

PROGRAMMABLE RADIO FREQUENCY
DIGITAL ROOM THERMOSTAT

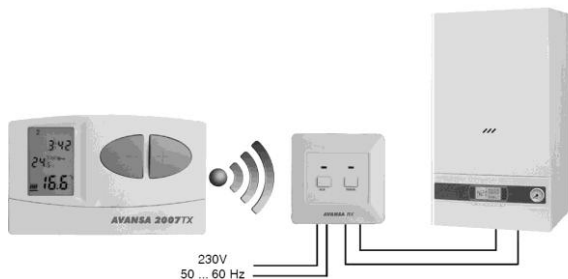
AVANSA 2007 TX



User manual

GENERAL DESCRIPTION OF THERMOSTAT

AVANSA 2007TX room thermostat with operating switching is suitable for the regulation of most boilers sold in Slovakia. It can be connected to any gas boiler equipped with a room thermostat connection with double wiring or to a climate control system regardless of whether it has 24 V or 230 V operating voltage. The device can be individually programmed according to your needs so that the heating (cooling) system starts at the time and to the temperature you require, heats (cools) your apartment, office and in addition to ensuring comfort also contributes to reducing energy costs. A separate, independent temperature program can be created for each day of the week. It is possible to set 6 different switching times (in 10 minute increments) for each day and with freely adjustable temperature (in 0.5°C increments) for each of the 6 switching times. The device consists of two units. One portable control unit (thermostat) and one receiving unit, which is used to control the boiler. The connection between the thermostat and the receiver is ensured by radio frequency waves, so it is not necessary to install wiring between the thermostat and the boiler. Both units are pre-set by the manufacturer to operate on the same frequency.



The thermostat and the receiver have their own security code.

this reason cannot unknown, external
radio frequency signals interfere safe operation

of the device. The portability of the thermostat has the following advantages:

-It is not necessary to install wiring, which is advantageous especially during the reconstruction of old buildings, -Optimal placement of the thermostat can be selected during use, -Its use is advantageous also in cases where we want to use the thermostat in different rooms during different time periods of the day (e.g. during the day in the living room, but in the evening in the bedroom).

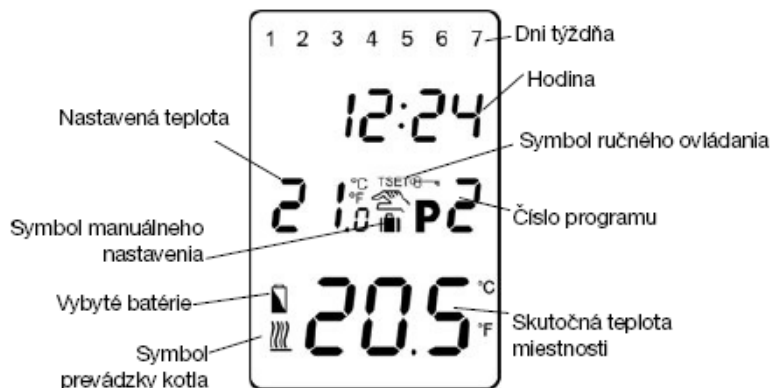
The sensor built into the thermostat has a range of approximately 50 m in free space. This distance can be significantly reduced in a building, especially in cases where iron structures or reinforced concrete walls interfere with the radio waves. Optional switching sensitivity is $\pm 0.2^{\circ}\text{C}$ (recommended basic setting by the manufacturer for radiator heating) or (recommended setting for floor heating

heating). These values refer to the temperature difference that occurs between the set temperature and the actual measured temperature in the room at the moment the thermostat is turned on. In the case of the basic factory temperature setting, e.g., to 20°C , the device will turn on the boiler when the temperature reaches 19.8°C or lower, and turn it off when the temperature reaches 20.2°C or higher. (For changing the factory sensitivity $\pm 0.2^{\circ}\text{C}$ see section 2.3) The radio-frequency thermostat you have purchased can be extended, if necessary, with a plug-in type AVANSA TX, which can be added without any installation and easily possible control any electric

equipment (e.g. boiler, pump, heater, etc.) preventing the pump from clogging. It turns on the boiler every day at 12:00 for one minute in the case when the boiler has not been turned on by the program (e.g., during the summer) for more than 24 hours. For activating the pump protection function see section 2.4. If for any reason (e.g., power outage) the power supply to the receiver is interrupted, the boiler operation is also paused. Within a short time after the power outage, the device will restart automatically without any intervention and continue operation according to the set program.

