EUROSTER Q1

Wired, daily room thermostat for all types of heating and air-conditioning devices.

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

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

This manual is intended for V0.3 version of thermostat

1. THERMOSTAT APPLICATION

Euroster Q1 is a state-of-the-art thermostat designed for controlling temperature in living and utility rooms within temperature range of: 5°C... 45°C. It is used to control the operation of a CH boiler and other components of a heating system. It controls electrical equipment, floor heating and air-conditioning systems. The thermostat is equipped with a wide range of useful functions, innovative daily programming and temperature control with an accuracy of 0.2°C. It enables easy control of ambient and floor temperature. If needed, **Euroster Q1** may control a heating device in the following three options of temperature measurement:

- ambient temperature measurement if only the internal sensor is used,
- floor temperature measurement if only the floor sensor is connected,
- ambient temperature measurement with floor temperature limitation if both temperature sensors are connected.

2. VISIBLE ELEMENTS

2.1. Displayed signs and icons
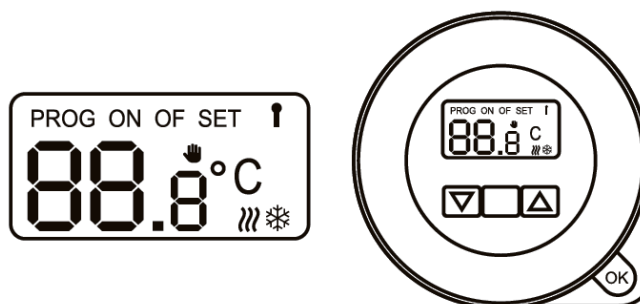
- 21.3°C – current temperature measured by a temperature sensor
- ")))" or "❄" – turning on of an output, adequately in a heating or cooling mode
- PROG ON the programming mode is active
- PROG OFF escape from the programming mode
- PROG operation with stored program
- ✋ operation with a temporary temperature setting
- SET setting mode active
- OFF turning the thermostat off
- LO – discharged batteries indication
- "❗" – floor sensor connection

2.2. Functions of the buttons

- "▼", "▲" – increase/decrease of temperature and preset values
- OK – selection of settings and escape from modes

3. INSTALLATION

3.1. Safety rules

ATTENTION

- **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 a thermostat showing any 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 proper operation of the thermostat, please contact your technician or the manufacturer!**

### 3.2. Proper place of installation

In order to ensure fully efficient operation of the thermostat please make sure to observe the following recommendations regarding the location of the thermostat:
the thermostat is designed for indoor wall mounting at a height of approximately 1.5 m above the floor
avoid places with strong sunlight, near heating or cooling devices, directly by the 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.
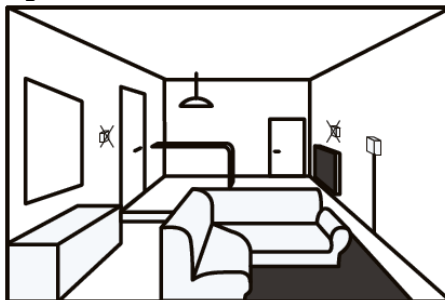
3.3. Opening the thermostat

The thermostat housing consists of two main parts – a base with a connector for cables and a front panel with a battery cover. The thermostat components are joined together with two latches.
Pull out the battery cover in order to open the thermostat and press one of the hooks on the edge of the thermostat with a flat screwdriver, then press the other one. Carefully separate the front panel and the base.

pull out the battery cover
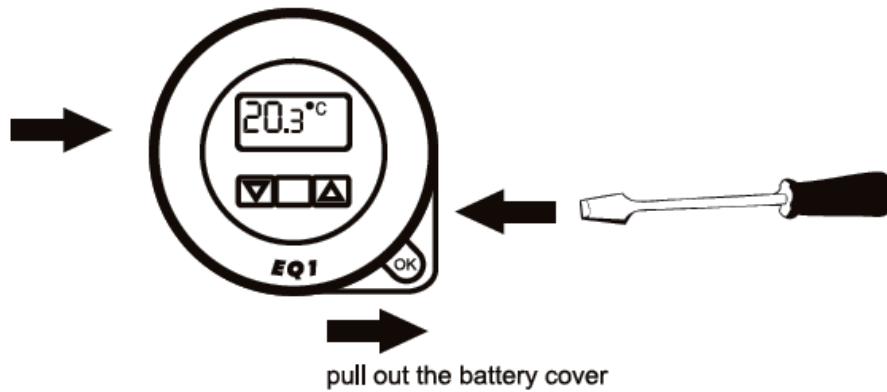
3.4. Installation of the thermostat and batteries

