# Installation and operating instructions

**Airobot underfloor heating thermostat 230V**

# Important information

The Airobot underfloor heating thermostat is only suitable for controlling water underfloor heating actuators, the thermostat is not suitable for electric floor heating. It is possible to control electric floor heating with a separate external relay A-HC-R23016 (ask for more from the dealer).

The principle of operation of the thermostat in the room is to control the actuator on top of the floor collector and the flow of hot heating water under the floor, thereby changing the temperature in the rooms. The thermostat does not interact with the heater, and the actual maximum temperature depends on the setting of the heater. For example, you can enter the desired temperature of 25 °C on the thermostat, but if the heater is set to a lower temperature, then this temperature will not be achieved even if the thermostat constantly keeps the heating inside.
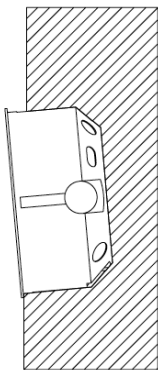
# Installation conditions

When choosing the location of the room sensor, it should be borne in mind that the purpose of the room sensor is to measure the air temperature in the room and, based on this, to regulate the heating of the room. To obtain the most accurate reading possible, when choosing the location of the room sensor, it is necessary to observe:
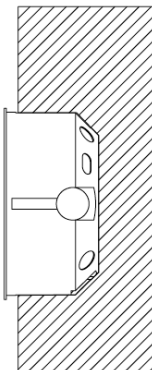
- Must not be near the radiator (for example, TV, router)
- Not allowed to be exposed to the direct rays of the sun

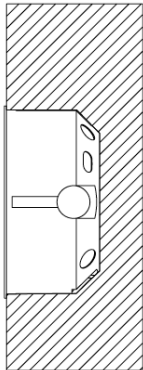**The wall chair must be level with the wall**

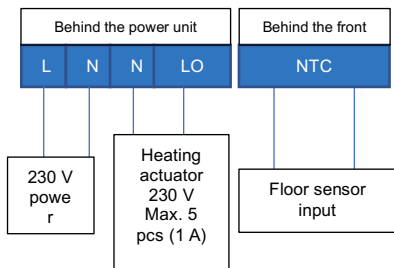NOT ALLOWED    NOT ALLOWED    ALLOWED

# Installation

**Step 1** Turn off the corresponding automatic circuit breaker(s) in the switchboard. Double-check, using the appropriate tools, that the cables are not under current.

**Step 2 (if you are replacing the old thermostat)**
Mark the markings on the cables. Remove the old thermostat: it is recommended to photograph or write down the connection of the wires of the old thermostat in case the installation of the new thermostat should fail.

**Step 3** Connect the wiring of the power unit according to the connection scheme. Sometimes there is no wire from the heating actuator "N", then it does not need to be connected. At most, one thermostat can switch up to 5 actuators (max. 1 A).

| Behind the power unit | | | | Behind the front |
|---|---|---|---|---|
| L | N | N | LO | NTC |

| 230 V power r | Heating actuator 230 V Max. 5 pcs (1 A) | Floor sensor input |
|---|---|---|

**Step 4 (if there is a floor sensor)**
Bring the floor sensor cable through the side opening of the power unit to the mounting plate.
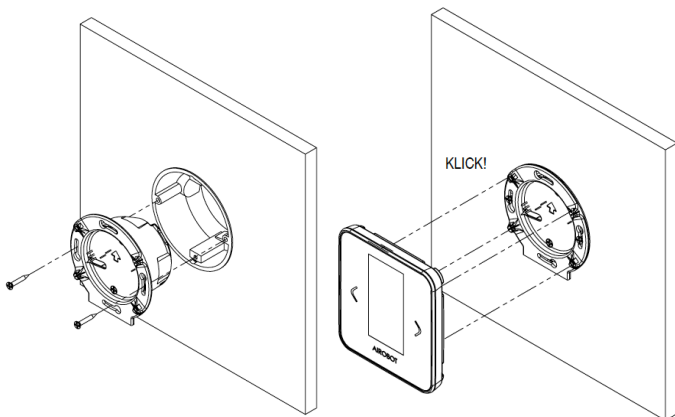


**Step 5** Attach the power supply
to the device box with screws.

**Step 5 (if there is a floor sensor)** Floor sensor connect to the NTC slot behind the front panel (10 kΩ)

**Step 6** Attach the front panel of the thermostat to the power unit, make sure that the cable does not get stuck between the front panel and the power supply unit

**Step 7** Turn on the power supply and check if the thermostat had a setting - if there is an AIROBOT logo in front of it, press the "OK" button to start the setup.

