

Damper actuator with emergency electronic return - 6/10 Nm - Modulating control

MDS506R(M) MDS510R(M)



| MODEL | CONTROL SIGNAL | POWER SUPPLY | MICRO AUX | TORQUE [Nm] | IP |
|----------|-----------------------------|-------------------|-----------|-------------|----|
| MDS506R | 0 ... 10 Vdc 0 ... 20 mA | 24 Vac/dc ±10% | No | 6 | 54 |
| MDS506RM | | | 1 x SPDT | | |
| MDS510R | 0 ... 10 Vdc 0 ... 20 mA | 24 Vac/dc ±10% | No | 10 | |
| MDS510RM | | | 1 x SPDT | | |



APPLICATION AND USE

MDS506R(M) and MDS510R(M) rotary actuator with electronic return function are designed for the direct operation of dampers up to 1,5 m² (6 Nm) and up to 2 m² (10 Nm).

All models are equipped with an electronic return function in case of power supply loss and are used in applications where it is necessary to ensure a fixed position of the damper in emergency and/or power-off conditions.

TECHNICAL CHARACTERISTICS

| DESCRIPTION | MDS506R(M) | MDS510R(M) |
|---------------------------------------|---|------------------|
| Torque: | 6 Nm | 10 Nm |
| Max damper size: | 1,5 m ² | 2 m ² |
| Shaft: | Ø 10 to 20 mm / □ 5 to 14 mm | |
| Minimum shaft length: | 45 mm | |
| Power supply: | 24 Vac/dc ± 10% | |
| Frequency: | 50 ... 60 Hz | |
| Control signal: | 0 ... 10 Vdc (yellow wire), 0 ... 20 mA (orange wire) | |
| Input impedance: | 0 ... 10 Vdc 100 KΩ, 0 ... 20 mA 500 Ω | |
| Operating power consumption: | 7,2 W | |
| End position power consumption: | 1,2 W | |
| Power consumption for wire sizing: | 10 VA | |
| Auxiliary switch rating: | 3 (1,5) A 250 Vac | |
| Electrical connection: | Cable 1000 mm (supplied) | |
| Maximum connection length: | 12 m | |
| Max. number of actuators in parallel: | 5 | |
| Running time: | 60 ... 80 sec | |
| Running time in emergency return: | 40 sec | |
| Protection class: | III | |
| Angle of rotation: | 0° ... 90° (95° mechanical) | |
| Weight: | 1,8 kg | |
| Life cycle actuator: | 60000 rotation | |
| Motor sound level: | < 45 dB (A) | |
| IP protection: | IP54 | |

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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.

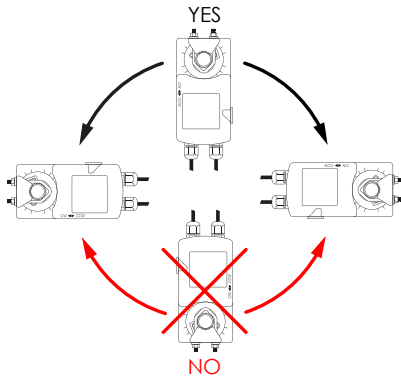


| DESCRIPTION | MDS506R(M) | MDS510R(M) |
|----------------------------|---|------------|
| Operating temperature: | -20° ... +50° C / IEC 721-3-3 | |
| Non-operating temperature: | -30° ... +60° C / IEC 721-3-2 | |
| Ambient humidity: | 5% ... 95% rH non condensing | |
| Maintenance: | Maintenance free | |
| Mode of operation: | Type I / EN 60730-1 | |
| Compliance: | EMC: EN 55015:2013+A1:2015; EN 61547: 2009; EN 61000-3-2:2014; EN 61000-3-3:2013. LVD (only for 230 Vac power supply models): EN 60730-2-14:2019, EN 60730-1:2016+A2:2019. | |

INSTALLATION AND MOUNTING

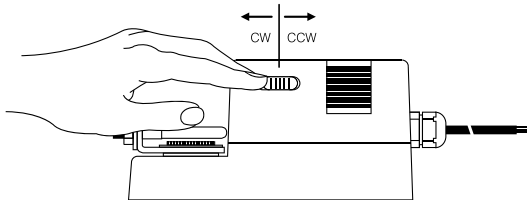
The actuator is fitted directly to the damper and the calmp tightened securely to the damper shaft. A universal anti-rotation bar is supplied with each actuator and must be fitted to prevent rotation during operation.

Mounting position



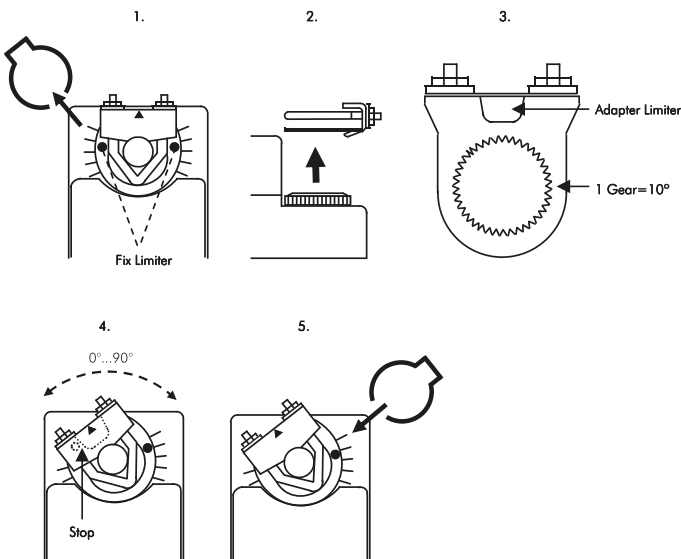
Changing direction of rotation

Default factory setting: CW.
Direction of rotation can be changed by toggling between CW/CCW switch on the actuator's housing.



