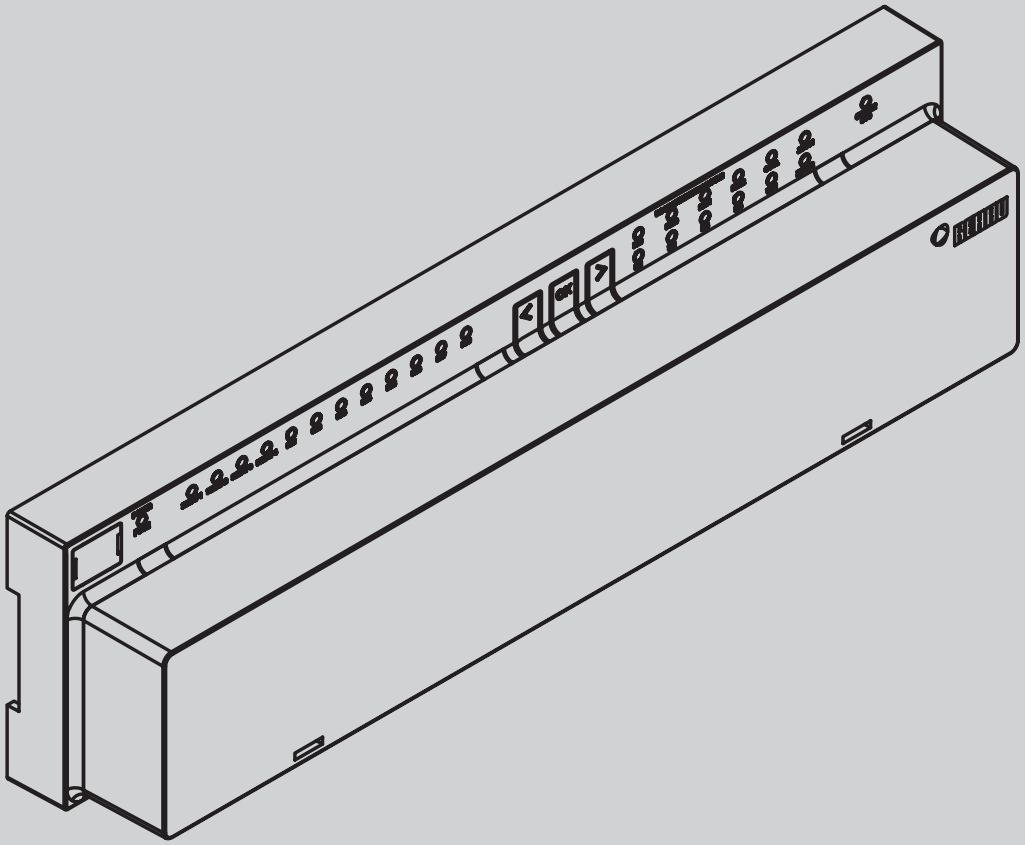
Engineering progress
Enhancing lives



NEA SMART 2.0 Control System

Fan Coil Functionality

REHAU

Contents

01 Safety warnings and operating instructions

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


Danger to life due to high voltage


Safety information


Legal information


Important information which must be observed


Configurable parameter

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.

02 Introduction

NEA SMART 2.0 system can be equipped now with fan coils to support the radiant heating / cooling system.
The maximum number of fan coils is limited by:
- Number of room units
- Available relay outputs on NEA SMART 2.0 Base and R-Module plus
- Available triac outputs (RZ output, where actuators are connected normally) on NEA SMART 2.0 Base and R-Module
- Each fan coil is assigned to one room only, it is not possible to use one fan coil for several rooms.

03 General Function

Fan coils
- Normally support a radiant heating or heating / cooling system as a 2nd stage (when there is a deviation between room temperature set point and actual room temperature)
- But may be in special cases the only heating/cooling system (1st stage) in a room.

Fan coils may operate (defined by installer only) in:
- Heating mode only
- Cooling mode only
- Heating and cooling mode

In room configuration page can be defined by installer and user:
- The “comfort” level used:
  - Level “Comfort”:
    Fan coil is activated when room temperature 0,5 K away from set point
  - Level “Normal”:
    Fan coil is activated when room temperature 1 K away from set point
  - Level “ECO”:
    Fan coil is activated when room temperature 1,5 K away from set point
- Whether fan coil should operate during reduced mode

With the mobile app, the user is able to:
- Stop a running fan coil for 30 min (if he feels disturbed by the noise)
- Activate a fan coil even when room temperature is inside tolerance band (fan coil is running for defined minimum run time at least)

04 How to connect a fan coil

There are 4 possibilities:

1. Relay outputs (dry contacts) of NEA SMART 2.0 Base and R-Module
In this case the fan coil can be connected directly, because the output is a potential free contact. Maximum current of 1A for inductive loads has to respected.

