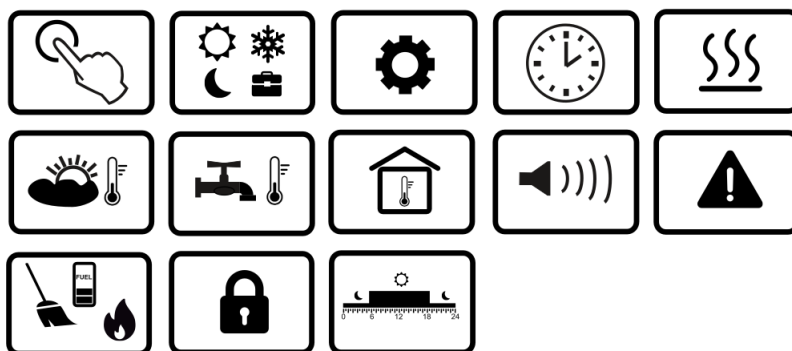




ROOM THERMOSTAT

ecoSTER40

FOR HEATING CIRCUIT CONTROLLERS



INSTALLATION AND OPERATING MANUAL

ISSUE: 1.1_EN

CONTENTS

1.	RECOMMENDATIONS REGARDING SAFETY .	4
2.	GENERAL INFORMATION	4
3.	INFORMATION ABOUT DOCUMENTATION..	4
4.	STORAGE OF DOCUMENTATION	4
5.	APPLIED SYMBOLS	4
6.	DIRECTIVE WEEE 2012/19/UE	4
7.	THE FIRST START OF THE THERMOSTAT	5
8.	THERMOSTAT MAIN SCREEN	5
9.	THERMOSTAT SETTINGS	5
9.1.	EDITION OF THE PRESET TEMPERATURE.....	5
9.2.	EDITION OF THE OPERATION MODES	6
9.3.	EDITION OF THE SCHEDULES	7
9.4.	COPYING OF THE INTERVALS	8
10.	USER MENU	8
10.1	SERVICE MENU	9
11.	SIGNALING OF THE ALARMS AND PROMPTS	
	10	
11.1	ALARMS.....	10
11.2	PROMPTS.....	10
12.	SETTINGS OF THE MAIN CONTROLLER	
	PARAMETERS.....	10
13.	COOPERATION OF THE RADIO MODULE	
	WITH SEVERAL THERMOSTATS.....	10
14.	PAIRING THERMOSTAT WITH THE MAIN	
	CONTROLLER	11
15.	INSTALLATION OF THE THERMOSTAT.....	11
15.1	CONNECTING THE THERMOSTAT TO THE MAIN	
	CONTROLLER.....	12
16.	TECHNICAL DATA	12
17.	STORAGE AND TRANSPORT CONDITIONS .	12
18.	DESCRIPTION OF POSSIBLE FAULTS	13

1. Recommendations regarding safety

The following requirements shall be complied with.

- The device should be used as intended, keeping it in a dry environment, and installing it only indoors.
- The thermostat has small parts, so keep it away from children.
- Before connecting the radio module to the main controller, absolutely stop the operation of the main controller by switching it off and disconnecting it from the main power supply.
- Non-compliant with the manual or incorrect connection of the radio module to the main controller may be a source of malfunction of the main controller and the radio module itself.
- The device should only be started up by a person who is familiar with these instructions.
- Under no circumstances may the device construction be modified.

2. General information

Room thermostat ecoSTER40 is designed for cooperation with ecoMAX, ecoMAX360I, ecoMULTI, ecoFLOOR series 2, ecoTRONIC controllers. The thermostat is installed in a selected room, e.g. a living room, and is designed to maintain the desired temperature in that room. The thermostat transmits information from the main controller e.g. about the fuel level in the fuel tank, alarm statuses of the controller and external temperature values. The thermostat on the backlit LCD display shows information about the room temperature value, selected operating mode, current time with simultaneous clock synchronization with the main controller.

3. Information about documentation

The thermostat manual is a supplement for the main controller manual. In particular, except for this manual, the main controller manual should also be followed. Manufacturer is not responsible for any damages caused by failure to following these instructions.

4. Storage of documentation

This assembly and operation manual, as well as any other applicable documentation, should be stored diligently, so that it is

available at any time. In the case of removal or sale of the device, the attached documentation should be handed over to the new user / owner.

5. Applied symbols

In this manual the following graphic symbols are used:



- the symbol indicates additional advice and information.



- the symbol indicates important information.

Caution: the symbols indicate important information, in order to make the manual more user friendly. Yet, this does not exempt the user from the obligation to comply with requirements which are not marked with a graphic symbol.

