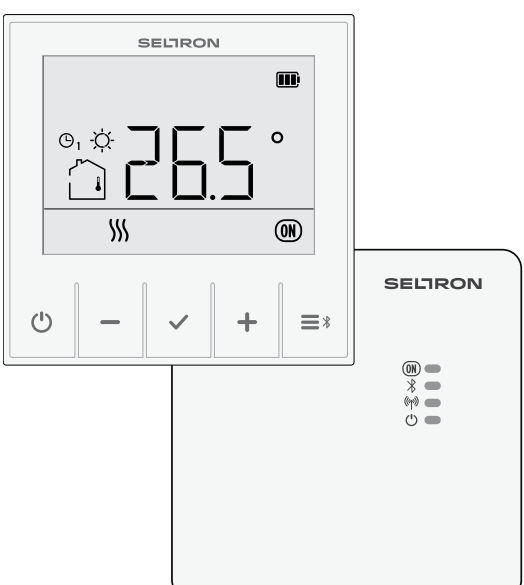
EN

SELTRON
SMART HEATING

User Manual and Installation Instructions

RT.., WT..



Thank you for purchasing the Seltron room thermostat.

The Seltron room thermostat allows you to efficiently and economically heat or cool your rooms. With a simple user interface, you can easily set the temperature you want, adjust the operating schedule or activate any of the user functions for a comfortable temperature, saving mode or holiday mode.

For proper and economical use always set the actual requested temperature. Setting a higher or lower temperature will not accelerate the heating or cooling of the rooms. The speed of heating or cooling of rooms depends on the heating system and the construction of your building.

Seltron smart room thermostats can also be connected to the SeltronHome platform, which allows you to perform all settings with the Clausius BT mobile app, no matter where you are. Learn more about the function and services of the SeltronHome platform at **www.seltron.eu** and in the chapter "Operating the thermostat with smart device".

Please read these instructions carefully before using the product and store them for future reference.

Warnings

Use of this device for any purpose other than that described in these instructions is not permitted and excludes any liability for damages and warranty.

The same applies to any modification or tampering with the device.
Do not disassemble the device! The device does not contain any components that are serviceable by the user. In the event of an error, return the device to the seller or contact an authorised service centre.

The power supply must be switched off when installing the thermostat!
The thermostat must be installed by a qualified person!
The electrical circuit must be protected by a fuse that does not exceed the maximum permissible current load of the wiring. All safety regulations must be observed during installation!

This device is not a toy, do not allow children to play with the device. Also, do not leave the packaging accessible to children as it may present a choking hazard.
The device can be used by children of 8 and above under the supervision of their parents.

This device may only be used indoors and must be protected from moisture, dust, and from direct sunlight or other heat radiation.

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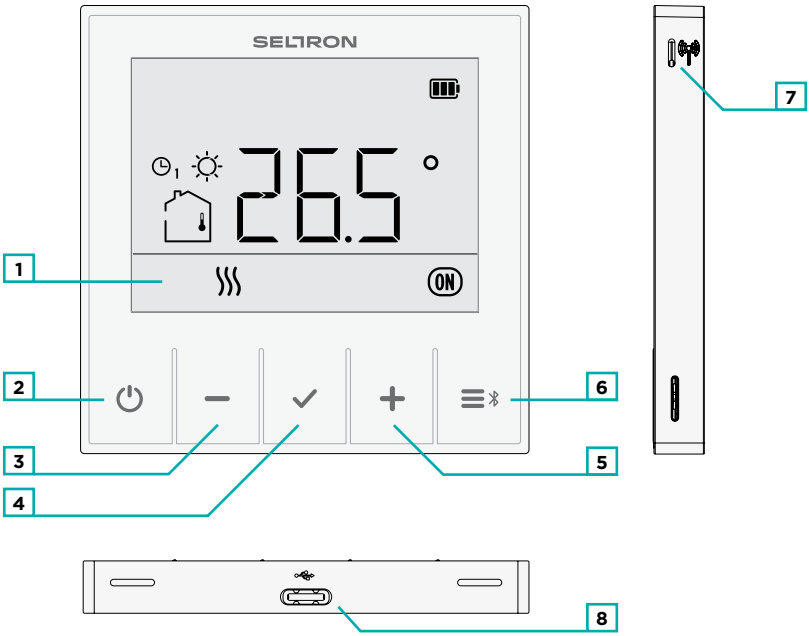
EN ROOM THERMOSTAT DISPLAY



1. LCD display with illumination.
2. On/off button.
3. Button — for reducing a setting or moving backwards.
4. Button ✓ for reviewing data and entering settings.
5. Button + for increasing a setting or moving forwards.
6. Button ☰ for user functions and connecting to smart device.
7. Button to connect to the receiver.
8. USB port, type C, for charging built-in battery.*

** In use only with RT1B, RT2B, and WT1B thermostats.*

WIRELESS RECEIVER DISPLAY

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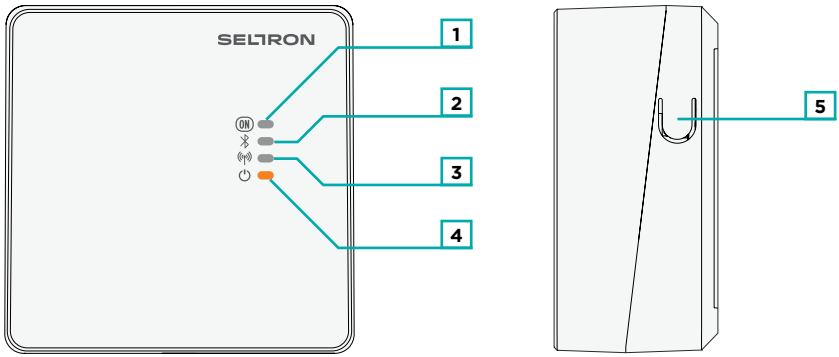
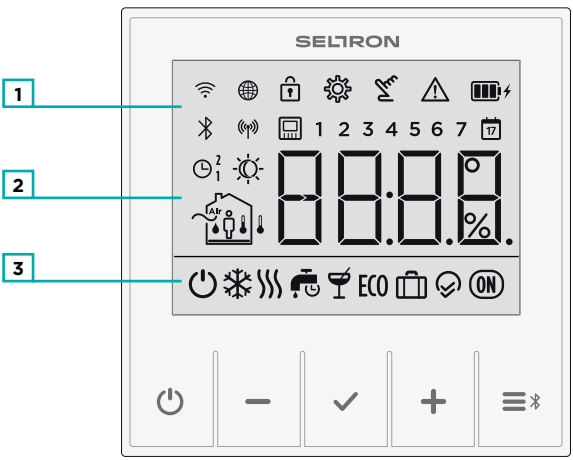


1. LED light that shows the status of the relay output.
2. LED light that shows the connection to the smart device.
3. LED light that shows the connection to the thermostat.
4. LED light that shows operation.
5. Manual operation/connection/reset button.

DESCRIPTION OF SYMBOLS



1 Symbols to display condition and status.

2 Display of temperatures and other climate data in the room.

3 Operating mode display.

DESCRIPTION OF SYMBOLS

Event display symbols


The battery is 100% charged.


The battery is 50% charged.


The battery is 20% charged.


Battery charging is required.


Battery is charging.


Bluetooth connection to the smart device is established.


Bluetooth connection to the smart device is being established.


Wireless connection to the receiver is established. The signal is excellent.


Wireless connection to the receiver is established. The signal is good.


Wireless connection to the receiver is established. The signal is weak.


The wireless connection to the receiver is being established or has been interrupted.


Locked buttons.


Manual mode

In the settings menu, this means that the parameter value is changed.


Settings menu.


Thermostat malfunction.*
See section "Malfunction".

