

ROOM THERMOSTAT

DK LOGIC 100
V. D1

Manual



DK System

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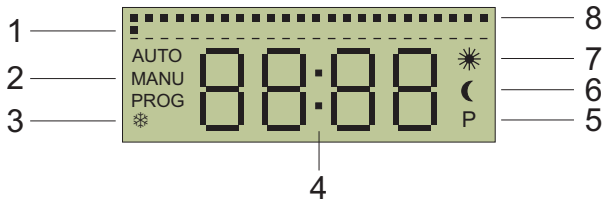
1. Description of a thermostat

Room thermostat DK LOGIC 100 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.

- 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
- adjustable hysteresis from 0.1 °C to 2 °C
- correction of temperature indications from -5 °C to +5 °C every 0.1 °C
- easy installation
- frost protection
- heater adjustable every 0.5 °C
- multifunction display
- memorizing all the settings, even in the long-term absence of batteries

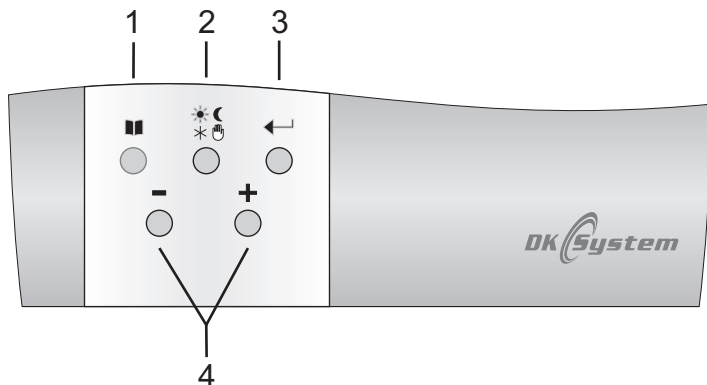
2. Description of the display



1. Flashing point indicating the current time
2. Indication of the option currently in use: **AUTO**matic, **MANU**al, **PROG**raming
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
(black points are the periods of daytime temperature - elevated
no point is the period of keeping the night temperature - lowered)

Fig. 1 Display components

3. Description of the keys



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.

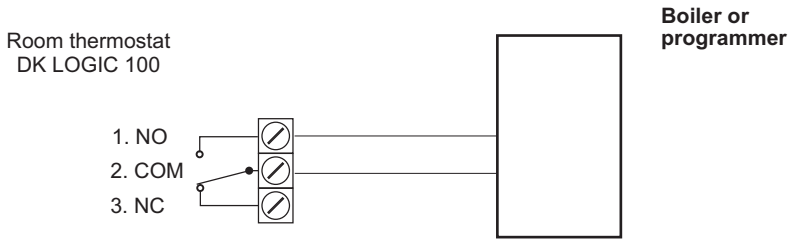
Fig. 2 Description of the keys

4. Thermostat installation

Thermostat DK LOGIC 100 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. Remove the connector cube cover and install the thermostat connecting cable to the boiler or control unit. For heating systems connect the cable to the connector cube leads marked: **1 and 2 (ON and COM)**.
The cable is not included in the thermostat.
3. Install the back part directly on a wall.
4. Put two 2 x 1.5 V alkaline batteries type AA / LR6 into the front part of the thermostat.
5. Put the front and back part together - a thermostat is ready for programming.

4. Thermostat installation (cont.)



NO / COM CONTACT - Normally open: used in heating systems

NC / COM CONTACT - Normally closed: used in refrigeration systems

Fig. 3 Diagram of the receiver connections to the boiler / programmer



Note: When the thermostat is connected to the controller boiler controller enable "**service room thermostat**".

5. Options of the thermostat

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



MANU Manual mode - allows adjustment of the heating temperature without interfering in the preset 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).



5. Options of the thermostat (cont.)

PAR2 Program # and RESET.



PAR3 Room temperature correction. Allows you to correct the room temperature display (for value -5 °C to +5 °C).



PAR4 Hysteresis. This parameter specifies the number of degrees C by which the temperature in the room below the preset temperature must fall in order for the thermostat to switch on the relay.

