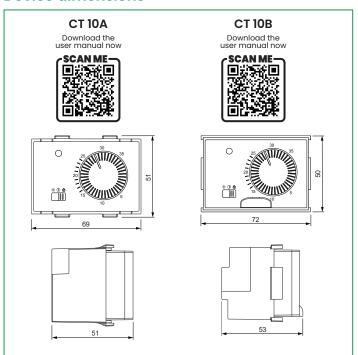
# CT 10A & CT 10B

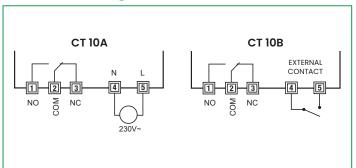


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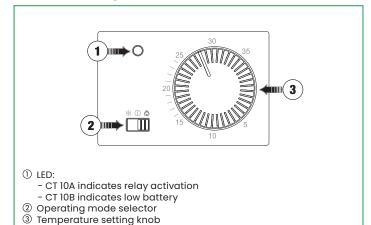
## **Device dimensions**



# **Connection diagrams**



## **Device description**



#### Reference standards

08-2025

Compliance with Community Directives 2014/35/UE (LVD) and 2014/30/UE (EMCD) is declared with reference to the following harmonized standards: • FN 60730-2-9 • FN 62479

## **User Manual** A Read all the instructions carefully

#### **ELECTRONIC THERMOSTATS**

Flush-mounting electronic thermostats for temperature control both in heating and cooling. They perform actions of type IB and are intended for operating in environments with Pollution Degree 2 and Overvoltage Category III (EN60730-1).

CT 10A, with mains power supply.

**B** CT 10B, with battery power supply and an input for the connection of an external contact with whom to reduce the setpoint of 3°C.

Codice Modello Descrizione 4G000400 CT 10A 230V Thermostat

4G000500 CT 10B Battery thermostat with digital input

#### SAFETY WARNINGS

During product installation and operation it is necessary to observe the following instructions:

- The device must be installed by a qualified person, in strict compliance with the connection diagrams.
- 2) Do not power or connect the device if any part of it is damaged.
- 3) After installation, inaccessibility to the connection terminals without appropriate tools must be guaranteed.
- 4) The device must be installed and activated in compliance with current electric systems standards.
- 5) Before accessing the connection terminals, verify that the leads are not live.
- 6) In the electrical system of the building where the instrument must be installed, a protection device from the overcurrents must be present (for CT 10A model only).

#### **TECHNICAL SPECIFICATIONS**

- ₱ Power supply CT 10A: 230Vac (-15% ÷ +10%) 50/60Hz
- max absorption: 6 VA / 230Vac
- ₱ Power supply CT 10B: 2 alkaline batteries 1.5V (AAA type)
  - battery life: 12 months
  - depleted batteries indication
- Installation on 3 modules box (503 type)
- **7** Terminals CT 10A:
  - 3 terminals for 1.5 mm<sup>2</sup> cables for bistable output relay 5A / 250 Vac
  - 2 terminals for 1.5 mm<sup>2</sup> cables for power supply
- **B** Terminals CT 10B:
  - 3 terminals for 1.5 mm<sup>2</sup> cables for output relay 5A / 250 Vac
  - 2 terminals for 1.5 mm<sup>2</sup> cables for digital input (3°C setpoint reduction)
- Operating mode: summer/winter/off (with antifreeze)
- Regulation type:
  - on/off with fixed differential (0.3°C)
  - P8 proportional with  $0.8^{\circ}$ C band  $(-0.3 \div +0.5^{\circ}$ C)
  - and period 8 minutes
  - · P15 proportional with 1.5°C band  $(-0.7 \div +0.8$ °C) and period 15 minutes
- Measurement precision:: ±0,5 °C
- Setpoint range: 5°C ÷ 35°C Operating temperature: 0°C ÷ +50°C
- Storage temperature: -10°C ÷ +65°C
- Operating humidity: 20÷90% non condensing
- Protection degree: IP40
- Insulation: reinforced among accessible parts (frontal) and all other terminals
- Mechanical locks on the knob to limit the setpoint

information to users pursuant to art. 14 of the directive 2012/19 / EU of the european parliament and of the coun of 4 iuly 2012 on waste electrical and electronic equipment (WEEE)

If the crossed-out bin symbol appears on the equipment or packaging this means the product must not be included with other general waste at the end of its working life.

The user must take the worn product to a sorted waste center, or return it to the retailer when purchasing a new one.

Products for disposal can be consigned free of charge (without any new purchase obligation) to retailers with a sales area of at least 400  $\text{m}^2$ , if they measure less than 25 cm.

