WIRELESS ROOM THERMOSTAT

DK LOGIC 200

Manual

DK System

INS-012-005 130X184,5

Table of Contents

1. Description of a thermostat..... 3
2. Notes on installation..... 3
3. Description of the transmitter components - display..... 4
4. Description of the transmitter components - buttons..... 5
5. Thermostat installation - transmitter..... 5
6. Description of the receiver components..... 6
7. Installation and connection of the receiver to electrical system..... 7
8. Receiver encoding..... 8
9. Interferences - communication error..... 8
10. Description of LEDs singalling system..... 9
11. Options of the thermostat - transmitter..... 9
12. First start..... 10
13. PROG mode - programming for automatic operation..... 10
13.1 Program Pr. 1 and Pr. 2..... 11
13.2 Program Pr.3 - user settings..... 11
13.3 Example - programming the automatic operation mode..... 12
14. Momentary temp. change in automatic mode..... 15
15. MANU mode - manual operation mode..... 15
16. TEST function..... 15
17. Protection against freezing function..... 16
18. CLO mode - setting the current hour and day..... 16
19. PAr1 mode - a parameter visible on a main screen..... 16
20. PAr2 mode - program version and RESET..... 17
21. Setting a default day and night temperature..... 18
22. OFF function..... 18
23. Battery replacement..... 18
24. Faults..... 19
25. Technical data - transmitter..... 20
26. Technical data - receiver..... 20
27. Table of programs..... 21
28. Rules of conduct with waste electrical and electronic equipment.. 23

1. Description of a thermostat

A wireless room thermostat DK LOGIC 200 is designed for automatic adjustment of temperature in a room by switching on/off of the boiler.
The thermostat is equipped with a relay output, which sends an **on / off** signal when the pre-set temperature has been exceeded.

A device has the following features:

- ability of selecting different programs for each day of the week
- two factory pre-set programs
- two selectable temperature - day and night
- six heating periods per day
- easy and intuitive programming
- possibility of short-term changes in heating temperature
- easy installation
- frost protection
- heater adjustable every 0.5 °C
- multifunction display
- memorizing all the settings, even in the long-term absence of batteries

2. Notes on installation

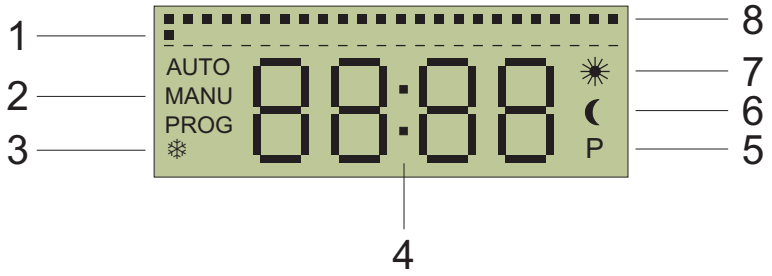
- The device must be installed by an authorized person.
- It is required that the boiler had its own safeguards against excessive temperature rise of the boiler caused e.g. boiler controller or related equipment malfunction.
- The controller should be placed in a location that prevents its heating to a temperature higher than 40 °C.
- The controller must not be exposed to water and conditions causing condensation (e.g. sudden changes in ambient temperature).
- The device should be installed and operated as described in the assembly description and rules for electrical equipment.

2. Notes on installation (cont.)

- Before starting the transmitter and receiver, you should check the electrical connections.
- Connection of the power cord should be made with the device powered off (a power plug must be disconnected from the mains). Connection of the devices with the mains plug of the controller plugged in creates an electric shock.
- You must not use a damaged devices.

Note: The **"room thermostat service"** option must be turned on in the programmer after the thermostat has been connected to the boiler's programmer.