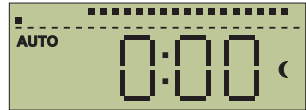


OFF Turning off thermostat operation.

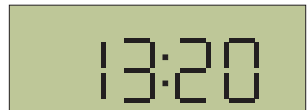


6. First start

1. When the batteries are in, the display will show 0:00 hours, and the thermostat will work in P1 mode - see point 7 “**PROG mode - programming the automatic operation mode**”.



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

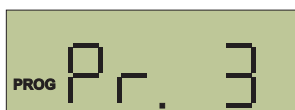
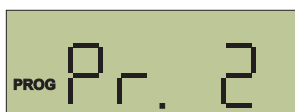
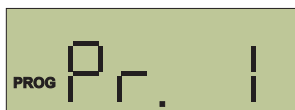


3. Use the “-/+” buttons to set the actual day of the week. Confirm by pressing \blacksquare . The controller will show the main screen, taking into account the introduced settings. The controller is in the P1 program - see point 7 “**PROG mode - programming the automatic operation mode**”, using the 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 temperatures has been described in the point 15 “**Setting the default day and night temperature**”.




7. 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 the main screen view; For Pr. 3 the proces of individual settings programming must be continued.



7.1 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.

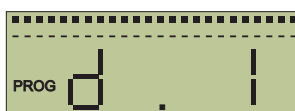
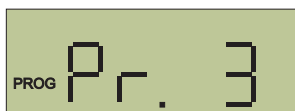


The Pr. 2 program carries out the heating process between 6.00 and 8.00 and from 16.00 to 23.00 by five days of the week (Mon-Fri). On Saturday and Sunday the heating takes place between 6.00 and 23.00 hrs.



7.2 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).



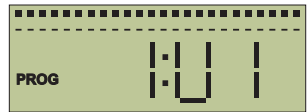
7.2 Program Pr.3 - user settings (cont.)



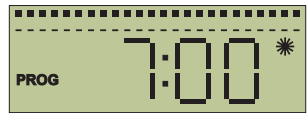
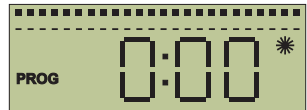
Note: For each day of the week it is possible to set max. three day and night temperature periods, and its change is possible after at least 10 minutes (which is the minimum programmable time). They can be set in the following daily programmes:

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

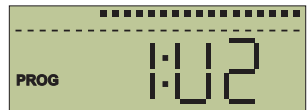
2. Use the “-/+” to choose a day (range of days) to be programmed (acc. to the matching above) and confirm with ←. For d:1, 1:U1 will be displayed on a screen (and in the same manner for all remaining programmes, in line with the matching above), next, an hour will be displayed for which a start of the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



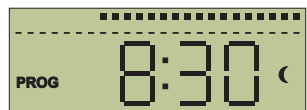
3. Use the “-/+” buttons to set the hour when the first temperature range starts, and the buttons ☀ ☾ to check what temperature - comfort (day) or lowered (night) is about to start at a given hour - a corresponding symbol * (Sun) or ☾ (Moon) will be displayed on a right side of the screen.



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.

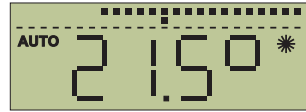


5. All the remaining temperature ranges are being set in the same way.



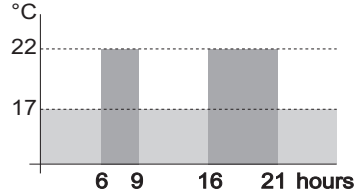
7.2 Programme Pr.3 - user settings (cont.)

6. Once the settings are done, press **■** twice until the main screen is shown.

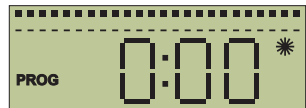


7.3 Example - programming the automatic operation mode




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.

