# AURATON 3000

Congratulations for purchasing the modern temperature controller AURATON 3000 and thank you for your confidence for our company. The new controller shall serve you and your family many years. It should considerably reduce the power expenses and improve your heating comfort.

AURATON 3000 is an intelligent two-sensor temperature controller. Based on the temperature measurement it automatically chooses the time of switching the heating on and off, with a view to achieving the adjusted temperature in required time.

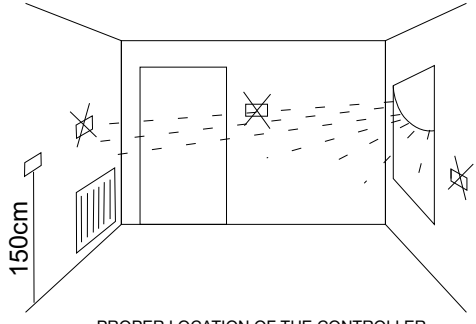
Ideal solution in case of a floor heating system.

# I. INSTALLATION

**Note:** During installation of the controller the power supply should be switched off. It is recommended to charge a specialist company with the installation.

**1. A choice of proper location of the controller.**

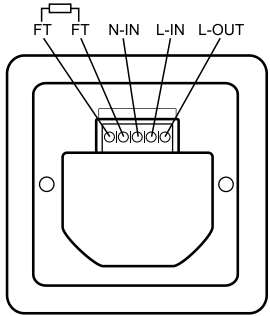
Appropriate operation of the controller strongly depends on its location. The location without air circulation or in a directly insolated place results in inappropriate control of temperature.
In order to ensure proper operation of the controller place it on an internal wall of the building (between the rooms).
A place of usual sojourn should be chosen, with free air circulation. Avoid the places in the proximity of heat emitting equipment (TV set, heater, refrigerator) or subject to direct insolation. Do not locate the controller in a place adjacent to the door, in order to avoid its vibration.




PROPER LOCATION OF THE CONTROLLER

## 2. Connection of the conductors.

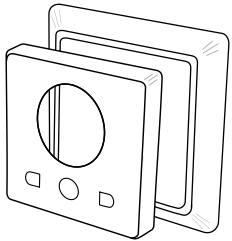
The terminals are located at the rear controller wall.




FT - external sensor
N-IN - neutral conductor
L-IN - input phaze
L-OUT - output phaze

## 3. Assembly of the controller.

**Remove the controller panel cover** before assembling the controller.



The controller may be flush or surface mounted. The necessary flush or surface switching box is delivered together with the ***AURATON 3000*** controller.

**A) Wall-surface mounting.**

1. Indicate location of the surface-mounted switching box holes at the wall.
2. Drill two holes and carefully drive plastic pins (delivered together with the package) so as to ensure wall-flush position of their edges.

   **Note:** In case of a wooden wall the pins should not be used. Drill the holes of 2.7mm diameter and fasten the screws directly to the wood.
3. Place the cables in the surface-mounted box and fasten the box to the wall.

   **Note:** he surface-mounted box is provided with special holes designed for a floor temperature sensor (delivered together with the package). They are plugged with a thin plastic piece. In order to assembly the sensor unplug one of the holes.
4. Connect the cables to the controller (c.f. the diagram in page 3).
5. Fasten the controller to the surface-mounted box with two screws (the screw holes are located at both sides of the display).
6. Put the controller panel cover.

**B) Wall-flush mounting.**

1. Place the cables in the surface-mounted box and fasten the box to the wall.
2. Connect the cables to the controller (c.f. the diagram in page 3).
3. Fasten the controller carefully to the flush-mounted box with two screws (the screw holes are located at both sides of the display).
4. Put the controller panel cover.

## II. Acquaintance with the controller.

### 1. Display and buttons.


1. Day of the week.
2. Temperature.
3. Temperature unit.
4. Indicator of night-time temperature.
5. Hours and minutes.
6. Manual control.
7. Programmed day-time temperature (rectangle) or night time temperature (missing rectangle).
8. Number of the program executed.
9. Floor temperature indicator appears provided that an external temperature sensor is connected.
10. Air temperature indicator.
11. Anti-freeze temperature indicator.
12. Indicator of 24-hrs course of the program.
13. Indicator of day-time temperature.
14. Button of day-time temperature.
15. Regulation knob.
16. Button of night-time temperature.

