

Attachments

Modulating actuators



For infinite adjustment and for the opening and closing of dampers in air conditioning systems

Modulating actuators for Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL multi-leaf dampers

- Various damper blade positions
- Supply voltage 24 V AC/DC
- Control input signal: Signal voltage 2 – 10 V for modulating actuators
- Position feedback 2 – 10 V DC, 1 mA
- Mechanical stops
- Retrofit possible



Spring return actuator



Multileaf damper with actuator

| Type | | Page |
|----------------------|---------------------|---------|
| Modulating actuators | General information | MOD – 2 |
| | Function | MOD – 3 |
| | Variants | MOD – 4 |
| | Standard | MOD – 5 |
| | Spring return | MOD – 7 |

Application

Application

- Actuators for variable adjustment
 - Variable adjustment of Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL multileaf dampers
-

Description

Parts and characteristics

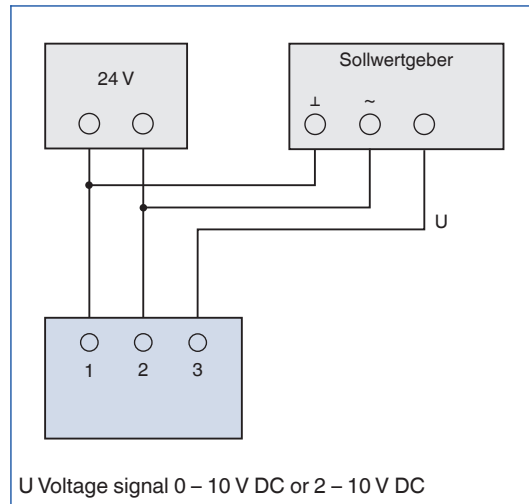
- Mechanical stops for limiting the damper blade positions
- Supply voltage 24 V AC/DC
- Overload protection
- Setpoint value signal 2 – 10 V DC
- Position feedback 2 – 10 V DC, 1 mA
- Optional spring return actuator for damper blade safety function
- Release button or crank handle for manual operation

Functional description

The actuator moves the blades of a multileaf damper to any position between the OPEN and CLOSED positions.

The control input signal is a voltage signal.

**Variable control
initiated by a voltage signal**



Any attachments are to be defined with the order code of the multileaf damper.

Actuators for the variable adjustment of multileaf dampers (modulating actuators)

| Order code detail | Actuator | | Torque | Supply voltage |
|-------------------|-------------|------------|--------|----------------|
| | Part number | Type | | |
| Z20 | M466DF2 | SM24A-SR | 20 Nm | 24 V |
| Z21 | M466DG2 | GM24A-SR | 40 Nm | 24 V |
| Z50 | M466DT6 | LM24A-SR-F | 5 Nm | 24 V |
| Z51 | M466EN0 | NM24A-SR | 10 Nm | 24 V |

Spring return actuators for the variable adjustment of multileaf dampers (modulating actuators)

| Order code detail | Actuator | | Torque | Supply voltage |
|-------------------|-------------|----------|--------|----------------|
| | Part number | Type | | |
| ZF05 | M466ET4 | NF24A-SR | 10 Nm | 24 V |
| ZF10 | M466ES0 | SF24A-SR | 20 Nm | 24 V |
| ZF15 | M466ET9 | EF24A-SR | 30 Nm | 24 V |

Application

- Actuators for variable adjustment
- Variable adjustment of Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL multileaf dampers

Variants

- Z20: Actuator SM24A-SR
- Z21: Actuator GM24A-SR
- Z50: Actuator LM24A-SR-F
- Z51: Actuator NM24A-SR

Parts and characteristics

- Mechanical stops for limiting the damper blade positions
- Supply voltage 24 V AC/DC
- Overload protection
- Setpoint value signal 2 – 10 V DC
- Position feedback 2 – 10 V DC, 1 mA
- Release button to allow for manual operation