The AVANSA 2007TX thermostat is freely transferable between flats. In rooms where you regularly or for a longer period stay, it is advisable to place it so that it is located in the direction of natural air flow in the room, but not exposed to drafts or excessive temperature influences (e.g., sunlight, refrigerator, chimney, etc.). Its optimal placement is at a height of 1.5 m above the floor level.

Zobrazené symboly na displeji:



1. DEVICE INSTALLATION

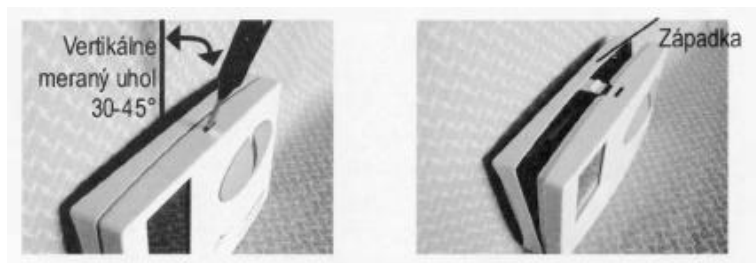
It can be placed either on its own stand or mounted on the wall. Important notice! If your rooms in the flat are equipped with radiator valves with thermostatic heads, replace these radiator valves with thermostatic heads with manually adjustable controllers or set them to the maximum temperature level in the room where you intend to install the thermostat. Otherwise, the thermostatic head may interfere with the temperature regulation in the flat.

Umiestniť ho je možné buď na vlastný stojan, alebo ho namontovať na stenu.

Dôležité upozornenie! Ak sú Vaše miestnosti v byte vybavené radiátorovými ventilmi s termostatickými hlavicami, vymeňte tieto radiátorové ventily s termostatickými hlavicami za manuálne nastaviteľné ovládače alebo ich nastavte na maximálny stupeň teploty v tej miestosti, v ktorej mienite termostat umiestniť. V opačnom prípade môže termostatická hlavica narušiť reguláciu teploty v byte.

2. PUTTING THE THERMOSTAT INTO OPERATION, BASIC SETTINGS

2.1. INSERTING BATTERIES Press the latch located on the top side of the thermostat cover to separate the back of the thermostat as shown in the picture.



Battery holder is located on the inside of the front cover. Insert 2 alkaline AA batteries (type LR6) into the holder. Make sure to insert them according to the marked polarity. After inserting the batteries, blinking symbols for day, hours, program number, and set and measured indoor temperature will appear on the display. (If the listed information does not appear on the display, press the "RESET" button with a wooden or plastic stick. Do not use electrically conductive material or a graphite pencil to press the button.) To put the thermostat into the basic position, press the button

"SET". After pressing the "SET" button, the blinking on the display will stop, the thermostat will enter the factory basic position, and you can start setting.

2.2 SETTING THE CURRENT DATE AND TIME Press the "DAY" button. Only the day number is flashing on the display, while the hour and minute values are visible. On the front cover of the device there are large buttons

or

using which you can set the current day order (e.g. 1. Monday, 2. Tuesday, 3. Wednesday, etc.). Press the "DAY" button again, which stops the day number from flashing. Meanwhile, the hour data are continuously flashing. Using the button

or

Set the current time (hour). Press the "DAY" button again. Now the hour data will stop blinking. Meanwhile, the minute and second data will continue to blink. Use the or button to set the current minutes and seconds. By repeatedly pressing the "DAY" button, you will return to the beginning of the setting and can change already set data. Press the "SET" button to save your settings and exit the programming mode. The display is back to the basic position. (The programming mode will automatically turn off if no value is entered within 10 seconds, and the display is in the basic position.)

2.3 SETTING THE SWITCHING SENSITIVITY Switching sensitivity is factory set in the range $\pm 0.2^{\circ}\text{C}$ (this value appears on the display as the symbol "5:1"), but it can be changed to $+0/-0.2^{\circ}\text{C}$ (this value appears on the display as the symbol "5:2"). To set the required switching sensitivity, proceed as follows: Press the "SET" button to put the thermostat into the basic position. Press the "DAY" and "COPY" buttons in succession and the large buttons or . The set values will appear on

On the display, it will appear either as symbol "5:1", (sensitivity range $\pm 0.2^{\circ}\text{C}$), or "5:2" (sensitivity range $(+0/-0.2)^{\circ}$). Press the "SET" button to save your settings and exit the programming mode. (The programming mode will automatically turn off if no value is entered within 10 seconds, and the display is in the basic position.)

