

ON/OFF ELECTROTHERMIC ACTUATORS 22C SERIES



MAIN FEATURES

- 22C series available in the following versions :
 - NA (Normally open)
 - NC (Normally closed)
 - 2-wire (Standard)
 - 4-wire (With auxiliary contact)
 - New compact design.
 - Availability to check status of actuator by transparent window on the cover
- CE Marked in accordance with the following standards :
 - EEC EMC (CEI-EN 55104/95 ; CEI-EN 55014/93)
 - EN 60730-1; EN 60730-2-14
 - Approval ENEC pending.

22C SERIES

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**22C**

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

Cable Ø = 7,2 mm.

ENEC Marked

| Type | Code | Power Supply | Weight (g) |
|------|-----------|--------------|------------|
| 22C | 22C230NC2 | 230V | 150 |
| 22C | 22C24NC2 | 24V | 150 |
| 22C | 22C230NC4 | 230V | 200 |
| 22C | 22C24NC4 | 24V | 200 |
| 22C | 22C230NA2 | 230V | 150 |
| 22C | 22C24NA2 | 24V | 150 |
| 22C | 22C230NA4 | 230V | 200 |
| 22C | 22C24NA4 | 24V | 200 |

**22C**

Electrothermic actuator with wax thermostat element.

Cable Ø = 5,5 mm.

CE Marked

| Type | Code | Power Supply | Weight (g) |
|------|-------------|--------------|------------|
| 22C | 22C230NC2-5 | 230V | 150 |
| 22C | 22C24NC2-5 | 24V | 150 |
| 22C | 22C230NA2-5 | 230V | 200 |
| 22C | 22C24NA2-5 | 24V | 200 |

Description

The electrothermic actuators **22C series** are ON/OFF devices used for automatic actuation of the valves on:

- thermostatic adaptable valves **series 178UM, 1178UM, 179UM, 1179UM, 188UM, 1188UM, 189UM, 1189UM, 102M, 100M, 120B.**
- reverse body valves **series 180M**
- fan coil valves **series 2131, 3131, 4131**
- manifolds **series 822M**

The electrothermic actuators are available in the following versions:

- NA (normally open)
- NC (normally closed)
- 2-wire (Standard) or 4-wire (**with auxiliary contact**).

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

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

Application

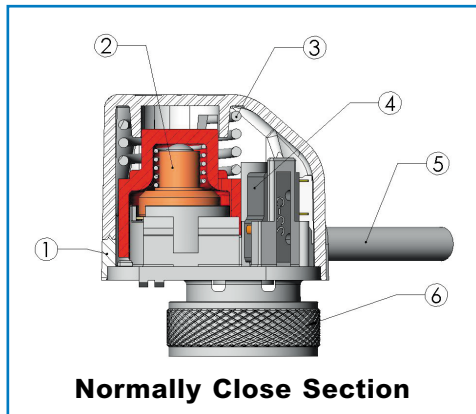
The electrothermic actuators **series 22C**, are used for ON/OFF control of the heat emission of terminal control units in heating and air conditioning systems, through an electric signal transmitted by a room or timing thermostat.

The use of electrothermic actuators instead of pure thermostatic actuators allows remote control. The room thermostat, timing thermostat, or control component controlling the system can be situated in the most suitable point of each room to provide regulation and wired back to the electrothermic control head.

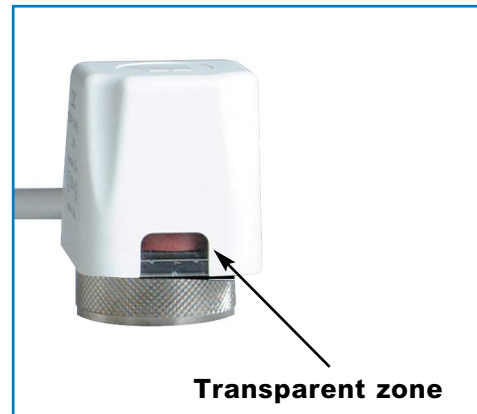
Operation

Operation of the thermoelectric actuators **series 22C** 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 valve. The 4-wire version is provided with an **auxiliary contact** for additional commands (metering, control of pump, fan or other equipment). The actuator has a mechanical/visual zone that allows for the status of actuator to be seen by virtue of a transparent zone on the actuator cover. **Red** = plug valve closed - **Black** = plug valve open.



