AURATON Aquila mini SET

Instruction manual version 20220902
This document contains information regarding the safety, installation, and operation of the AURATON Aquila Mini SET device.

Wireless thermostat with heating device controller AURATON Fornax (set)

AURATON Aquila Mini SET is a set of a wireless thermostat with a controller of the AURATON Fornax heating device, designed to work with a gas or electric heating device.

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	Factory-installed lithium battery The AURATON Aquila Mini R wireless thermostat is equipped with a high-quality lithium battery, ensuring uninterrupted operation of the thermostat for up to 10 years. Market-available thermostats generally require battery replacement once a year. Therefore, a standard thermostat usually needs 10 to 20 batteries in the same period. This results in additional costs and introduces harmful substances into the environment.
16A	**Work under load up to 16 A/10 A** The AURATON Fornax receiver is equipped with a relay that can operate under a load of up to 16 A/10 A. The low-spark technology of switching the mains voltage causes minimal wear of the relay contacts.
	Interference-free communication between devices AURATON Aquila Mini R and AURATON Fornax communicate at a frequency of 868 MHz. Very short encrypted transmission packets (approx. 0.004 s) ensure efficient and interference-free operation of the device.

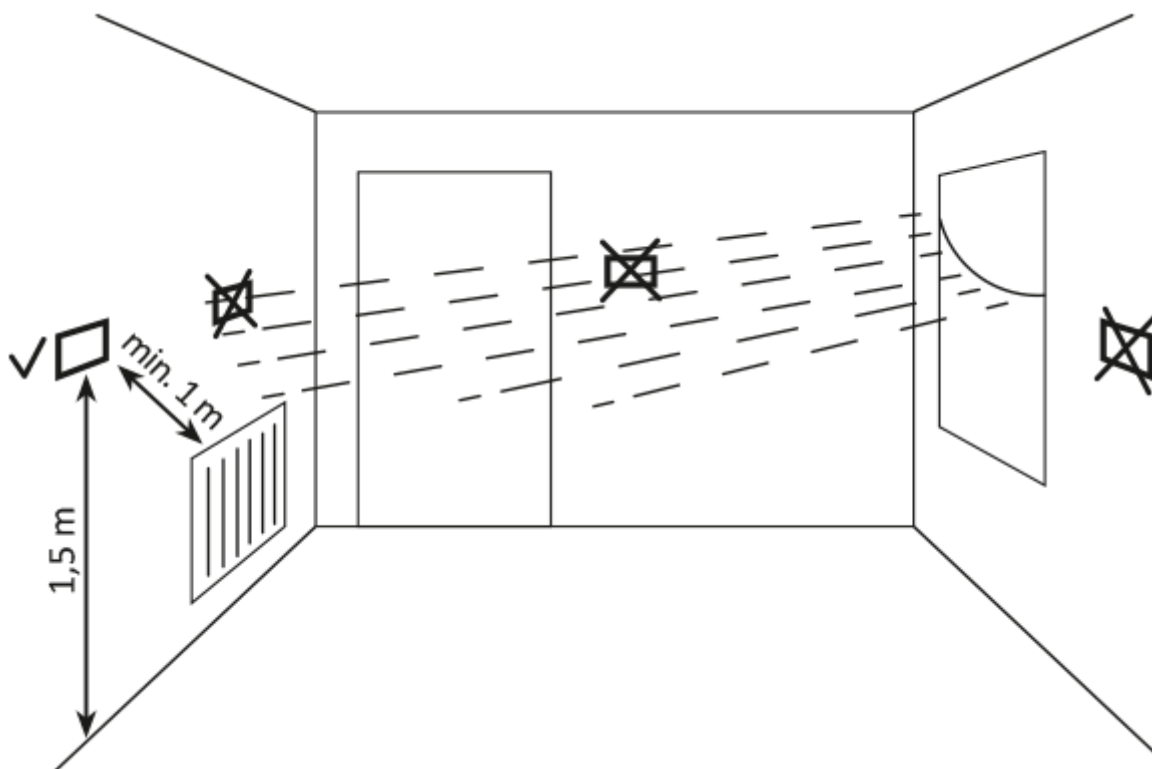# Description of the AURATON Aquila Mini R thermostat