Lead all necessary cables prior to mounting the thermostat. Connect the thermostat with a stranded wire with a diameter adequate to the switched load (minimum 0.75 mm2). Mounting holes of the thermostat enable the installation in standard Ø60 flush mount back boxes or directly on walls using screw anchors. There is a mounting template for surface mounting provided in a kit. In order to insert the cables through the base break off a blind plate located between the connection ports and screw the base to the wall possibly most horizontally. Connect the cables to the connectors according to the description and sketch. Slip a surplus of the cable back into the wall. In case of draft fill the space with inflammable material. Then install the front panel and insert the batteries while observing the correct polarity.
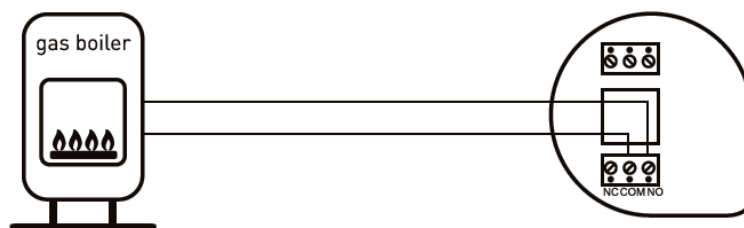
ATTENTION!
Use only AA batteries to power the thermostat. Do not use rechargeable batteries because their voltage is lower and their effective time is shorter (due to self-discharge).
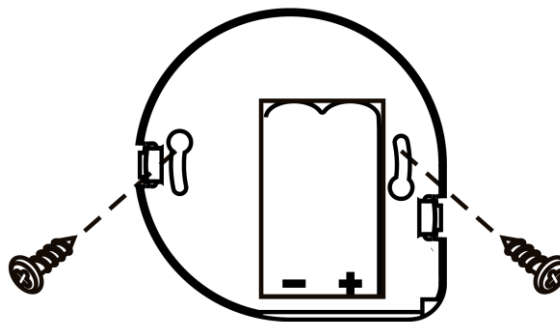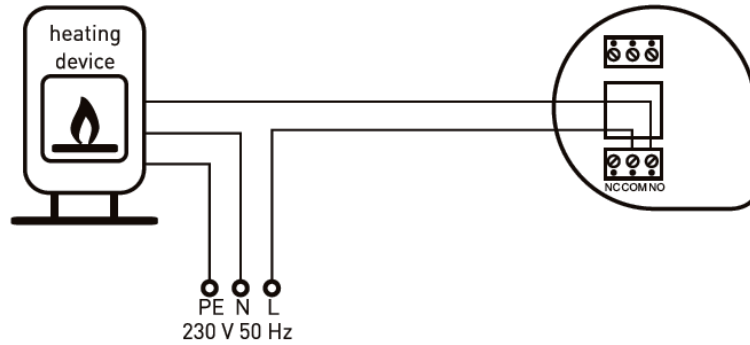

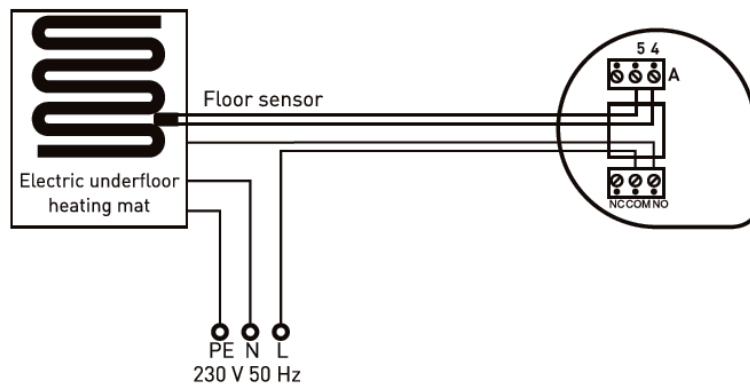### 3.5. Sample Connection Diagrams

In arrangement with a gas boiler

In a heating/cooling arrangement

In a floor heating arrangement

3.6. Floor sensor connection

Screw the floor sensor to connector A (No. 4 and 5 terminals) according to the above sketch. It is not necessary to keep the cable polarization. After selecting S1 or S2 operation mode the floor sensor connection icon "❗" will be displayed.

