AURATON Aquila SET

📄 PDF

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

User manual ver. 20200829

The document contains information on the safety, installation and use of the AURATON Aquila SET device.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

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

FrostGuard function to protect the room against freezing.

The possibility of cyclically lowering the programmed temperature by 3 ° C for a period of 6 hours.

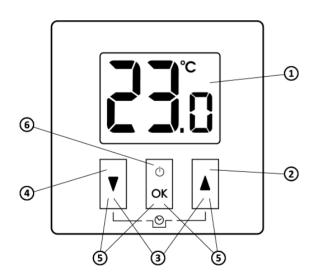**LCD** **Backlit LCD display The** backlit display enables the device operation supervision even in poorly lit rooms.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

The description of AURATON Aquila R

daily wireless temperature controller (transmitter)

On the front part of the AURATON Aquila R housing there are a backlit LCD display and three function buttons.
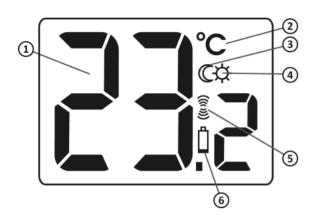
1. LCD display

2. Temperature increase button

3. Temporary temperature reduction mode buttons

4. Temperature decrease button

5. Pairing buttons

6. Confirm button or on / off button. AURATON Aquila R

- **hold** - on / off AURATON Aquila R (⏻)

- **short press** - confirms the temperature setting (OK)

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Display

1. **Temperature**

   In the normal operation mode, AURATON Aquila R displays the temperature of the room in which it is currently installed.

2. **Temperature unit (℃)**

   Indicates that the temperature is displayed in degrees Celsius.

3. **Temporary temperature decrease mode indicator (☾)**

   Appears when the temporary temperature decrease program is running.

4. **Temporary temperature reduction mode programming indicator (☼)**

   Indicates the user-scheduled temporary temperature reduction mode. It appears when the mode is not currently implemented, but the "temporary temperature reduction" function is active *(more information in the "Temporary temperature reduction mode setting" chapter).*

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)
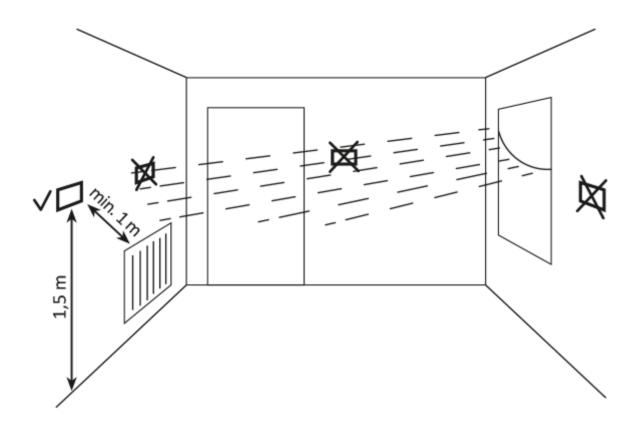
5. **Transmission symbol (🎄)**
   Indicates communication with the receiver.

6. **Battery exhausted (🔋)**
   The indicator is visible when the minimum permissible battery voltage is exceeded. Replace the batteries as soon as possible.

Choosing the right location for AURATON Aquila R.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)
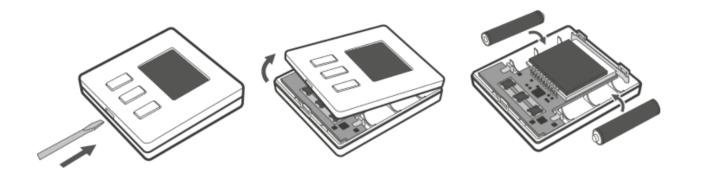
The correct operation of AURATON Aquila R is largely influenced by its location. Location in a place with no air circulation or direct sunlight may result in incorrect temperature control. AURATON Aquila R should be installed on the internal wall of the building (partition wall), in an environment of free air circulation. Avoid proximity to heat emitting devices (TV, heater, refrigerator) or locations exposed to direct sunlight. Problems in proper operation may be caused by the vicinity of the door, exposing AURATON Aquila R to possible vibrations.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Battery change

The battery sockets are located inside the AURATON Aquila R, on both sides of the display. To install the batteries, remove the AURATON Aquila R cover as shown in the figure.

