



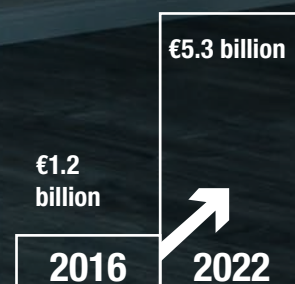
SIMPLE. FLEXIBLE. FUTURE-PROOF.
NEA SMART 2.0 – room temperature control for your success.



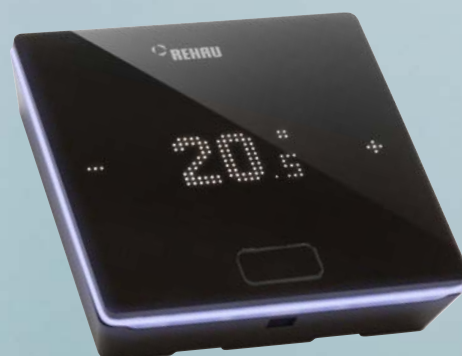
I LOOK FORWARD TO THE FUTURE

NEA SMART 2.0 – my solution
for controlling underfloor heating

In 2022, sales with smart home technology will be worth around 5.3 billion euros.* This is why you should choose NEA SMART 2.0 today – flexible room temperature control which allows you to meet a variety of requirements for surface heating and cooling systems. It can be used for all system sizes – from room temperature control in detached houses through to complex solutions with up to 60 rooms. Benefit from a smart system which offers you a variety of advantages.



Turnover growth for
the smart home industry



Easy to install,
Quick set-up
and maintenance



A solution for all
applications



Elegant design,
smart functions



First class REHAU
Service and Support



Integration into existing
smart home systems





NOW I FINISH MY WORKING DAY MUCH SOONER

Installation, initial set-up and maintenance
no longer takes an age with NEA SMART 2.0

Easy to install

No matter whether you install NEA SMART 2.0 as a wireless or wired version, both designs impress with their simple installation.

Quick set-up

With NEA SMART 2.0 you benefit from central programming of all components – conveniently done via smartphone, tablet or PC. Thanks to automatic hydraulic balancing, there is no need to waste time on manually regulating and readjusting the underfloor heating either.

Boost customer satisfaction with remote maintenance

Save yourself time-consuming customer visits in the future and choose remote maintenance and diagnostics instead. Your customers will love it now you can give a quick response!



Whether you're building or renovating

NEA SMART 2.0 is available as a wired or wireless option. The wireless option enables you to replace old systems during renovation projects without costly chiselling and plastering work. The wired version impresses with simple wiring and as a replacement solution for almost all existing systems.

Become flexible

Wireless and wired technology in one device – mixed installations are also possible with the NEA SMART 2.0 central control unit. With different modules, the system can be extended as required.

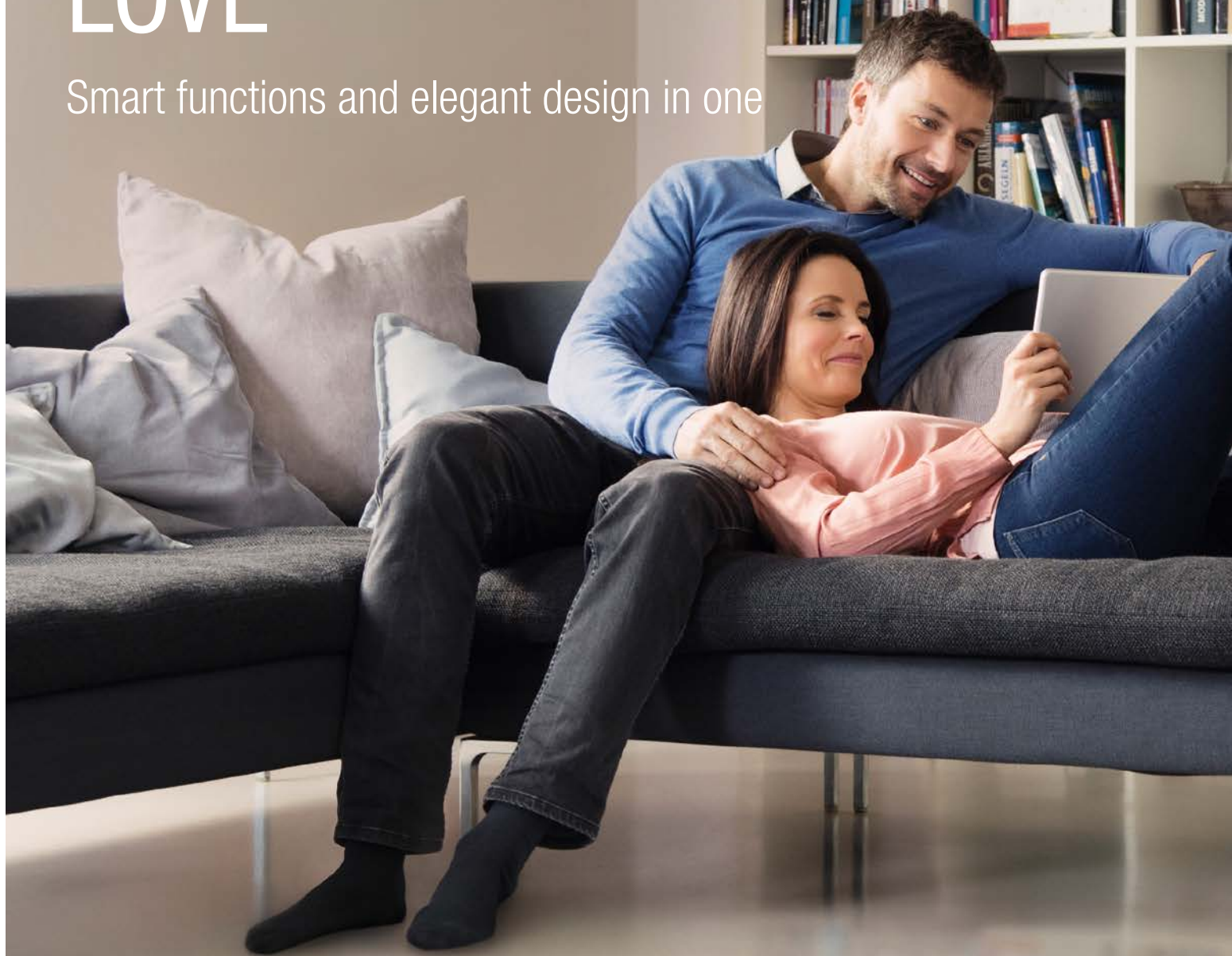
I ALWAYS HAVE THE RIGHT SOLUTION READY

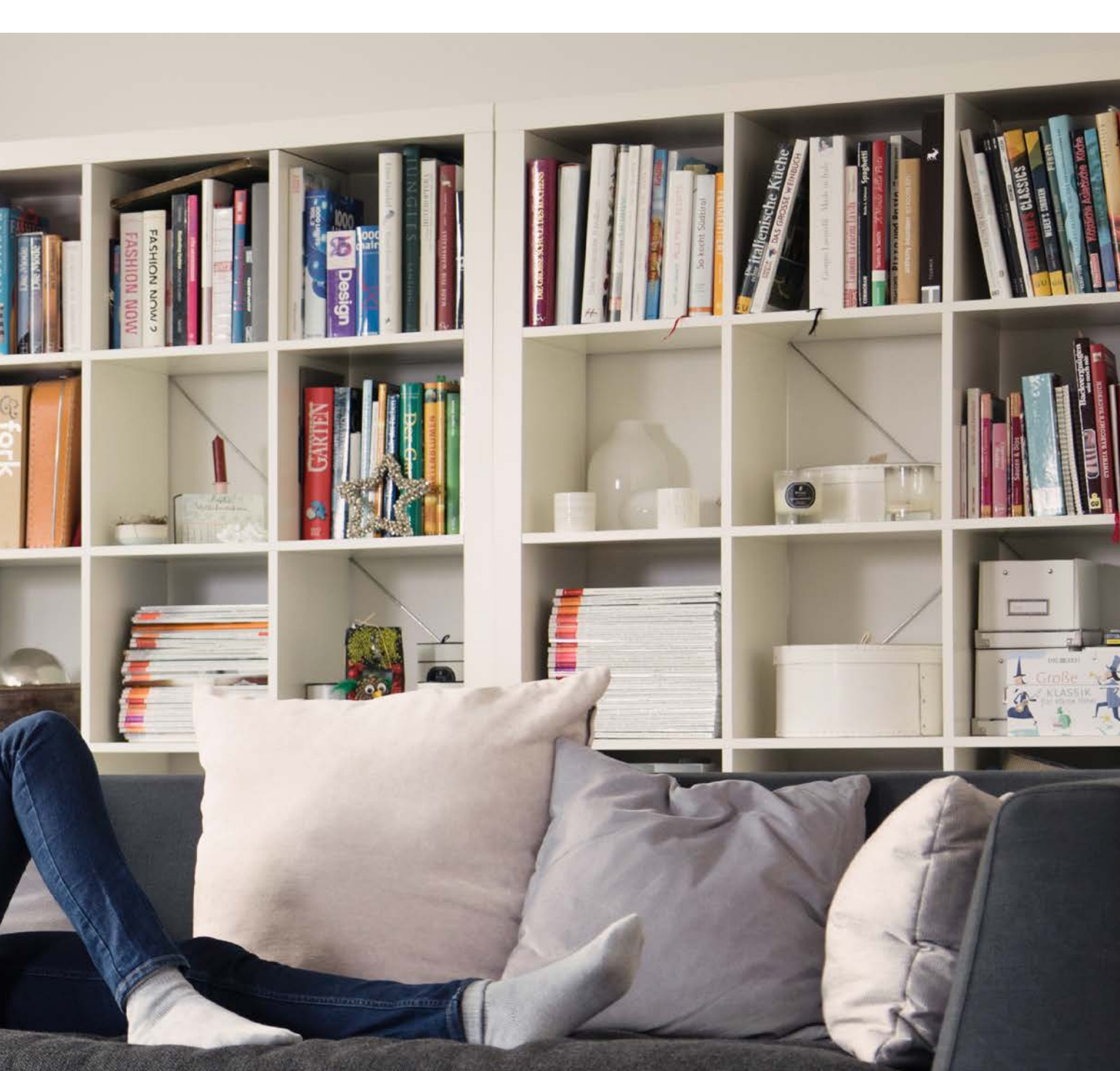
NEA SMART 2.0 – one for all



A HEATING SYSTEM WHICH MY CUSTOMERS LOVE

Smart functions and elegant design in one





You deliver optimum comfort to your customers with NEA SMART 2.0.