Wireless thermostat
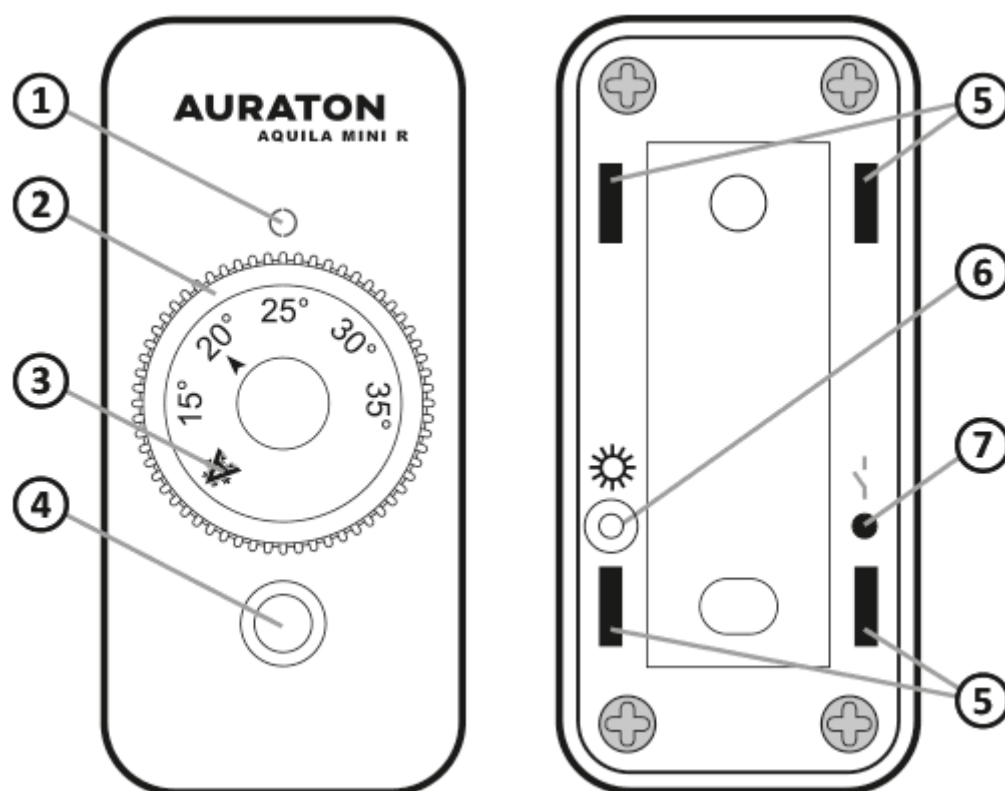
1. Data transmission indicator LED.
2. Temperature setting knob.
3. Frost protection temperature setting (7 °C).
4. Temperature sensor.
5. Mounting bracket holes.
6. Pairing indicator LED.
7. Pairing button with the AURATON Fornax receiver.

The AURATON Aquila Mini R is equipped with a factory-installed lithium battery. The expected battery life is up to 10 years.
NOTE: Battery is non-replaceable.

## Choosing the right location for the AURATON Aquila Mini R

The correct operation of the AURATON Aquila Mini R is greatly influenced by its location. Placement in a place without air circulation or directly exposed to sunlight may result in incorrect temperature control. The AURATON Aquila Mini R should be installed on an internal wall of the building (partition wall), in an environment with free air circulation. Avoid proximity to devices emitting heat (television, radiator, refrigerator) or locations directly exposed to sunlight. Problems in proper operation may be caused by the vicinity of doors, exposing the AURATON Aquila Mini R to potential vibrations.

Mounting the thermostat to the wall

> **NOTE:**
> Before attaching the thermostat to the wall, it must first be paired with the previously connected receiver. If the thermostat and receiver are purchased together as a set, the pairing procedure is not necessary, as these devices have been paired at the factory.