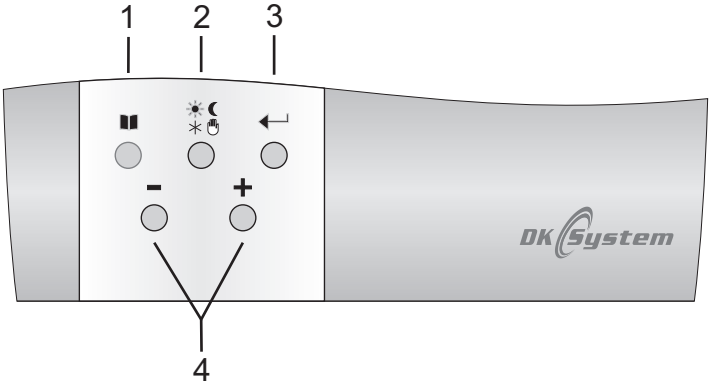
3. Description of the transmitter components - display



1. Flashing point indicating the current time
2. Indication of the option currently in use: AUTO, MANU, PROG
3. Indication of protection against freezing
4. Display of temperature or time
5. Indication of boiler operation
6. Indication of the lowered temperature (night mode)
7. Indication of the comfort temperature (day mode)
8. Graphic presentation of the selected program

Fig. 1 Display components

4. Description of the transmitter components - buttons



1. Menu
2. Setting the temperature (comfort / lowered), operation in a manual mode, operation in an anti-freezing mode
3. Confirmation; additionally in AUTO mode, when the button is pressed the pre-set temperature, time and a day of the week are displayed
4. Change of functions or pre-set values.

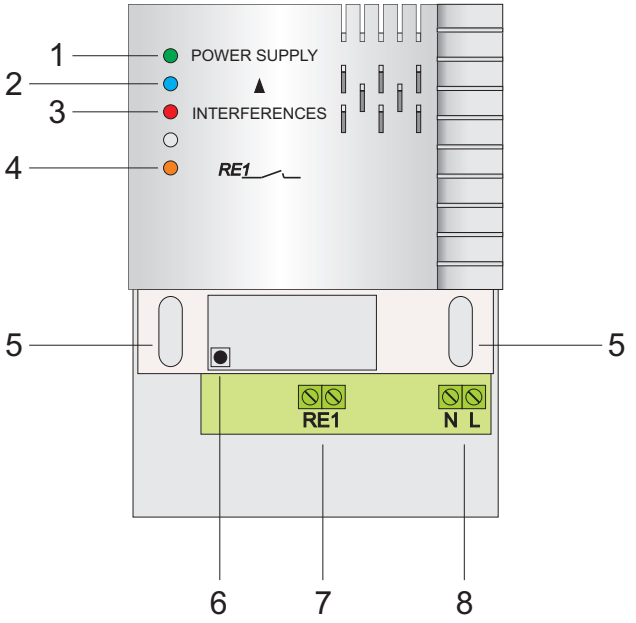
Fig. 2 Description of the transmitter's buttons

5. Thermostat installation - transmitter

Thermostat DK LOGIC 200 should be located in a place not exposed to other sources of heat (radiator, fireplace, etc.), affecting the accuracy of the temperature readout in the room. The device consists of two parts: front - a microprocessor and rear - connector.

1. Detach the front and back parts of the thermostat.
2. Install the back part directly on a wall.
3. Put two 2 x 1.5 V alkaline batteries type AA / LR6 into the front part of the thermostat.
4. Put the front and back part together - a thermostat is ready for programming.