An efficient sorted waste collection for the environmentally friendly disposal of the used device or its subsequent recycling, helps avoid the potential negative effects on the environment and people's health, and encourages the re-use and/or recycling of the construction materials

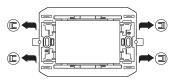
### Installation

- Install the thermostat at a height of about 1.5 m above the floor, away from direct sunlight, away from doors, windows, heat sources, locations with excess or total lack of ventilation.
- Make the connections by respecting the diagrams described in this manual
- $\ensuremath{\textit{\textit{B}}}$  Fix the device inside the 3 modules box in compliance with the assembly diagrams described on the back of this instruction sheet.
- The accessories for the installation included in the package allow the mounting of the plates described in the diagram "adjustable plates" and they are:
  - mount A
  - mount B (it could be necessary to remove the side cogs)
  - couple of side BM plastic elements
  - couple of side VI plastic elements
- When you turn on for the first time the thermostat is performed a cycle of switching of the relay of OFF-ON-OFF type of the total duration of 3 seconds. Once finished the cycle the thermostat begins with the regulation.

# **Adaptability frames**

FRAMES	SERIES
A	ABB: Mylos AVE: S44 BTICINO: Living, Light, Light Tech, Livinglight, Axolute VIMAR: Eikon, Eikon Evo, Plana
В	ABB: Chiara BTICINO: Matix * GEWISS: Chorus * VIMAR: Arkè, Idea

remove the teeth from the frame for proper compatibility (see figure below).



## PLASTIC ELEMENTS

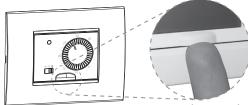


- For correct compatibility with the BTicino Matix series, use the BM plastic elements in combination with the frame B.
- For correct compatibility with the Vimar Idea series, use the VI plastic elements in combination with frame B.

# Depleted batteries signal (only for CT 10B)

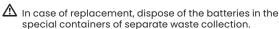
When the battery is almost depleted, the yellow LED turns on for half a second every 10 seconds. In this condition it is necessary to replace the batteries as soon as possible.

The extraction of the device, to access the battery compartment, takes place by pulling on the convexity of the front panel



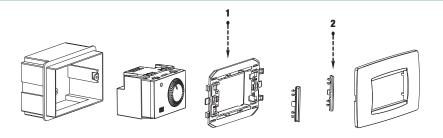
Use only alkaline batteries

⚠ It is necessary to remove the batteries before the instrument is scrapped.





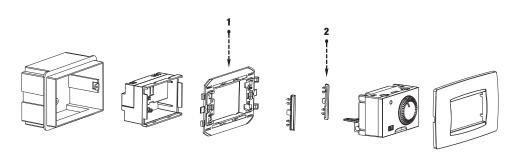
## CT 10A mounting



#### Note:

- 1. Choose the adaptability frame based on the compatibility table (see BOX "Adaptability frames") for the domestic range.
- 2. Insert, if necessary, plastic elements (see BOX "Adaptability frames")

## **CT 10B mounting**



#### Note:

- 1. Choose the adaptability frame based on the compatibility table (see BOX "Adaptability frames") for the domestic range.
- 2. Insert, if necessary, plastic elements (see BOX "Adaptability frames")

## Operation

## Operating mode setting

The choice of the operating logic occurs via selector switch placed on the front of the device. It's possible to choose among 3 modes:

- cooling mode. Place the selector switch in position 
  if the device is connected to a cooling system. The output relay is activated when the environment temperature is higher than the set one.
- ${\bf 9\!\!\!/}$  off mode. Place the selector switch in position  ${\bf 0\!\!\!/}$  in case the turned off for long periods

Note: In this condition, the thermostat activates the heating system if the temperature falls below 2 °C (antifreeze temperature).

heating mode. Place the selector switch in position a if the device is connected to a heating system. The output relay is activated when the environment temperature is lower than the set one.

#### Error probe signal

The thermostat signals the error probe condition by blinking the LED 2 times per second.

In this case the regulation is inhibited and the relay contact is kept open. Contact Technical Assistance.

## Setpoint modification

To change the setpoint, turn the knob. The range of settable values is from  $5^{\circ}\text{C}$  to  $35^{\circ}\text{C}$ 

On CT 10A the activation of the relay is signaled by the red LED.

On CT 10B the activation of the relay is not reported to limit battery consumption.

The device has two ring nuts to limit mechanically the range if the thermostat is installed in public places or in hotel rooms.