Always the perfect temperature

NEA SMART 2.0 learns from your customers' heating and usage mode, adjusting itself automatically. Should customers wish to set a different temperature at any point, they can conveniently adjust levels using Amazon Alexa.

Save up to 20% in heating costs

Energy savings of up to 20% are possible with smart functions such as geo-fencing, window-open detection or automatic energy-saving mode. Customers can also conveniently turn down the heating when away from home.

Elegant, timeless design

The room unit is available in two colours – sleek and discreet in white or a real eye-catcher in black. Available with optional illuminated frame for indirect lighting. The display features a modern LED matrix as standard.

The complete system from REHAU

Offer your customers a perfectly matched system. All components from a single supplier for optimal performance between the installation system, manifold technology and controls. Versatile in its use in floors, walls and ceilings for heating and cooling applications.



A person wearing a red long-sleeved shirt is leaning their arm against a grey concrete wall. The wall has visible vertical and horizontal joints and some circular indentations. The background is a dark, textured surface.

ACHIEVING SUCCESS TOGETHER

As a reliable partner, we'll ensure
you're fully prepared for the future
smart home market

Consultation and planning support

We are also glad to assist you at the planning stage, right from the pre-design and design phases of your project with on-site support included.

Software

Detached houses, offices or industrial buildings, the REHAU design and calculation software RAUCAD is a professional tool for the design, development and tendering of heating and sanitary work.

REHAU ACADEMY

Take advantage of our extensive range of seminars and webinars about our products or current topics of interest. Find out more in our seminar planner.

Sales support

We offer professionally-prepared advertising material, customised with your logo. This helps you save time and money. We are also happy to add your company to our online search tool for specialist installers.

BIM – Building Information Modelling

BIM planning involves creating a digital design first before actually building. The method has become an extremely important tool in construction project planning, implementation and management. During initial planning, a detailed 3D building model is generated, which is basically the “digital twin” of the construction to be built at a later stage. The actual construction doesn't start until all project participants have fully planned and coordinated the design in the digital twin.
www.rehau.com/group-en/micropages/design-service-en

TECHNICAL INFORMATION AND PRODUCT RANGE

The new generation control technology – NEA SMART 2.0



This technical information for the “NEA SMART 2.0 control system” is valid from October 2019.

You can download our current technical documents from www.rehau.com/TI.

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



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1 INFORMATION AND SAFETY NOTES

Validity

This technical information is valid for all except FR + IT.

Other applicable technical information

- Surface heating/cooling
- System basics, pipe and connection
- NEA SMART 2.0 Installation manual

Navigation

At the beginning of this technical information, you will find a detailed table of contents with the hierarchical headings and corresponding page numbers.

Pictograms and logos



Danger to life due to high voltage. Safety instructions are marked with this symbol.



Safety information



Legal information



Important information which must be observed



Information on the Internet



Your benefits

Currentness of technical information

For your own safety and for the correct application of our products please check at regular intervals whether a newer version of your technical information is available. The issue date of your Technical Information is always printed on the bottom right-hand side of the back page.

You can obtain the current Technical Information from your REHAU sales office, specialist wholesaler or you can download from www.rehau.com or www.rehau.com/TI

Safety warnings and operating instructions

- For your own safety and the safety of other people, please read through all safety instructions and operating instructions carefully and completely before commencing assembly.
- Keep the operating instructions safe and have them available
- If you have not understood the safety instructions or any individual installation instructions or find them unclear, please contact your REHAU sales office.
- Non-compliance with the safety information may lead to damage to property and personal injury.

Use in line with the specification

The NEA SMART 2.0 control system must be configured, installed and operated only as described in this technical information and in the other installation manuals for the system. Any other use is not in accordance with the specification and is therefore not permitted. Observe all national and international routing, installation, accident prevention and safety regulations and the instructions in this technical information when installing piping systems and electrical components and equipment.

Areas of application which are not covered by this technical information (special applications) must be discussed with our application department.

Contact your REHAU sales office.



Prerequisites for personnel:

- Our systems must only be installed by authorised and trained personnel.
- Only trained and authorised personnel may work on electrical installations or pipework components.

General precautions

- Keep your workplace clean and free of obstructions.
- Ensure that your work space has adequate lighting.
- Keep children, pets and unauthorised persons away from tools and installation areas. This particularly applies to renovations in occupied areas.



This technical information presents an overview of the features, functions and basic requirements for correct system operation. In addition to this information, you must also follow the installation and operating manuals for products and the additional documents available from www.rehau.de. You will find information such as the following on the website:

- End user manual
- Planning/installation and set-up manual
- Assembly instructions

2 NEA SMART 2.0 CONTROL SYSTEM

2.1 Area of use

The NEA SMART 2.0 control system is a modular solution for radiant heating and cooling systems which can be configured for multiple systems.

The clear, high-grade room unit design discreetly blends into living spaces and offices.

Due to its modular design, the system is suitable for individual room temperature control, as well as complex solutions for up to 60 rooms, including flow temperature control and integration of dehumidifier units. The modular design of the system is achieved by incorporating additional NEA SMART 2.0 Bases, NEA SMART 2.0 R-Modules and NEA SMART 2.0 U-Modules.

The system can be conveniently operated using a smartphone, tablet or PC at home or when the user is away from home via a LAN/

wireless LAN interface integrated into the bases as standard.

Connecting the system to the cloud allows the user to enjoy optimisation, analysis and remote maintenance functions.



The room units are available as a wireless or wired option (based on bus technology). **Hybrid technology** in the base allows both options to be connected to the base station with no need for additional components, ensuring both options can be mixed as required.

Since the wired technology used for the room units does not have any special requirements for the type and topology of the installed lines, the wired solution can normally also be installed as a retrofit alongside the wireless technology, which can always be used.

