



## MT4/MT8

### Small linear thermoelectric Actuators

#### APPLICATION

Small linear thermoelectric actuators are used in room and zone applications for time-controlled two-point and pulse-width modulated (PWM) regulation of heating and cooling systems such as fan coil units, radiators, floor heating systems, chilled ceilings, manifolds and convectors.

- Fit on standard M30 x 1.5 heating/cooling valves, thermostatic radiator valves, and valve inserts for manifolds and compact radiators
- Fit to standard closing dimensions (11.5 mm ± 0.3 mm)
- Special valve adapters on request
- Variants available for closing dimensions 11.5 mm (± 0.3 mm) or 11.0 (+- 0.3 mm)

#### APPROVALS

- CE
- UKCA

#### SPECIAL FEATURES

- No mounting tools required (easily mounted using valve adapter)
- Water-protected housing design in all mounting positions
- Pluggable cable for easy installation and servicing
- Auxiliary switch models for driving pumps or fans
- Normally-open and normally-closed models
- Compact design allows installation in limited space
- Visual indicator showing valve position and type of action (NO or NC) and indicating closing dimension:
  - closing dimension 11.5: red coloured
  - closing dimension 11.0: blue colored
- Noiseless operation
- Reliable long-term operation
- Overload protection (4 kV) for 230 V models



#### TECHNICAL DATA

Operating temperatures	
Max. medium temperature:	120 °C
Specifications	
Stroke:	MT4: 4 mm MT8: 8 mm
Open/End position:	MT4: 15.0 mm MT4...HCC/HCD: 14.5 mm MT8: 19.0 mm
Closing position:	MT4: 11.0 mm MT4...HCC/HCD: 10.5 mm MT8: 11.0 mm
Power supply:	MTx-024: 24 V AC/DC ± 20 % MTx-230: 230 V AC +10 % ... -15 %
Stem force:	90 N
Open/closing time:	dependent on ambient temperature
Protection standard:	IP44 in all mounting positions
Cable length:	1 m, other cable lengths available as accessories
Cable wires:	MTx-xxx: 2 x 0.5 mm <sup>2</sup> MTx-xxxS: 4 x 0.35 mm <sup>2</sup>
Max. permissible auxiliary switch current:	MTx-xxxS: 5 (3) A

## METHOD OF OPERATION

When the operating current is applied, a PTC resistor heats up a wax element. After a delay, this wax element expands, causing stroke movement.

## TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

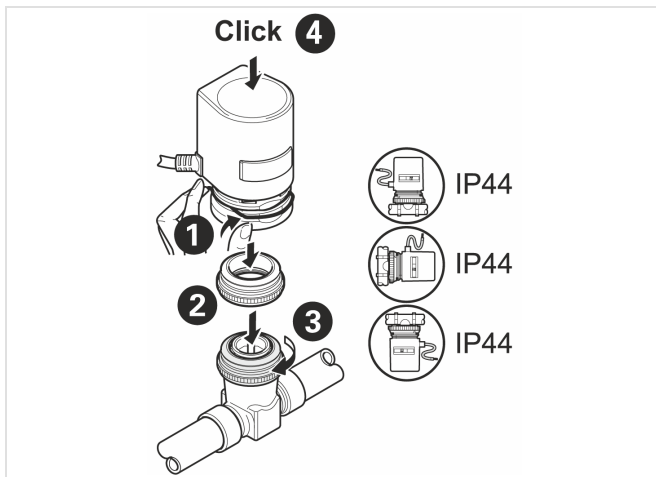
The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	20 °C
Max. ambient temperature:	50 °C
Max. ambient relative humidity:	95 % *

