



NOVELAN

OPERATING MANUAL

RBE+



ROOM CONTROL UNIT WITH TOUCH DISPLAY

Accessories for heat pumps

www.novelan.com



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1 About this operating manual

This operating manual is part of the unit.

- ▶ Before working on or with the unit read the operating manual carefully and follow it for all activities at all times, especially the warnings and safety instructions.
- ▶ Keep the operating manual to hand at the unit and hand over to the new owner if the unit changes hands.
- ▶ If you have any questions or anything is unclear, ask the local partner of the manufacturer or the factory's customer service.
- ▶ Note and follow all reference documents.

1.1 Reference documents

The following documents contain additional information to this operating manual:

- Operating manuals of the heating and heat pump control
- If additional board installed: Operating manual of this additional board (comfort board, expansion board or ventilation circuit board)
- Operating manual of the heat pump

1.2 Symbols and markings

Identification of warnings

Symbol	Meaning
	Safety-relevant information. Warning of physical injuries.
DANGER	Indicates imminent danger resulting in severe injuries or death.
WARNING	Indicates a potentially dangerous situation, which can result in severe injuries or death.
CAUTION	Indicates a potentially dangerous situation, which can result in moderate or minor injuries.
IMPORTANT	Indicates a potentially dangerous situation, which can result in property damage.

Symbols in the document

Symbol	Meaning
	Information for qualified personnel
	Information for the owner/operator
✓	Requirement for action
▶	Single step action prompt
1., 2., 3., ...	Numbered step within a multi-step action prompt. Keep to the given order.
	Additional information, e.g. a tip on making work easier, information on standards
→	Reference to further information elsewhere in the operating manual or in another document
•	Listing



1.3 Contact

Addresses for purchasing accessories, for service cases or for answers to questions about the unit and this operating manual can be found on the internet and are kept up-to-date:

- DE: www.novelan.com
- AT: www.novelan.at

2 Safety

Only use the unit if it is in proper technical condition and only use it as intended, safely and aware of the hazards, and follow this operating manual.

2.1 Intended use

The unit is solely intended for the following functions:

- Remote control and remote display for certain functions of the heating and heat pump control
- ▶ Proper use includes complying with the operating conditions (→ “Technical data / Scope of supply”, page 22) and the operating manual and noting and following the reference documents.
- ▶ When using the local regulations note: laws, standards, guidelines, directives.

All other uses of the unit are not as intended.

2.2 Personnel qualifications

The operating manuals supplied with the product are intended for all users of the product.

The operation of the product via the heating and heat pump control and work on the product which is intended for end customers / operators is suitable for all age groups of persons who are able to understand the activities and the resulting consequences and can carry out the necessary activities.

Children and adults who are not experienced in handling the product and do not understand the necessary activities and the resulting consequences must be instructed and, if necessary, supervised by persons experienced in handling the product and who are responsible for safety.

Children must not play with the product.

The product may only be opened by qualified personnel.

All instructional information in this operating manual is solely directed at qualified, skilled personnel.

Only qualified, skilled personnel is able to carry out the work on the unit safely and correctly. Interference by unqualified personnel can cause life-threatening injuries and damage to property.

- ▶ Ensure that the personnel is familiar with the local regulations, especially those on safe and hazard-aware working.
- ▶ Allow qualified personnel with “electrical” training only to carry out work on the electrics and electronics.
- ▶ Allow qualified, skilled personnel only to do any other work on the system, e.g.
 - Heating installer
 - Plumbing installer
 - Refrigeration system installer (maintenance work)

During the warranty and guarantee period, service work and repairs may only be carried out by personnel authorised by the manufacturer.



3 Operation and care

The room control unit reflects the programme areas (heating, domestic hot water, ...) from the heating and heat pump control.

The room control unit can be used to read out, change and optimise the most important parameters and operating data of these programme areas conveniently in the home.

The room control unit can be used to control the programme areas "Heating" and "Cooling" with room temperature influence.

→ "9 Operation", page 10



NOTE

The prerequisites for the functionality of the room control unit are:

- Control unit of the heating and heat pump control with RS485 interface.
If the existing control unit has software version V1 and no RS485 interface, an exchange (update package) is necessary at a charge. In this case:
 - ▶ After replacing the control unit, install software version F1 ≥ 1.86.
- Software version of the heating and heat pump control:
 - for V1: Update to F1 ≥ 1.86
 - for V2: ≥ 2.86
 - for V3: ≥ 3.86
 - with V4, the room control unit cannot be used

Hardware requirements for some programme areas

The programme areas "Swimming pool heating", "Photovoltaics" and "Solar heating" described in this operating manual require, in addition to the conditions of the system, certain hardware equipment (accessories subject to a charge) for the heating and heat pump control:

- for software versions F1 and V2: comfort board
- for software version V3: expansion board

The "Ventilation" programme area is only available in the combination of an air/water heat pump with software version F1 plus ventilation circuit board and Ven-Tower.

In addition, these programme areas must be enabled on the heating and heat pump control.

→ Operating manuals of the heating and heat pump control and the respective additional board

3.1 Energy-conscious and environmentally-aware operation

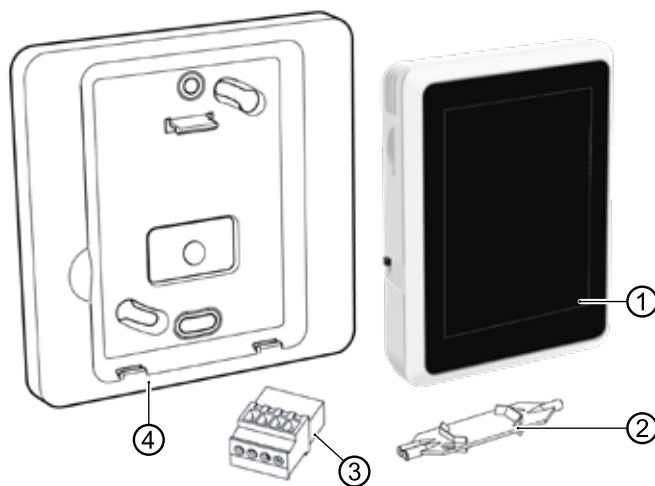
The generally accepted requirements for an energy-conscious and environmentally-aware operation of a heating system also apply when using a heat pump. The most important measures include:

- No unnecessarily high flow temperature
- No unnecessarily high domestic hot water temperature (note and follow local regulations)
- Do not open windows with gap / tilt open (continuous ventilation), but instead open wide for a short time (shock ventilation).
- Make sure that the controller settings are correct

3.2 Care

Wipe down the outside of the unit only using a damp cloth or cloth with mild cleaning agent (washing-up liquid, neutral cleaning agent). Do not use any harsh, abrasive, acid or chlorine-based cleaning agents.

4 Scope of delivery



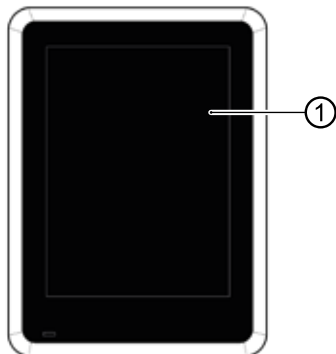
- 1 Room control unit with touch display
 - 2 Wago Press Tool
 - 3 RS485 plug
 - 4 Wall holder
- Operating manual (not shown here)

- ▶ Check delivery immediately after receipt for externally visible damage and completeness.
- ▶ Notify supplier of any defects immediately.