To attach the AURATON Aquila Mini R to the wall:
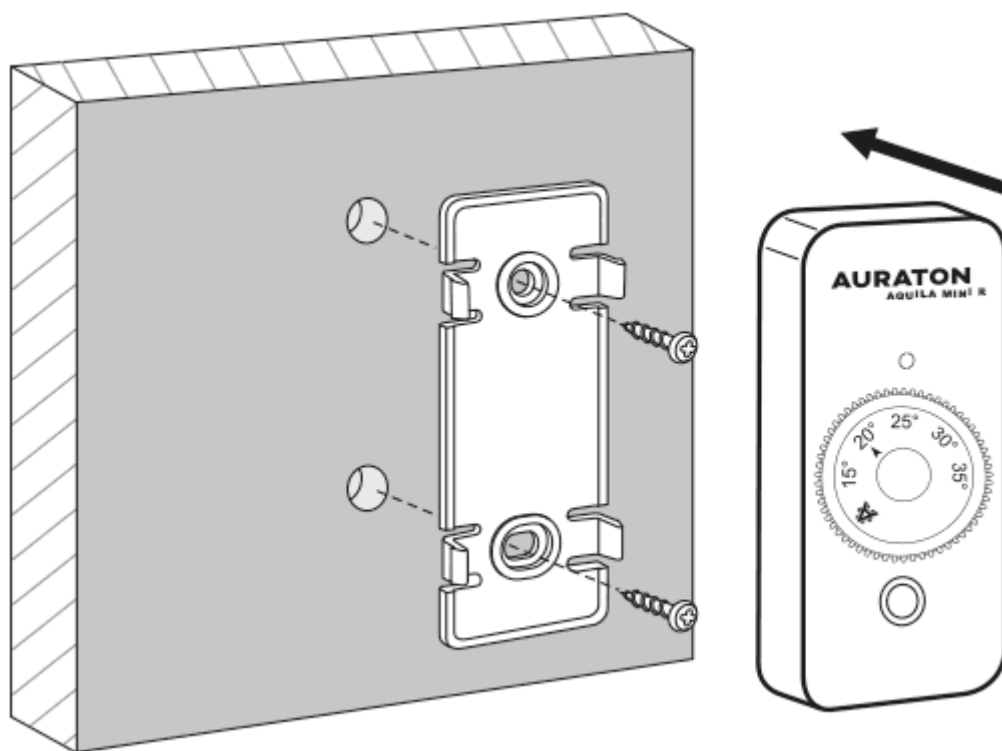
1. Drill two 5 mm diameter holes in the wall *(measure the distance between the holes using the mounting bracket – included in the AURATON Aquila Mini R set)*
2. Insert wall plugs (included)
3. Screw the mounting bracket to the wall.
4. "Press" the AURATON Aquila Mini R thermostat onto the mounting bracket so that the holes on the back of the thermostat fit into the catches on the bracket.
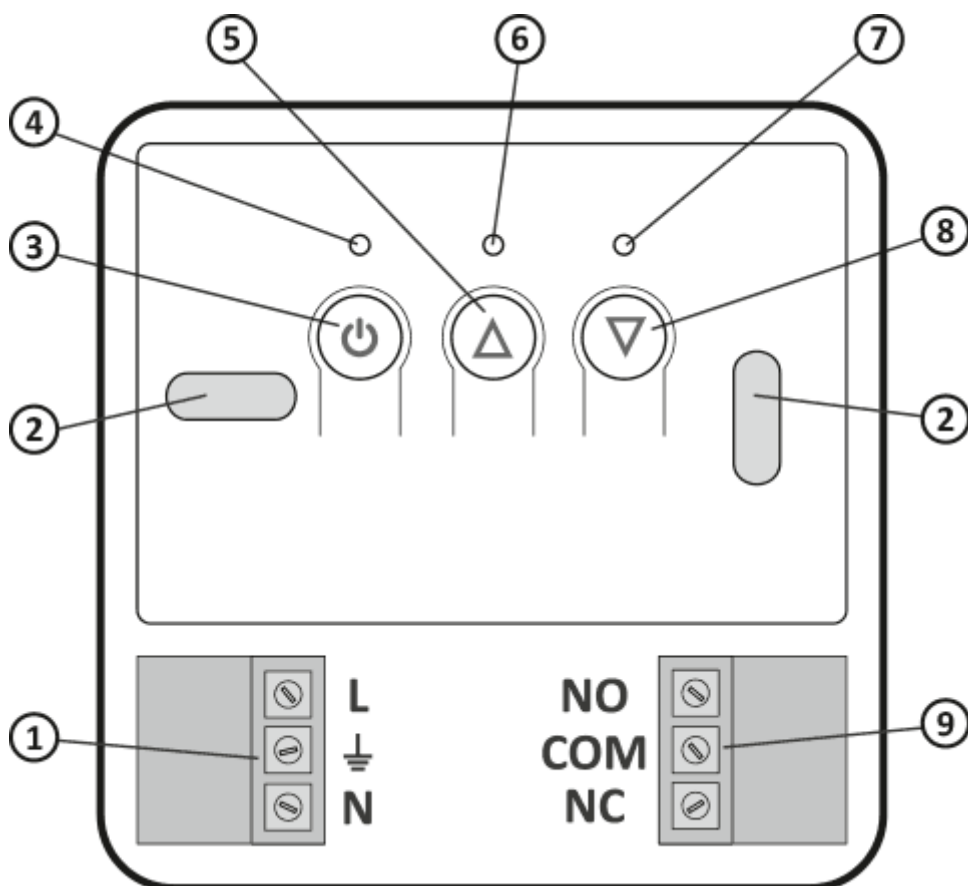
Description of AURATON Fornax

wireless controller of a heating or air-conditioning device

AURATON Fornax (receiver) cooperates with the wireless AURATON Aquila Mini R (transmitter). The receiver is mounted next to the heating device and can work under a load up to **16 A/10 A** .

1. Detachable power connector terminals 230 V AC
2. Mounting hole
3. Power button
4. Power supply diode
5. Button to unpair devices
6. Diode indicating that the actuator device is switched on
7. Diode indicating that the actuator device has been switched off
8. Button to pair devices with the receiver
9. Control connectors

Legend – description of diode signalling

▽ ○ OFF	**The diode is green** – the actuator device is switched off (the COM and NC contacts are closed).
△ ● ON	**The diode is red** – the actuator device is switched on (the COM and NO contacts are closed).
▽ ⌀ IN	**The diode is blinking green** – the AURATON Fornax receiver is waiting for device pairing – *chapter: "Pairing the AURATON wireless thermostat (transmitter) with AURATON Fornax – heating or air-conditioning device controller (receiver)".*
△ ⬗ OUT	**The diode is blinking red** – the AURATON Fornax receiver is waiting for the previously paired device to be unpaired – *chapter: "Unpairing a thermostat paired with AURATON Fornax – heating or air-conditioning device controller (receiver)".*
◐ ALARM RESET	**The LED alternates blinking red and green:** **ALARM** – the AURATON Fornax receiver has lost connection with the paired device – *chapter: "Special cases"* **RESET** – the AURATON Fornax receiver. Removal of all devices paired with the AURATON Fornax receiver – heating or air-conditioning device controller.
⏻	**Green power diode** – the AURATON Fornax receiver is on.

Mounting AURATON Fornax – heating or air-conditioning device controller (receiver)

> ⚠️ ⚡ **WARNING!**
> **The cables supplied with the thermostat are designed to transfer a load of max. value of 2.5 A.**
> In the case of connecting devices with higher power, they should be replaced with wires of appropriate cross-section.

> **NOTE:**
> while installing the AURATON Fornax receiver, the power supply should be turned off. It is recommended to entrust the installation of the receiver to a specialist.

> **NOTE:**
> There must be a switch and overcurrent protection in the fixed building installation.

