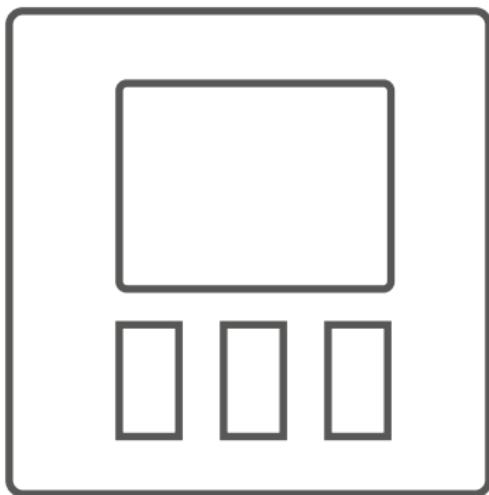
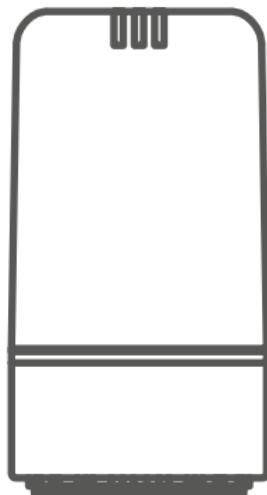


# **AURATON**

## **200 TRA**



**EN**

**USER'S MANUAL**



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Thank you for purchasing the modern temperature controller based on an advanced microprocessor.

## **AURATON 200 TRA**



### **FrostGuard function**

Protects the interior from freezing.



### **Enables cyclic reduction of set temperature**

by 3°C for 6 hours.



### **Backlit LCD display**

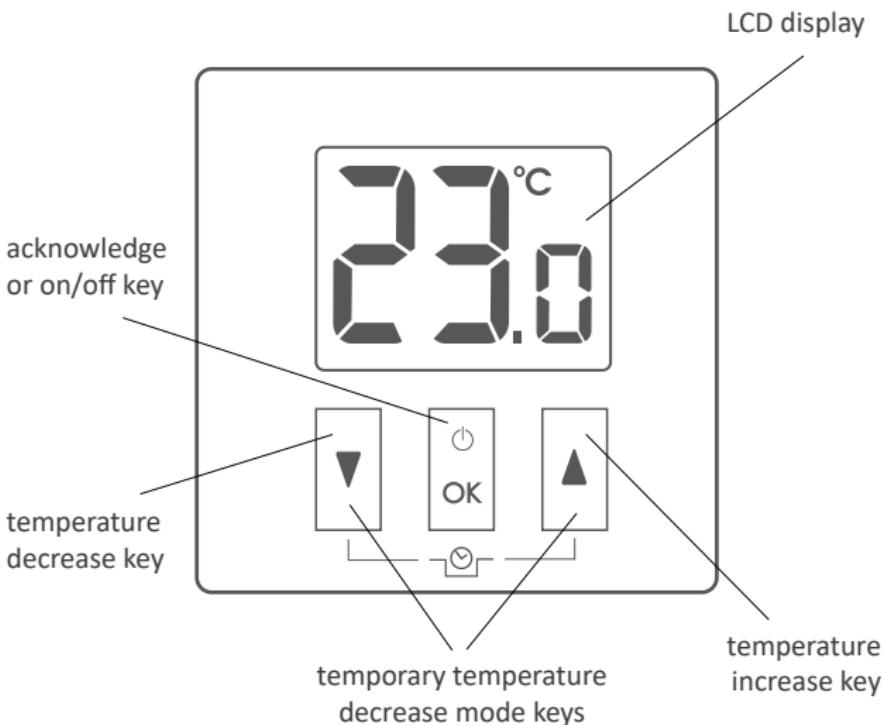
The backlit display enables device control even in dark rooms.

## **Basic information**

The Auraton TRA head with the Auraton 200 TRA controller is a programmable room thermostat.