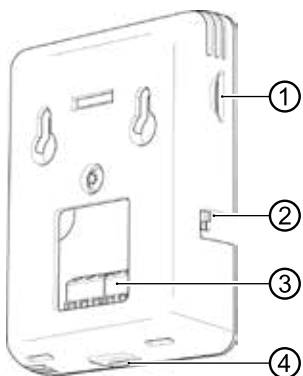
4.1 Unit components

Front view



- 1 Touch display

Side view and rear view



- 1 Slot for Micro SD card
→ "10 Software-Update", page 20
2 Operating switch for manual on/off
3 Terminal block X1
4 Micro USB connection (for service purposes only)

5 Installation

- ✓ Installation inside the building only.
- Dispose of the transport and packaging material in an environmentally friendly way and in accordance with local regulations.

The temperature and humidity sensors integrated in the room control unit must not be prevented from measuring a correct room temperature and humidity. Unsuitable installation locations are, for example:

- in a niche
- between shelves
- behind a curtain
- near a heat source
- in a draught area of the external door or a window
- in direct sunlight

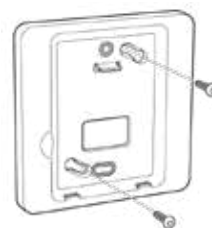
Closed radiator thermostats for room temperature-controlled heating systems can also cause problems.

- Radiator or underfloor heating valves of the main room must be kept permanently open for room temperature controlled systems.

Only one room control unit can be connected for each heat pump.

Mount the room control unit in the reference room (e.g. living room) approx. 1.5 m above the floor. Directly on the wall or using the wall holder supplied.

- To mount the room control unit directly, attach 2 screws that are suitable for the wall material (if necessary with wall plugs) to the wall at a horizontal distance of 32 mm (→ "Dimensional drawings", page 23) and 35 mm above the wall outlet of the connection cable.
- If the supplied wall holder is used, attach 2 screws that are suitable for the wall material (if necessary with wall plugs) to the wall at a diagonal distance of 60 mm (→ "Dimensional drawings", page 23). Do not overtighten the screws so that the wall holder does not become deformed.



NOTE

The wall holder can also be screwed to a cavity or flush-mounted socket (screw distance 60 mm).



6 Electrical installation

Basic information on the electrical connection

- Comply with the electromagnetic compatibility regulations (EMC regulations)
- Use 4-wire flexible cable type LiYY, EKKX (or equivalent) with a cable cross-section from min. 0.2mm^2 – max. 0.34mm^2 plus ferrules. Max. cross-section of the cable plug-in terminals: 0.5mm^2 . Stripping length: 7 – 9 mm.
- Maximum cable length between room control unit and control unit of the heating and heat pump control: 30 m (prerequisite: connection cable between control unit of the heating and heat pump control and board of the heating and heat pump control ≤ 3 m).

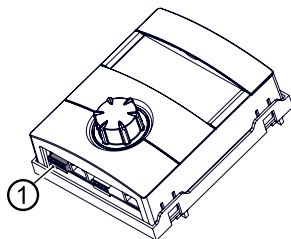
Connect the electrical cables

The room control unit communicates with the heating and heat pump control as well as the power supply via the RS485 interface on the control unit of the heating and heat pump control.

1. Disconnect the heat pump and heating and heat pump control from the power supply and secure against accidental reactivation.
2. Connect the cable to the RS485 plug included in the scope of delivery.

→ “Terminal diagram”, page 22

3. Connect the wired plug to the RS485 interface (①) of the control unit of the heating and heat pump control.



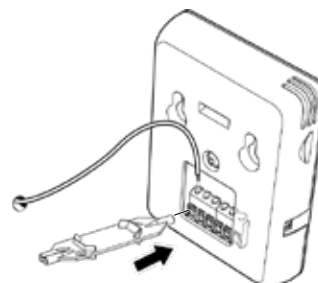
NOTE

If the room control unit is used with heat pumps operating in parallel mode, the wired plug must be connected to the RS485 interface of the heating and heat pump control of the master.

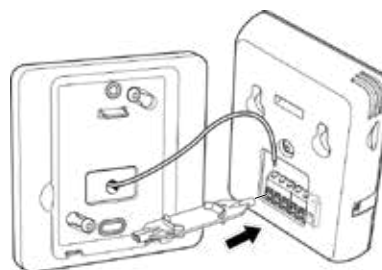
4. Connect the cable to the terminal X1 of the room control unit.

→ “Terminal diagram”, page 22

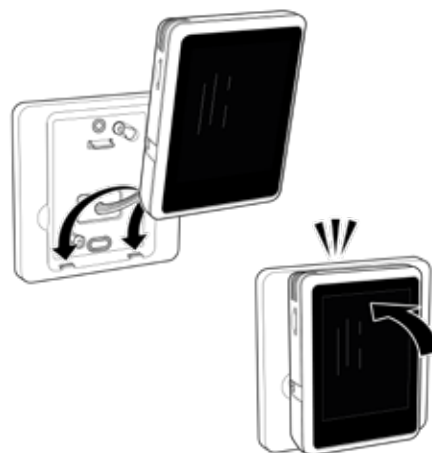
Connection for direct wall mounting



Connection when the wall holder is used



5. Hang the room control unit directly on the wall or clip into the wall holder.

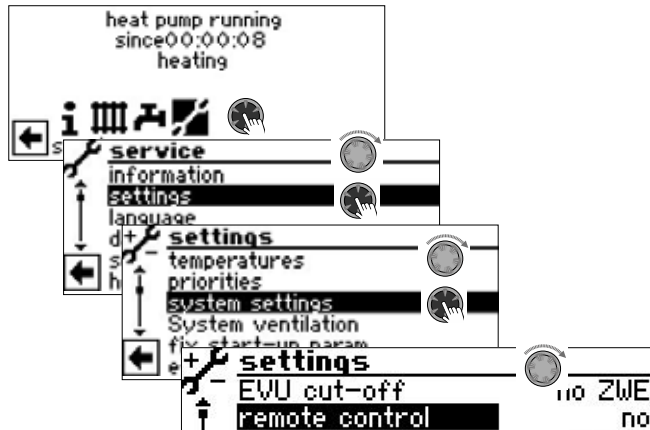


The micro USB connection (= lower side of the room control unit) must point toward the floor.

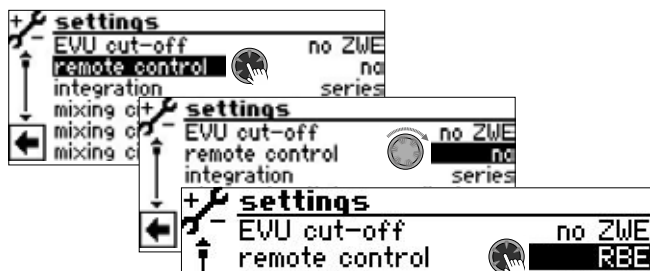
6. Remove the protective film from the touch display.
7. Reconnect the power supply to the heat pump and the heating and heat pump control.
8. Set the operating switch of the room control unit to the ‘On’ position.



7 Settings on the heating and heat pump control



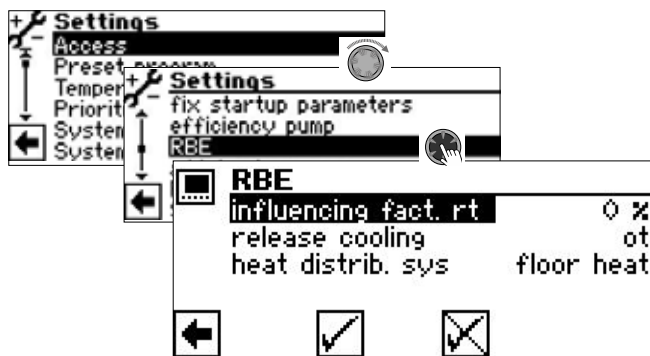
1. Under "remote control", select the "RBE" menu item and confirm.



2. Scroll all the way down.
3. Save the settings.



4. Return to the previous menu level.
5. Go to the menu item "RBE", select it and make the settings.



7.1 Influencing factor RT

The influencing factor RT (room temperature) is used to define how much the room temperature difference is to affect the return setpoint temperature calculated using the heating curve.



