Engineering progress
Enhancing lives

End user manual

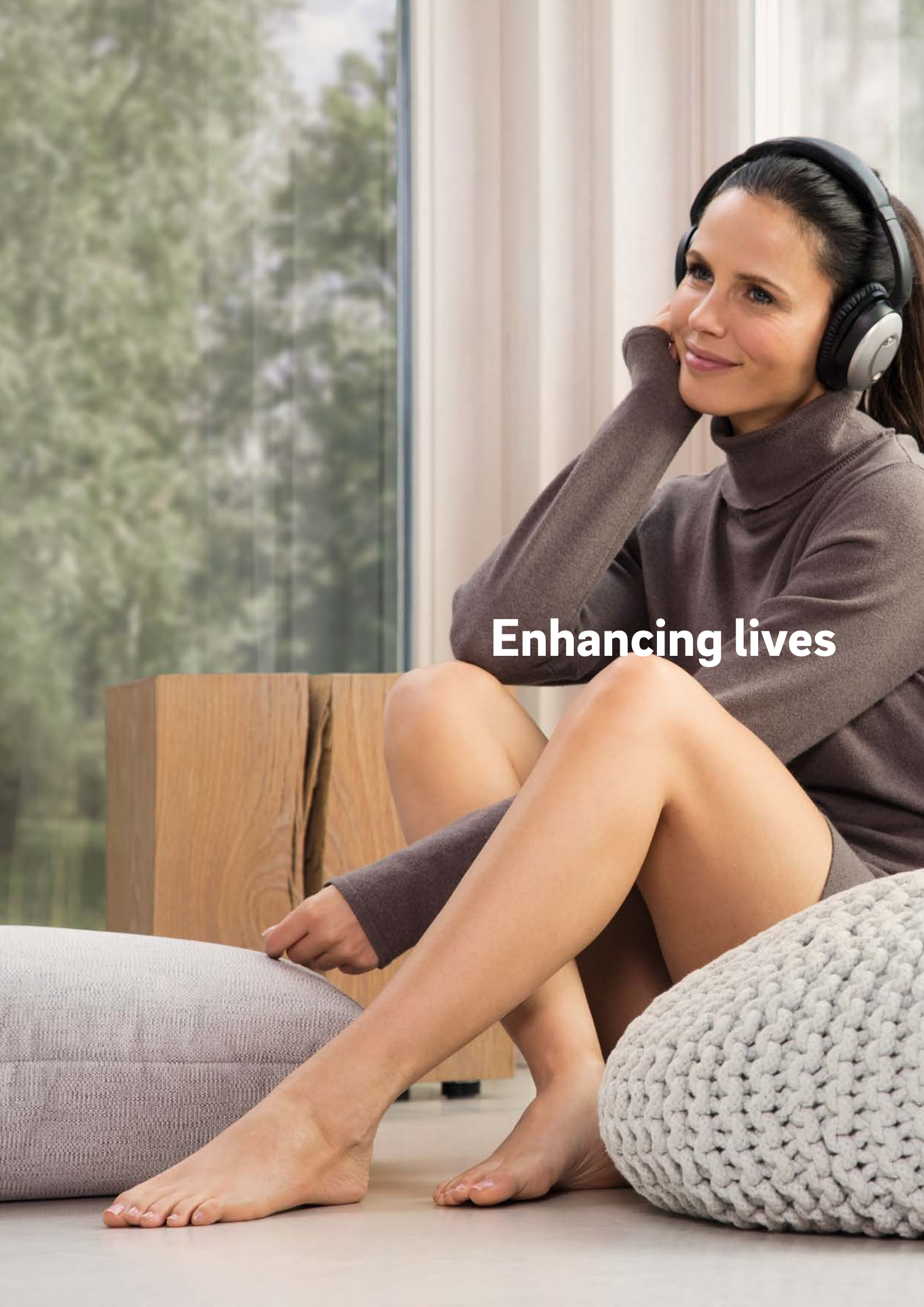
The new generation of thermostats –
NEA SMART 2.0

REHAU

Content

This user manual for the "NEA SMART 2.0 control system" is valid from January 2021.

All dimensions and weights are approximate. Subject to errors and modifications.


Enhancing lives

01 Information and safety instructions

Product conformity and safety

Product conformity
This product fulfils the requirements of the following EC guidelines:
- Electromagnetic compatibility 2014/30/EU
- Low-voltage directive 2014/35/EU

The complete CE certificates can be downloaded from the website **www.rehau.com/neasmart2**.

Safety information

Intended use
The NEA SMART 2.0 control system may only be planned, installed and operated as described in these instructions and in the other documents belonging to this system. Any other use is not intended and therefore inadmissible.
Observe all national and international installation, accident prevention and safety regulations when installing piping systems and electrical equipment as well as observe the information in this manual.
Areas of application that are not covered in these instructions (special applications) require consultation with our application technology department.

Contact your REHAU sales office.

Our systems have to be installed by authorized and trained persons, and work on electrical systems or parts of cables only by trained and authorized persons.

Pictograms and logos
Warnings and general information are marked with the symbols listed below.


Danger to life due to high voltage.


Safety notice


Legal notice


Important information which must be observed


Information on the Internet


Your benefits

Authorised personnel
The electrical installation must comply with the applicable national regulations and the regulations of the local power supplier.
This manual requires special knowledge corresponding to an officially recognised qualification in one of the following professions:
- Electrical or electronics engineer

In accordance with the international regulations as well as the comparable professions within your specific national legal framework.

Cleaning
Only use a dry, solvent-free, soft cloth for cleaning.

Disposal
The batteries and all comonents of the NEA SMART 2.0 system must not be disposed with domestic waste. The user has the duty to dispose of the devices at designated collection points. The separate collection and orderly disposal of all materials will help to conserve natural resources and ensure recycling in a manner that protects human health and the environment. If you need information about collection points for your devices, please contact your local council or your local waste disposal services.

Parameter setting – Expert
The control unit is equipped with different parameters. These parameters can be easily changed for your specific application.

Please note that the parameter areas may only be operated by an installer or a qualified person. Changing the parameters can have serious consequences for the heating system.

Please enter all parameter changes in the “installer’s notes” section.

02 Introduction

Congratulations on the purchase of the REHAU NEA SMART 2.0 control system. We are pleased that you have chosen a control system from REHAU. We hope that you enjoy your product.

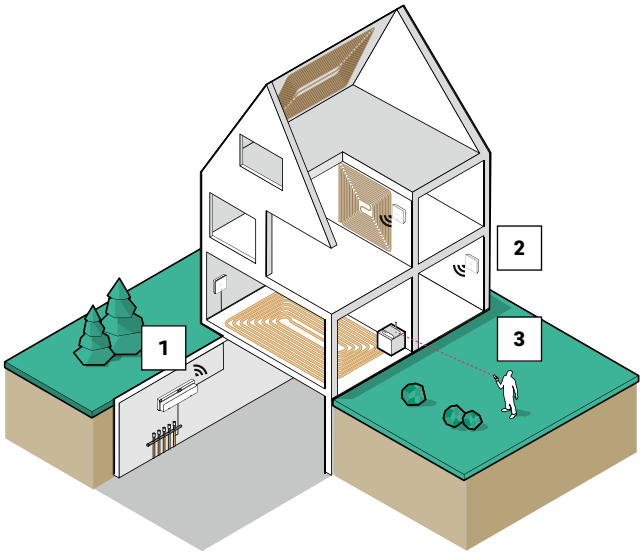
Application area
NEA SMART 2.0 is a modern and effective control system for underfloor heating and cooling systems with a wide range of functions.

Important features include:
- clear and high-quality design of room units
- fully automated control of the entire system
- with LAN/wireless LAN interface for operation using a web browser or an app as standard
- smart functions, which ensure a high level of comfort and ensure effective operation
- suitable for new installations and retrofitting

System structure

1 NEA SMART 2.0 Base
- Central control unit for 8 rooms
- Hybrid technology: suitable for bus and wireless Room units/Room probes
- LAN/wireless LAN featured as standard

2 NEA SMART 2.0 Room units/Room probes
- High-quality design
- LED matrix display
- Bus and wireless variant



3 APP
- Configuration via smart-phone/tablet
- Operation worldwide
- Remote maintenance and monitoring

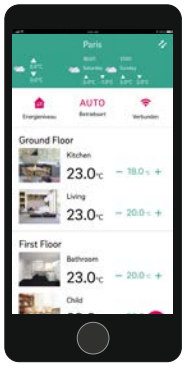


Fig. 02-1 NEA SMART 2.0 system (not all components of the system are shown)

Functions and operation

What can the NEA SMART 2.0 system do?
The basic function of the system is to heat the rooms conveniently and economically according to your wishes.
Depending on the installed system, however, many other functions are available:
- Room cooling via combined heating/cooling areas
- Automatic or manual switching between heating, neutral and cooling
- Controlling the optimum temperature for the supply of the heating/cooling areas ("flow temperature control")
- Dehumidification of rooms

Using the thermostat or via the app, the target temperatures for heating and cooling respectively can be switched between comfort (normal mode) and eco (reduced mode) temperature.

How can I operate the system?
You can operate the system
- directly via the room unit (setting the desired temperature, changing the operating mode)
- via the browser of your smartphone, tablet or PC (integrated web pages can only be used inside your home)
- via the cloud using the NEA SMART 2.0 app

The NEA SMART 2.0 app is easy and convenient to use, and offers many features that make the system a truly smart system.

What can be set or viewed?
Depending on the options installed in the system, there is a wide range of possibilities for setting room temperatures on-site or on the go, adapting the system to your needs, viewing statistics or receiving information.

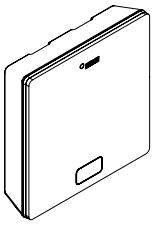
The table 02-1 provides you with an overview of the different options.
Please note that for operation via the app (cloud connection), it does not matter where you are, whilst operation via the integrated web pages only works within your home.