Pressing "RESET" will set the sensitivity back to the original value $\pm 0.2^{\circ}\text{C}$ ("5:1"). Sensitivity setting at factory, $\pm 0.2^{\circ}\text{C}$ (this value will appear on the display as symbol "°"), we recommend setting $+0/-0.2^{\circ}\text{C}$ (this value will appear on the display as symbol "°") for underfloor heating.

2.4 ACTIVATION OF PUMP PROTECTION FUNCTION This function is set as inactive at the factory. Activation of the function or turning off the device is possible if the device is in the basic position and you press the buttons: "SET", "DAY", "PROG" and the large buttons

. Possible settings: "HP:OF"

(off) or "HP:On" (activated). Press the "SET" button to save your settings and exit the programming mode. The display is back to the basic position. (The programming mode is automatically turned off if no value is entered for 10 seconds, and the display is in the basic position.) Pressing the "RESET" button, the pump protection function is again inactive "HP:OF" (off).

3. PROGRAMMING THE THERMOSTAT In the programming mode, the on-time can be set with the corresponding temperature value. The device can be set for a weekly period. Operation is automatic, programs are repeated cyclically. The thermostat can be turned on 6 times a day, always at a specified (different) temperature. The set temperatures are valid until the next activation. E.g.: the set temperature belonging to program P1 is valid until the activation time of program P2. If program P2 is activated, the temperature set for program P2 will be valid.

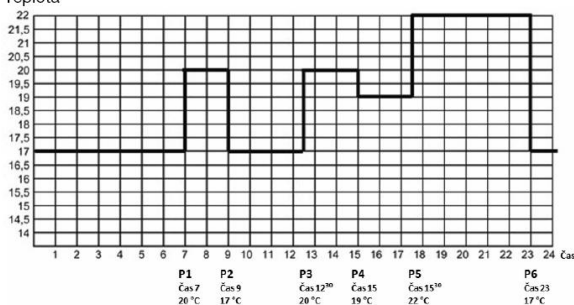
Factory settings for daily programs are as follows:

P1 7:00 20°C	P4 15:00 19°C
P2 9:00 17°C	P5 17:30 22°C
P3 12:30 20°C	P6 23:00 17°C

24-hour daily temperature diagram, according to basic settings

factory:

Of course, this setting can be changed according to your needs, in order to obtain the most advantageous diagram.



3.1 INDIVIDUAL PROGRAMMING STEPS • Press “SET” to put the thermostat into basic mode. • Press “SET” again and hold the button, while also pressing the “PROG” button. This will put you into programming mode and the display shows numbers indicating individual days of the week (1 2 3 4 5 6 7). • Using the

– or + choose a day or all days

of the week for which you want to write a program. If you plan the same program for the whole week, select all individual days at once (1 2 3 4 5 6 7), so you do not have to program each day separately. If you want a different program for each day, you must program each day separately. If you want the same program for some days, you only need to write it once, and if you press the “COPY” button, the program will be copied to the desired day, according to point 3.2. • Press the “PROG” button again. Now follows the next programming step, i.e. setting the program P1 start time, and the time signal is blinking on the display. • Pressing the

– or + set the start time

of program P1. (time setting is possible after 10 min.) • Press the “PROG” button again. Now follows the next programming step, i.e. setting the temperature of program P1, the temperature signal is blinking on the display.

- Press the “PROG” button again. Now follows the next programming step, i.e. setting the start time of program P2, and the time signal is blinking on the display. •

Similarly as as previous steps

program the settings of program P6. • After setting the temperature P6, by repeatedly pressing the “PROG” button you can check the set values, or by repeating the previous steps you can change them. • If you have set all values, press the “SET” button to save your settings and exit the programming mode, so the device can return to basic mode. (Programming mode is automatically turned off if no value is entered within 10 sec, and the thermostat is in basic mode.) • By repeating the programming steps, you can at any time and freely adjust the set values.

3.2 COPYING A PROGRAM USING THE "COPY" BUTTON •

- Press the “SET” button to put the thermostat into basic mode. •

- Press and hold the “COPY” button for about 5 sec, during this time the “COPY” function is activated. If the display shows the word “COPY” instead of the clock symbols and the number 1 (day sequence number), the device is ready for copying. • Press the large buttons



or



on the front cover

of the device to select the day (e.g. 2), whose program you want to copy to another day or other days. • Press the “COPY” button to perform the copying of the selected day's program. After the program is copied, the signal indicating the day sequence number stops blinking, the number is continuously visible, while the word “COPY” also lights up. • Press the large buttons

or

on the front cover of the-

of the device to select the day (e.g. 3), to which you want to copy the selected program (e.g. 2). Then press the “COPY” button to perform the copying of the selected day's program.