Insert two 1.5V AAA batteries into the battery socket, paying attention to the correct polarity of the batteries.

> **NOTE:**
> **We recommend alkaline batteries to power AURATON controllers. Do not use "rechargeable batteries" because the rated voltage is too low.**

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

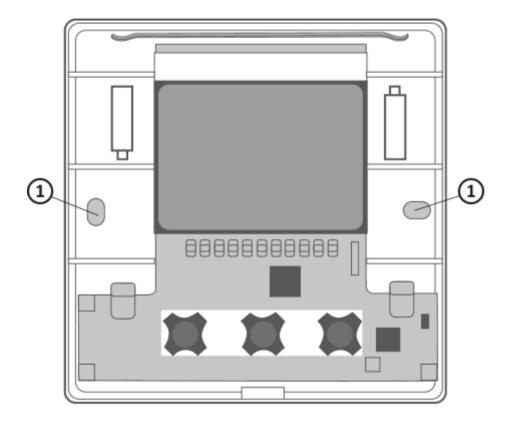# Mounting AURATON Aquila R - wireless daily temperature controller

To fix AURATON Aquila R to the wall:

1. Remove the AURATON Aquila R cover *(as shown in the chapter "Installation / Battery Replacement")*.

2. Drill two holes 6 mm in diameter in the wall (mark the spacing between the holes using the rear part of the AURATON Aquila R housing).

3. Put the wall plugs in the drilled holes.

4. Screw the rear part of the AURATON Aquila R housing to the wall using the screws included in the kit.

5. Install the batteries and put the AURATON Aquila R housing on.

> **NOTE:**
>
> **In the case of a wooden wall, there is no need to use expansion bolts. It is enough to drill holes with a diameter of 2.7 mm (instead of 6 mm) and screw the screws directly into the wood.**

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)
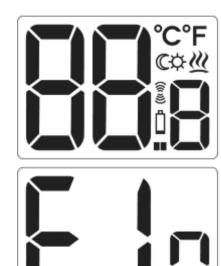
1. Fixing screw hole.

Alternative mounting methods

AURATON Aquila R can be attached to a smooth surface with e.g. double-sided tape. The AURATO Aquila R can also be placed anywhere on an even surface using a stand on the back of the housing.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

The first launch of AURATON Aquila R.

After the batteries are correctly inserted into the sockets, all segments (display test) will appear on the LCD display for a second, followed by the software version number. After a while, the current temperature in the room will be displayed automatically. AURATON Aquila R is ready for operation.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Temperature setting

> **NOTE:**
>
> **The first pressing of any function button always turns on the backlight, and only the next call of the button function.**

To set the desired temperature in the normal operation mode:

1. Press the ▼ or ▲ button . The segment responsible for displaying the temperature will enter the edit mode and start blinking.

2. Use the ▼ and ▲ buttons to set the desired temperature with an accuracy of 0.2 ° C

3. The selection is confirmed by a short press of the ⏻ button

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

FrostGuard function

AURATON Aquila R is equipped with a special "FrostGuard" function, protecting the room against possible freezing. This function is activated when **AURATON Aquila R is turned off** .

With the AURATON Aquila R turned off, when the room temperature drops to 2 ° C, the Fr (Ⴤr) Symbols appear on the display and a signal will be sent to the AURATON Fornax receiver, which will turn on the heating. When the temperature rises to 2.2 ° C, the display will turn off again and a signal will be sent to the AURATON Fornax receiver, which will turn the heating off.

Setting the "temporary temperature reduction" mode

If we would like to lower the temperature in the room by 3 ° C every day at the same time of the day, it is possible to temporarily reduce it for a period of 6 hours. To do this:

1. Press and hold both buttons ▼ ▲ for 3 seconds . The display shows the moon symbol (☾).

2. AURATON Aquila R switches to the "temporary temperature reduction" mode and every day **at the same time** will lower the programmed temperature in the normal mode by 3 ° C for a period of 6 hours.