Adjustment range 0 % to 200 % in 10 % increments.

- 0 % pure outdoor temperature-dependent control
- 100 % 1K temperature difference in the room results in 1K adjustment of the return setpoint temperature
- 200 % 1K temperature difference in the room results in 2K adjustment of the return setpoint temperature



ENERGY SAVING TIP

It is recommended to include the room temperature. This allows external energy inputs can be taken into account better and the system temperature of the heat pump can be adjusted in line with the requirements.

Guide values for the influencing factor RT:

- Underfloor heating 100 %
- Radiators / fan coils 200 %



NOTE

If the main room is heated excessively compared to other rooms in the home (e.g. by a stove), and the influencing factor RT is set at an excessively high level, this can result in loss of comfort in other rooms in the home. Because the temperature input in the main room lowers the temperatures and therefore the heating system output in the other rooms.



NOTE

The influencing factor RT basically depends on the condition and characteristics of the heat distribution system.



7.2 Cooling release



- OT** Releasing of cooling purely according to outdoor temperature
If the outdoor temperature release that has been set is exceeded over the defined time period the heat pump switches to cooling mode.
- OT+RT** Releasing of cooling according to outdoor temperature and room temperature influence
If the room temperature release that has been set is exceeded over the defined time period the heat pump control checks the outdoor temperature release.
If the outdoor temperature release is also available the heat pump switches to cooling mode.

- “9.2.8 Function page “Cooling””, page 17
- Operating manual of the heating and heat pump control, part 2, and for its software version F1 / V2 of the Comfort board, section “Cooling”, “Set parameters”

7.3 Heat distribution system

The parameter “heat distribution system” (= “heat.distrib.sys.”) limits the maximum adjustment of the return setpoint temperature of the heat pump control:



- UFH** Underfloor heating, max. +/-2K
- RAD** Radiators / fan coils, max. +/-4K

- Save the settings.



8 Adjustment of the return setpoint temperature under room temperature influence

The room temperature influence is basically calculated using the following formula:

$$(t_{\text{Room targ.}} - t_{\text{Room act.}}) \times f_{\text{RT}} = \text{Adjustment } T_{\text{RL Setp.}}$$

$t_{\text{Room targ.}}$	Target room temperature
$t_{\text{Room act.}}$	Current room temperature
f_{RT}	Influencing factor RT (0 % ... 200 %)
$T_{\text{RL Setp.}}$	Return setpoint temperature in the heating and heat pump control



NOTE

Control with room temperature influence is compatible with heating and cooling mode. Maximum flow and return temperature limits for heating and cooling remain active in order to protect the components integrated in the system.

Examples in which the control principle is illustrated

Example 1:
Increasing the return setpoint temperature in heating mode

Return setpoint temperature = 28 °C
Underfloor heating
Current room temperature = 19 °C
Target room temperature = 22 °C
Influencing factor RT: 50 %

Calculation: $(22\text{ °C} - 19\text{ °C}) \times 50\% = 1,5\text{K}$

⇒ Check < 2K ⇒ YES ⇒ Return setpoint adjustment
⇒ 29,5 °C

Example 2:
Lowering the return setpoint temperature in heating mode

Return setpoint temperature = 30 °C
Underfloor heating
Current room temperature = 22 °C
Target room temperature = 20 °C
Influencing factor RT: 50 %

Calculation: $(20\text{ °C} - 22\text{ °C}) \times 50\% = 1\text{K}$

⇒ Check < 2K ⇒ YES ⇒ Return setpoint adjustment
⇒ 29 °C



Example 3:

Lowering the flow temperature (mixing circuit) in cooling mode

Flow temperature, mixing circuit, cooling = 18 °C

Underfloor heating

Current room temperature = 24 °C

Target room temperature = 22 °C

Influencing factor RT: 50 %

Calculation: $(22\text{ °C} - 24\text{ °C}) \times 50\% = -1\text{ K}$

⇒ Check < 2K ⇒ YES ⇒ Cooling flow temperature adjustment ⇒ 17 °C

- if minimum cooling flow temperature 17 °C allowed ⇒ YES
- if not, no adjustment

9 Operation

9.1 Basics



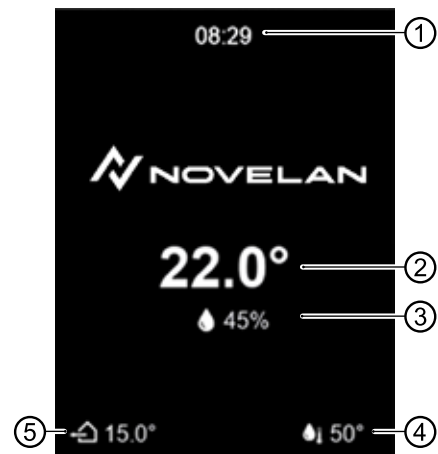
- 1 Touch display
- 2 Operating switch (Top position = On)

9.1.1 Touch display

Operation informations and instructions appear on the touch display. Modes of operation and settings can be selected and made.

Standby screen

If the touch display is not touched for 5 minutes, the standby screen appears. After another 15 minutes, the brightness of the display is dimmed.



- 1 Current time
- 2 Current room temperature
- 3 Current room humidity
- 4 Current domestic hot water temperature
- 5 Current outdoor temperature




- End the standby mode by lightly touching the touch display with your finger.








9.1.2 Navigation

Gestures

-  **Select**
Lightly tap the touch display with your finger
-  **Browse**
Lightly tap the touch display and wipe your finger left or right
-  **Scroll**
Lightly tap the touch display and wipe your finger up or down

Actions

-  **Close page / view or cancel changes**
-  **Confirm / save changes**
-  **Navigate to the subordinate page**

9.1.3 Making settings

Description of the respective setting options

→ Operating manuals of the heating and heat pump control and of the respective additional board (if installed)

Variant 1: Setting without the selection wheel

- In case of a setting that only offers the alternative between 2 options, these options can be switched by touching.

Example: Switching the mode of operation for “Cooling”

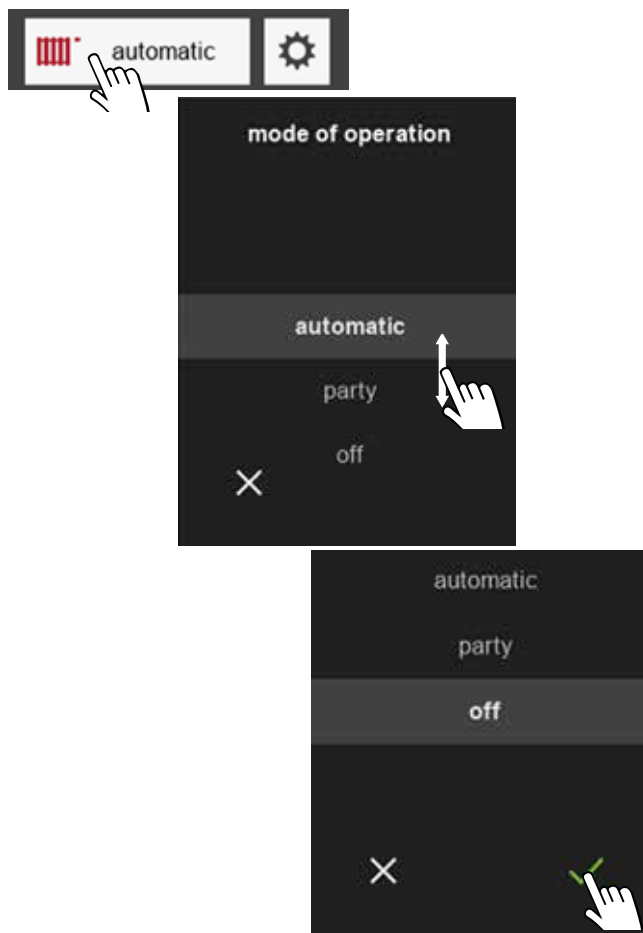


Variant 2: Setting with the selection wheel

If there are more than 2 options for a setting, a selection wheel appears in the display.