To limit the range, proceed as follows:

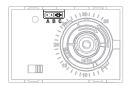
- Set the knob in an intermediate value of the desired range (for example if you want to limit the range between 15°C and 25°C turn the knob until the indicator is in position 20°C).
- Remove the knob.
- Under the knob there are two ring nuts marked
- by the word "min" and "MAX", respectively for the lower and upper limit.
- Turn the "min" ring nut clockwise and "MAX" anticlockwise until the desired position (in this case 15 for min and 25 for MAX).
- Replace the knob, making sure that the indicator of the setpoint on the knob is in the same position when the knob has been removed (in this case 20°C).

To remove the limitation to the setpoint and reset the range  $5 \div 35^{\circ}$ C turn the two ring nuts up to bring the locks of limitation in a position outside the range  $5 \div 35^{\circ}$ C

#### Regulation type setting

The device has a jumper with whom to choose the type of regulation, between on/off or proportional.

To access the jumper you need to remove the cover after removing power supply to the device. The position of the jumper determines the type of regulation as follows:



- jumper in position A: ON/OFF regulation with fixed differential at 0.3°C (default setting)
- jumper in position B: proportional regulation with band 0.8 °C (-0.3 +0.5) and 8 minutes time base
- jumper in position C: proportional regulation with band 1.5 °C (-0.7 +0.8) and 15 minutes time base

Example of proportional operation with band 0.8°C and 8 minutes

```
\begin{split} & \text{Tmis} = \text{Tset} + 0.5 \,^{\circ}\text{C} = \text{relay OFF} \\ & \text{Tmis} = \text{Tset} + 0.4 \,^{\circ}\text{C} = 1 \, \text{minute ON} \, ; \, 7 \, \text{minutes OFF} \\ & \text{Tmis} = \text{Tset} + 0.3 \,^{\circ}\text{C} = 2 \, \text{minutes ON} \, ; \, 6 \, \text{minutes OFF} \\ & \text{Tmis} = \text{Tset} + 0.1 \,^{\circ}\text{C} = 3 \, \text{minutes ON} \, ; \, 5 \, \text{minutes OFF} \\ & \text{Tmis} = \text{Tset} + 0.1 \,^{\circ}\text{C} = 4 \, \text{minutes ON} \, ; \, 4 \, \text{minutes OFF} \\ & \text{Tmis} = \text{Tset} - 0.1 \,^{\circ}\text{C} = 5 \, \text{minutes ON} \, ; \, 3 \, \text{minutes OFF} \\ & \text{Tmis} = \text{Tset} - 0.2 \,^{\circ}\text{C} = 7 \, \text{minutes ON} \, ; \, 1 \, \text{minute OFF} \\ & \text{Tmis} = \text{Tset} - 0.3 \,^{\circ}\text{C} = \text{relay ON} \end{split}
```

Example of proportional operation with band 1.5°C and 15 minutes base  $\,$ 

```
Tmis = Tset + 0,8 °C = relay OFF
Tmis = Tset + 0.7 \,^{\circ}C = 1 \,^{\circ}minute ON ; 14 minutes OFF
Tmis = Tset + 0.6 °C = 2 minutes ON; 13 minutes OFF
Tmis = Tset + 0,5 °C = 3 minutes ON; 12 minutes OFF
Tmis = Tset + 0,4 °C = 4 minutes ON; 11 minutes OFF
Tmis = Tset + 0,3 °C = 5 minutes ON; 10 minutes OFF
Tmis = Tset + 0,2 °C = 6 minutes ON; 9 minutes OFF
Tmis = Tset + 0.1 \,^{\circ}C = 7 minutes ON; 8 minutes OFF
Tmis = Tset
                   = 8 minutes ON; 7 minutes OFF
Tmis = Tset - 0,1 °C = 9 minutes ON; 6 minutes OFF
Tmis = Tset - 0,2 °C = 10 minutes ON; 5 minutes OFF
Tmis = Tset - 0,3 °C = 11 minutes ON; 4 minutes OFF
Tmis = Tset - 0,4 °C = 12 minutes ON; 3 minutes OFF
Tmis = Tset - 0,5 °C = 13 minutes ON; 2 minutes OFF
Tmis = Tset - 0,6 ^{\circ}C = 14 minutes ON ; 1 minute OFF
Tmis = Tset - 0,7 °C = relay ON
```

Note: The proportional regulation is available only for the heating operation.

Note: The position of the jumper is read only when the device is on. Change the position of the jumper when the device is supplied, as well as expose you to possible shock, so it is useless.

## Night reduction (only for CT 10B)

The CT 10B has an input to whom to connect an external contact. With closed contact, the setpoint is reduced by 3°C than is set with the knob (in heating mode only).