EN DESCRIPTION OF SYMBOLS

Symbols for displaying measured and requested temperatures and other information

Measured outdoor temperature.

Measured room temperature.

Measured temperature of the auxiliary sensor.

Requested day temperature.

Requested night temperature.

Requested temperature for frost and overheating protection.

Symbols for displaying time programmes

1 Monday
2 Tuesday
3 Wednesday
4 Thursday
5 Friday
6 Saturday
7 Sunday

Operation according to first (1) or second (2) time programme – day interval.

Time when the Party or Eco function expires.

Date when the Holiday function expires.

Operation according to first (1) or second (2) time programme – night interval.

DESCRIPTION OF SYMBOLS

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Symbols for operation mode indication

Turn off room heating or cooling. Frost or overheating protection activated.

Room heating.

Room cooling.

Party function active.

Eco function active.

Holiday function active.

Ventilation function active.

Relay output active.

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OVERVIEW OF INFORMATION

In addition to room temperature, the room thermostat measures and displays other information about its operation.

Browsing through data by pressing the ✓ button.

What information can be displayed depends on the type of the thermostat and the setting of parameters from P1.10 to P1.17.

With parameter P1.18, you can set the basic display to automatically display the requested number of other of data that you selected for viewing along with the measured room temperature. The displayed information alternates in 3-second intervals.

CHANGING THE SETTINGS

The value of any setting can be changed while it flashes.
The instruction manual shows this with dashes.

The value will begin to flash when pressing the + or − button for the first time. In the menu, the value starts flashing when it is selected with the ✓ button.

Each setting is confirmed by pressing the ✓ button.
By pressing the ⏻ button you return to the basic display.
If no button is pressed for 15 seconds, you automatically return to the home screen.

ON/OFF AND OPERATION MODE SELECTION

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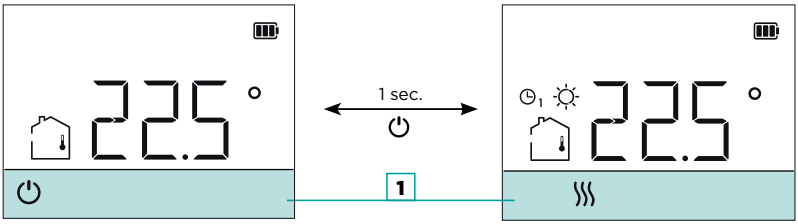
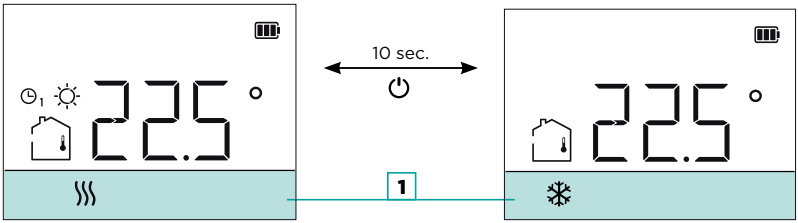
By pressing the ⏻ button for 1 second, you can turn room thermostat opearation on or off.



Off. Frost or overheating protection remains active

Room heating is active.

Hold the ⏻ button for 10 seconds to switch between heating and cooling mode. The operation mode can only be selected if the thermostat operation is switched off.



Room heating.

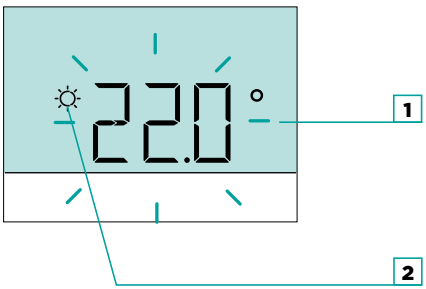
Cooling.

1 Symbols for operation mode indication.

- Heating switched on.
- Cooling switched on.
- Operation switching off.

SETTING THE TEMPERATURE

Setting the requested day and night temperature



By pressing the + or — button, you activate the requested temperature setting.
The current active temperature (day or night) starts flashing.
With further presses of the + or — button, you change the value of the requested temperature.

By pressing the ⏻ button, you complete the setup.
However, by pressing the ✓ button, you move to the setting of the second requested temperature.

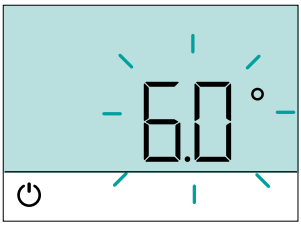
1 22.0 The value is flashing.

2 ☼ Temperature symbol.
☼ Day temperature.
☾ Night temperature.

Setting the requested day and night temperature is enabled only when heating is active and the Party, Eco, or Holiday functions are not active.

Setting the temperature for frost protection

Even when the room thermostat is switched off ⏻, it activates heating and adjusts the temperature to the value set for frost protection, or activates cooling and maintains the temperature at 34 °C.



The temperature for frost protection can be set when the controller is switched off.

By pressing the + and − buttons, the requested room temperature for frost protection is displayed.

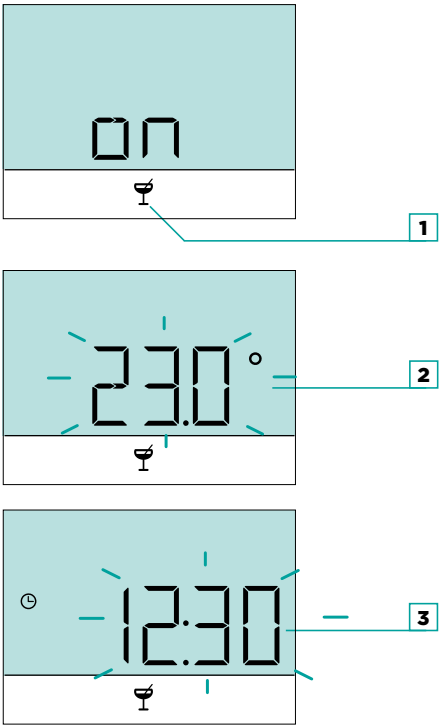
If the ✓ button is now pressed and held for at least 2 seconds, the setting value starts flashing and can be changed with the + and − buttons.

By pressing the ⏻ or ✓ button, you confirm the setting and return to the basic display.

USING SPECIAL FUNCTIONS

Party function

Party function enables to switched on operation according to the requested comfort temperature at any time.



By pressing the ☰ᛒ button, you select the requested function and confirm it with the ✓ button.

By pressing the + and − buttons, you can change the requested comfort temperature.
By pressing the ✓ button, you move to time setting.

Buttons + and − are used to set the time when the Party function should stop. By pressing the ✓ button again, you return to the basic display.

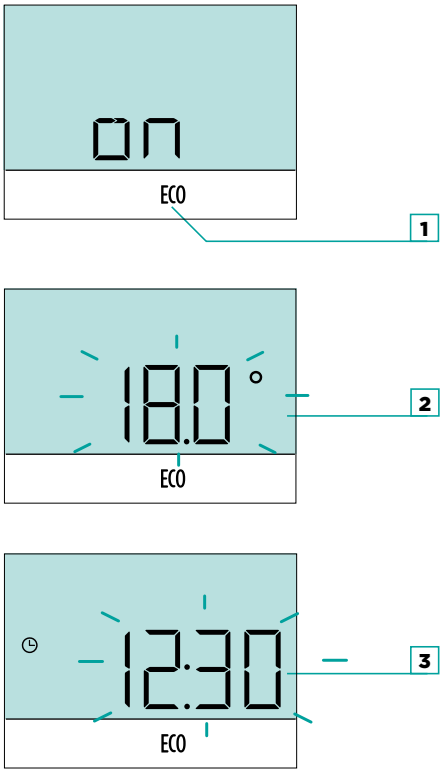
When the Party function is on, we can check or change settings by pressing button + or −.