**UWAGA:** Pulsating air indicator (≋) or floor indicator (⌣) means that the heating device is connected to the controller.

## 2. Putting the controller into operation for the first time.

Once the controller is connected to the net it starts operation with initial parameters. This means that the controller shall display the following indications:

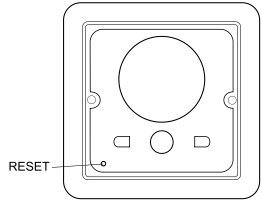

| | |
|---|---|
| time | 00 : 00 (midnight) |
| day | monday (D1) |
| temperature settings | day-time (21°C)<br>night-time (18°C) |
| temperature index | current room temperature |
| programs | all 7 days assigned to the program 1 (P1) |

**Note:** Should the control display remain empty reset the controller (look below).

## 3. RESET.

In order to reset the device press the RESET button located under the control panel controller.

The RESET button is located in the left bottom corner.




**Note:** Pressing the RESET button results in zeroing of all settings, inclusive of the user's programs.

# III. Setting the controller.

### 1. NOTES.

- **Setting of the air temperature is of predominating (prioritary) meaning with respect to the floor temperature.** The controller shall switch the controlled device off when the required air temperature is surpassed.

- The floor temperature is displayed in result of 2 sec. simultaneous pressing of the ☼◀, ▶☾ buttons and the knob. The display shows the ◡ symbol instead of ⋔.
  In order to display the air temperature (⋔) proceed similarly.

**Note:**

In order to show the floor temperature indicator (◡) connect the external sensor.

### 2. Setting the week time and day.

Press the knob for 3 seconds. The week day number starts pulsating at the display.


Set appropriate week day number rotating the knob to the left or right, and press it when ready.
The display starts pulsating the hour segment.


Set appropriate hour with the knob and press it when ready.

The display starts pulsating the minute segment.


Set appropriate minute with the knob and press it when ready. The controller returns to normal operation mode.

**Note:** Pressing no button within 10 seconds results in automatic return to normal operation mode of the device.

### 3. Setting the temperature offset, delay, and temperature unit.

**a) offset**

The **offset** option is to be used in case of equalization of the temperature indication with another controller or room thermometer.

For example: The controller shows the room temperature amounting to 21.5°C, while another room temperature shows 22°C. The offset option enables such setting of the controller as to approach the thermometer indication. In such a case we increase the **displayed** temperature by 0.5°C in order to make the controller to display 22°C.

**b) delay**

This function delays switching the heating on by 5 or 10 minutes. This prevents too frequent switching the heating equipment on, e.g. in result of temporary draught due to opening the door or window.

**c) temperature units**

This option enables setting the temperature units in accordance with our preferences. The choice includes Celsius (C) or Fahrenheit (F) scale.

**All the parameters are to be set in the above sequence.**

In order to set the offset, display, and temperature units press the knob and hold it 10 seconds. The temperature segment of the display starts pulsating, with OFFTS option appearing.


Set proper temperature offset with the knob (rotating it to the left or right) and press the knob, changing to the delay setting.
The minute segment of the display starts pulsating, with P symbol appearing.


Set proper temperature delay value (0, 5, or 10 minutes) with the knob (rotating it to the left or right) and press the knob.
The minute segment of the display starts pulsating, with C or F symbol appearing.


Set proper temperature unit (Celsius or Fahrenheit degrees) with the nob (rotating it to the left or right) and press the knob.
The controller returns to standard operation mode.

**Note:** Should the knob remain unpressed 10 seconds the controller automatically returns to standard operation mode.

**4. Setting the day-time and night-time air temperatures**

**A) Day-time air temperature ☼.**

Press the ☼■ button. The air ⫴ day-time temperature segment ☼ of the display starts blinking.