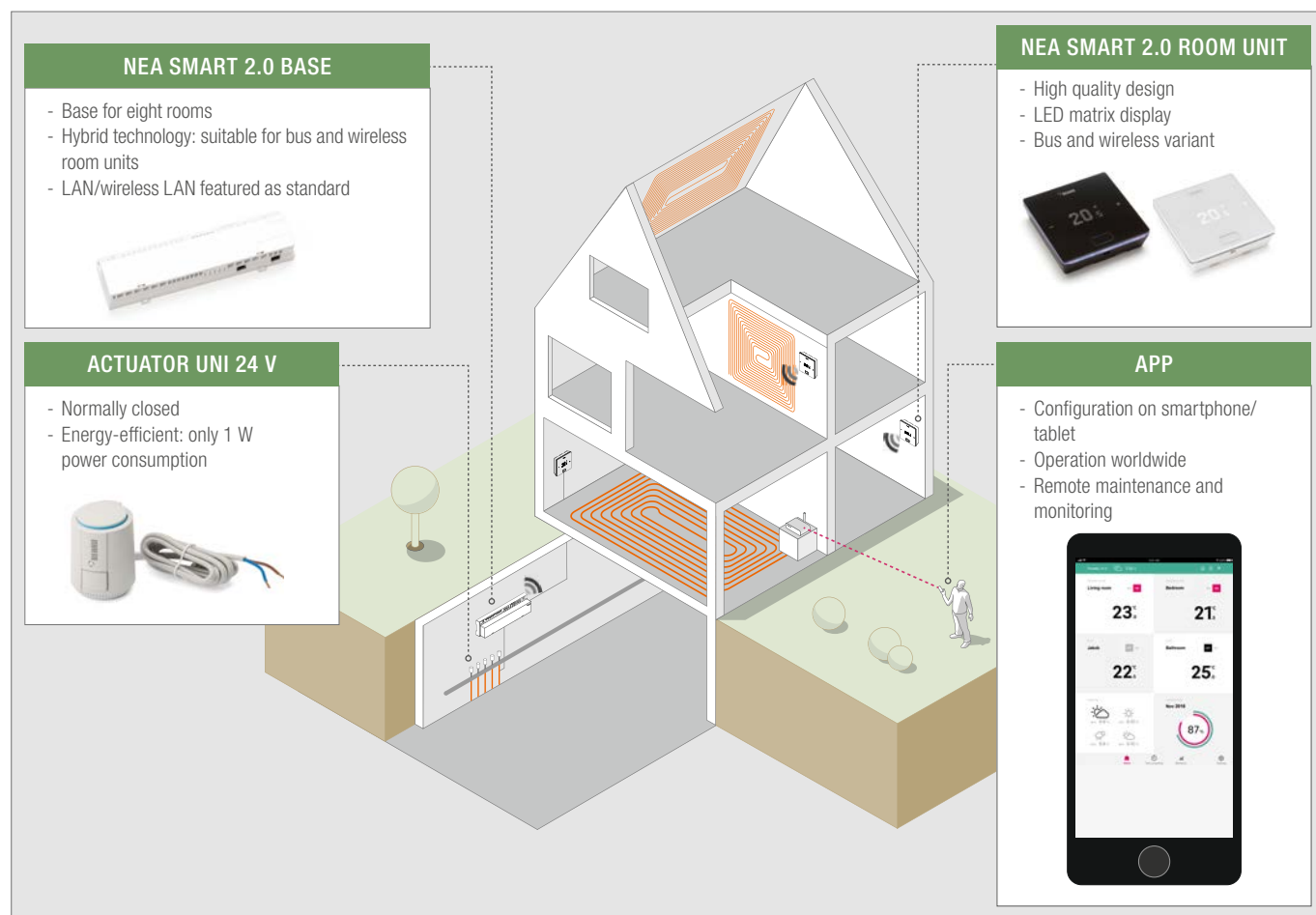


Fig. 2-1 NEA SMART 2.0 system

2.2 System overview

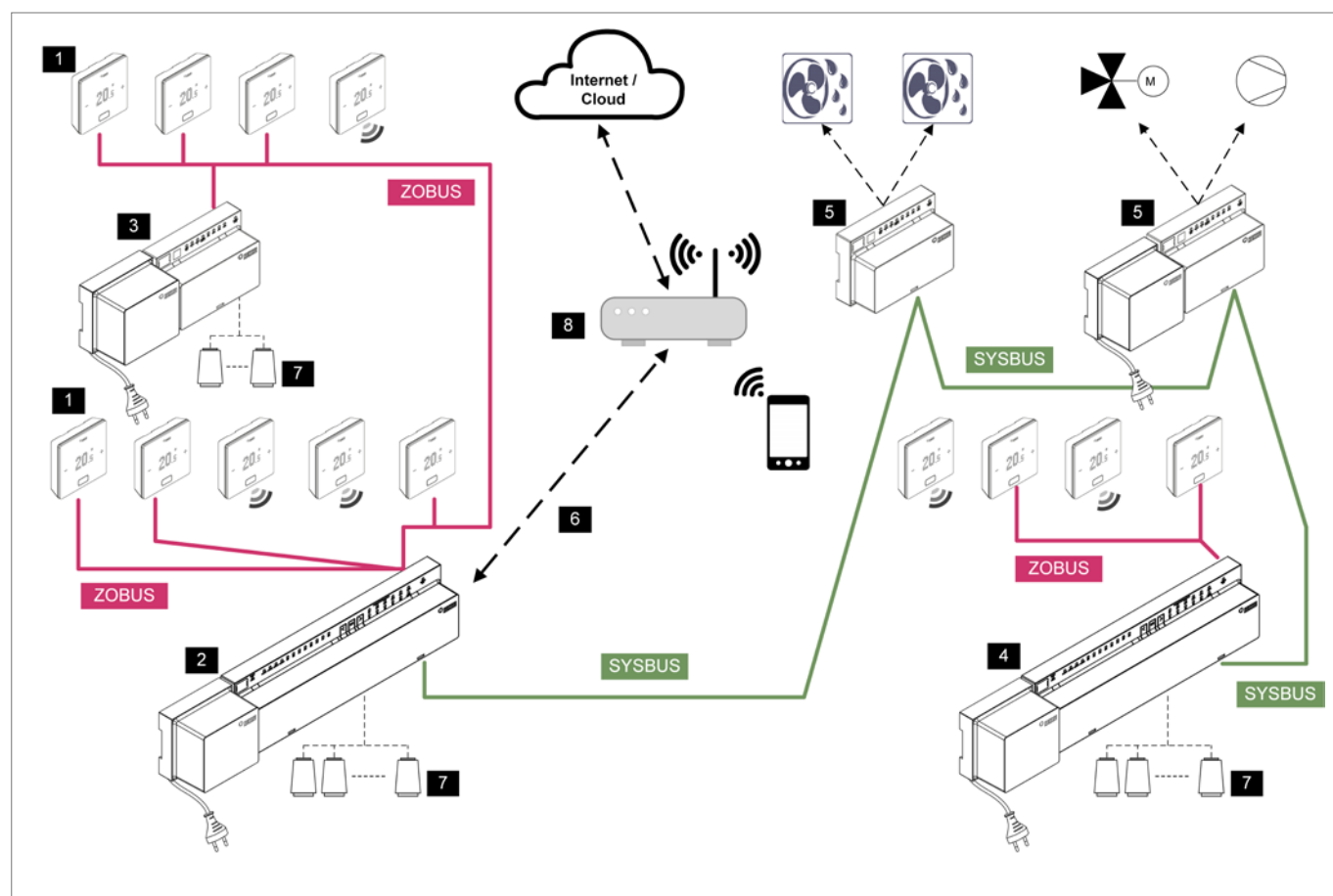


Fig. 2-2 System overview

SYSBUS: System bus (4-wire bus, shielded cable)	2: NEA SMART 2.0 Base 24 V, central control unit (master) with transformer; for up to eight rooms	5: NEA SMART 2.0 U-Module, 24 V, universal extension module for mixed circuit, dehumidifier
ZOBUS: Zone bus (ZOBUS, 2-wire bus, cable type belden and topology largely freely selectable; no need to ensure correct polarity)	3: NEA SMART 2.0 R-Module, 24 V, room extension module for four additional rooms (with transformer to power actuators)	6: LAN/wireless LAN interface to connect the system to router and cloud
1: NEA SMART 2.0 Room unit with display (bus and wireless)	4: NEA SMART 2.0 Base 24 V, central control unit (slave) with transformer; for up to eight additional rooms	7: UNI actuators 24 V to actuate valves in the manifold
		8: Router

2.3 System components

2.3.1 NEA SMART 2.0 Room unit



Fig. 2-3 NEA SMART 2.0 Room unit

Room unit with LED matrix display for installation on top of a flush mounted box or directly onto the wall.

- Operated with a central button and capacitive type plus/minus buttons and can be connected to an app
- Remote sensor can be connected for monitoring floor temperature or room temperature control
- Illuminated frame to emit display and provide backlighting for bus variant; chrome-coloured ring for wireless variant
- Flat housing to be mounted directly on the wall or on top of a flush mounted box

Variants:

- Bus or wireless technology
- With temperature or temperature/humidity sensor
- Housing colour: black or white

2.3.2 NEA SMART 2.0 Room probe



Fig. 2-4 NEA SMART 2.0 Room probe

Room probe can be mounted on top of a flush mounted box or directly to the wall.

- Remote sensor can be connected for monitoring floor temperature or room temperature control

- Flat housing to be mounted directly on the wall or on top of a flush mounted box

Variants:

- Bus or wireless technology
- With temperature or temperature/humidity sensor
- Housing colour: white

2.3.3 NEA SMART 2.0 Base 24 V



Fig. 2-5 NEA SMART 2.0 Base 24 V

Central control unit for surface heating and cooling systems can be installed in a manifold cabinet.

- Hybrid technology for interconnecting a maximum of eight NEA SMART 2.0 Room units based on bus or wireless technology
- NEA SMART 2.0 R-Module provides extension to four rooms
- System extension with up to four more NEA SMART 2.0 Bases possible. Up to 60 rooms can be controlled
- Activation of twelve thermal actuators UNI 24 V
- LAN/wireless LAN interface for integrating the system into the home network included
- Four relay outputs to actuate a pump, a hot or cold generator, a dehumidifier or other external units
- Four digital inputs to connect dew point sensors or to switch operating mode
- Status LEDs integrated
- Connections without screws using clamp connections
- Wall and DIN rail mount
- Operating voltage via NEA SMART 2.0 Transformer

2.3.4 NEA SMART 2.0 Transformer



Fig. 2-6 NEA SMART 2.0 Transformer

Transformer 24 V to supply the NEA SMART Base 24 V.
Wall and DIN rail mount.

2.3.5 NEA SMART 2.0 R-Module 24 V



Fig. 2-7 NEA SMART 2.0 R-Module 24 V

Extension module for NEA SMART 2.0 Base 24 V to control four additional rooms.

- Connection to NEA SMART 2.0 Base 24 V via 2-wire Zone bus (ZOBUS), polarity reversal protected
- Eight thermal actuators UNI 24 V can be connected
- Two relay outputs to actuate a pump, a hot or cold generator, a dehumidifier or other external units
- Two digital inputs to connect dew point sensors or to switch operating mode
- Status LEDs integrated
- Wall and DIN rail mount

2.3.6 NEA SMART 2.0 U-Module 24 V



Fig. 2-8 NEA SMART 2.0 U-Module 24 V

Universal extension module for NEA SMART 2.0 Base 24 V, configurable for:

- Flow temperature control
- Actuation of up to two dehumidifiers
- Connection to NEA SMART 2.0 Base 24 V via 4-wire system bus
- Four analogue inputs
- Four relay outputs
- Four digital inputs
- Status LEDs integrated
- Wall and DIN rail mount

2.3.7 NEA SMART 2.0 Remote sensor



Fig. 2-9 NEA SMART 2.0 Remote sensor

Temperature sensor to connect to NEA SMART 2.0 Room unit, configurable for

- Floor temperature monitoring for heating and cooling applications
- Measurement of room temperature

2.3.8 NEA SMART 2.0 Outdoor sensor



Fig. 2-10 NEA SMART 2.0 Outdoor sensor

Wireless external temperature sensor, assignable to NEA SMART 2.0 Base 24 V. Wall mount.

2.3.9 NEA SMART 2.0 VL/RL sensor



Fig. 2-11 NEA SMART 2.0 VL/RL sensor

Temperature sensor to connect NEA SMART 2.0 U-Module to measure flow and return temperature in a mixed heating circuit.

2.3.10 NEA SMART 2.0 Antenna



Fig. 2-12 NEA SMART 2.0 Antenna

Antenna for optional connection to NEA SMART 2.0 Base 24 V to increase wireless signal range to NEA SMART 2.0 Room units.

Antenna fitted outside manifold cabinet.

2.3.11 Thermal actuator UNI 24 V



Fig. 2-13 Thermal actuator UNI 24 V

Thermal actuator to activate the valves in a manifold.

- Normally closed
- Energy-efficient, only 1 W power consumption
- Clear status display
- Can be installed in any position
- "First-open function" for operating area heating in the construction phase (before installation of controllers)
- Can be adjusted for different types of valves and manifolds
- Protection rating IP54

2.4 Functions and features

2.4.1 Room temperature control (surface heating/cooling)

Room temperatures are controlled by the valves in the manifold being opened at specified times, respective of the temperature recorded by the room units and the target temperature (pulse-width modulation process – PWM).

A suitable set of parameters is selected for the chosen heating/cooling system, such as underfloor heating, ceiling heating or cooling systems.

It is possible to use different heating/cooling systems in one room at the same time without using auxiliary components, such as relay circuits or gate valves upstream of the manifolds.

2.4.2 Room temperature control optimisation functions



The NEA SMART 2.0 control system permanently analyses the temperature sequences in individual rooms and then optimises the control mode. Such optimisation provides maximum comfort while ensuring ideal energy efficiency:

- Compensation can aid comfort controls
- Detection of temperature drop in heating mode, e.g. due to open window
- Extremely precise compliance with the target values thanks to automatic adaptation of control parameters
- Auto boost function to ensure prompt return from reduced mode

easy-to-use functions to operate the system inside the house and while away from home. This app also offers analysis and maintenance information in a separate section for trade specialists.

2.4.5 Smart functions

A series of smart functions are provided by the algorithms in the room units and bases and the option to evaluate temperature sequences and control mode in the cloud:

- Adjusting room temperatures using Amazon Alexa
- Automatic detection of the users' presence or absence with geo-fencing
- Detection of temperature drop in heating mode, e.g. due to open window
- Energy-saving mode is triggered when users are absent temporarily or for a longer period
- Room temperature analysis, automatic triggering of measures to improve control mode
- Information on improving energy efficiency
- Automatic system check with feedback

These smart functions are extended and improved on an ongoing basis.

2.4.3 Hybrid technology (bus/wireless), pairing of room units

The NEA SMART 2.0 offers the option of communicating with wired (bus technology) room units and wireless room units as standard. Room units can be easily and reliably registered on the individual base station channels (pairing). The process is identical for both technologies.

2.4.4 Integrated LAN/wireless LAN, operation using browser or app

The NEA SMART 2.0 Base features LAN/wireless LAN and a web server as standard.

Systems used purely to control temperature (with a base) can be set up and operated using a standard web browser, the integrated web pages or the installation app.

The convenient installation app is used on a smartphone to configure settings, perform system tests and parametrise complex systems.

There is a user app available to end users featuring a series of

2.4.6 Flow temperature control

The flow temperature in heating and cooling surfaces can be controlled using the NEA SMART 2.0 U-Module. Up to three mixed circuits may be installed in a single system. The flow temperature control is parametrised using pre-defined parameter sets, which are automatically selected based on the defined system, such as an underfloor heating or ceiling cooling system. The parameters can be adjusted to the system specifics on the installation app during set-up or in the expert section in the user app at a later stage.