The Party function can be switched off before the time has expired by pressing the ☰ᛒ button again and selecting the Party function.

1	Party function is selected.	2	Requested comfort or Party temperature.	3	Time when Party function expires.

Eco function

The Eco function enables you to switch on operations at the requested saving temperature at any time.



By pressing the ☰ᛒ button, you select the requested function ECO and confirm it with the ✓ button.

By pressing the + and − buttons, you can change the requested saving temperature.
By pressing the ✓ button, you move to time setting.

Buttons + and − are used to set the time when the ECO function should stop. By pressing the ✓ button again, you return to the basic display.

When Eco function is on, we can check or change settings by pressing button + or −.

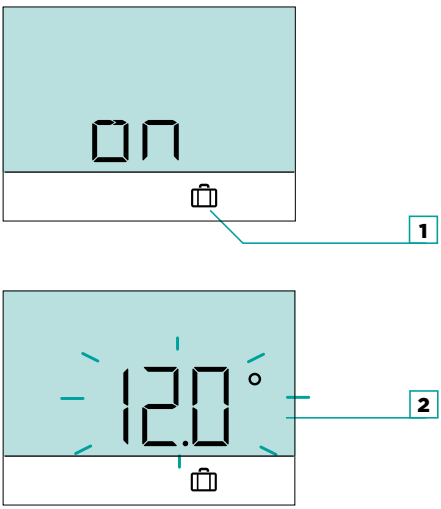
ECO function can be switched off before the time has expired by pressing the ☰ᛒ button again and selecting the Party function.

1	ECO function is selected.	2	Requested saving or ECO temperature.	3	Time when ECO function expires.

USING SPECIAL FUNCTIONS

Holiday function

The Holiday function allows you to activate heating with the requested saving temperature until a specific date at any time.



By pressing the ☰ᛒ button, you select the requested function 🧳 and confirm it with the ✓ button.

By pressing the + and − buttons, you can change the requested saving temperature.
By pressing the ✓ button, you move to date setting.

Buttons + and − are used to set the date when the Holiday function should stop. By pressing the ✓ button again, you return to the basic display.

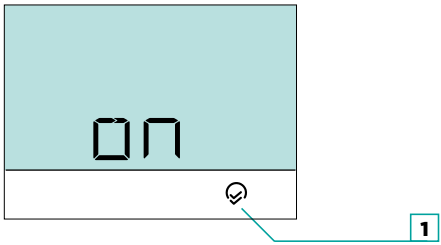
When the Holiday function is on, we can check or change settings by pressing button + or −.

The Holiday function can be switched off before the time has expired by pressing the ☰ᛒ button again and selecting the Holiday function.

1	The Holiday function is selected.	2	Requested Holiday temperature.	3	Date when Holiday function expires.

Ventilation function

The Ventilation function disables the influence of the measured room temperature for a certain duration.



By pressing the ☰ᛒ button, you select the requested function and confirm it with the ✓ button.

The Ventilation function can be switched off before the time has expired by pressing the ☰ᛒ button again and selecting the Ventilation function.

The duration of the Ventilation function is set with parameter P2.12.

1 Ventilation function is selected.

EN SETTINGS MENU

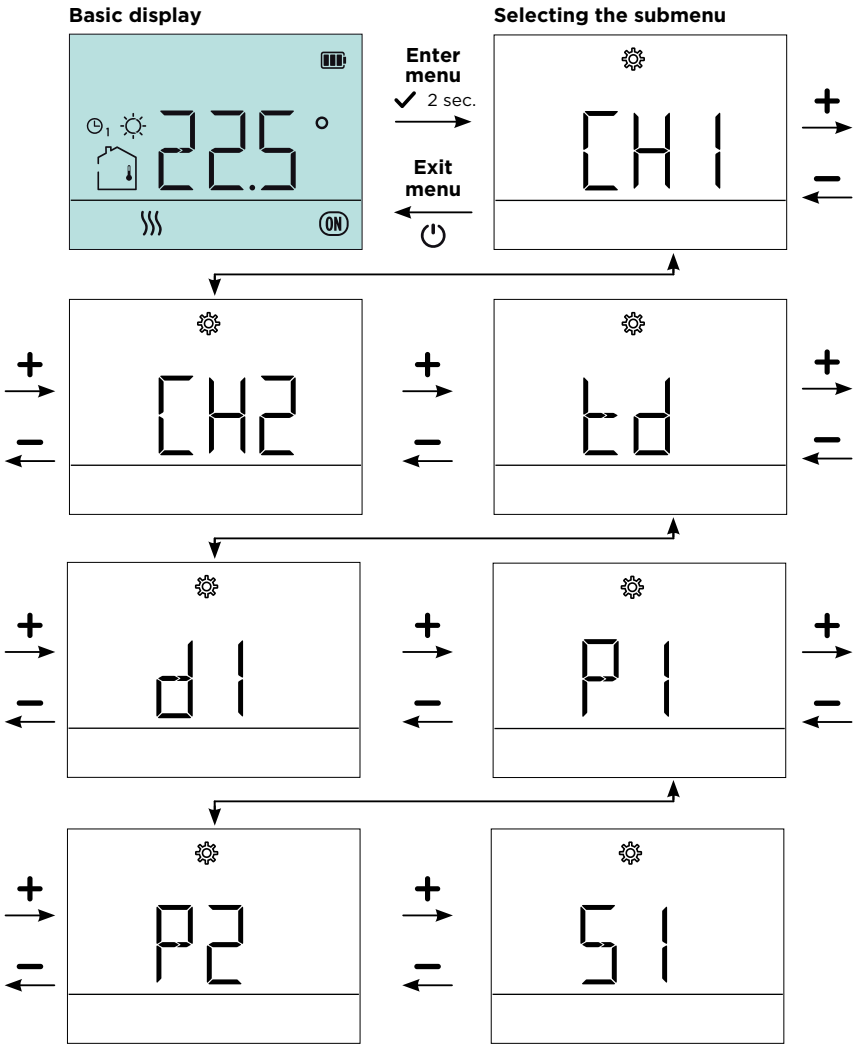
You enter the menu by pressing the ✓ button for 2 seconds.
All data and settings are sorted into **seven submenus**:

- CH1 program timer – the first time program,
- CH2 program timer – the second time program,
- td program timer – time and date settings,
- d1 room thermostat data,
- P1 user settings – first group,
- P2 user settings – second group,
- S1 service settings.

Use the + and − buttons to move between submenus.
By pressing the ✓ button again, you enter the selected submenu.

Service settings are factory-locked.
See "Service settings S1" to access service settings.

ADDITIONAL AND SERVICE SETTINGS



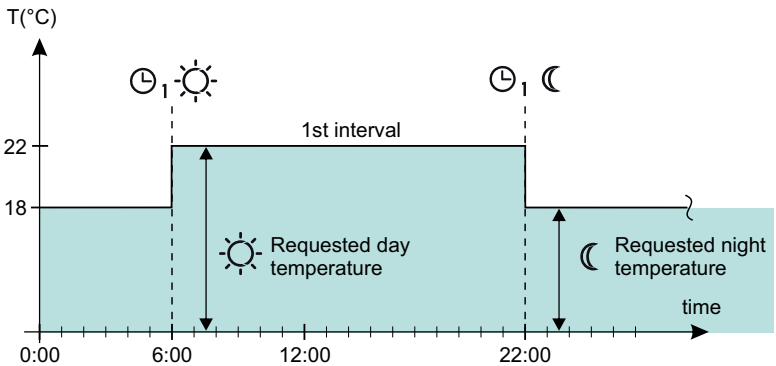
PROGRAM TIMER

The program timer determines the time intervals of operation with the requested daily temperature. The remaining time is the operation with the requested night temperature.

