

EUROSTER 4010

wired, daily room thermostat, for all types of heating devices.

MANUFACTURER: P.H.P.U. AS, Chumiętki 4, 63-840 Krobia, Poland

In order to take full advantage of thermostat capabilities please read this installation and operation manual carefully.

This manual is intended for the 11.09.2020 version of the thermostat.

1. THERMOSTAT APPLICATION

Euroster 4010, is a user-friendly thermostat designed for controlling the temperature in living and utility rooms within the temperature range of 5 °C...35 °C. It is used to control the operation of the CH boiler and other heating system components. Sensors used in **Euroster 4010** enable temperature read-out and programming accuracy of 0.1 °C.

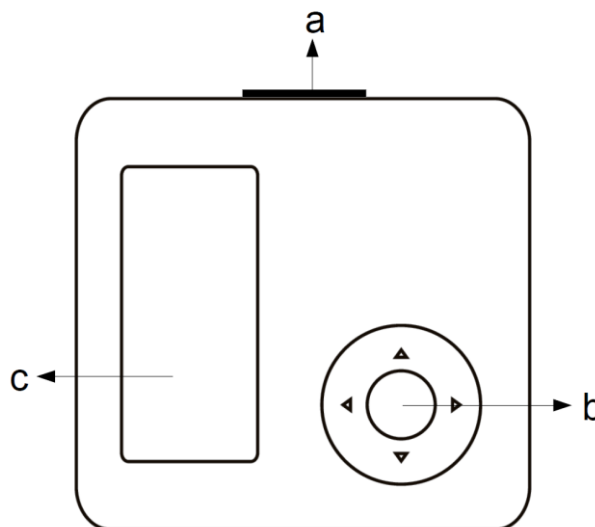
2. BASIC THERMOSTAT FUNCTIONS

- Legible, backlit LCD
- Simultaneous display of current and preset temperature value
- Enables hysteresis setting between 0.2°C and 10°C or PWM adjustment
- Temperature setting and read-out accuracy of 0.1 °C
- Possibility to switch the thermostat off after the heating season
- Discharged batteries indication
- Temperature read-out correction
- Surface mounting

3. THERMOSTAT VISIBLE ELEMENTS

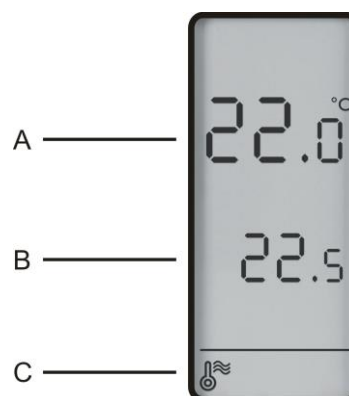
BODY

- a. Thermostat on/off switch
- b. Thermostat control knob
- c. Display



DISPLAY

- A. Current temperature
- B. Preset temperature
- C. Heating active symbol



4. INSTALLATION

4.1. Safety rules

CAUTION!

- **Prior to the commencement of any installation, works read this manual carefully!**
- **Prior to mounting or dismantling the thermostat make sure that the heating system is de-energized.**
- **Voltages hazardous to life may be present on thermostat output cables (power supply phase voltage), therefore only qualified technicians may install the thermostat!**
- **The electric connections performed and cables used shall be adequate to the applied loads and must conform to all requirements!**
- **Do not install the thermostat in rooms with increased humidity; protect it against water and other liquids!**
- **Do not install any thermostat showing signs of mechanical damage!**
- **The thermostat is not a safety component. Additional protection devices must be used in systems prone to the risk of damage due to the failure of control systems!**
- **The device is not intended for use by children!**
- **Should there be any problem with the proper operation of the thermostat, please contact your technician or the manufacturer!**

4.2. Proper place of installation

The thermostat is designed for indoor installation. In order to ensure fully efficient operation of the thermostat, please make sure that the following recommendations regarding the location of the thermostat are observed:

- Locate the thermostat at the height of approximately 1.5 m above the floor
- Avoid places with strong sunlight, near heating or cooling devices, situated directly by doors, windows, and other similar locations, where the temperature measurement could be easily disturbed by external conditions.
- Avoid places with poor air circulation, e.g. behind furniture.
- Avoid moist places due to the negative effect of moisture on the service life of the device.

4.3. Thermostat installation

The thermostat housing consists of two parts – a base (gray) with a cable connector and a front panel with a display. Thermostat components are joined together by a connector and clips. In order to separate the thermostat components hold the top and bottom part of the base and use force to pull the base apart.

Prior to mounting the thermostat lead all necessary cables. Connect the thermostat using a wire with a diameter adequate to the switched load. Mounting holes of the thermostat enable installation in standard Φ 60 mm outlet boxes or directly on walls using screw anchors.