The flow temperatures are managed according to need. In addition to the characteristic values of outside temperature, energy requirements are also a factor in flow temperature management and are determined by the operating mode – normal, reduced or absence mode.

The room air humidity levels detected by the room units and the dew point calculated based on these levels play a decisive role in cooling applications.

2.4.7 Dehumidification

Dehumidifier units can be assigned to the individual areas in the installation, where each area can contain several rooms. The NEA SMART 2.0 components activate these units when relative humidity or dew point thresholds are reached.

Up to nine dehumidifiers can be integrated into the system.

2.4.8 Over-the-air update (OTA)

Systems which are connected to the cloud via the Internet receive the latest version of the software without requiring intervention from the user.

2.5 System set-up

The system is conveniently put into operation using a smartphone, tablet or PC. To do so, a direct wireless LAN (access point mode) connection is established between the NEA SMART 2.0 Base and the device used to set up operation.

Two methods are used, depending on the type of installation:

1. Systems comprising a NEA SMART 2.0 Base and room units only:
web pages accessed using a web browser or the REHAU installation app
2. Systems with several bases or with U-Modules (extended functions):
using the REHAU installation app



No router or connection to the Internet is required in either case!

2.5.1 General procedure

System set-up is generally divided into the following steps:

1. Installing the components, establishing all connections, testing
2. Assignment of room units to the base or base unit channels (pairing)
3. Setting system-specific values: target values, time programs, parameters

2.5.2 Room unit assignment (pairing)

The room units are assigned to one or more channels in the base or the R-Module. Several channels may be required, because a channel's connection potential for actuators is exhausted or different systems, such as underfloor heating or ceiling cooling, are present in a room.

Successful pairing is signalled on the room units and the base and can also be performed and checked on the installation app.

2.5.3 Setting up and operating using integrated web pages

In systems comprising a NEA SMART 2.0 Base and, where required, an R-Module (usual application for room temperature control only), the system can be adapted to the system conditions and user preferences. The system can be operated using a web browser on a smartphone, tablet or laptop or using the REHAU installation app.



However, this option is only available locally when the browser-capable unit is connected directly to the base.

2.5.4 Configuration using installation app

Complex systems are configured, tested and set up for the specific application concerned on the installation app. The installation app guides the client/installer through the different steps in the set-up sequence. Addresses need to be set on the bases and U-Modules connected to the system beforehand in preparation for installation. The installation app communicates directly with the NEA SMART 2.0 Base used as the master unit. No connection is required to the Internet.

The following steps are performed on the installation app:

- Input of building-specific data, such as the number of valves or mixed circuits
- Determination of the system's hydraulic structure (connection to the valves in the mixed circuit)
- Detection of all R-Modules connected to the bases (zone bus)
- Detection of all bases (slave units) and U-Modules connected to the system bus
- Displays for all room units assigned to the base control channels
- Assignment of the base control channels to the heating/cooling systems in the rooms
- Assignment of dehumidifiers to rooms and definition of electric connections
- Testing of all connected devices
- Issuing or adjustment of room names, target values, time programmes
- Parametrisation adjustment



All system data is stored on the base and after the Internet connection is established in the cloud.

2.6 Operation, monitoring and maintenance on user app

The user app can only be used if the control system is connected to the Internet via the router and is registered in the cloud. User app communication takes place with the cloud only. It therefore does not matter whether you use it inside or outside the building.

The user app is a convenient tool for:

- Specifying room temperature target values
- Creating and changing time programmes
- Activating short or long (holiday) absence periods
- Analysing room temperatures

The installer or the contracted maintenance firm can use the user app's expert section to:

- Check and change all settings
- Receive system messages regarding maintenance requirements
- Analyse system behaviour

The maintenance and repair options make things easier, especially for larger systems or systems which are further away.

The app can be downloaded in its latest version from the App store (iOS) or Google Playstore (Android).

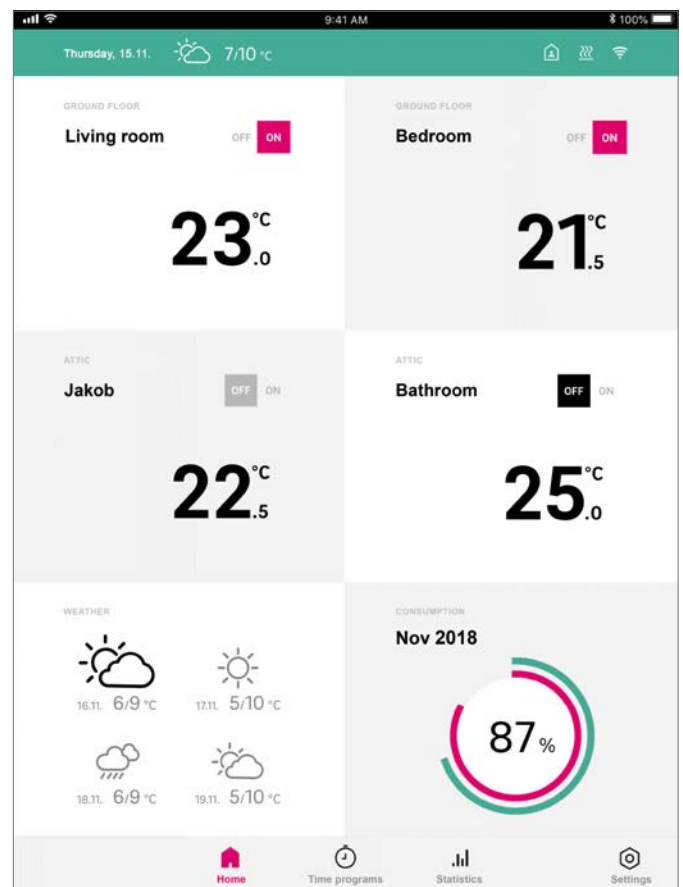


Fig. 2-14 User app

2.7 Bus system and cabling

The two bus systems, zone bus (ZOBUS) and system bus, are used to interconnect the components with one another only.

- **ZOBUS:** NEA SMART 2.0 Base bus system for room units and maximum of one R-Module
 - 2-wire
 - Polarity reversal protected
 - Using any topology
 - No requirements for line type
- **System bus:** Bus system between bases and U-Modules
 - Must be installed in series
 - Requires shielded twisted pair line

You will find specifications regarding the recommended lines in the table below.

Use of existing wiring (retrofit)



If the existing wiring of previously installed 24 V or 230 V room thermostats is used, it is very important to ensure that the existing lines are fully disconnected from the mains power.

A 230 V power supply voltage and 24 V voltage must not share the same line.

You must always observe country-specific standards and regulations!

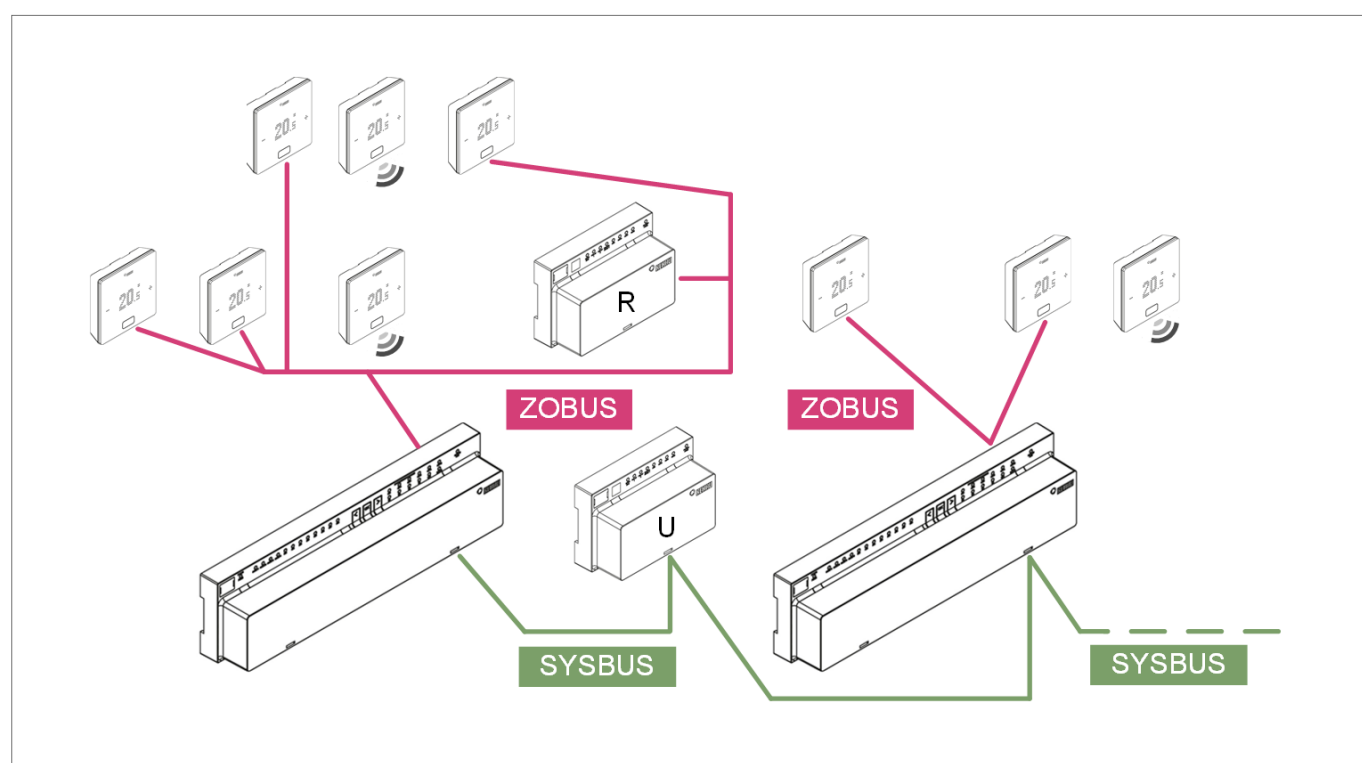


Fig. 2-15 Zone bus (ZOBUS) and system bus

Connection between Unit 1	Unit 2	Communication line	Cable type recommended/alternative	Topology/ maximum length
Base	Room unit (bus)	ZOBUS Zone bus	I (Y) St Y 2 x 2 x 0.8 mm / existing 2-wire line/2 core 0.8mm	Any/100 m
Room unit (bus)	Room unit (bus)	ZOBUS Zone bus	I (Y) St Y 2 x 2 x 0.8 mm / existing 2-wire line/2 core 0.8mm	Any/100 m
Base	R-Module	ZOBUS Zone bus	I (Y) St Y 2 x 2 x 0.8 mm / existing 2-wire line/2 core 0.8mm	Any/100 m
Base	Base	SYSBUS System bus	I (Y) St Y 2 x 2 x 0.8 mm/2 core 0.8mm	Line/500 m
Base	U-Module	SYSBUS System bus	I (Y) St Y 2 x 2 x 0.8 mm/2 core 0.8mm	Line/500 m

Tab. 2-1 Recommended lines

2.8 System limitations

The maximum configuration of a NEA SMART 2.0 system comprises:

- 1 x NEA SMART 2.0 Base 24 V (master)
- 4 x NEA SMART 2.0 Base 24 V (slave)
- 5 x NEA SMART 2.0 R-Module (extension module room – one R-Module per base possible)
- 9 x NEA SMART 2.0 U-Module

In this extension stage, the system comprises, as a maximum:

- 60 rooms
- Three mixed circuits
- Nine dehumidifiers (five dehumidifiers on base units, four dehumidifiers on U-Modules or R-Modules)



The relay outputs on NEA SMART 2.0 components are pre-assigned specific functions to some extent.

