

Damper actuator for operating air control dampers in ventilation and air-conditioning systems for building services installations

- For air control dampers up to approx. 2 m²
- Torque 10 Nm
- Nominal voltage AC/DC 24 V
- Control: Open-close or 3-point


Technical data

| | | |
|----------------------------|---------------------------|--|
| Electrical data | Nominal voltage | AC 24 V, 50/60 Hz DC 24 V |
| | Nominal voltage range | AC/DC 19.2 ... 28.8 V |
| | Power consumption | In operation 1.5 W @ nominal torque At rest 0.2 W For wire sizing 3.5 VA |
| | Connection | Cable 1 m, 3 x 0.75 mm ² |
| Functional data | Torque (nominal torque) | Min. 10 Nm @ nominal voltage |
| | Direction of rotation | Reversible with switch 0 ↺ or 1 ↻ |
| | Manual override | Gearing latch disengaged with pushbutton, detentable |
| | Angle of rotation | Max. 95°↔, limited on both sides by means of adjustable, mechanical end stops |
| | Running time | 150 s / 90°↔ |
| | Sound power level | Max. 35 dB (A) |
| | Position indication | Mechanical, pluggable |
| Safety | Protection class | III Safety extra-low voltage |
| | Degree of protection | IP54 in any mounting position |
| | EMC | CE according to 89/336/EEC |
| | Mode of operation | Type 1 (EN 60730-1) |
| | Rated impulse voltage | 0.8 kV (EN 60730-1) |
| | Control pollution degree | 3 (EN 60730-1) |
| | Ambient temperature range | -30 ... +50 °C |
| | Non-operating temperature | -40 ... +80 °C |
| | Ambient humidity range | 95% r.H., non-condensating (EN 60730-1) |
| Dimensions / Weight | Maintenance | Maintenance-free |
| | Dimensions | See «Dimensions» on page 2 |
| | Weight | Approx. 750 g |

Safety notes


- The damper actuator is not allowed to be used outside the specified field of application, especially in aircraft or any other form of air transport.
- Assembly must be carried out by trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly.
- 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.
- The cable must not be removed from the device.
- When calculating the required torque, the specifications supplied by the damper manufacturers (cross section, design, installation site), and the air flow conditions must be observed.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

| | |
|-------------------------------------|--|
| Simple direct mounting | Simple direct mounting on the damper spindle with a universal spindle clamp, supplied with an anti-rotation strap to prevent the actuator from rotating. |
| Manual override | Manual operation is possible with the pushbutton (the gearing latch remains disengaged as long as the pushbutton is pressed or detented). |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |
| High functional reliability | The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached. |

Accessories

| | Description | Data sheet |
|-------------------------------|---|----------------|
| Electrical accessories | Auxiliary switch, type S..A.. | T2 - S..A.. |
| | Feedback potentiometer, type P..A.. | T2 - P..A.. |
| Mechanical accessories | Various accessories (clamps, shaft extensions etc.) | T2 - Z-NM..A.. |

Electrical installation

Wiring diagrams

Notes

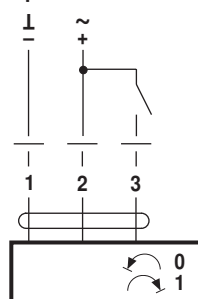
- Connection via safety isolating transformer.
 - Other actuators can be connected in parallel.
- Please note the performance data.



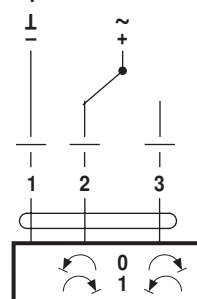
Direction of rotation



Open-close control



3-point control

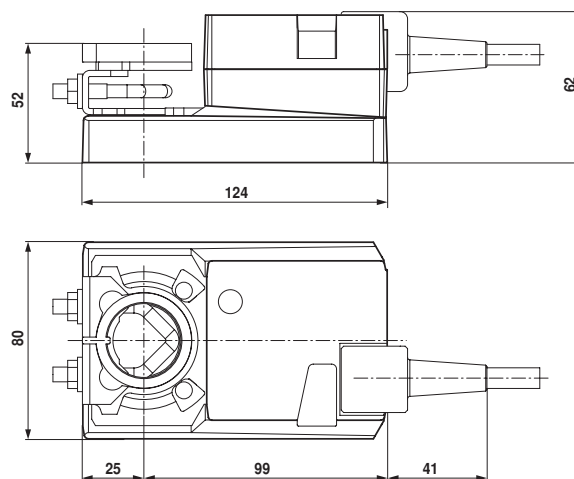







Cable colours:

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

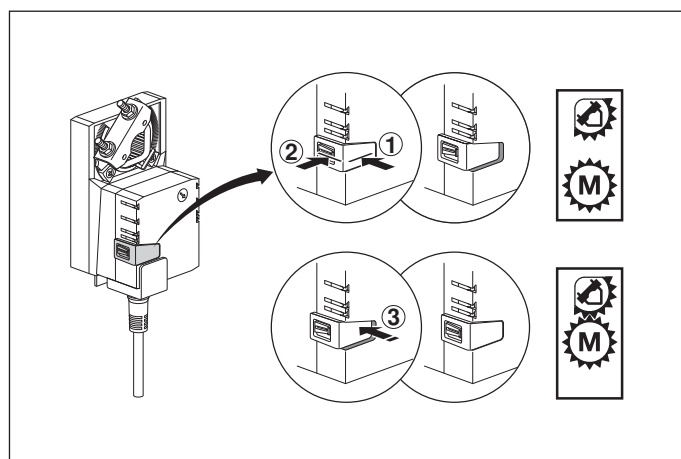
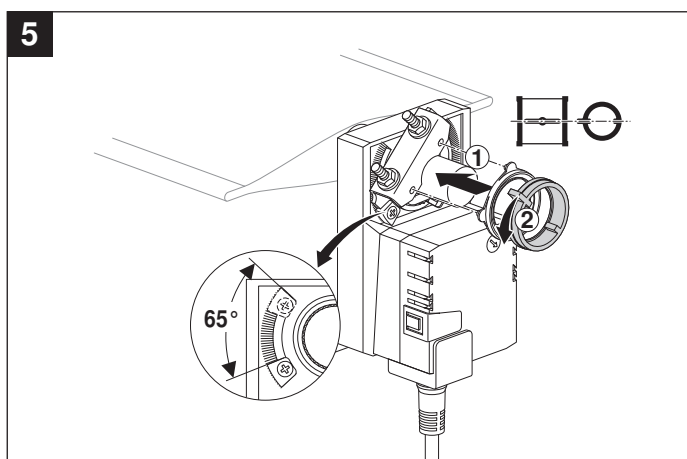
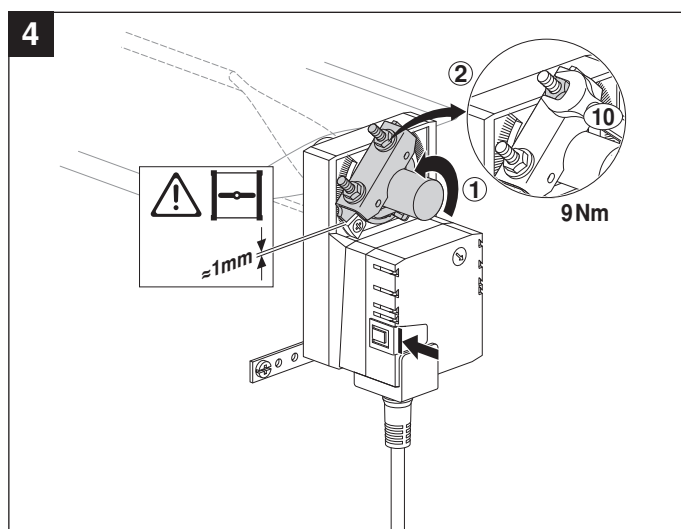
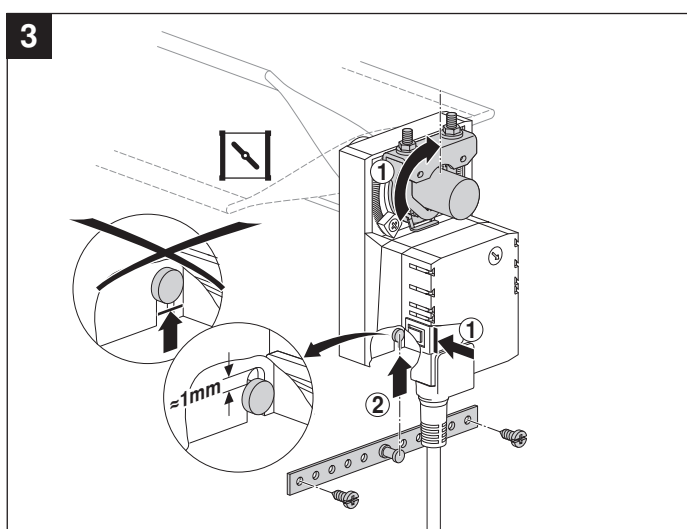
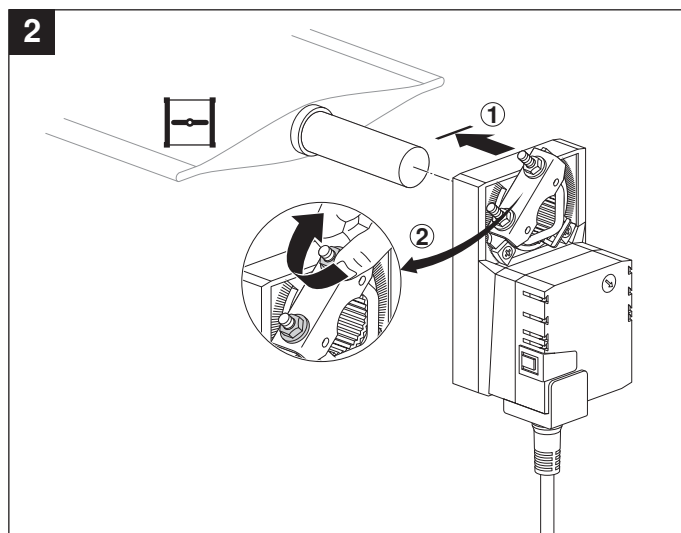
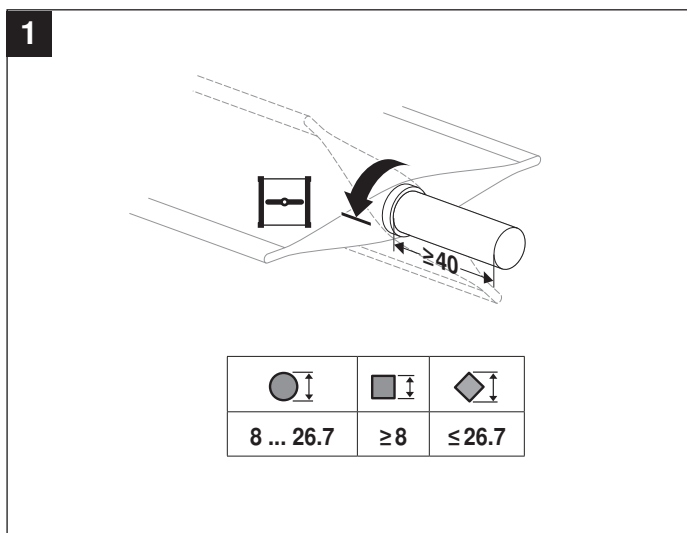
Dimensions [mm]

