

RADIO FREQUENCY DIGITAL
ROOM THERMOSTAT

AVANSA 2003 TX



User manual

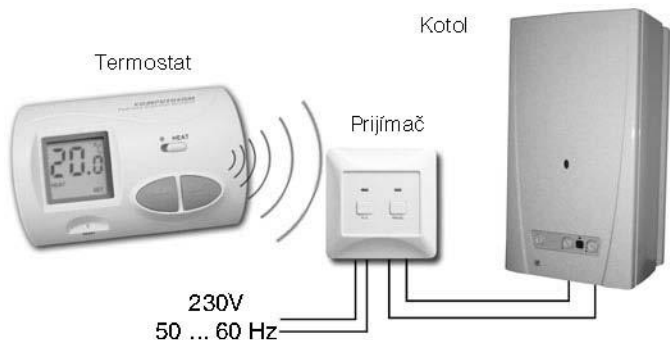
GENERAL NOTES

The room thermostat AVANSA 2003 TX I is suitable for controlling most boilers sold in the Czech Republic. It can be easily connected to a boiler or air conditioner, including a two-position thermostat, independently of the operating voltage of 24 or 230 V. Digital comparison simple traditional

thermostat allows more accurate temperature measurement and setting of desired data. Based on the selected sensitivity of the thermostat switching below the set temperature, the boiler will turn on and off above the set temperature. At high comfort, it also ensures reduced energy costs.

The unit has two units. The first is a portable control unit (thermostat), the second is used to control the boiler. The units are connected by radio frequency, so no wiring needs to be built between the thermostat and the boiler.

The thermostat and receiver have their security codes, so external signals cannot interfere with their safe operation.



In order to increase battery life, the thermostat does not transmit continuously, but only sends a signal to the receiver when it needs to make a connection. The portable thermostat has the following advantages:

- It is not necessary to build wiring, which is advantageous when renovating buildings.
- The optimal location of the thermostat can be chosen during operation.
- Using the thermostat is also advantageous because its storage location can be changed according to needs. (E.g. During the day you can store it in the living room, and at night in the bedroom).

Symbols displayed on the screen:



The thermostat has an impressive range in open terrain of about 50 m. Inside a building this distance may decrease significantly, especially if radio waves interfere with iron or reinforced concrete structures. Switching sensitivity can be set in the range of $\pm 0.2\text{ }^{\circ}\text{C}$ (factory setting recommended for radiator heating) and $\pm 0.2\text{ }^{\circ}\text{C}$ (recommended for floor heating). This means the difference between the set and actually measured room temperature when the thermostat is turned on. If the factory setting is e.g. $20\text{ }^{\circ}\text{C}$, the device will turn on the boiler at $19.8\text{ }^{\circ}\text{C}$ or lower temperature, and turn off the boiler at $20.2\text{ }^{\circ}\text{C}$ or higher temperature.

1. INSTALLATION OF AVANSA 2003 TXThermostat DEVICE The device is portable and can be stored in any room in the apartment. Make sure it is not exposed to direct sunlight or drafts. Do not place it near a refrigerator or chimney. The optimal storage location is 1.5 m

high from the floor of the room. It can be mounted on the wall or placed on its own stand.

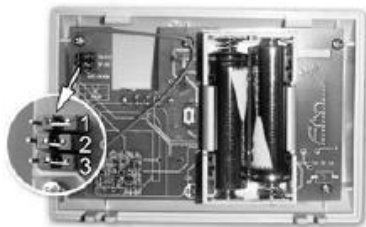
IMPORTANT NOTICE! If in the room where you want to store the thermostat, radiators have thermostatic heads for valves, replace the valve heads and mount a manual controller, or set them to the maximum temperature level. Otherwise, temperature regulation may be disrupted.

2. CONNECTING THE THERMOSTAT Before installation and connecting the thermostat, loosen the screws in the lower parts cover. Then remove rear part as shown. Attach the back cover to the wall using the supplied screws, or place it on a bracket. The battery compartment is located on the inner side of the front cover. According to the specified polarity, insert 2 x AA batteries (type LR6). After inserting the batteries, the internal temperature set on the display will appear. (If the mentioned information does not appear on the display, press the "RESET" button with a wooden or plastic stick.



Do not use metallic material, and a graphite pencil. (The pencil may break and cause a short circuit in the device).

3. BASIC SETTINGS Remove the device back cover. On the inner side of the front cover, on the base panel, there are jumpers (black plugs), which can be adjusted as follows: basic setting.