The programme timer enables two independent time programmes that can be changed at will. The first time programme is marked as CH1 and the second as CH2.

Each time programme allows you to set up to 21 time intervals of heating with the requested day temperature. For each time interval, you also determine the day or days when it operates.

The figure shows a graphical representation of the time programme operation.

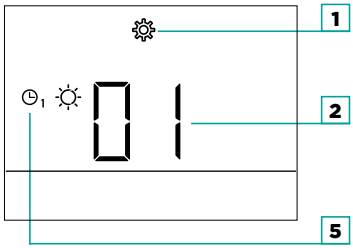


In the same way you can change, add or delete settings for all time intervals.

To clear the time interval, do not select any days or select a "--:--" display for the time.

If the ⏻ button is pressed when adjusting any data, the setting is canceled and it is not saved. The same effect is achieved by pressing and holding the ✓ button for two seconds.

You can enter the program timer by using the menu. To enter the menu, press and hold ✓ for 2 seconds. Select the requested time programme CH1 or CH2 with the + and − buttons.

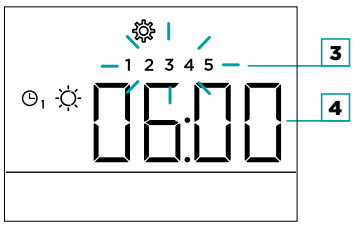


Enter the submenu of the time programme CH1 or CH2 by pressing the ✓ button. The first time interval is displayed on the screen.

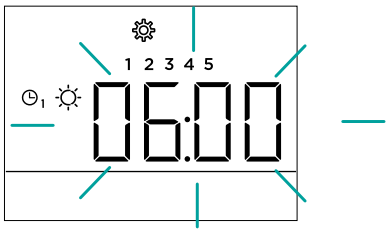
Now you can use the + and − button to scroll through all the time intervals.

To view the time interval setting, press the ✓ button.

To change the time interval setting, press the ✓ button again.
Symbols for displaying the day begin to flash. Now you can use the + and − buttons to change the requested day, select all weekdays or all days of the week.



By pressing the ✓ button, you move to setting the start time of the day temperature interval, which begins to flash. Set the requested time value with the + and − buttons and confirm with the ✓ button.



By pressing the + button, you move to the display of end of the day temperature interval, as indicated by the ☾ symbol. Press the button ✓ to set the time.

The time value starts to flash and can be changed with the + and − buttons.

By pressing the ✓ button, you complete the setting of each time interval. The displayed time stops flashing.

Adjusting of time programmes is disabled by default. You can enable it with parameter S1.20.

1 Settings menu.

2 Displays the time interval sequence number.

3 Displays the day or several days.

4 Time display.

5 ☼ Start of day temperature interval.
☾ End of day temperature interval.

PROGRAM TIMER

Preset time programmes

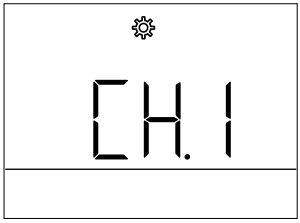
The factory (default) settings are shown in the table.

Time programme	*Day*	*Requested day temperature interval*
CH1 *	MON - FRI	06:00 - 22:00
	SAT - SUN	07:00 - 23:00
CH2	MON - FRI	05:00 - 07:30 13:30 - 22:00
	SAT - SUN	07:00 - 23:00

** CH1 is the default time programme*

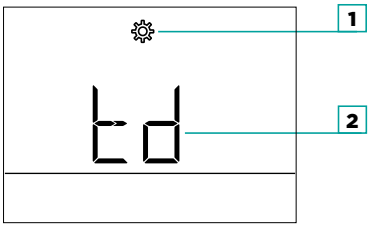
Selecting the requested time programme

The time programme, according to which the room thermostat will operate, is selected by selecting the submenu CH1 or CH2 in the settings menu and pressing the + button for 2 seconds. A dot is displayed between the CH and the selected programme number (CH.1 or CH.2).



TIME AND DATE SETTINGS

To set the correct time and date, select for the “td” submenu as described in the “Settings menu” section. By pressing the ✓ button, you enter the submenu, and by pressing the + and − buttons, you find the requested td setting td.1 to td.4. Pressing the ✓ button displays the setting value.



To change the selected setting, press the ✓ button again. The setting value flashes and can be changed with the + and − buttons.

To move to the next data (if it exists), press the ✓ button. Confirm the setting by pressing the ✓ button.

1 Settings menu.

2 Displays the submenu name and the sequence number of the setting.

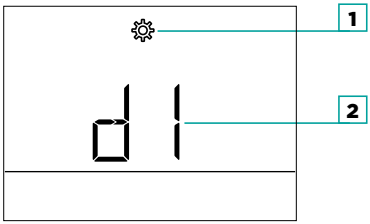
Time and date information

The td submenu contains the following settings:

No.	*Description*	*Range*
td.1	**HOURS AND MINUTES** Setting the current time (hours: minutes).	0 ÷ 23 - hours 0 ÷ 59 - minutes
td.2	**DAY AND MONTH** Setting the exact date (day: month).	1 ÷ 31 - day 1 ÷ 12 - month
td.3	**YEAR** Setting the current year.	2000 ÷ 2099
td.4	**AUTOMATIC ADJUSTMENT TO DAYLIGHT SAVING MODE** The setting selects whether an automatic shift from summer to winter time occurs and vice versa.	0 - no **1 - yes**

GENERAL INFORMATION ABOUT THE ROOM THERMOSTAT

Submenu **d1** contains data describing the thermostat type and software version, as well as the error code if present.



When you enter the submenu d1, you can browse the data with the + and − buttons.

1 Settings menu. **2** Setting or parameter indication.

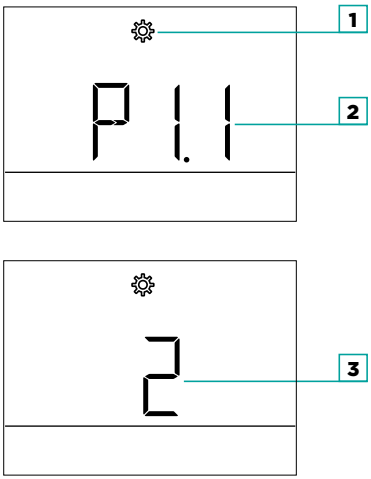
Submenu **d1** contains the following information:

No.	Description
d1.1	**ROOM THERMOSTAT TYPE** rt1b = RT1B rt2b = RT2B rt1nn = RT1M rt2nn = RT2M uut1b = WT1B uut1nn = WT1M uut2nn = WT2M
d1.2	**ROOM THERMOSTAT SOFTWARE VERSION**
d1.3	**OEM AND THERMOSTAT FAMILY** rrd = RRD
d1.4	**SOFTWARE VERSION OF THE RECEIVER**
d1.6	**DISPLAY OF ERROR CODE** See chapter "MALFUNCTION"
d1.7	**BATTERY VOLTAGE DISPLAY** If the value is 3.40 or less, the battery is depleted. If the value is 4.00 or more, the battery is charged.
d1.8	**WIRELESS SIGNAL STRENGTH (dB)**
d1.10	**ROOM THERMOSTAT TYPE** XX.XX= Product ID XX.14 = RT1B - surface-mounted, battery-powered XX.15 = RT1M - surface mounted, 230V XX.16 = RT2B - recessed wall box base, battery-powered XX.17 = RT2M - recessed wall box base, 230V XX.1E = WT1B - surface-mounted, battery-powered XX.1F = WT1M - surface mounted, 230V XX.21 = WT2M - recessed wall box base, 230V ...
d1.11	**OEM AND THERMOSTAT FAMILY** XX.YY XX= OEM YY= product family

** This information is only available on RT1B, RT2B, and WT1B thermostats.*

SETTINGS PARAMETERS

The submenus P1, P2, and S1 contain parameters for operation settings.