> **NOTE:**
> For easier installation, the connections are equipped with pull-out clips. Before connecting wires, you can disconnect them from AURATON Fornax. Wires can be routed from the bottom of AURATON Fornax after holes are punched in the mounting plug or from the back of AURATON Fornax if the wires are pulled out of the wall. To connect from the back, break the plug.
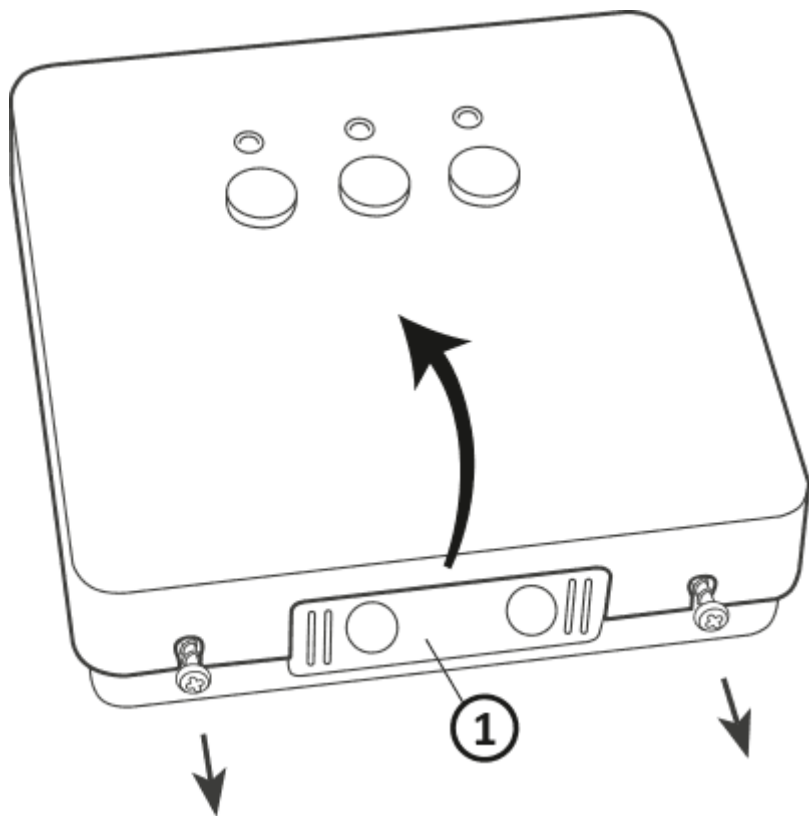
1. mounting plug

Remove the cover of the front part of Auraton Fornax by unscrewing the screws halfway.
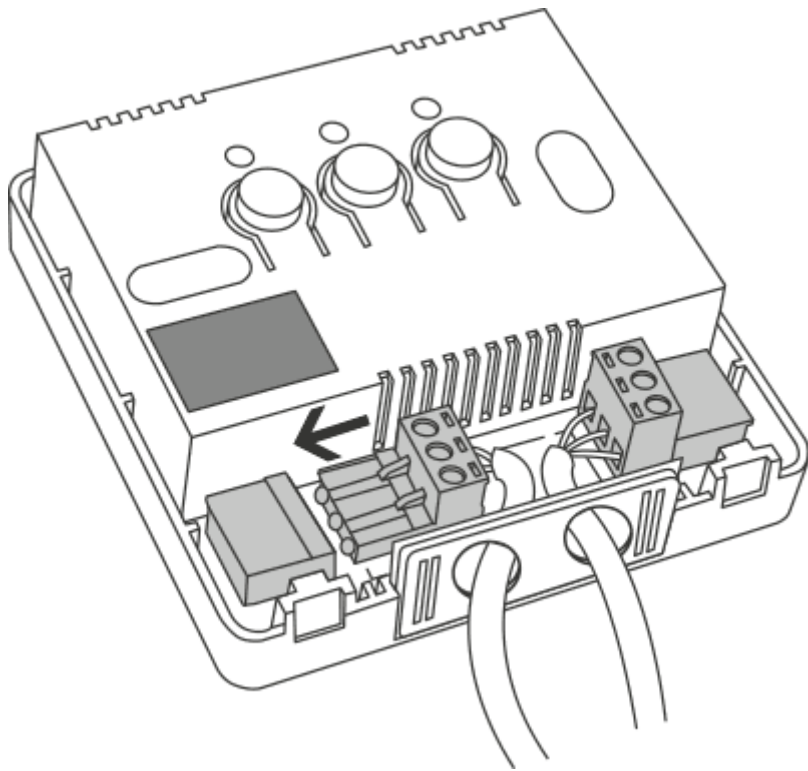
Connect the heating or air-conditioning device to the clips of the AURATON Fornax control connector. Follow the service manual of the heating or air-conditioning device. COM (common) and NO (normally open circuit) clips are most commonly used.
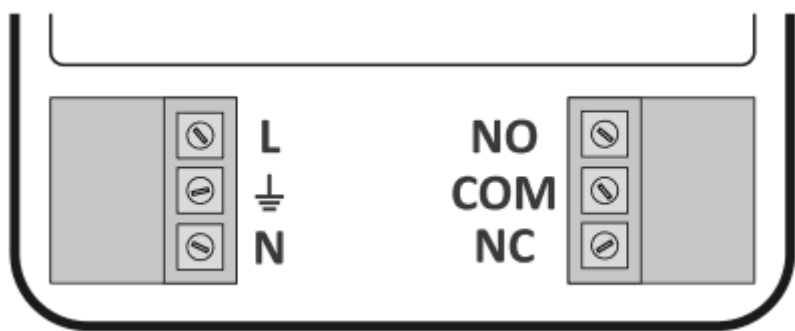
Connect the power supply wires to the clips of the power supply connector of the AURATON Fornax