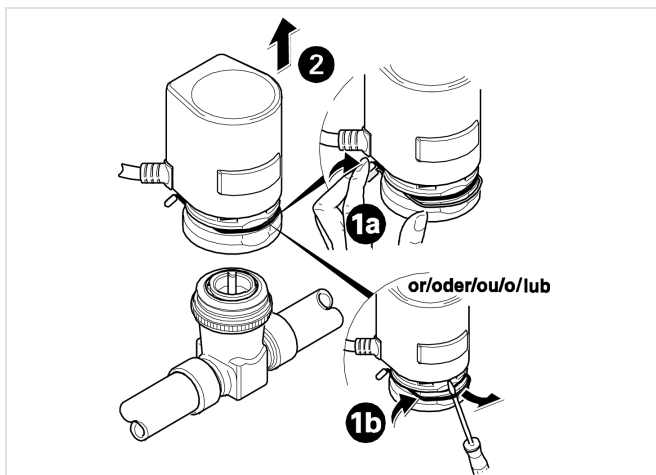
\*non condensing

## INSTALLATION GUIDELINES

### Mounting and dismounting

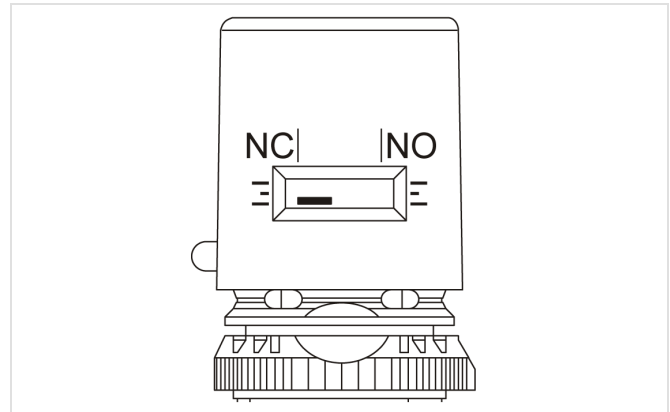


Note: Connection leads must not touch piping (heat transfer).

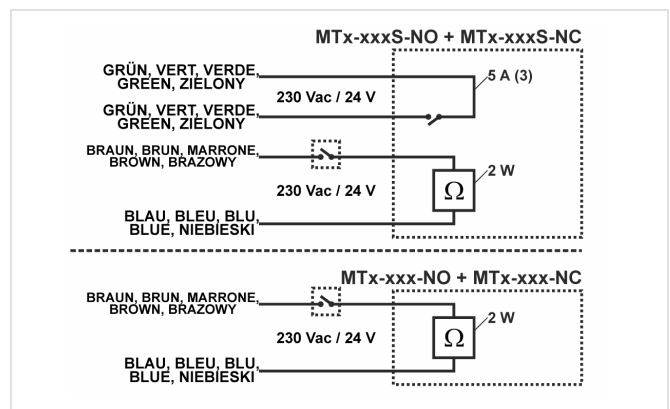


### Position Indicator

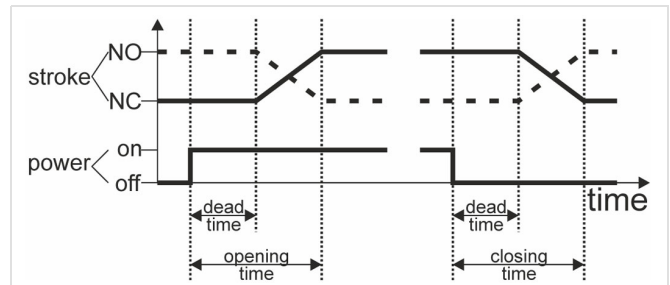
The position indicator (the red indicator behind the window on the face of the actuator) shows the model's type of action (NO or NC) as well as the current stroke position.



### Wiring



### Opening and Closing Time



Note: Opening and closing times depend upon ambient temperature and model.