- Press the large buttons



or



on the front cover

You can choose any day of the week for the device and by pressing "COPY" you can copy the selected day's program (e.g. 2) • If you have completed the programming, press the "SET" button to save your settings and exit the programming mode, returning the device to its basic position. (The programming mode will turn off automatically if no value is entered within 15 seconds and the thermostat will return to its basic position.) • If the thermostat is back in the basic position, you can copy the program of another day/days using the steps mentioned above.

3.3 PROGRAM CHECK • Press the "PROG" button. The display shows: the day number, the program on symbol P1, and the corresponding time and temperature data. (No value is blinking). By repeatedly pressing the "PROG" button, you can check the correctness of the programs P2, P3, etc. • You can view the set data of individual days by pressing the button



or



and "PROG".

- After checking the programs, press the "SET" button to return to the basic display position. (Approximately after 10 seconds, the display will automatically return to the basic position).

3.4 DELETING THE PROGRAM By pressing the "RESET" button, the set programs are deleted and it is possible to reset the thermostat to the factory settings. After "resetting", the values set at the factory are valid.

4. TEMPORARY MODIFICATION TEMPERATURE SET

ACCORDING TO THE PROGRAM To perform a simpler manual modification of temperature, in the basic, factory preset setting, the large button has the value 22°C. If you want to modify the temperature manually, by pressing the button once, the assigned value of 18°C and to the button pressing the button once



 or buttons

 automatically turns on

it is of course possible to increase or decrease the factory preset temperature of 22°C in steps of 0.5°C according to current requirements. To the large buttons

 with a step of 0.5°C.

Repeatedly pressing the buttons

 or

 is

and then using

  assigned by the manufacturer energy-saving

temperature, respectively, the assigned comfort temperature can be freely changed according to the following procedure:

-To set the energy-saving temperature, press and hold the "SET" button and then press the button once   set the desired energy-saving

buttons  or 

and then

set the desired

 or

 nastavte Vami požadovaný  using the button

comfort temperature level. After setting the desired temperature level, press the "SET" button again to save the set temperature level (after about 15 seconds, the copied programs will be automatically confirmed and the thermostat will return to the basic position). If you want your device to temporarily operate differently from the set program (e.g. during holidays or winter vacation period), choose from the following options:

4.1

MODIFICATION

TEMPERATURE

TO

FOLLOWING

PROGRAM ON Pressing the large buttons



or



on the front cover of the-

of the device you can set the desired temperature. According to the set values, the boiler will be controlled until the activation of

the next program. The symbol will appear on the display



, which

means that the thermostat is manually controlled. The exact time and the time remaining for the manual control function will alternate on the display (e.g. 1H:02, i.e. 1 hour and 2 minutes).

After this time, the symbol will disappear



, and the device

will return to the set program. If you want to return to the original program before the next activation, press the “SET” button.

4.2 MODIFICATION OF TEMPERATURE FOR 1 ... 9-HOUR PERIOD (PARTY PROGRAM) Press the button

or

set the desired temperature and

press the “DAY” button. The symbol appears on the display



and the digit

1, which means the adjustment time (in hours). In this case, the program number will not appear on the display (e.g. P3). By repeatedly pressing the “DAY” button, the desired hours from 1 to 9 will be set. During the set time (e.g. 4 hours), the adjusted temperature (e.g. 24°C) will be maintained. The exact time and the time remaining for the manual control function will alternate on the display (e.g. 3H: 20, i.e. 3 hours and 20 minutes). After the set time, the symbol will disappear



, and the device will

return to the set program. If you press the “SET” button before the modified temperature time has elapsed, the set temperature will be interrupted, and the device will return to the original program.

4.3 MODIFICATION OF TEMPERATURE FOR 1 ... 99-DAY PERIOD (VACATION PROGRAM) Using the buttons

Manual control is indicated by  or  set the desired temperature. Press the "HOLD" button  for at least 2 sec. The symbol will appear on the display  and at the time position d:01, i.e. number of days. Blinking means that the number of days can be set arbitrarily. Using the buttons  or  set

set the number of desired days (e.g. 10). The exact time and the days remaining for the manual control function will alternate on the display . After the set days, the symbol will disappear  and the device will return to the set program. If you

want to return to the original program before the next activation, pressing the "SET" button will interrupt the temperature adjustment for the programmed time and the device will operate according to the program.