receiver, observing safety rules.
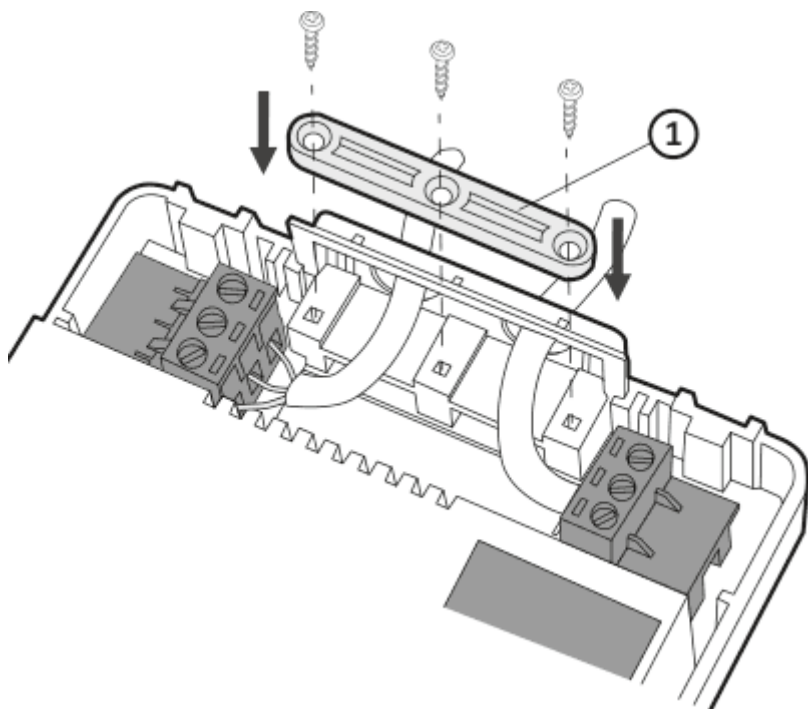
1. Wire mounting bracket.

Once the wires are connected, secure them with the "wire mounting bracket" and screw the cover back onto the AURATON Fornax receiver.

Mounting AURATON Fornax – heating or air-conditioning device controller (receiver) onto a wall

To fix AURATON Fornax to a wall:

1. Remove the cover from the front part of the receiver *see chapter "Mounting the AURATON Fornax receiver* heating or air-conditioning device controller *(receiver)"*.
2. Mark the location of the holes for the mounting screws on the wall.
3. Drill holes with diameters of the attached plugs (5 mm) where marked.
4. Insert wall plugs into the drilled holes.
5. Screw the AURATON Fornax receiver to the wall with the screws, so that the device is fixed securely.
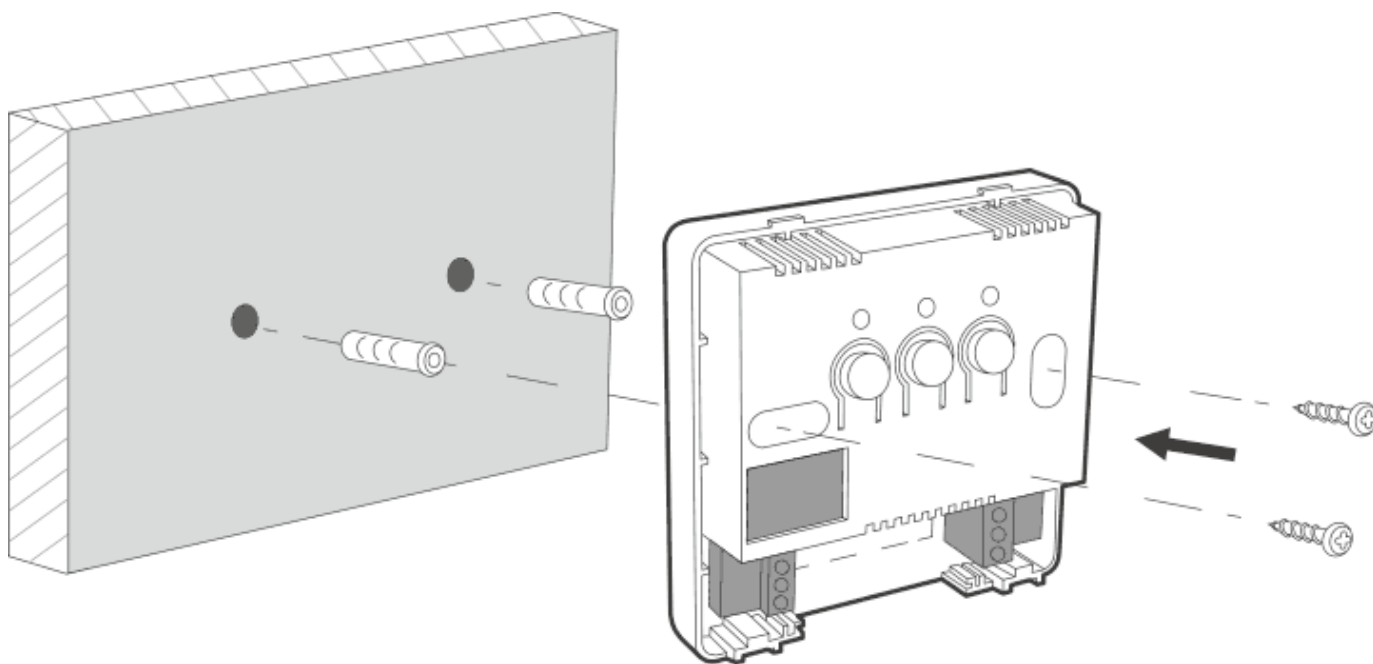
NOTE:
If the wall is wooden, there is no need to use wall plugs. Drill holes with a diameter of 2.7 mm instead of 5 mm and put the screws directly into the wood.