ATTENTION!
The floor sensor with the connector is not included in the basic kit. Please order it separately.

4. THERMOSTAT CONFIGURATION

4.1. Setting mode

Press and hold OK and "▼" buttons for approximately 3 seconds to enter the setting mode. Configure the thermostat in the following way: choose a required parameter with "▼", "▲" buttons, enable changes with OK button and change the value with "▼", "▲", then confirm the changed value with OK button. The following parameters may be changed:

1. **Hysteresis – H**
   It is a difference between current and preset temperature allowed by the thermostat. It determines the accuracy of room temperature control. Euroster Q1 enables selecting the following values of hysteresis: 0.2°C/0.5°C/1°C/2°C or 5°C.
   The sketch depicts the effect of hysteresis
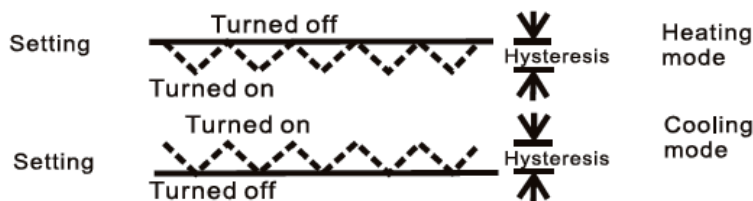
2. **Sensor calibration – C**
   This is a value added to or subtracted from the measured temperature value. It enables correction of the displayed temperature. Calibration range: -5°C... +5°C with 0.2°C step of the change.

3. **Operation mode – t**
   It enables to choose the thermostat operation in heating ("⟩⟩⟩" icon) or cooling ("❆" icon) mode.

4. **Selection of sensor – S**
   This option enables to select a temperature sensor to cooperate with the thermostat. There are three operation modes available:
   "S 0" – the thermostat measures and maintains the temperature based only on internal sensor operation
   "S 1" – the thermostat measures and maintains the temperature based only on external sensor (the one with cable) operation
   "S 2" – the thermostat measures the temperature of both sensors; maintains the temperature of an internal sensor, and the external sensor acts as a temperature limit.
5. **Floor temperature limit value (active only in S2 mode) – L**
   This parameter enables to set the maximum safe floor temperature. When this temperature is reached, the relay is switched off.
6. **ESC**
   Choosing this preset and confirming it with OK button enables to leave the setting mode and restore the operation according to the settings. After 15 seconds of idleness the thermostat leaves the test mode automatically.

All the settings are listed below:

Icon	Meaning	Minimum value	Maximum value	Default value
H	Hysteresis	0.2	5	0.2
C	Sensor calibration	-5	5	0.0
t	Operation mode	Cooling ❄	Heating 〉〉〉	Heating 〉〉〉
S	Sensor	0	2	0
L	Temperature limit	5	45	45
ESC	Escape the setting mode	-	-	-

5. THERMOSTAT OPERATION

5.1. Setting of temperature

Use "▼", "▲" buttons to set the desired temperature value. Pressing one of the buttons for the first time will make the current temperature preset blink, and further pressing will cause the temperature value decrease or increase adequately with 0.2°C step of the change. The longer the button remains pressed, the quicker the values will change. Confirm the temperature change with OK or wait until the set value stops blinking and is stored.

5.2. Programming and program canceling mode

One or two temperatures entered by the user may be stored daily in a program. The preset values are stored with an accuracy of one minute. When operating with a program, the thermostat switches the stored temperatures regularly at their setting times.
Enter the programming mode by pressing OK for approximately one second, PROG ON sign appears on the display and then enter the temperatures at the adequate times. This mode is leaved after:

- entering two temperature values. The preset temperatures with their setting times are stored as a program. The displayed PROG sign signals the end of the programming mode. The program is then implemented regularly in all days of the week.
- a lapse of 24 hours. If one temperature value is entered, the thermostat maintains this temperature. If no temperature is entered, the programming mode is canceled.
- holding OK for 1 second twice. Pressing it for the first time enables to turn on programming mode again and pressing it for the second time enables to leave the programming mode and erase the previous program. Leaving the programming mode is signaled by displaying PROG OFF sign for approximately one second.