**Step 8** Configure according to the instructions shown on the screen:

**Description**

| **Choose a language** | **Estonia**, **English**<br>Choose a language according to your preference. |
|---|---|
| **Select the mode of operation** | **Air / Air**: switching the thermostat is carried out by air temperature<br>**Floor / Floor**: The thermostat is switched according to the floor temperature – a floor sensor installed inside the floor is required. For example, in the bathroom. Later can be changed if necessary. |
| **Screen** | **Regular / Normal**: normal display mode<br>**Revert / Black**: works the other way around, the background is black<br>Select the background color according to your preference. Fading may occur |

You can change the settings later by going to Menu - Settings.

**Step 9** Test the actuator: Temporarily set the setting point higher than the actual temperature so that the thermostat turns on the actuator. Make sure that the actuator opens (it takes up to 10 minutes to open / close). Lower the setting point and make sure that the actuator closes.

The actuator is in the closed position

**Step 10 (optional)** Connect the thermostat to a wireless Internet network (WiFi)
Open the menu by pressing the MENU button. In the menu, select "WiFi"

- The "Connect WiFi" view appears on the screen
- On your smartphone or computer, open the WiFi setting and connect your smart device to the wireless internet network created by the thermostat called "Airobot-Thermostat-XXXXXX"
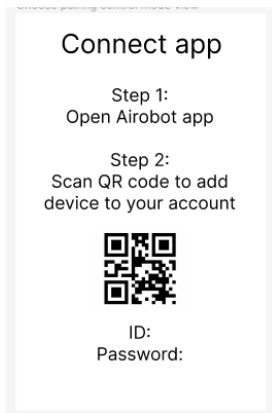
The actuator is in the open position

- Open a web browser and write ***airobot-thermostat.local in the address bar*** *(alternatively, enter the displayed IP on the screen if the previous link does not work)*
- The thermostat web page will open. Press SCAN WIFI / SEARCH WIFI and select the name of your home internet network from the list
- Enter the password for your home internet network
- Press Create Connection
- In the case of a successful connection, the text "Pending.." must be replaced on the thermostat screen with the text "Connection established". Next, the registration of the thermostat automatically occurs, which takes up to a few minutes. Also, on the first connection, your thermostat can also pull down the latest software from the server and make an update. *If the connection failed: for example, you chose the wrong network or the password was entered incorrectly, then you need to perform a restoration of network settings. To do this, select "WiFi" again from the menu – it will ask "Do you want network settings to zero? - Yes"*

**Step 11 (optional)** Add thermostat to mobile app

- In the thermostat menu, select the option "Mobile application". You should be shown a QR code
- In the mobile app, go to Setup - Homegroup - Add a new device
- Scan the QR code that appears on the thermostat screen or add the ID and password manually.

Choose pairing control mode view

## Connect app

Step 1:
Open Airobot app

Step 2:
Scan QR code to add
device to your account

ID:
Password:

# Use
**Main view**

Heating: if the icon is displayed then the thermostat currently

Air temperature



Carbonic gas $CO_2$ *Only* on certain *models*

Floor icon: displayed when measuring through a floor

Relative humidity %

Air quality assessment *Only for certain models*
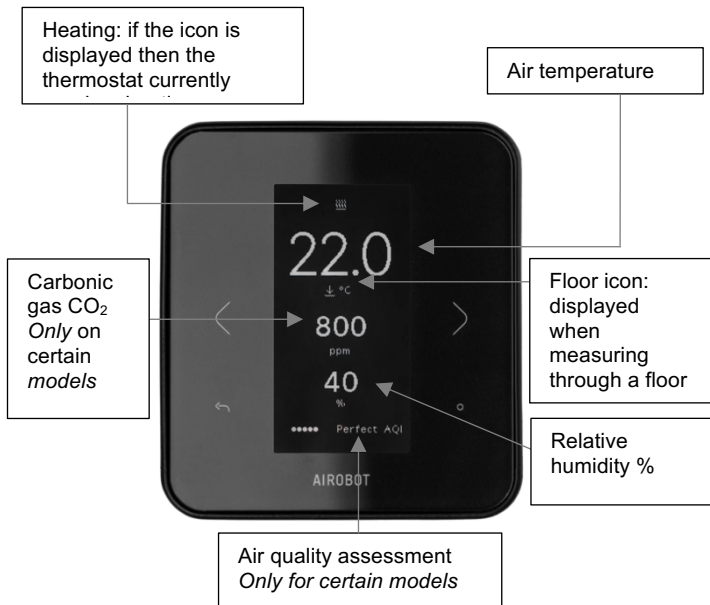
**Select a setting point**