# TECHNICAL CHARACTERISTICS

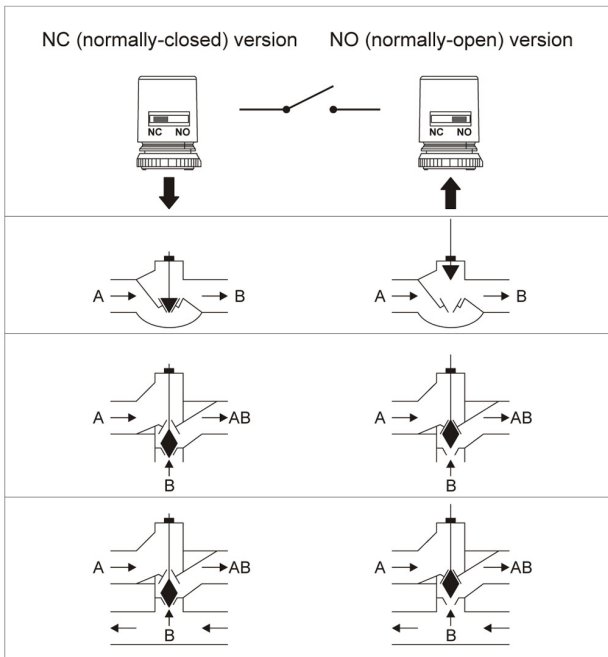
## Electrical specifications

Initial current*	Permanent current*	Power consumption*	Ø Runtime for full nominal valve stroke*		OS.-No.
			(valve stroke: 2.5 mm) MT4	(valve stroke: 6.5 mm) MT8	
~0.2 A**	< 0.1 A	< 2 VA	4.0 min	6.0 min	MTx-024-xx, MTx-024S-xx
~0.4 A**	< 0.01 A	< 2 VA	4.0 min	6.5 min	MTx-230-xx, MTx-230S-xx

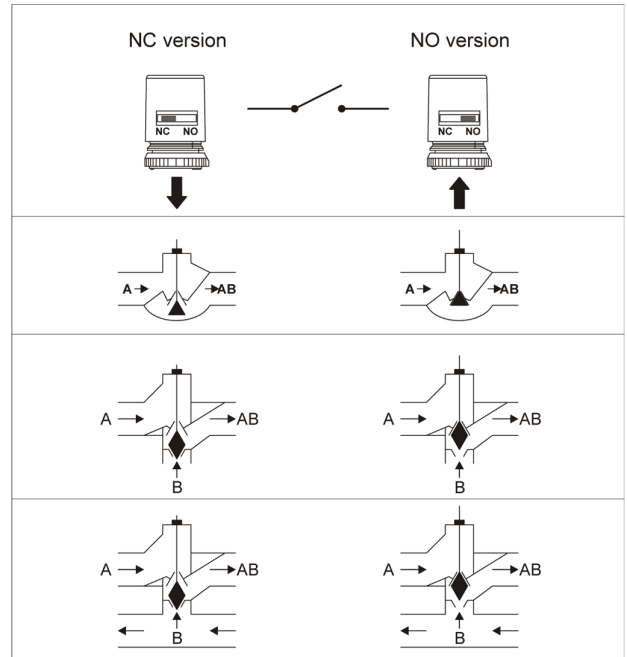
\* All values at nominal voltage 24 V AC/DC, 230 V AC, 50 Hz.

\*\*Average during first 500 ms.