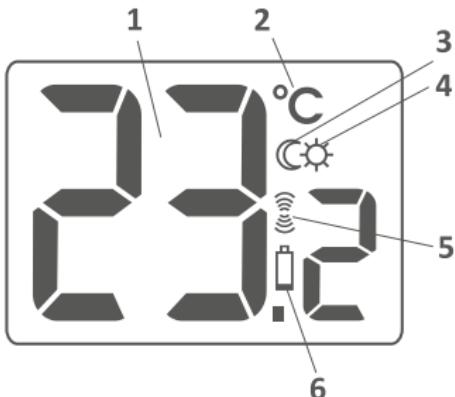
The Auraton TRA head is intended for installation on M30x1.5 radiator inserts and, using a special adapter, on Danfoss RA-N valves (the adapter is supplied). The Auraton TRA head communicates directly with the Auraton 200 TRA controller, receiving information about the current temperature in the room and the preset temperature. There can be any number of radiators with Auraton TRA heads in a room but all must be paired with the same Auraton 200 TRA controller. If the number of the Auraton TRA heads is larger, the speed of response of the radiators to changes of temperature in the room increases, which is very beneficial.

# AURATON 200 TRA temperature controller explained



- **hold** – controller on/off (⊕)
- **short press** – acknowledge temperature setting (ok)

## Display screen



### 1. Temperature

In normal operating mode, the controller displays the temperature of the room it is installed in.

### 2. Temperature unit ( $^{\circ}\text{C}$ )

Indicates temperature displayed in centigrade.

### 3. Temporary temperature decrease mode indicator ( $\text{C}$ )

Appears when the temporary temperature decrease program is active.

### 4. Temporary temperature decrease mode programming indicator ( $\odot$ )

Indicates the temporary temperature decrease mode planned by the user. Displayed when the mode is not executed but the function of the temporary temperature decrease is active (refer to „Temporary temperature decrease setting” section for more details).

### 5. Transmission symbol ( $\oplus$ )

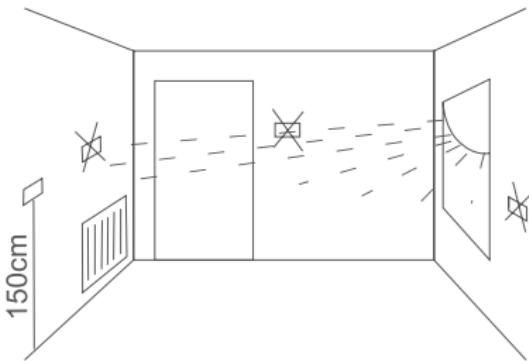
Indicates communication with the receiver.

### 6. Battery exhausted ( $\square$ )

Displayed when the battery voltage drops below the allowed limit. Replace the battery as soon as possible.

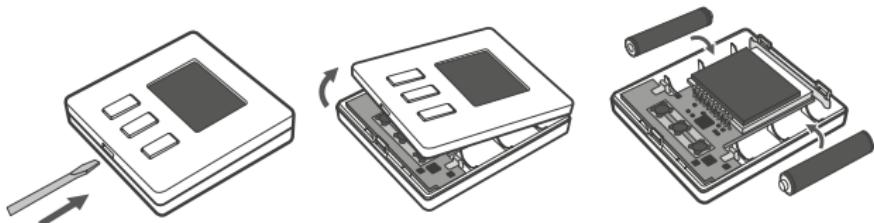
## Selecting proper location for temperature controller

Controller location largely affects its proper operation. When located in a place without air circulation or exposed to direct sunlight, the controller may not control the temperature properly. The controller should be located on an internal wall of a building (partition wall) in a place with free air circulation. Avoid locations near sources of heat (TV set, heater, refrigerator) or places exposed to direct sunlight. Location near doors and the resultant vibration may cause the controller to function improperly.



## Battery installation / replacement

Battery sockets are located inside the controller on both sides of the display. To install the batteries, remove the controller enclosure as shown in the figure.