What can I do?	Via room unit	Web pages (local)	App (via cloud)
Read room temperature, read and set the desired temperature	✓	✓	✓
Select the operating mode "timer programme", "normal" or "reduced"	✓	✓	✓
Set timer programmes and assign them to rooms		✓	✓
Assign room names		✓	✓
Set desired temperatures for the rooms according to the timer programme		✓	✓
Select heating mode or cooling mode		✓	✓
Use holiday function		✓	✓
Automatic reduction of energy consumption during absence (geo-fencing)			✓
View temperature profiles of rooms			✓
For dehumidifier control:			
Change the switch-on values			✓
Automatically reduce energy consumption during absence			✓
Receive information on system optimisation			✓
Receive maintenance information			✓

Tab. 02-1 NEA SMART 2.0 possible settings

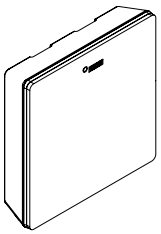
All system components:

Room unit



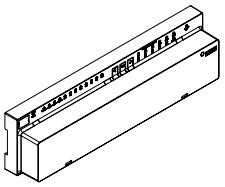
The room unit operates the room temperature and humidity sensor as well as an operating unit for the room temperature specification. The room unit is fitted with a LED matrix display and is fixed to the wall in every room. The thermostat is operated via a central button and plus/minus buttons. In addition, the room unit can be operated via the app.
Variants:
- Bus or wireless technology
- With temperature or temperature/humidity sensor
- Housing colour: black or white

Room probe



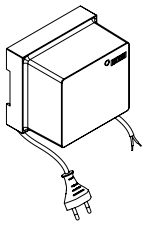
The room probe serves as a room temperature and humidity sensor. It can be fixed to the wall in any room, particularly in rooms where direct temperature adjustment is not required. The room probe can be operated using the app.
Variants:
- Bus or wireless technology
- With temperature or temperature/humidity sensor
- Housing colour: white

Base 24 V / 230 V



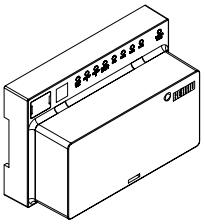
The base is a central control unit for underfloor heating and cooling systems and is normally located in the heating circuit manifold box. Up to 8 room control units can be connected to the base via bus or wireless technology.

Transformer



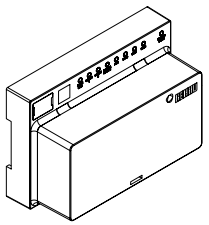
The transformer powers the base 24 V and is normally positioned in the heating circuit manifold box.

R-Module 24 V / 230 V



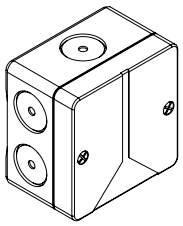
The R-Module is used to extend the base by 4 rooms. It is usually located in the heating circuit manifold box.

U-Module 24 V



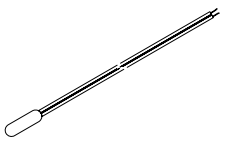
The U-Module 24 V is a universal extension module for the base. Depending on the configuration, it can be used to control the flow temperature, actuate up to 2 dehumidifiers or actuate an extraction fan as required.

Outdoor sensor



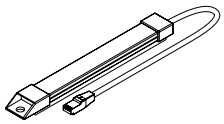
The wireless outdoor sensor measures the external temperature and is located on an outer wall of the building. The outdoor sensor is assigned to a NEA SMART 2.0 Base.

Remote sensor



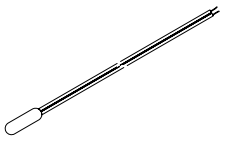
The temperature sensor is connected to the room unit and can be configured for floor temperature monitoring in heating and cooling applications or for measuring room temperature.

Antenna



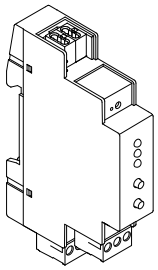
The antenna serves as an option to increase the range of the wireless signal to the room units. The antenna is connected to the base and is installed outside the heating circuit manifold box.

Flow/return sensor



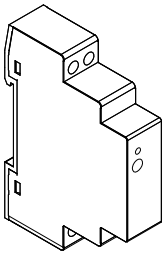
Temperature sensor is connected to the NEA SMART 2.0 U-Module to measure the flow and return temperature of a mixed heating circuit.

KNX Gateway



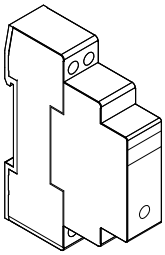
The KNX gateway enables data transmission from the NEA SMART 2.0 control technology to a KNX system. Values such as: setpoints, actual values, operating modes and energy levels can be exchanged with a higher-level KNX system such as a BMS.

Power supply Gateway



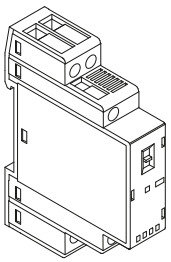
The power supply of the gateway is used to generate the auxiliary voltage for the Modbus of the NEA SMART 2.0 KNX gateway.

Coupling Relais 24 V / 230 V



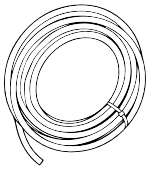
The coupling relay is used to transfer 24 V / 230 V AC switching signals to the digital inputs of the NEA SMART 2.0 control system.

Switching Relais 24 V / 230 V



The switching relay is used to connect to triac outputs or relay outputs of the NEA SMART 2.0 24 V / 230 V control system and to control external devices, additional actuators or to forward signals to other building technology units.

NEA SMART 2.0 Bus cable (10/50 m bundle)



The NEA SMART 2.0 Bus cable can be used to wire the system bus and zone bus of the NEA SMART 2.0 control system.

03 Operation via the Room unit

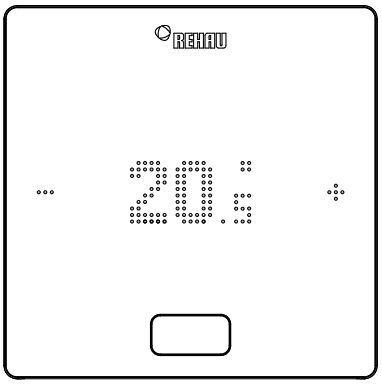
Display information

Fig. 03-1 NEA SMART 2.0 Room unit

The Room unit is operated using the Home button and the +/- symbols.

The display is switched off when in hibernation mode. It is activated by pressing the Home button. Only then the plus/minus symbols become visible.
Flashing symbols or numbers can be modified.

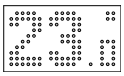
MINUS SYMBOL
- Reduce the desired temperature
- Previous menu item



PLUS SYMBOL
- Increase the desired temperature
- Next menu item

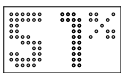
HOME button
- Activate display
- Next menu item
- Confirm

Display of temperature



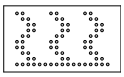
Shows the current room temperature or the desired room temperature.

Display of room humidity

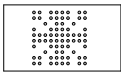


Shows the relative humidity in the room.*

Display of the operating mode

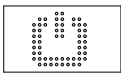


Heating mode
Heating mode is active

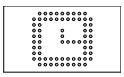


Cooling mode*
Cooling mode is active

Operating status

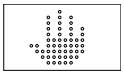


Standby
Heating and cooling mode disabled

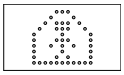


Timer programme
Room is controlled via the timer programme

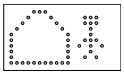
When the symbol for timer programme is displayed, the set operating status is displayed afterwards (Normal or Reduced).



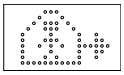
Manual
User has changed the desired temperature; valid until the next switching point.



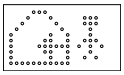
Normal
Operating mode Normal is active



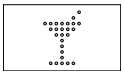
Reduced
Operating mode Reduced is active (energy-saving mode)



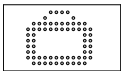
Transitional phase Normal
Transitional phase Normal to Reduced operating mode



Transitional phase Reduced
Transitional phase Reduced to Normal operating mode

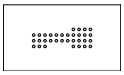


Party
Party mode is active



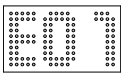
Holiday
Holiday mode is active

Room unit locked

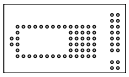


Buttons are locked

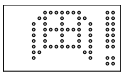
Error message



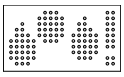
Warning message



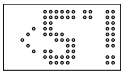
Low battery
The battery of the Room unit must be replaced.



Window open
An open window has been detected in this room.

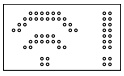


Condensation
High humidity – risk of condensation



Frost protection active
Frost protection has been activated as the temperature has fallen below 5 °C; the heating valve is activated.

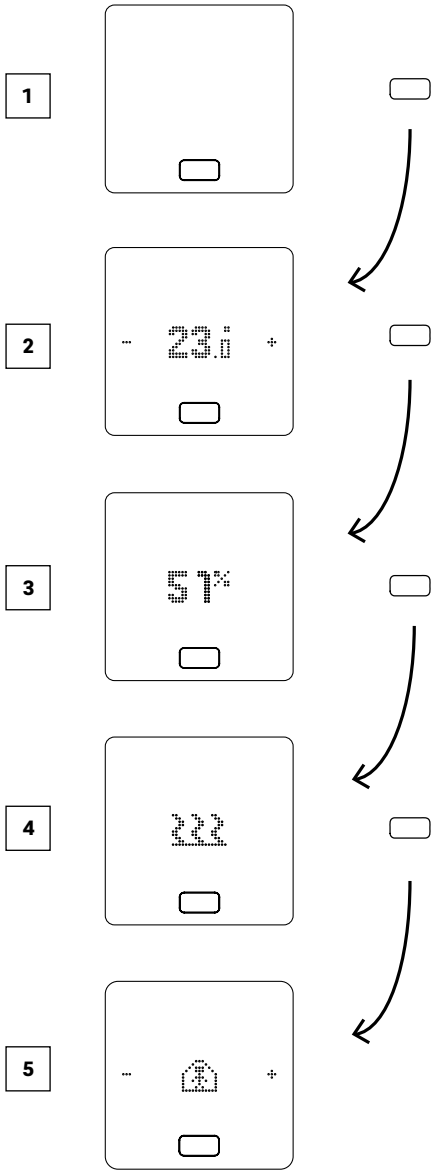
Connection status



No connection
There is no connection to the Base.

* Is displayed if this function can be activated or if a sensor is integrated.