### Valve Action with "Typical" Valves



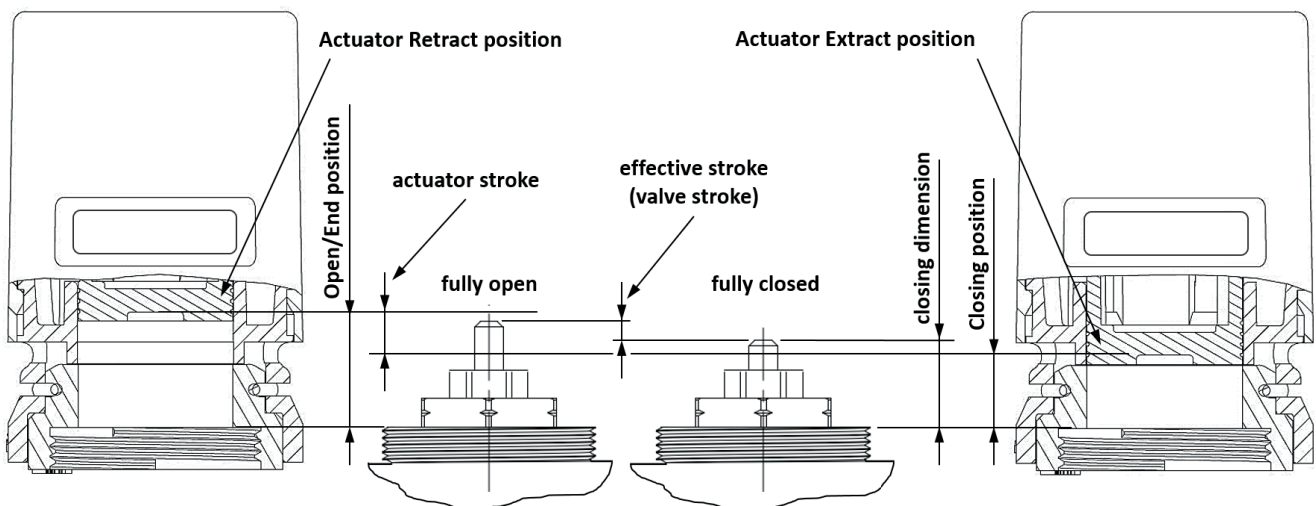
### Valve Action with VDE/VXE/VYE Valves



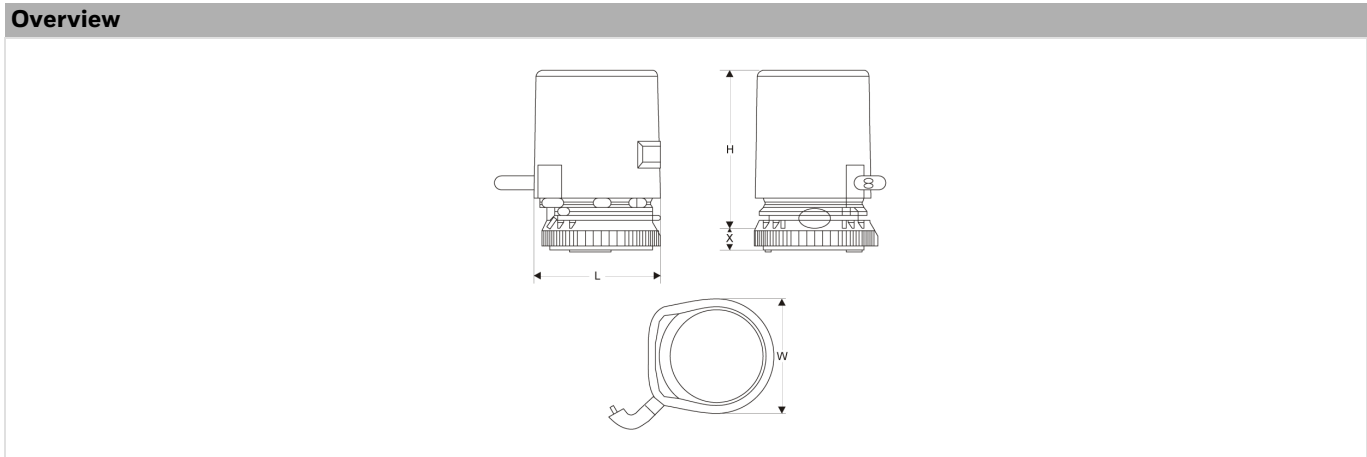
Normally open: 2-way valve, A-B open without power;  
Normally closed: 2-way valve, A-B shut without power;

Note: This figure is a schematic diagram showing typical valve action. Actual function can vary depending upon the individual type of valve.

### General dimensions for valves and actuators



## DIMENSIONS



Parameter		MT4-xxx	MT8-xxx
Dimensions:	H	59	67
	L	45	45
	W	42	42
	X	6	6

Note: All dimensions in mm unless stated otherwise.