This pre-assignment can be changed when configuring the system.

This allows dehumidifiers to be activated via the NEA SMART 2.0 Base or the NEA SMART 2.0 R-Modules.

3 APPLICATION EXAMPLES

3.1 Wireless/bus room control for heating (up to eight rooms)

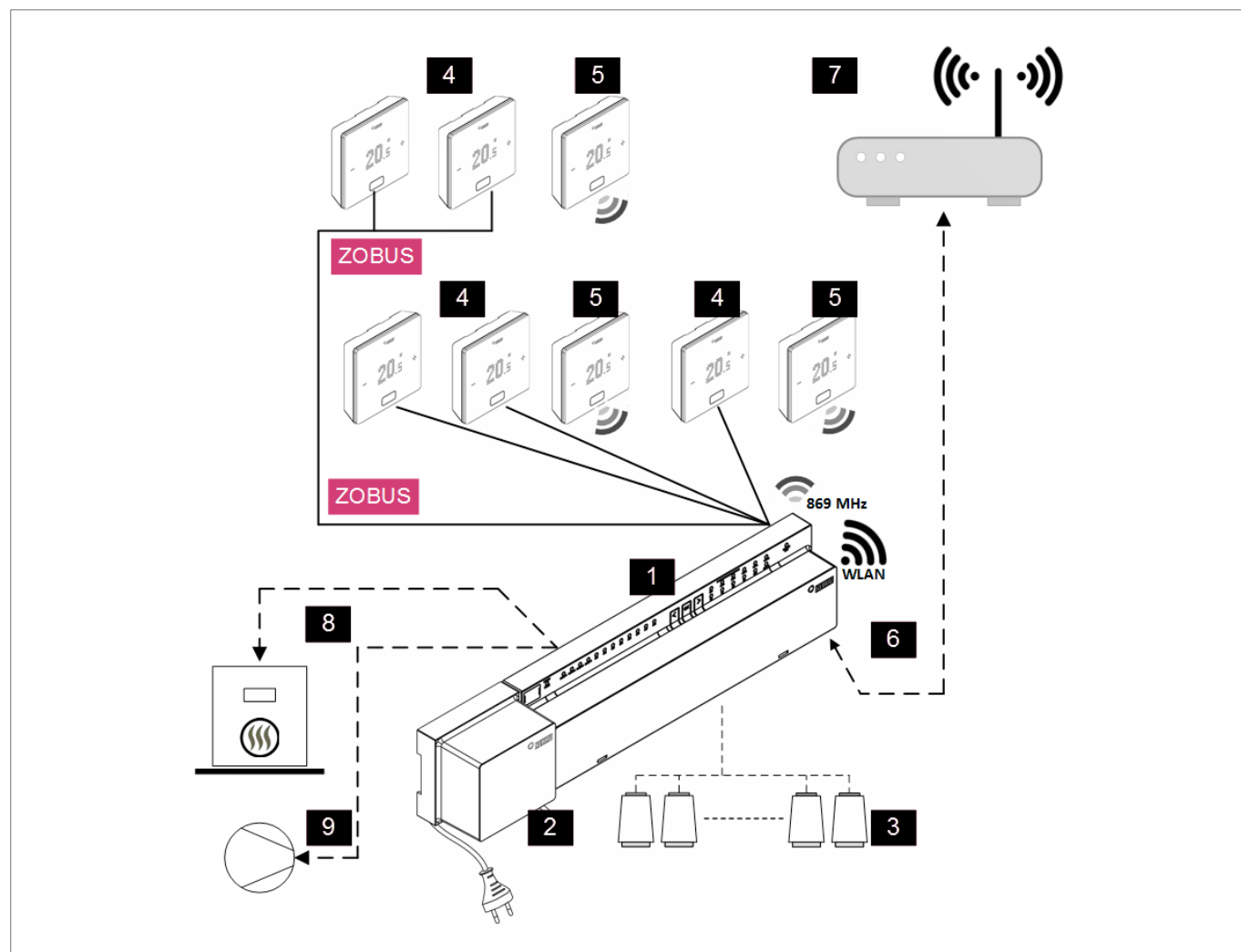


Fig. 3-1 NEA SMART 2.0 system, room control for heating

ZOBUS	Zone bus (ZOBUS) to connect the room unit	5	NEA SMART 2.0 Room unit TRW, white, wireless version, to measure the room temperature
1	NEA SMART 2.0 Base 24 V, central control unit (master); for up to eight rooms	6	LAN/wireless LAN interface to connect the system to router and cloud
2	NEA SMART 2.0 Transformer 24 V	7	Router for LAN/wireless LAN network in home and connection to cloud
3	Thermal actuators UNI 24 V on manifold	8	Output signal from the base to heat generators
4	NEA SMART 2.0 Room unit TBW, white, bus version, to measure the room temperature	9	Output signal from the base to pump

3.2 Wireless/bus room control for heating/cooling with R-Module (room extension module), up to 12 rooms

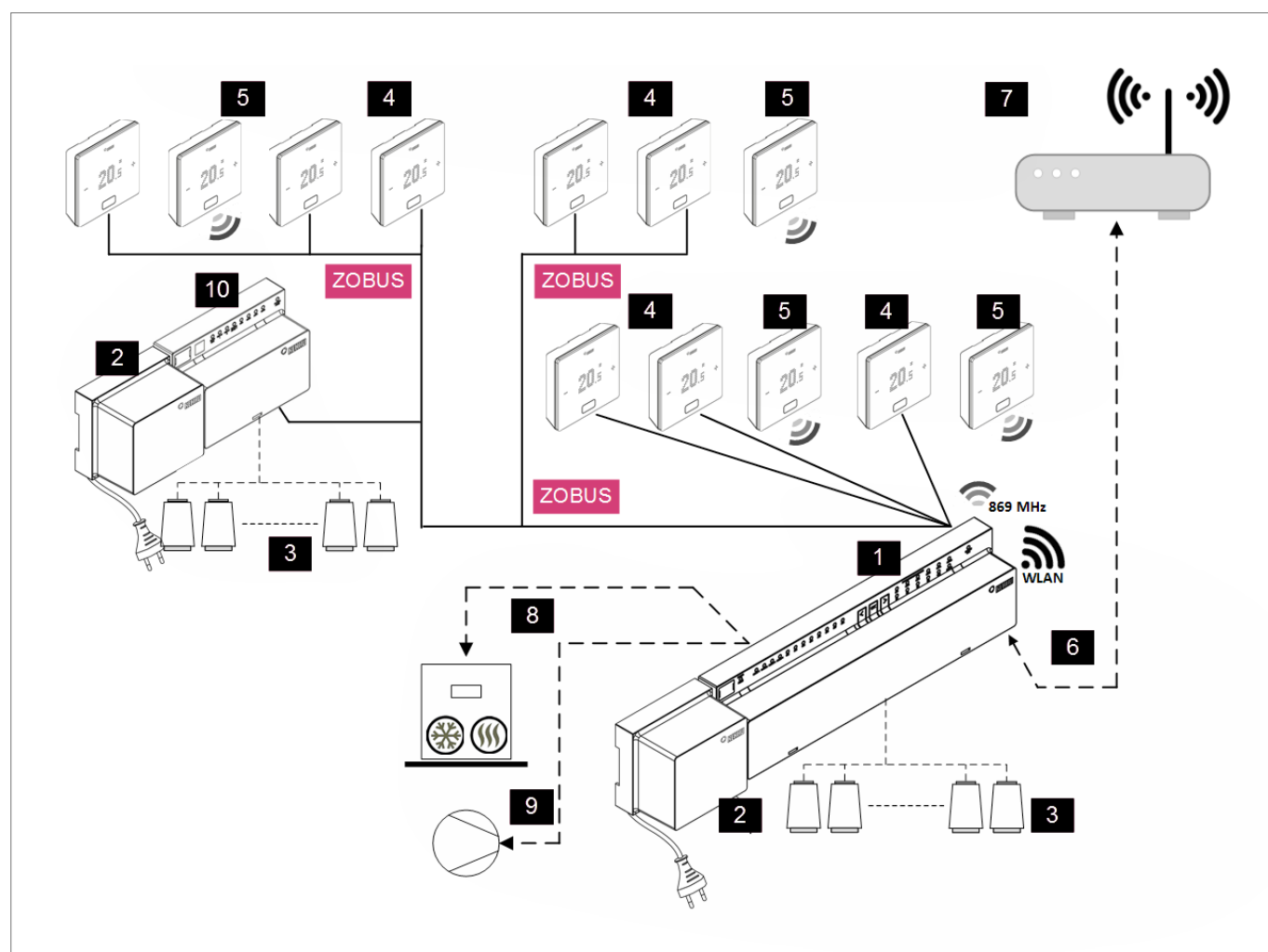


Fig. 3-2 NEA SMART 2.0 system, room control for heating/cooling for up to 12 rooms

ZOBUS	Zone bus (ZOBUS) to connect the room units and room extension module	5	NEA SMART 2.0 Room unit HRW, white, wireless version, to measure the room temperature and room air humidity
1	NEA SMART 2.0 Base 24 V, central control unit (master); for up to eight rooms	6	LAN/wireless LAN interface to connect the system to router and cloud
2	NEA SMART 2.0 Transformer 24 V	7	Router for LAN/wireless LAN network in home and connection to cloud
3	Thermal actuators UNI 24 V on manifold	8	Output signal from the base to heat/cold generators
4	NEA SMART 2.0 Room unit HBW, white, bus version, to measure the room temperature and room air humidity	9	Output signal from the base to pump
		10	NEA SMART 2.0 R-Module 24 V, room extension module for four additional rooms

