24v Thermal Valve Actuator

Part No.: 200005

This 24V actuator with plug-in cable is a thermoelectric valve drive for opening and closing valves on heating circuit distributors of concealed floor heating and cooling systems. The main field of application is the energy-efficient individual room temperature control in the range of building management systems and home automation. The actuator 24V with plug-in cable is controlled by a 24V room thermostat with two point output or pulse-width modulation.

FEATURES

- Modern design
- Travel variants 4.0 mm/5.0 mm (further variants on demand)
- Available in normally closed (NC) or normally open (NO)
- Power consumption: 1 watt
- Plug-in cable
- Complete compatibility to valve adaptor system
- Simple snap-on installation
- 360° installation position
- Patented 100% protection against leaky valves
- First open function
- Adaptation check on valve
- Alignment aid on the valve
- Compact size, small dimensions
- All around function indicator
- Noiseless and maintenance-free
- High functional safety and long expected service life
- Surge protection guarantee
- Certified by the TÜV

VERSIONS

The 24V thermal actuator with plug line is blue and supplied with a 1m connection cable, plug, function indicator (in grey) with a VA80 valve adapter.

Type	Stroke	Actuating force	De-energised state		'First-open' function
24V Thermal valve actuator	No	100 N	0 Volts		100 N

Scope of supply

- 24 V Thermal valve actuator in single package
- 1 meter connecting cable, grey
- PVC H03VV 2 x 0.75 mm², plug-in installation manual in 12 languages
- VA80 adaptor

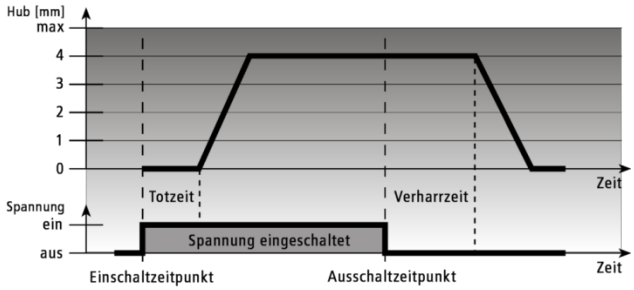
CERTIFICATION

The actuator is certified by TÜV South, Germany.

FUNCTIONS

The actuator mechanism of the actuator uses a PTC resistor-heated wax element and a compression spring. The wax element is heated by applying the operating voltage and moves the integrated ram. The force generated by the movement is transferred on the valve lifter and thus opens and closes the valve.

NORMALLY CLOSED (VALVE CLOSED)



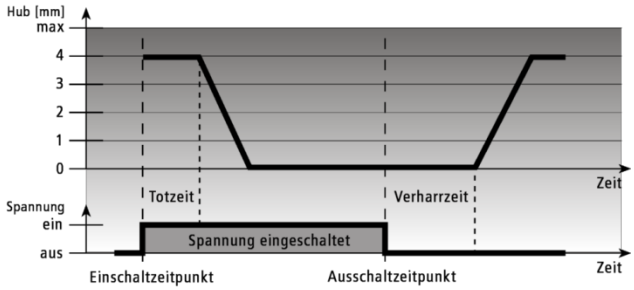
In case of the normally closed version, the valve is opened steadily by the ram motion upon switching on the operating voltage and after expiry of the dead time.

After the operating voltage is cut and after expiry of the hold time, the valve is closed evenly by the closing force of the compression spring.

The closing force of the compression spring is
matched to the closing force of commercially
available valves and keeps the valve normally
closed.

Fig.: Example for 4mm stroke. Characteristic line for stroke 5mm results analogous.

NORMALLY OPEN (VALVE OPENED)



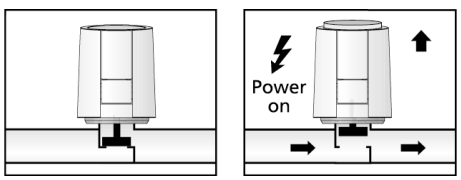
In case of the normally open version, the valve is closed evenly by the ram motion upon switching on the operating voltage and after expiry of the dead time.

After the operating voltage is cut and after expiry of the hold time, the valve is opened evenly by the compressive force of the valve spring.

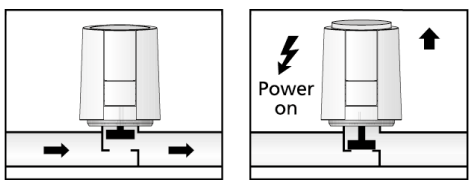
Fig.: Example for 4mm stroke. Characteristic line for stroke 5mm results analogous.

FUNCTION DISPLAY

The function display of the actuator (all-around display) allows identifying the operating condition (valve open or closed) at a glance.



In case of the NC version, an extended function display shows opening of the valve.



In case of the NO version, an extended function display shows that the valve is closed.

'FIRST-OPEN' FUNCTION (FOR NC ONLY)

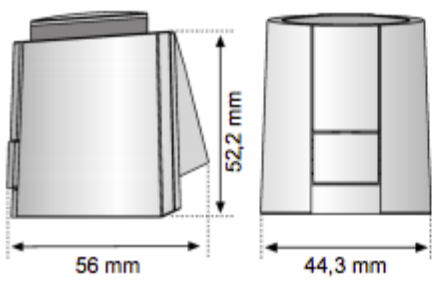
In its delivery condition, the actuator is kept open when de-energised due to the First-Open function. This enables heating operation during the carcass construction phase even when the electric wiring is not yet complete. During the later electrical start-up, the First-Open function is unlocked by applying the operating voltage for more than 6 minutes. The actuator will then be completely operable.