> **NOTE:**
>
> After 6 hours, AURATON Aquila R will return to the basic temperature setting.
>
> Instead of the moon symbol (☾), the sun symbol (☼)will appear on the screen.

> **NOTE:**
>
> The "temporary temperature reduction" mode always starts when the function is turned on. This means that any temporary temperature reduction should be programmed at a time when we want such a change to take place.

Disabling the "temporary temperature reduction"

To disable the "temporary temperature reduction" mode, press the ▼ ▲ buttons again for 3 seconds . The moon (☾) or sun (☼) symbol will disappear from the display and only the room temperature will be displayed. AURATON Aquila R has returned to its normal operating mode.
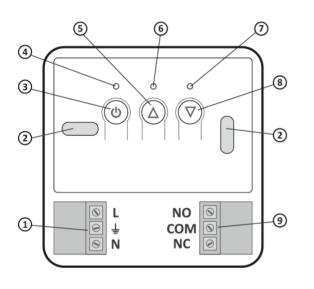
Description of AURATON Fornax

wireless controller of the heating device (receiver)

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

The AURATON Fornax receiver cooperates with the AURATON Aquila R wireless regulator. The receiver is installed next to the heating device and can operate under the load of **16A / 10A** .
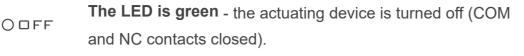
1. Detachable 230 V AC power connector terminals

2. Mounting hole

3. Power button

4. Power LED

5. Vaporization button AURATON Aquila R with AURATON Fornax

6. Diode signaling activation of the actuating device

7. Diode signaling switching off the actuating device

8. AURATON Aquila R pairing button for AURATON Fornax

9. Detachable terminals (COM – NC, COM – NO dry contacts)

Legend - description of the LED signaling

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The LED is green - the actuating device is turned off (COM and NC contacts closed).

The LED lights up in red - the actuating device is on (COM and NO contacts closed).

The LED flashes green - the AURATON Fornax receiver is waiting for pairing with AURATON Aquila R - *(chapter: "Pairing AURATON Aquila R with a daily wireless temperature controller (transmitter) with AURATON Fornax - wireless controller of the heating device (receiver)")*.

The diode is blinking red - the AURATON Fornax receiver is waiting for AURATON Aquila R to be removed from the receiver - *(chapter: "Writing AURATON Aquila R - daily wireless temperature controller (transmitter) with AURATON Fornax")*.

The LED flashes alternately red and green:
ALARM - the AURATON Fornax receiver has lost connection with the controller - *(chapter: "Special situations")*
RESET - return to factory settings - *(chapter: "Factory settings")*

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Green power diode - the AURATON Fornax receiver is on.

Installation method Auraton Fornax - wireless controller of the heating device (receiver)

⚠️ **ATTENTION!**

⚡ **The cables supplied with the AURATON Aquila SET are designed to withstand a maximum load of 2.5 A.**

If devices with higher power are connected, they must be replaced with cables with an appropriate cross-section.

NOTE:

When installing the AURATON Fornax receiver, the supply of electricity should be turned off. It is recommended to entrust the installation of the receiver to a specialist.

NOTE:

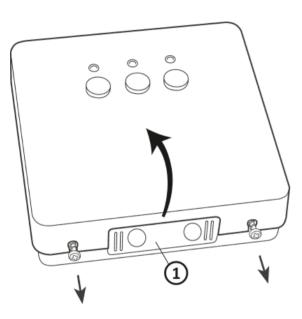In the fixed installation of the building there must be a switch and overcurrent protection.

NOTE:

To facilitate assembly, the connections are provided with removable terminals.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Before making cable connections, they can be disconnected from AURATON Fornax. The cables can be routed from the bottom of AURATON Fornax after breaking holes in the mounting cap or at the back of the receiver if the cables are led out of the wall. To connect from the rear, break off the cap.
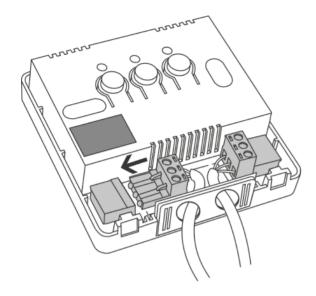
1. mounting plug

Remove the cover of the front part of the Auraton Fornax receiver by unscrewing the screws in the middle of their length.