6. Directive WEEE 2012/19/UE

Purchased product is designed and made of materials of highest quality.

The product meets the requirements of the **Directive 2012/19/EU of 4 July 2012 on waste electrical and electronic equipment (WEEE)**, according to which it is marked by the symbol of crossed-out wheeled bin (like below), meaning that product is subjected to separate collection.



Responsibilities after finishing a period of using product:

- dispose of the packaging and product at the end of their period of use in an appropriate recycling facility,
- do not dispose of the product with other unsorted waste,
- do not burn the product.

By adhering obligations of waste electrical and electronic equipment controlled disposal mentioned above, you avoid harmful.

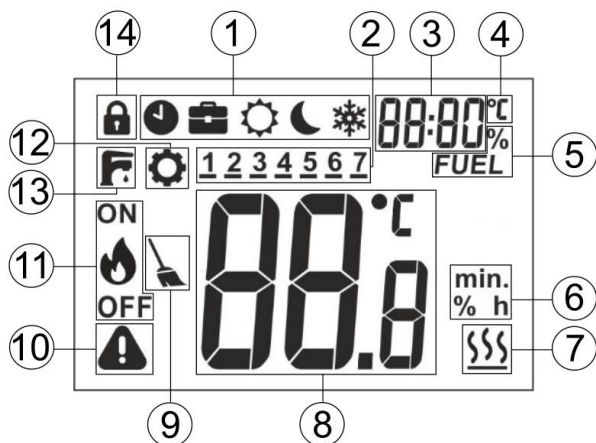
7. The first start of the thermostat

After electrical connection of the thermostat to the main controller, in accordance with point 15 it is necessary to perform the thermostat pairing with the main controller, as described in point 14.

The clock synchronization function with the main controller automatically sets the clock in the thermostat. The clock can also be set directly in the thermostat from the User menu (P04).

The change of time in the thermostat will also cause a change in the main controller and the devices connected to the main controller.

8. Thermostat main screen



Legend:

1. Operation modes¹:

- Schedule;
- Holiday;
- Comfortable;
- Economic;
- Antifreeze;
- „Air“** - Airing;
- „out“** - Out of house;
- „PrtY“** - Party;
- F** - one time charging of the HUW;

2. day of the week: 1 - Mon., 2 - Tue., 3 - Wed., 4 - Thu., 5 - Fri., 6 - Sat., 7 - Sun.;
3. clock and the field of information displayed, e.g. menu descriptions,

¹ Depending on the main controller software version, some operation modes are not visible.

- additional operating modes, fuel level, and external temperature;
4. symbol when displaying the external temperature value;
5. fuel level;
6. unit symbols;
7. heating symbol - the symbol is visible when the heating signal is being sent to the main controller and the preset temperature in the room is not reached;
8. value of room temperature and edition of the preset room temperature;
9. prompting to clean the boiler - the symbol reminds to perform cleaning the burner and to empty the ash pan (optional, depending on the software of the main controller);
10. alarm - the symbol flashes when:
 - an alarm occurred in the main controller,
 - the symbol is constantly displayed when:
 - notification was received at the main controller (prompt),
11. operating status of the burner - visible flame symbol means that the burner is currently operating (it is burning), while the flame symbol with OFF means that the burner has been turned off by the user;
12. parameter editing symbol;
13. signaling of one time charging of the HUW container;
14. activated parental lock - unblocking occurs after holding the button for 5 seconds.

9. Thermostat settings

9.1. Edition of the preset temperature

Pressing or brings to the check / edit of the preset temperature which starts to flash.



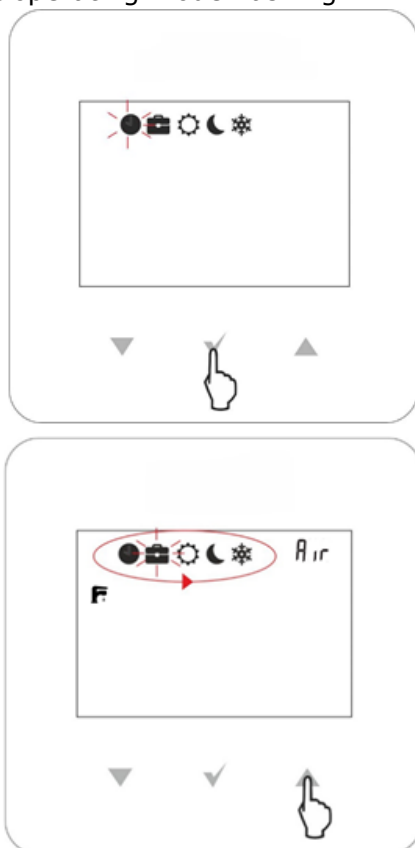
The first press causes to edit the current preset temperature, but does not change the value. Only another press changes the value. The saving and exit from the edition takes place after pressing  button. If the change of the preset temperature value is not confirmed with the  button, then after the inactivity time of 5 seconds the thermostat will exit the editing menu, without changing the preset temperature value. The preset temperature value changes every 0,1°C.