3.3 Wireless/bus room control for heating/cooling with a slave unit, for up to 24 rooms

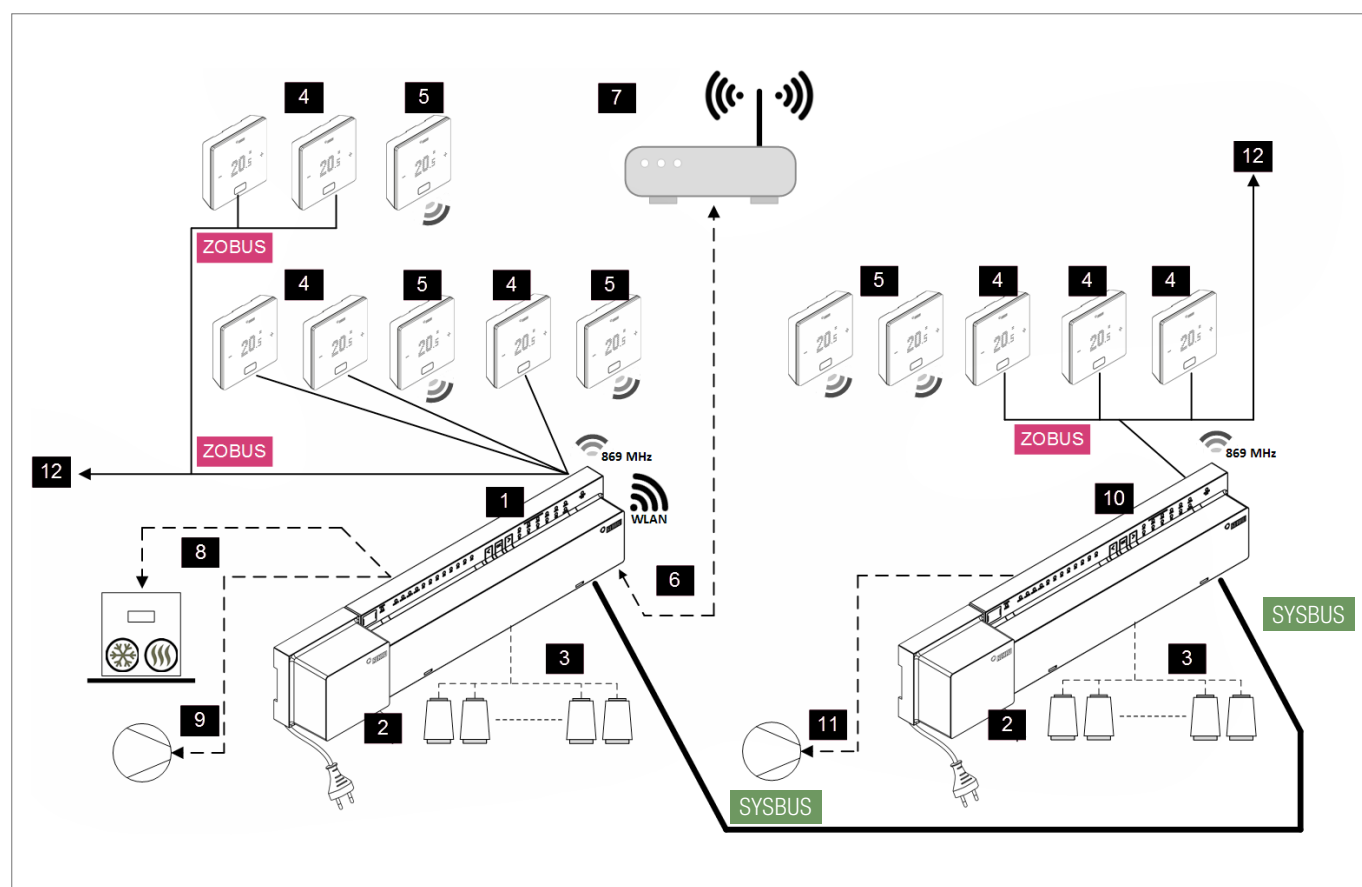


Fig. 3-3 NEA SMART 2.0 system, room control for heating/cooling for up to 24 rooms

ZOBUS	Zone bus (ZOBUS) to connect the room unit	6	LAN/wireless LAN interface to connect the system to router and cloud
SYSBUS	System bus to connect slave units or universal modules	7	Router for LAN/wireless LAN network in home and connection to cloud
1	NEA SMART 2.0 Base 24 V, central control unit (master); for up to eight rooms	8	Output signal from the base to heat/cold generators
2	NEA SMART 2.0 Transformer 24 V	9	Output signal from the base to (global) pump
3	Thermal actuators UNI 24 V on manifold	10	NEA SMART 2.0 Base 24 V, central control unit (slave); for up to eight rooms
4	NEA SMART 2.0 Room unit HBW white, bus version, to measure the room temperature and room air humidity	11	Output signal from the base (slave) to local pump
5	NEA SMART 2.0 Room unit HRW, white, wireless version, to measure the room temperature and room air humidity	12	Continuation of the ZOBUS to more room units or NEA SMART 2.0 R-Module

3.4 Wireless/bus room control for heating/cooling with U-Module (universal extension module) for mixed circuit

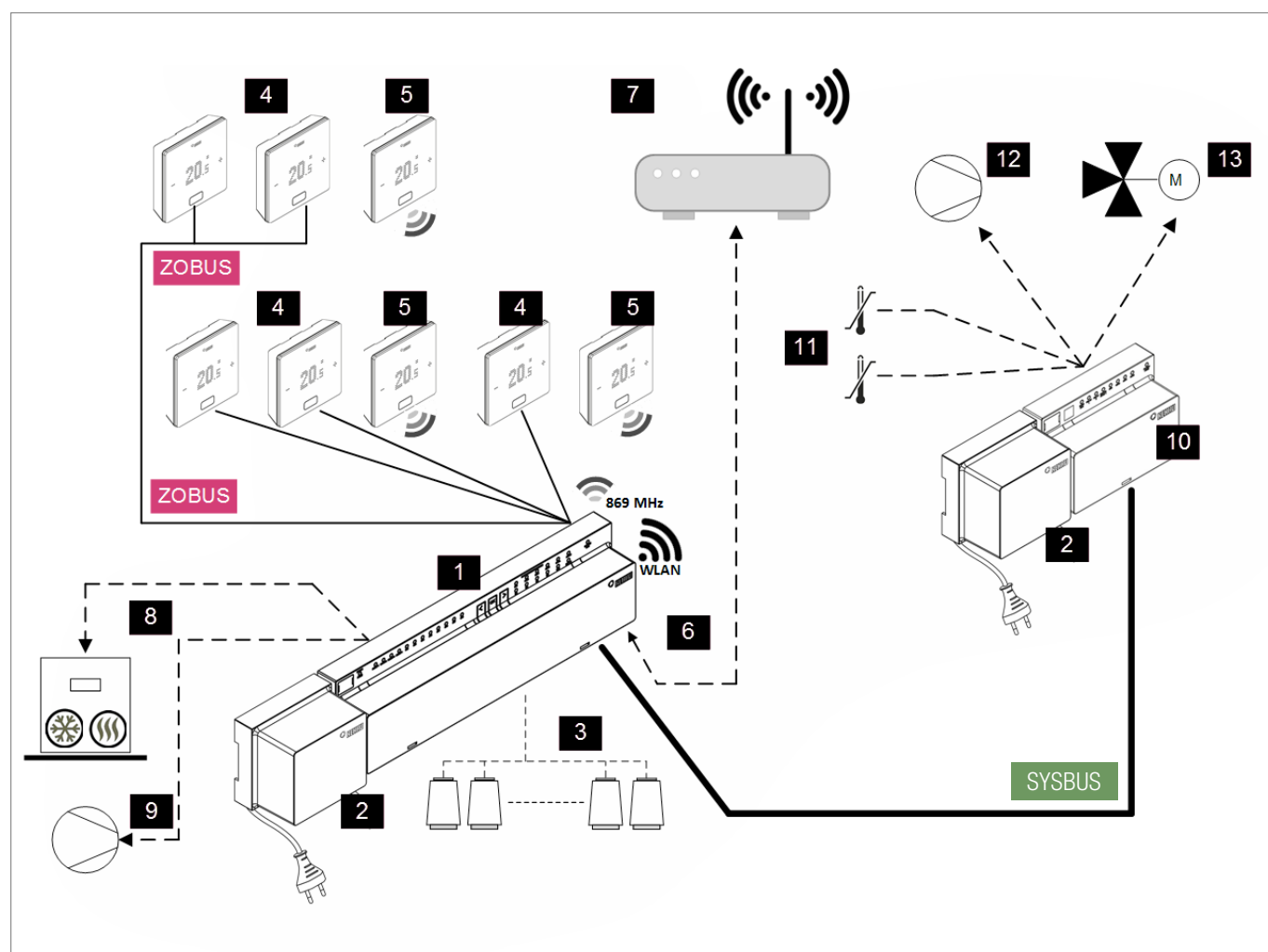


Fig. 3-4 NEA SMART 2.0 system, room control for heating/cooling with control for a mixed circuit

ZOBUS	Zone bus (ZOBUS) to connect the room unit	7	Router for LAN/wireless LAN network in home and connection to cloud
SYSBUS	System bus to connect slave units or universal modules	8	Output signal from the base to heat/cold generators
1	NEA SMART 2.0 Base 24 V, central control unit (master); for up to eight rooms	9	Output signal from the base to (global) pump
2	NEA SMART 2.0 Transformer 24 V	10	NEA SMART 2.0 U-Module 24 V (universal module) for mixed circuit
3	Thermal actuators UNI 24 V on manifold	11	VL/RL sensor
4	NEA SMART 2.0 Room unit HBW, white, bus version, to measure the room temperature and room air humidity	12	Pump for mixed heating circuit
5	NEA SMART 2.0 Room unit HRW, white, wireless version, to measure the room temperature and room air humidity	13	3-way mixing valve with 0...10V actuator (24 VAC, 0...10 V actuation)
6	LAN/wireless LAN interface to connect the system to router and cloud		

4 TECHNICAL DATA

4.1 NEA SMART 2.0 Room unit

The NEA SMART 2.0 Room units' functional features are indicated by a suffix, such as TRW or HRB. The following nomenclature 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

NEA SMART 2.0 Room unit	Temperature	Temperature and humidity	Bus	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	

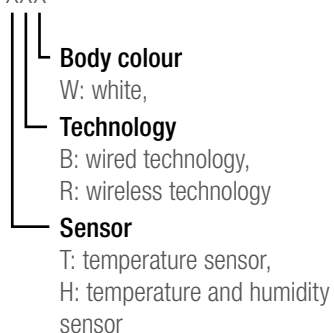
Tab. 4-1 Functional features on the NEA SMART 2.0 Room unit variants