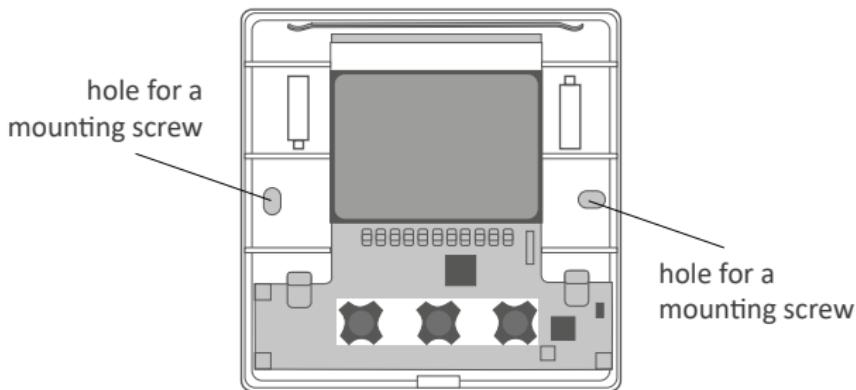
Place two AAA 1.5 V batteries in the battery socket observing the correct polarity. Then, to improve the operation, remove the battery cover from the heads associated with this **AURATON 200 TRA** for 5 seconds, after this time reinstall it back.

**NOTE:** We recommend using alkaline batteries to supply AURATON controllers. Rechargeable batteries should not be used because their rated voltage is too low.

## Fixing the controller to the wall

To fix the **AURATON 200 TRA** controller to the wall:

1. Remove the enclosure (as described on the „Battery installation/replacement” section).
2. Drill 2 holes diameter 6 mm in the wall (use the back of the controller enclosure to set the right spacing of the holes).



3. Place plastic plugs in the drilled holes.
4. Screw the back of the controller enclosure to the wall with the two screws provided.
5. Install the batteries and replace the controller enclosure.

**NOTE:** No expansion bolts are needed for wooden walls. Just drill holes diameter 2.7 mm (instead of 6 mm) and screw the screws directly into the wood.

## Alternative fixing methods

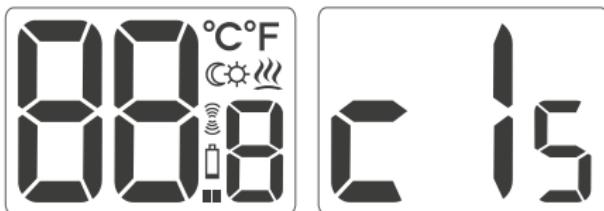
The controller can be mounted to a smooth surface with e.g. two-sided adhesive tape.

The controller can also be placed in any location on an even surface on a support at the back of the enclosure.

## Starting the controller for the first time

After correct installation on batteries, the LCD will display, for a second, all segments (display test) followed by the firmware version number.

After a while, the current temperature in the room will be displayed. The controller is ready to use.



## Temperature setting

**NOTE:** When pressing any function key for the first time, the backlight is turned on and then the key function is activated.

To set the desired temperature in normal operating mode:

1. Press the or key. The segment displaying temperature will switch to edit mode and start blinking.
2. With the and keys, set the desired temperature with the accuracy of up to 0.2°C.
3. Press the key to acknowledge selection.



## FrostGuard function

**AURATON 200 TRA** controller features the special FrostGuard function to protect the room from possible freezing. The function is activated when the controller is **switched off**.

With the controller switched off, when the room temperature drops to 2°C, the **Fr** ( ) symbols will appear and signal will be sent to the receiver to start heating. When the temperature raises to 2.2°C, the display will turn off again and signal will be sent to the receiver to turn the heating off.

## Setting the temporary temperature decrease mode



If, for some reasons, you would like to decrease temperature in the room, everyday and at the same time, by 3°C, temporary reduction for 6 hours is possible. To do so:

1. Press and hold for 3 seconds both keys.  
The moon symbol will be displayed (  $\text{C}$  ).
2. The controller is switched to the temporary temperature decrease mode and **everyday at the same time** will decrease the set temperature in a normal mode by 3°C for 6 hours.

**NOTE:** After 6 hours, the controller will return to the main temperature setting. Instead of the moon symbol (  $\text{C}$  ) the sun (  $\text{S}$  ) symbol will be displayed.

**NOTE:** The temporary temperature decrease mode always starts when the function is turned on. This means that the possible temporary temperature decrease has to be set at the time you want it to take place.