Note:

- holding  or  button for 2 seconds causes a fast, cyclical change of the parameter.
- holding  button for 2 sec. causes exit from parameter edition without saving the change.

9.2. Edition of the operation modes

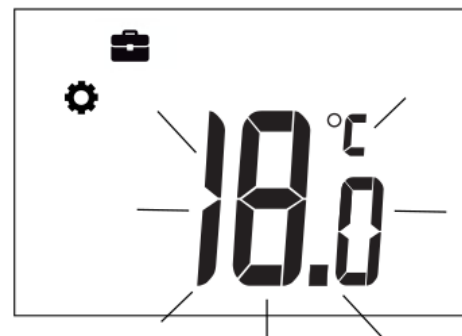
Editing the operating modes is enabled by briefly pressing the  button, then the operating modes are displayed, with the current operating mode flashing.



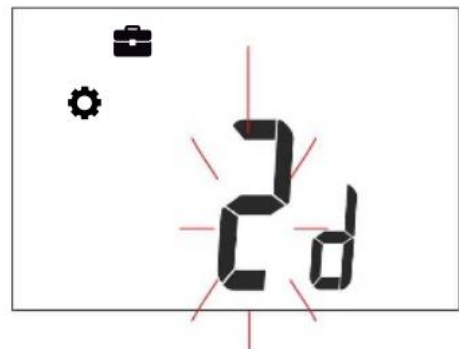
The operating mode is changed with  or  buttons. The saving and exit from the

edition takes place after pressing the  button. Exit from editing the operating modes to the main screen, without saving the change of the working mode, by pressing the A key for 2 seconds or after an idle time of 5 seconds. Editable operating modes that are related to parameter settings in the user menu (point 10):

- **Schedule** – the preset temperature changes between the "Night" temperature (**P06**) and the "Day" temperature (**P05**), according to the programmed time schedule (**P01**).
- **Holiday** – the preset temperature is set single time to the "Holiday" temperature (**P10**), which appears for editing:



for the duration time (**P11**) of this mode, which appears for editing immediately after the temperature:

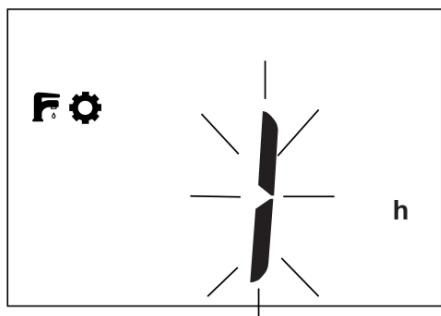


After this time, the thermostat goes into the mode in which he worked before turning on the "Holiday" mode. This mode is useful when traveling on holidays.

- **Comfortable** - thermostat works with a constant preset temperature "Day" (**P05**), which ensures a comfortable temperature in a heated room.
- **Economical** - the thermostat operates at a constant preset temperature "Night" (**P06**), which saves fuel.
- **Antifreeze** - the thermostat works with a constant preset temperature "Antifreeze"

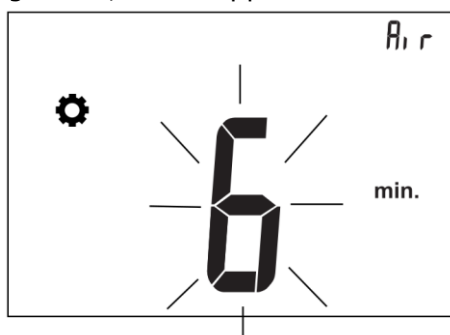
(**P07**), which ensures protection against freezing of water in the heating circuit. This mode is useful when there is no one in the heated rooms.

- **F** - the mode enables a single charging of the HUW container for the set time (**P14**), which appears for editing:



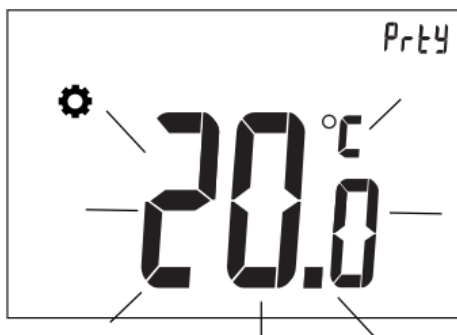
During the active single charging HUW container, time schedules for HUW are switched off.

