



Actuator Normally Closed
ON/OFF TE24

Application

Actuation of underfloor heating manifolds.



Description

- Easily attached to the valve by means of plastic adaptor rings (M30 x 1.5)
- Pushing force max. 100 N
- With 230 and 24 V thermal expansion element
- Large tangible and visible position indicator
- NC "normally closed" version
- Silent and maintenance-free
- Connection cable white, without plug for the electric connection
- Modern design
- Warm-up time for max. 4 mm stroke at 21 °C: min. 4 min (24 V and 230V)
- Fitting in any position, including upside down
- Fully compatible with Biofloor manifold range (9000TP – synthetic with VA50 nut and V9004 – brass with VA80 nut)

Versions

Item code	Description
C430041001	Actuator ONOFF NC 24V 9000 Biofloor
C430042001	Actuator ONOFF NC 230V 9000 Biofloor
C430043001	Actuator ONOFF NC 24V V9004 Biofloor
C430044001	Actuator ONOFF NC 230V V9004 Biofloor

Technical description

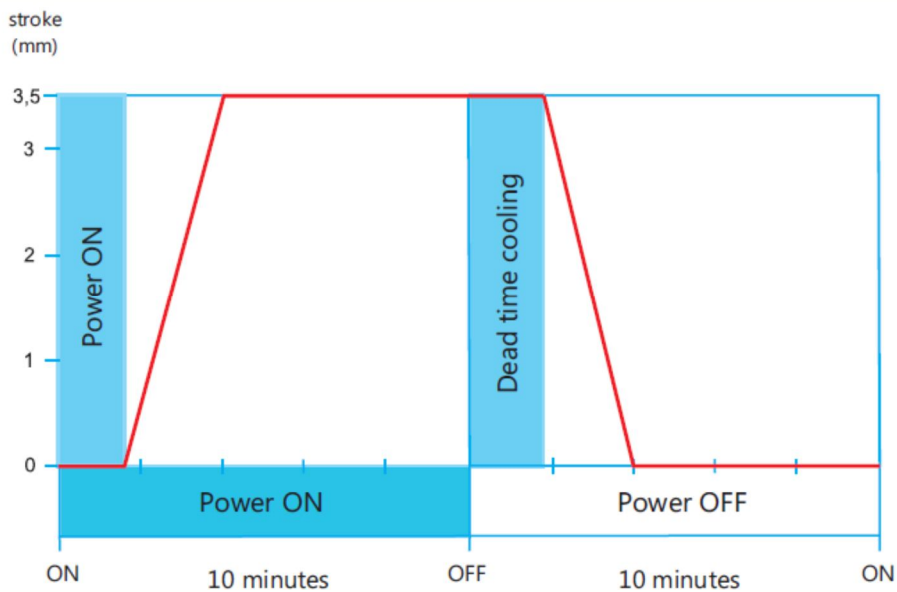
	24V	230V
Power supply	±20 %, 50...60 Hz	±15 %, 50...60 Hz
Power consumption during operation	1 W	
Start-up current	300 mA for. 2 min max	550 mA for max. 100 ms
Power for auxiliary contacts	3(1) A, 50/60 Hz	5(1) A, 50/60 Hz
Switching point	For approx. 2 mm stroke	
Parameters		
Stroke	3,5 mm	
Closing force	100 N ±5 %	
Running time	4,0 min	
Ambient conditions		
Admissible ambient temperature	0...60 °C	
Storage and transport temperature	-25...70 °C	
Operating temperature at valve	100 °C max	
Humidity without condensation	< 85 % rh	
Weight	0,13 kg	
Housing	Pure white (RAL 9010), surface structured according to VDI 2400/7 (fire protection as per EN 60695-2-11, EN 60695-10-2)	
Housing material	Flame-retardant plastic	
Power cable	Standard length 1 m, H03..., made of PVC, Ø 0.75 mm ² , white	
Type of protection	IP 54	
Protection class	III (EN 60730-1)	II (EN 60730-1)
CE conformity as per Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2, EN 60730-14	

Description of operation

The actuator has an electrically heated expansion element which transfers its stroke directly to the attached valve. It operates noiselessly and is maintenance-free.

- If the heating element is turned on when it is cold (ambient temperature approx. 21 °C), the valve begins opening after a warming-up time of approx. 1 min, and after an additional period of approx. 3 min, the valve has carried out a stroke of 3.5 mm.
- When the heating element is turned off, the expansion element cools and the valve is closed by spring force.
- With a “pulse-pause” signal that causes a periodic OPEN or CLOSE position, quasi-continuous control is possible.