Connect the heating device to the terminals of the control connector of the Auraton Fornax receiver. Follow the service instructions for the heating

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)
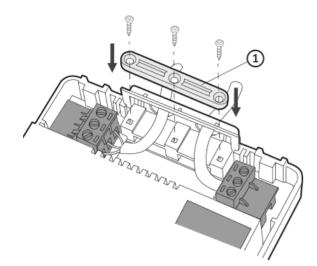
device. The most commonly used terminals are COM (Common) and NO (Normally Open).

Connect the power cables to the terminals of the power connector of the Auraton Fornax receiver, observing the safety rules.

1. Cable holder.

After connecting the cables, they should be immobilized with the "cable clamp" and the cover should be

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

screwed back to the AURATON Fornax receiver.

Mounting AURATON Fornax - wireless controller of the heating device (receiver) to the wall
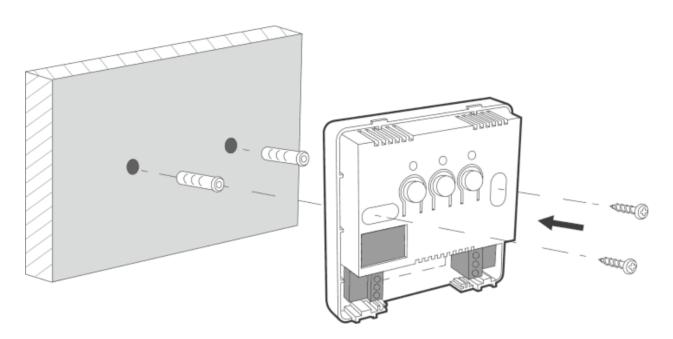
To attach the AURATON Fornax receiver to the wall:

1. Remove the cover of the front part of the receiver *(see chapter "How to install the Auraton Fornax receiver - heating device controller (receiver)")* .

2. Mark the location of the fixing screw holes on the wall.

3. In the marked places, drill holes with the diameter of the plugs included in the kit (5 mm).

4. Insert the wall plugs into the drilled holes.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

5. Screw the AURATON Fornax receiver to the wall with screws so that they hold the receiver well.

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 screw the screws directly into the wood.

NOTE:

Do not place the AURATON Fornax receiver in metal housings (e.g. mounting box, metal furnace housing), so as not to interfere with the regulator's operation.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Pairing AURATON Aquila R with a daily wireless temperature controller (transmitter) with AURATON Fornax - a wireless controller of the heating device (receiver)

After connecting to the mains, turn on the receiver by briefly pressing the power button (⏻). If the device is turned on, the green power LED will turn on and you will hear a single beep. To turn off the receiver, e.g. outside the heating season, press and hold the power button for 3 seconds until you hear a double beep and the green power LED goes out, thus turning off the heating device.

> **NOTE: The**
> AURATON Aquila R wireless regulator sold with the AURATON Fornax receiver is already paired. Separately purchased devices require "pairing".

1. Pairing AURATON Aquila R with the AURATON Fornax receiver 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 blinking green (double beep), then release button.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

The AURATON Fornax receiver waits for pairing for 120 seconds. After this time, it automatically returns to normal operation.

2. On AURATON Aquila R press buttons ▼ 🔲 or ▲ 🔲 simultaneously for 6 seconds until the transmission symbol (📶) lights up on the display.

3. Successful completion of pairing is signaled by the stopping of the green LED diode on the AURATON Fornax receiver and a single sound signal and the receiver switching to normal operation.

In the event of an error during pairing, steps 1 and 2 should be repeated. For subsequent errors, RESET the AURATON Fornax receiver (see "RESET - Restoring the AURATON Fornax receiver factory settings") and try to pair the AURATON Aquila R again.

NOTE:

The Auraton Fornax receiver can be paired with only one AURATON Aquila R.

Signaling the work and receipt of the data package

Each reception of the radio transmission from the paired AURATON Aquila R is signaled by the AURATON Fornax receiver by a momentary alternating color change of the LEDs. After switching the relay on, the LED diode is red, after switching the relay off, the LED diode is green.