- Scroll vertically until the required option is shown, then confirm.

Example: Changing the mode of operation for “Heating”



AANWIJZING

There are modes of operation (e.g. the mode of operation “holidays”) that can only be set directly on the control part of the heating and heat pump control.

These kinds of modes of operation are not available as options in the selection wheel.



9.1.4 Symbols

Program areas

Depending on the program areas set up in the heating and heat pump control, the following symbols may appear:



Heating



Domestic hot water



Cooling



Swimming pool heating *)



Photovoltaics *)



Solar heating *)



Ventilation *)

*) → "Hardware requirements for some programme areas", page 5

Mode of operations

The appearance of a program area symbol indicates the respective operating status of this program area.

Example "Heating":



normal
brightness

Mode of operation active, however there is no query at this time (Symbol of the program area appears in normal brightness without additional symbols)



additional symbol
green arrows

There is a query and it is currently operated by the heat pump. Here: Heat pump is currently running in heating mode



additional symbol
yellow sand
glass

There is a query, however it cannot be met because a request with a higher priority (e.g. preparation of domestic hot water) from the heat pump is being serviced.



reduced
brightness

Operating mode = switched off manually
(Symbol of the program area appears in dimmed brightness)

Further symbols



Help
→ "9.1.5 Help", page 12



Red symbol:
Permanent operation error
→ "11.4 Operating error", page 21



Yellow or green symbol:
Temporary interruption of operation
→ "11.3 Operating interruption", page 21



Information page
→ "9.2.5 Informations", page 14



Settings "Room control unit"
→ "9.2.4 Settings of the room control unit", page 14



Main menu
→ "9.2.3 Fast navigation", page 14



Start screen
→ "9.2.1 Start screen", page 13



current outdoor temperature




current domestic hot water temperature

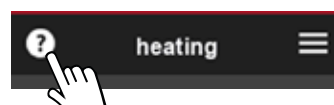


current humidity

9.1.5 Help

For pages with a help text, the symbol  appears in the upper left corner.

► Display help text

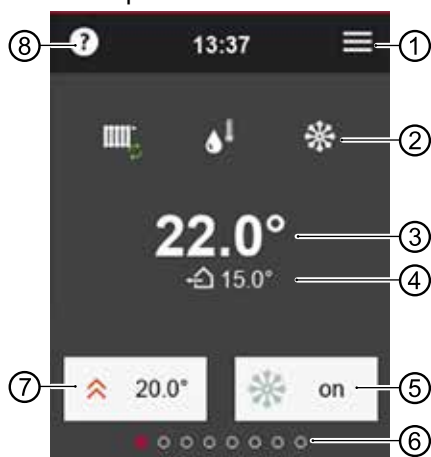




9.2 Function pages

9.2.1 Start screen

The start screen displays information on the current status of the program areas set up in the heating and heat pump control. In addition, some settings can be made here in a simple manner.



- 1 to the main menu
- 2 program areas set up in the heating and heat pump control
- 3 current room temperature
- 4 current outdoor temperature
- 5 manual release / blocking of cooling function (only displayed for heat pumps with passive or active cooling function)



on = cooling function released
the heat pump cools as soon as
the criteria for cooling release
set in the heating and heat pump
control are met

off = cooling function blocked
The heat pump generally does
not switch over to cooling mode,
even if the criteria for cooling re-
lease set in the heating and heat
pump control should be met

- 6 Number of available function pages (currently
accessed page is highlighted)
- 7 Room setpoint temperature that is currently set
for control including the room temperature
→ “7.1 Influencing factor RT”, page 8
If “Infl. factor RT = 0 %” is set (pure outdoor
temperature-dependent control), the heating
curve stored in the heating and heat pump
control can be adjusted here by a maximum of
+/- 5 K (parallel offset of the heating curve)



Change room setpoint tem-
perature
or
Parallel offset of the heating
curve

8 to help text

IMPORTANT

The thermostats of the underfloor heating or the ra-
diators can hinder the value that was set under ⑦
from being reached.

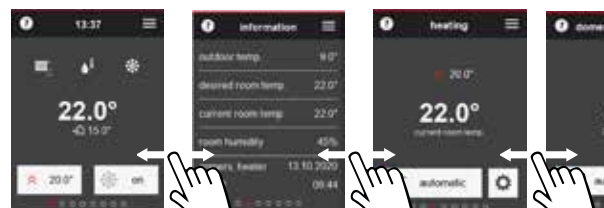
- Completely open the thermostat valves (except in
rooms where a lower temperature is required – for
example in bedrooms).



NOTE

Before changing the room setpoint tempera-
ture again, wait at least 24 hours so that the
temperatures can stabilise.

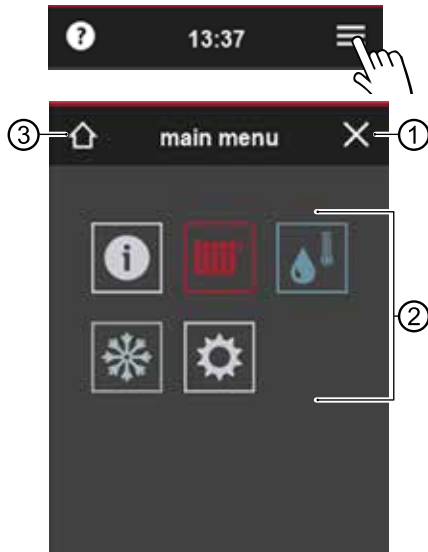
9.2.2 Scroll to pages



or use the Fast navigation (→ “9.2.3 Fast naviga-
tion”, page 14).




9.2.3 Fast navigation

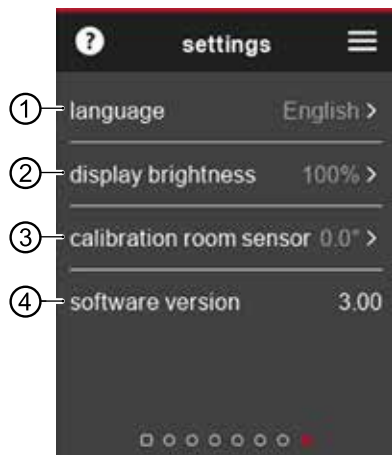


- 1 Close main menu
- 2 Symbols of the available function pages
The visibility of symbols depends on the programme areas set up in the heating and heat pump control.
- 3 to Start screen

► Touch the symbol of the desired function page.


9.2.4 Settings of the room control unit

► Wipe right in the start screen or select  in the main menu.



- 1 Display language of the room control unit
When it is started up for the first time the room control unit is set to the language set in the heating and heat pump control at that time. If a different language is later set on the control unit of the heating and heat pump control, this language is not automatically adopted by the room control unit.

- 2 Display brightness of the touch display
- 3 If the measured value of the integrated room temperature sensor differs from the measured values of other temperature measuring devices in the room, the value can be adjusted by manually setting a temperature deviation to these measured values.
- 4 Version of the room control unit software


►  ⇒ Scroll and save changes.



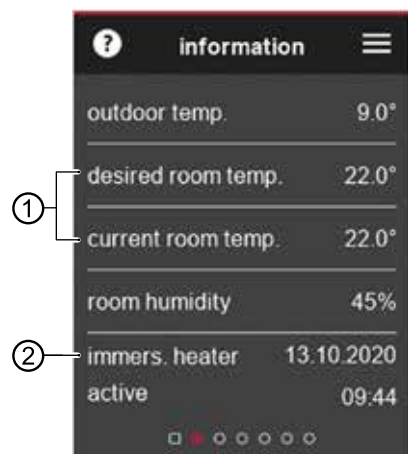
NOTE

Settings made on this function page have no effect on settings of the heating and heat pump control.