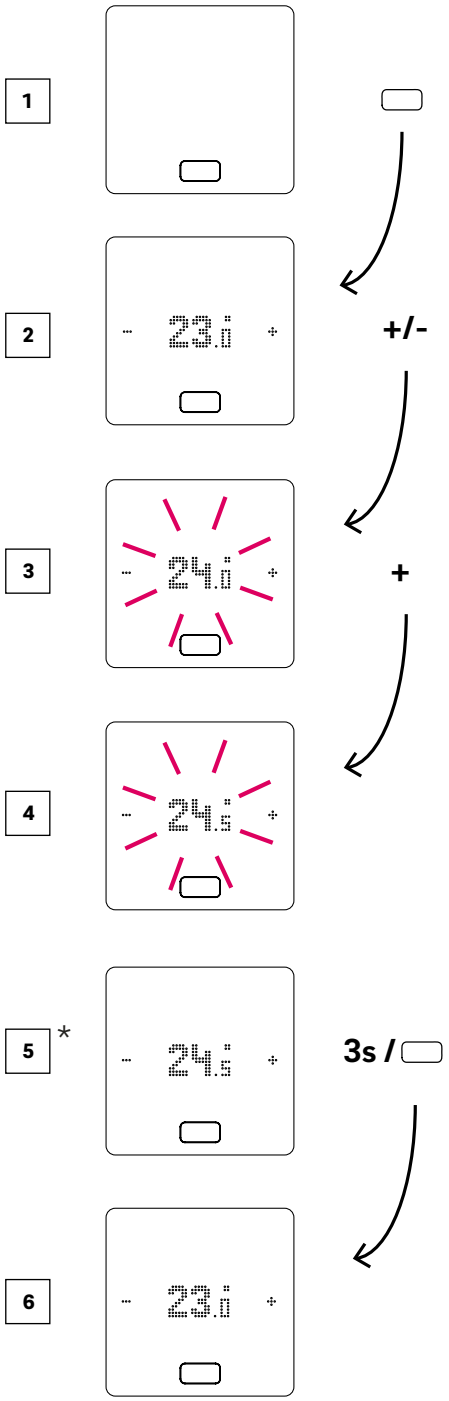
Order of the displayed information



1 Initial state
2 Display of current room temperature
3 Display of current humidity in the room
4 Display of operating mode
Heating or cooling
5 Display of operating status

Setting the desired temperature

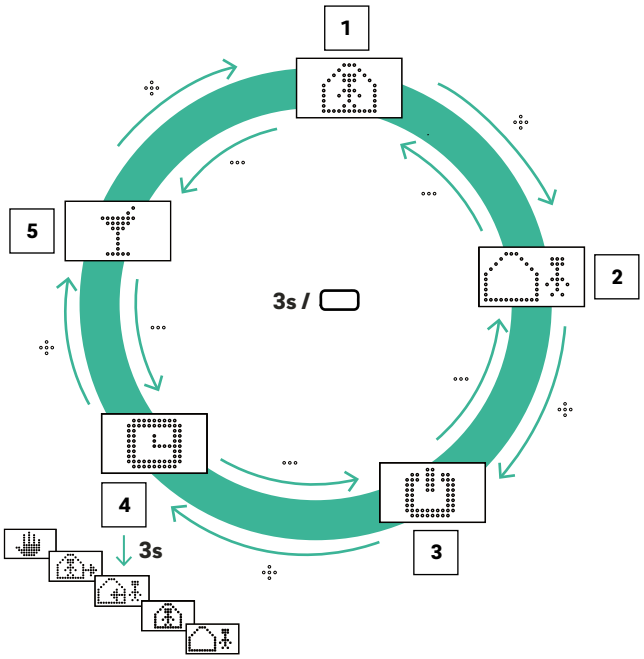
To activate the display, press the Home button once.
To see the target value, press +/- once.



1 Initial state
2 Display of current room temperature
3 Display of the setpoint of the room temperature
4 Display of the setpoint of the room temperature during operation
5 Display of the final setpoint for the room temperature
6 Display of current room temperature

* optional: If the Room unit has a light ring, it flashes additionally for confirmation.

Operating status
The current operating status is displayed after pressing the Home button 4 times. It can be changed by pressing +/-. The current operating status is always displayed first. This means that the order can deviate from the image.



1 **Normal mode**
Standard desired temperature 22 °C

2 **Reduced mode**
Standard desired temperature 18 °C

3 **Standby mode**
Heating and cooling mode disabled

4 **Automatic mode**
The selected timer programme for the room is active

5 **Party**
Party mode is activated for 4 hours.

The party mode allows the user to switch from the reduced operating mode to the normal operating mode for a period of time. The thermostat automatically returns to the reduced operating mode when the party time has elapsed.

When standby mode is selected, automatic frost protection is active. As soon as the temperature drops below 5 °C, the heating valve is activated.

The following applies only to holiday mode:
Vacation mode can only be activated with the app or website. The vacation symbol only appears on the display when holiday mode is active.

04 Displays on the Base, R- and U-Module

NEA SMART 2.0 Base 24 V / 230 V

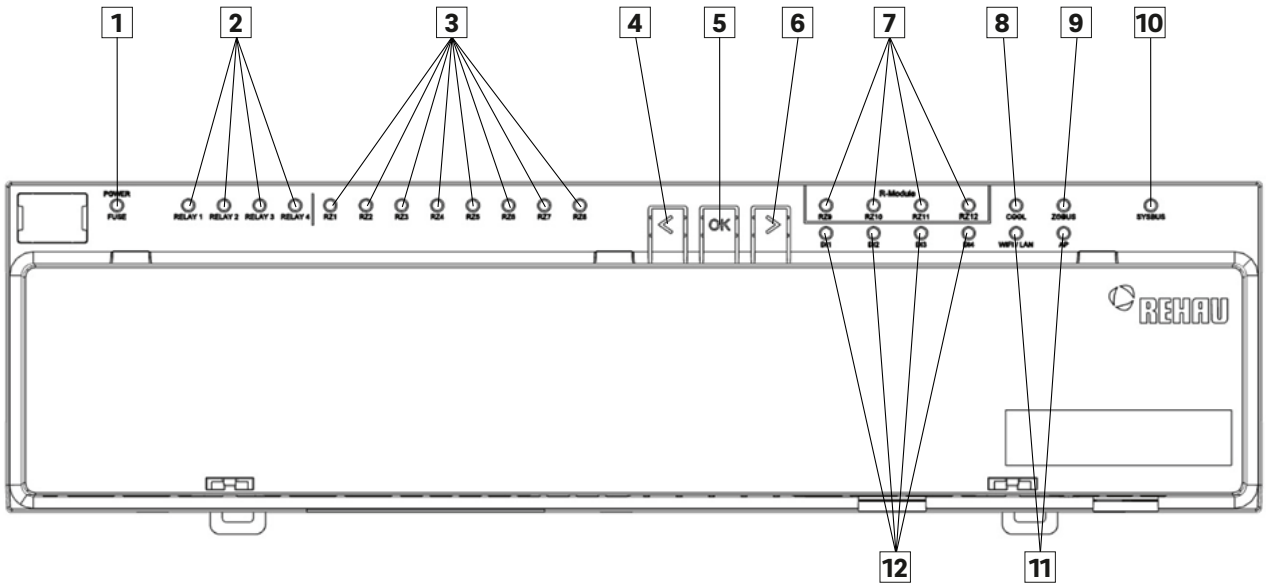


Fig. 04-1 NEA SMART 2.0 Base 24 V / 230 V – labelling LED display

1 Green: everything OK
Red: Fuse defective or external supply voltage not present (L1/L2)

2 Freely configurable potential-free contacts
Green: active

3 Display of rooms/zones 1–8
Green: active

4 Button on the left

5 Confirmation button

6 Button on the right

7 Display of rooms/zones 9–12 of the R-Module
Green: active

8 Blue: Cooling mode active

9 Green: shows communication with Room units bus or R-Module

10 Green: shows communication with slaves and U-Module

11 WIFI/LAN status display
(see installation instructions for base))

12 Digital input (window contact, dew point monitor ...)
Green: active

NEA SMART 2.0 R-Module 24 V / 230 V

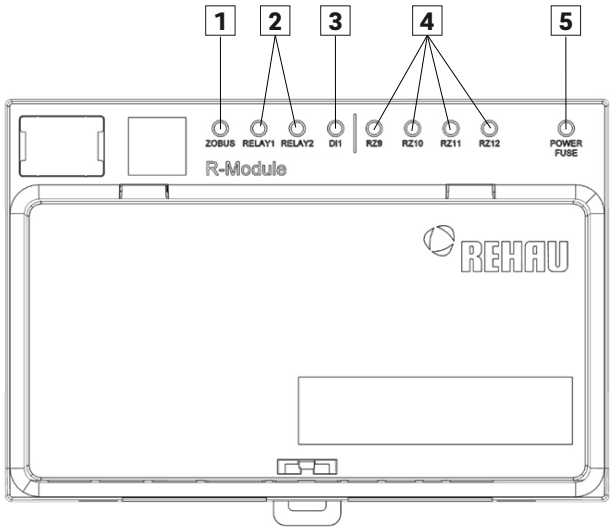


Fig. 04-2 NEA SMART R-Module 24 V / 230 V – labelling LED display

1 Green: shows communication with Base

2 Freely configurable potential-free contacts
Green: active

3 Digital input (window contact, dew point monitor ...)
Green: active

4 Display of rooms/zones 9–12
Green: active

5 Green: everything OK
Red Fuse defective or external supply voltage not present (L1/L2)

NEA SMART 2.0 U-Module 24 V

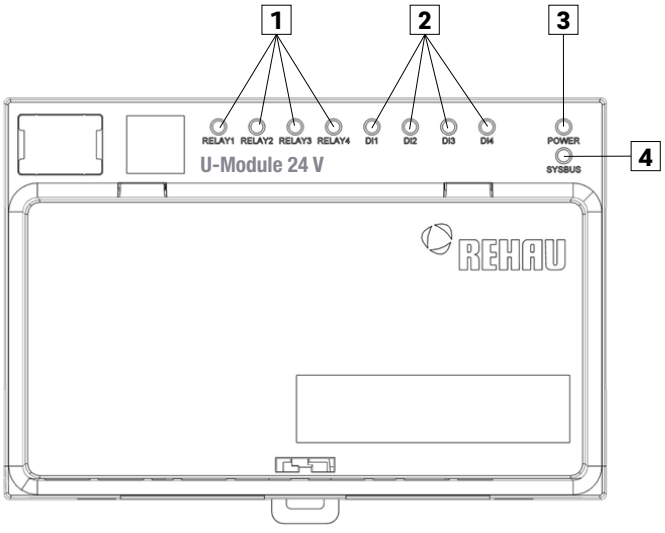


Fig. 04-3 NEA SMART 2.0 U-Module 24 V – labelling LED display

1 Freely configurable potential-free contacts
Green: active

2 Digital input (window contact, dew point monitor ...)
Green: active

3 Green: Operating voltage OK

4 Green: shows communication with master

05 Operation via integrated web pages

The integrated web pages can be used **as an alternative** to the NEA SMART 2.0 app via the browser of a smartphone, tablet or PC.

The IP address of the device is **192.168.0.2**.

Via the web pages, you can:
- Assign names to the rooms and set the desired temperatures
- Create timer programmes for the desired temperatures and assign them to the rooms
- Select the operating modes “normal mode”’ and “reduced mode” for all rooms or individual rooms
- Use the holiday function
- Switch between heating mode and cooling mode

To use the web pages, a direct connection must be established between the device (smartphone, tablet, PC) and the NEA SMART 2.0 Base. The web pages can only be accessed with **one device** at a time.
It is **not possible** to use the app and the integrated web pages at the same time.

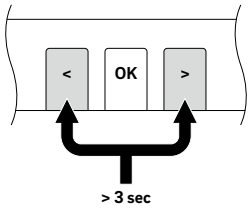
Setting up the base for using the web pages

For systems in which there is more than one base, communication always takes place via the “master” Base. Ask your installer which Base has been established as the master.

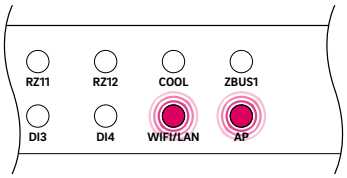
Activating communication
When the system is delivered, the communication functions of the base station via wireless LAN and LAN are switched off.