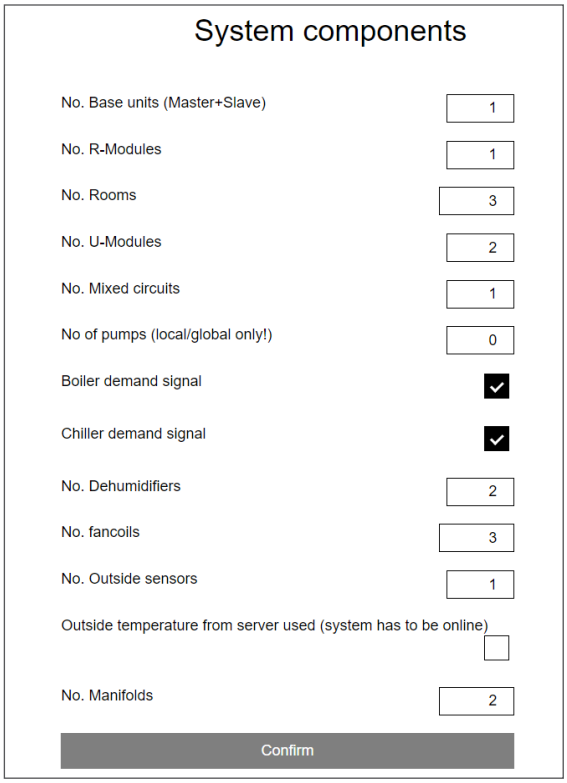
2. Room zone outputs (RZ#))
Attention:
A relay is needed. For Base NEA SMART 2.0 24V the REHAU Switching Relay 24 V can be used.
For Base NEA SMART 2.0 230 V the REHAU Switching Relay 230 V can be used.

3. U-Module defined as "Fan coil module"
Up to 4 fan coils can be connected directly, as in version 1, to the 4 relay outputs of U-Module

4. U-Module defined as "Fan coil and dehumidifier module"
The relay outputs are:
#1: Fan coil 1 (instead of valve for dehumidifier #1)
#2: dehumidifier #1
#3: Fan coil 2 (instead of valve for dehumidifier #2)
#2: dehumidifier #2

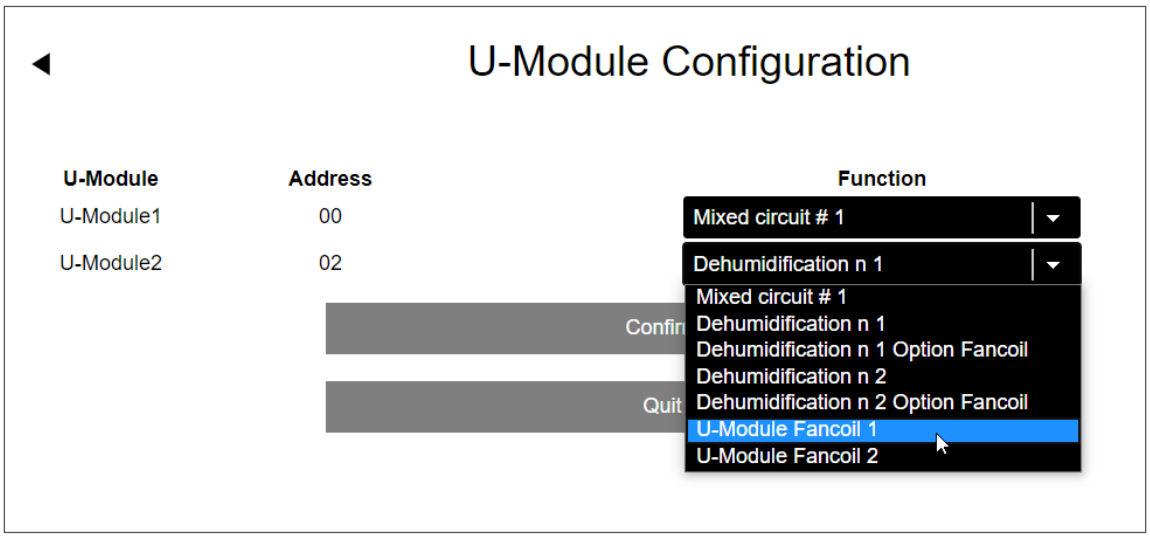
05 Configuration

05.01 Number of fan coils:



Fan coil pump does not count!