If the actual air temperature drops below the setting point, then the thermostat requires heating. It is possible to choose between +5 °C and +35 °C. The default setting point is 22 °C, which is also the recommended limit between energy efficiency and cognitive comfort. It is possible to set up two different setting points: at home and away. In the active state of remote mode, the holiday icon will be displayed on the screen.

| - Reducing the desired temperature -Up | | - Increasing the desired temperature -Down |
|---|---|---|
| -Backwards | | -Menu -OK |

22.0
°C

800
ppm

40
%

••••• Perfect AQI

AIROBOT

**Features**

**Air quality assessment and carbon dioxide CO2 -** Thermostats equipped with a carbon dioxide (CO2) sensor make it possible to assess air quality. The thermostat displays it on a scale from 1 to 5, where 5 is very good and 1 is unhealthy air quality. On a daily basis, the air quality should remain on a scale of 4-5 points, below which it is recommended to study how it would be possible to improve air quality in the rooms. The air quality assessment takes into account the humidity and CO2 content in the room. The amount of CO2 in the air is expressed as a unit denoted by ppm (parts per million). That is, how many particles of the test substance are in the considered unit of space per million particles. The level of CO2 in the air can be estimated and measured as follows: the initial value is considered to be 400, which is the concentration of CO2 in clean ambient air, green or good is in the range of 400-800 ppm; yellow or average between 1000 and 1600 ppm, red or bad if it is more than 1600 ppm and this is the limit from which air quality has a negative impact on a person. Get the most accurate measurement result in buildings where there is ventilation because then the air circulation in the rooms will take place and the sensor will receive a more accurate reading.

**Gain (mobile application only) -** The temporary mode of operation "gain" allows you to turn on the heating for 60 minutes, regardless of the setting point currently selected. When the selected time is over, the previous operating mode is switched back (automatic or away).

**Regular switching of the actuator –** the function ensures that the valve of the underfloor heating manifold does not jam over time due to scale. The thermostat closes or disconnects the actuator for 8 minutes at least every 96 hours.

**Transmission of air quality reading (C02) to the ventilation unit** - Connection is possible only with Airobot devices produced from 07.2021 (ID/SN number starting with V02..) It is possible to transmit a CO2 reading of thermostats to Airobot ventilation units. The ventilation unit monitors the CO2 readings of the received room sensors, and if somewhere in the room the reading rises above the set limit, then the ventilation unit increases the ventilation rate to bring

the CO2 level down. Thermostats must be equipped with a $CO_2$ sensor (in the model designation -*AQ)*. The functionality works through the Airobot server, which makes it necessary to connect the ventilation unit and thermostat to the Internet network. To activate the function:

- The software version of the ventilation unit must be at least 531
- In the mobile application, add the thermostat and ventilation unit to the same homegroup
- In the mobile application, open the settings of the ventilation unit - "Transmit the CO2 readings of room sensors or thermostats to the ventilation unit for control by air quality". Activation can take up to 10 minutes, after which CO2 readings from each room will appear in the mobile application to the ventilation unit. It is possible to set one upper limit of CO2, above which the ventilation rate will be increased.

**Local API** – allows you to connect the thermostat to the most common home automation systems. The exact documentation can be found on the Airobot web support subpage.

**Emergency mode** – if there is an alarm with the air or floor temperature sensor, the thermostat switches the actuator to 15min open and 8min closed regularly when it starts to emergency mode. This ensures the primary heating needs until technical support can respond if necessary.

**Factory reset**
To restore factory settings, open the Settings menu and navigate to Expert. Hold the OK button for 5 seconds at the Expert's choice until the view opens and you will see the option to restore the factory settings.

**Expert settings**

| | |
|---|---|
| **Temp. calibration** | Allows you to change the temperature reading of the thermostat by the selected value of +/- . Recommended to use if the |