Example:
First temperature is entered at 8.00 am, e.g. 19°C, the second one is entered at 4.00 pm, e.g. 21°C. The next day the thermostat will maintain the temperature of 19°C from 8.00 am to 4.00 pm and 21°C from 4.00 pm to 8.00 am.

5.3. Temporary change of temperature

During the thermostat operation with the stored program, it is possible to introduce changes of temperature with "▼" and "▲" buttons. However, the changed temperature value will be

valid only until the next hour stored in the program. For the time of operation with the changed temperature the ✋ message is displayed.

5.4. Operation with two temperature sensors

The function of floor temperature limitation is active when two sensors are connected and S2 mode is selected. If the preset temperature is reached at any sensor, the receiver is turned off. The floor temperature limit control operates with fixed hysteresis of 5°C. The device is turned on again when the temperature drop reaches the hysteresis value. Overview of the current temperature of the floor sensor is possible in test mode.

5.5. Turning the thermostat off

In order to turn the thermostat off hold "▼", "▲" buttons for 5 seconds. OFF sign is displayed. The relay is turned off.
Hold the same buttons for 3 seconds again in order to turn the thermostat on.

5.6. Discharged batteries indication

When the voltage of the batteries drops to the level of 2.6 V, the LO message is displayed instead of the temperature value. Despite that the temperature is not displayed, the thermostat operates according to the settings until the voltage drops to the level of 2.4 V. After reaching this level, the relay is turned off (the COM and NO contacts are opened) and the temperature measurement is stopped.

5.7. Replacement of batteries

The supplied batteries guarantee the correct operation of the thermostat for one heating season, therefore it is recommended to replace the batteries before each heating season. When LO message is displayed, replace the batteries as soon as possible. In order to do so pull out the battery cover carefully, remove the used batteries, replace them with new ones while observing the correct polarity. If the thermostat was working with a program, it is necessary to enter the programming mode and set the temperatures again, however the setting mode parameters are not deleted.

5.8. Indication of sensor damage

According to the type of damage there is a "Sh" or "OP" sign displayed for shortage and opening (break) of the sensor. If the floor sensor is damaged, then blinking "❗" icon is displayed additionally.

6. TEST MODE

Test mode enables to check the main parameters of the thermostat. In order to enter the test mode press and hold OK and "▲" buttons for approximately 3 seconds. Choose the desired test with "▼", "▲" buttons and in case of relay test change its status with OK button. The following tests are available:

a. **LCD test**
   It enables to check if all icons used in the thermostat are displayed correctly.
b. **relay test**
   It enables to check the operation of the switching element (relay).
c. **internal sensor test**
   It indicates the current temperature measured by the ambient temperature sensor. Temperature is read on an ongoing basis.
d. **external sensor test**
   Indicates the current temperature measured by the floor temperature sensor. Temperature is read on an ongoing basis. The absence of sensor is indicated by displaying "---" icon.
e. **software version**
   The record shows the number of the software installed in the thermostat, e.g. o1.3.
f. **ESC**
   Choosing this preset and confirming it with OK button enables to leave the test mode and restore operation according to the settings. After 15 seconds of idleness the thermostat leaves the test mode automatically.

7. 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 (dry or slightly moistened with a mild detergent). Please remember to change the batteries, since leakage of the electrolyte may cause an irreversible damage to the thermostat.