When entering submenu P1, P2, or S1, you can browse through the parameters with + and −. Confirm the setting of the selected parameter by pressing the ✓ button again.
To exit the parameter and move to the next parameter press ⏻.
Press the ✓ button to change the parameter setting – the setting value flashes. Now you can change the setting with the buttons + and −.
Confirm the setting by pressing the ✓ button again.

1	Settings menu.	2	Submenu code and sequence number of the data.	3	Data display.

Operation settings P1

Submenu P1 contains the following settings or operating parameters:

No.	*Description*	*Range*
P1.1	**TEMPERATURE DISPLAY ROUND-OFF** With this setting, you can determine to what value the measured temperature display will be rounded off. 1 - 0.1 °C 2 - 0.2 °C 3 - 0.5 °C 4 - 1.0 °C	1 ÷ 4 **(3)**
P1.2	**AUTOMATIC EXIT TIME** This setting determines the time after which the display returns to basic mode. (seconds)	3 ÷ 180 s **(5)**
P1.3	**DISPLAY ILLUMINATION SHUT-OFF TIME** This setting determines the time after which display lighting is reduced or shut off. (seconds)	3 ÷ 180 s, (**5**) on RT1B, RT2B, and WT1B **(10)** on RT1M, RT2M, WT1M, and WT2M
P1.4	**DISPLAY ILLUMINATION OPERATION MODE** This setting determines the type of operation of display illumination. The following settings are available: 0 - Disabled. 1 – The display has maximum brightness when entering settings for the room thermostat. After a delay, display illumination is reduced to the minimum value.	0 ÷ 1 **(1)**
P1.5	**INACTIVE SCREEN ILLUMINATION** The setting determines the brightness of the screen when it is inactive. (%)	0 ÷ 100%, **(0)** on RT1B, RT2B, and WT1B **(5)** on RT1M, RT2M, WT1M, and WT2M

SETTINGS PARAMETERS

No.	*Description*	*Range*
P1.6	**ACTIVE SCREEN ILLUMINATION** The setting determines the brightness of the screen when it is active. (%)	0 ÷ 100%, **(60)** on RT1B, RT2B, and WT1B **(80)** on RT1M, RT2M, WT1M, and WT2M
P1.8	**SOUND** This setting determines when sound is activated. 0 – disabled 1 – buttons 2 – buttons and errors	0 ÷ 2 **(2)**
P1.9	**ERROR DISPLAY** This setting determines whether warnings are displayed. 0 – disabled 1 – displayed	0 ÷ 1 **(1)**
P1.10	**BASIC DISPLAY** This setting determines which information will be displayed on the basic display. 1 – room temperature 2 – time 3 – date 4 – year 5 – humidity[1] 6 – air quality[2] 7 – auxiliary thermostat sensor 8 – auxiliary receiver sensor	0 ÷ 8 **(1)**

[1] *Display of the measured value is only possible for models with a built-in humidity sensor.*
[2] *Display of the measured value is only possible for models with built-in an air quality sensor.*

No.	Description	Range
P1.11	**FIRST DISPLAY IN INFO LINE** This setting determines which data will be displayed first in the info line. 0 – disabled 1 – room temperature 2 – time 3 – date 4 – year 5 – humidity[1] 6 – air quality[2] 7 – auxiliary thermostat sensor 8 – auxiliary receiver sensor	0 ÷ 8 **(2)**
P1.12	**SECOND DISPLAY IN INFO LINE** This setting determines which data will be displayed second in the info bar. Setting range is identical to parameter P1.11.	0 ÷ 8 **(0)**
P1.13	**THIRD DISPLAY IN INFO LINE** This setting determines which data will be displayed third in the info bar. Setting range is identical to parameter P1.11.	0 ÷ 8 **(0)**
P1.14	**FOURTH DISPLAY IN INFO LINE** This setting determines which data will be displayed fourth in the info bar. Setting range is identical to parameter P1.11.	0 ÷ 8 **(0)**
P1.15	**FIFTH DISPLAY IN INFO LINE** This setting determines which data will be displayed fifth in the info bar. Setting range is identical to parameter P1.11.	0 ÷ 8 **(0)**
P1.16	**SIXTH DISPLAY IN INFO LINE** This setting determines which data will be displayed sixth in the info bar. Setting range is identical to parameter P1.11.	0 ÷ 8 **(0)**

[1] *Display of the measured value is only possible for models with a built-in humidity sensor.*
[2] *Display of the measured value is only possible for models with built-in an air quality sensor.*

SETTINGS PARAMETERS

No.	Description	Range
P1.17	**SEVENTH DISPLAY IN INFO LINE** This setting determines which data will be displayed seventh in the info bar. Setting range is identical to parameter P1.11.	0 ÷ 8 **(0)**
P1.18	**NUMBER OF DATA ON BASIC DISPLAY** This setting determines how many information from the info bar should be alternately displayed on the basic display.	1 ÷ 8 **(1)**
P1.19	**DETERMINATION OF USER FUNCTIONS** This setting determines which user functions can be activated in the menu for turning user functions on/off. 1 – Party, 2 – Eco, 3 – Party, Eco, 4 – Holiday, 5 – Party, Holiday, 6 – Eco, Holiday, 7 – Party, Eco, Holiday, 8 – Ventilation, ... 15 - Party, Eco, Holiday, Ventilation.	1 ÷ 15 **(7)**
P1.20	**AUTOMATIC SHIFT OF CLOCK TO SUMMER/ WINTER TIME** With the help of a calendar, the controller carries out the automatic changeover between summer and winter time. 0 - No 1 - Yes	0 ÷ 1 **(1)**

The table values in bold are factory-preset.

P2 operation settings

Submenu P2 contains the following settings or operating parameters:

No.	Description	Range
P2.2	**OPERATING MODE** The setting determines the operating mode of the room thermostat. 1 - Hysteresis operation, see P2.3. The operation is described in detail in the chapter "Hysteresis (H)". 2 - Proportional (P) operation with adjustable ED constant, see P2.4. The operation is described in detail in the chapter "Proportional operation (P)" 3 - The operation is the same as in 2, an integration (I) term is added, see P2.6. The operation is described in detail in the chapter "Proportional, integral operation (PI)"	1 ÷ 3 **(3)**
P2.3	**HYSTERESIS OF THE ROOM THERMOSTAT** The setting determines the value of hysteresis for operation.	0.2 ÷ 10.0 °C **(0.5)**
P2.4	**ED TIME CONSTANT** The setting determines the ED time constant for room temperature control in P and PI modes.	10 ÷ 50 min **(20)**
P2.5	**P ZONE WIDTH** The setting determines the width of the P zone in P and PI modes.	0.5 ÷ 10.0 °C **(0.8)**
P2.6	**I-LINK IN PI-MODE** The setting determines the strengthening of the I-component in PI-mode.	0.3 ÷ 3.0 **(1.0)**
P2.12	**TIME WHEN ROOM TEMPERATURE IS NOT CONSIDERED** Used with the Ventilation function. The operation of the function is described in the Ventilation function section. (minutes)	15 ÷ 720 min **(120)**
P2.13	**FLOOR PROTECTION TEMPERATURE** The setting determines the maximum permissible floor screed temperature. (°C)	10 ÷ 50 °C **(28)**

SETTINGS PARAMETERS

No.	Description	Range
P2.14	**TIME DELAY OF R1 RELAY OUTPUT REACTIVATION** The setting determines the delay time after which the R1 relay output can be switched on again. This setting has an effect in hysteresis mode (P2.2 = 1). (minutes)	0 ÷ 30 min **(0)**
P2.15	**LIMITING THE MINIMUM ON/OFF TIME OF OPERATION INTERVAL** The setting determines the minimum on and off time of the R1 relay output. Time is displayed as a percentage of the ED time constant. The setting has an effect in P and PI mode (P2.2 = 2 and P2.2 = 3). (%)	0 ÷ 25% **(5)**
P2.16	**ANTI-BLOCK FUNCTION** If the control output is not switched on during the week, the 5-minute activation will be performed automatically on Friday at 20:00. 0 – No 1 – Yes	0 ÷ 1 **(0)**
P2.17[1]	**AIR QUALITY MEASUREMENT ACTIVATION** This setting turns the air quality measurement on or off. Turning on the air quality measurement slightly increases the consumption of the device. 0 – No 1 – Yes	0 ÷ 1 **(0)**

[1] *Only available on models with integrated air quality sensor.*

The table values in bold are factory-preset.