4.4 MODIFICATION TEMPERATURE TO FOLLOWING

MANUAL INTERVENTION
Using the buttons  or  set the desired temperature.

Manual control is indicated by  . Press the "HOLD" button. On the display, the symbol will appear at the temperature  and the symbol will disappear  . The device maintains the set temperature until the next manual intervention. You can adjust the set temperature by pressing the buttons  or  without canceling the manual control function.

Pressing the "SET" button cancels the temperature adjustment and the device will operate according to the program.

5. TURNING ON THE DISPLAY BACKLIGHT

Pressing the "LIGHT" button turns on the display backlight for 10 seconds. If you press any other buttons during this time, the backlight will turn off 10 seconds after the last button is pressed.

6. REPLACING BATTERIES

Battery life is approximately 1 year, but frequent use of the backlight can significantly shorten it. If the symbol for low battery voltage appears

on the display



, it means the batteries

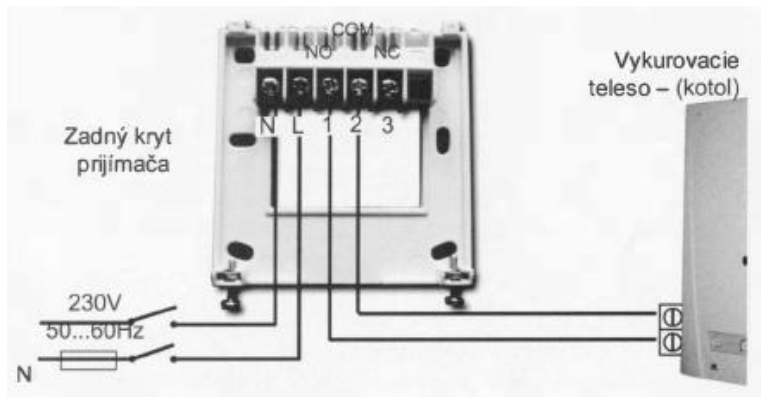
need to be replaced. (see section No. 2) After replacing the batteries, you must reset the exact time again. However, pre-programmed programs will remain stored even without batteries, so there is no need to reprogram them. However, if you press the "RESET" button, the programmed programs will be deleted and the device will be reset to factory settings.

7. RECEIVER 7.1 INSTALLATION AND CONNECTION OF THE RECEIVER

Install the receiver on the wall near the boiler (but not under the boiler cover). The receiver must not be exposed to moisture. The connection of the receiver

to boiler should be done by a qualified person for

safety reasons. Loosen the 2 screws located at the bottom of the receiver. Make sure not to remove them completely. Then separate the front cover of the receiver and then attach the rear cover of the receiver using the provided screws to the wall near the boiler. The markings for the connection points N, L, 1, 2, 3 are visible and stamped into the plastic above the terminals.



Phase The receiver must be connected to the 230V mains voltage. For creating the mains connection, we recommend installing a fixed wiring instead of using a plug. This allows to

prevent accidental power outages. Connect the neutral mains wire to point N and the phase wire to point L. We also recommend installing a switch so that the receiver can be turned off if necessary. The boiler is controlled by the receiver using relay contacts, whose connection points are as follows: 1 (NO), 2 (COM), 3 (NC). To control the heating unit, it is necessary to connect the boiler's connecting wires to terminal 1 (NO) and terminal 2 (COM). To control the cooling unit, it is necessary to connect the cooling unit's connecting wires to terminal 2 (COM) and terminal 3 (NC).

WARNING! When creating connections for the heating and cooling device, always strictly follow the manufacturer's instructions!

The voltage appearing on the 1st, 2nd, or 3rd terminal depends only on the controlled system. For this reason, the type of wiring used is determined based on the type of controlled device. The length of the wiring is not important. You can mount the receiver either next to the boiler or at a more distant location. However, under no circumstances should you mount it under the boiler cover. If due to various circumstances the distance between the transmitter and the receiver is too large and as a result the radio frequency connection may become unreliable, place the receiver closer to the thermostat.

7.2 PUTTING THE RECEIVER INTO OPERATION Connect the receiver to the power supply. Within a few seconds, the radio frequency systems (thermostat and receiver) will connect to the set frequencies. For testing purposes, press the button several times

located on the thermostat until,

the set temperature exceeds the actual room temperature by 2 -3°C. Then, within several seconds,

the icon should appear on the display  indicating the on state.