8. DIMENSIONS
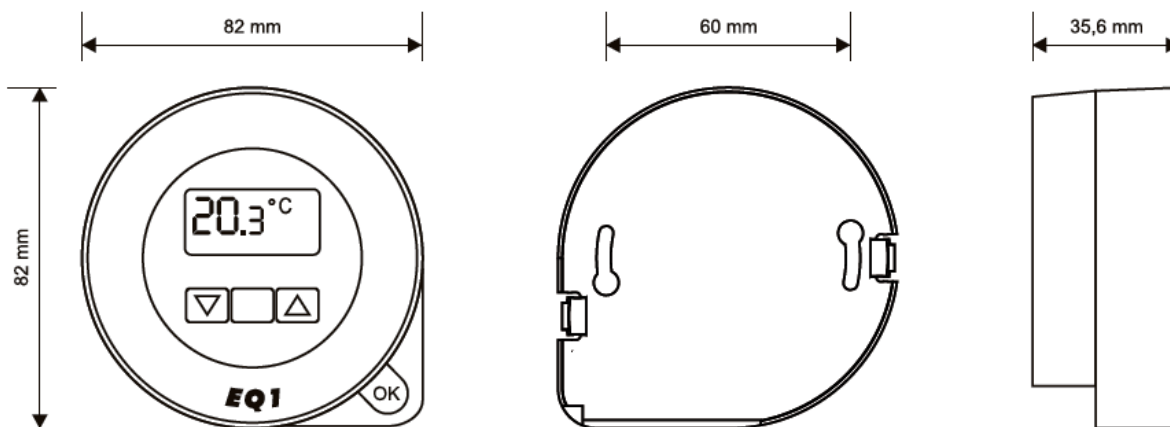
9. TECHNICAL DATA

Controlled device	air conditioning/ heating systems
Supply voltage	3V, 2 pieces of AA batteries
Thermostat output	relay, voltage-free type, SPDT
Maximum load	5A 230 V 50 Hz (1,100 W)
Temperature measurement range	-9.9°C...+99°C
Temperature control range	+5°C...+45°C
Temperature control accuracy	0.2°C
Temperature reading accuracy	0.1°C
Hysteresis range	0.2°C/0.5°C/1°C/2°C/5°C
Visual signalization	LCD
Operating temperature	+5°C...+45°C
Storage temperature	+0°C...+55°C
Ingress protection rating	IP20
Color	white
Mounting method	wall-mounted, screw anchors
Thermostat weight without batteries	98.6g
Warranty period	2 years
Dimensions (W/H/D) mm	82/82/35.6

10. KIT CONTENTS

- **Euroster Q1** thermostat,
- AA batteries,
- screw anchors,
- Installation and Operation Manual with Warranty Certificate,
- mounting template

11. SIMPLIFIED DECLARATION OF EU CONFORMITY

P.H.P.U. AS AGNIESZKA SZYMAŃSKA-KACZYŃSKA hereby declares that the type of **Euroster Q1** equipment conforms to the following directives: 2014/30/EU (EMC), 2014/35/EU (LVD) and 2011/65/EU (RoHS).

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

12. ELECTRONIC WASTE MANAGEMENT INFORMATION

This product is designed and manufactured from high quality materials and components suitable for reuse.

The crossed out wheelie bin symbol located on the product (Fig. 1) means that the product is subject to selective collection in accordance with the provisions of the Directive 2012/19/EU of the European Parliament and of the Council.

The product contains batteries, which are marked with a crossed-out wheelie bin symbol (Fig. 1). The batteries are subject to the selective collection in accordance with the provisions of the Directive 2006/66/EC of the European Parliament and of the Council.

Such marking informs that the electrical and electronic equipment as well as batteries and accumulators may not be disposed of together with other household waste after their service life has ended. The user is obliged to take the used devices and batteries or accumulators to a point of collection of waste electrical and electronic equipment and batteries and accumulators. The entities collecting such equipment, including the local collection points, shops, and municipal entities, set up an appropriate system enabling handover of such equipment and batteries and accumulators. The proper disposal of waste equipment, batteries and accumulators contributes to prevention of consequences hazardous to the health of persons and nature, resulting from the possible presence of hazardous components in the equipment and batteries and from inaccurate storage and processing of such equipment and batteries.

Households play an important role in contributing to reuse and recovery, including recycling, of waste equipment. The attitudes influencing protection of the common good of clean environment are shaped at this level. Households are also one of larger users of small equipment and its rational management at this level impacts the recovery of recyclables. Inaccurate disposal of this product may be penalized in accordance with national legislation.

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WARRANTY CERTIFICATE
EUROSTER Q1

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Warranty terms:

1. The warranty is valid for 24 months from the device sale date.
2. Claimed controller together with this warranty certificate must be supplied to the seller.
3. Warranty claims shall be processed within 14 business days from the date the manufacturer has received the claimed device.
4. The device may be repaired exclusively by the manufacturer or by other party clearly authorized by the manufacturer.
5. Warranty becomes invalidated in case of any mechanical damage, incorrect operation and/or making any repairs by unauthorized persons.
6. This consumer warranty does not exclude, restrict nor suspend any right of the Buyer ensuing if the product would not meet any of the sale contract terms.

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| sale date | serial number / date of manufacture | stamp and signature | service: tel. 65-57-12-012 |

Business entity that issued this warranty certificate is:
P.H.P.U. AS Agnieszka Szymańska-Kaczyńska, Chumiętki 4, 63-840 Krobia, Poland