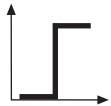
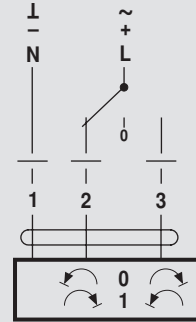
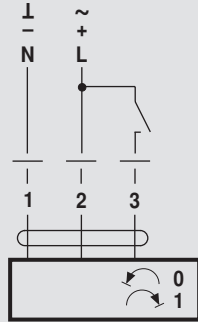
Dimensional drawings



| Damper spindle | Length |  |  |  |
|---|--------|---|---|---|
|  | >40 | 8 ... 26.7 | >8 | <26.7 |
|  | >20 | 8 ... 20 | >8 | <20 |

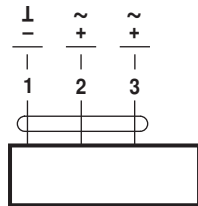
* Option (Accessory K-NA)



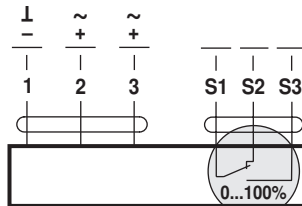


AC 24 V / DC 24 V

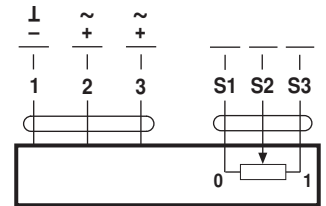
DC 48 ... 110 V
(NM72A..)



NM24A..
NM72A..

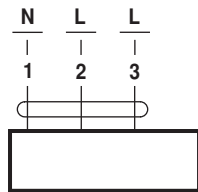


NM24A-S..

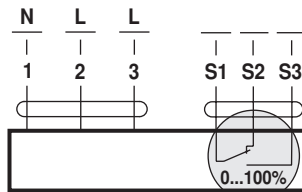


NM24AP5..

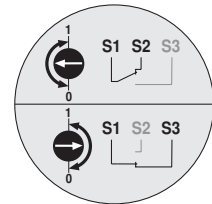
AC 100 ... 240 V



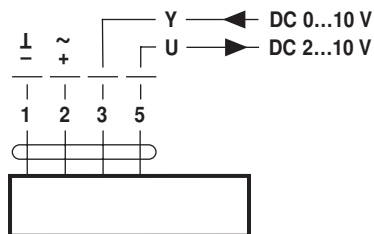
NM230A..



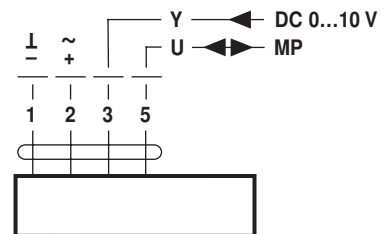
NM230A-S..



AC 24 V / DC 24 V

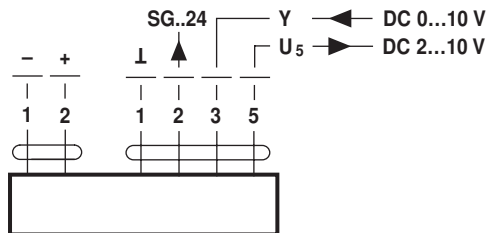


NM24A-SR..
NM24A-MF..



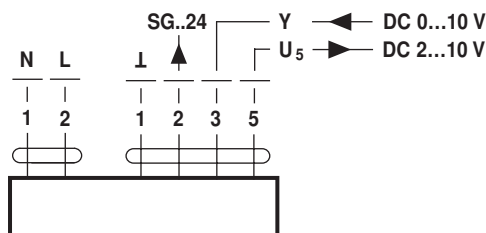
NM24A-MP..

DC 48 ... 110 V
(NM72A-SR..)



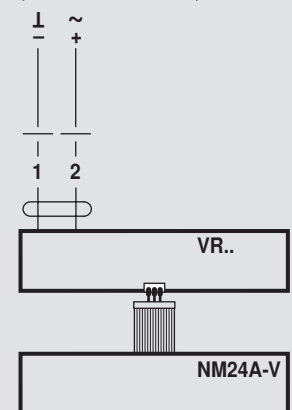
NM72A-SR..

AC 100 ... 240 V



NM230ASR..

AC 24 V / DC 24 V
(NM24A-V / VR..)



NM24A-V / VR..

Damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC/DC 24 V
- Control Open-close, 3-point
- With integrated auxiliary switch



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 | 1.5 W |
| | Power consumption in rest position | 0.2 W |
| | Power consumption for wire sizing | 3.5 VA |
| | Auxiliary switch | 1 x SPDT, 0...100% |
| | Switching capacity auxiliary switch | 1 mA...3 (0.5 inductive) A, AC 250 V |
| | Connection supply / control | Cable 1 m, 3 x 0.75 mm ² |
| | Connection auxiliary switch | Cable 1 m, 3 x 0.75 mm ² |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Torque motor | Min. 10 Nm |
| | Direction of motion motor | Selectable with switch 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| Safety | Protection class IEC/EN | II Protective insulated |
| | Protection class UL | II Protective insulated |
| | Protection class auxiliary switch IEC/EN | II Protective insulated |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2, UL Enclosure Type 2 |
| | EMC | CE according to 2004/108/EC |
| | Low voltage directive | CE according to 2006/95/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.B |
| | Rated impulse voltage supply / control | 0.8 kV |
| | Rated impulse voltage auxiliary switch | 2.5 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 |
| Weight | Weight approx. | 0.84 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.

Safety notes

- 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

| | |
|-------------------------------------|--|
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |
| Flexible signalization | With adjustable auxiliary switch (0 ... 100%) |

Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Electrical accessories | 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 |
| | Description | Type |
| Mechanical accessories | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |

Accessories

| Description | Type |
|---|----------|
| Universal mounting bracket 180 mm | Z-ARS180 |
| Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| Form fit insert 15x15 mm | ZF15-NSA |
| Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| Base plate extension from NM..A to NM.. | Z-NMA |
| Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |

Electrical installation

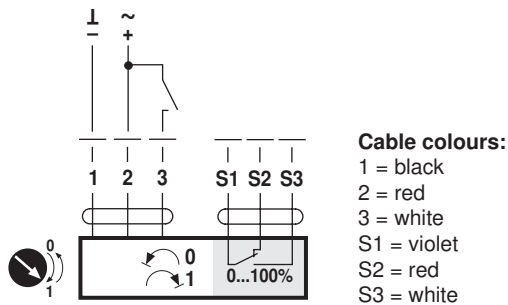


Notes

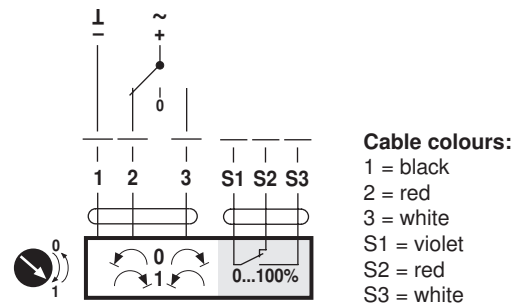
- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC/DC 24 V, open-close

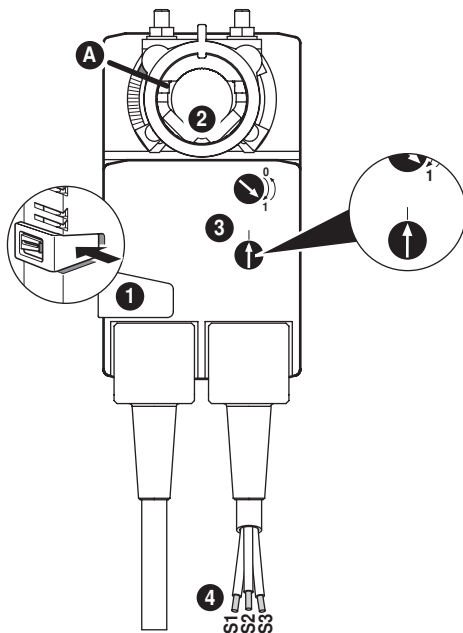


AC/DC 24 V, 3-point



Operating controls and indicators

Auxiliary switch settings



Note

Perform settings on the actuator only in deenergised state.

1 Gear disengagement

Holding button pressed down: Gear is disengaged.
Manual override is possible.

2 Spindle clamp

Turn until edge line **A** displays the desired switching position of the actuator and release button **1**.

3 Auxiliary switch

Turn rotary knob until the arrow points to the vertical line.

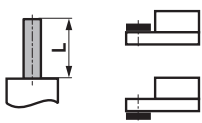
4 Cable

Connect continuity tester to S1 + S2 or to S1 + S3.