NOTE:
Do not place AURATON Fornax in metal housings (e.g. mounting box, metal housing of a furnace), so as not to interfere with the thermostat's operation.

Starting and pairing the AURATON Aquila Mini R thermostat with the AURATON Fornax receiver

After connecting to the mains, switch on the receiver by briefly pressing the power button (⏻). If the device is turned on, the green power LED will light up and a single beep will be heard. To tuarn off AURATON Fornax, for example, outside the heating season, press and hold the power button for 3 seconds until a beep is heard and the green power LED goes out, thus turning off the heating device.

> **NOTE:**
> The AURATON Aquila Mini R wireless thermostat (transmitter) sold together with the AURATON Fornax – wireless controller of the heating device (receiver) in the AURATON Aquila Mini SET is already paired. Devices purchased separately require "pairing".
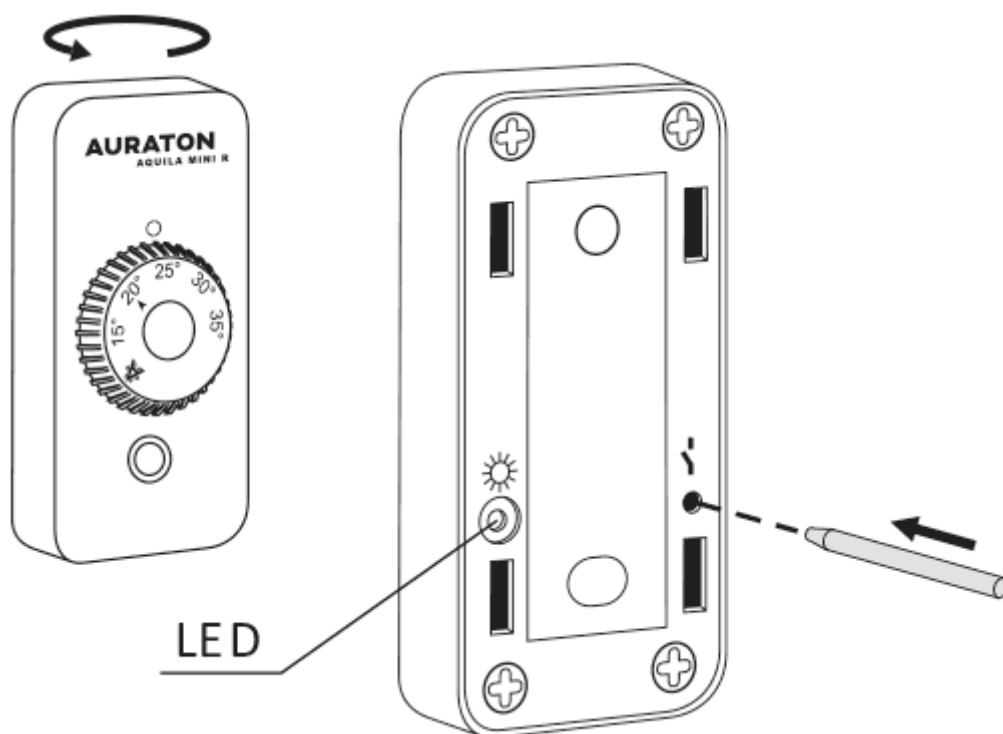
1. Pairing the AURATON Aquila Mini R (transmitter) with the AURATON Fornax is initiated by pressing the right pairing button (▽) – a single beep on the AURATON Fornax receiver and holding it for at least 3 seconds until the LED starts flashing green (double beep), then release the button.
   The AURATON Fornax receiver waits 120 seconds for pairing. After this time, it will automatically return to normal operation.

2. On the AURATON Aquila Mini R thermostat, press the pairing button (ꭥ) located on the back of the housing and hold it for at least 2 seconds until the LED (☼) starts flashing red. Release the button.

3. Successful pairing is indicated by the green LED on the AURATON Fornax receiver ceasing to flash, a single beep, and the receiver returning to normal operation.

In case of a pairing error, repeat steps 1 and 2. For subsequent errors, unpair the device by RESETTING the AURATON Fornax receiver, *see "RESET – Unpairing the device from the AURATON Fornax – wireless controller of the heating or air conditioning device (receiver)"* and try pairing the devices again.

NOTE:
The AURATON Fornax receiver can only be paired with one AURATON Aquila Mini R thermostat.