6. Description of the receiver components



1. Green diode - POWER SUPPLY
2. Blue diode - COMMUNICATION
3. Red diode - INTERFERENCES
4. Orange diode - RE1 boiler relay
5. Installation slots
6. FUNCTIONS button
7. RE1 - clamps to install the boiler wires
8. NL - power supply clamps ~230 V, 50 Hz

Fig. 3 Description of the receiver components

7. Installation and connection of the receiver to electrical system

1. Open the front part of the receiver housing.
2. Using two screws and dowels attach the receiver to the wall.
3. Turn off the voltage on a wire feeding the receiver.
4. Connect the cables between a boiler or a programmer and a RE1 clamp in the receiver (Fig.4).
5. Connect the feeder cable with the appropriate clamps in the receiver (Fig.4):

- a blue wire must be connected to the N clamp (“neutral”)
- a brown wire must be connected to the L clamp (“phase”)

6. Close the front part of the receiver housing.
7. Turn the power on - a green diode POWER SUPPLY should lit on the receiver, informing on the correct connection.

Note: As the radio interferences are possible, it is recommended to install the receiver at least 0.5m from large metal objects and electrical quads

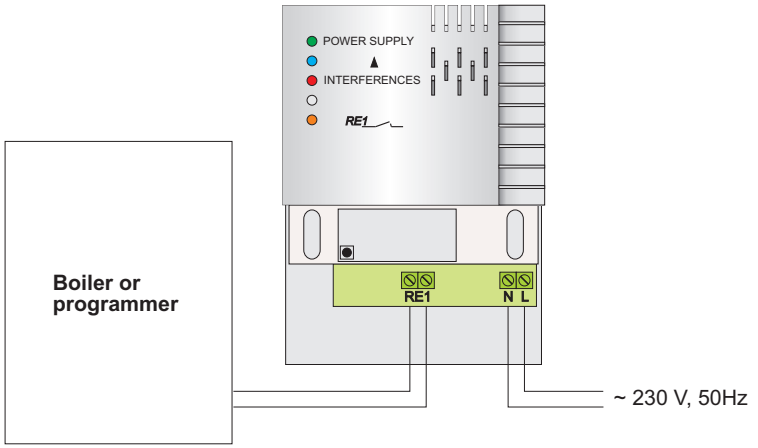


Fig. 4 Diagram of the receiver connections to the boiler/programmer and to the electrical system

8. Receiver encoding

A transmitter and receiver, which can be found in a single original box, have been pre-set in the factory to use thus their encoding is not necessary.

If needed, the encoding steps described below must be followed:

1. Press and hold for 5 sec. the FUNCTIONS button - the memory will reset - a blue and red diodes will lit at the same time. Once the memory is cleared, a red diode INTERFERENCES will flash.

2. Press and hold for 1.5 sec. the FUNCTIONS button - the receiver will go to a standby mode waiting for a code to be introduced - a blue and red diodes will be flashing alternately.

3. At that time, a TEST function must be called on the DK LOGIC 200 transmitter. A code will be directed to a receiver: two diodes blue and red will blink twice at the same time.

4. Next, a short communication test will be made - the RE1 relay will be connected twice and an orange diode will be lit.

5. The transmitter and receiver set has been properly configured.

9. Interferences - communication error

Radio wave interferences may occur sporadically, which can lead to a lack of communication between the receiver and the transmitter. If this happens, a red INTERFERENCES diode starts to blink on a receiver and an Err1 message will be displayed on the transmitter screen.

To restore communication follow the steps described in the encoding process - see point **8 Receiver encoding.**

10. Description of LEDs singalling system

GREEN diode is on	receiver well connected to the grid
BLUE diode blinks	sending or receiving the signal
RED diode blinks	no encoding - memory is empty
RED diode is on	interferences
ORANGE diode is on	RE1 relay is shorted
BLUE and RED diodes blink alternately	waiting for the code
BLUE and RED diodes blink at the same time	receiving the code
BLUE and RED diodes are on at the same time	erasing the memory

11. Options of the thermostat - transmitter

AUTO Automatic mode - a thermostat works by the pre-set program in line with the adjusted day and night mode temperature.

MANU Manual mode - allows adjustment of the heating temperature without interfering in the pre-set program.

CLO Hour and day setting mode.

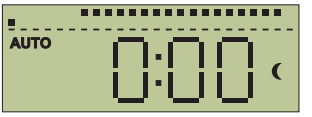
PROG Time range programming mode for a day and night temperature.