9.2.5 Informations

► Wipe left in the start screen or select  in the main menu.

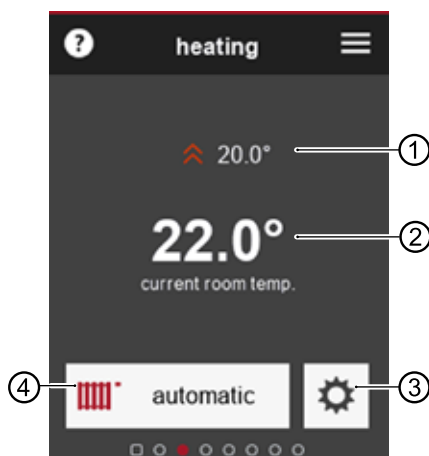
The information page provides basic informations in tabular form. Changing of settings / values is not possible on this function page.



- 1 “desired room temp.” (= target room temperature) and “current room temp.” (= current room temperature) are only displayed if influencing factor RT > 0 %. If influencing factor RT = 0 %, “desired return temp.” (= return setpoint temperature) and “Return temp.” (= current return temperature) are displayed.
→ “7.1 Influencing factor RT”, page 8
- 2 The time information (date, time) for the last activation of an existing immersion heater (= electric heating element) only appears in conjunction with a software version of the heating and heat pump control ≥ V3.86.



9.2.6 Function page "Heating"

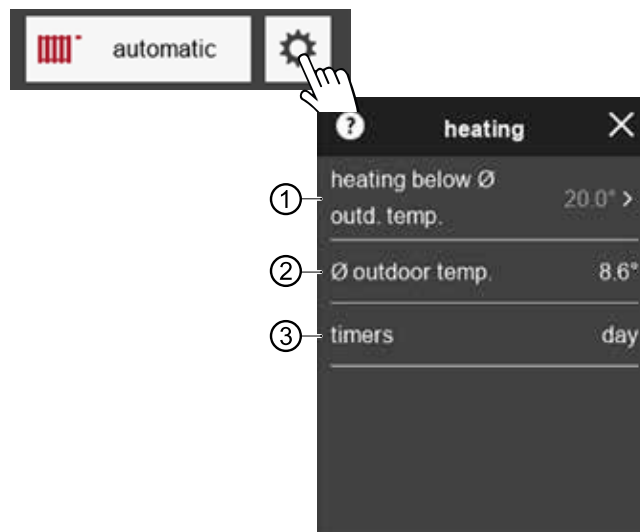


- 1 Currently set target room temperature
This menu item only appears if the room temperature is taken into account
→ "7.1 Influencing factor RT", page 8
Changing target room temperature
→ "9.2.1 Start screen", page 13, ⑦
- 2 Current room temperature
- 3 to the settings and information page "Heating"
- 4 Symbol of the programme area and mode of operation that is set

Changing the mode of operation

→ "9.1.3 Making settings", page 11, variant 2

Settings and information page "Heating"



- 1 currently set heating limit
(is only displayed if the "heating limit" function is activated in the heating and heat pump control)
If the temperature falls below the set temperature, the heat pump switches to the mode of operation "Heating"
- 2 average outdoor temperature
The average outdoor temperature is made up of the outdoor temperature curve over the past 24 hours and forms the reference variable for the heating and heat pump control, in order to active / deactivate the mode of operation "Heating"
- 3 current mode of the time programs (day-time or night-time mode)
► Set the time programs on the control unit of the heating and heat pump control.

►  ⇒ Scroll and save changes.

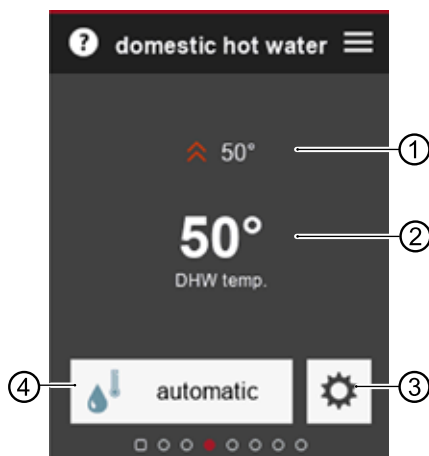


NOTE

High temperatures reduce the efficiency of the system and increase running costs.



9.2.7 Function page “Domestic hot water”

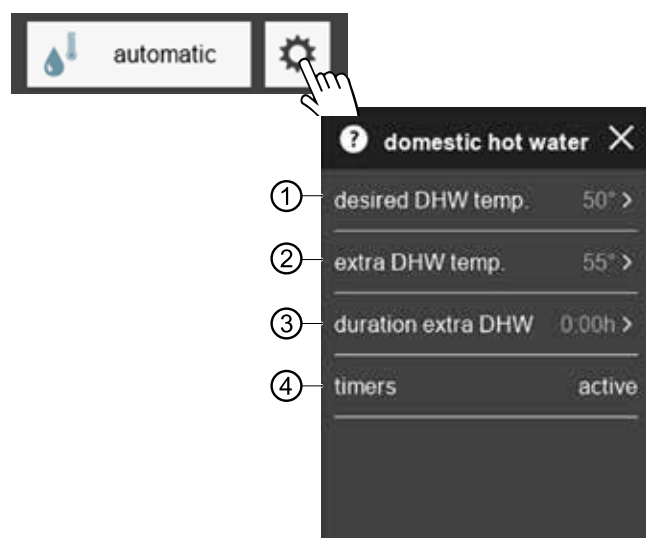


- 1 Currently set required temperature for domestic hot water
- 2 Current temperature of the hot water in the storage tank
- 3 to the settings and information page “Domestic hot water”
- 4 Symbol of the programme area and mode of operation that is set

Changing the mode of operation

→ “9.1.3 Making settings”, page 11, variant 2

Settings and information page “Domestic hot water”



- 1 Currently set required temperature for domestic hot water
- 2 Temporary demand for higher domestic hot water temperature that is provided for a time period set under ③

- 3 After the end of the set time period, the required temperature of the domestic hot water set under ① is supplied
- 4 current mode of the time programs (inactive = off-time).
 - Set the time programs on the control unit of the heating and heat pump control.

► ⇒ Scroll and save changes.



NOTE

High domestic hot water temperatures in the storage tank reduce the system's efficiency, increase stoppage losses in the storage tank and therefore increase running costs. Specific national requirements must be met.



ENERGY SAVING TIP

Use the extra domestic hot water function (②) to temporarily (③) increase the tapping output (higher domestic hot water consumption).

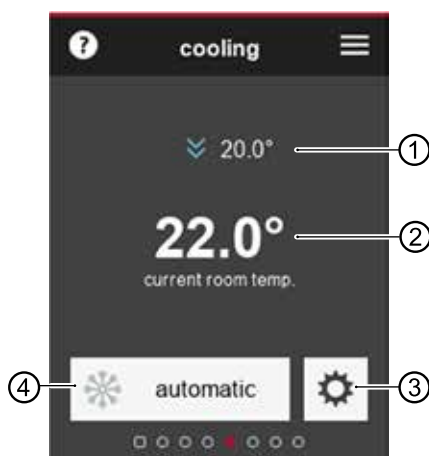


NOTE

If off-times for the preparation of domestic hot water are set in the heating and heat pump control, these are ignored for the set time period (③) of the extra domestic hot water function (②).



