A     |
|   | Feedback potentiometer 5 kOhm, add-on, grey   | P5000A GR  |
|   | Feedback potentiometer 10 kOhm, add-on  | P10000A    |
|   | Feedback potentiometer 10 kOhm, add-on, grey  | P10000A GR |
|   | 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   |            |

## Accessories

|                               | Description  | Type       |
|-------------------------------|--|------------|
|                               | 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 170 mm, for damper spindles $\varnothing$ 6...20 mm                        | AV6-20     |
|                               | Spindle clamp for LM..A-F., for damper spindles shorter 30 mm                              | K5A        |
|                               | Spindle clamp for LM..A, clamping range 6...20 mm  | K-ELA      |
|                               | Spindle clamp for LM..A, clamping range 6...10 mm  | K-ELA10    |
|                               | Spindle clamp for LM..A, clamping range 6...13 mm  | K-ELA13    |
|                               | Spindle clamp for LM..A, clamping range 6...16 mm  | K-ELA16    |
|                               | Universal mounting bracket 180 mm  | Z-ARS180   |
|                               | Form fit insert 10x10 mm, for LM..A  | ZF10-LMA   |
|                               | Form fit insert 12x12 mm, for LM..A  | ZF12-LMA   |
|                               | Form fit insert 8x8 mm, für LM..A  | ZF8-LMA    |
|                               | Form fit insert 10x10 mm, with angle of rotation limiter and position indication for LM..A | ZFRL10-LMA |
|                               | Form fit insert 12x12 mm, with angle of rotation limiter and position indication for LM..A | ZFRL12-LMA |
|                               | Form fit insert 8x8 mm, with angle of rotation limiter and position indication for LM..A   | ZFRL8-LMA  |
|                               | Position indication for LM..A, NM..A, SM..A, GM..A   | Z-PI       |

## Electrical installation

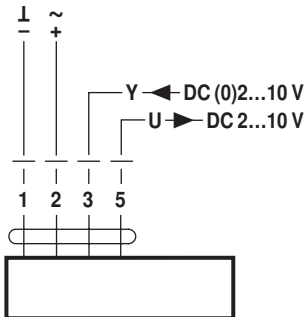


### Notes

- 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

|  |         |
|--|---------|
|  | Min. 20 |
|  | -       |

Dimensional drawings

