



## ELECTROTHERMAL ACTUATORS

*In order to combine energy efficiency and high comfort, te-sa proposes the new electrothermal actuators series 116T.*

Mounted on the manifolds for underfloor heating system or for radiator systems, and also directly on thermostatisable radiator valves, it has the function to automate the interception of the water flows using a room thermostat or a common switch.

The actuator in the top surface has a position indicator that shows the status of the valve (opened or closed). The connection with the valves is made by using an adaptor threaded M30x1,5 with fast connection to the actuator.

### Conforms to European Directive

Mark CE according to European EN60730 directives



## OPERATION

The **te-sa** electrothermal actuators Art. 116T, are mainly used on the underfloor heating to control and manage each loop of the system.

They are actuators with linear movement of the piston. In presence of voltage the wax element, that it is warmed by a PTC resistance, expands and produces a movement of the bonnet that open the valve.

The stopping of the power supply produces the wax cooling, that consequently reducing its volume and so the valve moves back to the starting position that is closed.

The independent regulation of each loop managed by a combination between electrothermal actuators and room thermostats, permits to have a precise control of the temperature which coupled with a low energy consumption for the electrical actuator, **max 1W**. The electrothermal actuator Art. 116T combines perfectly the energy efficiency and the high comfort in the systems where it is applied.

## FEATURES

- Ergonomic shape
- Fast connection system
- Color Gray
- Dynamic position indicator
- Electrothermal actuator NC (Normally Closed)
- Ambient temperature 0 ÷ 60°C
- Opening time 4 minutes
- Closing time 5 minutes (depending to the ambient temperature around the actuator)

## PRODUCT RANGE

<b>116T-01</b>	Electrothermal actuator (2 wires)	Power Supply 230V - 50 Hz
<b>116T-02</b>	Electrothermal actuator (2 wires)	Power Supply 24V (AC/DC)
<b>116T-05</b>	Electrothermal actuator (2 wires)	Power Supply 12V (AC/DC)
<b>116T-03</b>	Electrothermal actuator with auxiliary micro switch (4 wires)	Power Supply 230V - 50 Hz
<b>116T-04</b>	Electrothermal actuator with auxiliary micro switch (4 wires)	Power Supply 24V (AC/DC)



## INSTALLATION

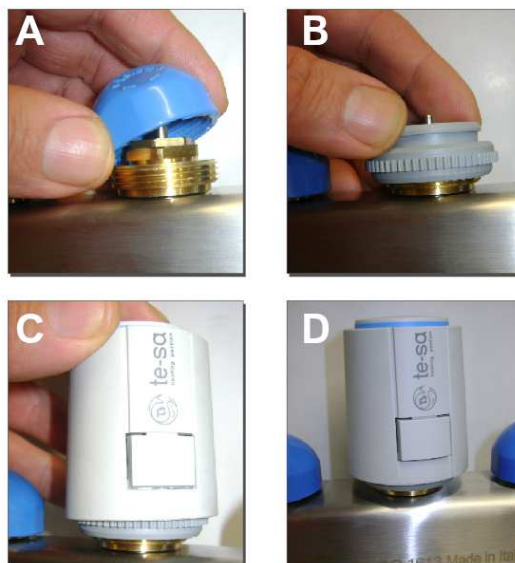
The installation of the electrothermal actuators 116T is very easy and quickly.

After removing the maneuver cap, screw completely by hand the plastic adapter at the thread M30x1,5 of the bonnet.

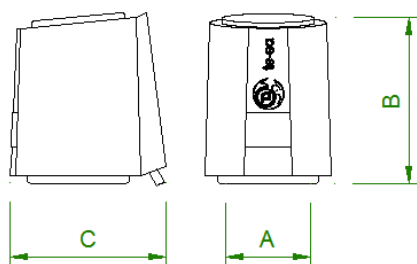
The actuator is connected to the adapter with slight pressure, and can be oriented a little by turning it. The electrothermal actuators are supplied with the stem in middle position.

At starting, to totally close the interception valve of the manifold, it is necessary connect the actuator at the electrical power supply for some minutes to open it completely.

When the electrical power is removed, the actuator totally closes. The actuators 116T series are Normally Closed type, then with electrical supply they open, while without electrical supply they close.

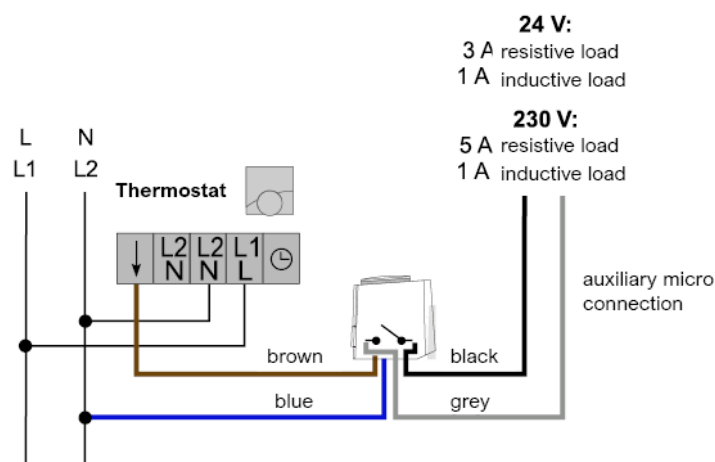


## DIMENSIONS



Art.	A	B	C
116T-01	M30x1,5	57	Ø38
116T-02	M30x1,5	57	Ø38
116T-03	M30x1,5	57	56
116T-04	M30x1,5	57	56
116T-05	M30x1,5	57	Ø38

## ELECTRICAL CONNECTION



The power supply connection is the same for all models. The scheme show the types with micro switch four wires

## TECHNICAL FEATURES

Power Supply 230 Vac:	116T-01 / 116T-03
Power Supply 24Vac/dc:	116T-02 / 116T-04
Power Supply 12Vac/dc:	116T-05
Absorbed power:	Max. 1W
Inrush current:	<550mA (230V) <300mA (24V) <550mA (12V)
Auxiliary switch capacity:	230Vac 5A (1A) 24Vac 3A (1A)

Protection grade:	IP54 (in every position)
Cable length:	1 m
Force:	100 N ± 5%
Stroke:	4 mm
Electrical connections:	Line brown wire Neutral blue wire Micro grey/ black wires