Runtime behavior with a switch cycle of 10 min; ambient temperature approx. 25 °C



Intended use

This product is only suitable for the purpose intended by COMAP, as described in the “Description of operation” section.

All related product documents must also be adhered to. Changing or converting the product is not admissible.

Control with thermal actuator

Controller type

For control with TE24, there are two basic options: quasi-continuous and discontinuous control (on/off controller). The control performance using a quasi-continuous controller is better than with a discontinuous controller. Continuous control is not possible with TE24 actuators.

Position control

With a controller it cannot be assumed that the TE24 actuator can be moved to any position. Only the “extended” and “retracted” actuator positions are ensured with a controller. This is why this actuator is known as a 2-point actuator.

Energy limiter

The power consumption of the heating element of the TE24 is limited to 1 W after a specific switch-on time. For the 230 V version this is after 100 ms, and for the 24 V version after 2 minutes.

NC version “normally closed”

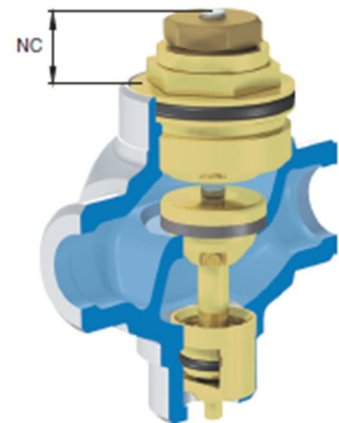
After the actuator is fitted, the valves on the hydraulic distributor are closed in the idle state. When voltage is applied to the actuator, the actuator spindle retracts and the valve spindle extends. The valve is opened.

Valve state with actuator without power: Closed.

Definition of the closing dimension - NC version “normally closed”

The closing dimension of a valve is the distance between the front surface of the spindle, pressed in with a preloading of < 100 N and the contact surface of the lower thread.

The adaptor rests on this surface.



Fitting

- The actuator is fitted to the valve without force by attaching the actuator to the adaptor.
 - First the adaptor must be screwed onto the valve and tightened by hand (approx. 2 Nm).
 - The actuator is normally open when it is new.
- The actuator can be attached easily, and the valve of the heating circuit distributor is open. This enables the heating mode even if the electric wiring is not completed yet.
 - During the start-up, the actuator is automatically unlocked, and therefore made operational by connecting the voltage for more than 5 minutes.
- When an actuator is unlocked and detached from the valve, during the fitting you must make sure that the actuator is attached correctly and not crookedly.

Position indicator

- The knob in the cover is the biggest possible position indicator.
- It is clearly visible from all positions and can be felt in the dark.
- In the “normally closed” version, the cover rises and the grey indicator on the lifting part becomes visible.
- When fully raised, the cover is up to 5 mm above the top edge of the cover.

Disposal

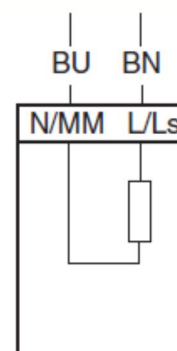
When disposing of the product, observe the currently applicable local laws.

Notes on engineering and installation

- When selecting the switching contacts and the mains fuses, the start-up current of the heating element must be considered. To comply with the specified technical data, the voltage loss due to the electric lines must not exceed 10%.
- The BU wire (light blue) must not be switched and must be connected to the neutral wire locally.
- The controller must always switch the BN wire.

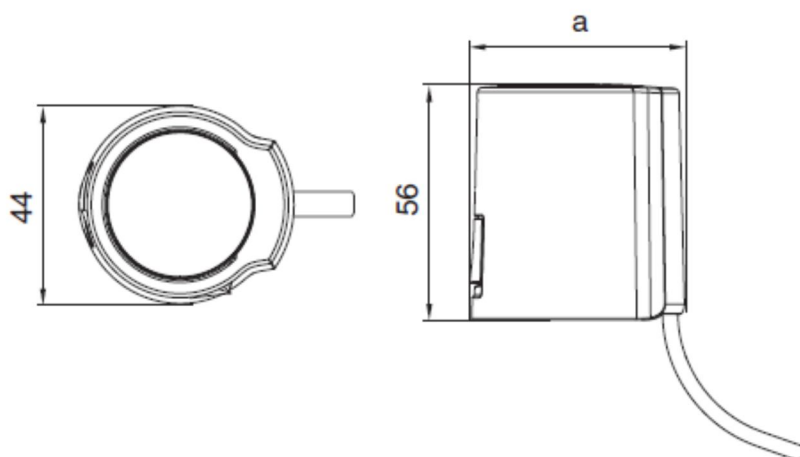
Wiring diagram

BU = Blue
BN = Brown



Dimension drawing

a = 48 mm



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