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	+/-1 K 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)
Housing colour (variants XXB)	Black (RAL 9011)
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

4.2 NEA SMART 2.0 Room probe

The NEA SMART 2.0 Room probes' features are indicated by a suffix, such as TBW or HBW. The following nomenclature is used:

NEA SMART 2.0 Room probe XXX



Features on the available options

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

Tab. 4-2 Functional features of the NEA SMART 2.0 Room probe

Power supply (wired 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	+/-1 K between 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% between 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
Body material	ABS/PC
Body 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
Use	Indoors only

4.3 NEA SMART 2.0 Base 24 V

Power supply	24 V AC \pm 15%/50 Hz
Power input	3 W (without actuators)
Digital outputs	Eight triac outputs for thermal actuators, switching capacity 1 A, 24 VAC, maximum load per output: Four thermal actuators UNI 24 V Four relay outputs (potential-free contacts) 230 V, 5 A, Class II
Fuse	T2A
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	PC/ABS
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

4.4 Extension modules

4.4.1 NEA SMART 2.0 R-Module 24 V

Power supply	Via ZOBUS (from NEA SMART 2.0 Base 24 V)
Power supply for actuators	24 V AC \pm 15%/50 Hz
Digital outputs	Eight triac outputs for thermal actuators, switching capacity 1 A, 24 VAC, maximum load per output: Four thermal actuators UNI 24 V Two 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

4.4.2 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 \pm 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

4.5 Accessories

4.5.1 NEA SMART 2.0 Transformer

Primary voltage	230 V AC \pm 15%/50 Hz
Secondary voltage	24 V AC \pm 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/PC
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

4.5.2 NEA SMART 2.0 Outdoor sensor

Power supply	1 x LR06 (AA) lithium battery 3.6 V
Battery life	Ten 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

4.5.3 NEA SMART 2.0 Remote sensor

Sensor type	NTC 10 K
Accuracy	± 5% @25 °C
Type of protection	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

4.5.4 NEA SMART 2.0 VL/RL sensor

Sensor type	NTC 10 K
Accuracy	± 5% @25 °C
Type of protection	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

4.5.5 NEA SMART 2.0 Antenna

Power supply	From NEA SMART 2.0 Base 24 V
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

4.5.6 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	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

5 PRODUCT RANGE

The new generation of control technology – NEA SMART 2.0



System characteristics:

- Modular control system for heating and cooling applications
- Can be extended to up to 60 rooms
- Hybrid solution: The base station communicates with the room units or room probes via wired or wireless technology
- Includes flow temperature control and dehumidification control
- LAN and wireless LAN interface integrated as standard
- Possible to operate on app on smartphone or tablet
- Online updates possible for control software
- REHAU specific design for the room units/probes, base and app
- Integrated function for automatic hydraulic synchronisation
- Voice control using Amazon Alexa
- Geo-fencing
- Window-open detection

NEA SMART 2.0 – Wired version

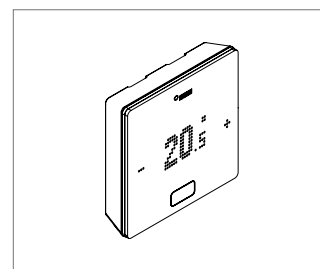
NEA SMART 2.0 Room unit bus with temperature sensor

Application: Room temperature control for radiant heating/cooling

- Properties:
- Wired version
 - Integrated temperature sensor
 - Suitable for heating and cooling applications
 - Can be mounted on top of a flush mounted box or directly on the wall
 - LED matrix display
 - Integrated illuminated frame
 - Display of room temperature, room target value and operating mode
 - Easy operation using a push button and two capacitive buttons
 - Power supply: via 2-wire bus line, polarity reversal protected
 - Protection rating: IP20
 - Protection class: III
 - Dimensions (W x H x D): 86 x 86 x 21 mm
 - NEA SMART 2.0 Remote sensor can be connected to monitor floor temperature
 - Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	g/pc	pc
13280001001	NEW	With temperature sensor, white (TBW)	86	86	21	71	1

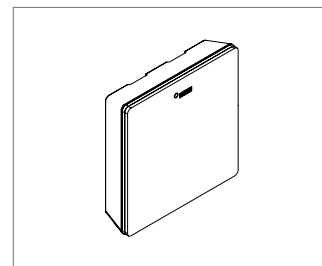
NEA SMART 2.0 Room probe bus with temperature sensor

Application: Room temperature control for radiant heating/cooling

- Properties:
- Wired version
 - Integrated temperature sensor
 - Suitable for heating and cooling applications
 - Can be mounted on top of a flush mounted box or directly on the wall
 - Power supply: via 2-wire bus line, polarity reversal protected
 - Protection rating: IP20
 - Protection class: III
 - Dimensions (W x H x D): 86 x 86 x 21 mm
 - NEA SMART 2.0 Remote sensor can be connected to monitor floor temperature
 - Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Art no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	g/pc	pc
13280061001	NEW	With temperature sensor, white (TBW)	86	86	21	71	1

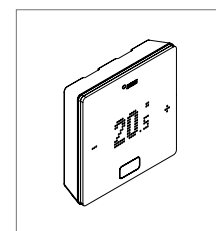
NEA SMART 2.0 Room unit bus with temperature and humidity sensor

Application: Room temperature control for radiant heating/cooling

- Properties:
- Wired version
 - Integrated temperature and humidity sensor (relative room humidity)
 - Suitable for heating and cooling applications
 - Can be mounted on top of a flush mounted box or directly on the wall
 - LED matrix display
 - Integrated illuminated frame
 - Display of room temperature, room target value and operating mode
 - Easy operation using a push button and two capacitive buttons
 - Power supply: via 2-wire bus line, polarity reversal protected
 - Protection rating: IP20
 - Protection class: III
 - Dimensions (W x H x D): 86 x 86 x 21 mm
 - NEA SMART 2.0 Remote sensor can be connected to monitor floor temperature
 - Packaging: cardboard box

Colour: White (similar to RAL 9003) or black (similar to RAL 9011)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	g/pc	pc
13280041001	NEW	With temp./humidity sensor, white (HBW)	86	86	21	71	1
13280051001	NEW	With temp./humidity sensor, black (HBB)	86	86	21	71	1

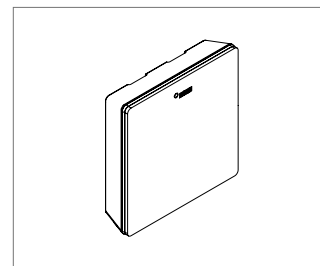
NEA SMART 2.0 Room probe bus with temperature and humidity sensor

Application: Room temperature control for radiant heating/cooling

- Properties:
- Wired version
 - Integrated temperature and humidity sensor (relative room humidity)
 - Suitable for heating and cooling applications
 - Can be mounted on top of a flush mounted box or directly on the wall
 - Power supply: via 2-wire bus line, polarity reversal protected
 - Protection rating: IP20
 - Protection class: III
 - Dimensions (W x H x D): 86 x 86 x 21 mm
 - NEA SMART 2.0 Remote sensor can be connected to monitor floor temperature
 - Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	g/pc	pc
13280081001	NEW	With temp./humidity sensor, white (HBW)	86	86	21	71	1

NEA SMART 2.0 – Wireless version

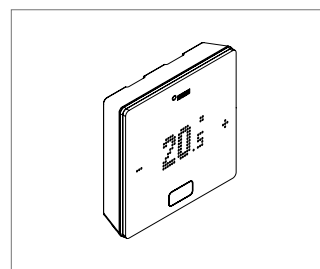
NEA SMART 2.0 Room unit wireless with temperature sensor

Application: Room temperature control for radiant heating/cooling

- Properties:
- Wireless version
 - Integrated temperature sensor
 - Suitable for heating and cooling applications
 - Can be mounted on top of a flush mounted box or directly on the wall
 - LED matrix display
 - Display of room temperature, room target value and operating mode
 - Easy operation using a push button and two capacitive buttons
 - Read range: 25 m in buildings
 - Power supply: 2 x LR03
 - Battery type: AAA alkaline battery
 - Battery life: > 2 years
 - Protection rating: IP20
 - Protection class: III
 - Signalling frequency band: 868 MHz
 - Dimensions (W x H x D): 86 x 86 x 21 mm
 - NEA SMART 2.0 Remote sensor can be connected to monitor floor temperature
 - Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	g/pc	pc
13280101001	NEW	With temperature sensor, white (TRW)	86	86	21	101	1

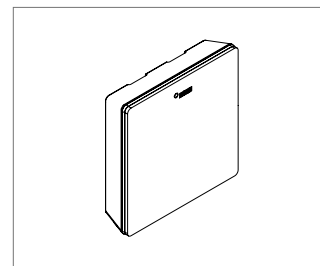
NEA SMART 2.0 Room probe wireless with temperature sensor

Application: Room temperature control for radiant heating/cooling

- Properties:
- Wireless version
 - Integrated temperature sensor
 - Suitable for heating and cooling applications
 - Can be mounted on top of a flush mounted box or directly on the wall
 - Wireless range: 25 m in buildings
 - Power supply: 2 x LR03
 - Battery type: AAA alkaline battery
 - Battery life: > 2 years
 - Protection rating: IP20
 - Protection class: III
 - Signalling frequency band: 869 MHz
 - Dimensions (W x H x D): 86 x 86 x 21 mm
 - NEA SMART 2.0 Remote sensor can be connected to monitor floor temperature
 - Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	g/pc	pc
13280141001	NEW	With temperature sensor, white (TRW)	86	86	21	101	1

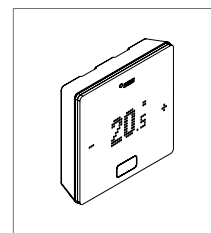
NEA SMART 2.0 Room unit wireless with temperature and humidity sensor

Application: Room temperature control for radiant heating/cooling

- Properties:
- Wireless version
 - Integrated temperature and humidity sensor (relative room humidity)
 - Suitable for heating and cooling applications
 - Can be mounted on top of a flush mounted box or directly on the wall
 - LED matrix display
 - Display of room temperature, room target value and operating mode
 - Easy operation using a push button and two capacitive buttons
 - Read range: 25 m in buildings
 - Power supply: 2 x LR03
 - Battery type: AAA alkaline battery
 - Battery life: > 2 years
 - Protection rating: IP20
 - Protection class: III
 - Signalling frequency band: 868 MHz
 - Dimensions (W x H x D): 86 x 86 x 21 mm
 - NEA SMART 2.0 Remote sensor can be connected to monitor floor temperature
 - Packaging: cardboard box

Colour: White (similar to RAL 9003) or black (similar to RAL 9011)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	g/pc	pc
13280121001	NEW	With temp./humidity sensor, white (HRW)	86	86	21	101	1
13280131001	NEW	With temp./humidity sensor (HRB)	86	86	21	101	1