Set proper day-time temperature ☼ rotating the knob -●+ to the left or right.

**10 seconds later the temperature will be automatically confirmed.**

**B) Night-time air temperature ☾.**

Press the ■☾ button. The air ⫴ night-time temperature segment ☾ of the display starts blinking.

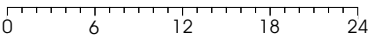

Set proper day-time temperature ☾ rotating the knob -●+ to the left or right.

**10 seconds later the temperature will be automatically confirmed.**

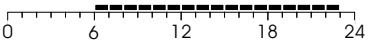
## 5. Programs.

There are 10 available programs. The programs numbered from 0 to 4 are set by the manufacturer, while from 5 to 9 are designed for individual user's programming. The program 0 is designed as an antifreeze program.

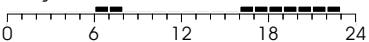
Program **0**: Antifreeze program set by the manufacturer



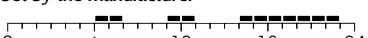

Program **1**: Set by the manufacturer



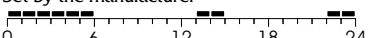

Program **2**: Set by the manufacturer



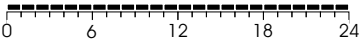

Program **3**: Set by the manufacturer




Program **4**: Set by the manufacturer



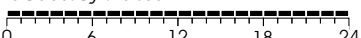

Program **5**: To be set by the user



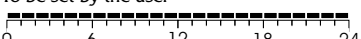

Program **6**: To be set by the user


Program **7**: To be set by the user


Program **8**: To be set by the user




Program **9**: To be set by the user



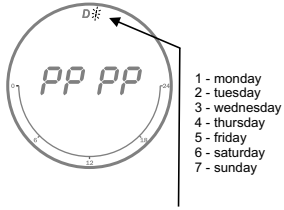
## 6. Programmming

**NOTE:** Every day of the week is to be separately programmed

**Step 1.**

Press the knob and hold it 6 seconds.

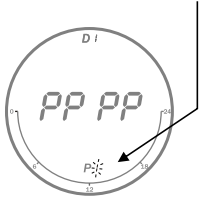
The week day number starts pulsating and PPPP appears at the display




Set **proper** number of the day of the week to be selected using the knob . Press the knob to confirm the selection.

**Step 2**.

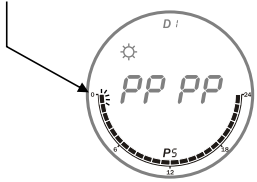
The program number starts pulsating at the display.




Rotating the knob to the left or right set the required program number intended to be assigned to a given day. Selection of the programs **1 to 4 or 0** (❄) (set by the manufacturer) results in automatic change to the **Step 4** of the programming procedure – Setting the floor temperature.

On the other hand, selection of the programs **5 to 9** requires individual programming (look the **Step 3**).

**Step 3.**
If the programs 5,6,7,8,and 9 have not been set they are set to the day-time temperature for the whole course of 24 hours, with hour segment (black rectangle) blinking.



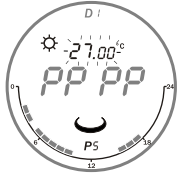

This means that the day-time (☼) or night-time (☾). emperature may be assigned to this hour. Press the ☼■ (day-time temperature) or ■☾ (night-time temperature) button accordingly. Once the required button is pressed the ☼ or ☾ symbol appears.

Afterwards, the next hour segment (corresponding to further hour of the day) starts blinking. It may be set like the previous one.

Once a proper program is formulated ir may be confirmed by pressing the knob ⊹●⊹. The operation changes to the next step of the procedure.

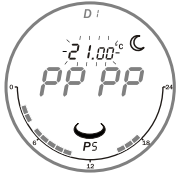
**Step 4. - Setting the floor temperature.**

The display shows the floor symbol ◡, with day-time temperature segment (☼) blinking.




Set the day-time temperature of the floor with the knob ⊹●⊹. Confirm it pressing the knob ⊹●⊹.