Actuator SM24A-SR

Actuator SM24A-SR

| | |
|-----------------------|--------------------------------------|
| Supply voltage (AC) | 24 V AC – 10 %, + 20 %, 50/60 Hz |
| Supply voltage (DC) | 24 V DC ± 20 % |
| Power rating (AC) | 4 VA max. |
| Power rating (DC) | 2 W max. |
| Torque | 20 Nm |
| Running time for 90° | 150 s |
| Position feedback | 2 – 10 V DC, 1 mA |
| Control signal | 2 – 10 V DC, R _a > 100 kΩ |
| Connecting cable | 4 × 0.75 mm ² , 1 m long |
| IEC protection class | III (protective extra-low voltage) |
| Protection level | IP 54 |
| EC conformity | EMC to 2014/30/EU, RoHS 2011/65/EU |
| Operating temperature | -30 to 50 °C |
| Weight | 1.1 kg |



Actuator GM24A-SR

Actuator GM24A-SR

| | |
|-----------------------|--------------------------------------|
| Supply voltage (AC) | 24 V AC ± 20 %, 50/60 Hz |
| Supply voltage (DC) | 24 V DC ± 20 % |
| Power rating (AC) | 6.5 VA max. |
| Power rating (DC) | 4.5 W max. |
| Torque | 40 Nm |
| Running time for 90° | 150 s |
| Position feedback | 2 – 10 V DC, 1 mA |
| Control signal | 2 – 10 V DC, R _a > 100 kΩ |
| Connecting cable | 4 × 0.75 mm ² , 1 m long |
| IEC protection class | III (protective extra-low voltage) |
| Protection level | IP 54 |
| EC conformity | EMC to 2014/30/EU, RoHS 2011/65/EU |
| Operating temperature | -30 to 50 °C |
| Weight | 1.7 kg |



Actuator LM24A-SR-F

Actuators LM24A-SR and LM24A-SR-F

| | |
|----------------------------------|--------------------------------------|
| Supply voltage (AC) | 24 V AC ± 20 %, 50/60 Hz |
| Supply voltage (DC) | 24 V DC ± 20 % |
| Power consumption – when running | 1 W |
| Power consumption – when idle | 0.4 W |
| Power rating for cable sizing | 2 VA |
| Torque | 5 Nm |
| Running time for 90° | 150 s |
| Position feedback | 2 – 10 V DC, 1 mA |
| Control signal | 2 – 10 V DC, R _a > 100 kΩ |
| Connecting cable | 4 × 0.75 mm ² , 1 m long |
| IEC protection class | III (protective extra-low voltage) |
| Protection level | IP 54 |
| EC conformity | EMC to 2014/30/EU, RoHS 2011/65/EU |
| Operating temperature | –30 to 50 °C |
| Weight | 0.5 kg |

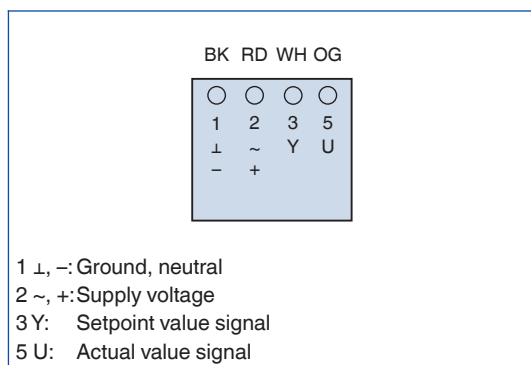


Actuator NM24A-SR

Actuator NM24A-SR

| | |
|-----------------------|--------------------------------------|
| Supply voltage (AC) | 24 V AC ± 20 %, 50/60 Hz |
| Supply voltage (DC) | 24 V DC ± 20 % |
| Power rating (AC) | 4 VA max. |
| Power rating (DC) | 2 W max. |
| Torque | 10 Nm |
| Running time for 90° | 150 s |
| Position feedback | 2 – 10 V DC, 1 mA |
| Control signal | 2 – 10 V DC, R _a > 100 kΩ |
| Connecting cable | 4 × 0.75 mm ² , 1 m long |
| IEC protection class | III (protective extra-low voltage) |
| Protection level | IP 54 |
| EC conformity | EMC to 2014/30/EU, RoHS 2011/65/EU |
| Operating temperature | –30 to 50 °C |
| Weight | 0.8 kg |

**Modulating actuators,
Connecting cable core identification**



LM24A-SR, NM24A-SR, SM24A-SR, GM24A-SR

Application

- Spring return actuators for the variable adjustment
- Variable adjustment of Type JZ, JZ-AL, JZ-LL, JZ-LL-AL, JZ-HL, JZ-HL-AL multileaf dampers