Unscrew the connector compartment cover, put the cables through the opening, fix the thermostat base on the wall in a possibly most horizontal position, and tighten the cables.

Having finished the installation, check the correct connection of the cables. Retighten the joint cover.

4.4. Insertion and replacement of batteries

Place the batteries in the thermostat while observing the correct polarity. There are installation markings in the battery compartment. Then install (snap) the thermostat onto the base.

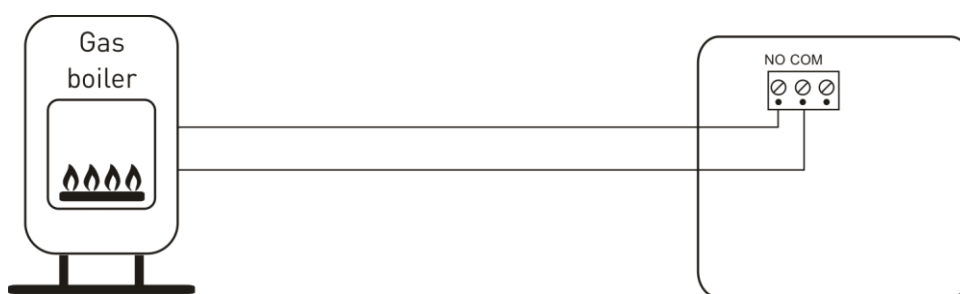
CAUTION! Use only alkaline AAA batteries to power the thermostat. Do not use rechargeable batteries because their voltage is lower and their effective time is shorter.

It is recommended to replace batteries before each heating season.

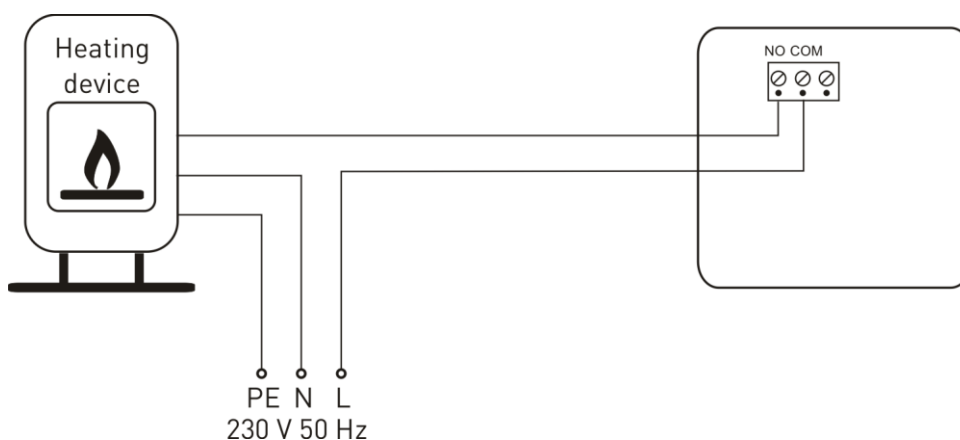
4.5. Sample Connection Diagrams

The following diagrams are simplified and do not cover all elements necessary for the correct installation.

In a system with a gas boiler



In a 230 V 50 Hz heating system



5. THERMOSTAT CONFIGURATION

Press and hold the central and right buttons for approximately 2 seconds to enter the setting mode. Configure the thermostat in the following way: choose a required parameter with "▼" and "▲" buttons, use the central button to enable the introduction of changes and change the value using "▼" and "▲", then confirm the modified value with the central button. The following parameters may be changed:

- **Temperature range limit – low (LO)**

This parameter allows you to limit the temperature range to be set. This parameter limits the lower values of the range.
Default value 5 °C.

- **Temperature range limit – high (HI)**

This parameter allows you to limit the temperature range to be set. This parameter limits the higher values of the range.
Default value 35 °C.

Example:

If you want to set a set temperature between 18 °C and 23 °C, you must set the "LO" value to 18 °C and the "HI" value to 23 °C.

- **Hysteresis/PWM (H)**

Two operational options of activating the heating algorithm are available: hysteresis or PWM.

In the case of hysteresis, the device is activated based only on a difference between the preset and current temperature. The parameter determines the accuracy of room temperature control. You may set the hysteresis between 0.2 °C and 10 °C, and the factory setting is 0.4 °C.

Setting the value to 0.0 will put the thermostat into PWM mode.

PWM is a more advanced method to achieve the preset temperature. It is suited for systems with underfloor water heating. It is used to limit room temperature fluctuations. Unlike in on/off controls the current status of the transmitter depends not only on the current difference between the preset and measured temperature but also on the past changes of temperature. PWM operates with fixed parameters:

- ✓ Minimum relay activation time of 3 minutes,
- ✓ Number of cycles per hour - 4
- ✓ Operating range of the PWM algorithm of 0.7 °C.