SPECIFICATIONS

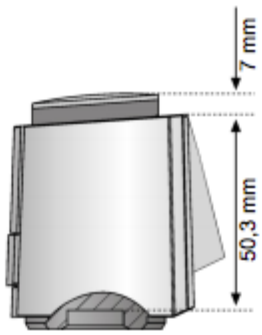
Operating voltage	24VAC, +/- 10%, 50/60 Hz
Max. inrush current	< 550 mA during 100ms max.
Operating power	1 W [1)]
Stroke (actuator travel)	4.0/5.0mm
Actuating force	100 N +5 %
Fluid temperature	32°F bis +212°F [2)]
Storage temperature	-13°F to +140°F
Ambient temperature	32°F to 140°F
Type of protection	IP 54 [3)] /II
CE conformity according to	EN 60730
Housing material/colour	Polyamide/ light grey (RAL 7035)
Connecting calbe/colour	2 x 0.75mm^2 PVC/light grey (RAL 7035)
Cable length	1m
Weight with connecting cable (1m)	100 g (±5 g)
Surge protection according to EN 60730-1	2,5 kV

1) Measured with precision reference instrument LMG95
2) In dependence of the adapter even higher
3) In all installation positions

DIMENSIONS



Dimensions

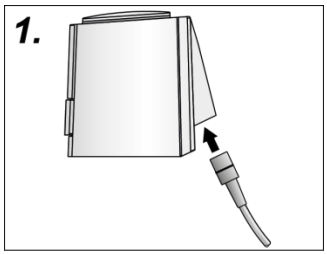


Installation height

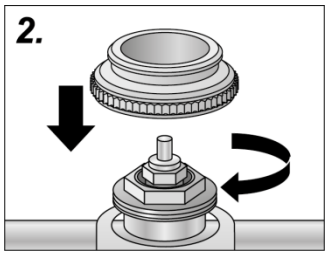
INSTALLATION

INSTALLATION WITH VALVE ADAPTOR

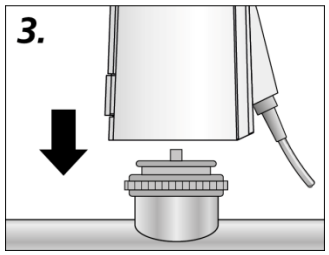
The wide selection of valve adapters guarantees a perfect match of the OEM-Actuator to almost any valve bottom or manifold available on the market. Simply snap on the actuator to the manually pre-installed valve adapter.



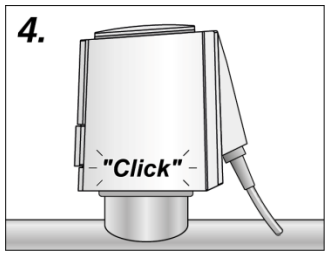
Connect the cable and actuator.



Screw the valve adaptor manually onto the valve.

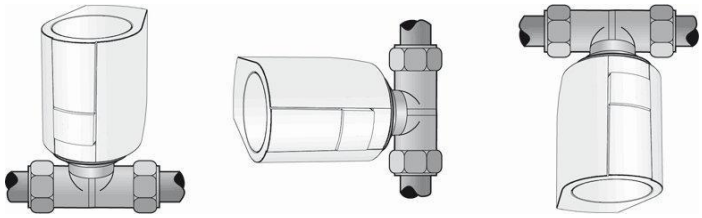


Place the actuator vertically onto the valve actuator.



The actuator snaps onto the valve adaptor with a 'click' when pressed down vertically by hand.

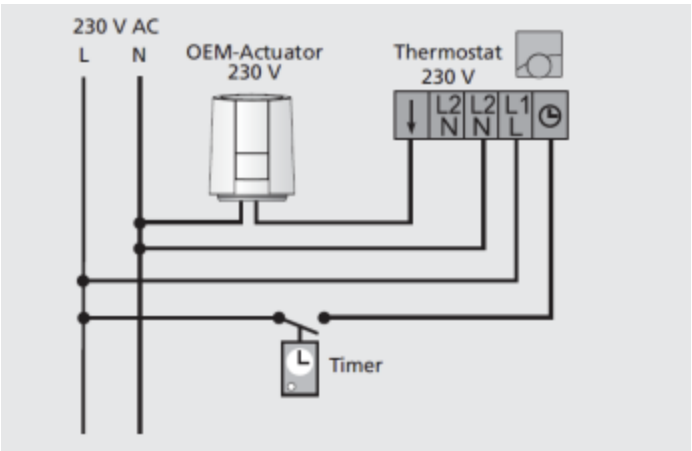
POSITION



Vertical **Horizontal** **'Overhead'**

The actuator must be installed preferably in vertical or horizontal installation position. For "overhead" installation special circumstances (e. g. drainwater) can reduce the lifetime of the actuator.

ELECTRICAL CONNECTION



We recommend usage of the following lines for installing a 24V system:

Light plastic-sheathed cable: NYM 1.5mm²
Flat webbed building wire: NYIF 1.5mm²

Technical changes reserved.