3.1 SETTING SENSITIVITY The topmost jumper can be set for setting the switching sensitivity. Switching sensitivity is set in the factory in the range of $\pm 0.2^{\circ}\text{C}$, which can be changed. By moving the plug to the left and central pin, you can set the temperature in the range of $\pm 0.3^{\circ}\text{C}$.

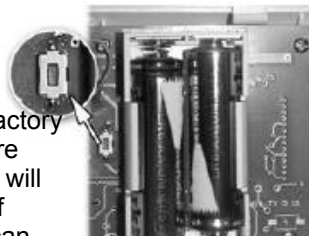
3.2 CHANGE OF TEMPERATURE MEASUREMENT UNIT The middle jumper can be used to change the temperature measurement unit, which will appear on the display. The basic temperature setting is in $^{\circ}\text{C}$ (Celsius). The temperature can be set in $^{\circ}\text{F}$ (Fahrenheit) by shifting the plug to the left and middle shaft.

3.3 Changing the temperature display on the screen Using the lower jumper, the desired temperature can be set. According to the factory setting, the current room temperature will be displayed on the screen, which is visible in the lower right corner of the screen "ROOM". The set temperature is visible only during the setting (approximately 15 seconds). By shifting the plug to the left and middle shaft, you can set the device to alternate (approximately 4-4 seconds) between the set and current temperature. In this mode, "ROOM" and "SET" alternate in the lower right corner of the screen depending on whether it is the current or set temperature. **WARNING!** If you want to set the factory settings after inserting the batteries, press the "RESET" button using a wooden or plastic stick.

3.4 PAIRING THERMOSTAT AND RECEIVER For security reasons, the thermostat and receiver have their security codes. Tuning can be performed after the receiver is installed by pressing the "LEARN" button (see figure). The button is located next to the battery compartment. Therefore, do not mount the back cover of the thermostat on the front cover before tuning. The tuning description is given in section 7.2.

4. SETTING THE DESIRED TEMPERATURE

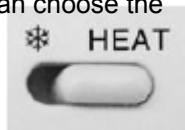
The sensitivity of turning on is set at the factory in the range of $\pm 0.2^\circ$, and the temperature value of 20°C . This means that the boiler will be turned on below 19.8°C and turned off above 20.2°C . The initial factory setting can be set to $10\text{--}30^\circ\text{C}$, at 0.5°C as follows:



Press the button , the message "SET" (set value) will appear on the display, while the measured temperature value will change to the factory setting (20.0°C), or to the last set value (the set temperature value flashes on the display). Press the buttons (in this case, the change will be faster) until you reach the desired temperature at the thermostat installation location. Setting the desired temperature is possible $\pm 0.5^\circ\text{C}$. After setting the required room temperature, the device automatically switches back to normal operation after approximately 15 seconds. "SET" disappears and the current room temperature is displayed.

5. THERMOSTAT OPERATION After connecting and setting the basic values of the desired temperature, the thermostat is in operation. By pressing the "HEAT" button, you can choose the heating mode or the freeze mode. Thermostat

controls
heating
unit
according
to
setting.



5.1. HEATING MODE (RIGHT BUTTON POSITION) The thermostat controls the boiler based on the actual room temperature and the set temperature. If the device is on, relay contacts 1 (NE) and 2 (COM) are closed and the device connected to the thermostat is in the on state. In this case, the display shows "HEAT" and a red LED appears on the receiver.

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If the button is in the left position, it means you are in frost mode. The thermostat will try to maintain a constant temperature of +7.0 °C. Below this value, the boiler or other connected heating system will turn on and off above this value. In frost mode, relay contacts 1 (NO) and 2 (COM) close, and the device connected to the thermostat is in the on state. In this case, the symbol  appears on the display. In this mode, temperature setting is not possible.

6. BATTERY REPLACEMENT Battery life is approximately 1 year. Low battery voltage is indicated on the display by the flashing symbol bA. This symbol appears at the position of the set temperature. If the symbol bA appears on the display, the batteries need to be replaced (see Section 3). After replacing the batteries, the temperature must be set again, as the device switches to factory settings.