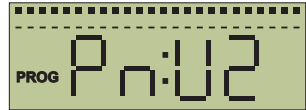
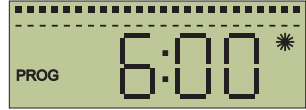





- Set the values of a day and night temperature as described in point 15 **“Setting the default day and night temperature”**.
- Press **■** twice till the PROG symbol is shown on a screen and confirm by pressing **←**.
- Use the “-/+” buttons to select the Pr. 3 and confirm by pressing **←**. A d.1 symbol will be displayed.
- 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

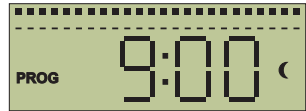





7.3 Example - programming the automatic operation mode (cont.)

5. Use the “-/+” buttons to set the hour to 6:00; and the button  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.

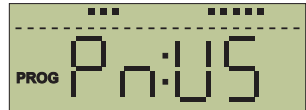



7. Use the “-/+” buttons to set the hour to 16:00; and the button  to set the symbol  and confirm by pressing . A symbol of the next range Pn:U4 will appear on the screen, and next the hour at which it should start.




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

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.



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.

8. 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.

9. 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 13 “**PAR1 - parameter visible on the main screen**”).



10. 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.



11. 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 13 “**PAR1 - parameter visible on the main screen**”).



12. 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.

CLO

10:33

d : 2

13. 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 **←**.
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.

PAR 1

C

t

14. 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.

14. PAr2 mode - program version and RESET (cont.)

1. Press the **■** button for a few times till the PAr2 symbol appears. Confirm by pressing **←**.



PAr2

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.



10.04

14.1 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.



20.20



rES

15. PAr3 mode - temperature correction

PAr3 The temperature correction function allows you to adjust the room temperature display. Setting range from -5°C to $+5^{\circ}\text{C}$ every 0.1°C .

If we find that the thermostat indicates abnormal room temperature, we can correct it.


1. Press the **■** button for a few times till the **PAr3** symbol appears. Confirm by pressing **←**.
2. Use the “- / +” buttons to set the value for which the room temperature display will be increased or decreased. Confirm with the button **■** - after a moment the regulator will automatically go to the main screen view.



PAr3



0.0°



-1.2°

16. Tryb PAr4 - hysteresis

Par4 Hysteresis. This parameter specifies the number of degrees C by which the temperature in the room below the preset temperature must fall in order for the thermostat to switch on the relay. Setting range from 0.1 °C to 2 °C. Factory setting 0.5 °C.

Input settings:

1. Press the **■** button for a few times till the **PAr4** symbol appears. Confirm by pressing **←**.
2. Use the **"- / +"** buttons to set the hysteresis value. Confirm with the button **■** - after a moment the regulator will automatically go to the main screen view.

PAr4

0.5°

17. 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.



21.0° ☀ ☾

18.0° ☾


AUTO 13:20 ☀ ☾

18. 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 13 **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.

19. 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.



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.

20. 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 17 "**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. 4).
3. Check the position of the thermistor. Make it straight if bent (see Fig. 5).
4. Test the relay - see point 10 "**TEST function**".

21. Technical data

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

22. Program table Pr.3 - notes

d.1+d.7 Separate settings for each day of the week

PROGRAM DAY OF WEEK	U1 from an h. temp.	U2 from an h. temp.	U3 od godz. temp.	U4 od godz. temp.	U5 from an h. temp.	U6 from an h. temp.
Monday d.1						
Tuesday d.2						
Wednesday d.3						
Thursday d.4						
Friday d.5						
Saturday d.6						
Sunday d.7						

dP.P Settings from Monday to Friday

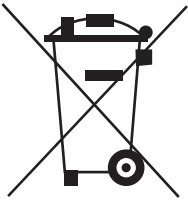
dS.n Settings for Saturday and Sunday

PROGRAM DAY OF WEEK	U1 from an h. temp.	U2 from an h. temp.	U3 from an h. temp.	U4 from an h. temp.	U5 from an h. temp.	U6 from an h. temp.
Mon.+Fri. d.P.P						
Sat., Sun. dS.n						

dP.n Settings for the whole week

PROGRAM DAY OF WEEK	U1 from an h. temp.	U2 from an h. temp.	U3 from an h. temp.	U4 from an h. temp.	U5 from an h. temp.	U6 from an h. temp.
Mon.+Sun. dP.n						

23. 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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