## ORDERING INFORMATION







The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

### Options

Action*	Additional features	Closing dimension	Voltage	Max. stroke	OS.-No.
Normally closed		11.5 mm	24 V AC/DC	4 mm	MT4-024-NC
Normally open		11.5 mm			MT4-024-NO
Normally closed	2.5 m cable length	11.5 mm			MT4-024-NC-2.5M
Normally open	2.5 m cable length	11.5 mm			MT4-024-NO-2.5M
Normally closed	with auxiliary switch	11.5 mm			MT4-024S-NC
Normally open	with auxiliary switch	11.5 mm			MT4-024S-NO
Normally closed		11.0 mm			MT4-024-NC-HCD
Normally open		11.0 mm			MT4-024-NO-HCD
Normally closed		11.5 mm	230 V AC/DC	4 mm	MT4-230-NC
Normally open		11.5 mm			MT4-230-NO
Normally closed	2.5 m cable length	11.5 mm			MT4-230-NC-2.5M
Normally open	2.5 m cable length	11.5 mm			MT4-230-NO-2.5M
Normally closed	with auxiliary switch	11.5 mm			MT4-230S-NC
Normally open	with auxiliary switch	11.5 mm			MT4-230S-NO
Normally closed		11.0 mm			MT4-230-NC-HCC
Normally open		11.0 mm			MT4-230-NO-HCC
Normally closed		11.5 mm	24 V AC/DC	8 mm	MT8-024-NC
Normally open		11.5 mm			MT8-024-NO
Normally closed	2.5 m cable length	11.5 mm			MT8-024-NC-2.5M
Normally open	2.5 m cable length	11.5 mm			MT8-024-NO-2.5M
Normally closed	with auxiliary switch	11.5 mm			MT8-024S-NC
Normally open	with auxiliary switch	11.5 mm			MT8-024S-NO
Normally closed		11.5 mm			MT8-230-NC
Normally open		11.5 mm			MT8-230-NO
Normally closed	2.5 m cable length	11.5 mm	230 V AC/DC	8 mm	MT8-230-NC-2.5M
Normally open	2.5 m cable length	11.5 mm			MT8-230-NO-2.5M
Normally closed	with auxiliary switch	11.5 mm			MT8-230S-NC
Normally open	with auxiliary switch	11.5 mm			MT8-230S-NO

\*Without power, in combination with standard 2-way valve; "normally closed" = stem extends, "normally open" = stem retracts

**Accessories**

	Description	Dimension	Part No.
	<b>MT-CLIP</b>	<b>Mounting Clip</b>	
		1 bag with 10 units	MT-CLIP
	<b>MT-ADAPT-HW</b>	<b>Mounting adapter</b>	
		1 bag with 10 units	M30 x 1.5 MT-ADAPT-HW
	<b>MT-ADAPT-HP</b>	<b>Mounting adapter for Herz/Polytherm valves</b>	
		1 bag with 10 units	M28 x 1.5 MT-ADAPT-HP
	<b>MT-CABLE</b>	<b>Cable (only for actuators without auxiliary switch)</b>	
		Suitable for MT4-024/-230 and MT8-024/-230, 1 bag with 10 units	MT-CABLE-1.5M MT-CABLE-2.5M MT-CABLE-5M MT-CABLE-10M
	<b>EVA1-DANFOSS</b>	<b>Danfoss adapter set</b>	
		RA/RAV/RAVL, 1 bag with 10 units	M30 x 1.5 EVA1-DANFOSS
	<b>HCA1VEL</b>	<b>Mounting adapter for Uponor-Provario compact manifold (Velta)</b>	
		1 bag with 10 units	HCA1VEL

**For more information**

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Manufactured for and on behalf of the  
Pittway Sàrl, La Pièce 4, 1180 Rolle, Switzerland by  
its Authorised Representative Ademco 1 GmbH  
EN0H-0490GE51 R0922

Subject to change

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