The NEA SMART 2.0 Base may only be handled if the cover is in place on the NEA SMART 2.0 Base. If this is not the case, the installer has to be called.

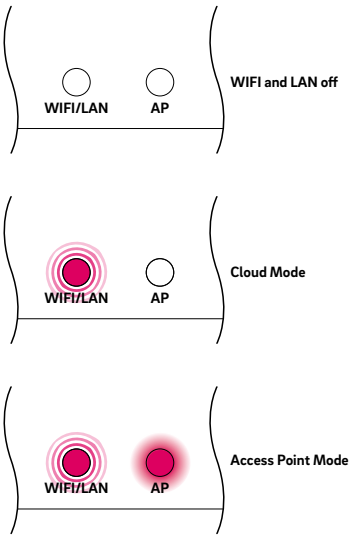
1



Press both arrow buttons at the same time for > 3 seconds



The WIFI/LAN LED and/or the AP LED will begin to flash.

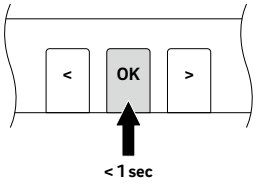


Confirm by briefly pressing the OK button. The current status of the transmitting function is displayed.

2

By briefly pressing the right arrow button, it is possible to switch between the transmitting functions (none, direct connection, server connection). Press the right button repeatedly until the direct connection is activated. In this case, the WIFI/LAN LED flashes and the AP LED lights up permanently.

3



Confirm by briefly pressing the OK button.

If no buttons are pressed for a certain time, the NEA SMART 2.0 Base will return to the initial state.
In this case, the sequence for activating the transmitting function can be started again with step 2.

The NEA SMART 2.0 Base is now ready for direct connection to a PC or a tablet/smartphone.

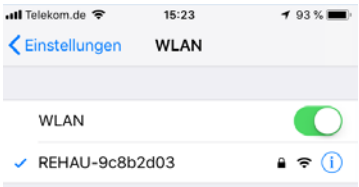
With the transmitting function activated, the wireless LAN network transmitted by the NEA SMART 2.0 Base is visible to every user – similar to the wireless LAN network of a router. It is recommended to change the default password during the initial set-up.
If the password has been forgotten, it can be reset to the delivery status.

Establishing a connection between the Base and the PC/tablet/smartphone
Before performing the following steps, the transmitting function on the NEA SMART 2.0 Base must be switched on.

1

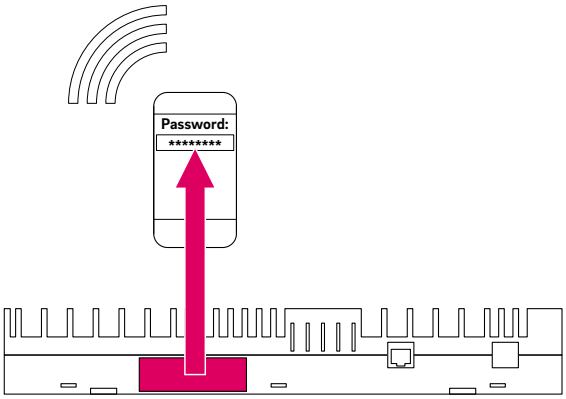
On the PC/tablet/smartphone, open the wireless LAN menu and view the available networks. NOTE: The distance between the PC/tablet/smartphone should not exceed approx. 5 m.

2



Select the wireless LAN network with the name “REHAU-xxxxxx”.

3



Default WIFI WPA2 Key

After selecting the REHAU network, the security key needs to be entered. The security key (default Wi-Fi WPA2 key) can be found on the label of the base station.
After a few seconds, the PC/tablet/smartphone connects to the base station.

4

Open the Internet browser on a PC/smartphone/tablet (e.g. Chrome, Firefox, Edge, ...) and enter the IP address http://192.168.0.2 in the address bar.

The home page of the integrated web pages opens.

The successful connection is displayed on the base station. Both the WIFI/LAN LED and the AP LED are permanently lit.

06 Usage of the integrated web pages

Depending on the type of system, the integrated web pages offer the following options:

- Selection of the operating modes of the system:
  - Heating/cooling:
  - via time programme or continuously in normal, reduced or standby mode
- Managing the time programmes
- Specification and management of room temperature
- Using the party or holiday function
- Specification of the mode of operation of the dehumidifiers
- Connecting the system to the Internet to use the app
- Additional setting options

Main menu:

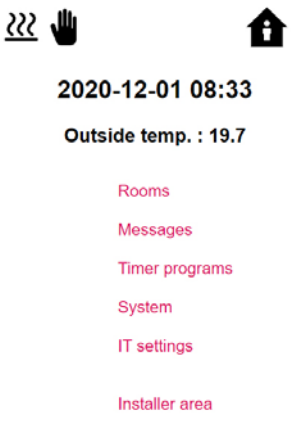


Fig. 06-1 Web page: Main menu

In the main menu, you can see the current operating mode – shown here: Heating mode and "normal" mode (person in the house).

By clicking the symbols, the different operating modes can be selected (depending on the present conditions):

- Heating mode, manual
- Cooling mode, manual
- Heating mode, automatic start
- Cooling mode, automatic start

and:

- Operation via timer programme
- Permanent "normal" or "reduced" mode
- System switched off (standby)

In order to ensure comfortable conditions and an energy-efficient operation, we recommend that you select the timed operating mode.

Click the menu items to access the respective submenus.

Room selection:

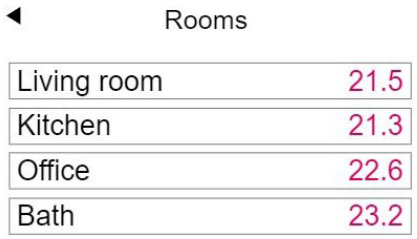


Fig. 06-2 Web page: Room selection

Here, you can see the individual rooms with their current room temperatures. Clicking a room takes you to the individual room pages.

Room page:

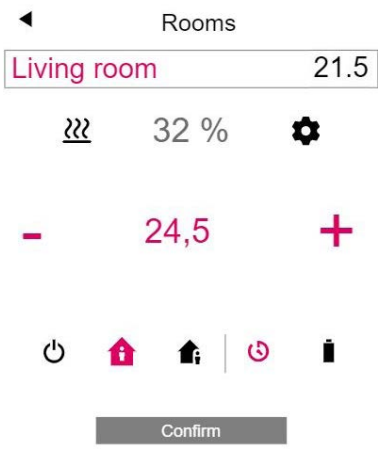


Fig. 06-3 Web page: Room page settings

Here, the current target and actual temperature and the operating mode (here: heating mode, via time programme, currently "normal" mode) are displayed. The room temperature target value can be changed using the plus and minus symbols.

Note:

- Changes to the room temperature target value during timed operating mode are valid until the next switching point of the time programme
- Changes during fixed "normal" or "reduced" mode are set as new standard values for this mode.

By clicking the gear symbol, you can access the advanced settings.

Extended room page:

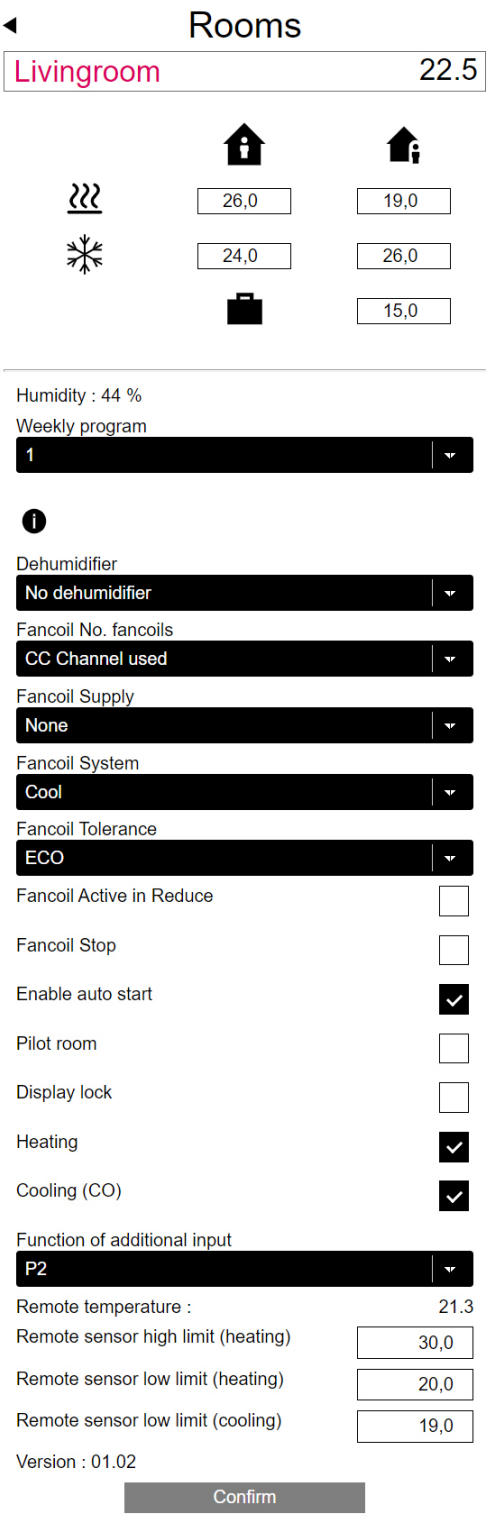


Fig. 06-4 Web page: Extended room page settings

The standard values for heating/cooling can be managed here for "normal" or "reduced" mode as well as for holiday mode.
There are five weekly programmes available. By clicking the info symbol, you will see a preview of the selected timer programme.

The auto-start function ensures that the desired room temperature is reached at the defined point in time. If the auto-start function is not selected, the room is only heated or cooled to the new default value from the point in time selected in the timer programme.

Rooms that are also equipped with a fan coil should always be operated with a activated autostart function. The autostart function gives the surface heating / cooling system the opportunity to bring the room to the desired temperature according to the timer programme in the most energy saving and also noiseless manner without starting the fan coil prematurely.

Using the display lock, the operation of the Room unit can be blocked.
If a ground temperature sensor is installed, the limit values to be observed for heating and cooling mode can be specified.

Timer programmes:

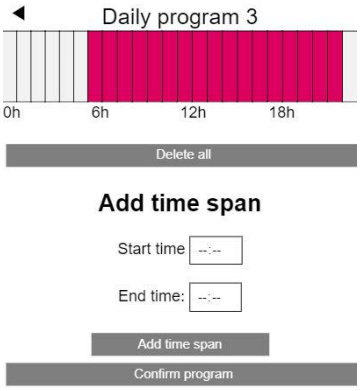


Fig. 06-5 Web page: Timer programmes

The 5 weekly programmes consist of daily programmes for the individual days. There are 10 daily programmes that can be defined in a 15-minute time grid.
The displayed sections are rounded to one hour.
The areas marked in red indicate the periods of time defined for "normal" mode.