Service settings S1

Access to submenu S1 is factory-locked and hidden. To enter submenu S1, proceed as follows: locate submenu P2 in the menu, then press and hold the + button for 10 seconds.

View and change settings:
When entering the S1 submenu, you can scroll through the settings or parameters with the buttons + and −. Press the ✓ button to change the setting. The setting value starts flashing and can be changed by pressing the + and − buttons. Confirm the setting by pressing the ✓ button.

Parameter S1.16 specifies which parameter groups are locked:
S1.16 = 0 – no locking,
S1.16 = 1 *– group S1 is locked (factory setting),*
S1.16 = 2 – groups P1, P2, and S1 are locked
S1.16 = 3 - groups CH1, CH2, P1, P2 and S1 are locked

The following service settings or operating parameters are located in submenu S1:

No.	*Description*	*Range*
S1.2	**BUILT-IN THERMOSTAT SENSOR** This setting determines the effect of the built-in temperature sensor on the thermostat operation. 0 – disabled 1 – enabled	0 ÷ 1 **(1)**
S1.3	**AUXILIARY SENSOR AT THERMOSTAT AUX INPUT** The setting determines the purpose of using the auxiliary sensor at the AUX input of the thermostat. 0 – disabled 1 – room temperature 2 – floor temperature (screed) 3 – outdoor temperature	0 ÷ 3 **(0)**
S1.4	**AUXILIARY WIRELESS THERMOSTAT SENSOR** This setting determines the purpose of using an auxiliary wireless thermostat sensor. 0 – disabled 1 – room temperature 2 – outdoor temperature	0 ÷ 2 **(0)**

SETTINGS PARAMETERS

No.	Description	Range
S1.5	**EXTERNAL SWITCH AT THERMOSTAT AUX INPUT** This setting determines the purpose of using the external switch at the AUX input of the thermostat. 0 – disabled 1 – activating day temperature 2 – turning off operation 3 – cooling 4 – heating	0 ÷ 4 **(0)**
S1.6	**AUXILIARY SENSOR AT RECEIVER AUX INPUT** The setting determines the purpose of using the auxiliary sensor at the AUX input of the receiver. 0 – disabled 1 – room temperature 2 – floor temperature (screed) 3 – outdoor temperature	0 ÷ 3 **(0)**
S1.7	**AUXILIARY WIRELESS RECEIVER SENSOR** This setting determines the purpose of using an auxiliary wireless receiver sensor. 0 – disabled 1 – room temperature 2 – outdoor temperature	0 ÷ 2 **(0)**
S1.8	**EXTERNAL SWITCH AT RECEIVER AUX INPUT** This setting determines the purpose of using the external switch at the AUX input of the receiver. 0 – disabled 1 – activating day temperature 2 – turning off operation 3 – cooling 4 – heating	0 ÷ 4 **(0)**
S1.9	**CALIBRATION OF THE BUILT-IN THERMOSTAT SENSOR** This setting determines the correction of the measured temp. of the built-in thermostat sensor. (°C)	-5.0 ÷ 5.0 °C **(0.0)**
S1.10	**CALIBRATION OF AUXILIARY SENSOR AT THERMOSTAT AUX INPUT** This setting determines the correction of the measured temperature of the auxiliary sensor at the AUX input of the thermostat. (°C)	-5.0 ÷ 5.0 °C **(0.0)**

No.	Description	Range
S1.11	**CALIBRATION OF WIRELESS THERMOSTAT SENSOR** This setting determines the correction of the measured temp. of the wireless thermostat sensor. (°C)	-5.0 ÷ 5.0 °C **(0.0)**
S1.12	**CALIBRATION OF AUXILIARY SENSOR AT RECEIVER AUX INPUT** This setting determines the correction of the measured temperature of the auxiliary sensor at the AUX input of the receiver. (°C)	-5.0 ÷ 5.0 °C **(0.0)**
S1.13	**CALIBRATION OF WIRELESS RECEIVER SENSOR** This setting determines the correction of the measured temp. of the wireless receiver sensor. (°C)	-5.0 ÷ 5.0 °C **(0.0)**
S1.14	**RELATIVE HUMIDITY SENSOR CALIBRATION** This setting determines the correction of the measured relative humidity in the room. (%)	-10 ÷ 10% **(0)**
S1.15	**AIR QUALITY SENSOR CALIBRATION** This setting determines the correction of measured air quality.	-100 ÷ 100 **(0)**
S1.16	**LOCKING THE MENU** This setting limits access to parameter groups in the menu. 0 – no lock 1 – S1 2 – P1, P2, and S1 3 – CH1, CH2, P1, P2 and S1	0 ÷ 3 **(1)**
S1.17	**LOCKING BUTTONS** This setting locks button functionality. (Locking of buttons is described in the chapter “Locking buttons”.) 0 – no lock, 1 – operating mode, 2 – as 1 + functions, 3 – as 2 + requested temp, 4 – as 3 + info browsing and settings.	0 ÷ 4 **(0)**

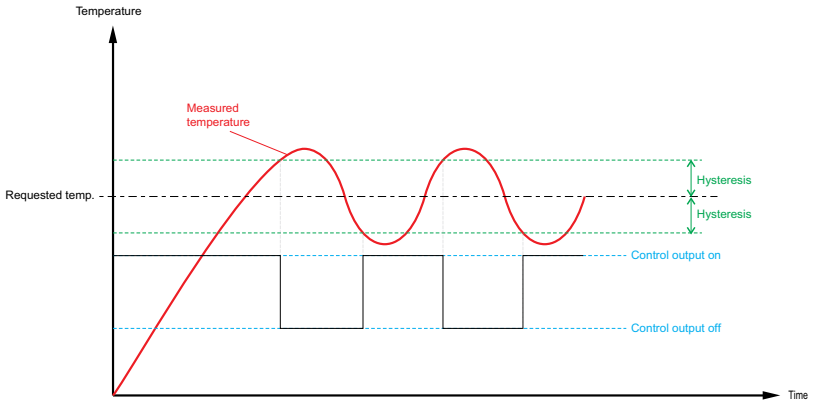
SETTINGS PARAMETERS

No.	*Description*	*Range*
S1.18	**MINIMUM SETTING OF REQUESTED TEMPERATURE** This setting determines the minimum possible setting of room temperature.	4 ÷ 40 °C **(6)**
S1.19	**MAXIMUM SETTING OF REQUESTED TEMPERATURE** The setting determines the maximum possible setting of the requested room temperature.	4 ÷ 40 °C **(30)**
S1.20	**LOCKING THE TIME PROGRAMME** This setting restricts access to the time programme setup. 0 – disabled 1 – lock	0÷ 1 **(1)**

The room thermostat provides several modes of operation. This allows us to optimally adjust its performance for different cases of installation and use.

