



ACTUATOR NM24A-SR

## MODULATING ACTUATORS

### FOR MODULATING OPERATION AND FOR SWITCHING BETWEEN THE HEATING AND COOLING MODES OF ADJUSTABLE AIR TERMINAL DEVICES

Modulating actuators for air terminal devices Types VD, VDL, VDR, QSH, ISH, TJN and DUK

- Modulating operation and change of the discharge direction for two different operating situations
- Supply voltage 24 V AC/DC
- Control input signal: Control signal voltage, modulating, 0 (2) – 10 V

## Application ^

### Application

- Actuators for variable adjustment
- Modulating operation of adjustable air terminal devices
- Adjustment of the air discharge direction

## Description v

### Parts and characteristics

- Mechanical stops for setting the discharge angle
- Supply voltage 24 V AC/DC
- Rotary and linear actuators with overload protection
- Setpoint value signal 2 – 10 V DC
- Release button to allow for manual operation

### Useful additions

- TDC temperature difference control module

## TECHNICAL INFORMATION

**Functional description**

The actuator moves the blades or other air control elements of an air terminal device to any position between the HEATING and and COOLING positions.

The control input signal is a voltage signal.

**Effect of actuator action in case of factory setting**

Diffuser Type	Direction of action	
	1	2
VD	Cooling	Heating
VDL	Cooling	Heating
VDR	Cooling	Heating
TJN	Cooling	Heating
DUK 160 – 200	Heating	Cooling
DUK 250 – 400	Cooling	Heating

**Actuator NM24A-SR**

Supply voltage (AC)	24 V AC $\pm$ 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC $\pm$ 20 %
Power rating (AC)	4 VA max.
Power rating (DC)	2 W max.
Torque	10 Nm
Running time for 90°	150 s
Control signal	2 – 10 V DC, $R_a > 100 \text{ k}\Omega$
Connecting cable	4 $\times$ 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 54
EC conformity	EMC to 2014/30/EU, RoHS to 2011/65/EU
Operating temperature	–30 to 50 °C
Weight	0.8 kg

**Actuator 223F-24-150-001**

Supply voltage (AC)	24 V AC $\pm$ 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC $\pm$ 20 %
Power rating (AC)	8.5 VA
Power rating (DC)	5 W
Lifting force and thrust	150 N
Running time	28 mm/min
Control signal	0 – 10 V DC, $R_a > 100 \text{ k}\Omega$
Connecting cable	3 $\times$ 0.75 mm <sup>2</sup> , 1.8 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 30
EC conformity	EMC according to 2014/30/EU
Operating temperature	–20 to 60 °C
Weight	0.650 kg

#### Actuator CM24-SX-F

Supply voltage (AC)	24 V AC $\pm$ 20 %, 50/60 Hz
Supply voltage (DC)	24 V DC $\pm$ 20 %
Power rating (AC)	1.5 VA max.
Power rating (DC)	1 W max.
Torque	2 Nm
Running time for 90°	75 s
Control signal	2 – 10 V DC, $R_a > 100 \text{ k}\Omega$
Connecting cable	4 $\times$ 0.75 mm <sup>2</sup> , 1 m long
IEC protection class	III (protective extra-low voltage)
Protection level	IP 20
EC conformity	EMC according to 2014/30/EU
Operating temperature	–30 to 50 °C
Weight	0.200 kg

## Variants



Any attachments are to be defined with the order code of the air terminal device.

### E3

#### Application

- Actuator Type NM24A-SR for changing the discharge direction of air terminal devices Types VD, VDR, VDL and DUK

#### Parts and characteristics

- Supply voltage 24 V AC/DC
- Control input signal: Setpoint value signal 2 – 10 V DC, corresponds to the total rotation range (90°), working range is limited by mechanical stops
- Output: Actual value signal 2 – 10 V
- Mechanical stops for setting the discharge angle
- Direction of action can be reversed
- Positive lock connection with damper blade shaft
- Release button to allow for manual operation

### E6

#### Application

- Actuator Type 223F-024-150-001
- For modulating operation and for switching between the heating and cooling modes of air terminal devices, suitable for Types QSH, ISH and DUK
- Linear actuator for concealed installation inside air terminal devices; preferred solution for air terminal devices installed exposed

#### Parts and characteristics

- Supply voltage 24 V AC/DC
- Control input signal: Setpoint value signal 0 – 10 V
- Mechanical stops for setting the discharge angle
- Direction of action can be reversed

### E9

#### Application

- Actuator Type CM24-SX-F for changing the discharge direction of air terminal devices Type TJN

#### Parts and characteristics

- Supply voltage 24 V AC/DC
- Control input signal: Setpoint value signal 0 – 10 V
- Mechanical stops for setting the discharge angle
- Positive lock connection with the nozzle shaft
- Gear release magnet

#### Actuators for air terminal devices

Order code detail	Actuator		Supply voltage	Diffuser Type
	Part number	Type	Supply voltage	Diffuser Type
E3	M466EN0	NM24A-SR	24 V AC/DC	VD, VDL, VDR, DUK
E6	M466CF2	223F-024-150-001	24 V AC/DC	QSH, ISH, DUK
E9	A00000030324	CM24-SX-F	24 V AC/DC	TJN

#### Actuator NM24A-SR



Actuator 223F-024-150-001



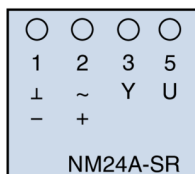
Actuator CM24-SX-F



## Electrical connection

NM24A-SR, connecting cable core identification

BK RD WH OG



- 1 ⊥, -: Ground, neutral
- 2 ~, +: Supply voltage
- 3 Y: Setpoint value signal
- 5 U: Actual value signal

## TROX GmbH

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