PAr1 A setting mode of the permanently visible parameter (hour and temperature).

PAr2 Program # and RESET.

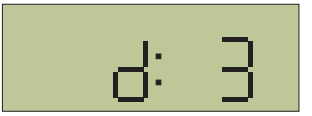
OFF Turning off thermostat operation.

12. First start

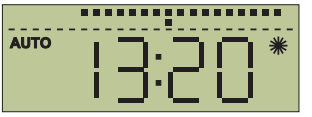


1. When the batteries are in, the display will show 0:00 hours, and the thermostat will work in P1 mode - see point 13 **"PROG mode - programming the automatic operation mode".**

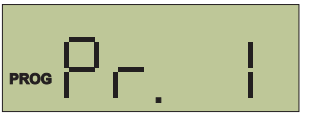
2. Use the "-/+" buttons to set the actual hour. Confirm by pressing ↵ ; To set minutes, please follow the same procedure. Confirm by pressing ↵ . A screen showing the current day of the week will be shown.



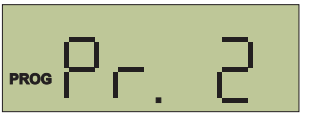
3. Use the "-/+" buttons to set the actual day of the week. Confirm by pressing ▮▮ . The controller will show the main screen, taking into account the introduced settings. The controller is in the P1 program - see point 13 **"PROG mode - programming the automatic operation mode"**, using the default settings of the comfort temperature (day) at the level of 21°C and the lowered temperature (night) at the level of 18°C. The way of changing the default tempe-ratures has been described in the point 21 **"Setting the default day and night temperature"**.



13. PROG mode - programming for automatic operation



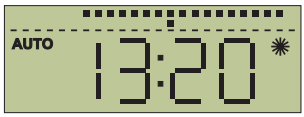
1. Press ▮▮ twice until the PROG appears on the screen. Confirm by pressing ↵ .



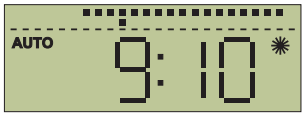
2. Use "-/+" to select one of the programmes (Pr. 1, Pr. 2 or Pr. 3) and confirm by pressing ↵ For Pr. 1 and Pr. 2, the controller will go to to the main screen view; For Pr. 3 the proces of individual settings programming must be continued.

13.1 Program Pr. 1 and Pr. 2

The Pr. 1 program carries out the heating process between 6.00 and 23.00 hrs. in all days of the week.

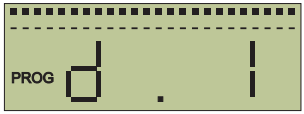


The Pr. 2 program carries out the heating process between 6.00 and 8.00 and from 16.00 to 23.00 by five days of the week (Mon-Fri). On Saturday and Sunday the heating takes place between 6.00 and 23.00 hrs.



13.2 Program Pr.3 - user settings

1. Once the Pr. 3 is confirmed, a d:1 will appear on the screen indicating that the system is ready for setting the program to Monday (the first day of the week).

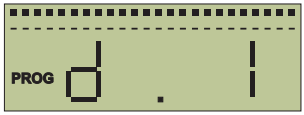


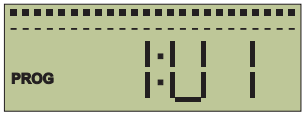
Note: For each day of the week it is possible to set max. three day and night temperature periods, and its change is possible after at least 10 minutes (which is the minimum programmable time). They can be set in the following daily programmes:

d.1	Monday	1:U1, 1:U2, 1:U3, 1:U4, 1:U5, 1:U6
d.2	Tuesday	2:U1, 2:U2, 2:U3, 2:U4, 2:U5, 2:U6
d.3	Wednesday	3:U1, 3:U2, 3:U3, 3:U4, 3:U5, 3:U6
d.4	Thursday	4:U1, 4:U2, 4:U3, 4:U4, 4:U5, 4:U6
d.5	Friday	5:U1, 5:U2, 5:U3, 5:U4, 5:U5, 5:U6
d.6	Saturday	6:U1, 6:U2, 6:U3, 6:U4, 6:U5, 6:U6
d.7	Sunday	7:U1, 7:U2, 7:U3, 7:U4, 7:U5, 7:U6
dP.P	Mon-Fri	PP:U1, PP:U2, PP:U3, PP:U4, PP:U5, PP:U6
dS.n	Sat, Sun	Sn:U1, Sn:U2, Sn:U3, Sn:U4, Sn:U5, Sn:U6
dP.n	entire week	Pn:U1, Pn:U2, Pn:U3, Pn:U4, Pn:U5, Pn:U6

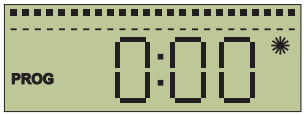
13.2 Programme Pr.3 - user settings (cont.)

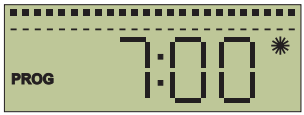
2. Use the "-/+" to choose a day (range of days) to be programmed (acc. to the matching above) and confirm with ↵. For d:1, 1:U1 will be displayed on a screen (and in the same manner for all remaining programmes, in line with the matching above), next, an hour will be displayed for which a start of the first day or night temperature ranges in a given day must be determined.



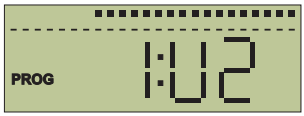


3. Use the "-/+" buttons to set the hour when the first temperature range starts, and the buttons ☀☾ to check what temperature - comfort (day) or lowered (night) is about to start at a given hour - a corresponding symbol ✳ (Sun) or ☾ (Moon) will be displayed on a right side of the screen.

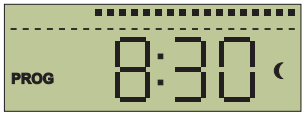




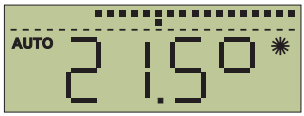
4. Confirm the settings by pressing ↵; A symbol of another temperature range in a given day will be displayed on a screen (e.g. 1:U2), and then the hour when it should start - the setting is carried out as described above.



5. All the remaining temperature ranges are being set in the same way.

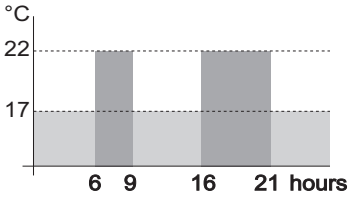


6. Once the settings are done, press ▮▮ twice until the main scree is shown.



13.3 Example - programming the automatic operation mode

A thermostat will be programmed for the entire week between 6 - 9 and 16 - 21 and a daily temperature of 22°C will be set; for the remaining period of the day, a lowered temperature of 17°C, as per the diagram below, will be set.

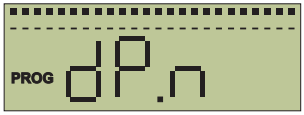


13.3 Example - programming the automatic operation mode (cont.)

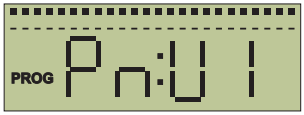
1. Set the values of a day and night temperature as described in point 21 **"Setting the default day and night temperature"**.

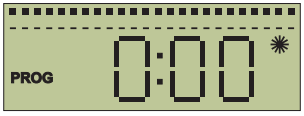
2. Press 📖 twice till the PROG symbolsis shown on a screen and confirm by pressing ↵ .