If the auxiliary switch should switch in the opposite direction, rotate the auxiliary switch by 180°.

Dimensions [mm]

Spindle length

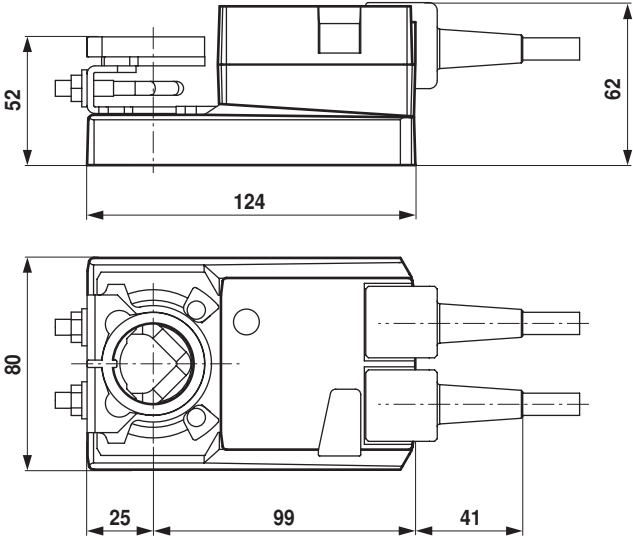
| | |
|--|---------|
|  | Min. 40 |
| | Min. 20 |

Clamping range

| |  |  |  |
|--|---|---|---|
|  | 8...26.7 | ≥8 | ≤26.7 |
|  | 8...20 | ≥8 | ≤20 |

*Option: Spindle clamp mounted below
(accessories K-NA needed)

Dimensional drawings



Modulating damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC/DC 24 V
- Control Modulating DC (0)2...10 V
- Position feedback DC 2...10 V



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 | 2 W |
| | Power consumption in rest position | 0.4 W |
| | Power consumption for wire sizing | 4 VA |
| | Connection supply / control | Cable 1 m, 4 x 0.75 mm ² |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Torque motor | Min. 10 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| Safety | 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 |
| Weight | Ambient humidity | 95% r.h., non-condensing |
| | Maintenance | Maintenance-free |
| | Weight approx. | 0.77 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

| | |
|-------------------------------------|--|
| Mode of operation | 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. |
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |

Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Electrical accessories | 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 |
| Mechanical accessories | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |
| | Universal mounting bracket 180 mm | Z-ARS180 |
| | Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| | Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| | Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| | Form fit insert 15x15 mm | ZF15-NSA |
| | Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| | Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| | Base plate extension from NM..A to NM.. | Z-NMA |
| | Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |

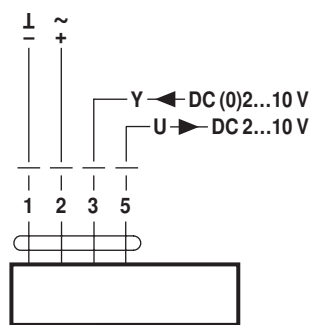
Electrical installation

Notes

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

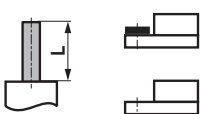
Wiring diagrams

AC/DC 24 V, modulating








Dimensions [mm]

Spindle length

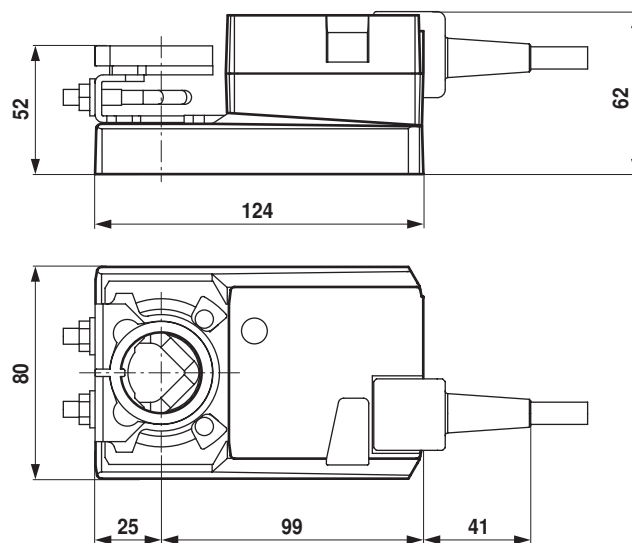
| | |
|--|---------|
|  | Min. 40 |
| | Min. 20 |

Clamping range

| |  |  |  |
|--|---|---|---|
|  | 8...26.7 | ≥ 8 | ≤ 26.7 |
|  | 8...20 | ≥ 8 | ≤ 20 |

*Option: Spindle clamp mounted below
(accessories K-NA needed)

Dimensional drawings



Modulating damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC/DC 24 V
- Control Modulating DC (0)2...10 V
- Position feedback DC 2...10 V
- With connecting terminals



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 | 2 W |
| | Power consumption in rest position | 0.4 W |
| | Power consumption for wire sizing | 4 VA |
| | Connection supply / control | Terminals 4 mm ² (cable Ø 4...10 mm, 4-wire) |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Torque motor | Min. 10 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| Safety | 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 |
| Weight | Ambient humidity | 95% r.h., non-condensing |
| | Maintenance | Maintenance-free |
| | Weight approx. | 0.74 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.
- 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 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. |
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |

Accessories

| | Description | Type |
|-------------------------------|---|------------|
| Electrical accessories | 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 |
| Mechanical accessories | Description | Type |
| | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |
| | Universal mounting bracket 180 mm | Z-ARS180 |
| | Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| | Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| | Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| | Form fit insert 15x15 mm | ZF15-NSA |
| | Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| | Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| | Base plate extension from NM..A to NM.. | Z-NMA |
| | Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |
| | Terminal protection IP54 | Z-TP |
| | Cable sleeve for Ø 4-6 mm, suitable for strain relief NG | 43235-00001 |
| | Strain relief bushing (cable sleeve) for Ø 6-8 mm, suitable for strain relief NG | 43235-00002 |
| | Cable sleeve for Ø 8-10 mm, suitable for strain relief NG | 43235-00003 |

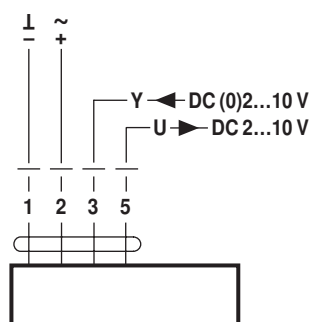
Electrical installation

Notes


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

Wiring diagrams






AC/DC 24 V, modulating



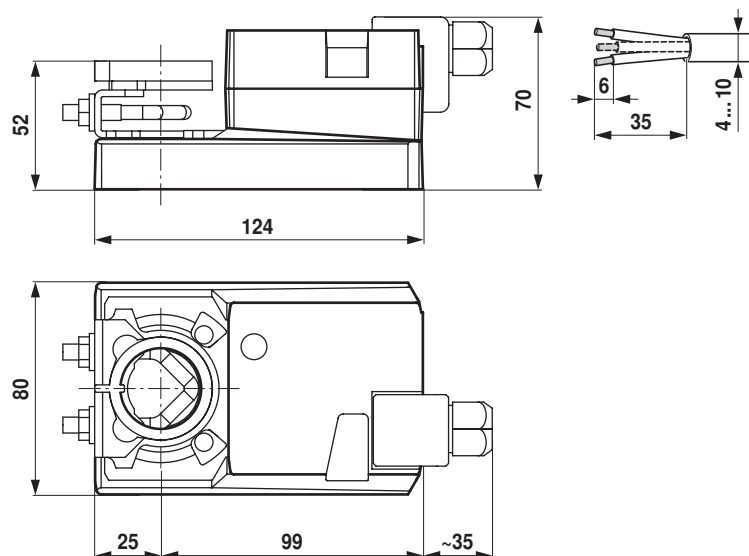
Dimensions [mm]
Spindle length

| | |
|--|---------|
|  | Min. 40 |
| | Min. 20 |

Clamping range

| |  |  |  |
|--|---|---|---|
|  | 8...26.7 | ≥ 8 | ≤ 26.7 |
|  | 8...20 | ≥ 8 | ≤ 20 |

*Option: Spindle clamp mounted below
(accessories K-NA needed)

Dimensional drawings


Damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC/DC 24 V
- Control Open-close, 3-point
- With connecting terminals
- With integrated auxiliary switch



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 | 1.5 W |
| | Power consumption in rest position | 0.2 W |
| | Power consumption for wire sizing | 3.5 VA |
| | Auxiliary switch | 1 x SPDT, 0...100% |
| | Switching capacity auxiliary switch | 1 mA...3 (0.5 inductive) A, AC 250 V |
| | Connection supply / control | Terminals 4 mm ² (cable Ø 4...10 mm, 3-wire) |
| | Connection auxiliary switch | Terminals 4 mm ² (cable Ø 4...10 mm, 3-wire) |
| Functional data | Parallel operation | Yes (note the performance data) |
| | Torque motor | Min. 10 Nm |
| | Direction of motion motor | Selectable with switch 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| Safety | Protection class IEC/EN | II Protective insulated |
| | Protection class UL | II Protective insulated |
| | Protection class auxiliary switch IEC/EN | II Protective insulated |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2, UL Enclosure Type 2 |
| | EMC | CE according to 2004/108/EC |
| | Low voltage directive | CE according to 2006/95/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.B |
| Weight | Rated impulse voltage supply / control | 0.8 kV |
| | Rated impulse voltage auxiliary switch | 2.5 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 |
| | Weight approx. | 0.76 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.