Hysteresis (H)

Select by setting the parameter P2.2 = 1.
Use parameter P2.3 to set the hysteresis width.
With parameter P2.14 we can set the minimum delay time for relay output restart.



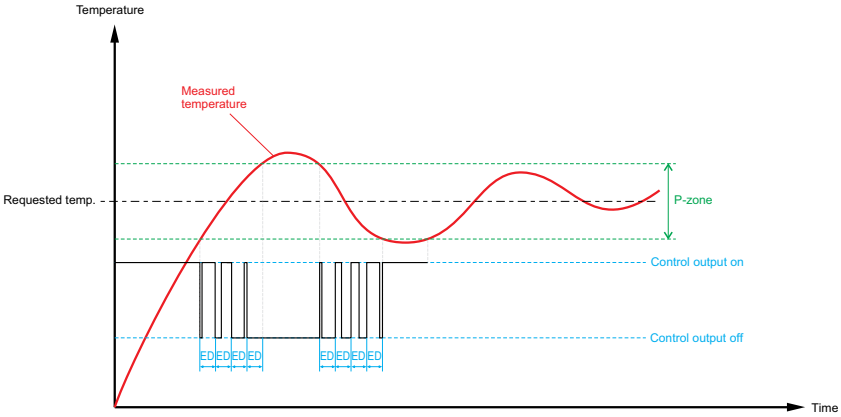
The figure shows an example of thermostat operation with hysteresis.

Proportional operation (P)

Select by setting the parameter P2.2 = 2.
With parameter P2.4 we set the time interval (ED constant) of modulation of operation.
With parameter P2.5 we set the size of the proportional (P) control zone.

Proportional, integral operation (PI)

This is the default mode of operation, P2.2 = 3.
With parameter P2.4 we set the time interval (ED constant) of modulation of operation.
With parameter P2.5 we set the size of the proportional (P) control zone.
Set the strength of the integration (I) component with parameter P2.6.



The figure shows an example of the P and PI operation of the room thermostat.

LOCKING BUTTONS

Locking the buttons restricts or disables unwanted settings or feature activation. The buttons are locked and unlocked by pressing the — button for 10 seconds.

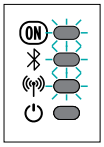
Which buttons are locked is set with parameter S1.17.

Locked buttons are indicated by the symbol in the basic display.

RESET – THERMOSTAT

By pressing the ✓ button for 20 seconds, parameters in groups P1, P2, and S1 are restored to factory settings. Factory settings in the table of parameters are marked with bold text.

RESET – RECEIVER



Pressing the button on the receiver for 20 seconds resets the receiver. LED lights ON , ᛒ, and flash during the reset process.

EN

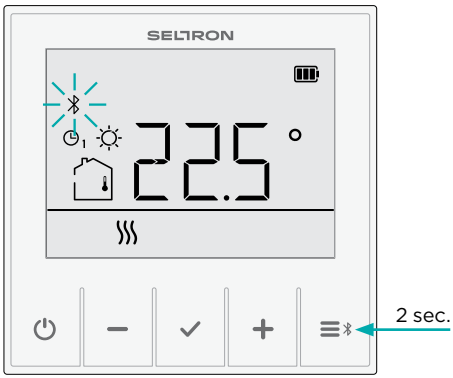
OPERATING THE THERMOSTAT WITH SMART DEVICE

The thermostat can also be operated using an app on the smart device.
You can download the Clausius BT app from Google Play for Android smart devices and from iStore for iOS devices.

GET IT ON Google Play

Download on the App Store

To operate the thermostat, it is necessary to pair the thermostat with the application on the smart device. This is done by selecting the icon in the app to add a new device and following the instructions in the app. Then, by pressing the button for 2 seconds, you activate the Bluetooth connection of the thermostat with the app on the smart device. The symbol on the screen blinks while the connection is being established and lights up when the connection is successfully established.



It is not required to reconnect the already paired thermostat to the smart device. It is enough to open the app, which will automatically connect to a previously paired thermostat within a few seconds. The connected thermostat displays the icon in the app.

For a successful connection, the thermostat and the smart device must be at a distance that enables Bluetooth connection.

When the symbol ⚠ appears on the screen, the thermostat has malfunctioned.
In parameter d1.6, you can read the code or cause of the malfunction.
A description of the malfunction, how the thermostat works in this case, and how to deal with the malfunction is shown in the table.

Malfunction code	Description of the malfunction, emergency operation, and troubleshooting instructions
Er0 Thermostat base error	The thermostat is not correctly inserted in the base or the base is defective. **Emergency operation** Base control is not working. **Instructions for eliminating the malfunction** Check that the thermostat is fully inserted into the base and that the contact tips are at the front of the base and without damage or traces of impurities. If this is the case, the thermostat should be sent in for repair.
Er 1 Thermostat temperature sensor error	The internal room temperature sensor on the thermostat is interrupted or short-circuited. **Emergency operation** If none of the other room temperature sensors are available, the thermostat switches off the operation of the relay output. **Guidance on how to fix an error** The thermostat must be sent in for repair.

MALFUNCTION

Malfunction code	Description of the malfunction, emergency operation, and troubleshooting instructions
Er2 Failure of the auxiliary sensor connected to the base of the thermostat	The auxiliary temperature sensor connected to the base of the thermostat is interrupted or short-circuited. **Emergency operation** If the room temperature sensor is selected with parameter S1.3 and no other room temperature sensor is available, the thermostat switches off the operation of the relay output. If the floor temperature sensor is selected with parameter S1.3 and no other floor temperature sensor is available, the floor temperature protection safety function deactivates. If the outdoor temperature sensor is selected with parameter S1.3 and no other outdoor temperature sensor is available, Er2 appears when the outdoor temperature is shown on the display. **Guidance on how to fix an error** Check whether the following is the case: • The auxiliary sensor is properly plugged into the terminals. • The auxiliary sensor is short-circuited. In this case, it must be replaced with a new one. • The measured resistance of the sensor is stable and does not change. If the value changes rapidly, the sensor must be replaced.
Er3 Humidity sensor error	The humidity sensor on the thermostat control unit is defective. **Emergency operation** The humidity of the room is not measured. When displaying humidity value on the screen, Er4 is displayed. **Instructions for eliminating the malfunction** The thermostat must be sent in for repair.
Er4 Air quality sensor error	The air quality sensor on the thermostat control unit is defective. **Emergency operation** Air quality is not measured. When air quality is displayed on the screen, Er5 is displayed. **Instructions for eliminating the malfunction** The thermostat must be sent in for repair.

Malfunction code	Description of the malfunction, emergency operation, and troubleshooting instructions
Er5 Internal compensation sensor failure	The internal room temperature compensation sensor on the thermostat is interrupted or short-circuited. **Emergency operation** The thermostat compensation algorithm shuts down. **Instructions for eliminating the malfunction** The thermostat must be sent in for repair.
Er6 Error of the auxiliary wireless sensor connected to the thermostat	The wireless temperature sensor on the thermostat is malfunctioning or out of range of the wireless thermostat signal. **Emergency operation** If the room temperature sensor is selected with parameter S1.4 and no other room temperature sensor is available, the thermostat switches off the operation of the relay output. If the outdoor temperature sensor is selected with parameter S1.4 and no other outdoor temperature sensor is available, Er7 appears when the outdoor temperature is shown on the display. **Instructions for eliminating the malfunction** Check that the auxiliary sensor: • works and communicates correctly with the thermostat (see the chapter Connecting the wireless sensor). • is within the radio signal range of the thermostat and, if necessary, locate it closer to the thermostat or to another location. Otherwise, the sensor must be replaced with a new one.
Er7 Wireless communication error between thermostat and receiver	The receiver is malfunctioning or out of range of the wireless thermostat signal. The receiver switches off the operation of the relay output. **Instructions for eliminating the malfunction** Check that the receiver: • works and communicates correctly with the thermostat (see the chapter Connection of the wireless thermostat to the receiver). • is within the radio signal range of the thermostat and, if necessary, locate it closer to the thermostat or to another location.