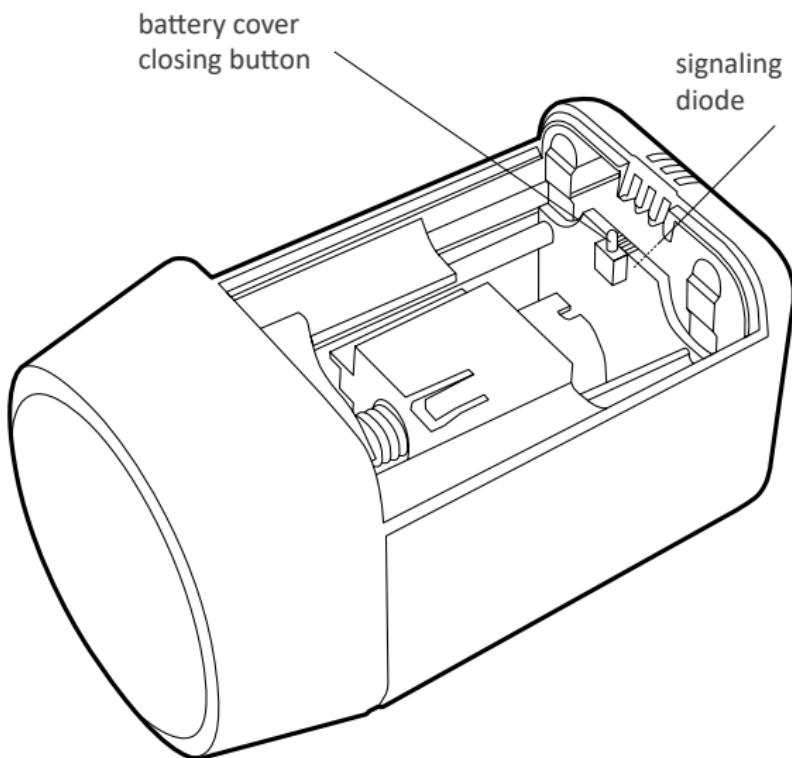
## Switching off the temporary temperature decrease

Press and hold the keys again to switch off the temporary temperature decrease mode.

The moon (  $\text{C}$  ) or sun (  $\text{S}$  ) symbol will disappear and only the room temperature will be displayed. The controller returns to the normal operating.

## Description of the AURATON TRA head

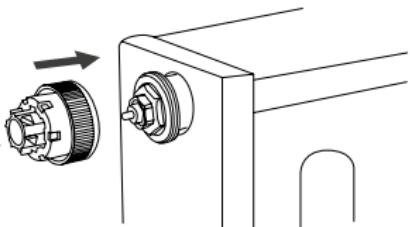
The **AURATON TRA** head works with the wireless controller **AURATON 200 TRA**. The head is installed directly on the radiator.



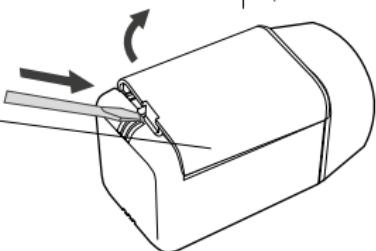
## Method of installation of the TRA head on a radiator with an M30x1.5 insert

In order to install the **Auraton TRA** head on a radiator with the most common insert in the market, i.e. M30x1.5, the following actions must be performed:

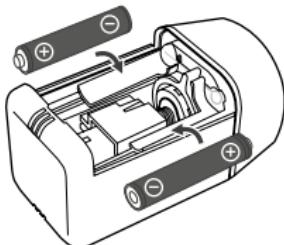
- a) Screw the reduction fitting A onto the insert delivered with the head (all the way).



- b) Take off the head battery cover using a flat screwdriver.