Unpairing the AURATON Aquila Mini R from the AURATON Fornax receiver

1. Unpairing the AURATON Aquila Mini R (transmitter) from the AURATON Fornax receiver is initiated by pressing the left unpairing button (△) on the receiver and holding it for at least 3 seconds until the LED starts flashing red, then release the button. The sound indication works in the same way as pairing, i.e., pressing the button is signaled by a short sound, and after 3 seconds there is a double short beep.
The AURATON Fornax receiver waits 120 seconds for device unpairing. After this time, it will automatically return to normal operation.

2. On the AURATON Aquila Mini R thermostat, press the pairing button (ᛉ) located on the back of the housing and hold it for at least 2 seconds until the LED (☼) starts flashing red. Release the button.

3. Successful unpairing is indicated by the red LED on the AURATON Fornax receiver ceasing to flash, a single beep, and the receiver returning to normal operation.

In case of an unpairing error, repeat steps 1 and 2. For subsequent errors, unpair the paired device, *see "RESET – Unpairing the device paired to the AURATON Fornax heating device controller (receiver)"*..

RESET – Unpairing devices assigned to the receiver

To unpair a paired device (e.g., AURATON Aquila Mini R) from AURATON Fornax, simultaneously press and hold both the pairing and unpairing buttons (▽ i △) for at least 5 seconds until the LED indication changes to alternating flashing in green and red. Then release both buttons. Sound indication: pressing the button – a short signal – after 5 seconds a double short signal.
Successful device unpairing is indicated after about 2 seconds by a change of the indication to green, and then a brief extinguishing of the light.

> **NOTE:**
> If after the RESET, you disconnect the AURATON Fornax receiver from the power supply, and then reconnect the power supply, the receiver will automatically enter the "pairing" mode for 120 seconds. The AURATON Fornax receiver, which is newly purchased (not purchased in a set with AURATON Aquila Mini R) and does not have factory-paired devices, will behave identically.

Signalling the working status and data package reception

Each reception of radio transmission from a paired device is signalled by the AURATON Fornax receiver by a temporary alternating colour change of the LED diodes. When the relay is turned on, the LED diode is red and when the relay is turned off, the LED diode is green.

> **NOTE:**
> Pressing a button is signalled by a short sound signal.

Frost protection temperature

The AURATON Aquila Mini R thermostat is equipped with a setting ❄. This setting maintains **the frost protection temperature at 7 °C.** The frost protection temperature setting is used during a longer absence from the building and is intended to prevent water from freezing in the heating system.

Special situations

- If 3 consecutive transmissions are lost (after 15 minutes) from the AURATON Aquila Mini R (transmitter), a failure will be signaled on the AURATON Fornax receiver (continuous alternating flashing of the LED in red and green). Until the problem is resolved, the receiver will switch to the saved on/off cycle from the last 24 hours.
- When the signal from the AURATON Aquila Mini R returns, the error is cleared and the AURATON Fornax receiver returns to normal operation.

Unique features of the AURATON Aquila Mini SET

- The built-in lithium battery ensures uninterrupted operation of the thermostat for up to 10 years.
- Relay switching is synchronised with the 230 V AC power supply line so that the closing and opening of the relay armature contacts always occurs in the area of the voltage waveform reaching zero. This prevents the formation of an electric arc and significantly extends the life of the relay.
- The AURATON Fornax receiver is equipped with a unique algorithm for analysing the on/off cycles. The entire heating cycle from the last 24 hours is stored in AURATON Fornax memory. In the event of loss of communication with the AURATON wireless thermostat (transmitter), AURATON Fornax will automatically execute the stored on/off cycle from the last 24 hours. This gives you time to restore the transmission (solve issues with interference) or repair the AURATON Aquila Mini R without a significant deterioration of the thermal comfort in the controlled facility.

Additional information

- The AURATON Aquila Mini R (transmitter) must be installed at least 1 meter from the receiver (too strong a signal from the transmitter may cause interference).
- Data transmission from the AURATON Aquila Mini R (transmitter) to the AURATON Fornax receiver occurs with every change in ambient temperature of 0.2 °C. If the temperature does not change, the AURATON Aquila Mini R sends control data every 5 minutes (this is manifested by a temporary alternating change in the color of the LEDs).
- In the event of a power failure, AURATON Fornax will switch off. After power is restored, the heating device will automatically switch on, and AURATON Fornax will wait for a signal from the paired AURATON thermostat (transmitter) no longer than 5 minutes after power is restored. After receiving the signal, AURATON Fornax will return to normal operation.
- Placing AURATON Fornax in a metal housing (e.g. mounting box, metal housing of a furnace) will interfere with the operation of the thermostat.

