2-wire electrothermal head art. TE 304x-TE 404x

Electro-thermal actuators can be installed on on-off valves, like piston zone valves, or on cut-out valves mounted on manifold outtakes. In general, they are controlled directly by a room thermostat that closes a contact, thus allowing the actuator to be fed. The system features an inner wax thermostat that, due to the effect of electric current, warms up and gets longer. This forces the piston to move within the actuator and to drive the valve spindle closed or open. The actuator is available in both NC (normally closed) and NO (normally open) versions: in the former it keeps the valve closed through a spring when it is powered off; in the latter an internal mechanism inverts the sense of working (valve open without power supply). Available in 230 V (TE 3040-TE 4040) or 24 V (TE 3041-TE 4041) versions.

TECHNICAL FEATURES

Version: normally closed (NC) or normally open (NO)
Operating power: 1 W
Opening/closing time: around 3.5 min
Actuator travel: 4 mm
Actuating force: 100 N ± 5 %
Fluid temperature: 0÷100 °C
Storage temperature: -25°C÷60 °C
Room temperature: 0÷60 °C
Protection type: IP 54
CE conformity according to: EN 60730
Connecting cable: 2×0.75 mm^2
Cable length: 1 m

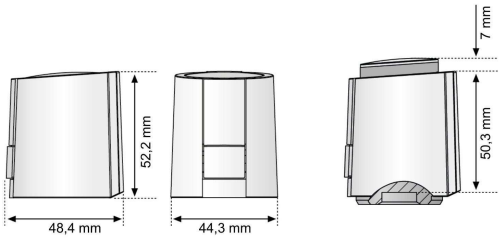
ART.	COD.	Type	Power supply	Inrush current [mA]	Operating current [mA]
TE 3040	501508	NC	230 V AC	< 550(*)	4
TE 3041	501524	NC	24 V AC/DC	< 300(**)	42
TE 4040	501508A	NO	230 V AC	< 550(*)	4
TE 4041	501524A	NO	24 V AC/DC	< 300(**)	42

(*) 100 ms max.
(**) 2 min max.

MATERIALS

Body: PA (RAL 7035)
Connection cable: PVC (RAL 7035)

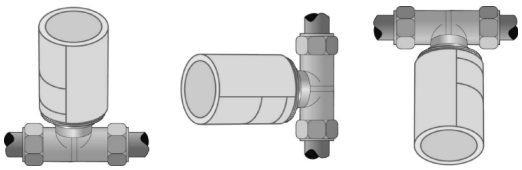
DIMENSIONS



OPERATING INSTRUCTIONS

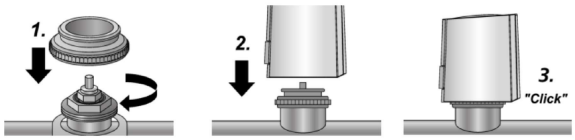
Installation

Preferred installation positions of the actuator are vertical (up) and horizontal. An upside-down position may reduce product life in particular conditions (e.g. polluted water).



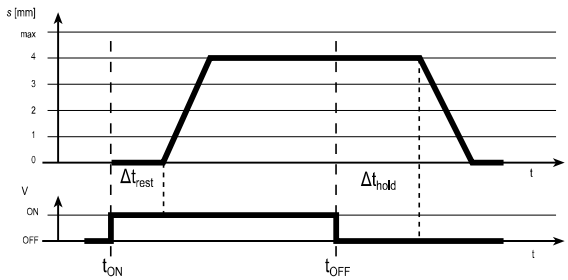
Mounting on the valve

The coupling to the valve is achieved through a plastic adapting nut. After screwing the the adapter to the valve, mount the actuator with a slight pressure on the top. A spring device locks the element to the adapter, allowing to rotate the actuator to ease its orientation. The actuator can be removed from the valve by gently pressing down the little flap.

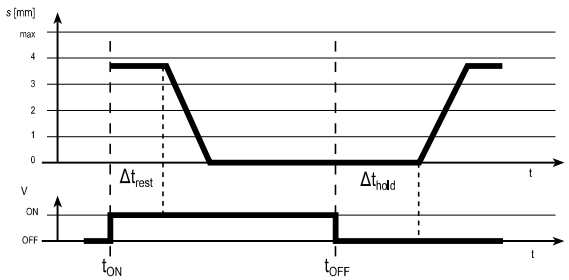


Characteristic curves

Normally closed (NC)

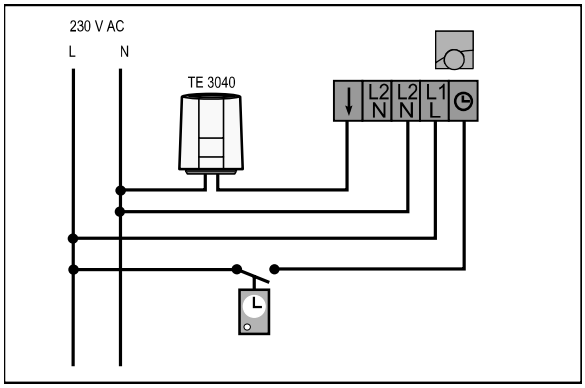


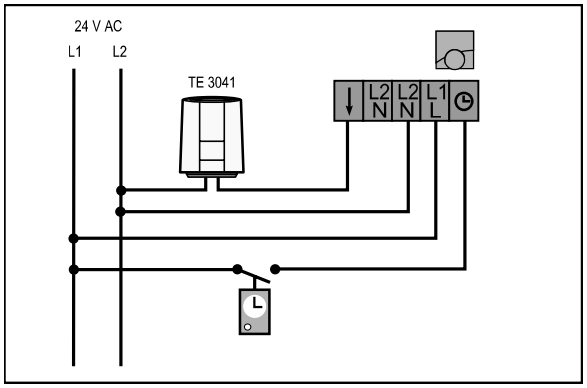
Normally open (NO)



s = stroke
Δt_{rest} = dead time
Δt_{hold} = hold time

Connection examples





For further information on wiring, please refer to the instructions reported on the packaging. The installation and electrical connection of these devices must be performed only by skilled and qualified personnel.

NOTES

TE 3040 and TE 3041 actuators feature a "first open" function, that is to say, the actuator is sold in normally-open state. This allows to wash and fill the circuits even if the actuators have already been mounted but the electrical connections are still to perform. At the start-up, the powering of the actuator for more than 6 min causes the "first open" function to bring the device in the operating conditions. This feature is not available for NO versions (TE 4040-TE 4041).

CERTIFICATIONS

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