> **NOTE:**
> Pressing any button is signaled by a short beep.

Evaporation of AURATON Aquila R - daily, wireless temperature controller (transmitter) with AURATON Fornax

1. Evaporation of AURATON Aquila R from AURATON Fornax is initiated by pressing the left evaporation button (△) on the receiver and holding it for at least 3 seconds, until the LED diode starts flashing red, then release the button. The acoustic signaling works in the same way as pairing, i.e. pressing the button is signaled by a short beep and after 3 seconds there is a double short beep.
   The AURATON Fornax receiver waits for the evaporation of AURATON Aquila R 120 s. After this time, it automatically returns to normal operation.

2. On AURATON Aquila R press buttons ▼ ⏣ or ▲ ⏣ simultaneously for 6 seconds until the transmission symbol (≋) lights up on the display.

3. The correct completion of the evaporation process is signaled by the stopping of the red blinking LED diode on the AURATON Fornax receiver and a single sound signal and the receiver switching to normal operation.

In the event of an error while removing AURATON Aquila R, steps 1 and 2 should be repeated. For subsequent errors, RESET AURATON Fornax (see "RESET - Return to factory settings of AURATON Fornax").

RESET - Return to factory settings of AURATON Fornax

To perform a factory reset in AURATON Fornax, press and hold both pairing and evaporating buttons (▽ △) simultaneously for at least 5s. until the LED indication changes to alternating green - red blinking. Then release both buttons. Sound signaling: pressing the button - a short beep - after 5 seconds a double short beep.

Correct completion of the reset is signaled after about 2 seconds. the signaling changes to green, and then it is switched off for a short time.

NOTE:

If after a RESET we disconnect AURATON Fornax from the power supply and then reconnect the power supply, AURATON Fornax will automatically enter the "pairing" mode for 120 seconds. AURATON Fornax, which is newly purchased (not purchased as a set with AURATON Aquila R), without a factory-paired regulator, will behave in the same way.

Hysteresis change

The hysteresis is to prevent too frequent switching on of the actuator due to small temperature fluctuations.

*For example, for the **HI 2** hysteresis, when the temperature is set to 20 ° C, switching on will take place at 19.8 ° C, and switching off at 20.2 ° C. For the **HI 4** hysteresis, when the temperature is set to 20 ° C, switching on will take place at 19.6 ° C, and switching off at 20.4 ° C.*

To switch to the hysteresis change mode, hold down the ▼ , ▲ and ⏻ buttons simultaneously for 3 seconds. The hysteresis change mode is signaled by the **HI** inscription . Use the ▼ , ▲ buttons to change the hysteresis settings.

HI 2 - ± 0.2 ° C *(factory set)*

HI 4 - ± 0.4 ° C

HI P - PWM operating mode *(chapter "PWM operating mode")*.

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Confirm your selection by pressing the ⬚
button . AURATON Aquila R will resume
normal operation.
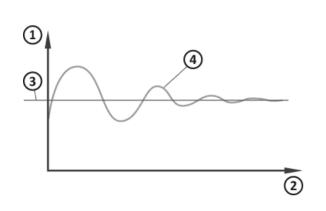
PWM operating mode

(Pulse-Width Modulation)

By changing the hysteresis settings *(chapter "Configuration settings),* we can turn on
the PWM operating mode.
In this mode, AURATON Aquila R cyclically turns on the heating device in order to
minimize temperature fluctuations. AURATON Aquila R checks the temperature rise
times and the temperature drop times.
Knowing these values, AURATON Aquila R turns on and off the heating device in such
cycles to keep the temperature as close as possible to the set value.

1. Temperature

2. Time

3. Set temperature

4. Room temperature
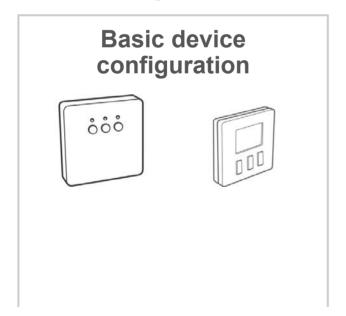
Daily, wireless temperature controller with the
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> **NOTE:**
>
> In the PWM mode, AURATON Aquila R can turn on the heating device despite the fact that the temperature in the room is higher than the preset temperature. This is due to the PWM algorithm that aims to maintain the set temperature and anticipate the behavior of the thermal system.