Note:
A number of programmes are predefined but can be changed at any time.
Based on the selection of the building type (residential building, office building), the appropriate timer programms are selected automatically.

System:

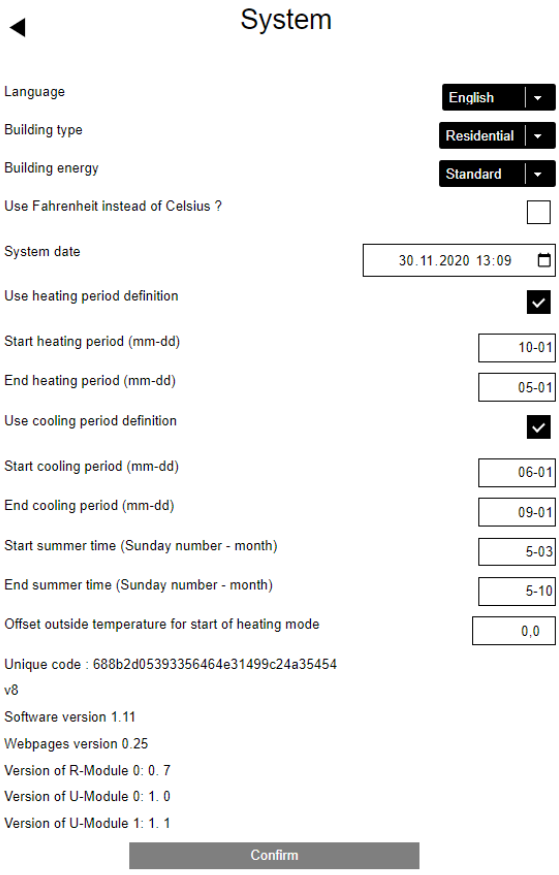


Fig. 06-6 Web page: System

On the system page, you can make additional settings:
- Language
- Classification of the building's energy requirements
- Time and date
- Determination of permissible times for heating and cooling mode
- Changing the start-up criteria for heating mode

Note:
Depending on the present system, some standard values may not be effective.

On other web pages, you can make additional IT settings and settings for other components.

Dehumidifiers:
Depending on the climatic conditions, dehumidifiers are required. If your system is equipped with dehumidifiers, the limit values for switch-on (relative humidity, calculated dew point) can be defined in another menu via the main menu.
The dehumidifiers are assigned to rooms and are controlled via timer programmes.

Please consult a specialist before making any changes. The correct setting values of the dehumidifiers ensure safe operation of the underfloor cooling and also have a decisive influence on the efficiency of the underfloor cooling. Inappropriate settings may lead to condensation on the cooled surfaces and therefore to the risk of slipping as well as to damage to the surfaces or the entire components.

IT settings:
Here, settings are made that allow the system to connect to the Internet for the use of the app.
You can set up the wireless LAN connection to your router here.

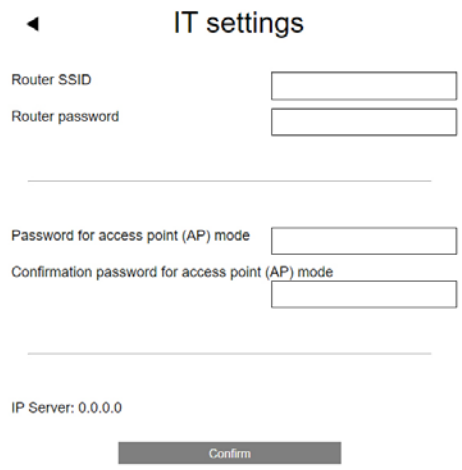


Fig. 06-7 Web page: IT settings

To prevent unauthorised access to your system, it is **imperative** to change the system's wireless LAN key set at the factory.

Network SSID:
Insert WIFI network name of the router.

WPA2-Key of WIFI network:
Insert password (WPA2-Key) of the router.

Insert CA-hash:
If the system's certificate has expired, the CA-hash of the new certificate must be entered here. The certificate only expires if the Base has not been online for several years.

Fan Coils
A fan coil can be assigned to one room to support the installed system if it has insufficient heating or cooling capacity.

KNX connection
The KNX connection of the NEA SMART 2.0 system is suitable for exchanging data (setpoints, actual values, operating modes and energy levels) between the NEA SMART 2.0 system and a higher-level KNX system, e.g. BMS. This connection is made using the NEA SMART 2.0 KNX gateway that communicates with the NEA SMART 2.0 system via the SYSBUS. The assignment between KNX objects and Modbus registers can be configured using parameters in the ETS software (license software for KNX). No further software is absolutely necessary. The SYSBUS (Modbus) assignment required for the REHAU NEA SMART 2.0 control system can optionally be imported to the gateway via DCA (Device Configuration App, SW extension in the ETS). The SYSBUS (Modbus) assignment can be imported for a KNX installation in the office or on the construction site.

07 Usage of the NEA SMART 2.0 App

The NEA SMART 2.0 app can be found in the google® Play Store and apple® App Store.

Using the app
No matter where you are, the NEA SMART 2.0 app offers you a wide range of options for operating and monitoring your system.

You can:
- Assign names to the rooms and set the desired temperatures
- Create timer programmes for the desired temperatures and assign them to the rooms
- Select the operating modes "normal mode"' and "reduced mode" for all rooms or individual rooms
- Use the holiday function
- Automatically save energy when nobody is at home
- Switch between heating mode and cooling mode
- View evaluations and statistics
- Receive notes regarding upcoming maintenance work

In order to be able to use the app, the system must be registered on the REHAU cloud server.
For this purpose, the base station must be connected to the router via wireless LAN or LAN and via the router to the Internet.
In order to connect the device to the router, the router SSID and the security key must be entered on the website under IT settings.
The integrated web pages cannot be used in this operating mode.

Connecting to the Internet

Setting up the base for connecting to the Internet and using the app

For systems in which there is more than one Base, communication always takes place via the "master" base. Ask your installer which base has been established as the master.

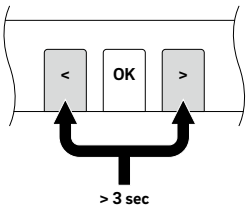
The NEA SMART 2.0 Base may only be handled if the cover is in place on the base station. The underlying connections can carry dangerous voltages. If this is not the case, the installer has to be called.

Activating communication
When the system is delivered, the communication functions of the NEA SMART 2.0 Base via wireless LAN and LAN are switched off.

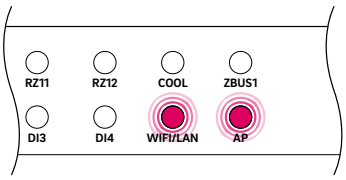
1

Insert the LAN cable into the NEA SMART 2.0 Base as well as into the router/network socket.

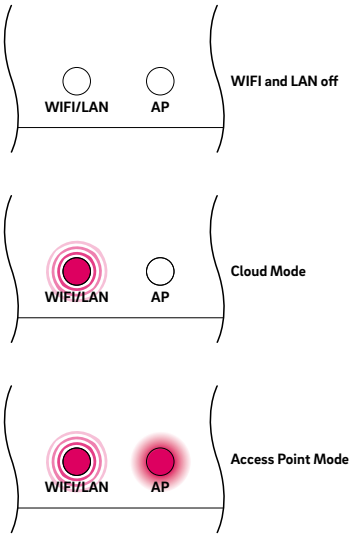
2



Press both arrow buttons at the same time for > 3 seconds



The WIFI/LAN LED and/or the AP LED will begin to flash.

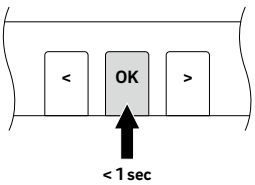


Confirm by briefly pressing the OK button. The current status of the transmitting function is displayed.

3

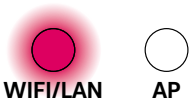
By briefly pressing the right arrow button, it is possible to switch between the transmitting functions (none, direct connection, server connection). Press the right button repeatedly until the direct connection is activated. In this case, the WIFI/LAN LED flashes and the AP LED lights up permanently.

4



Confirm by briefly pressing the OK button.

5



The WIFI/LAN LED will start to light up permanently after no more than 2 minutes. The base station is now connected to the Internet and the REHAU server.

If no buttons are pressed for a period of time, the base will return to the initial state. In this case, the sequence for activating the transmitting function can be started again from step 2.

The app can now be connected as described above.

Establishing a wireless connection to the Internet
In order to connect the base to the Internet, it is necessary to enter the access data of the wireless LAN network (the router). To do this, follow the steps in chapter 5 to get to the input field for the access data. Then perform the following steps:

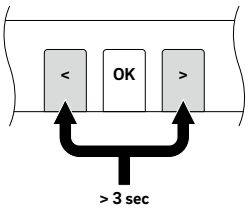
1

On the integrated web pages, go to the IT Settings menu item.

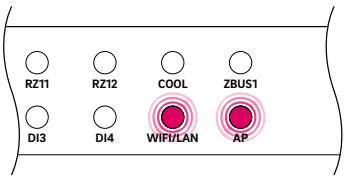
2

Enter the SSID and the password (WPA key) of the wireless LAN network and confirm the entry.

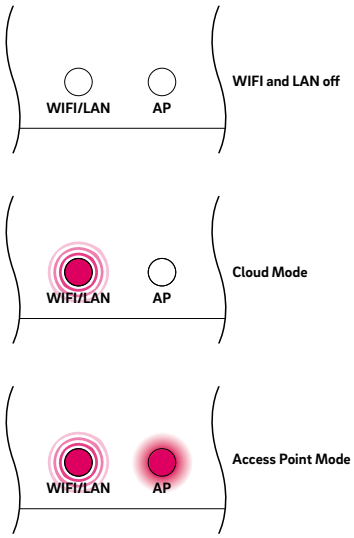
3



Press both arrow buttons at the same time for > 3 seconds



The WIFI/LAN LED and/or the AP LED will begin to flash.

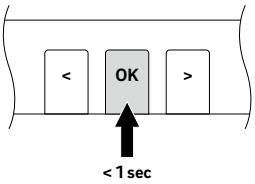


Confirm by briefly pressing the OK button. The current status of the transmitting function is displayed.

4

By briefly pressing the right arrow button, it is possible to switch between the transmitting functions (none, direct connection, server connection). Press the right button repeatedly until the direct connection is activated. In this case, the WIFI/LAN LED flashes and the AP LED lights up permanently.

5



Confirm by briefly pressing the OK button.

6

The WIFI/LAN LED will start to light up permanently after no more than 2 minutes. The base station is now connected to the Internet and the REHAU server.

If no buttons are pressed for a period of time, the Base will return to the initial state. In this case, the sequence for activating the transmitting function can be started again from step 2.