Diagram of connection of AURATON Fornax
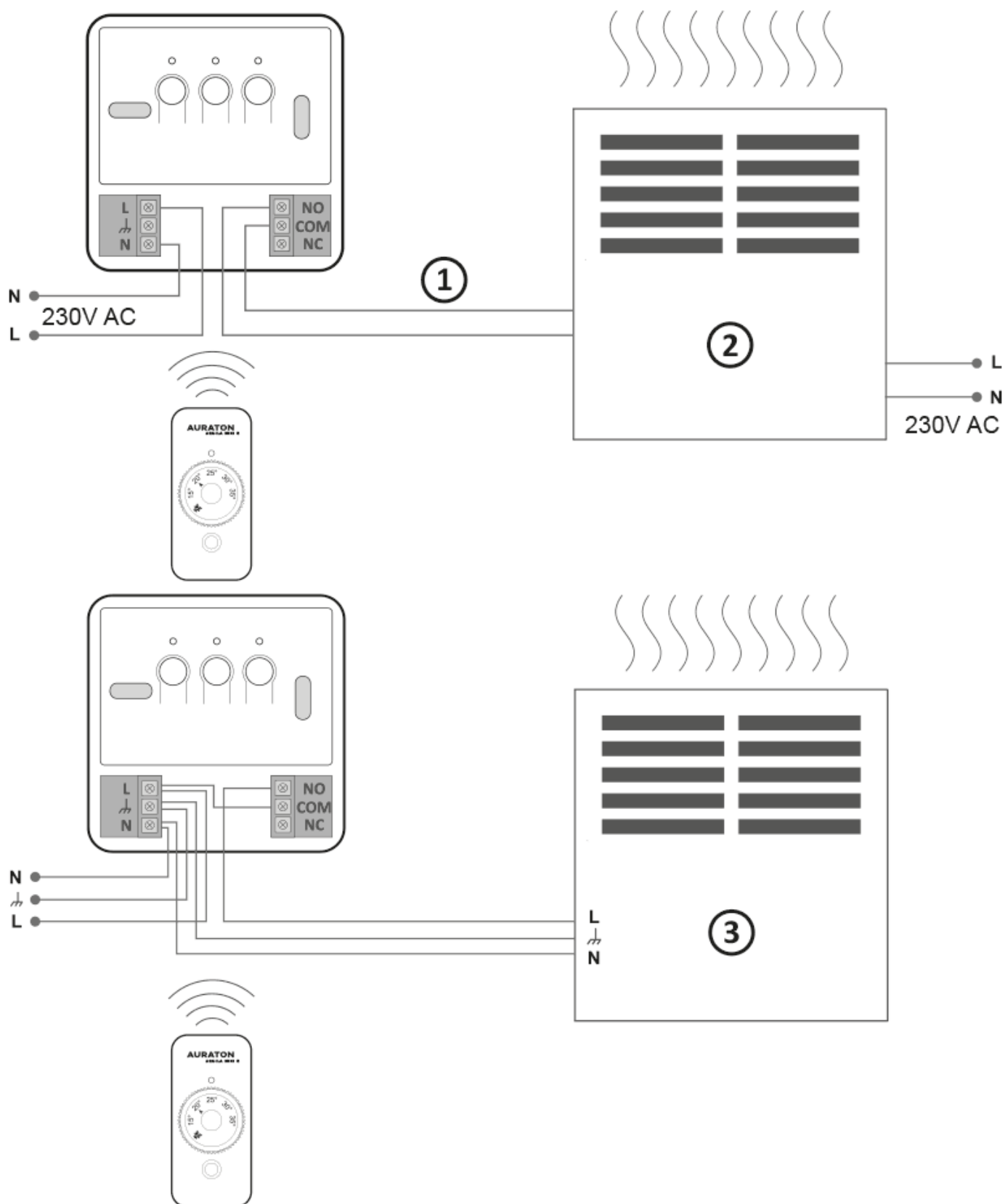
1. Control
2. Heating device *e.g. a gas furnace*
3. Electric heating device

Cleaning and maintenance

- The outside part the device should be cleaned with a dry cloth. Do not use solvents (such as benzene, thinner or alcohol).
- Do not touch the device when your hands are wet. It may cause electric shock or serious damage to the device.
- Do not expose the device to excessive smoke or dust.
- Do not touch the screen with a sharp object.
- Keep the device away from liquids or moisture.

Technical specifications

|	
Working temperature range:	0 – 45°C
Operating range:	in a typical building, with standard wall construction – approx. 30 m; in open area – up to 300 m
Radio frequency:	868,850 MHz 869,000 MHz
Radio signal power:	Up 11 dBm
Degree of protection:	IP20

AURATON Aquila Mini R:

Power supply:	lithium battery (factory installed). Battery non-replaceable.
Number of temperature levels:	1
Frost protection temperature:	7 °C
Temperature control range:	7 °C; 15 – 35 °C
Operating status indication:	LED
Dimensions [mm]:	75 x 35 x 14

AURATON Fornax:

Power supply:	230 V AC, 50 Hz, 1,5 W
Working status signaling:	LED indicators, sound
Relay load capacity:	Max. 250 V AC, max. 16 A
Receiver category:	2
Suggested installation location:	Near the heating or air conditioning device
Dimensions [mm]:	100 x 100 x 29

Disposing of the devices
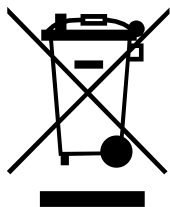
The devices are marked with the crossed waste bin symbol. According to European Directive no. 2012/19/UE and the Act concerning used up electric and electronic equipment, such a marking indicates that this equipment may not be placed with other household generated waste.
The user is responsible for delivering the devices to a reception point for used-up electric and electronic equipment.

Hereby, LARS Andrzej Szymanski declares that the radio equipment type AURATON Fornax is in compliance with Directive 2014/53/EU and 2011/65/EU. The full text of the EU declaration of conformity is available at the following internet address: https://manuals.auraton.pl

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Contact and address of the manufacturer:
LARS, ul. Świerkowa 14
64-320 Niepruszewo
www.auraton.pl

Download

- User manual
- Declaration of conformity AURATON Aquila Mini R

- [Declaration of conformity AURATON Fornax](#)