9.2.8 Function page “Cooling”

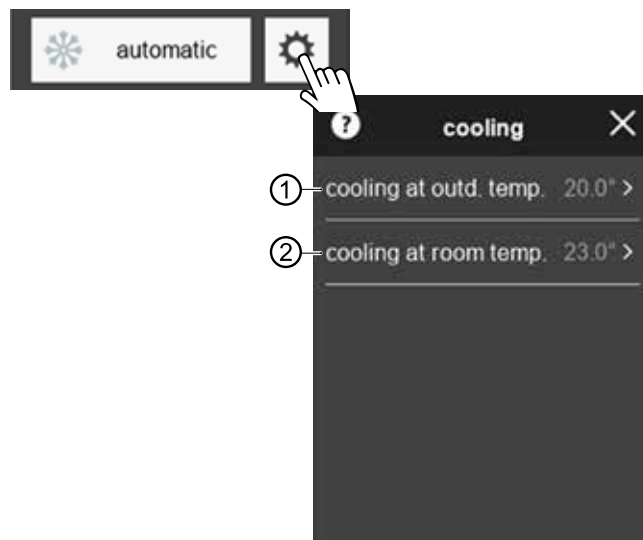


- 1 Currently set target room temperature
This menu item only appears if the room temperature is taken into account
→ “7.1 Influencing factor RT”, page 8
Changing target room temperature
→ “9.2.1 Start screen”, page 13, ⑦
- 2 Current room temperature
- 3 to settings page “Cooling”
- 4 Symbol of the programme area and mode of operation that is set

Changing the mode of operation



Settings page “Cooling”



- 1 If the outdoor temperature that has been set is exceeded, the heat pump switches to the mode of operation “Cooling”
The setting of this temperature is primarily dependent on the building standard and the demand for cooling in the building
- 2 This menu item only appears if the option “OT+RT” is set under “release cooling” on the control unit of the heating and heat pump control
→ “7.2 Cooling release”, page 9.
If the set room temperature is exceeded there is a demand for cooling. The cooling is only started if the outdoor temperature release is also available.

► ➤ ➡ Scroll and save changes.



NOTE

Cooling is activated if

- the mode of operation “automatic” is set and
- the corresponding release temperature(s) for the time period set in the heating and heat pump control (factory setting: 12h) has(have) been exceeded.

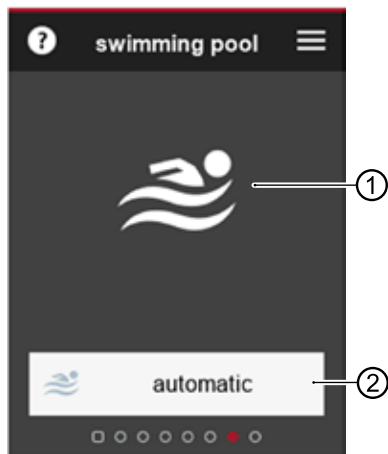
The cooling is deactivated if

- the mode of operation is set to “off” or
- the corresponding outdoor temperature release for the time period set in the heating and heat pump control (factory setting: 12h) has been exceeded.

The time period is skipped if the temperature is already 5K above or below the release temperature.



9.2.9 Function page “Swimming pool heating”

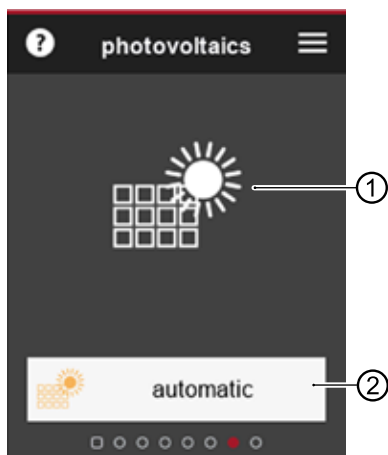


- 1 Symbol of the programme area (appears in the mode of operation “Off” with reduced luminosity)
- 2 Symbol of the programme area and mode of operation that is set

Changing the mode of operation

→ “9.1.3 Making settings”, page 11, variant 2

9.2.10 Function page “Photovoltaics”

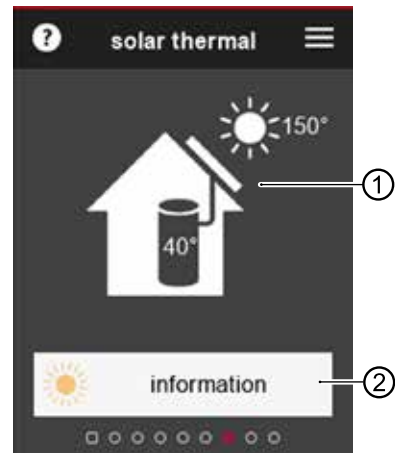


- 1 Symbol of the programme area (appears in the mode of operation “Off” with reduced luminosity)
- 2 Symbol of the programme area and mode of operation that is set

Changing the mode of operation

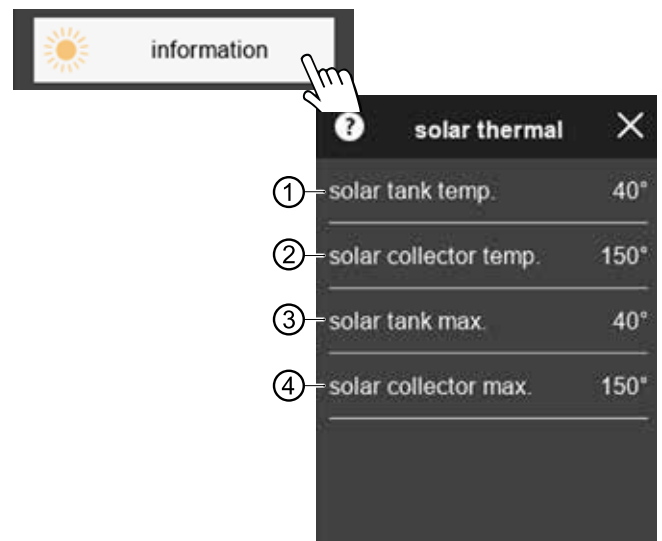
→ “9.1.3 Making settings”, page 11, variant 2

9.2.11 Function page “Solar heating”



- 1 Symbol of the programme area (The luminosity depends on how much solar energy is currently charged)
- 2 to the information page “Solar heating”

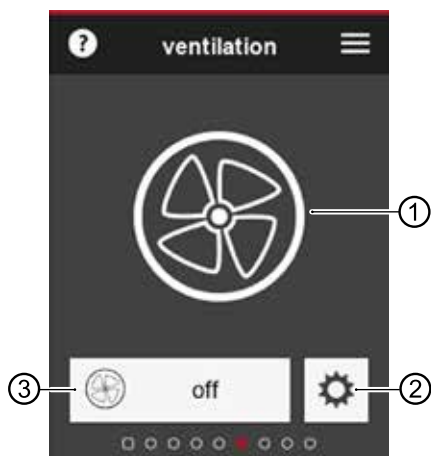
Information page “Solar heating”



- 1 Current temperature in the solar tank
- 2 Current temperature in the solar collector
- 3 The maximum solar tank temperature reached on this day
- 4 The maximum solar collector temperature reached on this day



9.2.12 Function page "Ventilation"



- 1 Symbol of the programme area
- 2 to the settings page "Ventilation"
- 3 Symbol of the programme area and mode of operation that is set

Current fan level

The symbol of the programme area (1) is displayed depending on the currently active fan level.



