

# THERMOSTATIC ACTUATORS

## TELESTAT SERIES 10C-20C-20CI



### MAIN FEATURES

- Available in the following versions:

#### - Series 10C :

- NO (Normally open)
- NC (Normally closed)
- 2-wire (Standard)
- 4-wire (With auxiliary contact)

#### - Series 20C/20CI :

- 2-wire (Normally closed)
- 4-wire (With position indicator)

- Compact size and reduced weight

- In accordance with the following standards :

- EEC EMC (CEI-EN 55104/95; CEI-EN 55014/93)  
Electromagnetic compatibility
- EI 60730-1/91 (CEI-IEC 730-2-9/92) (60335-1)  
Electrical safety

## DESCRIPTION

The electrothermic actuators of the **10C, 20C, 20CI Series**, known as Telestat, are ON/OFF devices used for automatic actuation of the plugs on:

- Thermostat adaptable valves **Series 178U, 188UM, 102M, 120B**
- Reversed body valves **Series 180M**
- Fan coil valves **Series 2131, 3131, 4131**
- Manifolds **Series 822M**

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  - NC (normally closed)
  - 2-wire (standard)
  - 4-wire (with auxiliary contact)

- Series 20C, 20CI :
  - 2-wire (normally closed)

Both easy to fix on the valve body with a threaded ring nut.

The electrothermic actuators are designed to run on 24V or 230V.

## APPLICATION

The electrothermic actuators of the **10C, 20C, 20CI Series**, are used in the ON/OFF control of the heat emission of the terminal units of heating and air conditioning systems through an electrical signal transmitted by a room or timing thermostat.

The use of electrothermic actuators, instead of thermostatic types, also allows remote control (pilot room); in fact, the room or timing thermostat, or control component, can be situated in the most suitable point of each room to be regulated.

## OPERATION

Operation of the thermoelectric actuators **10C, 20C, 20CI Series**, depends on a wax thermostatic element mounted in the actuators and activated by a PTC thermistor against a signal sent by a room thermostat (or timing thermostat).

When the thermostatic element expands, it supplies the thrust required for automatic movement of the plug.

The 4-wire version of the **Series 10C**, is provided with an auxiliary contact for additional commands (metering, control of pump, fan or other equipment).

The **20C** and **20CI Series** are provided with a varistor to protect against surge in voltage.

Moreover the **Series 20CI** is provided with a yellow position indicator which moves between a red and blue notch, visible on the transparent outer cap, thus signalling the open and closed position respectively of the valve on which it is installed.

Reliability of the electrothermic actuators **10C, 20C, 20CI Series** is guaranteed thanks to the 100% testing of the production.



### 10C

Electrothermic actuator with wax thermostat element and auxiliary microswitch (only for versions NC4 and NA4).

Part No.	Power supply	Weight (g)
10C220NC2	230V	150
10C24NC2	24V	150
10C220NC4	230V	200
10C24NC4	24V	200
10C220NA2	230V	150
10C24NA2	24V	150
10C220NA4	230V	200
10C24NA4	24V	200



### 20C

Electrothermic actuator, compact size, with wax thermostat element, normally closed. Provided with varistor to protect against surge in voltage.

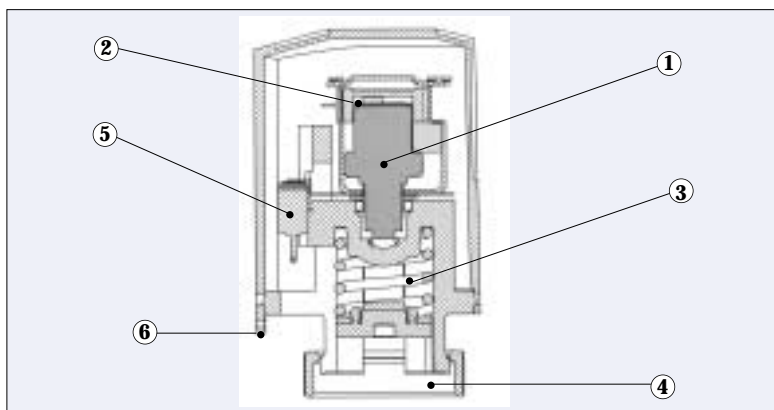
Part No.	Power supply	Weight (g)
20C-220V	230V	150
20C-24V	24V	150



