

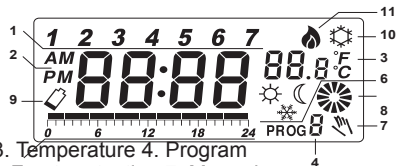
USER MANUAL

TH 091

Your new thermostat will serve your family for many years with significant energy cost savings. The large LCD, which displays a range of data, allows control of the extensive feature set by pressing a button. Please read this manual carefully before using the thermostat.

GETTING TO KNOW YOUR THERMOSTAT Appearance On the right side of the thermostat are the sliding door. When you open the door, you will see the buttons. The door is removable for battery replacement.

LCD



1. Day of the week 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 when the output is on. Disappears when the output is off. 9. Low battery indicator – appears when 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 constant non-freezing temperature (7 °C) is also displayed on the LCD. When operating the thermostat, we will refer to comfortable, economic or non-freezing temperature instead of numerical values.



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

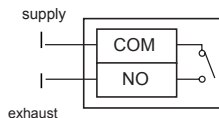
Manual change If you want to temporarily change the temperature and do not want to modify the programs you have set, simply press the button to change the current program.

INSTALLATION INSTRUCTIONS Warning: Turn off the power supply before installing the thermostat. 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 it is exposed to direct sunlight, it will not measure the room temperature correctly. To work properly, install the thermostat on an interior wall in a place where

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

Wiring The wiring terminals are on the back of the thermostat. You will find two terminals labeled COM and NO. This is

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 this 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 for operating the thermostat. We recommend following the instructions and testing the operation of the thermostat before connecting it to heating or cooling.

1. **Start-up** The thermostat is powered by two alkaline AA batteries. Please remove the front cover and insert two new batteries. When you insert the batteries, the thermostat should be operational and you can see the active LCD.



If your thermostat is not working properly, please check the battery polarity and press the reset button using a ballpoint pen. LCD after start-up or reset:



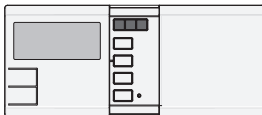
In normal mode, press any button to turn on the backlight.

Note:

I. The temperature does not have to be 15 °C as in the picture and the output on indicator may activate after several seconds, depending on the situation.

II. Do not use a regular pencil to press the reset button. Pencil shavings may cause a short circuit and damage the thermostat.

2. Set day/time Press button d to set the day. Similarly, press button h to set the hours and button m to set the minutes. Buttons used:



Example:

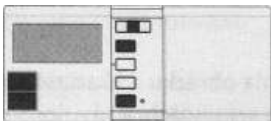
At startup or after resetting, the time is 00:00, Monday. To set the current time on the clock (e.g. 11:23, Tuesday), press button d once, button h 11 times and button m 23 times.



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. Display/change temperature

Press the Temp button, the thermostat enters the display/change temperature mode. The current temperature mode setting (button ☀, or) will be displayed on the LCD and will blink. Press button ☀ or to display or change the temperature. To return directly to the normal operating mode, press the OK button.
Buttons used:



Example:

I. In normal mode...



II. Press the Temp button. The display backlight will be active. Press the button again **Temp** comfort temperature value will start blinking.



III. Change it by pressing button ☀ or
E.g. to change to 20 °C, press button ☀ 5 times, press the OK button to confirm.



IV. To display the energy-saving temperature, press . The backlight will be active. Press button again, you will switch to the energy-saving mode.



Now press the Temp button, energy-saving temperature value will start blinking.

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



Note:

I. The temperature setting range is 5 to 30 °C.

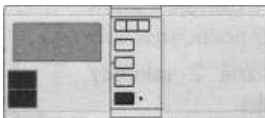
II. To decrease or increase the temperature, enter the display/change temperature mode and press button or ☀. Hold the button until the desired setting appears.

Enter the display/change temperature mode and press button or ☀. Hold 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 the display or change of the comfort temperature. ☾ indicates the saving temperature. ☾ not displayed: If displayed, it refers to the frost protection temperature. The frost protection temperature is always 7 °C and cannot be changed. V. To return to the normal operating mode, you do not have to use the OK button every time. If you do not press any button, the thermostat will automatically return to the normal mode after 15 seconds.

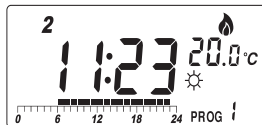
4. Manual change

Press the ☀ button to select the comfort temperature. Press the button to select the saving temperature. The current temperature mode will remain interrupted until the next scheduled change in the program. Press the OK button to cancel the change. Buttons used:



Example:

1. 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 run 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).