MALFUNCTION

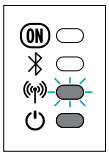
Malfunction code	Description of the malfunction, emergency operation, and troubleshooting instructions
Er8 Error of auxiliary sensor connected to the receiver	The auxiliary temperature sensor connected to the receiver is interrupted or short-circuited. **Emergency operation** If the room temperature sensor is selected with parameter S1.6 and no other room temperature sensor is available, the thermostat switches off the operation of the relay output. If the floor temperature sensor is selected with parameter S1.6 and no other floor temperature sensor is available, the floor temperature protection safety function deactivates. If the outdoor temperature sensor is selected with parameter S1.6 and no other outdoor temperature sensor is available, Er6 appears when the outdoor temperature is shown on the display. **Instructions for eliminating the malfunction** Check that the auxiliary sensor: • is properly plugged into the terminals. • is not short-circuited. • the measured resistance of the sensor is stable and the value does not change quickly. Otherwise, the sensor must be replaced with a new one.
Er9 Error of auxiliary wireless sensor connected to the receiver	The wireless temperature sensor on the receiver is malfunctioning or out of range of the wireless receiver signal. **Emergency operation** If the room temperature sensor is selected with parameter S1.7 and no other room temperature sensor is available, the thermostat switches off the operation of the relay output. If the outdoor temperature sensor is selected with parameter S1.7 and no other outdoor temperature sensor is available, Er8 appears when the outdoor temperature is shown on the display. **Instructions for eliminating the malfunction** Check that the auxiliary sensor: • works and communicates correctly with the receiver (see the chapter Connecting the wireless sensor). • is within range of the radio signal (put it closer to the receiver if the distance is too large). Otherwise, the sensor must be replaced with a new one.

CONNECTION OF THE WIRELESS THERMOSTAT TO THE RECEIVER

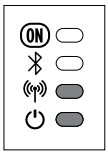
EN

The thermostat and receiver are already connected by default and do not need to be connected again.
However, in case of malfunction and replacement, the thermostat and receiver must be reconnected.

Within 30 seconds after switching on the power supply, activate the connection with the thermostat by pressing the button on the receiver for 2 seconds. The LED light blinks while the connection is being established and lights up when the connection is successfully established.

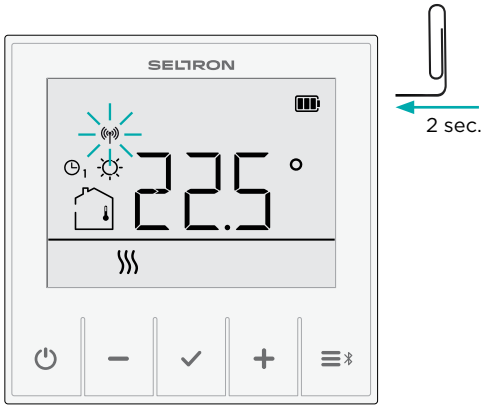


- establishing connection



- connection established

Activate the connection on the thermostat by pressing the side button for 2 seconds. Use a thin object, such as a ballpoint pen tip, paper clip, or mobile phone sim card tool. The symbol on the screen flashes while the connection is being established and is lit when the connection is successfully established.



EN

CONNECTING THE WIRELESS SENSOR

An auxiliary wireless sensor can be connected to the thermostat and receiver.

Connecting a wireless sensor to the thermostat

Press the button on the wireless sensor. Then press the wireless pairing button on the room thermostat. The symbol starts flashing on the display. The two devices will then be paired. The pairing is successfully completed when two consecutive beeps are heard on the thermostat.
After pairing, it is necessary to set the sensor function on the thermostat with parameter S1.4.

Connecting a wireless sensor to the receiver

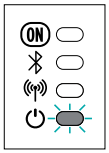
Press the button on the wireless sensor. Then press the wireless pairing button on the receiver. The LED light starts flashing. The two devices will then be paired. The pairing is successfully completed when two consecutive beeps are heard on the receiver.
After pairing, it is necessary to set the sensor function on the thermostat with parameter S1.7.

Auxiliary sensor can be assigned to the same function as the built-in sensor (room temperature) or several auxiliary sensors can be connected (on the thermostat and receiver) and the same function can be assigned to them. In such a case, the average value of all sensors with the same function is taken into account.

RECEIVER – MANUAL OPERATION

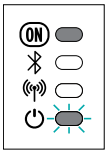
EN

In the event of a thermostat failure or a non-functional connection between the thermostat and the receiver, activate the manual mode of operation by briefly pressing the button on the receiver after 30 seconds have elapsed since the power was turned on. The first key press turns the output on, and the second key press turns the output off. A third key press returns the output to automatic operation. Press the button again to leave the manual mode. The manual mode of operation is signalled by a flashing LED light ⏻.



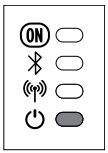
- output is off

- manual operating mode



- output is on

- manual operating mode



- automatic mode of operation

TECHNICAL DATA

	RT1B	RT1M	RT2M	WT1B	WT1M	WT2M
Illuminated display	Yes					
Temperature sensors	Murata NTC (10 kOhm)					
Auxiliary temperature sensor (AUX)	Murata NTC (10 kOhm)					
Humidity sensor	optional, 10% ÷ 90% Rh					
Power supply	Battery LiPo 3.7V, 1000mAh	230VAC, 50Hz	230VAC, 50Hz	Battery LiPo 3.7V, 1000mAh	230VAC, 50Hz	230VAC, 50Hz
Normal consumption	< 0.1 W	< 0.2 W	< 0.2 W	< 0.3 W	< 0.4 W	< 0.4 W
Level of protection	IP 20 according to EN 60529					
Safety class according to EN 60730-1	III	II	III	II	III	II
Housing	PC thermoplastic					
Dimensions of the thermostat (mm) width	81.5	81.5	81.5	81.5	81.5	81.5
Dimensions of the thermostat (mm) height	81.5	81.5	81.5	81.5	81.5	81.5
Dimensions of the thermostat (mm) depth	25	25	36	12	25	36
Dimensions of the receiver (mm) width	/	/	/	91	91	91
Dimensions of the receiver (mm) height				91	91	91
Dimensions of the receiver (mm) depth				44	44	44
Flush mounting method	/	/	Yes	/	/	Yes
Surface mounting method	Yes	Yes	/	Yes	Yes	/
Ambient temperature	0 ÷ 40 °C					
Storage temperature	-20 °C ... +65 °C					
Weight, net	~130 g	~140 g	~140 g	~220 g	~270 g	~ 270 g
Relay output	6(3) A, 230 VAC	6(3) A, 230 VAC	6(3) A, 230 VAC	6(3) A, 230 VAC	6(3) A, 230 VAC	6(3) A, 230 VAC
Wireless connection	/	/	/	Yes	Yes	Yes

DISPOSAL OF OLD ELECTRICAL AND ELECTRONIC EQUIPMENT

EN

Disposal of old electrical and electronic equipment *(valid for EU member states and other European countries with organised separate waste collection).*

This symbol on the product or packaging marks that it should not be discarded as household waste. It needs to be taken to a collection point for waste electrical and electronic equipment (WEEE). Suitable disposal of this product prevents negative effect on the environment and health which could otherwise be caused by its unsuitable disposal. Recycling of material reduces usage of new raw materials. For more information on recycling of this product, contact the competent authorities, municipal service or the store where you purchased the product.

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