

OPERATION INSTRUCTIONS

TH 091

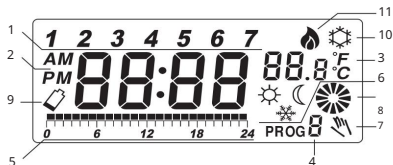
Your new thermostat will serve your family for several years with significant savings on energy costs. The large LCD, which displays a lot of data, allows control of the rich functional equipment by pressing the button. Before using the thermostat, please read this manual carefully.

GETTING TO KNOW YOUR THERMOSTAT

Appearance

On the right side of the thermostat are located sliding doors. When you open the doors, you will see buttons. The doors are removable for battery replacement.

LCD



1. Weekday indicator

2. Time

3. Temperature

4. Program number

5. Program profile indicator

6. Frost protection

7. Manual change indicator

8. Output on indicator - appears and rotates if the output is on.

Disappears if the output is off.

9. Low battery indicator - appears if the battery voltage drops below a certain level. Please replace the batteries as soon as possible.

10. Cooling mode

11. Heating mode

Temperature mode On

both buttons and the LCD you can see the symbols  and . The symbol  indicates comfortable temperature and the symbol  indicates energy-saving temperature. These two temperatures can be changed by the user.

The LCD also displays a constant frost protection temperature (7 °C). When operating the thermostat, we will instead of numerical values, mention comfortable, economical or frost protection temperature.



Program

Your thermostat is programmable. It can automatically set the room temperature to a level of comfortable temperature if you are at home, and reduce it so you save energy when you go out or to sleep. It is enough to program when the thermostat should increase the temperature. In the memory of the thermostat a total of nine programs are stored. Six of them are factory preset and the remaining three can be changed by the user.

Manual change

If you want to change the temperature temporarily and do not want to modify the programs you have set, simply press the button to change the existing program.

INSTALLATION INSTRUCTIONS

Warning: Before installing the thermostat, turn off the power supply.

We recommend that the installation is carried out by trained personnel.

Choose a suitable location for the thermostat. The location of the thermostat can significantly affect its function. If it is in a place where there is no air circulation or is exposed to

direct sunlight, it will not measure the correct temperature in the room. To work properly, install the thermostat on an interior wall in a place where

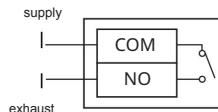
air should circulate freely. It should be a place where your family usually stays.
Avoid locations near devices that produce heat (e.g. TV, heating, refrigerator) or direct sunlight. Do not install the thermostat near doors where vibrations occur.

Connection

The terminals for connection are on the back of the thermostat.

You will find two terminals labeled COM and NO. These

to a typical single-pole (SPST) contact.



Thermostat installation

Using the supplied template, drill two holes in the wall with a diameter of 6 mm.

Insert the wall plugs and tighten the left screw to a distance of 3 mm. Mount the thermostat by sliding it over the screw head and moving it to the right (note the keyhole-shaped hole in the back of the thermostat). Tighten

the main screw and secure the thermostat in that position.

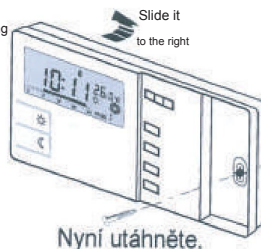
Note: If the wall is wooden, you do not need to use wall plugs. Drill two holes with a diameter of 2.7 mm instead of holes with a diameter of 6 mm.

USING YOUR NEW THERMOSTAT

The following procedures explain how to operate the thermostat. We recommend following the instructions and practicing operating the thermostat before connecting it to heating or cooling.

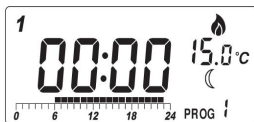
1. Starting

The thermostat is powered by two alkaline AA batteries. Please remove the front cover and insert two new batteries. When inserting the batteries, the thermostat should be in operation and you can see the active LCD.



If your thermostat is not working properly, please check the battery polarity and using a ballpoint pen, press the reset button.

LCD after startup or reset:



In normal mode, press any button to light up the backlight.

Note: I.

temperatures may not be 15 °C as in the picture and the indicator of the activated output may activate only after a few seconds, depending on the situation.

II. Do not press the reset button with a regular pencil. The remaining pencil core may cause a short circuit and damage the thermostat.

2. Set the day/time

Set the day by pressing the d button. Similarly, press the h button to set the hours and the m buttons to set the minutes.

Buttons used:



Example:

After startup or reset, the time is 00:00, Monday. To set the current time on the clock (e.g. 11:23, Tuesday) press the d button once, the h button 11 times and the m.



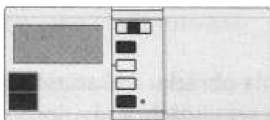
Note: If you press and hold the button for 2 seconds, the day/time will change quickly. Release the button when the desired setting appears.