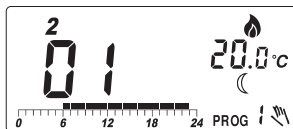
Set time The set time is an alternative to manual setting. Press and hold the

button  (or ) for 2 seconds, the set time will appear. Press the button again to set the set time. Press the OK button to return to the normal operating mode. The maximum adjustable value is 24 h. During the set time, the temperature is not affected by the program. If the set time mode is active, pressing the corresponding temperature mode change button (e.g. , if the comfort mode is set) will display the remaining set time. The remaining set time can also be changed using the same button. If you press another temperature mode button (e.g. the saving mode button when the comfort mode is set), the set time timer will be canceled.

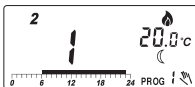
Example:

1. To change the current setting from comfort to saving for 5 hours, press

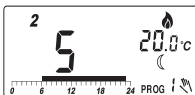
and hold the button  for approximately 2 seconds. The set time will be displayed.



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.



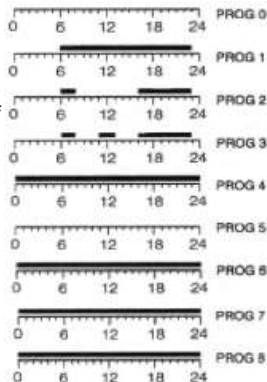
5. Display/program change Press the Prog button to change the program for the
current day. Press the Prog button again to switch to the next day, the program for
that day will be displayed. To change the program, press the Prog button.

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



As shown in the diagram, there are a total of nine programs available:

Program 0 is a special program. It sets the whole-day temperature to a frost protection temperature (7 °C). (If the cooling mode is selected, the system will be turned 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 comfort temperature, while program 5 to saving temperature. Programs 6, 7 and 8 are defined by the user. You can modify them according to your needs.



Example:

I. Suppose you want to set program 6 to

Saturday and you want to set the whole day except 13:00 to 18:00 to saving temperature. Press the Prog button. The thermostat will switch to programming mode

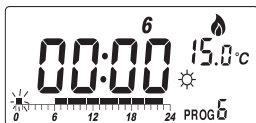


and you can program the program for the current day (e.g. Tuesday).

The display shows that the program set for Tuesday is program 1 with

temperature change to saving temperature (15 °C) at 23:00

II. Press the Prog button 4 times. The indicator points to Saturday:



III. To change program 1 to program 6, press the Prog button 5 times:



IV. Now you can set the displayed time for

saving temperature by pressing the or ☀ button to set it to comfort temperature. Or use the h button to keep the time unchanged.



Since we want to set comfort temperature from 13:00 to 18:00 and saving temperature for the rest of the day, we press the button 13 times. From 00:00 to 12:00, saving temperature will be programmed:

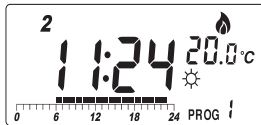
V. Press the h or ☀ button 6 times to move the blinking point to 19:00:



VI. Finally, press the button 5 times to set saving temperature for the rest of the day:

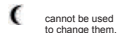


VII. Pressing the OK button or not pressing any button for 15 seconds will return the thermostat to normal operating mode.



Note:

I. Programs 0, 1, 2, 3, 4, 5 are pre-set programs. Buttons ☀ and h cannot be used to change them. The h button remains active.



II. All nine programs can be normally used for all seven days. Including three user-defined programs. This means that if you change one of the user-defined daily programs, the program for other days will also change.

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

6. Reset button To the right of the OK button is a small hole. This is the reset button. Pressing it will reset the thermostat to its original state:

Time – 00:00:00; day – 1; temperature – comfort: 19 °C, saving: 15 °C; programs – all seven days set to PROG 1; user-defined programs – set to comfort; manual changes – all deleted; 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 the pencil lead may cause a short and damage the thermostat. In environments with high (+/- 8 kV) electrostatic charge, the product cannot be operated as under normal conditions. It may be necessary for the user to reset the unit.

7. Heating/cooling options, on/off delay 5 min, interval 0.5 °C (hysteresis +/- 0.2 °C), 1 °C (hysteresis +/- 0.4 °C) Activate the options by pressing the OK button for approximately 5 s.

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

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

On delay: Press the OK button to confirm the on delay mode

or press the button or , then press the OK button to change the on delay. If this switch is on, the external system will only turn on if it has been

off for longer than 5 min. If you select cooling, this function is activated 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 select 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 interval = 0.5 °C, the heating will turn on if the room temperature drops to 19.8 °C and turn 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 below:

1. Generally, the comfort temperature for cooling is lower than the saving temperature.
2. Switching is reversed: The thermostat activates the system if the room temperature is higher than the set temperature.
3. The anti-freeze temperature is not used. The  symbol () and 7 °C are not displayed. If you select program 0, the thermostat turns off cooling.
4. A five-minute minimum cycle is activated automatically.