Safety notes

- 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.
- 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

| | |
|-------------------------------------|--|
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |
| Flexible signalization | With adjustable auxiliary switch (0 ... 100%) |

Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Electrical accessories | 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 |
| | Description | Type |
| Mechanical accessories | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |
| | Universal mounting bracket 180 mm | Z-ARS180 |

Accessories

| Description | Type |
|--|-------------|
| Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| Form fit insert 15x15 mm | ZF15-NSA |
| Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| Base plate extension from NM..A to NM.. | Z-NMA |
| Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |
| Terminal protection IP54 | Z-TP |
| Cable sleeve for Ø 4-6 mm, suitable for strain relief NG | 43235-00001 |
| Strain relief bushing (cable sleeve) for Ø 6-8 mm, suitable for strain relief NG | 43235-00002 |
| Cable sleeve for Ø 8-10 mm, suitable for strain relief NG | 43235-00003 |

Electrical installation

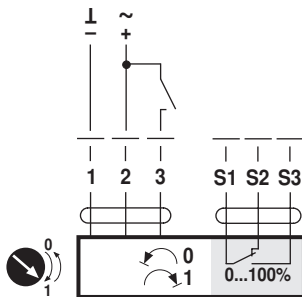


Notes

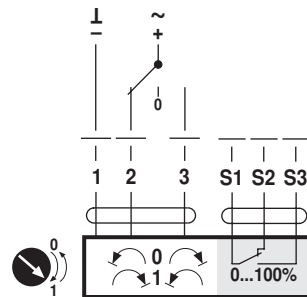
- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC/DC 24 V, open-close

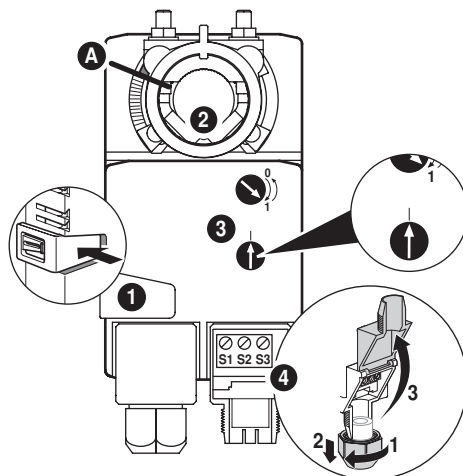


AC/DC 24 V, 3-point



Operating controls and indicators

Auxiliary switch settings



Note

Perform settings on the actuator only in deenergised state.

1 Gear disengagement

Holding button pressed down: Gear is disengaged.
Manual override is possible.

2 Spindle clamp

Turn until edge line **A** displays the desired switching position of the actuator and release button **1**.

3 Auxiliary switch

Turn rotary knob until the arrow points to the vertical line.

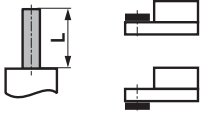
4 Terminal connection

Connect continuity tester to S1 + S2 or to S1 + S3.






If the auxiliary switch should switch in the opposite direction, rotate the auxiliary switch by 180°.

Dimensions [mm]

Spindle length

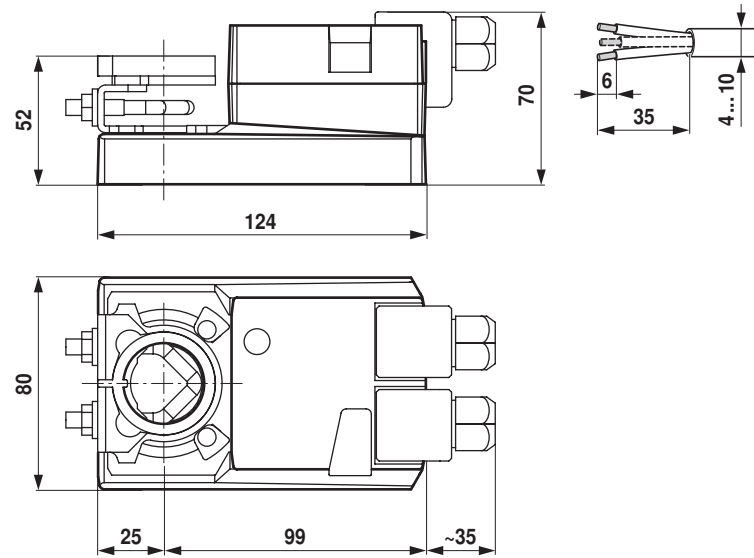
| | |
|--|---------|
|  | Min. 40 |
| | Min. 20 |

Clamping range

| |  |  |  |
|--|---|---|---|
|  | 8...26.7 | ≥ 8 | ≤ 26.7 |
|  | 8...20 | ≥ 8 | ≤ 20 |

*Option: Spindle clamp mounted below
(accessories K-NA needed)

Dimensional drawings



Damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC/DC 24 V
- Control Open-close, 3-point
- With connecting terminals



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 | 1.5 W |
| | Power consumption in rest position | 0.2 W |
| | Power consumption for wire sizing | 3.5 VA |
| | Connection supply / control | Terminals 4 mm ² (cable Ø 4...10 mm, 3-wire) |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Torque motor | Min. 10 Nm |
| | Direction of motion motor | Selectable with switch 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| | | |
| Safety | 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 |
| | | |
| Weight | Weight approx. | 0.74 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.

Safety notes

- 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

| | |
|-------------------------------------|--|
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |

Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Electrical accessories | 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 |
| | Description | Type |
| Mechanical accessories | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |
| | Universal mounting bracket 180 mm | Z-ARS180 |
| | Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| | Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| | Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| | Form fit insert 15x15 mm | ZF15-NSA |
| | Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| | Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| | Base plate extension from NM..A to NM.. | Z-NMA |

Accessories

| Description | Type |
|--|-------------|
| Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |
| Terminal protection IP54 | Z-TP |
| Cable sleeve for Ø 4-6 mm, suitable for strain relief NG | 43235-00001 |
| Strain relief bushing (cable sleeve) for Ø 6-8 mm, suitable for strain relief NG | 43235-00002 |
| Cable sleeve for Ø 8-10 mm, suitable for strain relief NG | 43235-00003 |

Electrical installation

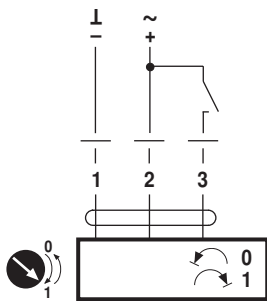


Notes

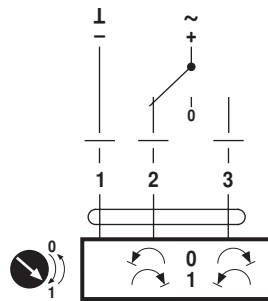
- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC/DC 24 V, open-close



AC/DC 24 V, 3-point



Dimensions [mm]

Spindle length

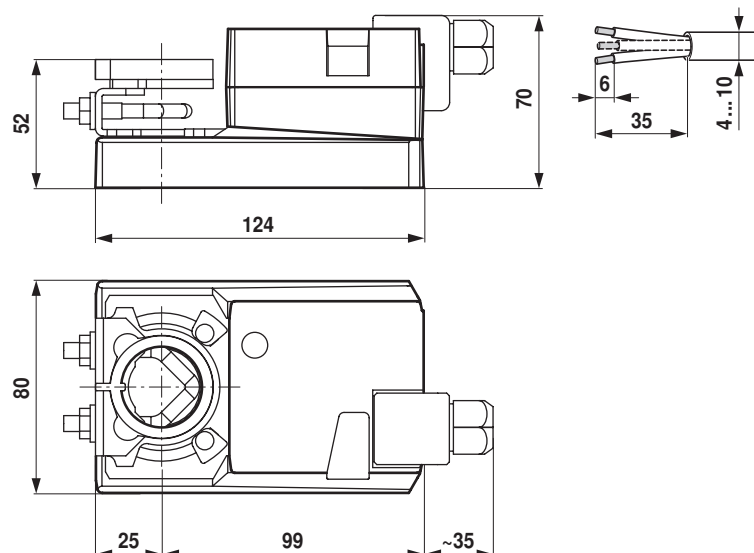
| | |
|--|---------|
| | Min. 40 |
| | Min. 20 |

Clamping range

| | 8...26.7 | ≥8 | ≤26.7 |
|--|----------|----|-------|
| | 8...20 | ≥8 | ≤20 |

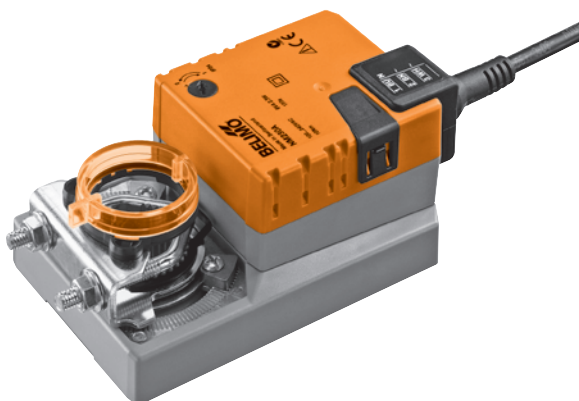
*Option: Spindle clamp mounted below (accessories K-NA needed)

Dimensional drawings



Damper actuator for operating air control dampers in ventilation and air-conditioning systems for building services installations

- For air control dampers up to approx. 2 m²
- Torque 10 Nm
- Nominal voltage AC 100 ... 240 V
- Control: Open-close or 3-point



Technical data

| | | |
|----------------------------|---------------------------|--|
| Electrical data | Nominal voltage | AC 100 ... 240 V, 50/60 Hz |
| | Nominal voltage range | AC 85 ... 265 V |
| | Power consumption | In operation 2.5 W @ nominal torque At rest 0.6 W For wire sizing 5.5 VA |
| | Connection | Cable 1 m, 3 x 0.75 mm ² |
| Functional data | Torque (nominal torque) | Min. 10 Nm @ nominal voltage |
| | Direction of rotation | Reversible with switch 0 ↺ or 1 ↻ |
| | Manual override | Gearing latch disengaged with pushbutton, detentable |
| | Angle of rotation | Max. 95°↔, limited on both sides by means of adjustable, mechanical end stops |
| | Running time | 150 s / 90°↔ |
| | Sound power level | Max. 35 dB (A) |
| | Position indication | Mechanical, pluggable |
| Safety | Protection class | II Totally insulated <input type="checkbox"/> |
| | Degree of protection | IP54 in any mounting position |
| | EMC | CE according to 89/336/EEC |
| | Low voltage directive | CE according to 73/23/EEC |
| | Mode of operation | Type 1 (EN 60730-1) |
| | Rated impulse voltage | 2.5 kV (EN 60730-1) |
| | Control pollution degree | 3 (EN 60730-1) |
| | Ambient temperature range | -30 ... +50 °C |
| | Non-operating temperature | -40 ... +80 °C |
| | Ambient humidity range | 95% r.H., non-condensating (EN 60730-1) |
| Dimensions / Weight | Maintenance | Maintenance-free |
| | Dimensions | See «Dimensions» on page 2 |
| | Weight | Approx. 750 g |