- **Airing** (text information on 3rd item of the main screen) – the heating circuit is switched off for the duration (**P11**) of the airing mode, which appears for editing:

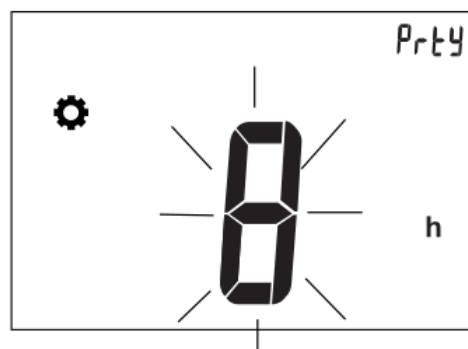


After this time, the thermostat switches on the heating circuit and switches to the mode in which it worked before turning on the "Airing" mode. This mode is particularly useful when ventilating rooms.

- **Party** (text information on 3rd item of the main screen) – the preset temperature is set single time for the "Party" temperature (**P08**), which appears for editing:

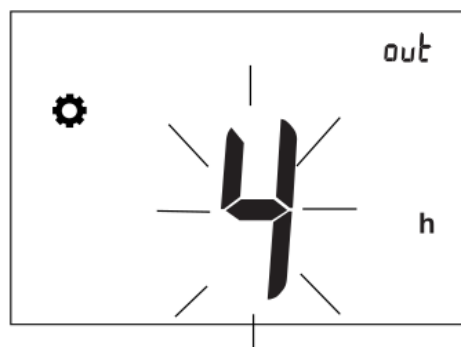


for the duration time (**P09**) of the of the "Party" mode, which appears for editing immediately after the temperature:



After this time, the thermostat switches to the mode in which it worked before turning on the "Party" mode.

- **Out of house** (text information on 3rd item of the main screen) – the preset temperature is set single time to the "Night" temperature (**P06**), for the duration time (**P12**) of the of the "Out of house" mode, which appears for editing:



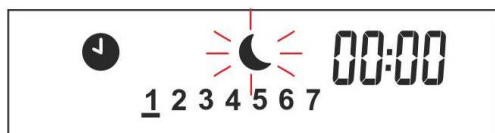
After this time, the thermostat switches to the mode in which it worked before turning on the "Out of house" mode. Useful mode when the user leaves the heated room.

9.3. Edition of the schedules

 Editing of schedules is not available for ecoTRONIC series controllers.

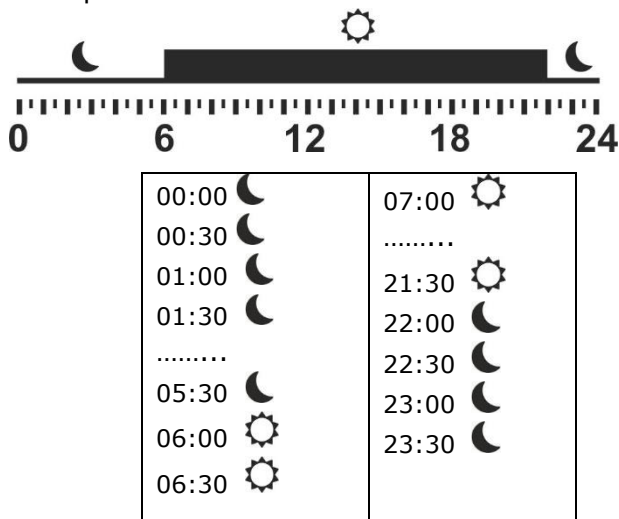
Holding ▼ and ▲ buttons for 2 seconds will enter the user menu. Select the user menu item (**P01**) with the word "**Sch**" and press ✓ button.

The flashing line indicates the edited day, where: 1 - means Monday, 2 - Tuesday, 3 - Wednesday, etc. With the ▼ or ▲ buttons we can change the day of the week. After pressing the ✓ button, we enter the programming of intervals on that day.



The first time interval lights up, which is expressed by the beginning of the interval: 00:00 (which means the interval 00.00-00.30). The second interval is 00:30 (which means the interval 00.30-01: 00). Use ▼ or ▲ buttons to move between intervals (48 intervals, every 0.5 h). For each interval, the preset temperature "Night" or "Day" can be set. The ✓ button assigns the night or day temperature for a given interval. The moon represents the preset night temperature, whereas the sun - the preset day temperature. Save / exit follows after holding ✓ button for 2 seconds.

Example:



By default, all time intervals throughout the week are set according to the above example. The intervals can also be edited from the main controller.