Setting up the NEA SMART 2.0 app

After the Base is successfully connected to the Internet as described in the previous chapter, the app can be connected. The app can be downloaded as an app for iOS or Android in the respective app stores. The steps following the installation of the app are described below.

1

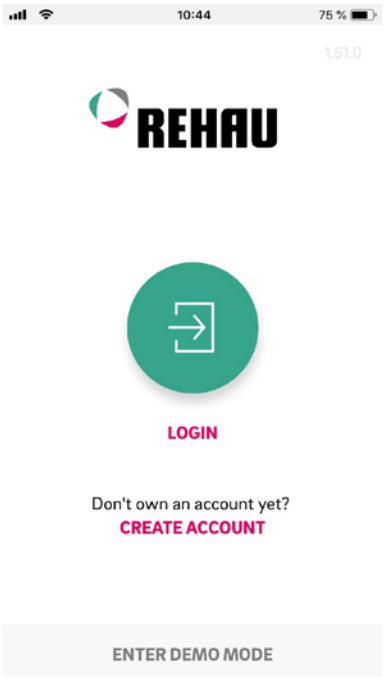


Fig. 07-1 App: Login page

After opening the app, the start screen appears.
A personal account must be set up under the "Create account" menu item.

2

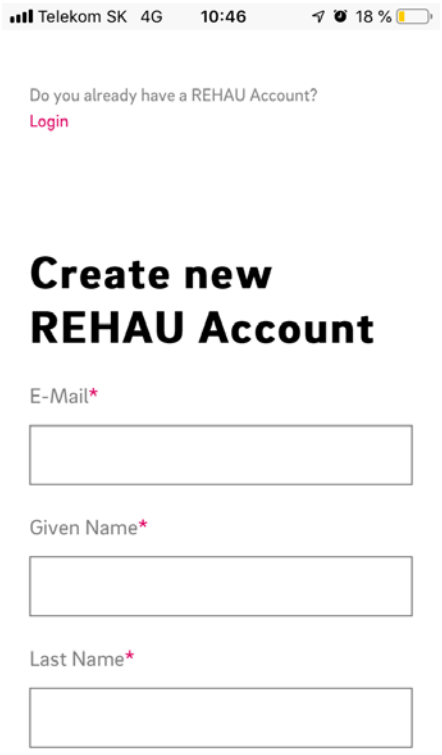


Fig. 07-2 App: Create a new REHAU account

You are required to enter your name, email address and specify a password. The password must be at least 10 characters long, contain at least one upper-case and one lowercase letter, a number and a special character.

Then confirm.

Once the "Sign up" field has been confirmed, an email is sent to the specified address, for verification. The "Terms and conditions" are confirmed by checking the box. You can read through the "Terms and conditions" by clicking the text highlighted in red.

3

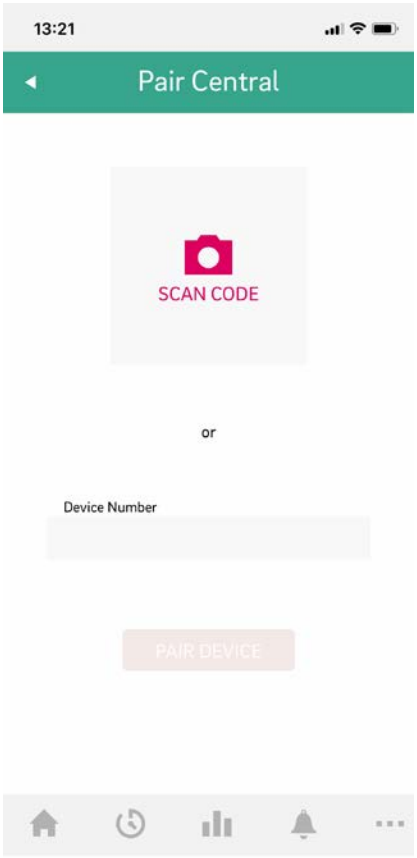


Fig. 07-3 App: Connecting the Base

Upon successful completion of the registration, the base must be registered with the app.
There are two ways to do this:
1. Scanning the QR code that is printed on the Base.
2. Entering the identification number and confirming.

4

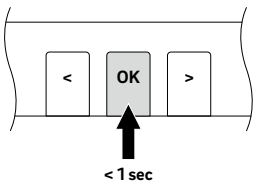


Fig. 07-4 App: Confirm

Confirm by briefly pressing the OK button.

5

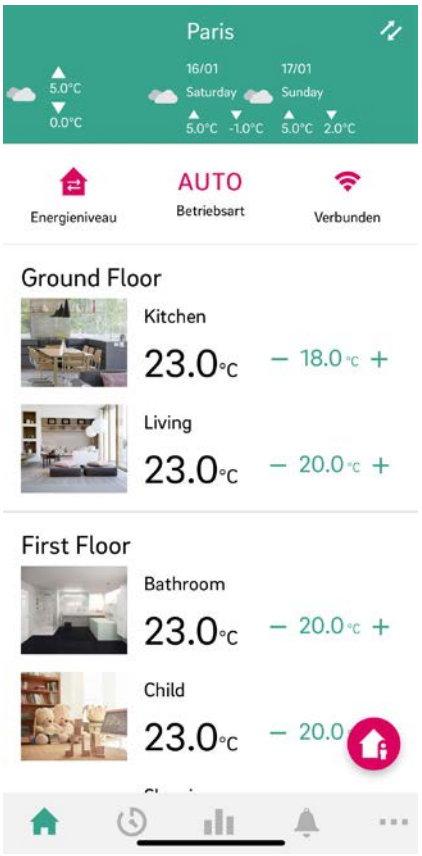


Fig. 07-5 App: Overview rooms

The overview screen of the app opens, and the individual rooms are displayed.
The app can now be used.

The software for the NEA SMART 2.0 system is continuously being developed and improved. An update via an internet connection is required to take advantage of all new and improved functions. By activating automatic updates (OTA), the system can always be kept up to date.

Useful tips

Display weather data for the location of the installation

In order to display the weather data for the location of your installation, the location must be stored. To do this, go to the following page of your APP:

More > Account management > Buildings / Apartments > Installation xy
and select your installation.

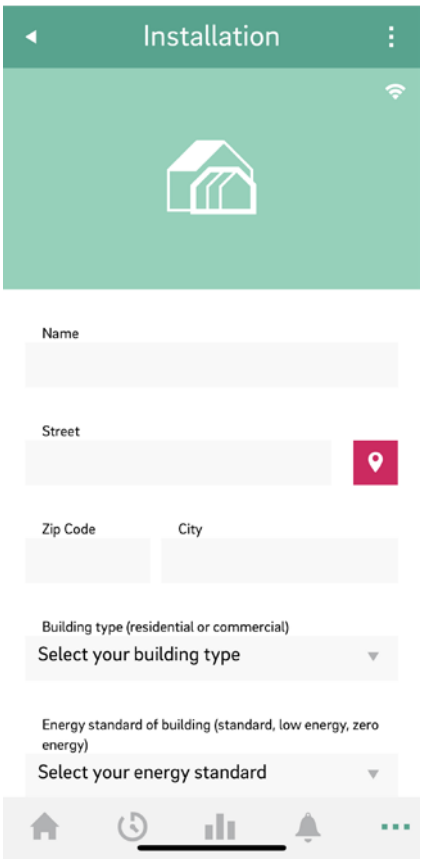


Fig. 07-6 App: Location of installation

Please press the magenta location button

to have your current location entered automatically. This ensures that the correct position is adopted. Then confirm the entries with Save at the end of the page.

Automatic update of the NEA SMART 2.0 APP (OTA)

In order to have the latest version of the app on your devices always, we recommend activating the button for automatic updates (OTA).

You can find this under:
More > Settings > General

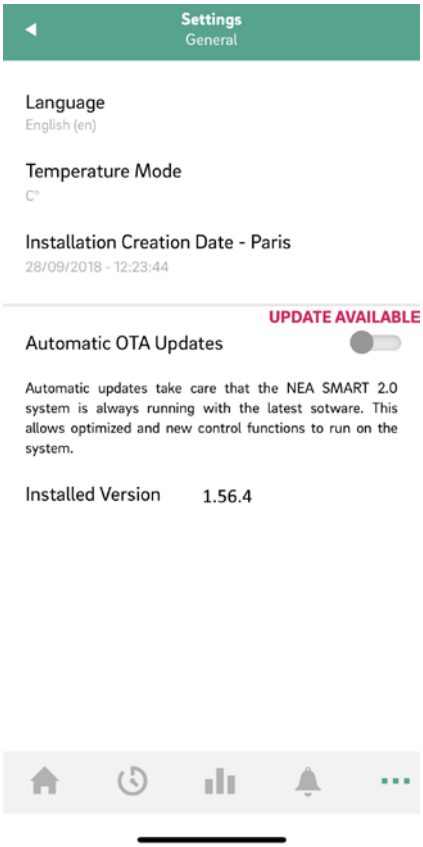


Fig. 07-7 App: Activating OTA

Update the display of the NEA SMART 2.0 APP

It can happen that the app does not display the latest data from the Room units etc. A quick and easy update is necessary to bring the app up to date.

To do this, pull the green weather bar from top to bottom, the app will then update automatically. A confirmation will be displayed at the end.

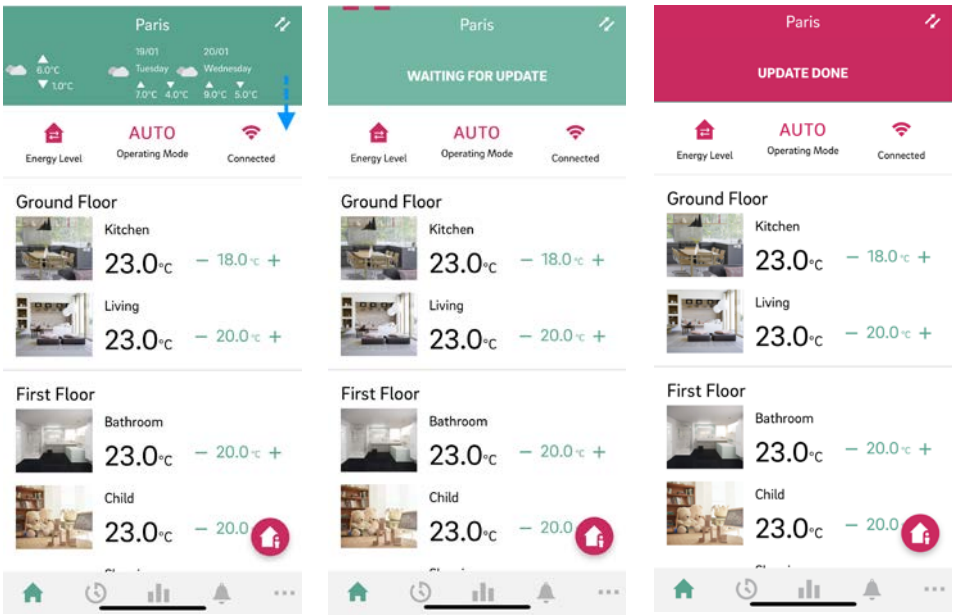


Fig. 07-8 App: App update

08 Battery (battery-operated thermostat only)

Changing the batteries
If you have opted for a wireless control, the battery status of the individual room units is displayed in the app. If the service life of the batteries comes to an end, this will be displayed so that you can change the batteries. Please use two batteries type AAA 1.5 V Micro LR03. **Rechargeable batteries may not be used**. If you have a mixed system, you will see a mains plug instead of a battery.