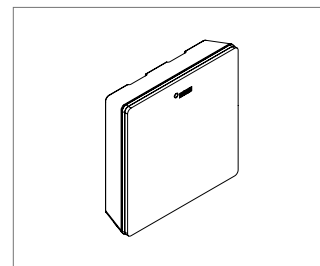
NEA SMART 2.0 Room probe wireless with temperature and humidity sensor

Application: Room temperature control for radiant heating/cooling

- Properties:
- Wireless version
 - Integrated temperature and humidity sensor (relative room humidity)
 - Suitable for heating and cooling applications
 - Can be mounted on top of a flush mounted box or directly on the wall
 - Wireless range: 25 m in buildings
 - Power supply: 2 x LR03
 - Battery type: AAA alkaline battery
 - Battery life: > 2 years
 - Protection rating: IP20
 - Protection class: III
 - Signalling frequency band: 869 MHz
 - Dimensions (W x H x D): 86 x 86 x 21 mm
 - NEA SMART 2.0 Remote sensor can be connected to monitor floor temperature
 - Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	g/pc	pc
13280161001	NEW	With temp./humidity sensor, white (HRW)	86	86	21	101	1

NEA SMART 2.0 – Base and extension modules

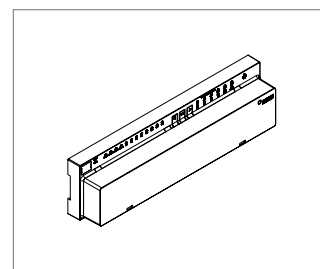
NEA SMART 2.0 Base

Application: Control for radiant heating/cooling systems

- Properties:
- Control functions for energy-saving operation of underfloor heating/cooling in conjunction with flow temperature control and dehumidifiers
 - Suitable for all NEA SMART 2.0 Room units and Room probes based on wired and wireless technology
 - Handling and operation using the REHAU app and connection to the cloud
 - Room units assigned with three buttons
 - LED status display
 - For mounting on the wall or top hat rails
 - Room temperature control for up to eight additional rooms and up to 12 actuators
 - Extendible to four additional rooms with the room extension module
 - System extension with up to five bases via system bus provides control for up to 60 rooms
 - Additional functions for flow temperature control and control of dehumidifiers possible via the universal extension module
 - Four relay outputs (potential-free contacts) for circulation pumps, dehumidifiers and heat and cool generators
 - Four digital outputs for change-over signal, dew point sensors, operating mode switch
 - Integrated LAN/wireless LAN interface
 - ZOBUS (2-wire bus) for NEA SMART 2.0 Room unit/probe as wired option and 869 MHz radio for NEA SMART 2.0 Room unit/Probe as wireless option integrated
 - Read range: 25 m in buildings
 - Optional: External antenna can be connected
 - Connection for system bus to connect additional bases and extension modules
 - Power supply: 24 V ± 15%/50 Hz
 - Maximum power consumption: 3 W (without actuators and extension modules)
 - Protection rating: IP20
 - Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Tension	Weight	Packaging unit
			mm	mm	mm	V	g/pc	pc
13280241001	NEW	24 V, bus/wireless hybrid solution	317	83.5	52.6	24	502	1

NEA SMART 2.0 Transformer

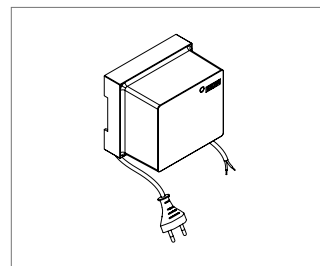
Application: Power supply for NEA SMART 2.0 Base and extension module

Properties:

- SELV transformer for NEA SMART 2.0 Base and extension module
- For mounting on the wall or DIN rails
- Primary: 230 V, 50/60 Hz
- Secondary 24 V/60 VA
- Protection rating: IP20
- Cable length: primary 1 m; secondary 0.3 m
- Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Weight	Packaging unit
			mm	mm	mm	kg/pc	pc
13280191001	NEW	24 V	94	83.5	66.4	1.40	1

NEA SMART 2.0 R-Module

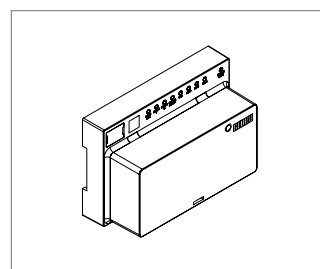
Application: To extend NEA SMART 2.0 Base to four more rooms

Properties:

- Room extension module
- Suitable for all NEA SMART 2.0 Room units and probes based on wired and wireless technology
- Communication with the NEA SMART 2.0 Base via ZOBUS
- For up to four additional rooms and up to eight actuators
- LED status display
- For mounting on the wall or top hat rails
- Two relay outputs (potential-free) to actuate dehumidifiers
- One digital input for dew point sensor
- Power supply: 24 V \pm 15%/50 Hz
- Protection rating: IP20
- Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Tension	Weight	Packaging unit
			mm	mm	mm	V	g/pc	pc
13280201001	NEW	24 V	125.5	83.5	52.6	24	222	1

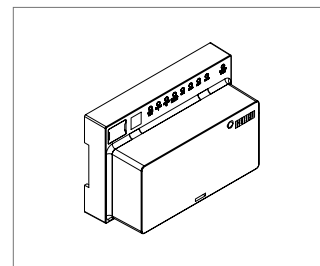
NEA SMART 2.0 U-Module

Application: To extend NEA SMART 2.0 Base to include more functions

- Properties:
- Universal extension module
 - Communication with the NEA SMART 2.0 Base via system bus
 - Selection of one of the following functions:
 - Control of a flow temperature
 - Control of two dehumidifiers
 - All inputs and outputs are pre-assigned according to selected function
 - Four NTC 10 K analogue inputs, one configurable 0...10 V
 - Four digital inputs
 - Four relay outputs (potential-free)
 - One analogue output 0...10 V
 - LED status display
 - For mounting on the wall or DIN rails
 - Power supply: 24 V \pm 15%/50 Hz
 - Protection rating: IP20
 - Packaging: cardboard box

Colour: White (similar to RAL 9003)

Note: NEW available from 01.10.2019



Mat. no.	Description		Width	Height	Depth	Tension	Weight	Packaging unit
			mm	mm	mm	V	g/pc	pc
13280221001	NEW	24 V	125.5	83.5	52.6	24	235	1

NEA SMART 2.0 – Accessories

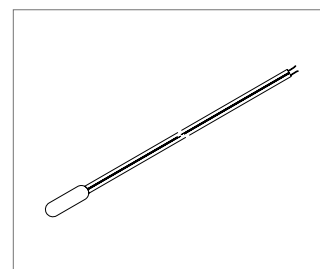
NEA SMART 2.0 Remote sensor

Application: To measure and monitor floor temperature

- Properties:
- Connection to the NEA SMART 2.0 Room unit and Room probe
 - NTC 10 K sensor
 - Cable length: 3 m
 - Length of the sensor element: 28 mm
 - Protection rating: IP67

Colour: White

Note: NEW available from 01.10.2019



Mat. no.	Description	Diameter	Length	Weight	Packaging unit
		mm	m	g/pc	pc
13280331001	NEW	6	3	62	1

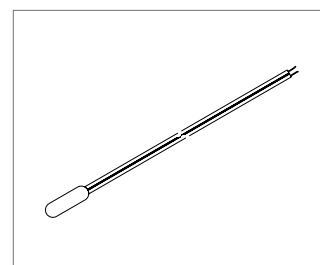
NEA SMART 2.0 VL/RL sensor

Application: To measure flow/return temperature

- Properties:
- Connection to the universal extension module
 - Sensor element enclosed by metal cap
 - NTC 10 K sensor
 - Cable length: 3 m
 - Length of the sensor element: 45 mm
 - Protection rating: IP67

Colour: White

Note: NEW available from 01.10.2019



Mat. no.	Description	Diameter	Length	Weight	Packaging unit
		mm	m	g/pc	pc
13280391001	NEW	5	3	65	1

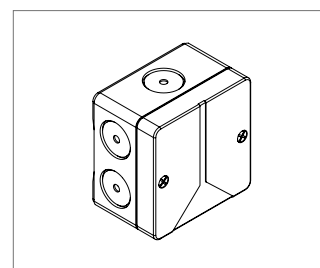
NEA SMART 2.0 Outdoor sensor

Application: For wireless measurement of the outdoor temperature

- Properties:
- Frequency: 868 MHz/2.4 GHz
 - LED status display
 - Wall mount
 - Power supply: 1 x LR06
 - Battery type: AA lithium battery 2600 mAh
 - Battery life: about 10 years
 - Read range: 180 m outdoors, 30 m in buildings
 - Protection rating: IP45
 - Packaging: cardboard box

Colour: White

Note: NEW available from 01.10.2019



Mat. no.	Description	Width	Height	Depth	Weight	Packaging unit
		mm	mm	mm	g/pc	pc
13280341001	NEW	79.6	79.6	49	119	1

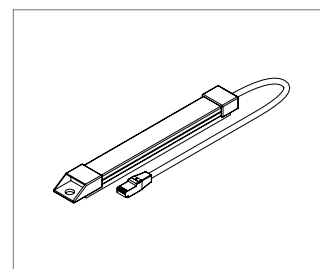
NEA SMART 2.0 Antenna

Application: To improve radio reception of NEA SMART 2.0 Room units and room probes

- Properties:
- Frequency: 869 MHz
 - Wall mount or adhesive
 - Cable length: 0.8 m (not extendible)
 - Read range: 100 m outdoors, 25 m in buildings
 - Protection rating: IP30
 - Protection class III
 - Packaging: cardboard box

Colour: White

Note: NEW available from 01.10.2019

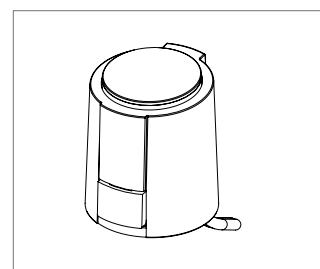


Mat. no.	Description	Width	Height	Depth	Weight	Packaging unit
		mm	mm	mm	g/pc	pc
13280351001	NEW	186	22	11	82	1

Thermal actuator UNI

Application: To actuate the control valves in the REHAU manifold and the thermostatic valves in the REHAU industrial manifold

- Properties:
- Normally closed
 - Stroke indicator with adjustment control
 - "First-open function" for operating area heating in the construction phase (before installation of controllers)
 - Adapter for different valves
 - Cable length for connecting line: 1 m
 - Valve adapter VA 80 included in the supplied package



Mat. no.	Description	Weight	Packaging unit
		g/pc	pc
13202761001	24 V	130	1

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