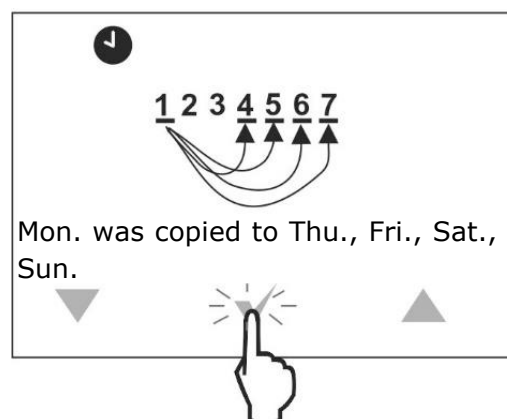
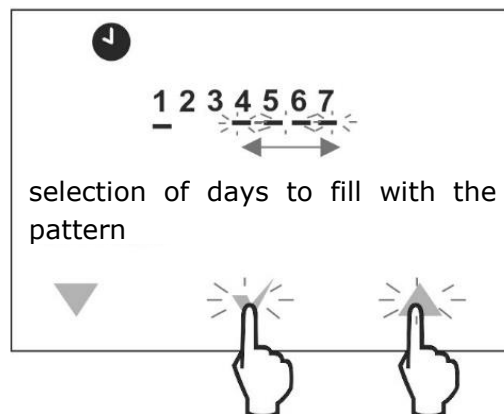
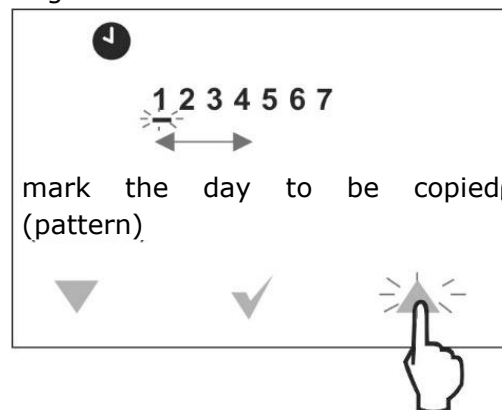
The function of quick "painting" of the compartments is available with the combination of buttons ▼ and ▲ as well as ✓ and ▲.

9.4. Copying of the intervals

Copying the intervals is not available for ecoTRONIC series controllers.

Holding both ▼ and ▲ buttons at the same time for 2 seconds will enter the user menu. Select the user menu (**P02**) item with the word "**cPy**" and press the ✓ button.

The flashing line indicates the reference day to be copied to other days, where: 1 - Monday, 2 - Tuesday, 3 - Wednesday, etc. By ▼ or ▲ buttons we can change it. After accepting with ✓ button, the reference day stops flashing and the day to which the pattern is to be pasted begins to flash. You can select several days to fill with the pattern, but you can't change the reference day anymore. Confirm, save and exit by holding ✓ button for 3 seconds.



10. User menu

The user menu is entered by holding simultaneously the ▼ and ▲ buttons for 2 seconds.



Individual parameters of the user menu are visible as consecutive indications displayed on the main screen in item no. 3, as described in the table below.



Depending on the min controller series, some operating modes and parameters in the user menu may not be visible.

The parameters are selected using the ▼ or ▲ buttons and the ✓ button is confirmed by the selection.

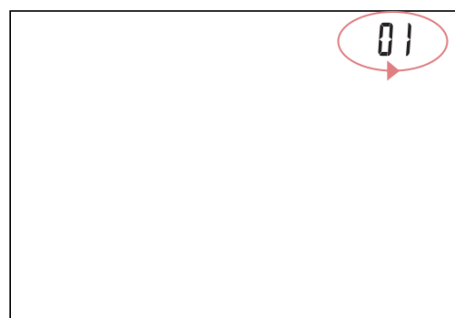
No.	Description
P01	„Sch“ Schedules, point 9.3
P02	„CPy“ Copying schedules, point 9.4
P03	„PAr“ Paring, point 14
P04	Setting the clock
P05	„Day“ Preset temp. [°C]
P06	„Night“ Preset temp. [°C]
P07	„Antifreeze“ Preset temp. [°C] (default value set to 9°C)
P08	„Party“ Preset temp. [°C]
P09	Time duration of the "Party" mode [h]
P10	„Holiday“ Preset temp. [°C]
P11	Time duration of the "Holiday" mode [day]
P12	Time duration of the "Out of house" mode [h]
P13	Time duration of the "Airing" mode [min.]
P14	Time one time of the HUW charging [h]
P15	Turning on (on) or off (oFF) sound of pressing the buttons.
P16	Turning on (on) or off (oFF) sound alarms. At the (oFF) setting, alarm notification is only visible in the information field of the main screen (item 3).
P17	Turning on (on) or off (oFF) sound notification of alarms at night from 22:00 to 6:00.
P18	Screen contrast. [%]
P19	Brightness of the screen backlight. [%]