- 1) Transparent zone
- 2) Wax thermostatic element
- 3) Opposing spring
- 4) Electrical microswitch (4 wire)
- 5) Electrical wiring
- 6) Provision for sealing



| Technical Features | |
|---|---|
| Action | ON/OFF |
| Power supply | 24 - 230 VAC/DC (+10% / -15%) |
| Frequency | 0 ÷ 60 Hz |
| Power consumption (normal operation) | 2,5 W |
| Peak starting current | 0.25 A x 0.5 sec (230V) 0.35 A x 30 sec (24V) |
| Initial opening (NC) or closing (NA) time (power ON) 230V | 90 s |
| Final opening (NC) or closing (NA) time (power ON) | 3 min |
| Initial opening (NC) or closing (NA) time (power ON) 24V | 3 min |
| Final opening (NC) or closing (NA) time (power ON) | 5 min |
| Actuator stroke | max 3.5 mm |
| Valve stroke | 2.5 mm |
| Protection class | IP44 to EN60529 |
| Electrical Protection class | II |
| Safety (contamination level) | 2 |
| Cable length * | 1 m 2-pole x 0.75 mm ² 4-pole x 0.75 mm ² |
| Operation temperature limit | 0 to 50°C |
| Storage temperature limit | -25 to 60°C |
| Fluid temperature limit | Max 110 °C |
| Nominal closing force (power OFF) (Closed type) | 140 N (±10%) |
| Nominal closing force (power OFF) (Open type) | 80 N (±10%) |
| Auxiliary microswitch (4-pole model) | max 700 mA - 250 V ~ (a.c) |
| Cover | PA V0 Ral 9016 UL94-V0 |
| Valve connection | Threaded ring nut M30x1.5 |

* **Special Cable length on request**

Reliability of the electrothermic actuators **22C series** is guaranteed due to 100% testing of the production.

Installation

The electrothermic actuators **22C series** 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 in series (**466** or series **USVR**) to ensure a minimum recirculation of the fluid.

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Mounting

- 1) Remove handle or cap from the body valve.
- 2) Position the actuator and tighten manually the ring nut of the actuator onto the body valve.
Do NOT use pipe wrenches, spanners or similar.
- 3) Connect electrical wiring.

Important maintenance notes

The connecting cable must never be replaced. Opening the 22C series actuator will cause irreparable damage to the device. Faulty actuators must be replaced as complete units.

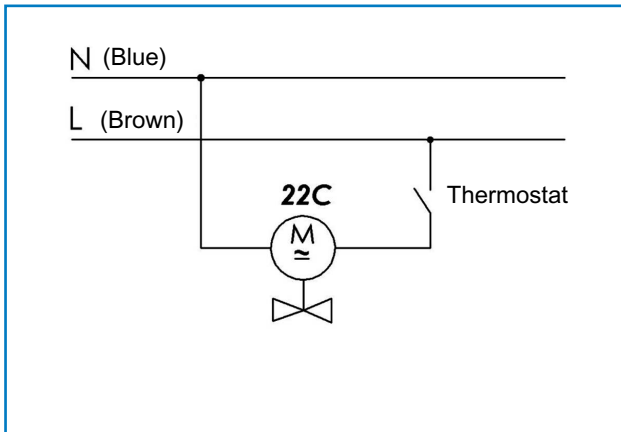
Warning

The actuator must not be installed below the body valve.

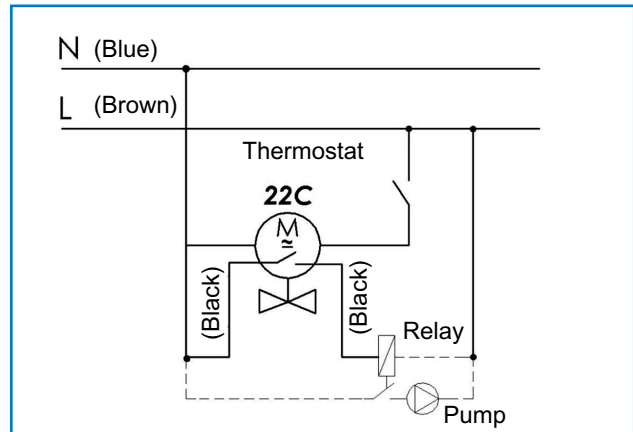


Electrical wire connections

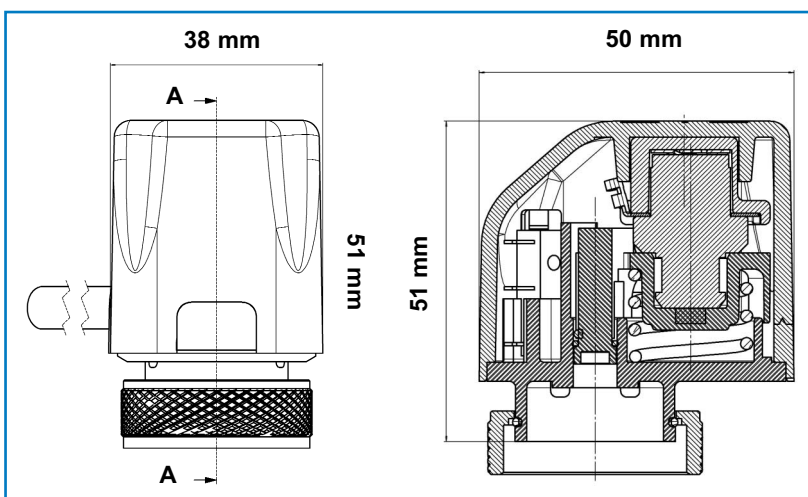
22C 2-wire



22C 4-wire



Overall dimensions (mm)



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