Operation of the Fornax receiver with a heating device

Basic device configuration

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

AURATON Fornax	AURATON Aquila R
Receiver connected to the heating device	wireless daily temperature controller

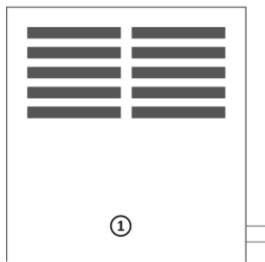# Simplified diagram of connection of AURATON Fornax with a heating device

①

The description of AURATON Aquila R

The first launch of AURATON Aquila R.

Description of AURATON Fornax

Pairing AURATON Aquila R with a daily wireless temperature controller (transmitter) with AURATON Fornax - a wireless controller of the heating device (receiver)

Hysteresis change

PWM operating mode

Operation of the Fornax receiver with a heating device

Cleaning and maintenance

Receiver connection diagram

Technical data

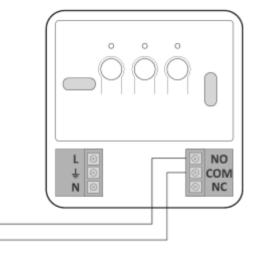Manufacturer's address

Disposal of the device

To download

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

1 - heating device

Special situations

- When we lose 3 consecutive transmissions (after 15 minutes) from AURATON Aquila R, a failure will be signaled on the AURATON Fornax receiver (continuous LED blinking alternately in red and green) Until the problem is removed, the Fornax receiver will switch to the saved cycle of on / off from the last 24 hours .

- When the signal from AURATON Aquila R returns, the error is canceled and the receiver goes to normal operation.

Unique features of AURATON Fornax

- Switching the relay is synchronized with the course of the 230V AC supply network so that the short-circuit and opening of the relay's anchor contacts always takes place in the vicinity of the zero crossing of the mains voltage. This prevents the formation of an electric arc and significantly increases the life of the relay.

- The AURATON Fornax receiver is equipped with a unique algorithm for analyzing the on-off cycles. The entire heating cycle from the last 24 hours is saved in the memory of the Fornax receiver. In the event of loss of communication with AURATON Aquila R, the Fornax receiver will automatically execute the saved cycle of on / off from the last 24 hours. This gives time to restore the transmission (remove interferences) or repair AURATON Aquila R without any significant deterioration of thermal comfort in the controlled facility.

Additional information and comments

- AURATON Aquila R must be installed at least 1 meter from the Fornax receiver (too strong a signal from the transmitters may cause interference).
- Between the next switching off and switching on of the relay, min. 30 s.
- Data transmission from AURATON Aquila R to AURATON Fornax takes place at each change of the ambient temperature by 0.2 ° C. If the temperature does not change, AURATON Aquila R sends control data every 5 minutes (it is manifested by temporary blinking of LEDs on the Fornax receiver - alternately).
- In the event of a power failure, AURATON Fornax will switch off. After the power is restored, AURATON Fornax will automatically turn on and will wait for the next signal from the paired AURATON Aquila R (this signal should arrive no later than 5 minutes after the power is restored). Once the signal is received, the Fornax receiver will go into normal operation.
- Do not place the Fornax receiver in metal housings (e.g. a mounting box, metal furnace housing), so as not to interfere with the operation of AURATON Aquila R.
- AURATON Aquila R can be turned on or off at any time by momentarily pressing the ⏻ button .
- The first pressing of any function button always turns on the backlight, and only the next pressing of the button function.
- When programming any function in AURATON Aquila R, not pressing any button for 10 seconds is tantamount to pressing the ⏻ button .