3. Use the "-/+" buttons to select the Pr. 3 and confirm by pressing ↵ . A d.1 symbol will be displayed.

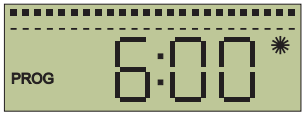


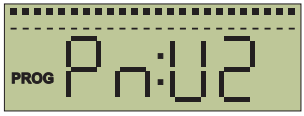
4. Use the "-/+" buttons to select the dP.n range (from Monday to Sunday) and confirm by pressing ↵ . Pn.U1 will be displayed, and then an hour for which the start of the first day or night temperature range in this period must be displayed

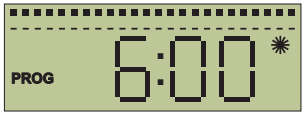




5. Use the "-/+" buttons to set the hour to 6:00; and the buttom ☀☾ to set the symbol ✳ and confirm by pressing ↵ . A symbol of the next range Pn:U2 will appear on the screen, and next the hour at which it should start.



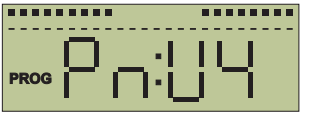




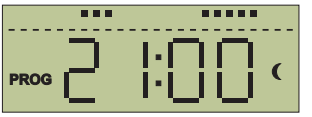
6. Use the "-/+" buttons to set the hour to 9:00; and the button ☀☾ to set the symbol ☾ and confirm by pressing ↵ . A symbol of the next range Pn:U3 will appear on the screen, and next the hour at which it should start.

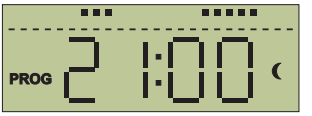
13.3 Example - programming the automatic operation mode (cont.)

7. Use the "-/+"buttons to set the hour to 16:00; and the button ☀☾ to set the symbol ✳ and confirm by pressing ↵ . A symbol of the next range Pn:U4 will appear on the screen, and next the hour at which it should start.

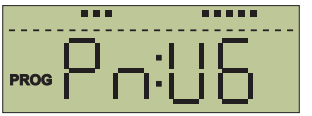


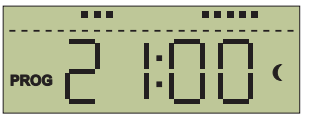
8. Use the "-/+" buttons to set the hour to 21:00; and the button ☀☾ to set the symbol ☾ and confirm by pressing ↵ . A symbol of the next range Pn:U5 will appear on the screen, and next the hour at which it should start.





9. Confirm by pressing ↵ (w/o introducing any changes). A symbol of the next range Pn:U6 will appear on the screen, and next the hour at which it should start.





13.3 Example - programming the automatic operation mode (cont.)

10. Without making any changes, press 📖 for a few times until the main screen is shown.

Note: If no changes are made for three minutes in the PROG mode, the controller will automatically go to the AUTO mode.

14. Momentary temp. change in automatic mode

This function allows temporary change of the heating temperature set in AUTO mode. It can be made by pressing the "-/+" buttons; such a temperature will be maintained until the activation of the next program.

15. MANU mode - manual operation mode

The MANU mode allows changing the heating temperature without interfering with the set program.

1. Press the ❄✋ button for a few Times till the MANU symbol and temperature appears.

2. Use the "-/+" button to set the required temperature; a thermostat will keep it until the next manual change or switching the controller to the automatic mode.

3. After a while, the controller will automatically switch to perform manual settings, and the screen will show the current measured temperature or hour (depending on setting the Par1 - see point 19 **"PAr1 - parameter visible on the main screen"**).

16. TEST function

The TEST function allows controlling the proper connection of the controller to the boiler or programmer.

Press the button 📖, and then ☀☾. TEST will be displayed on a screen, and the controller will perform several cycles of turning the boiler on and off - the function active in AUTO and MANU mode.

17. Protection against freezing function

This function allows protecting the installation against freezing and turns the boiler on when the room temperature drops below 3 °C.