Variants

- ZF05: Spring return actuator NF24A-SR
- ZF10: Spring return actuator SF24A-SR
- ZF15: Spring return actuator EF24A-SR

Safety function

- NO: Power off to OPEN
- Power off to CLOSE

Parts and characteristics

- Mechanical stops for limiting the damper blade positions
- Supply voltage 24 V AC/DC
- Overload protection
- Setpoint value signal 2 – 10 V DC
- Crank handle for manual operation



Actuator NF24A-SR

Spring return actuator NF24A-SR

| | |
|-------------------------------|--------------------------------------|
| Supply voltage (AC) | 24 V AC –10 %, + 20 %, 50/60 Hz |
| Supply voltage (DC) | 24 V DC ± 20 % |
| Power rating (AC) | 5.5 VA max. |
| Power rating (DC) | 3.5 W max. |
| Torque | 10 Nm |
| Actuator running time for 90° | 150 s |
| Spring return | 20 s (for < –20 °C up to 60 s) |
| Position feedback | 2 – 10 V DC, 1 mA |
| Control signal | 2 – 10 V DC, R _a > 100 kΩ |
| Connecting cable | 4 × 0.75 mm ² , 1 m long |
| IEC protection class | III (protective extra-low voltage) |
| Protection level | IP 54 |
| EC conformity | EMC to 2014/30/EU, RoHS 2011/65/EU |
| Operating temperature | –30 to 50 °C |
| Weight | 1.8 kg |



Actuator SF24A-SR

Spring return actuator SF24A-SR

| | |
|-------------------------------|--------------------------------------|
| Supply voltage (AC) | 24 V AC –10 %, + 20 %, 50/60 Hz |
| Supply voltage (DC) | 24 V DC ± 20 % |
| Power rating (AC) | 7 VA max. |
| Power rating (DC) | 5 W max. |
| Torque | 20 Nm |
| Actuator running time for 90° | 150 s |
| Spring return | 20 s (for < –20 °C up to 60 s) |
| Position feedback | 2 – 10 V DC, 1 mA |
| Control signal | 2 – 10 V DC, R _a > 100 kΩ |
| Connecting cable | 4 × 0.75 mm ² , 1 m long |
| IEC protection class | III (protective extra-low voltage) |
| Protection level | IP 54 |
| EC conformity | EMC to 2014/30/EU, RoHS 2011/65/EU |
| Operating temperature | –30 to 50 °C |
| Weight | 2.1 kg |

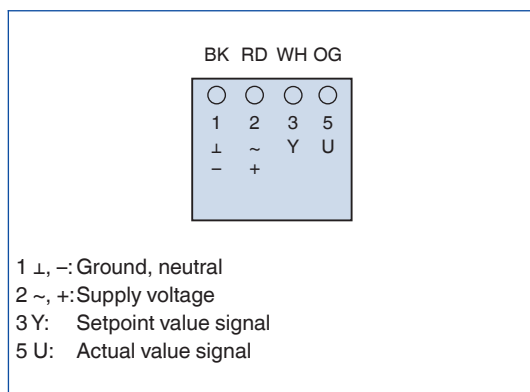


Actuator EF24A-SR

Spring return actuator EF24A-SR

| | |
|-------------------------------|--------------------------------------|
| Supply voltage (AC) | 24 V AC -10 %, + 20 %, 50/60 Hz |
| Supply voltage (DC) | 24 V DC ± 20 % |
| Power rating (AC) | 12 VA max. |
| Power rating (DC) | 7 W max. |
| Torque | 30 Nm |
| Actuator running time for 90° | 150 s |
| Spring return | 20 s (for < -20 °C up to 60 s) |
| Position feedback | 2 – 10 V DC, 1 mA |
| Control signal | 2 – 10 V DC, R _a > 100 kΩ |
| Connecting cable | 4 × 0.75 mm ² , 1 m long |
| IEC protection class | III (protective extra-low voltage) |
| Protection level | IP 54 |
| EC conformity | EMC to 2014/30/EU, RoHS 2011/65/EU |
| Operating temperature | -30 to 50 °C |
| Weight | 4.3 kg |

**Modulating spring return actuators,
Connecting cable core identification**



NF24A-SR, SF24A-SR, EF24A-SR