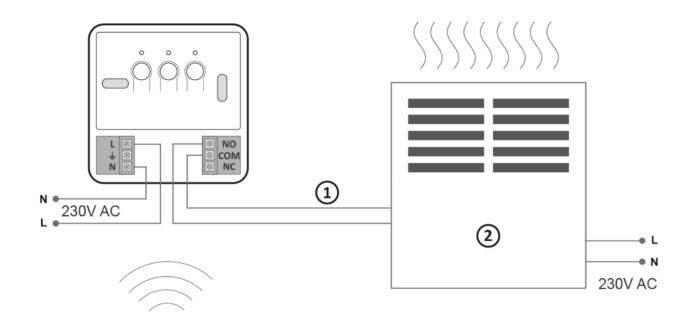Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Cleaning and maintenance

- The outside of the device should be cleaned with a dry cloth. Do not use solvents (such as benzene, thinner, or alcohol).

- Do not touch the device with wet hands. 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.

- Avoid contact of the device with liquids or moisture.

Receiver connection diagram

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

1 - control

2 - heating device, e.g. gas stove

The description of AURATON Aquila R

The first launch of AURATON Aquila R.

Description of AURATON Fornax

Pairing AURATON Aquila R with a daily wireless temperature controller (transmitter) with AURATON Fornax - a wireless controller of the heating device (receiver)

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PWM operating mode

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Receiver connection diagram

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To download

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

1 - electric heating or air conditioning device
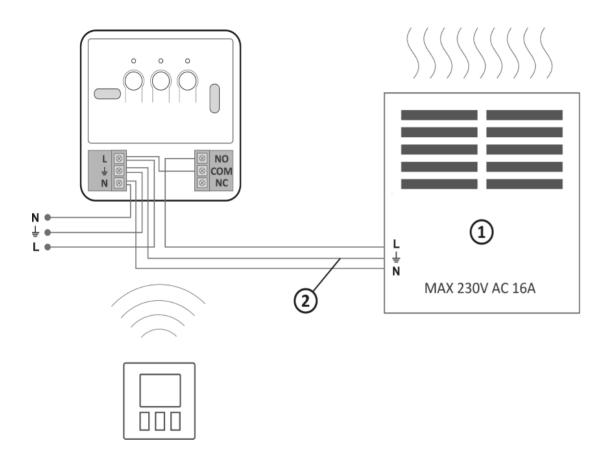
2 - protective (⏚)

The description of AURATON Aquila R

The first launch of AURATON Aquila R.

Description of AURATON Fornax

Pairing AURATON Aquila R with a daily wireless temperature controller (transmitter) with AURATON Fornax - a wireless controller of the heating device (receiver)

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To download

Technical data

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

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 strength:	Up to 11 dBm
Level of security:	IP20

AURATON Aquila R:

Power supply:	2 x AAA (2 x 1.5V), alkaline
Operation status signaling:	LCD display
Number of temperature levels:	1
Anti-freeze temperature:	2 ° C
Temperature measuring range:	0-35 ° C
Temperature control range:	5-30 ° C

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Hysteresis:	± 0.2 ° C / ± 0.4 / PWM
Work cycle:	Daily
Dimensions [mm]:	70 x 70 x 14.5

AURATON Fornax:

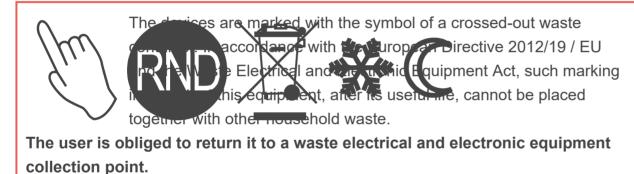|	
Power supply:	230V AC, 50Hz, 1.5W
Operation status signaling:	LEDs, sound
Relay load capacity:	Max. 250 V AC, max. 16 A.
Receiver Category:	2
Suggested place of installation:	Near the boiler, the boiler pump
Dimensions [mm]:	100 x 100 x 29

Manufacturer's address

Daily, wireless temperature controller with the controller of the heating device Auraton Fornax (set)

Lars

ul. Świerkowa 14

64-320 Niepruszewo

Poland

www.auraton.pl

Disposal of the device

The devices are marked with the symbol of a crossed-out waste container. In accordance with the European Directive 2012/19 / EU and the Waste Electrical and Electronic Equipment Act, such marking informs that this equipment, after its useful life, cannot be placed together with other household waste.

The user is obliged to return it to a waste electrical and electronic equipment collection point.

To download

- User manual

- Declaration of Conformity AURATON Aquila R.

- AURATON Fornax declaration of conformity