3. Temperature display/change

Press the button **Temp**, the thermostat will enter the temperature display/change mode. Press the LCD will display the current temperature mode setting (button **◀**, or **▶**), which will blink.  

Press button **◀** or **▶** to display or change the temperature. To return directly to normal operating mode, press the OK button.

Buttons used:



Example:

I. In normal mode...



II. Press the button **Temp**. Display backlight

will be active. Press the button again **Temp** the comfort temperature value will start blinking.



III. Change it by pressing button **◀** or **▶**

For example, to change to 20 °C, press the button **◀** five times, and to confirm, press the OK button.



IV. To display the energy-saving temperature, press **Temp**.

The backlight will be active. Press the button again you will switch to the energy-saving mode.



Now press the button **Temp** energy-saving temperature value

the temperature value will start blinking.

V. When you press button  or set the energy-saving temperature. To confirm or return to normal operating mode, press the OK button.



Note: I.

The temperature setting range is 5 to 30 °C.

II. To decrease or increase the temperature, enter the display/change mode

temperature and press the button or . Press the button until the desired setting appears.

III. If you press and hold the button, the setting will change quickly.

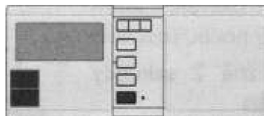
IV. Please note the temperature mode indicator.  indicates display or change of comfort temperature.  indicates energy-saving temperature. is not displayed: If is displayed, it refers to the frost protection temperature. The frost protection temperature is always 7 °C and cannot be changed.

OK .

V. To return to normal operating mode, you do not have to use the button every time. If you do not press any button, the thermostat will automatically return to normal mode after 15 seconds.

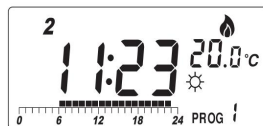
4. Manual change

Press button  to select comfort temperature. Press the button to select energy-saving temperature. The current temperature mode will be interrupted until the next scheduled change in the program. Cancel the change by pressing the button . Buttons used:



Example:

I. In the normal operating mode, press the button to change the current comfort setting to the saving setting:



The temperature is now set to the saving mode. This mode will be active until 23:00. (Because the daily program is PROG 1. At 23:00 the temperature will change from comfort to saving, which equals the changed setting).



Set time

Set time is an alternative to manual setting. Press and hold the button

sensor  (or ) for 2 seconds, the set time will appear. Press the button again to set the set time. To return to the normal operating mode, press the button

. The maximum settable value is 24 h. During the set time, the temperature is not affected by the program.

If the preset time mode is active, pressing the corresponding temperature mode button the remaining preset time will appear (e.g. , if the comfort mode is set).

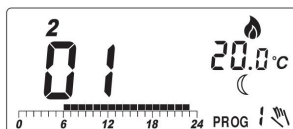
The remaining set time can also be changed using the same button. If you press another temperature mode button (e.g. when setting the comfort mode), the timer for the set time will be cleared.

Example:

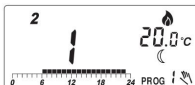
I. To change the current setting from comfort

to saving for 5 hours, press

and hold the button  for approximately 2 seconds. The set time will appear.

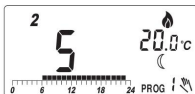


II. The set time is 1 h. Press 4 times
the button  to change the set time to 5:



III. Press the OK button or do not press

any key for 15 seconds and the thermostat will return to the normal mode.



Note: I.

If the current temperature mode is changed, the "hand" will appear.

II. If you press and hold the button, the setting will change quickly.

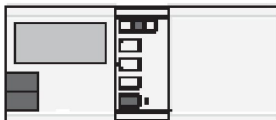


5. Displaying/Changing the Program

Press the button **Prog** and you can change the program for the current day. Press the button again **Prog** to move to the next day, the program for that day will be displayed.

To change the program, press the button **Prog#**

Programs 6, 7 and 8 are defined by the user. By pressing the button  or you can change the division of comfort and saving temperatures, use the button **h** to display the settings. To return to the normal operating mode, press the button **.** Buttons used:



As the diagram shows, nine programs are available in total:

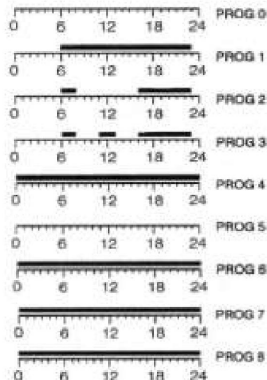
Program 0 is

a special program. It sets the whole-day temperature to anti-freeze temperature (7 °C). (If the cooling mode is selected, the system turns off.

See section 8. Cooling control).

Programs 1, 2 and 3 are standard daily programs. If they suit you, you can select them. Program 4 sets the whole day to the comfort temperature, while program 5 to the saving temperature.