At the same time, the red LED on the receiver should turn on, indicating that the receiver has received the signal from the transmitter (thermostat).

If this does not happen, it is necessary to re-synchronize the entire system. To re-synchronize it, press and hold the "M/A" button on the receiver until (approximately 10 seconds) the green LED starts blinking. Then first press and hold the "SET" button on the thermostat, then press and hold the "DAY" button on the thermostat until (approximately 10 seconds) the green LED stops blinking and turns off, so that the receiver "learns" the security code of the transmitter (thermostat). The system automatically remembers the security code and it will not be lost even in the event of a power outage. Warning! Simultaneously pressing and holding the "SET" and "DAY" buttons for 10 seconds results in generating a new security code for the thermostat. The receiver will recognize this new code only after re-synchronization. After a successful synchronization of the two units, do not simultaneously hold the "SET" and "DAY" buttons on the thermostat or the "M/A" button on the receiver without reason.

7.3 RANGE CHECK Using the "TEST" button, it is possible to check whether both units are within the range of the radio frequency connection. To check them, press and hold (approximately for 2 seconds) the "TEST" button. The thermostat will then for 2 minutes alternately transmit a control signal for turning the receiver on and off in 5-second intervals (alternately appearing and disappearing symbol on the display

)  . Receiving the control signal is indicated on the receiving unit by turning on, respectively turning off the red LED. In the case the unit

receiver does not register signals transmitted by the thermostat, both units are out of the radio frequency transmitter's range and it is necessary to place both units closer to each other.

7.4 MANUAL CONTROL OF THE RECEIVER UNIT Pressing the "MANUAL" button disconnects the thermostat from the receiver unit and the boiler connected to the receiver unit can be turned on or off manually, without the possibility of control

temperature degree. Continuous green LED lighting indicates the active state of the "MANUAL" function. The boiler can be turned on or off by pressing the "M/A" button. (In the on state, the red LED lights up.) Repeated pressing of the "MANUAL" button restores thermostat operation (the green LED turns off).

7.5 HOW TO AVOID EXTERNAL INFLUENCES The operation of the device is practically not affected by any external factors (radio, mobile phone, etc.). If you nevertheless register any operational fault, it is necessary to retune the entire system according to the description given in point 7.2.a.

TECHNICAL DATA

Thermostat (transmitter) technical data:

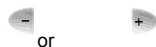
-temperature measuring range:	0-35°C (with 0.1°C increments)
- adjustable temperature measurement range:	7-35°C (with 0.5°C increments)
-measured temperature accuracy:	$\pm 0,5^{\circ}\text{C}$
- optional switching sensitivity:	$\pm 0.2^{\circ}\text{C}$ (for radiator heating) $+0/-0.2^{\circ}\text{C}$ (for floor heating)
-recommended storage temperature:	-10°C ... +60°C
-supply voltage:	2x1.5V alkaline batteries (type LR6; size AA)
- power:	1.3mW
-battery life:	approx. 1 year
-dimensions:	130 x 80 x 35 mm (without bracket)
-operating frequency:	868,35 MHz
-weight:	155 g
- type of thermal sensor:	NTC 10kΩ $\pm 1\%$ at 25°C
- protection class:	IP 30

Receiver technical data:

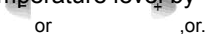
- power:	6W
-supply voltage:	230 V AC, 50 Hz
-supply voltage:	24V AC / DC... 250V AC
- adjustable current intensity:	6A (inductive load 2A)
- range:	approx. 50m in indoor space
-weight:	150 g
Total weight of the device:	approx. 500 g (thermostat+receiver+bracket)

PROGRAMMING IN BRIEF

Setting the date and time: using the "DAY" and



Programming: pressing and holding the "SET" button, simultaneously pressing the "PROG" button, then setting the temperature level by pressing the "PROG" button and



copying repeating programs using the "COPY" button Program check: using the "PROG" and



Re-learning: using the "M/A", "SET" and "DAY" buttons (see section 7.2) Range effectiveness check: pressing the "TEST" button for longer than 2 seconds Temporary modification of the temperature set by the program:

- until the next program activation: by pressing the buttons or
-for 1...9 hour period: by pressing the buttons



pressing the "DAY" button -for 1...99 day period: by pressing the buttons



pressing the "HOLD" button for 2 seconds -until the next intervention: by pressing the buttons



pressing the "HOLD" button