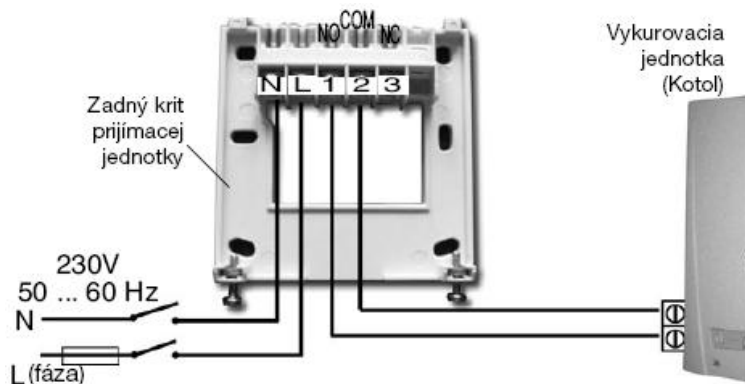
7. RECEIVER

7.1 INSTALLATION AND CONNECTION OF THE RECEIVER

Install the receiver near the boiler on the wall. The product must not get wet. Warning: Do not install the receiver under the boiler lid, as it could interfere with the radio frequency. For safety reasons, installation and wiring should be done by a professional. Loosen the 2 screws at the bottom of the receiver, but do not remove them. Then remove the front cover and attach the back cover to the wall using the supplied screws. Markers for connection points: N, L, 1, 2, 3 are located above the connectors.

The receiver can be connected to the mains voltage of 230 V. For creating a mains connection, we recommend fixed wiring,

instead of a 230 V socket. This prevents sudden power outages. Connect the neutral wire to point N and the phase wire to point L. We also recommend installing a switch to turn off the receiver.



The receiver controls the boiler via relay contacts: 1 (NO), 2 (COM), 3 (NC). Connect your heater to contacts 1 NO and 2 COM, and the cooler to contacts 2 (COM) and 3 (NC).

WARNING! Always follow the manufacturer's instructions when connecting a heater or cooler.

Voltage on terminals 1, 2, or 3 depends only on the control system, so the parameters of the used cable are determined by the controlled device. The cable length is not important; the receiver can be installed next to the boiler or at a more distant location, but not under the boiler cover. If the distance between the transmitter and the receiver is too large, the connection may be unstable, so attach the receiver closer to the thermostat.

7.2 RECEIVER OPERATION Connect the receiver to power and wait a moment. Within a few minutes, the thermostat and receiver are set to the desired frequency. Press the button if the set temperature does not exceed

actual room temperature by 2-3 °C. "HEAT" will appear on the display, meaning the device is on. If this does not happen, the entire system must be re-tuned. Press the "M / A" button until the green LED starts blinking (approximately 10 seconds). Then press the "LEARN" button next to the battery compartment until the indicator blinks for a few seconds and turns off, so the receiver can "learn" the security code of the transmitter (thermostat). This code will not be lost even in the case of a power failure; the system will automatically remember it.

Warning: Due to pressing the "LEARN" button for several seconds, the thermostat will receive a new security code, which the receiver will recognize only after a new setup. Therefore, after successful tuning of the units, do not unnecessarily press the thermostat button "LEARN" or the receiver button "M / A".

7.3 RANGE CHECK USING THE UP AND DOWN buttons you can check whether the units are within the range of the radio frequency signal. To do this, set the desired temperature higher than the current room temperature by more than 0.2 °C and then lower the actual room temperature by more than 0.2 °C. In the on state, the red LED will light up, in the off state this signal will turn off. If the receiving unit does not receive the transmitted signals, the units are too far apart and should be stored closer.

7.4 MANUAL CONTROL OF THE RECEIVER UNIT Pressing the "MANUAL" button disconnects the thermostat from the receiver and the boiler can be turned on manually only. In this case, temperature control cannot be performed. If the green "LED" is continuously lit, the "MANUAL" function is active. Press the "M / A" button repeatedly to turn the boiler on or off. (If the boiler is on, the red LED will light up). Press the "MANUAL" button to put the thermostat back into operation. (The green LED will turn off).

7.5 HOW TO AVOID EXTERNAL INFLUENCES Device control is not affected by any external means (radio, mobile phone, etc.). If you still detect a malfunction, the entire system must be re-tuned according to point 7.2.

TECHNICAL DATA

Technical data of thermostat (transmitter):

-temperature measurement range:	5–35°C (with step 0.1°C)
-temperature setting range:	10–30°C (with step 0.5°C)
-temperature measurement accuracy:	±0.5°C ±0.2/±0.3°C +7°C
-switching sensitivity:	-10°C ... +60°C 2x1.5 V
-constant temperature in frost mode:	batteries (LR6 type)
-recommended storage temperature:	868.35 MHz 1.5 mW
-supply voltage:	approx. 1 year 110 x 75 x
-operating frequency	45 mm 154 g NTC 10kΩ
-power –battery life:	±1% at 25°C IP 30
-dimensions:	
-weight:	
-type of temperature sensor:	
-protection class:	

Technical data of the receiver:

-power:	6W 230 V AC, 50 Hz 24V AC /
-input voltage:	DC,... 250V AC; 50Hz 6A
-supply voltage:	(inductive load 2A) in open
-free current intensity:	terrain approx. 50m 150g
-range:	
-weight:	