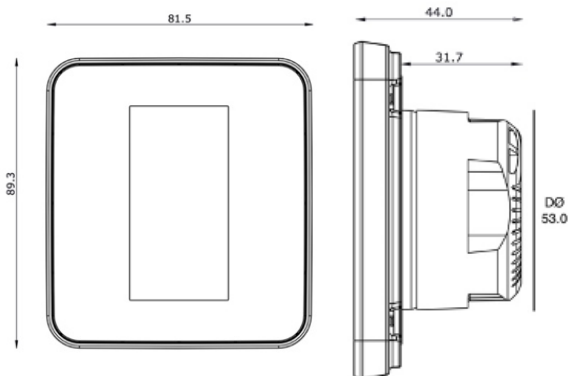thermostat is located in an unsuitable location for measuring temperature

| Code | Air quality measurement with carbon dioxide $CO_2$ sensor | Colour |
|---|---|---|
| **TE1-W** | Not | White |
| **TE1-W-AQ** | Yes | White |
| **TE1-B** | Not | Black |
| **TE1-B-AQ** | Yes | Black |

| Accessories | Code |
|---|---|
| **Actuator for collector 230 V NC** | A-HC-A230 |
| **Floor sensor 3 meters** | A-HC-SFL10K |
| **External relay for controlling electric floor heating** | A-HC-R23016 |

**Specifications**

| | |
|---|---|
| **Maximum number of actuators** | 5 pcs., up to 1 A |
| **Actuators** | 230 V, no voltage in the closed position (NC), liver. switching voltage 0,2 A per actuator |
| **Power supply** | 230 VAC 50 Hz |
| **Power cable** | Liver. 2 × 1.5 mm$^2$ |
| **Power** | 0.3 W thermostat, with actuators up to 30 W |
| **Network connection** | Wi-Fi 2.4 GHz |
| **IP class** | IP20 |
| **Floor sensor** | 10 kΩ NTC (default), tax 0.75 mm$^2$, expert setup additional options 6.8, 12, 15, 22, 33, 47 kΩ |
| **Installation** | EU wall cup D68 mm, min depth 35 mm. Spacing between the fixing screws 60 mm |
| **Operating temperature and humidity of the installation** | 0 °C to 45 °C, max. 80% (non-condensing) |

| | |
|---|---|
| **Temperature sensor** | Digital, accuracy ±0.2 °C |
| **Air humidity sensor** | Digital, accuracy ±2% |
| **Carbon dioxide (CO$_2$) sensor**, *only on a model marked -AQ* | Photoacoustic, accuracy ±50 ppm + 5% reading |
| **Compatibility** | iOS/Android mobile app, Local API |
| **Compliance with standards** | EN 60730-1, EN 60730-2-9, EN 61000-6-2, EN 61000-6-4 |
| **E-paper screen** | To save energy, the reading is updated on the screen every 5. The screen occasionally turns all black when it switches |
| **Connection to the server** | The thermostat sends readings securely and encrypted to the Airobot server every 3 minutes, with the same interval the data is updated in the mobile application. |
| **Weight** | 113 g |
| **Dimensions** | 82 x 89 x 44 mm |
| **Package weight** | 168 g |
| **Package dimensions** | 14 x 12.5 x 5 cm |

## Warranty terms

**Warranty duration:** Airobot thermostat and accessories are covered by the manufacturer's warranty for 2 years from the date of purchase. The warranty period is designed to cover any defects in materials or workmanship that may occur during normal use. To ensure the validity of the warranty, a proof of purchase is required, in its absence, the date of production of the product.

**Coverage:** During the warranty period, the manufacturer or an authorized service partner, at its sole discretion, will repair or replace any component or part of the product that has been identified as a result of defective materials or other malfunction. The manufacturer's warranty does not cover the following:

- Damage caused by misuse, negligence, accident or improper handling.
- Any modification or modification to the product made without the manufacturer's permission.
- Normal wear and tear, including scratches, dents and cosmetic damage.
- Consumable parts, such as batteries, unless otherwise noted.
- Damage caused by liquids, temperature extremes or environmental factors outside normal operating conditions.
- Software-related issues, including but not limited to data loss or corruption.
- Accessories or components not included with the original product.

**Occurrence of defects:** In the event of a warranty claim, the owner must contact the dealer or the manufacturer's customer support via the dedicated channels provided on the manufacturer's website. The holder may be required to provide a preliminary proof of purchase, a description of the problem and other relevant information.

**Repair or replacement:** If the mentioned defect is confirmed by the manufacturer, the product will either be repaired or replaced with a similar model at the discretion of the manufacturer. Repaired or replaced products are subject to the remaining duration of the original warranty period or 6 months, whichever is longer.

**Additional information:** For more information or questions about this warranty, please visit the manufacturer's website or contact the manufacturer. Keep a copy of this warranty for your documents along with proof of purchase, as it is required for all warranty claims. This

warranty is in addition to the rights provided by applicable laws and regulations.

If your thermostat is connected to an internet network, you may due to software updates, changes occur in the guide – it is recommended to always check the latest version of the guide on the Airobot website.

**Manufacturer details**
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**Customer support and guides**