Fan off



Humidity control (Fan level 1)



Reduced operation (Fan level 2)



Nominal ventilation / Party (Fan level 3)

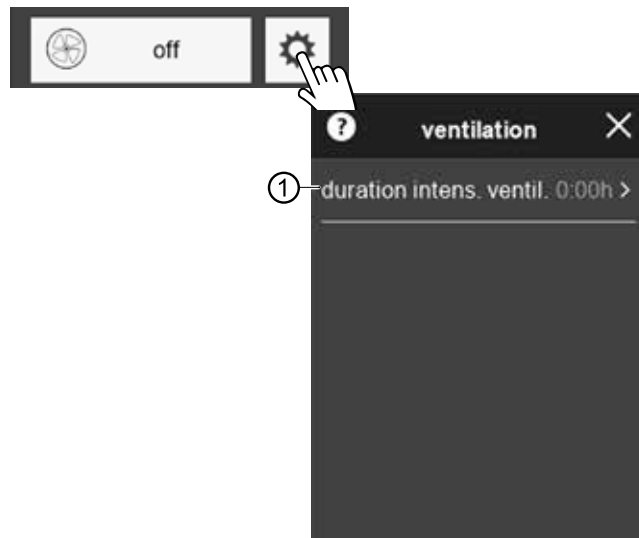


Intensive ventilation (Fan level 4)

Changing the mode of operation

→ "9.1.3 Making settings", page 11, variant 2

Settings page "Ventilation"



- 1 Duration of ventilation in maximum mode (= Intensive ventilation with the highest possible air exchange)

►  ⇒ Scroll and save changes.

After this time has expired control takes place according to the set mode of operation.



10 Software-Update

If the push message 'Software update. Please wait' appears in the display of the room control unit, a software update is currently being imported onto the heating or heat pump control and / or onto the room control unit.

IMPORTANT

It may take several minutes to import the software update. Whilst the update is being installed, the power supply of the data connection to the heating and heat pump control may not be disconnected.

Once the start screen is shown in the display of the room control unit, the installation of the update is completed.

Manual software-update

Available software updates for the room control unit can be downloaded from www.alpha-innotec.de.

1. Check the software version on the RBE+.
→ "9.2.4 Settings of the room control unit", page 14
2. Check the website to see if a software-update is available.
3. Download the software-update.
4. Save the software update on the micro SD card.
5. Switch off the RBE+ on the operating switch.
→ "4.1 Unit components", page 6
6. Insert the micro SD card with the new software into the slot of the RBE+ until it clicks into position.
→ "4.1 Unit components", page 6
7. Switch on the RBE+ on the operating switch.
After this, the software update starts automatically.
8. Switch off the RBE+ on the operating switch, press the micro SD card deep into the slot (this unlocks the locking mechanism) and remove from the slot.
9. Switch on the RBE+ on the operating switch.

Software version of the heating and heat pump control ≥ V 3.86

Available software updates for the room control unit are automatically sent and installed by the heating and heat pump control to the room control unit.

11 Faults

11.1 Touch display does not show anything

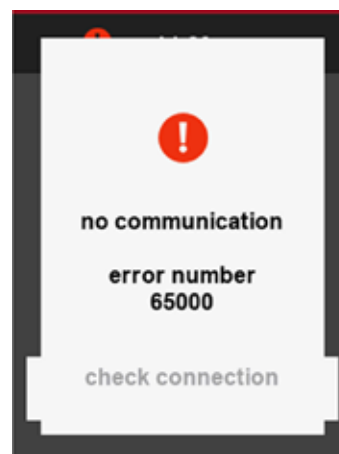
- Check the operating switch on the room control unit and switch on if necessary.

→ "9.1 Basics", page 10

- Check the cables between the room control unit and control unit of the heating and heat pump control, and repair if necessary. Ensure that qualified electricians are deployed for electrical connection work.

11.2 Communication error

If there is a communication error between the room control unit and the heating and heat pump control, a corresponding push message appears in the touch display.



- Check the settings on the control unit of the heating and heat pump control for "remote control" and "RBE" and correct them if necessary.

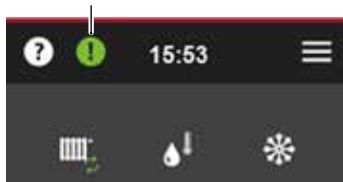
→ "7 Settings on the heating and heat pump control", page 8

- Check the cables between the room control unit and control unit of the heating and heat pump control, and repair if necessary. Ensure that qualified electricians are deployed for electrical connection work.



11.3 Operating interruption

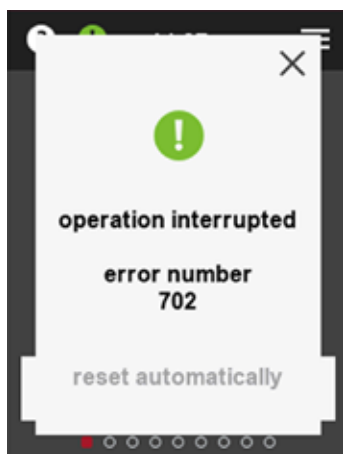
If there is a temporary operating interruption caused by a self-resetting error or when application limits are overstepped, a green symbol (= self-resetting error) or a yellow symbol (= overstepping of application limits) appears in the upper area of the start screen.



NOTE

No intervention is required for a temporary operational interruption. Therefore, the error message is not automatically shown as a push message in the touch display.

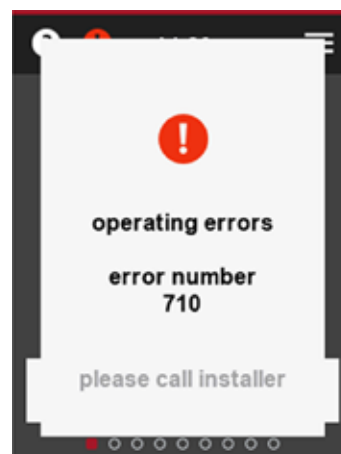
1. Call up the error message by touching .



2. Close the error message by touching X.

11.4 Operating error

If there is a serious heat pump operating error that requires action by a technician or the service team, a corresponding push message with the error number appears in the touch display. This push message remains visible until the cause of the permanent operating error is remedied.



- Consult the local partner of the manufacturer or the factory's customer service. Have the fault message, unit type and unit number at hand (→ Nameplate of the heat pump and, if relevant, of the hydraulic unit).
- Operating manual of the heating and heat pump control, part 2, appendix "Error Diagnosis / Error Messages" and "Acknowledging a Fault"

12 Dismantling and disposal

12.1 Dismantling

- Disconnect the cable of the room control unit from the control unit of the heating and heat pump control.
- If the room operating unit sits inside the wall holder: Press the room control unit slightly downwards, pull upwards and forwards from the wall holder and lift out of the wall holder.
- Disconnect the cable from the room control unit.

12.2 Disposal and recycling

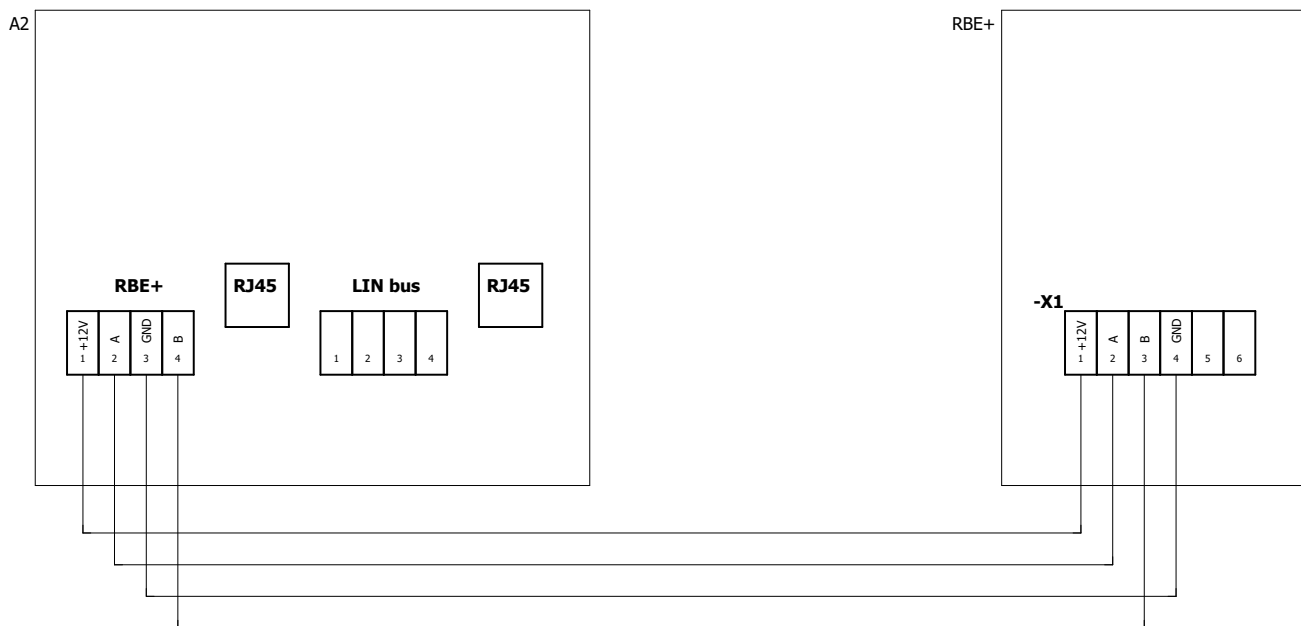
- Recycle or ensure proper disposal of unit components and packaging materials in accordance with local regulations.