P20	Room thermostat temperature hysteresis. [°C]
P21	Turning on (on) or off (oFF) of the parental lock.
P31	Thermostat program version.
P32	Correction of the accuracy of the displayed temperature. [°C]
P34	Restoring on (on) or off (oFF) factory settings.
P35	Thermostat address, point 13
P40	Turning on (on) or off (oFF) of the fuel level indicator.
P41	Turning on (on) or off (oFF) the weather temperature indication.
P42	Turning on (on) or off (oFF) display on the clock screen.
P50	Temperature floor sensor after its correct connection to the thermostat. [°C]

Holding the ✓ button for 2 seconds will exit the user menu to the main screen.

10.1 Service menu

The entry to the service menu is done by holding simultaneously the ▼ and ✓ buttons for 2 seconds. After entering the menu, enter the following password using the ▼ and ▲ buttons: 1410 and confirm by pressing the ✓ button. The individual parameters in the service menu are visible as consecutive markings displayed on the screen in 3rd item, as described in the table below.



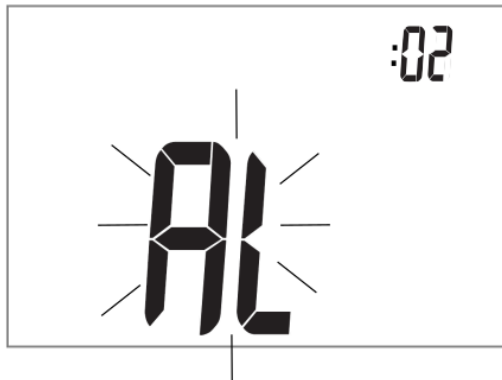
No.	Description
1	Turing (on) or off (oFF) the possibility of changing parameters from other thermostats. The default setting is (on).
2	Turning on (on) or off (oFF) of the hotel mode in which the possibility of changing the main controller parameters by the thermostat is blocked. The default setting is (oFF).

Holding the ✓ button for 2 seconds will exit the menu to the main screen.

11. Signaling of the alarms and prompts

11.1 Alarms

The thermostat signals the alarm states sent from the main controller. During the alarm, the flashing "AL" is displayed, the alarm number and the beep - if (P16) parameter is set to on.



The first press of the  button silences the alarm sound. With  and  buttons you can check successive alarm numbers if there are more of them at the same time. Pressing the  button again takes you to the main thermostat screen. If the alarm is still in progress, the flashing  symbol is still displayed on the thermostat's main screen and the alarm code is displayed in the information field (item 3). It is possible to enable or disable sound signaling from the user menu.

11.2 Prompts

In the case when the main controller sends prompts (an information), the "In" message and the prompt number are displayed on the thermostat's screen. There is no audible signal when there is a prompt. With  and  buttons you can check the successive numbers of prompts if there are more of them at the same time. The first press of the  button confirms the reading of the prompt. Pressing  button again takes you to the main thermostat screen. If the prompt is still in progress, the  symbol is still displayed on the thermostat's main screen and the confirmation code is displayed in the information field (item 3).

12. Settings of the main controller

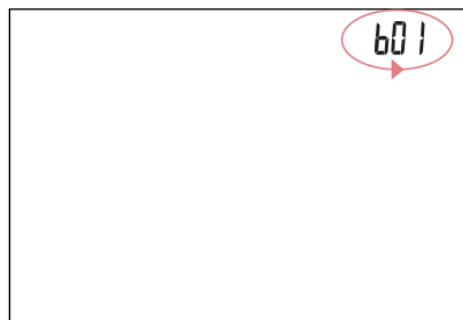
parameters

The thermostat allows you to change selected parameters of the main controller.



The possibility to change selected parameters of the main controller depends on its program version.

The entry to the main regulator parameters menu is made by pressing the  button for 2 seconds. Individual menu parameters are visible as consecutive markings displayed on the screen in no. 3 item, as described in the table below.



The parameters are selected using the  or  buttons and the  button confirms the selection.

No.	Description
b01	Changing the preset HUW temperature.
b02	Changing the preset boiler temperature.
b03	Turning on (on) or switching off (off) the burner operation (turn the boiler on and off).
b04	Settings of SUMMER function:  - Winter;  - Summer;  - Auto.
b05	HUW settings:  - Off;  - Priority;  - No priority.

Holding the  button for 2 seconds will exit the menu to the main screen.