1. Press the ❄✋ button for a few times till ❄ and a temperature of 3 °C appears on the screen

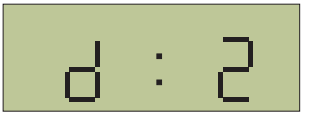
2. After a while, the controller will automatically switch to perform the protection against freezing function and the screen will show the current measured temperature or hour (depending on setting the PAr1 - see point 19 **"PAr1 - parameter visible on the main screen"**).

18. CLO mode - setting the current hour and day

1. Press the 📖 button for a few times till CLO symbol appears on the screen. Confirm by pressing ↵ .

2. An indication of hour is blinking on a screen - this can be set by using the "-/+" buttons and confirmed by pressing ↵ . Next, following the same steps, the minutes can be set and confirmed by pressing ↵ .

3. An indication of a day of the week is blinking on a screen - this can be set by using the "-/+" buttons (d:1 - Monday; d:2 - Tuesday, etc.) and confirm by pressing 📖 - after a while, the controller will switch to the main screen view.



19. PAr1 mode - a parameter visible on a main screen

PAr1 - selection of parameter displayed on the screen during operation of the thermostat (hour / temperature).

1. Press the 📖 button for a few times till Par1 appears on the screen. Confirm by pressing ↵ .

19. PAr1 mode - a parameter visible on a main screen (cont.)

2. One of the following symbols will appear on the screen: C - means that the time will be seen on a main screen; t - means that the temperature will be seen on a main screen. Choose the required option by pressing the "-/+" buttons and by confirming with ▮▮ after a while, the controller will switch to the main screen view.

20. PAr2 mode - program version and RESET

PAr2 - shows the program version installed in the controller. Additionally, in this mode, it is possible to reset all the settings of the thermostat.

1. Press the ▮▮ button for a few times till the PAr2 symbol appears. Confirm by pressing ↵ .

2. A number of the installed program, e.g. 10.04 will appear on the screen. Pressing the button ▮▮ will cause the controller to switch to the main screen view.

20.1 RESET

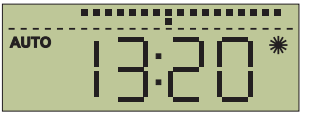
If necessary, it is possible to reset all the settings, returning to the factory controller. To do this:

1. Go to the view of the program number.

2. Press and hold the **"-"** button for a few seconds; RES will appear on the screen, and after a while the controller will switch to the main screen view - it will be working on the factory (default) settings, realizing the **Pr1** program.

21. Setting a default day and night temperature

1. Press the button ☀☾; currently set default comfortable temperature (day) will appear on the screen - the factory pre-set temperature is 21°C. Use the "-/+" buttons to set the parameters as per the user's request; use the ↵ to confirm and to switch to the main screen; press ☀☾ to go to the default settings of the lowered (night) temperature



2. Current default lowered (night) temperature will be displayed on a screen - the factory pre-set temperature is 18°C. Use the "-/+"buttons to set the parameters as per the user's request and use ↵ to confirm; the controller will show the main screen taking into account the introduced settings.

22. OFF function

OFF function allows turning the thermostat off.

Press the 📖 button for a few times till OFF appears on the screen and confirm by pressing ↵ ; the current measured temperature or time will appear on the screen (depending on setting the PAr1 - see point 19 PAr1 - parameter visible on the main screen), which will be displayed alternating with the OFF symbol.

Note: Disabling the OFF function, i.e. unlocking the controller operation takes place by pressing the button ☀☾ - the controller will return to work in **AUTO** mode.

23. Battery replacement

The need to replace the battery is indicated on the display with the **BATT** symbol. Use the alkaline batteries 2 x 1,5 V, type AA/ LR6.

23. Battery replacement (cont.)

Note: After replacing the batteries, a **BATT** symbol may appear on the screen until the data and readings are reloaded in the controller. Also, after replacing the batteries, please check and adjust the time setting.