Programs 6, 7 and 8 are user-defined. You can modify them according to your needs.

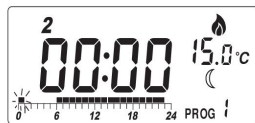


Example:

I. Suppose you want to assign program 6 to

Saturday and you want to set the whole day except 13:00 to 18:00 to energy-saving temperature.

Press the Prog. button. The thermostat enters the programming mode



and you can program the current day's program (e.g. Tuesday).

The display shows that the program set for Tuesday is program 1 with a change of temperature to the saving temperature (15 °C) at 23:00

II. Press 4 times the button

Prog . The indicator points to

is set to Saturday:



III. To change program 1 to program 6, press 5 times

button

Prog# :



IV. Now you can set the displayed time for

energy-saving temperature by pressing the button or  to set to comfort temperature. Or use the button to keep the time without changing the setting.

h



Since we want to set the comfort temperature in the interval 13:00 to 18:00 and energy-saving temperature for the remaining part of the day, we press the button 13 times. From 00:00 to 12:00 the energy-saving

temperature is
programmed:

V. Press the button 6 times

 or  to shift

blinking dot at 19:00:



VI. Finally, press the button 5 times

, to

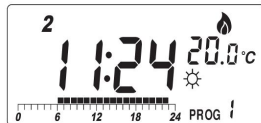
you have set the energy-saving temperature for the remaining part of the day:



VII. Pressing the button

OK or if no

button is pressed for 15 seconds, the thermostat returns to normal operating mode.



Note:

I. Programs 0, 1, 2, 3, 4, 5 are pre-set programs. They cannot be changed using the buttons  and . However, the button h remains active.

them cannot be

II. All nine programs can be used for all seven

days. Including three user-defined programs. This means that if you change one of the user-defined day programs, the program of the other days will also change.

III. If you press and hold the button, the setting will change quickly.

6. Reset button

OK
To the right of the button there is a small hole. It is the reset button. Pressing it you reset the thermostat to the original state: Time – 00:00:00; day – 1; temperature – comfort: 19 °C, energy-saving: 15 °C; programs – all seven days set to PROG 1; user-defined programs – set to comfort; manual change – all cleared; output – off, heating mode, delay, interval 1 °C (hysteresis +/- 0.4 °C)

Note: Do not use a regular pencil to press the reset button, as pencil lead residue may cause a short and damage the thermostat.

In an environment with high (+/- 8 kV) electrostatic charge, the product cannot be operated as under normal conditions. It is possible that the user will have to reset the unit.

7. Heating/cooling options, on/off 5min delay, interval 0.5

°C (hysteresis +/- 0.2 °C), 1 °C (hysteresis +/- 0.4 °C) Activate options by pressing the OK button for approximately 5 s.

Heating mode: The heating icon is blinking, press the OK button to confirm the heating mode or press the (saving) button and then the OK button to switch to cooling mode.

Select whether heating or cooling should be controlled. We would like to point out that during heating, the comfort temperature is usually higher than the saving temperature, while during cooling it is the opposite.

Turning on the delay: press the OK button to confirm the on mode

delay or press the  button or , then press the OK button for changing the on delay.

if this switch is on, the external system will turn on only if it was

turned off for longer than 5 min. If you select cooling, this function activates automatically.

Interval 1.0 °C: press the OK button to confirm the 1.0 °C interval or press the  button or , then press the OK button to change the interval to 0.5 °C (hysteresis +/- 0.2 °C). The interval is the difference between the on and off temperatures. You can choose an interval of 0.5 °C (hysteresis +/- 0.2 °C) or 1.0 °C (hysteresis +/- 0.4 °C). The effect is summarized in the following table:

Interval		Heating	Cooling
0.5°C	On, when...	$Tr \leq Ts - 0.2$	$Tr \geq Ts + 0.2$
	Off, when...	$Tr \geq Ts + 0.2$	$Tr \leq Ts - 0.2$
1°C	On, when...	$Tr \leq Ts - 0.4$	$Tr \geq Ts + 0.4$
	Off, when...	$Tr \geq Ts + 0.4$	$Tr \leq Ts - 0.4$

Ts: Set temperature Tr: Room temperature For example, if you set the temperature to 20 °C and the interval = 0.5 °C, heating turns on if the room temperature drops to 19.8 °C and turns off when the temperature rises to 20.2 °C.

8. Cooling control

You can use your thermostat to control cooling. The function is similar to heating. The differences are listed in the following list:

1. Generally, the comfort cooling temperature is lower than the saving temperature.
2. Switching is reversed: The thermostat switches the system on while the room temperature is higher than the set temperature.
3. Do not use non-freezing temperature. Flake (If ) and 7 °C is not displayed. If you select program 0, the thermostat turns off cooling.
4. The five-minute minimum cycle is automatically enabled.