Safety notes



- The damper actuator is not allowed to be used outside the specified field of application, especially in aircraft or any other form of air transport.
- **Caution: Power supply voltage !**
- Assembly must be carried out by trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly.
- 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.
- The cable must not be removed from the device.
- When calculating the required torque, the specifications supplied by the damper manufacturers (cross section, design, installation site), and the air flow conditions must be observed.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

| | |
|-------------------------------------|--|
| Simple direct mounting | Simple direct mounting on the damper spindle with a universal spindle clamp, supplied with an anti-rotation strap to prevent the actuator from rotating. |
| Manual override | Manual operation is possible with the pushbutton (the gearing latch remains disengaged as long as the pushbutton is pressed or detented). |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |
| High functional reliability | The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached. |

Accessories

| | Description | Data sheet |
|-------------------------------|---|----------------|
| Electrical accessories | Auxiliary switch, type S..A.. | T2 - S..A.. |
| | Feedback potentiometer, type P..A.. | T2 - P..A.. |
| Mechanical accessories | Various accessories (clamps, shaft extensions etc.) | T2 - Z-NM..A.. |

Electrical installation

Wiring diagrams

Notes

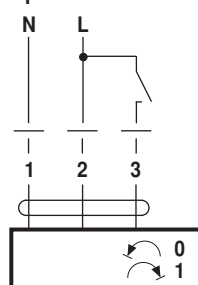
- Caution: Power supply voltage !
- Other actuators can be connected in parallel. Please note the performance data.



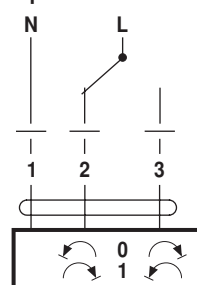
Direction of rotation



Open-close control



3-point control

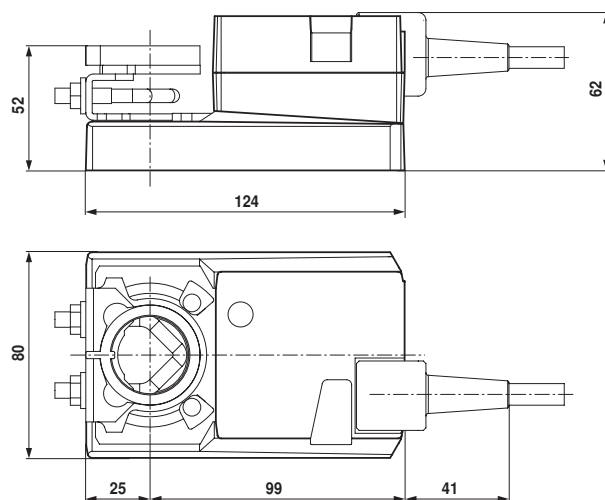







Cable colours:

- 1 = blue
- 2 = brown
- 3 = white

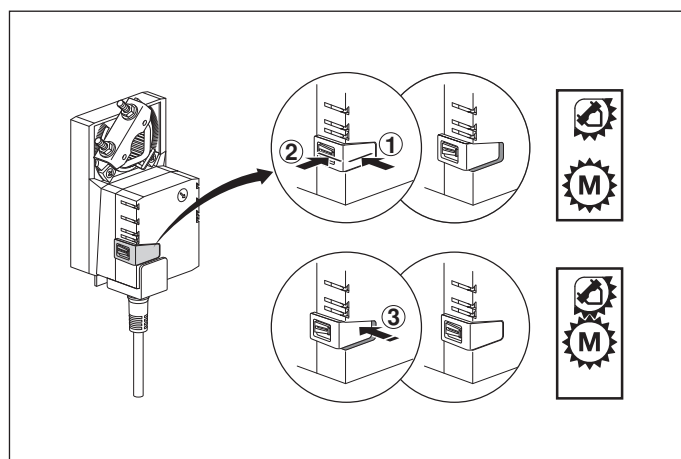
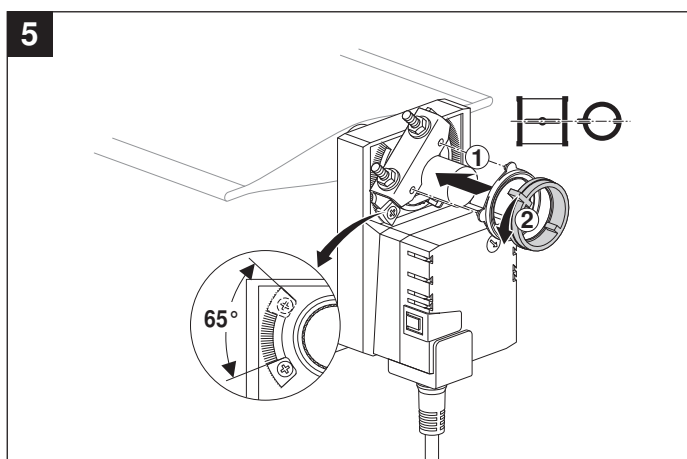
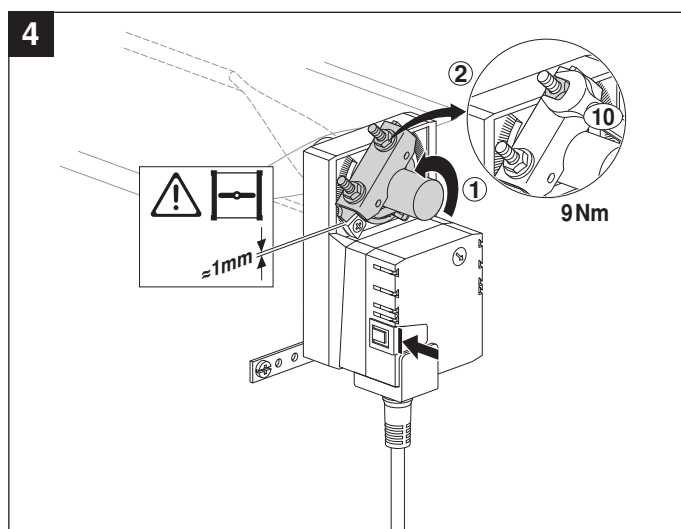
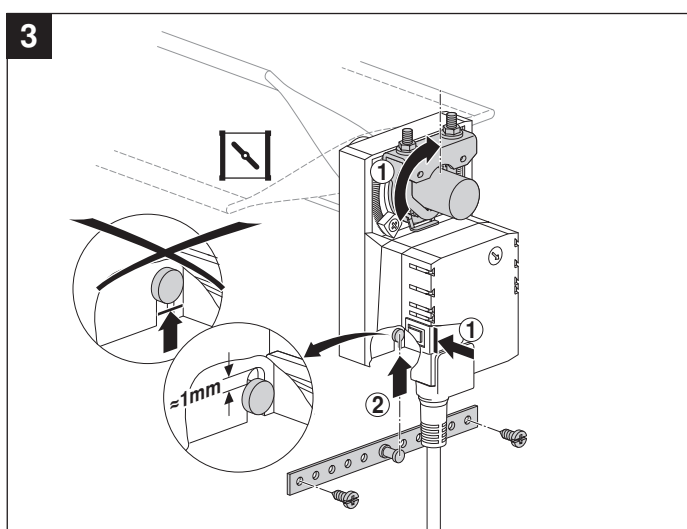
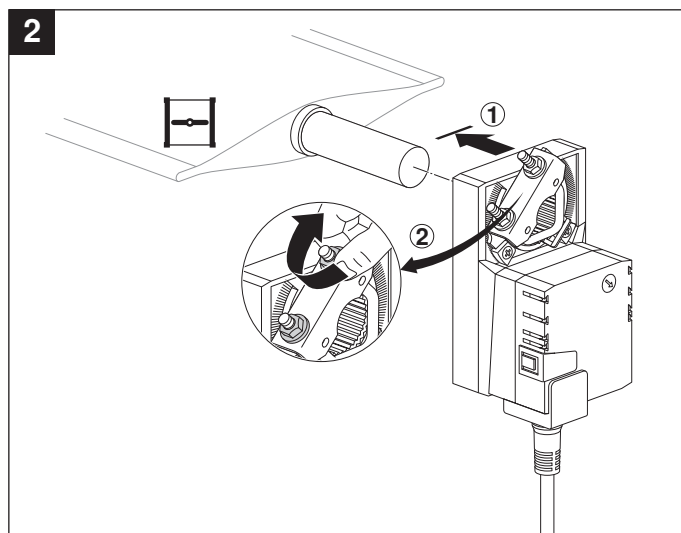
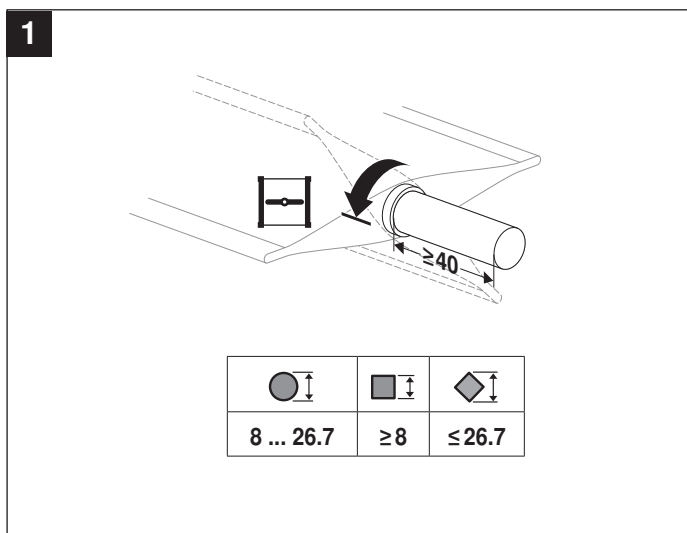
Dimensions [mm]