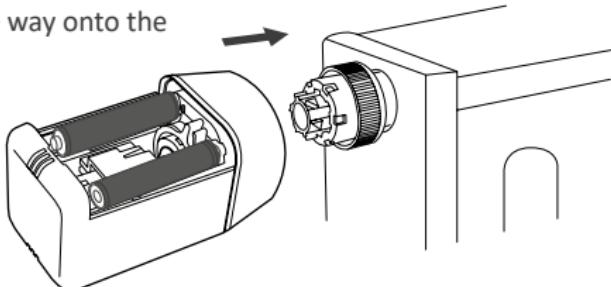
- c) Install two AAA batteries in the head, paying attention to their polarity. The pin of the head moves to the fully open position, which is necessary for installation of the head on the reduction fitting.



- d) Slide the safety ring into the "released" position.

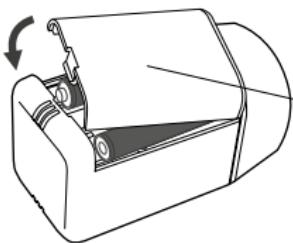


- e) Slide the head all the way onto the reducing fitting A.





**f)** Turn the safety ring into the "secured" position.



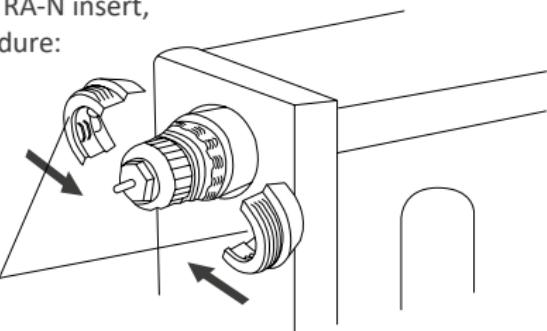
**g)** Pair the head with the **Auraton 200 TRA**, unless pairing has been done earlier.

**h)** Close the head battery cover.

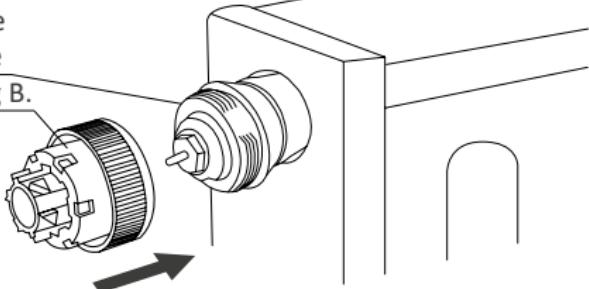
## Installation on the head with a Danfoss RA-N insert

In order to install the **Auraton TRA** head on a radiator with a Danfoss RA-N insert, perform the following procedure:

- a)** Put on the two halves of the reduction fitting B onto the Danfoss RA-N insert.



- b)** Tighten all the way the reduction fitting A on the installed reduction fitting B.



- c)** Perform steps **b)** through **h)** in the chapter titled "*Method of installation of the TRA head on a radiator with an M30x1.5 insert.*"

## Resetting the Auraton TRA head to the default settings

- a) take off the head battery cover
- b) take out the battery (one of the two or both)
- c) press the battery cover closing button (it is located on the electronics board between the batteries)
- d) install the batteries while holding the button pressed
- e) after you hear three beeps, release the button

## Pairing of the Auraton TRA head with the Auraton 200 TRA controller

Proper operation of the **Auraton TRA** head requires pairing it with the **Auraton 200 TRA** controller. The pairing process is the following:

1. Reset the **Auraton TRA** head to the default settings (see the chapter "Resetting the Auraton TRA head to the default settings").
2. In the Auraton 200 TRA controller simultaneously press the buttons  +  for more than 3 [s].
3. After 3 [s], the **Auraton 200 TRA** controller sends pairing data to the **Auraton TRA** head, which the head indicates with three beeps.
4. After successful pairing of the **Auraton 200 TRA** with the head, close the battery cover (if installed on the radiator).

## Communication between the head and the **Auraton 200 TRA** controller and error signals

In order to save the battery, the **Auraton 200 TRA** controller communicates with the head every 2 minutes. Immediately after the **Auraton 200 TRA** controller logs into the head, the two devices are synchronized; the process takes about one minute. The synchronization process is not indicated in any way but is necessary for proper operation of the set.