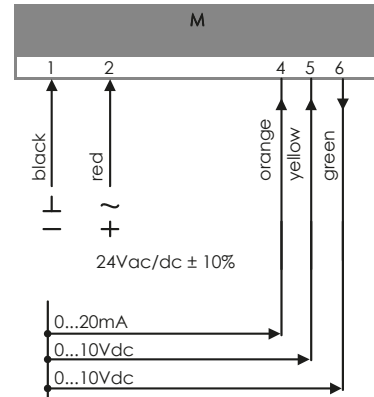
Mechanical limiting angle of rotation

The rotation of the actuator can be mechanically limited by adjusting as follow:

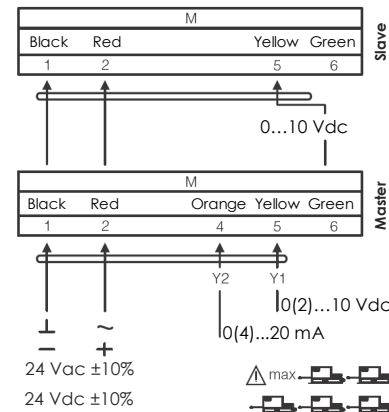


WIRING CONNECTION

Connection for 24 Vac/dc models



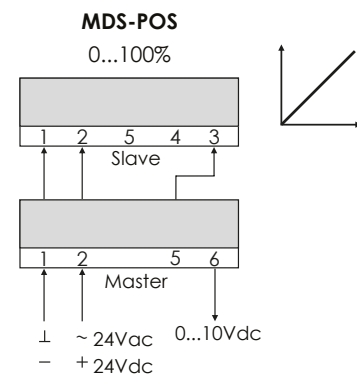
Parallel connection



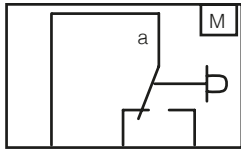
Parallel connection of maximum five MDS actuators is possible. The power consumption must be observed.

During parallel operation, the output signal (terminal 6, 0...10Vdc) of the master actuator must be connected to terminal 5 of the slave actuator.

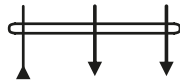
MDS-POS connection



Auxiliary switch connection

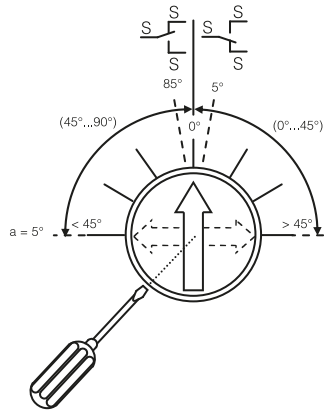


Orange Yellow Green
S1 S2 S3



3 (1.5) A, 250 Vac
Actuator at 0° position

Switch **a** factory-set at 5°.
The auxiliary switch can be opti-
mally adjusted between 0°...90°.



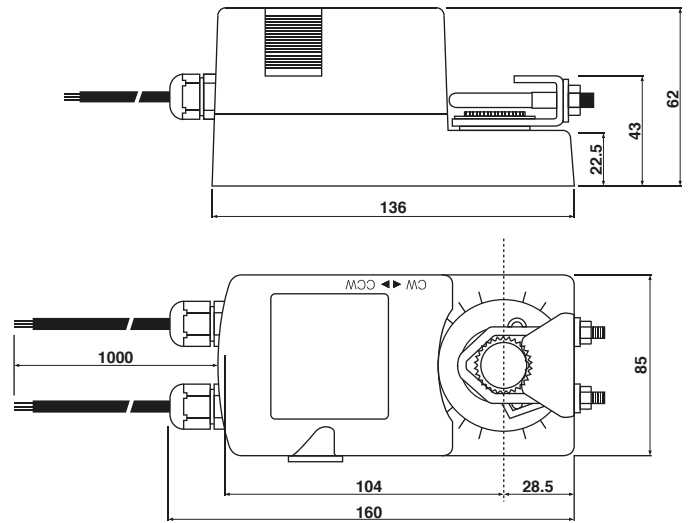
SAFETY NOTES

24 Vac/dc: connect via safety isolating transformer.

ACCESSORIES

MDS-POS Position transmitter liquid crystal display

DIMENSIONS [mm]



LEDS FUNCTIONALITY

| WORKING MODE | LEDs STATUS | | | DESCRIPTION |
|------------------------|-------------|------------|------------|-------------------------------------|
| | RED | ORANGE | GREEN | |
| SUPERCAPS PHASE CHARGE | ON | OFF | OFF | SUPERCAPS IN CHARGING |
| | ON | ON | OFF | SUPERCAPS ALMOST CHARGED |
| | ON | ON | ON | SUPERCAPS CHARGED |
| WORKING MODE | ON | 1 BLINKING | 2 BLINKING | CLOCKWISE DIRECTION MOVEMENT |
| | ON | OFF | 3 BLINKING | COUNTERCLOCKWISE DIRECTION MOVEMENT |
| EMERGENCY RETURN MODE | OFF | OFF | ON | CHARGE SUPERCAPS > 99% |
| | OFF | ON | OFF | CHARGE SUPERCAPS > 66% |
| | ON | OFF | OFF | CHARGE SUPERCAPS > 33% |

The performances stated in this sheet can be modified without any prior notice