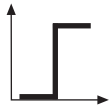
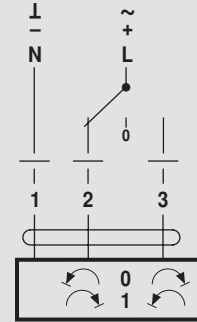
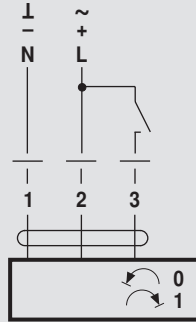
Dimensional drawings



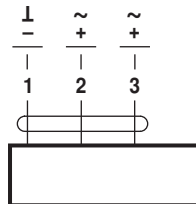
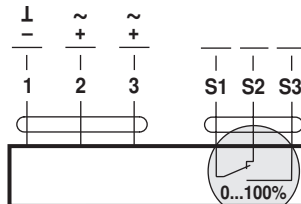
| Damper spindle | Length |  |  |  |
|---|--------|---|---|---|
|  | >40 | 8 ... 26.7 | >8 | <26.7 |
|  | >20 | 8 ... 20 | >8 | <20 |

* Option (Accessory K-NA)

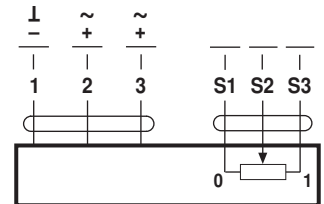




AC 24 V / DC 24 V

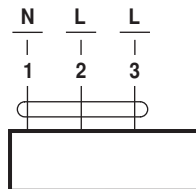
DC 48 ... 110 V
(NM72A..)NM24A..
NM72A..

NM24A-S..

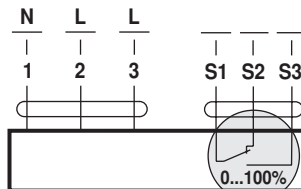


NM24AP5..

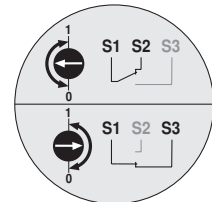
AC 100 ... 240 V



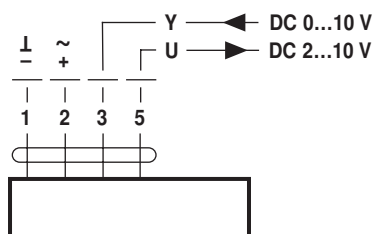
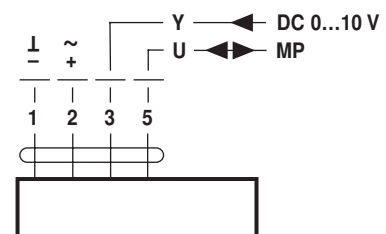
NM230A..



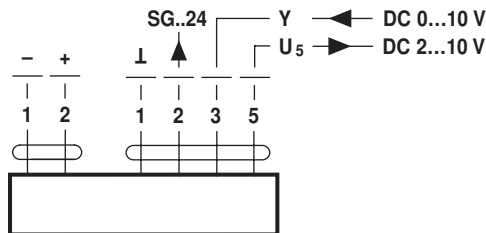
NM230A-S..



AC 24 V / DC 24 V

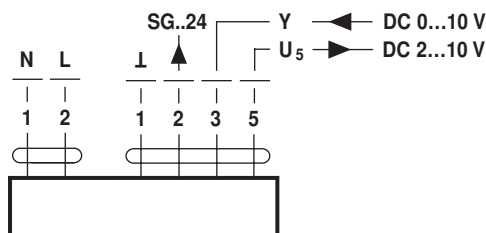
NM24A-SR..
NM24A-MF..

NM24A-MP..

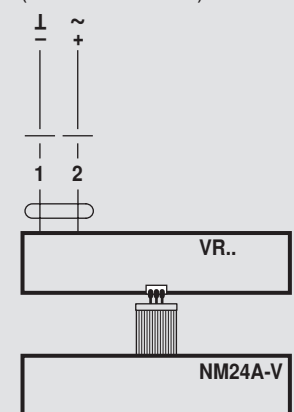
DC 48 ... 110 V
(NM72A-SR..)

NM72A-SR..

AC 100 ... 240 V



NM230ASR..

AC 24 V / DC 24 V
(NM24A-V / VR..)

NM24A-V / VR..

Damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC 230 V
- Control Open-close, 3-point
- With integrated auxiliary switch



Technical data

| | | |
|------------------------|--|---|
| Electrical data | Nominal voltage | AC 230 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 85...264 V |
| | Power consumption in operation | 2.5 W |
| | Power consumption in rest position | 0.6 W |
| | Power consumption for wire sizing | 5.5 VA |
| | Auxiliary switch | 1 x SPDT, 0...100% |
| | Switching capacity auxiliary switch | 1 mA...3 (0.5 inductive) A, AC 250 V |
| | Connection supply / control | Cable 1 m, 3 x 0.75 mm ² |
| | Connection auxiliary switch | Cable 1 m, 3 x 0.75 mm ² |
| Functional data | Parallel operation | Yes (note the performance data) |
| | Torque motor | Min. 10 Nm |
| | Direction of motion motor | Selectable with switch 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| Safety | Protection class IEC/EN | II Protective insulated |
| | Protection class UL | II Protective insulated |
| | Protection class auxiliary switch IEC/EN | II Protective insulated |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2, UL Enclosure Type 2 |
| | EMC | CE according to 2004/108/EC |
| | Low voltage directive | CE according to 2006/95/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.B |
| Weight | Rated impulse voltage supply / control | 2.5 kV |
| | Rated impulse voltage auxiliary switch | 2.5 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 |
| | Weight approx. | 0.85 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.

Safety notes

- 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.
- Caution: Power supply voltage!
- 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

| | |
|-------------------------------------|--|
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |
| Flexible signalization | With adjustable auxiliary switch (0 ... 100%) |

Accessories

| | Description | Type |
|-------------------------------|---|------------|
| Electrical accessories | 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 |
| | Description | Type |
| Mechanical accessories | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |

Accessories

| Description | Type |
|---|-------------|
| Angle of rotation limiter, for K-NA | 20334-00001 |
| Universal mounting bracket 180 mm | Z-ARS180 |
| Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| Form fit insert 15x15 mm | ZF15-NSA |
| Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| Base plate extension from NM..A to NM.. | Z-NMA |
| Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |

Electrical installation

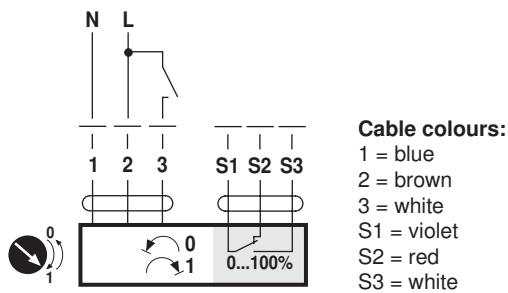


Notes

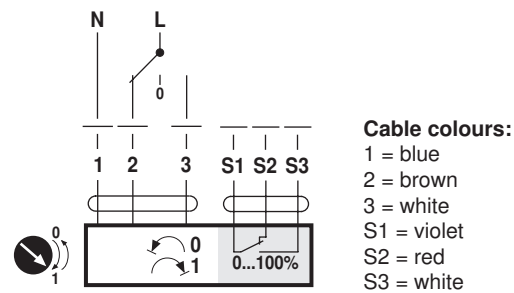
- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC 230 V, open-close

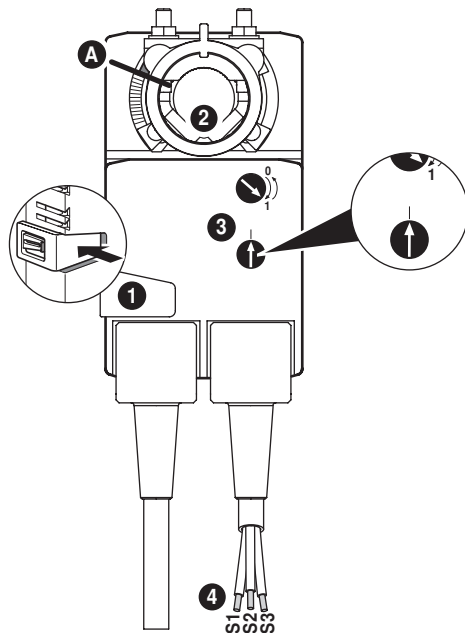


AC 230 V, 3-point



Operating controls and indicators

Auxiliary switch settings



Note

Perform settings on the actuator only in deenergised state.

1 Gear disengagement

Holding button pressed down: Gear is disengaged.
Manual override is possible.

2 Spindle clamp

Turn until edge line **A** displays the desired switching position of the actuator and release button **1**.

3 Auxiliary switch

Turn rotary knob until the arrow points to the vertical line.

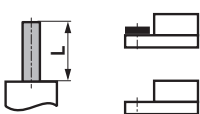
4 Cable

Connect continuity tester to S1 + S2 or to S1 + S3.






If the auxiliary switch should switch in the opposite direction, rotate the auxiliary switch by 180°.