13. Cooperation of the radio module with several thermostats



Connecting several thermostats (maximum 3 thermostats or 8

depending on the series of the main controller) to the main controller requires setting an individual address for each thermostat.

The address for the thermostat is set in the user menu, parameter (**P35**). One should set a different address for each thermostat in the range 1..3. The correctness of the individual address settings can be checked in the main controller *Information* menu, where the individual thermostats will be displayed as: ecoSTER T1, ecoSTER T2, ecoSTER T3.

 Depending on the main controller software version, the address of each connected thermostat can be assigned automatically, then the parameter (**P35**) will not be available in the user menu.

14. Pairing thermostat with the main controller

 The thermostat require pairing with the main controller.

 Connecting the thermostat to the main ecoMAX series controller does not require pairing. The parameter (**P03**) will be visible but not active.

When pairing, first on the thermostat must hold buttons ▼ and ▲ for 2 seconds and then select the program (**P03**) in the user menu, where "**PAr**" is displayed on the screen. After accepting with ▼ button, the pairing will start (the word "**PAr**" begins to flash) for 4 minutes. During this time, it is necessary to pair and connect the thermostat to the selected heating zone / heating circuit already in the main controller menu, as described in the main controller manual. The correctness of the pairing will be confirmed by the message "**END**" and "**Succ**" on the thermostat screen.

15. Installation of the thermostat

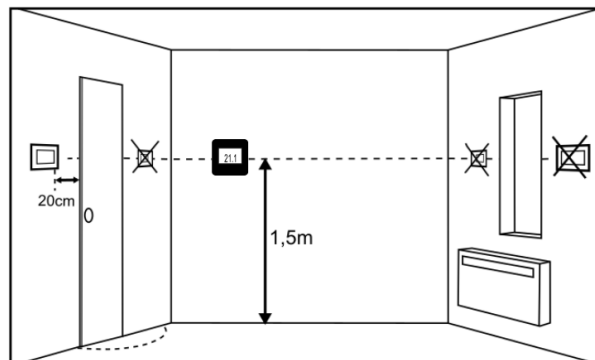
The thermostat is intended for installation only in a dry habitable room and should be mounted on a wall or placed on a flat surface (as a free-standing device) in a room representative for a given heating circuit. After choosing the place of assembly, make sure that:

- the selected location is free of excessive humidity and the ambient temperature of

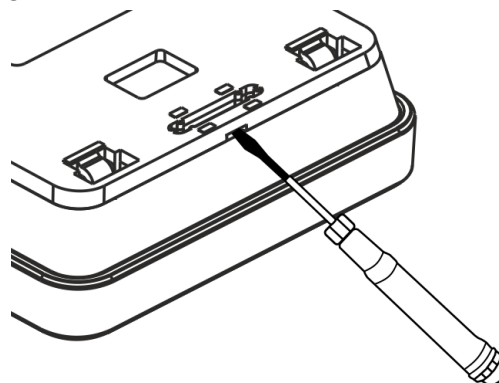
the thermostat should be within the range of 0..40°C,

- the chosen location should ensure free air circulation and should be located away from heat-emitting sources, e.g. electronic equipment, fireplace, heater and direct sunlight.

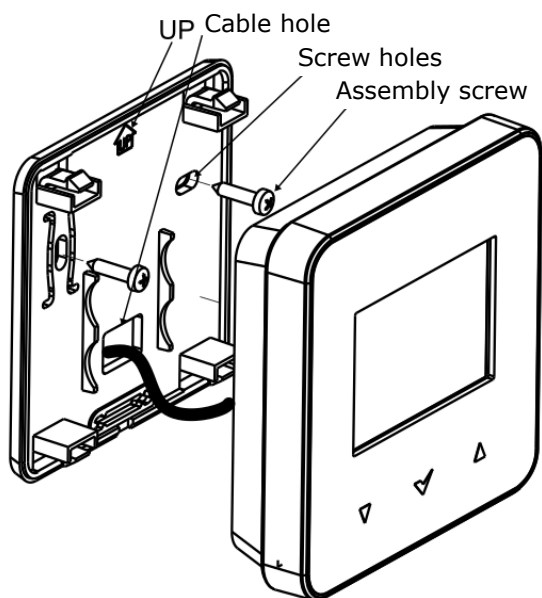
The thermostat should be mounted at a height enabling convenient operation, typically 1.5 m above the floor.



The thermostat should be screwed to the wall with mounting screws. Access to the screw holes is obtained by opening and removing the back cover of the thermostat. A flat screwdriver can be used to open the cover.



The cover is screwed to the selected location of the wall with the appropriate position (UP), as shown in the figure below. The hole spacing can be determined by attaching the cover to the wall.