Replace the batteries if the fault message “low battery” is displayed.
To do so, open the housing of the NEA SMART 2.0 Room unit (see Fig. 8-1) with a screwdriver (recommended width: 5 mm).

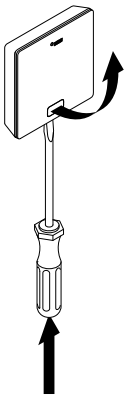


Fig. 08-1 Opening the NEA SMART 2.0 Room unit

Remove the batteries from the compartment and insert new batteries (AAA). Ensure correct polarity! See imprint on the circuit board.

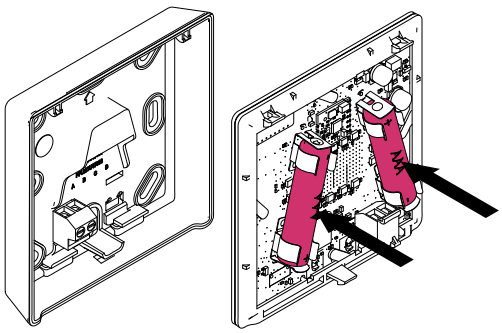


Fig. 08-2 NEA SMART 2.0 Room unit – battery change

Afterwards, close the lid again.

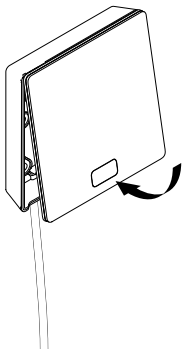
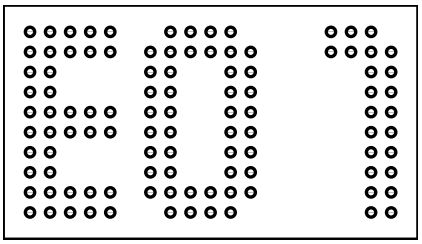


Fig. 08-3 NEA SMART 2.0 Room unit – close the lid

Depending on the installation location and the use of the room units, a battery change of the wireless room unit is necessary approximately every 2 years.
An indication for the upcoming battery change is shown on the display of the room unit as well as in the app (symbol).

09 Error description



Error messages
The following error messages can be displayed on the Room unit. For resolving these issues, please contact your installer.

E 01	Room temperature outside the measuring range
E 02	Room temperature sensor defective (interruption)
E 03	Short-circuit room temperature sensor
E 04	Humidity outside the measuring range
E 05	Humidity sensor defective (interruption)
E 06	Short-circuit humidity sensor
E 07	Remote sensor temperature outside the measuring range
E 08	Remote sensor defective (interruption), check connecting lead
E 09	Short-circuit remote sensor, check connecting lead
E 10	Connection error between base station and R-/U-Module
E 90	Communication error between Base and several R-Modules
E 99	Reference to a message that is only displayed on the NEA SMART app

Faults and possible causes

The room does not get warm.
- The target temperature is set too low.
- A window is open and therefore the heating has switched to reduced mode.
- The battery of the thermostat is empty. Therefore, no data/commands can be sent to the system.
- In the bus version, the power supply may be interrupted, so there is no contact to the system.
- The heating system is not in heating mode or OFF.
- Other fault which can only be fixed by your installer.

The room is too hot
- The target temperature is set too high. Therefore, the system continues to heat up.

The controller does not respond to buttons being pressed
- The battery is empty. Please replace the batteries.
- The controller is defective; please notify the installer.
- The power supply may be interrupted in the bus version.

An antenna symbol is displayed on the thermostat.
- The Room unit has lost its connection to the Base. Please let your installer clarify the problem. It may be necessary to use an additional antenna.

A window is shown on the display
- An open window or a rapid temperature drop has been recognized in the room. To conserve energy, the heating of the room is reduced.

Drops are shown on the display
- The humidity in the room is very high. There is a risk of condensate forming on cold surfaces. If this occurs often, there is a risk of mould growth.

E01 ... E10 or E99 is displayed on the room unit
- This is an error code, please check the error list and contact the installer if required.

10 Technical data NEA SMART 2.0

NEA SMART 2.0 Room unit

The NEA SMART 2.0 Room unit's functional features are indicated by a suffix, such as TRW or HRB.
The following naming system is used:

NEA SMART 2.0 Room unit XXX

Housing colour
W: white,
B: black

Technology
B: bus technology,
R: wireless technology

Sensor
T: temperature sensor,
H: temperature and humidity sensor

Features on the available variants

Room unit NEA SMART 2.0	Temperature	Temperature and humidity	Wired	Wireless	Housing, white	Housing, black	Illuminated frame
TBW	X		X		X		X
HBW		X	X		X		X
HBB		X	X			X	X
TRW	X			X	X		
HRW		X		X	X		
HRB		X		X		X	

Functional features on the NEA SMART 2.0 Room unit variants

Power supply (bus technology, variant XBX)	Via zone bus (ZOBUS)
Power supply (wireless technology, variant XRX)	2 x LR03 AAA alkaline batteries, battery life of two years
Analogue input	NTC 10 K for external temperature sensor NEA SMART 2.0 remote sensor
Precision of temperature measurement	+/-1K in the range 0 °C to 45 °C
Temperature measurement range	–10 °C to 45 °C (displayed: 0 °C to 45 °C)
Precision of humidity measurement; measurement range (variants HXX)	+/-3% in the range 20–80% at 20 °C, +/-5% outside this range; 0…100%
Protection class/protection rating	III/IP20
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	86 x 86 x 21
Housing material	ABS/PC
Housing colour (variants XXW)	White (similar to RAL 9003)
Weight	0.077 kg
Ambient temperature	0 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

NEA SMART 2.0 Room probe's

The NEA SMART 2.0 Room probe's features are indicated by a suffix, such as TBW or HBW.
The following naming system is used:

NEA SMART 2.0 Room probe XXX

Housing colour
W: white

Technology
B: bus technology,
R: wireless technology

Sensor
T: temperature sensor,
H: temperature and humidity sensor

Features on the available variants

NEA SMART 2.0 Room probe	Temperature	Temperature and humidity	Wired	Wireless	Housing, white
TBW	X		X		X
HBW		X	X		X
TRW	X			X	X
HRW		X		X	X

Functional features of the NEA SMART 2.0 Room probe

Power supply (bus technology, variant XBX)	Via zone bus (ZOBUS)
Power supply (wireless technology, variant XRX)	2 x LR03 AAA alkaline batteries, battery life of two years
Analogue input	NTC 10 K for external temperature sensor NEA SMART 2.0 remote sensor
Precision of temperature measurement	+/-1K in the range 0 °C to 45 °C
Temperature measurement range	–10 °C to 45 °C (displayed: 0 °C to 45 °C)
Precision of humidity measurement; measurement range (variants HXX)	+/-3% in the range 20–80% at 20 °C, +/-5% outside this range; 0…100%
Protection class/protection rating	III/IP20
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	86 x 86 x 21
Housing material	ABS/PC
Housing colour (variants XXW)	White (similar to RAL 9003)
Weight	0.077 kg
Ambient temperature	0 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

Base

NEA SMART 2.0 Base 24 V

Power supply	24 V AC ± 15%/50 Hz
Power consumption	3 W (without thermal actuators, without R-Module and U-Module)
Digital outputs	8 triac outputs for REHAU actuators, switching capacity 1 A non-inductive, 24 VAC, maximum load per output: 4 REHAU 24 V actuators 4 relay outputs (potential-free contacts) 230 V, 5 A, Class II
Fuse	T2A
Digital inputs	4 inputs for potential-free contacts
Radio frequency	868.3 MHz
Radio range	100 m outdoors, 25 m in buildings (typical)
Bus system 1	Zone bus (ZOBUS): 2-wire bus system; no need to take polarity into account; maximum length 100 m; no shielded or twisted pair cable required
Bus system 2	System bus: 3-wire RS-485 bus system; maximum length 300 m; shielded or twisted wire pair cable required
Protection class/protection rating	II/IP20
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	317 x 83.5 x 52.6
Housing material	ABS/PC
Housing colour	White (similar to RAL 9003)
Weight	0.535 kg
Ambient temperature	0 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

NEA SMART 2.0 Base 230 V

Power supply	230 V AC ± 15%/50 Hz
Power consumption	3.5 W (without thermal actuators, without R-Module and U-Module)
Digital outputs	8 triac outputs for REHAU actuators, switching capacity 0.5 A non-inductive, 230 VAC, maximum load per output: 4 REHAU 230 V actuators 4 relay outputs (potential-free contacts) 230 V, 5 A, Class II
Fuse	T2A 5 x 20 mm
Digital inputs	4 inputs for potential-free contacts
Radio frequency	869 MHz
Radio range	100 m outdoors, 25 m in buildings (typical)
Bus system 1	Zone bus (ZOBUS): 2-wire bus system; no need to take polarity into account; maximum length 100 m; no shielded or twisted pair cable required
Bus system 2	System bus: 3-wire RS-485 bus system; maximum length 300 m; shielded or twisted wire pair cable required
Protection class/protection rating	II/IP20
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	317 x 83.5 x 52.6
Housing material	ABS/PC
Housing colour	White (similar to RAL 9003)
Weight	0.65 kg
Ambient temperature	0 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

Extension modules

NEA SMART 2.0 R-Module 24 V

Power supply	Via ZOBUS (from NEA SMART 2.0 Base 24 V)
Power supply for thermal actuators	24 V AC ± 15%/50 Hz
Digital outputs	8 triac outputs for REHAU actuators, switching capacity 1 A, 24 VAC, maximum load per output: 4 REHAU 24 V actuators 2 relay outputs (potential-free contacts) 230 V, 5 A, Class II
Fuse	T2A
Digital inputs	One input for potential-free contact
Bus system	Zone bus (ZOBUS): 2-wire bus system; no need to take polarity into account; maximum length 100 m; no shielded or twisted pair cable required
Protection class/protection rating	II/IP20
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	125.5 x 83.5 x 52.6
Housing material	ABS/PC
Housing colour	White (similar to RAL 9003)
Weight	0.235 kg
Ambient temperature	0 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