Technical data / Scope of supply

		RBE+
Dimensions		→ “Dimensional drawings”, page 23
Touch display (TFT)	px	240 x 320
Internal NTC resistor - 5%	°C	0 – 55
Temperature sensor (integrated)	°C	-5 – 55 (+/- 0,4)
Humidity sensor (integrated)	%RH	20 – 80 (+/- 3)
Operating temperature	°C	0 – 50
Storage temperature	°C	-40 – +70
Operating humidity (non-condensing)	%	0 – 90
Storage humidity (non-condensing)	%	0 – 80
Degree of protection	IP	20
Mains voltage (supplied by the control unit of the heating and heat pump control)		12 V GS 40 mA
Mains voltage Micro USB connection		5 V GS 250 mA
Maximum power consumption electric consumption		840 mW 70mA at 12V
Conformity		CE

Terminal diagram



Room control unit

Legend:

identifier	Function
A2	Control panel of the heating and heat pump controller
RBE+	Room control unit
X1	Terminal block, communication and voltage

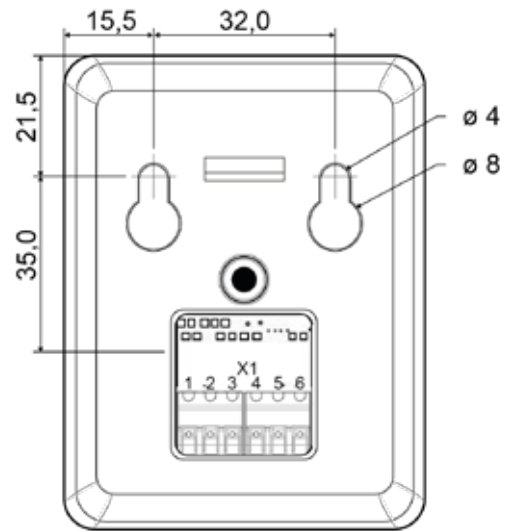
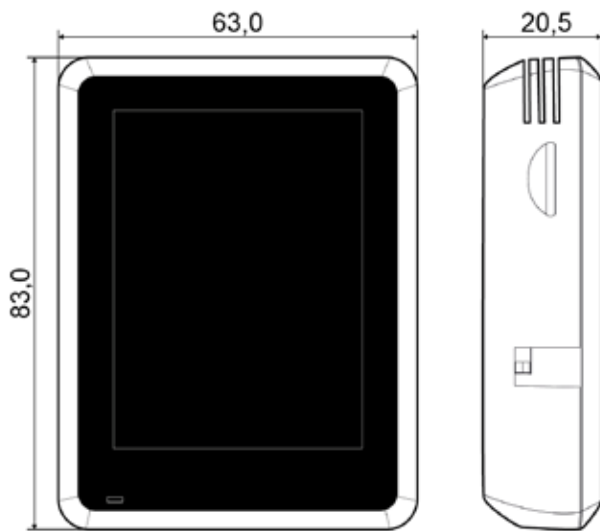
IMPORTANT

When replacing a room control unit RBE with a room control unit RBE+, please observe the different terminal assignment.

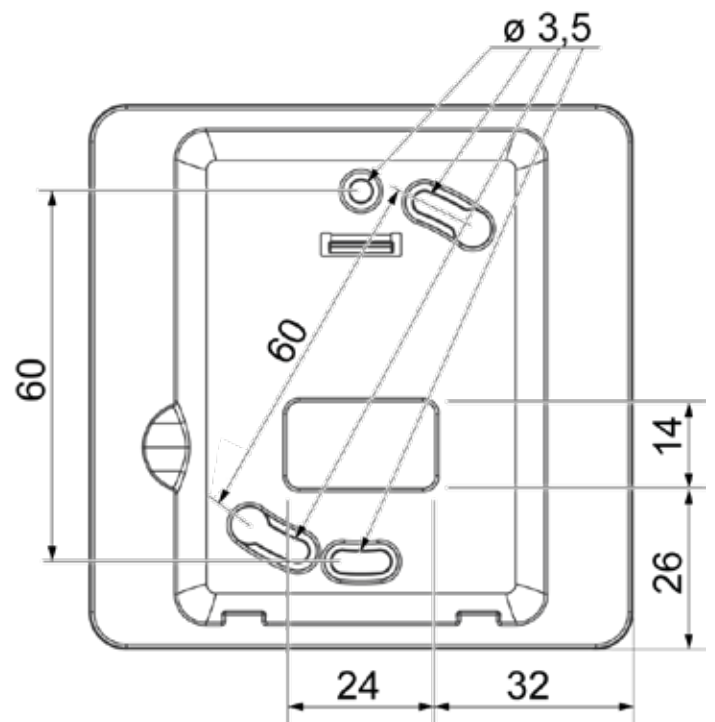
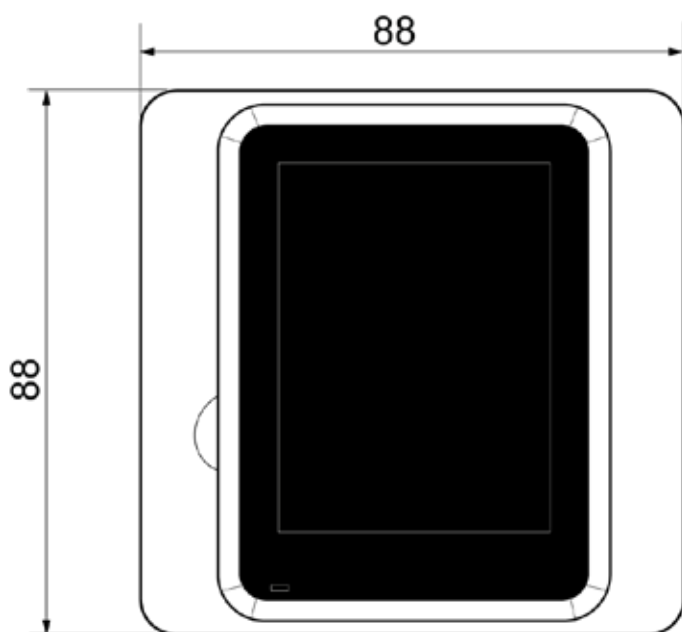
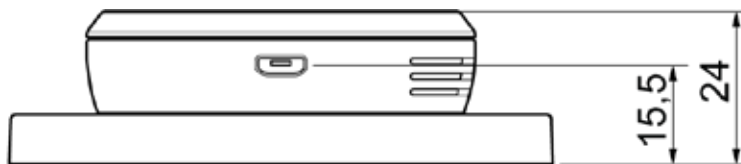


Dimensional drawings

Room control unit



Room control unit on wall holder



All dimensions in mm.



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