Communication may be disturbed if the **Auraton 200 TRA** is reset (for example in order to replace the battery). The head indicates interrupted communication after 6 minutes with a LED diode blinking every 8 [s]. After a maximum of 4 hours, the head should automatically synchronize itself with the **Auraton 200 TRA** controller. This time can be reduced to 2 minutes if, after the reset of the **Auraton 200 TRA** controller, the tab is taken off from the head and reinstalled after 3 [s].

Even after communication between the head and the **Auraton 200 TRA** controller is interrupted, the user should not experience any deteriorated adjustment of temperature. In such a case, the head stabilizes the temperature of the radiator on the level that was required earlier in order to maintain the temperature in the room.

## Signaling after startup of the head

After the battery is inserted, the head indicates that it is ready for operation by way of sound signals and a LED diode. There are two possible scenarios:

- a) a single beep - it means that an **Auraton 200 TRA** controller has been paired with the head. In such a case, the head only has to be installed on the radiator insert and the battery cover must be closed. After about 30 [s], the head starts adjusting the temperature.
- b) three beeps - an **Auraton 200 TRA** controller has not been paired with the head. After the battery cover is closed, the head DOES NOT perform the temperature adjustment algorithm.

If the head press pin is not in the fully opened position, the motor starts and the actuator moves away from the radiator.

## Calibration error signals

After the head is installed on the radiator and the battery cover is closed, the head performs calibration of the mechanical system. If an error occurs during calibration, it is indicated with the buzzer sounding for 1 [s] every 1 [s]. If a calibration error occurs, the following must be checked:

- a) Is the reduction fitting A properly screwed to the radiator insert?
- b) Is the reduction fitting B (in the case of Danfoss inserts) properly fastened on the insert and is the reduction fitting A properly screwed into the reduction fitting B?
- c) Is the safety ring properly set in the “secured” position?
- d) Are the installed batteries not discharged (see the chapter “*Method of installation of the TRA head on a radiator with an M30x1.5 insert*” items b) and c)).

## Installation tips

**Auraton 200 TRA** should be placed in the same room with the head and the radiator. It should not be placed near the radiator, on doors, or in places exposed to sunlight. The head, on the other hand, should be installed on the radiator insert not more than 20 cm away from the radiator. In nearly all cases this requirement is met because radiator manufacturers integrate inserts with radiators. If the head is located away from the radiator (the radiator does not heat the head directly), adjustment of temperature is less dynamic. As a result, temperature fluctuations in the room may be larger. On the other hand, the **Auraton TRA** head may be installed on inserts located at the bottom of the radiator (e.g. in the case popular ladder type bathroom radiators).

## Battery operation time and discharged battery indication

The declared time of operation with one set of AAA alkaline batteries is one year. Discharged batteries do not affect adjustment of temperature. The head indicates low battery status by blinking the LED twice every 8 [s]. Also, when the battery becomes even more discharged, the head starts emitting two beeps every 8 minutes. In order to switch off the beeping for 1 day, press any key on the **Auraton 200 TRA** controlled paired with the head or lift the head flap for 2 [s] and reinstall it.

## Technical specification

Operating temperature range:	0 – 45°C
Temperature measurement range:	0 – 35°C
Temperature control range:	5 – 30°C
Hysteresis:	±0,2°C
Temperature setting accuracy:	0,2°C
Temperature measurement accuracy:	±0,1°C
Default temperature setting:	20°C
Additional function:	FrostGuard
Operating cycle:	24-hours
Operation status control:	LED diode, sound (head) / LCD (controller)
Power supply of <b>AURATON 200 TRA</b> :	2 alkaline AAA 1.5 V batteries
Power supply of the <b>TRA</b> head:	2 alkaline AAA 1.5 V batteries
Radio frequency of the <b>TRA</b> :	868 MHz
Range of operation the <b>TRA</b> :	in a regular building with standard wall structures - approx. 30 m; in open space - up to 300 m

## Disposal considerations



The devices are labelled with the crossed out waste bin symbol. In accordance with the European Directive 2002/96/EC and the Act on Waste electrical and electronic equipment such marking indicates that the device, after a period of use, can not be disposed of together with other household waste.

You shall return the equipment to an electronic or electrical waste collection point.

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