### 20CI

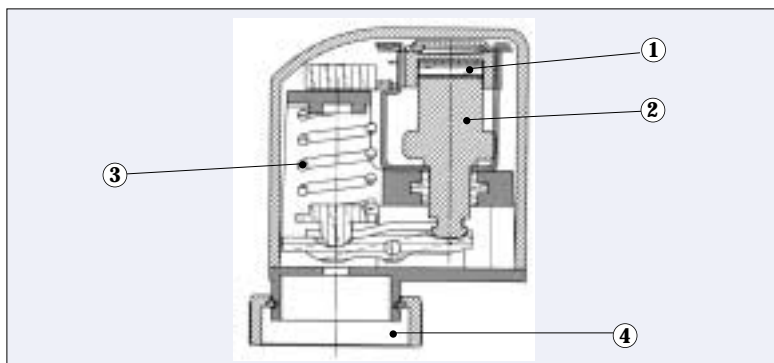
Electrothermic actuator, compact size, with wax thermostat element, normally closed, complete with position indicator. Provided with varistor to protect against surge in voltage.

Part No.	Power supply	Weight (g)
20CI-220V	230V	150
20CI-24V	24V	150



Characteristics 10C

- 1) Thermostatic element
- 2) Electrical resistor
- 3) Opposing spring
- 4) Ring nut
- 5) Electrical microswitch
- 6) Provision for sealing



Characteristics 20C - 20CI

- 1) PTC Thermistor
- 2) Element
- 3) Return spring
- 4) Thrust pin

## INSTALLATION

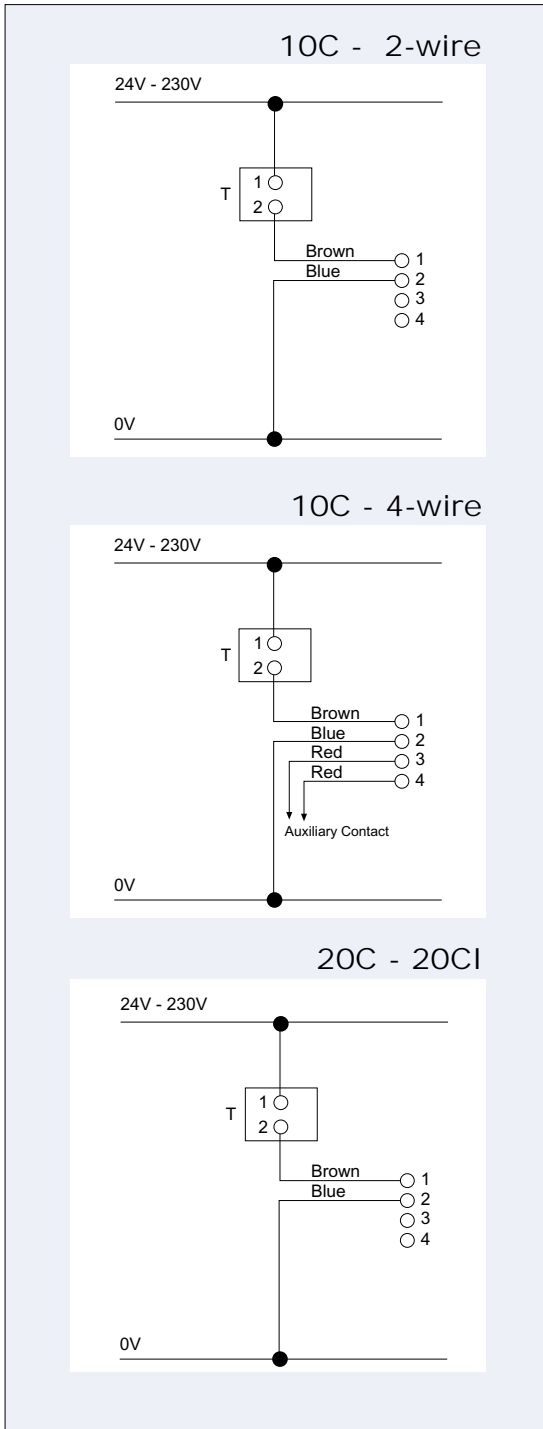
The electrothermic actuators **Series 10C, 20C, 20CI** can be selected according to the type of system, available space and type of power supply.

In systems with 2-way control valves fitted with electrothermic actuators it is advisable to install by-pass valves **Series 466** or **Series USVR** to ensure a minimum recirculation of the fluid.

The actuators can be made tamper-proof by fitting a lead seal, especially for applications in heat metering systems.