**Step 5.**
Afterwards, the floor ⌣ night-time temperature ☾ starts blinking.




Set proper night-time temperature of the floor rotating the knob to the left or right. Pressing the knob confirm the selection.

**NOTE: Should the external sensor be disconnected during the programming procedure the LO (also for the electric circuit break) or HI symbol appears (the last is for short-circuit of the sensor.**

LO HI

**With the LO or HI symbols the programming of the floor temperature is unavailable – the ( ⌣ ) indicator does not appear also during operation of the controller**.

Press the knob in order to induce the controller to normal operation (pressing no button within 10 seconds results in automatic return to normal operation mode of the controller).

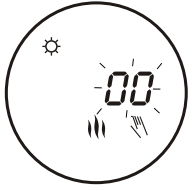
## 7. Manual Control

Manual control mode is used when the day-time, night-time, or antifreezing temperature should be set independently of actually operating program without the need of reprogramming of the controller.
For example, we intend to go to the cinema in the night for 3 hours. There is no need to heat the house at this time.
Meantime our program is set so as to switch the night-time temperature on only 4 hours later.
With the use of manual control the night-time temperature may be set on earlier and last e.g. 3 hours. After the 3 hours the controller automatically returns to previously executed program.

**Note: In the manual mode the "24hrs program indicator" is replaced for the hand symbol at the display.**

### A) Manual recall of day-time temperature ☼.

In order to switch on the day-time temperature press the ☼ button and keep it pressed 2 seconds. The week day number starts pulsating at the display. The hour segment starts pulsating at the display, with the hand symbol appeared.




Set appropriate number of the hours during which the day-time temperature is to be set, rotating the knob to the left or right.

In order to adjust the day-time temperature for a period exceeding 24 hours rotate the knob until the dA symbol (days) appears.


Rotating the knob to the left or right set appropriate number of the days (from 1 to 14) during which the day-time temperature (☼) is to be set.

The settings will be recorded after 10 seconds and the controller automatically returns to normal operation.

**B) Manual recall of night-time temperature ☾.**

In order to switch on the night-time temperature for a predetermined time press the ☾ button for 2 seconds. The hour segment starts pulsating at the display, with the hand symbol appeared.


Set appropriate number of the hours during which the night-time temperature is to be set, rotating the knob to the left or right.

In order to adjust the night-time temperature for a period exceeding 24 hours rotate the knob until the dA symbol (days) appears.


Rotating the knob to the left or right set appropriate number of the days (from 1 to 14) during which the night-time temperature ☾ is to be set.

The settings will be recorded after 10 seconds and the controller automatically returns to normal operation.

**C) Manual recall of antifreezing temperature ❄.**

In order to switch on the night-time temperature for a predetermined time press simultaneously the ☼ and ☾ buttons for 2 seconds. The hour segment starts pulsating at the display, with the hand symbol appeared.


Set appropriate number of the hours during which the antifreezing temperature ❄ is to be set, rotating the knob to the left or right.

In order to adjust the antifreezing temperature for a period exceeding 24 hours rotate the knob until the dA symbol (days) appears.


Rotating the knob to the left or right set appropriate number of the days (from 1 to 14) during which the antifreezing temperature is to be set.
The settings will be recorded after 10 seconds and the controller automatically returns to normal operation.

## IV. Intelligent Heating Control System (IHCS).

**The goal of the IHCS function** is to ensure achieving the required room temperature in a predefined time, by switching the controller prior to the set time. Duration of previous heating (the initial heating) is to be estimated on the grounds of the heating system factor and the temperature of the environment, with a view to saving the energy. The IHCS process includes three stages:
(1) estimation of the heating factor;
(2) estimation of initial heating duration;
(3) the initial heating process.

For example, at current time i.e. 5:59 pm, the economic (energy saving) temperature is set and the comfort temperature level (23°C) is set to 7:00 pm. Let us assume that current temperature amounts to 20°C.