Dimensions [mm]

Spindle length

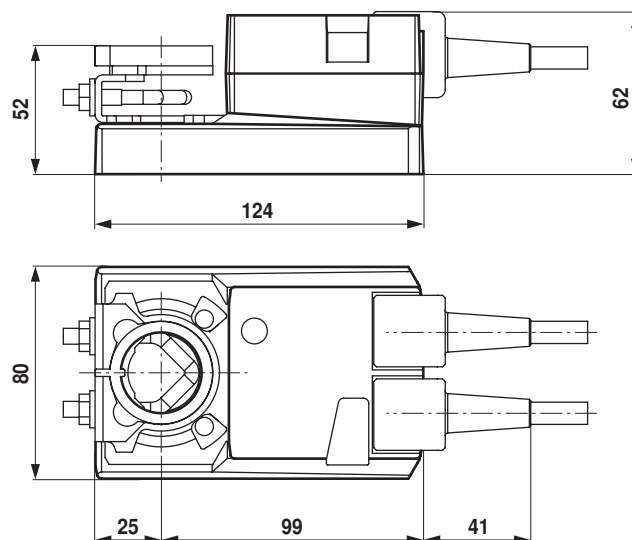
| | |
|--|---------|
|  | Min. 40 |
| | Min. 20 |

Clamping range

| |  |  |  |
|--|---|---|---|
|  | 8...26.7 | ≥8 | ≤26.7 |
|  | 8...20 | ≥8 | ≤20 |

*Option: Spindle clamp mounted below
(accessories K-NA needed)

Dimensional drawings



Modulating damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC 230 V
- Control Modulating DC (0)2...10 V
- Position feedback DC 2...10 V



Technical data

| | | |
|------------------------|------------------------------------|---|
| Electrical data | Nominal voltage | AC 230 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 85...264 V |
| | Power consumption in operation | 3.5 W |
| | Power consumption in rest position | 1 W |
| | Power consumption for wire sizing | 6.5 VA |
| | Connection supply | Cable 1 m, 2 x 0.75 mm ² |
| | Connection control | Cable 1 m, 4 x 0.75 mm ² |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Torque motor | Min. 10 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 |
| | Auxiliary supply | DC 24 V ±30%, max. 10 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| Safety | Protection class IEC/EN | II Protective insulated |
| | Protection class UL | II Protective insulated |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2, UL Enclosure Type 2 |
| | EMC | CE according to 2004/108/EC |
| | Low voltage directive | CE according to 2006/95/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 | 2.5 kV |
| | Rated impulse voltage control | 0.8 kV |
| | Control pollution degree | 3 |
| | Ambient temperature | -30...50 °C |
| Weight | Non-operating temperature | -40...80 °C |
| | Ambient humidity | 95% r.h., non-condensing |
| | Maintenance | Maintenance-free |
| | Weight approx. | 0.90 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.
- Caution: Power supply voltage!
- 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

| | |
|-------------------------------------|--|
| Mode of operation | 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. |
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |

Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Electrical accessories | 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 |

Accessories

| | Description | Type |
|------------------------|---|-------------|
| | 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 |
| Mechanical accessories | Description | Type |
| | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |
| | Universal mounting bracket 180 mm | Z-ARS180 |
| | Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| | Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| | Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| | Form fit insert 15x15 mm | ZF15-NSA |
| | Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| | Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| | Base plate extension from NM..A to NM.. | Z-NMA |
| | Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |

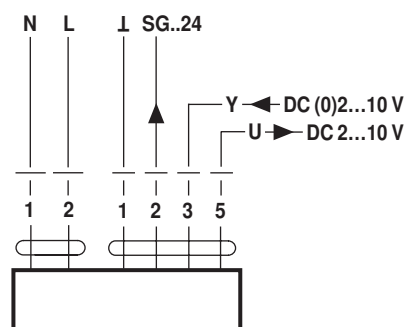
Electrical installation

Notes

- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

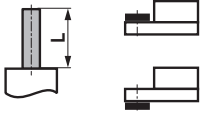
AC 230 V, modulating


Cable colours:






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

Dimensions [mm]

Spindle length

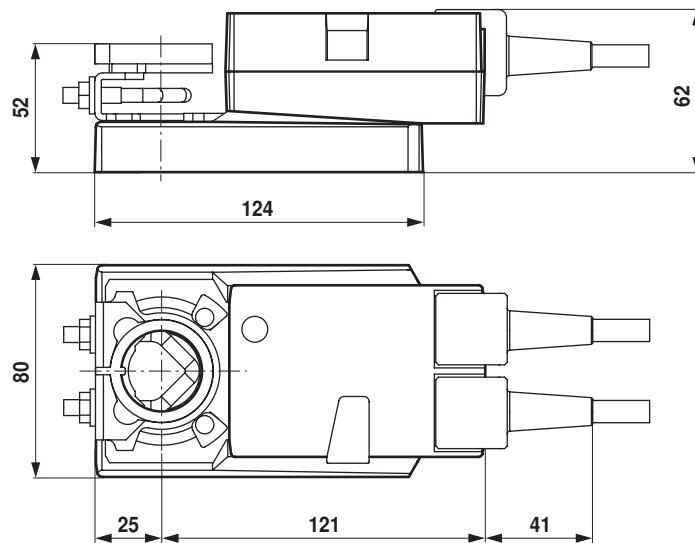
| | |
|--|---------|
|  | Min. 40 |
| | Min. 20 |

Clamping range

| |  |  |  |
|--|---|---|---|
|  | 8...26.7 | ≥8 | ≤26.7 |
|  | 8...20 | ≥8 | ≤20 |

*Option: Spindle clamp mounted below
(accessories K-NA needed)

Dimensional drawings



Modulating damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC 230 V
- Control Modulating DC (0)2...10 V
- Position feedback DC 2...10 V
- With connecting terminals



Technical data

| | | |
|------------------------|------------------------------------|---|
| Electrical data | Nominal voltage | AC 230 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 85...264 V |
| | Power consumption in operation | 3.5 W |
| | Power consumption in rest position | 1 W |
| | Power consumption for wire sizing | 6.5 VA |
| | Connection supply | Terminals 4 mm ² (cable Ø 4...10 mm, 2-wire) |
| | Connection control | Terminals 4 mm ² (cable Ø 4...10 mm, 4-wire) |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Torque motor | Min. 10 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 |
| | Auxiliary supply | DC 24 V ±30%, max. 10 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| Safety | Protection class IEC/EN | II Protective insulated |
| | Protection class UL | II Protective insulated |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2, UL Enclosure Type 2 |
| | EMC | CE according to 2004/108/EC |
| | Low voltage directive | CE according to 2006/95/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 | 2.5 kV |
| | Rated impulse voltage control | 0.8 kV |
| | Control pollution degree | 3 |
| | Ambient temperature | -30...50 °C |
| Weight | Non-operating temperature | -40...80 °C |
| | Ambient humidity | 95% r.h., non-condensing |
| | Maintenance | Maintenance-free |
| | Weight approx. | 0.78 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.
- Caution: Power supply voltage!
- 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.
- 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 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. |
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |

Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Electrical accessories | 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 |
| Mechanical accessories | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |
| | Universal mounting bracket 180 mm | Z-ARS180 |
| | Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| | Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| | Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| | Form fit insert 15x15 mm | ZF15-NSA |
| | Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| | Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| | Base plate extension from NM..A to NM.. | Z-NMA |
| | Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |
| | Terminal protection IP54 | Z-TP |
| | Cable sleeve for Ø 4-6 mm, suitable for strain relief NG | 43235-00001 |
| | Strain relief bushing (cable sleeve) for Ø 6-8 mm, suitable for strain relief NG | 43235-00002 |
| | Cable sleeve for Ø 8-10 mm, suitable for strain relief NG | 43235-00003 |

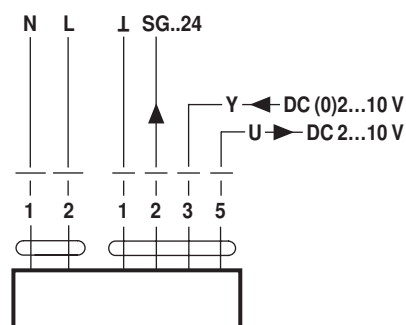
Electrical installation

Notes

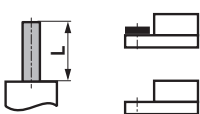
- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams






AC 230 V, modulating



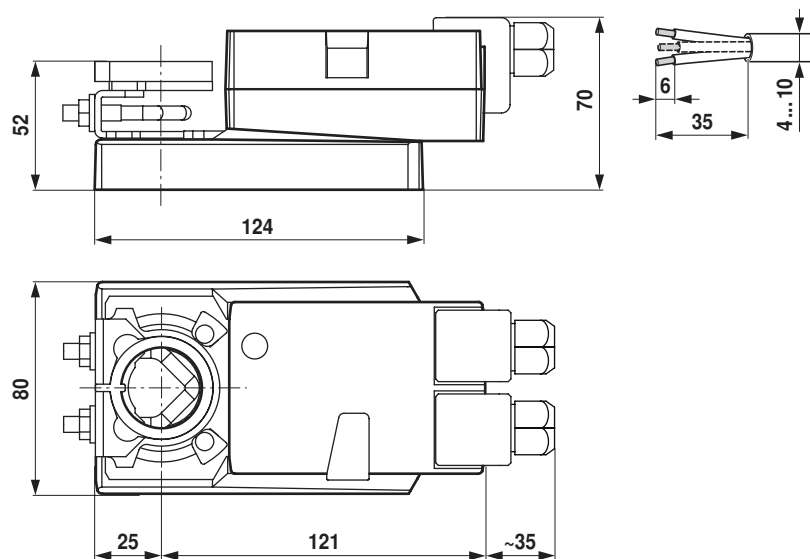
Dimensions [mm]
Spindle length

| | |
|--|---------|
|  | Min. 40 |
| | Min. 20 |

Clamping range

| |  |  |  |
|--|---|---|---|
|  | 8...26.7 | ≥ 8 | ≤ 26.7 |
|  | 8...20 | ≥ 8 | ≤ 20 |

*Option: Spindle clamp mounted below
(accessories K-NA needed)

Dimensional drawings


Damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC 230 V
- Control Open-close, 3-point
- With connecting terminals
- With integrated auxiliary switch



Technical data

| | | |
|------------------------|--|---|
| Electrical data | Nominal voltage | AC 230 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 85...264 V |
| | Power consumption in operation | 2.5 W |
| | Power consumption in rest position | 0.6 W |
| | Power consumption for wire sizing | 5.5 VA |
| | Auxiliary switch | 1 x SPDT, 0...100% |
| | Switching capacity auxiliary switch | 1 mA...3 (0.5 inductive) A, AC 250 V |
| | Connection supply / control | Terminals 4 mm ² (cable Ø 4...10 mm, 3-wire) |
| | Connection auxiliary switch | Terminals 4 mm ² (cable Ø 4...10 mm, 3-wire) |
| Functional data | Parallel operation | Yes (note the performance data) |
| | Torque motor | Min. 10 Nm |
| | Direction of motion motor | Selectable with switch 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| Safety | Protection class IEC/EN | II Protective insulated |
| | Protection class UL | II Protective insulated |
| | Protection class auxiliary switch IEC/EN | II Protective insulated |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2, UL Enclosure Type 2 |
| | EMC | CE according to 2004/108/EC |
| | Low voltage directive | CE according to 2006/95/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.B |
| Weight | Rated impulse voltage supply / control | 2.5 kV |
| | Rated impulse voltage auxiliary switch | 2.5 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 |
| | Weight approx. | 0.76 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.