**Avoid installing the valve with the actuator facing down.**

## Electrical connections



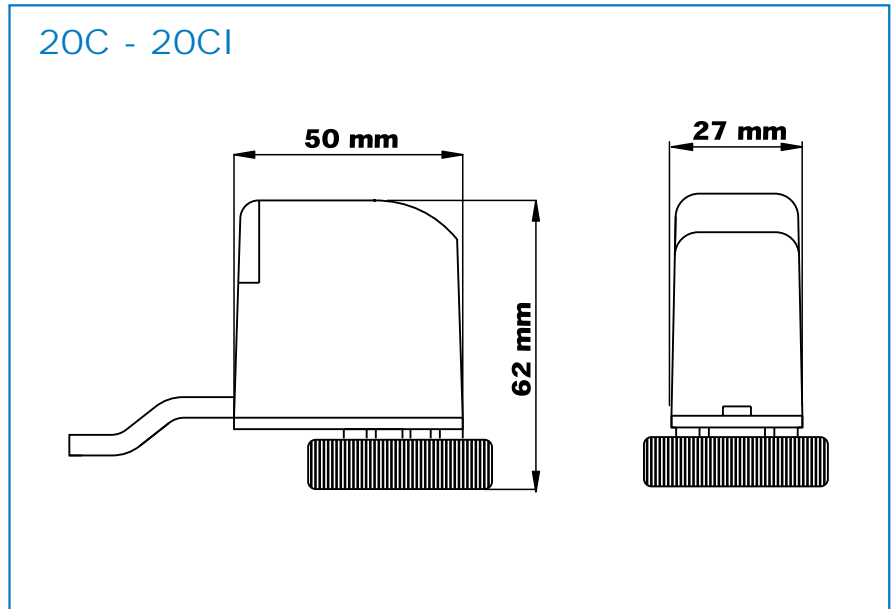
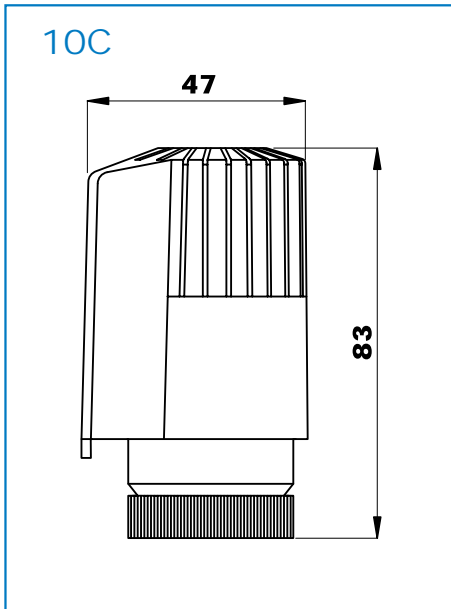
### SPECIFICATION 10C

Action	ON/OFF
Power supply	24 - 230 VAC/DC (+10%/-15%)
Frequency	0 to 60 Hz
Power rating during operation	5 W
Peak starting current	0.5 A x 0.5 s (230V) 0.4 A x 30 s (24V)
Operating time starts closing (NO valve) starts opening (NC valve)	2 min
Total closing time (NO valve)	4 min
Total opening (NC valve)	4 min
Max. actuator stroke	max 3.5 mm
Protection class	IP42 NC IP44 NO
Mains cable	1 m 2-pole x 0.75 mm <sup>2</sup> 4-pole x 0.75 mm <sup>2</sup>
Ambient temperature	0 to 50°C
Storage temperature	-10 to 60°C
Thrust with stroke 0 mm	> 70 N
Thrust with stroke 3.5 mm	> 120 N
Auxiliary microswitch (4-pole model)	max 700 mA
Cap	ABS VO self-extinguishing
Valve connection	Threaded ring nut M30x1.5

### SPECIFICATION 20C - 20CI

Action	ON/OFF
Power supply	24 - 230 VAC/DC (+10%/-15%)
Frequency	0 to 60 Hz
Power rating during operation	5 W
Peak starting current	0.5 A x 0.5 s (230V) 0.4 A x 30 s (24V)
Operating time before valve starts opening	2 min
Total valve opening time	4 min
Max. actuator stroke	3.5 mm
Protection class	IP44
Mains cable	1 m 2-pole x 0.75 mm <sup>2</sup>
Ambient temperature	0 to 50°C
Storage temperature	-10 to 60°C
Thrust with stroke 0 mm	> 70 N
Thrust with stroke 3.5 mm	> 120 N
Cap	ABS VO self-extinguishing
Valve connection	Threaded ring nut M30x1.5

Overall Dimensions (mm)



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