NEA SMART 2.0 R-Module 230 V

Power supply	Via ZOBUS (from NEA SMART 2.0 Base 24 V)
Power supply for thermal actuators	230 V AC ± 15%/50 Hz
Digital outputs	8 triac outputs for REHAU actuators, switching capacity 0.5 A, 230 VAC, maximum load per output: 4 REHAU 230 V actuators 2 relay outputs (potential-free contacts) 230 V, 5 A, Class II
Fuse	T1, 6 A; 5 x 20 mm
Digital inputs	One input for potential-free contact
Bus system	Zone bus (ZOBUS): 2-wire bus system; no need to take polarity into account; maximum length 100 m; no shielded or twisted pair cable required
Protection class/protection rating	II/IP20
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	125.5 x 83.5 x 52.6
Housing material	ABS/PC
Housing colour	White (similar to RAL 9003)
Weight	0.260 kg
Ambient temperature	0 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

NEA SMART 2.0 U-Module 24 V

Power supply	Via VDC output on NEA SMART 2.0 Base 24 V
Additional power supply	24 V AC ± 15%/50 Hz (required for analogue output 0...10 V output)
Digital outputs	Four relay outputs (potential-free contacts) 230 V, 5 A, Class II
Digital inputs	4 inputs for potential-free contact
Analogue inputs	AI1, AI2, AI3: NTC 10 K AI4: configurable: NTC 10 K or 0...10 V
Analogue outputs	One output 0...10 V
Bus system	System bus: 3-wire RS-485 bus system; maximum length 300 m; shielded or twisted wire pair cable required
Protection class/protection rating	II/IP20
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	125.5 x 83.5 x 52.6
Housing material	ABS/PC
Housing colour	White (similar to RAL 9003)
Weight	0.235 kg
Ambient temperature	0 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

Accessories

NEA SMART 2.0 Transformer

Primary voltage	230 V AC ± 15%/50 Hz
Secondary voltage	24 V AC ± 15%/50 Hz
Performance	60 VA
Power loss when idle	< 2.5 W
Integrated fuse	Thermal fuse @130 °C
Protection class/protection rating	II/IP20
CE conformity as per	EN 61558
Dimensions (W x H x D in mm)	94 x 83.5 x 66.4 mm
Housing material	ABS
Housing colour	White (similar to RAL 9003)
Weight	1.8 kg
Ambient temperature	-25 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

NEA SMART 2.0 Outdoor sensor

Power supply	1 x LR06 (AA) lithium battery 3.6 V
Battery life	Five years
Radio frequency	869 MHz
Radio range	180 m outdoors, 30 m in buildings (typical)
Precision of temperature measurement	+/-0.5 K in the temperature range 15 to 30 °C
Temperature measuring range	-20 °C to +50 °C
Protection class/protection rating	III/IP45
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	79.6 x 79.6 x 49
Housing material	ABS
Housing colour	White
Weight	0.114 kg (including battery)
Ambient temperature	-50 °C to +65 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C

NEA SMART 2.0 Remote sensor

Sensor type	NTC 10 K
Precision	± 5% @25 °C
Protection rating	IP67
CE conformity as per	EN 60730
Sensor element dimensions (W x H x D in mm)	28 x 6 x 6
Cable length	3 m
Housing material	Sensor sheathing: PBT; cable sheathing: PVC (UL2517)
Housing colour	White (similar to RAL 9003)
Weight	0.065 kg
Ambient temperature	-20 °C to +60 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

NEA SMART 2.0 Flow/Return sensor

Sensor type	NTC 10 K
Precision	± 5% @25 °C
Protection rating	IP67
CE conformity as per	EN 60730
Sensor element dimensions (W x H x D in mm)	45 x 5 x 5
Cable length	3 m
Housing material	Sensor sheathing: Metal; cable sheathing: PVC (UL2517)
Housing colour	White (similar to RAL 9003)
Weight	0.065 kg
Ambient temperature	-20 °C to +60 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

NEA SMART 2.0 Antenna

Power supply	From NEA SMART 2.0 Base
Radio range	25 m in buildings
Protection class/protection rating	III/IP30
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	186 x 22 x 11
Housing material	PVC
Housing colour	White (similar to RAL 9010)
Weight	0.060 kg
Ambient temperature	0 °C to +50 °C
Ambient humidity	< 95% r. m., non-condensing
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

Thermal actuator UNI 24 V

Operating voltage	24 V AC/DC, +20% ... -10%
Operating output	1 W
Switch-on current	< 300 mA for max. 2 min.
Actuating range	4.0 mm
Actuating force	100 N ± 5%
Protection class/protection rating	III / IP54
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	44 x 52 x 48
Cable length	1 m
Housing material	Polyamide
Housing colour	Light grey (RAL 7035)
Weight	0.130 kg
Ambient temperature	0 °C to +60 °C
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

Thermal actuator UNI 230 V

Operating voltage	230 V AC +10% ... -10%, 50/60 V
Operating output	1 W
Switch-on current	< 550 mA for max. 100 ms.
Actuating range	4.0 mm
Actuating force	100 N ± 5%
Protection class/protection rating	II/IP54
CE conformity as per	EN 60730
Dimensions (W x H x D in mm)	44 x 52 x 48
Cable length	1 m
Housing material	Polyamide
Housing colour	Light grey (RAL 7035)
Weight	0.130 kg
Ambient temperature	0 °C to +60 °C
Storage/transport temperature	-25 °C to +60 °C
Usage environment	Indoors only

Thermal actuator MINI 24 V

Operating voltage	24 V AC/DC, +20 % ... -10 %
Operating power	1.2 W
Inrush current	< 300 mA für max. 2 min.
Maximum stroke	3.5 mm
Actuation force	90 N ± 10 %
Degree of protection / Safety class	IP54 / III
CE Conformity	acc. EN 60730
Dimensions: (W x H x D in mm)	36 x 48 x 49
Cable length	1 m
Housing material	Polyamid
Housing color	light grey (RAL 7035)
Weight	0.1 kg
Ambient temperature	0 °C ... +60 °C
Storage / transport temperature	-25 °C ... +60 °C
Application environment	In dry closed rooms

Actuator BALANCE 24 V

Operating voltage	24 V AC/DC, +20 % ... -10 %
Operating power	< 0.5 W
Inrush current	30 mA for max. 200 ms
Maximum stroke	4.5 mm
Actuation force	100 N
Control characteristic	PID, adaptive
Medium temperature	0 - 60 °C
Storage temperature	-25 °C to + 60 °C
Ambient temperature	max. 50 °C
Degree of protection / Safety class	IP54/III
Dimensions (W x H x D in mm)	37.8 x 95.3 x 53.2
Cable length	1 m
Housing color	RAL 9003
Weight	188 g
Application environment	In dry closed rooms

NEA SMART 2.0 KNX gateway

Operating voltage KNX	KNX operation voltage 30 V DC
Power consumption KNX Bus	ca. 4 mA
Auxiliary voltage Modbus / SYSBUS	12 ... 24 V DC
Power consumption Modbus / SYSBUS	ca. 5 mA
Storage temperature	-25 ... + 70 °C
Ambient temperature during operation	-5 ... + 45 °C
Rel. humidity (non-condensing)	5 % ... 93 %
Degree of protection (acc. EN 60529)	IP 20
Protection class	III
CE conformity / standards	EMC directive 2014 / 30 / EU RoHS directive 2011 / 65 / EU EN 50491-3: 2009 EN 50491-5-1: 2010 EN 50491-5-2: 2010 EN 50491-5-3: 2010 EN 61000-6-2: 2005 EN 61000-6-3: 2007 + A1: 2011 EN 50581: 2012
Mounting	DIN rail mounted device
Housing	DIN rail mounted device, width: 1 unit (18 mm)
Control elements	2 buttons and 1 KNX programming button
Indicators	3 LEDs multicolour
Connector for KNX Bus	Red / black
Connector for Modbus / SYSBUS	Pluggable screw connector (3 poles) for Modbus
Connector for Modbus / SYSBUS Support voltage	Pluggable screw connector (3 poles) for power supply
Cross-section of connectors	0.34 ... 2.5 mm^2
Modbus / SYSBUS	Type: RTU (RS-485), Slave / Up to 250 channels

NEA SMART 2.0 Power supply gateway

Operating voltage	85 V to 264 V AC
Frequency range	47 - 63 Hz
Power intake	0.25 A / 230 V AC
Inrush current, max.	45 A / 230 V AC
Efficiency	85 %
Output voltage	12 V DC
Output voltage -Adjustment range	10.8 V DC to 13.8 V DC
Output current	0 to 1.25 A
Output power	15 W
Type	Switch Mode
Operating time max.	1166000 h
Ripple	120 mV ss
Load regulation	1 %
Special features	Short circuit, overvoltage and overload protection
Storage temperature	-40 ... + 85 °C
Ambient humidity during storage	10 % ... 95 % Rel. Humidity (non-condensing)
Ambient temperature during operation	-30 ... + 70 °C
Ambient humidity in operation	20 % ... 90 % Rel. Humidity (non-condensing)
Degree of protection	No IP assigned
Protection class	II
CE conformity / standards UL approval	RoHS-conform, EN 60950-1, EN 6155-2-16, EN50178, UL 508, UL 60950-1 EMC EMISSIONEN 55032 (CISPR32) Class B, EN61000-3-2 Class A, EN61000-3-3 EMC IMMUNITY EN61000-4-2, 3, 4, 5, 6, 8, 11
Mounting	DIN rail mounting: 1 TE; DIN rail TS-35 / 7.5 or TS-35/15
Control elements	1 Potentiometer
Indicator	1 LED (blue); Power-On
Line cross-section	0.5 mm^2 – 2.5 mm^2
Dimensions (W x H x D in mm)	17.5 x 93 x 58.4
Housing colour	Grey
Weight (gram)	80 g
Application environment	In dry closed rooms

Coupling Relay 24 V / 230 V

Coil voltage:	24 V AC / 230 V AC
Contacts, maximum continuous current:	8 A
Conformity:	DIN VDE 0815, 2014/35/EU
Dimensions: (W x H x D in mm):	18 x 62 x 75
Weight:	70 g
Ambient temperature:	-40 °C … 85 °C
Application environment:	In dry closed rooms

Switching Relay 24 V / 230 V

Coil voltage:	24 V AC / 230 V AC
Contacts, maximum continuous current:	25 A
Conformity:	DIN VDE 0815, 2014/35/EU
Dimensions: (W x H x D in mm):	18 x 62 x 85
Weight:	88 g
Ambient temperature:	-40 °C … 85 °C
Application environment	In dry closed rooms

NEA SMART 2.0 Bus Cable (10 / 50 m bundle)

Cable type:	J-Y(ST)Y 2 x 2 x 0.8 mm
Conformity:	DIN EN 50441, VDE 0815
Loop resistance:	max. 73.2 Ohm/km
Conductor cross-section:	0.8 mm
Outer diameter:	7 mm
Length:	10 m / 50 m
Weight:	6 kg per 100 m
Ambient temperature:	-5 °C … 50 °C
Application environment	In dry closed rooms

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