24. Faults

In the case of thermostat malfunction, before filing a complaint, please follow a few steps to check the transmitter:

1. Check the battery level. If low, please replace the batteries - see point 23 **"Battery replacement"**. Pay attention to batteries polarity.
2. Check the terminals connecting the batteries with the thermostat plate. Tighten the screws connecting the metal contacts of the thermostat (see Fig. 5).
3. Check the position of the thermistor. Make it straight if bent (see Fig. 6).
4. Test the relay - see point 16 "**TEST function**".
5. Eliminate the interference of radio waves, which can cause loss of com munication between the transmitter and receiver - see point 7.
6. If necessary, carry out the receiver coding - see point 6 **"Receiver encoding"**.

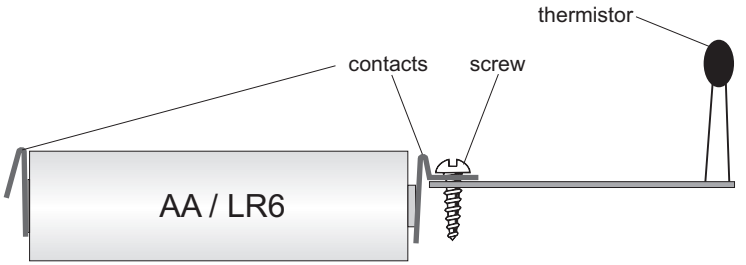


Fig. 5 Connection of the elements in a transmitter

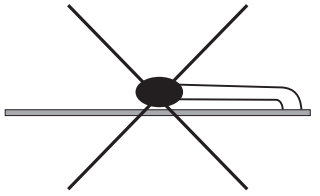


Fig. 6 Incorrect location of the thermistor in a transmitter

25. Technical data - transmitter

Power	alkaline batteries 2 x 1.5 V type AA / LR6
Number of programs	6 per day
Hysteresis	0.5°C
Min. programmable time	10 min.
Heating range	from 5°C to 39°C
Temperature setting accuracy	0.5°C
Temperature measurement error	+/- 0.5°C
Output	max. 5 A / 250 V

26. Technical data - receiver

Rated voltage	230 V, 50 Hz
Communication type	bilateral
Frequency	433,92 MHz
Max. range	35 m (depending on the environment)
Transmitter output	max. 5 A / 250 V
Protection class	IP 20
Ambient temperature	from 0°C to + 40°C

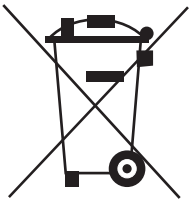
27. Table of programs

		1 day	2 day	3 day	4 day	5 day	6 day	7 day
1 pr.	start							
	temp.							
2 pr.	start							
	temp.							
3 pr.	start							
	temp.							
4 pr.	start							
	temp.							
5 pr.	start							
	temp.							
6 pr.	start							
	temp.							

27. Table of programs

		1 day	2 day	3 day	4 day	5 day	6 day	7 day
1 pr.	start							
	temp.							
2 pr.	start							
	temp.							
3 pr.	start							
	temp.							
4 pr.	start							
	temp.							
5 pr.	start							
	temp.							
6 pr.	start							
	temp.							

28. Rules of conduct with waste electrical and electronic equipment



Utilization of Waste Electrical and Electronic Equipment (applicable in the European Union and other European countries with separate collection systems).

This symbol on the product or its packaging (according to the Act of July 29th, 2005, on waste electrical and electronic equipment) states that this product may not be considered as a household waste. It should be handed over to the applicable collection point for waste electrical and electronic equipment. By ensuring proper storage you help to prevent negative consequences threatening the environment and human health. Recycling helps to conserve natural resources. For more detailed information about recycling of this product, information about the established system of receiving and collecting the waste electrical and electronic equipment and a list of processing plants, please contact our office or our distributors.

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