Safety notes

- 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.
- Caution: Power supply voltage!
- 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.
- 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

| | |
|-------------------------------------|--|
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |
| Flexible signalization | With adjustable auxiliary switch (0 ... 100%) |

Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Electrical accessories | 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 |
| | Description | Type |
| Mechanical accessories | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |

Accessories

| Description | Type |
|--|-------------|
| Universal mounting bracket 180 mm | Z-ARS180 |
| Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| Form fit insert 15x15 mm | ZF15-NSA |
| Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |
| Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| Base plate extension from NM..A to NM.. | Z-NMA |
| Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |
| Terminal protection IP54 | Z-TP |
| Cable sleeve for Ø 4-6 mm, suitable for strain relief NG | 43235-00001 |
| Strain relief bushing (cable sleeve) for Ø 6-8 mm, suitable for strain relief NG | 43235-00002 |
| Cable sleeve for Ø 8-10 mm, suitable for strain relief NG | 43235-00003 |

Electrical installation

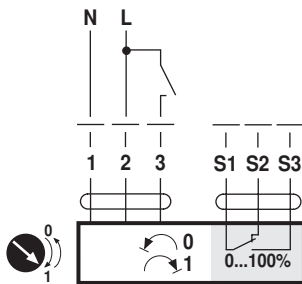


Notes

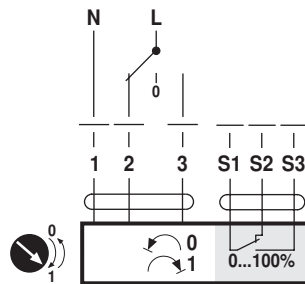
- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC 230 V, open-close

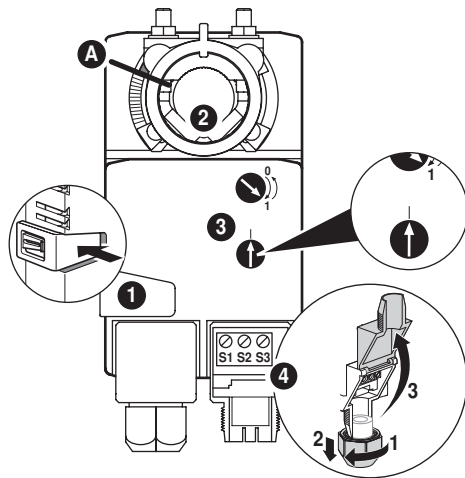


AC 230 V, 3-point



Operating controls and indicators

Auxiliary switch settings



Note

Perform settings on the actuator only in deenergised state.

1 Gear disengagement

Holding button pressed down: Gear is disengaged.
Manual override is possible.

2 Spindle clamp

Turn until edge line **A** displays the desired switching position of the actuator and release button **1**.

3 Auxiliary switch

Turn rotary knob until the arrow points to the vertical line.

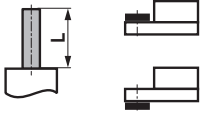
4 Terminal connection

Connect continuity tester to S1 + S2 or to S1 + S3.






If the auxiliary switch should switch in the opposite direction, rotate the auxiliary switch by 180°.

Dimensions [mm]

Spindle length

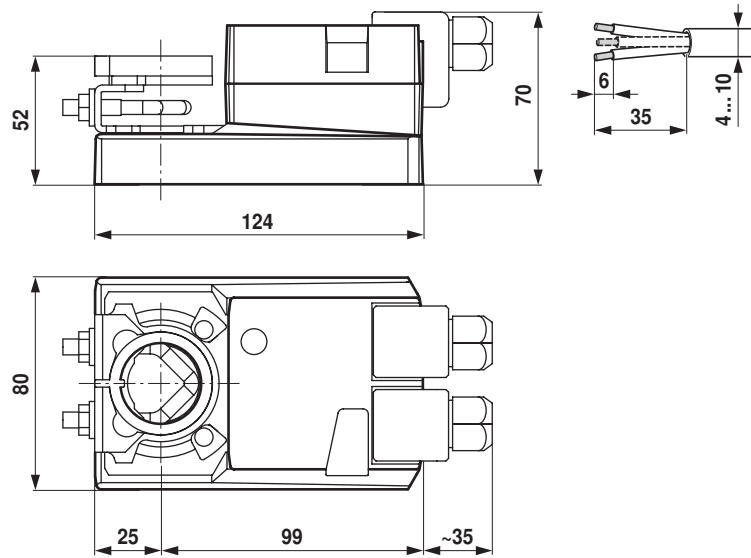
| | |
|--|---------|
|  | Min. 40 |
| | Min. 20 |

Clamping range

| |  |  |  |
|--|---|---|---|
|  | 8...26.7 | ≥8 | ≤26.7 |
|  | 8...20 | ≥8 | ≤20 |

*Option: Spindle clamp mounted below
(accessories K-NA needed)

Dimensional drawings



Damper actuator for adjusting dampers in technical building installations

- Air damper size up to approx. 2 m²
- Nominal torque 10 Nm
- Nominal voltage AC 230 V
- Control Open-close, 3-point
- With connecting terminals



Technical data

| | | |
|------------------------|--|---|
| Electrical data | Nominal voltage | AC 230 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 85...264 V |
| | Power consumption in operation | 2.5 W |
| | Power consumption in rest position | 0.6 W |
| | Power consumption for wire sizing | 5.5 VA |
| | Connection supply / control | Terminals 4 mm ² (cable Ø 4...10 mm, 3-wire) |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Torque motor | Min. 10 Nm |
| | Direction of motion motor | Selectable with switch 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 | Universal spindle clamp 8...26.7 mm |
| | Position indication | Mechanically, pluggable |
| | | |
| Safety | Protection class IEC/EN | II Protective insulated |
| | Protection class UL | II Protective insulated |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2, UL Enclosure Type 2 |
| | EMC | CE according to 2004/108/EC |
| | Low voltage directive | CE according to 2006/95/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 | 2.5 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 |
| Weight | Weight approx. | 0.74 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.
- Caution: Power supply voltage!

Safety notes

- 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.
- 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

| | |
|-------------------------------------|--|
| Simple direct mounting | Simple direct mounting on the damper spindle with an universal spindle clamp, supplied with an anti-rotation device to prevent the actuator from rotating. |
| Manual override | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked). |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |

Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Electrical accessories | 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 |
| | Description | Type |
| Mechanical accessories | Actuator arm, for standard spindle clamp (reversible) K-SA | AH-20 |
| | Actuator arm, for one-sided spindle clamp K-ENSA | AH-25 |
| | Shaft extension 250 mm, for damper spindles Ø 8...25 mm | AV8-25 |
| | Spindle clamp, one side for NM..A | K-ENMA |
| | Spindle clamp, one side for NM..A, SM..A | K-ENSA |
| | 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 |
| | Spindle clamp, reversible for NM..A and LMQ.. | K-NA |
| | Angle of rotation limiter, for K-NA | 20334-00001 |
| | Universal mounting bracket 180 mm | Z-ARS180 |
| | Form fit insert 8x8 mm, for NM..A | ZF8-NMA |
| | Form fit insert 10x10 mm, for NM..A / SM..A | ZF10-NSA |
| | Form fit insert 12x12 mm, for NM..A / SM..A | ZF12-NSA |
| | Form fit insert 15x15 mm | ZF15-NSA |
| | Form fit insert 16x16 mm, for NM..A / SM..A | ZF16-NSA |

Accessories

| Description | Type |
|--|-------------|
| Mounting kit for linkage operation, NM..A for flat installation | ZG-NMA |
| Base plate extension from NM..A to NM.. | Z-NMA |
| Position indication for LM..A, NM..A, SM..A, GM..A | Z-PI |
| Terminal protection IP54 | Z-TP |
| Cable sleeve for Ø 4-6 mm, suitable for strain relief NG | 43235-00001 |
| Strain relief bushing (cable sleeve) for Ø 6-8 mm, suitable for strain relief NG | 43235-00002 |
| Cable sleeve for Ø 8-10 mm, suitable for strain relief NG | 43235-00003 |

Electrical installation

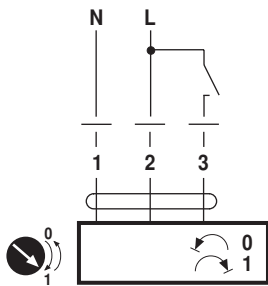


Notes

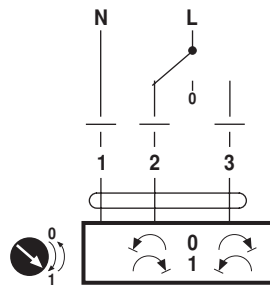
- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC 230 V, open-close



AC 230 V, 3-point



Dimensions [mm]

Spindle length

| | |
|--|---------|
| | Min. 40 |
| | Min. 20 |

Clamping range

| | 8...26.7 | ≥8 | ≤26.7 |
|--|----------|----|-------|
| | 8...20 | ≥8 | ≤20 |

*Option: Spindle clamp mounted below (accessories K-NA needed)

Dimensional drawings