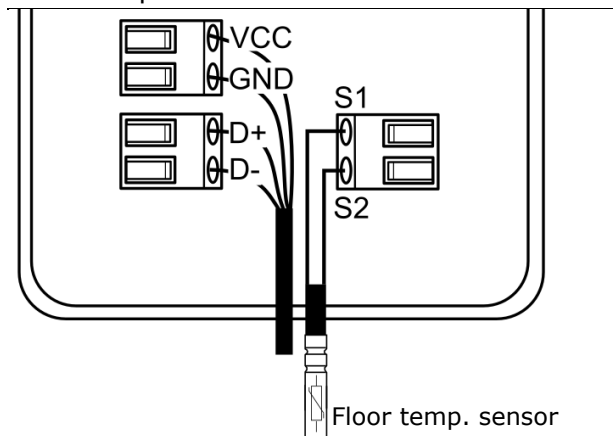


Before screwing the cover on, lead the wire connecting the thermostat with the main controller through the hole. The cable must be recessed into the wall. The cable must not be routed together with the electrical cables of the building. The cable should not run in the vicinity of devices emitting strong electromagnetic fields. Then attach the thermostat to the mounting frame using the clips.

The VCC, GND, D+, D- terminals of the thermostat should be connected to the transmission socket of the main controller.

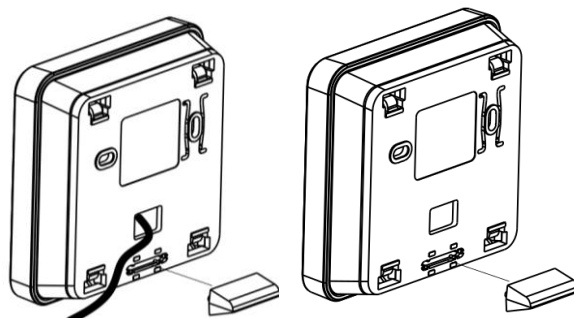


When connecting the transmission and power cable, pay attention to the correct polarity of the connection of the D+, D- signals and the GND, VCC power supply between the thermostat and the main controller. Incorrect connection may lead to damage to the main controller or errors in its operation.



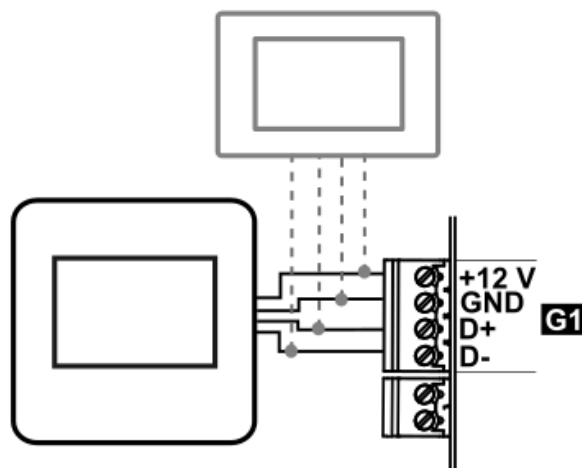
A 4-core cable with a cross-section of min. 0.5 mm².

When the thermostat works with the floor heating controller, it is possible to connect the NTC 10K floor temperature sensor thermostat to terminals S1, S2. The sensor cable can be extended with a cable with a cross-section of not less than 0.5 mm². In order to place the thermostat on a flat surface, a dedicated stand should be used.



15.1 Connecting the thermostat to the main controller

Connection to the ecoMULTI OT controller.



16. Technical data

Power supply	5..12 VDC, 0.2 W - directly from the main controller socket, power source max. 15 W
Degree of protection	IP 20
Relative humidity	5..85% without steam condensation
Storage temperature	-10°C..+60°C
Working temperature	0..40°C
Display	LCD with backlight
Controlling	Capacitive buttons
Dimensions	Thermostat: 87 mm x 87 mm x 27,3 mm
Thermostat weight	0.2 kg
The thermostat installation method	On the wall or free-standing

17. Storage and transport conditions

The thermostat and radio module must not be exposed to the direct influence of atmospheric conditions, i.e. rain and sun

rays, and vibrations higher than typical during road transport. Storage and transport temperature should not exceed -10°C ...+60°C.

18.Description of possible faults

Symptoms	Tips
Buttons for changing settings do not work.	Check if the buttons are not blocked and if necessary disable the child lock.
The thermostat does not start the heating mode.	The preset temperature may be lower than the current room temperature - increase the preset temperature.

Revision history:



ul. Wspólna 19, Ignatki
16-001 Kleosin, Poland
plum@plum.pl
www.plum.pl

National Waste Database No. 000009381