- **Temperature sensor correction (C)**

It is a value added to or subtracted from the measured temperature value. It adjusts the displayed temperature within the range of +/- 5 °C. The function is convenient if the thermostat is located in a slightly warmer or cooler area of the room.

- **Reset (rEs)**

When you change the value from 0 to 1, the thermostat restores factory settings.

- **Exit (ESC)**

Press the central button to make the thermostat exit the service mode.

Exit the menu at any time by pressing the left "◀" button of the knob.

6. SETTING TEMPERATURE

Use "▼" and "▲" buttons to set the desired temperature value. Pressing one of the buttons for the first time turns on the backlight and repeated pressing adequately decreases or increases the temperature value with 0.1 °C step of the change. The longer the button remains pressed, the quicker the values change. Confirm the temperature change with the central button or wait until the set value stops flashing and is stored. The factory setting is 20 °C.


7. TEST MODE (tSt)

In the test mode, you may check the main parameters of the thermostat. In order to enter the test mode press and hold the central and "◀" button for approximately 2 seconds.

The following tests are available:

- internal sensor temperature measurement
- relay test - press the lower "▼" button repeatedly to switch the relay on/off,
- backlight test - press the upper "▲" button repeatedly to switch the backlight on/off

8. SWITCHING THE THERMOSTAT OFF

When the switch is moved, the thermostat goes into the frost protection mode.  icon appears on the display. Frost protection ensures that the heating is turned on only to prevent temperature dropping below 4°C.

9. ERROR INDICATION

OP – sensor missing or damaged

SH – short-circuit of the sensor or a damaged sensor

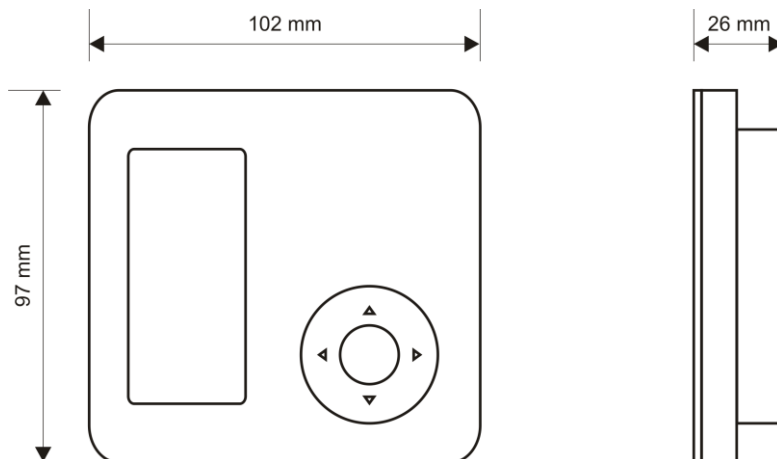
Err 1 – internal error, remove and after a few moments reinstall the batteries

 – discharged batteries icon.

10. MAINTENANCE

Do not use solvents and aggressive detergents to clean the thermostat, since they may damage the surface of the housing and the display. Clean the thermostat housing with a soft cloth.

11. DIMENSIONS



12. TECHNICAL DATA

Controlled device	heating systems
Supply voltage	3V (2 pieces of AAA batteries)
Thermostat output	relay, voltage-free type, SPST
Maximum load	5 A 230 V 50 Hz
Temperature measurement range	0 °C...+99°C
Temperature control range	+5 °C...+35 °C
Temperature control accuracy	0.1°C
Temperature read-out accuracy	0.1 °C
Hysteresis range:	0.2 °C... 10 °C with 0.1 °C step of the change or PWM mode
Visual signalization:	backlit LCD
Operating temperature	+5 °C...+45 °C
Storage temperature:	0°C...+50°C
Ingress protection rating	IP20
Color	white/gray
Installation method	wall mount, flush back box Φ 60 mm or screw anchors
Thermostat weight without batteries	120g
Warranty period	2 years
Thermostat class	IV
Thermostat contribution to the seasonal energy efficiency of room heating	- 2 % (PWM mode)

13. KIT CONTENTS

- **Euroster 4010** thermostat
- 2 pieces of AAA batteries
- screw anchors
- Installation and Operation Manual with Warranty Certificate

14. SIMPLIFIED DECLARATION OF CONFORMITY

P.H.P.U. AS AGNIESZKA SZYMAŃSKA-KACZYŃSKA hereby represents that the type of EUROSTER 4010 equipment conforms to the following directives: 2014/35/EU (LVD), 2014/30/EU (EMC), 2011/65/EU (RoHS).

The complete text of the Declaration of EU conformity is available at the following Internet address: www.euroster.pl