Then the controller shall switch on at 6:00 pm in order to estimate the time required for increasing the temperature by 3°C. The ☼ or ☾ symbols will not appear at the display (stage I). Once the required time is estimated the controller shall switch on again at 6:20 pm with blinking ☼. It will operate until achieving the comfort temperature 23°C in order to ensure this exactly at the preset time.

**1)** In the first stage the controller shall check the operation mode periodically within one hour. In case it finds that the operation mode should be changed for the next hour, it switches the heating on in order to increase the temperature by 1°C, with a view to estimating the heating system factor.

**(2)** Once the room temperature increases by 1°C, the controller returns to normal operation. Afterwards the controller shall test the room temperature again in order to assess the time required for heating the room from current temperature to the level initial for the third stage. The initial setting for the 3rd stage are as follows: 20 minutes prior to the time set for the next operation mode for the set temperature lower by 2°C than the next setting. If the remaining time is shorter than the estimated heating time, the controller shall switch the heating on in order to ensure room conditions as for the setting of the 3rd stage.

**(3)** In the 3rd stage: 20 minutes prior to the time for the next operation mode the unit shall change to the new operation mode in order to ensure achieving the new temperature by initial room heating 20 minutes earlier.

## NOTE:

**The IHCS function switches on when the difference between the current temperature and the one set up by the user exceeds 2°C.**

**During the process of initial heating (3) the ☼ or ☾ icon will be displayed. Pressing the ☼◀ ▶☾ button switches the IHCS function off restoring current operation mode of the controller.**

**NOTE: If no symbols ☼, ☾ or ❄ appear at the display, the Intelligent Heating Control System is switched on in order to check whether the heating is to be switched on in order to achieve the required temperature in the next hour.**

## V. TECHNICAL SPECIFICATION .

**Supply:**
230VAC ± 10% 50Hz

**Clock:**
1. Display of current time with indication of day of the week.
2. Time displayed in 24 hrs format.
3. Clock accuracy ±70 seconds/monthly.

**Air temperature measurement:**
1. Measurement range – from 0 to 34.5°C (32 to 94°F).
2. Accuracy of the measurement ±1°C at 20°C
3. Accuracy of the scale 0.25°C (0.5°F)
4. Display 34.5°C (94°F) for the temperature exceeding 34.5°C (94°F)
5. Display 0°C (32°F) for the temperature below 0°C (32°F)
6. Control range 5°C (41°F) to 30°C (86°F) with the accuracy 0.25°C (1°F)
7. Setting and display in °C or °F

**Temperature offset:**
±3.75°C

**Floor temperature measurement:**
1. Measurement range – from 10 to 50°C (50 to 122°F).
2. Accuracy of the measurement ±1°C at 20°C
3. Accuracy of the scale 0.5°C (1°F)
4. For short-circuited external sensor the display shows HI
5. For disconnected or interrupted external sensor the display shows LO
6. Control range 10°C (50°F) to 50°C (122°F) with the accuracy 0.5°C (1°F).

**Predefined temperature setting:**
Two settings to be selected by the user: day-time ☼ and night-time ☾.

**Temperature oscillation:**
1°C

**Program:**
1. Four programs set by the Manufacturer
2. Five programs to be set by the User
3. One antifreeze program
4. The program enables setting a temperature for every hour of the day. The day-time ☼ or night-time ☾ temperature may be set.
5. The programs may be assigned to particular days of the week in any combinations.

## Manual setting of temperature

**Three types of manual setting:**
1. Changes between the day-time ☼ and night-time ☾ temperatures.
2. Manual adjustment of the set temperature
3. Setting the antifreeze temperature ❄.

**The time for manual setting:**
The hours 0-24, for 0 to 14 days in advance

**Delay setting:**
0, 5, or 10 minutes

**Battery support:**
Up to 100 hours, only for the clock and he programs, without the display.

**Maximal current-carrying capacity of the terminals:**
16A 250VAC

**Connecting terminals:**
FT,FT, N-IN, L-IN, L-OUT (described in page 3)

**Certificates:**
CE

**Protection:**
A relay self-switching off in case of voltage break down.