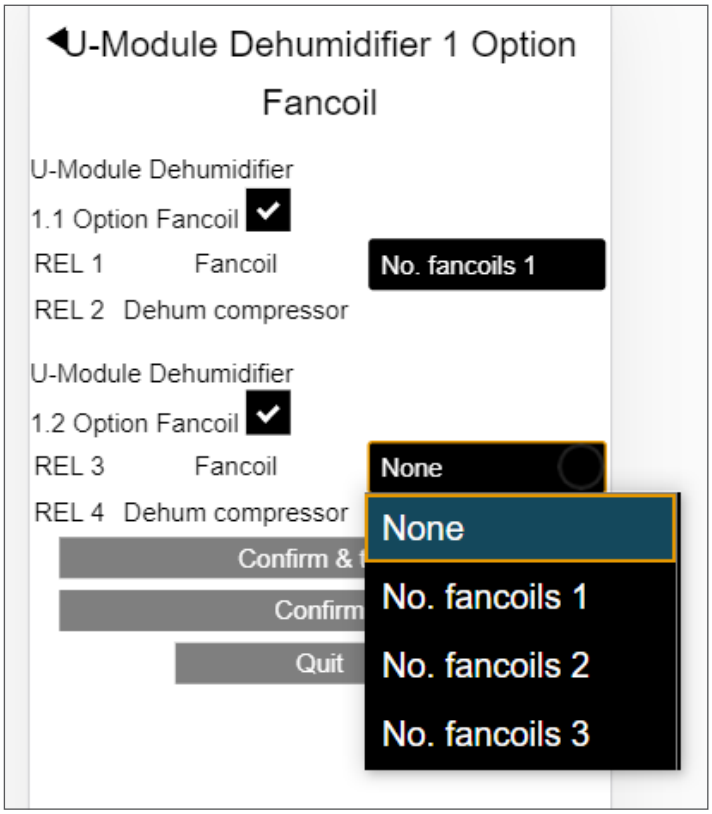
05.02 Usage of U-Modules



Here you can decide:

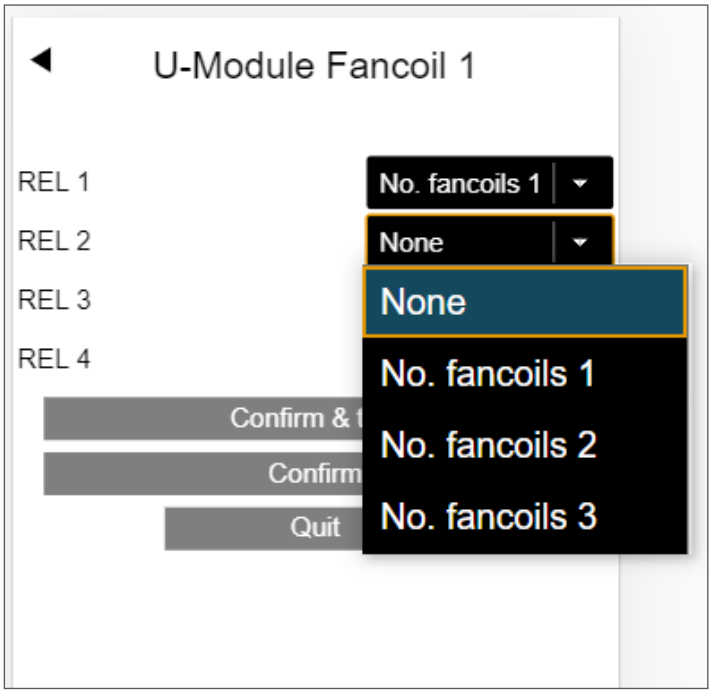
- U-module for
  - Mixed circuit
  - Dehumidification only (up to 2 dehumidifiers)

- Combined fan coil & dehumidifier (2 fan coils, 2 dehumidifiers, compressor only, no valve for dehumidifier)

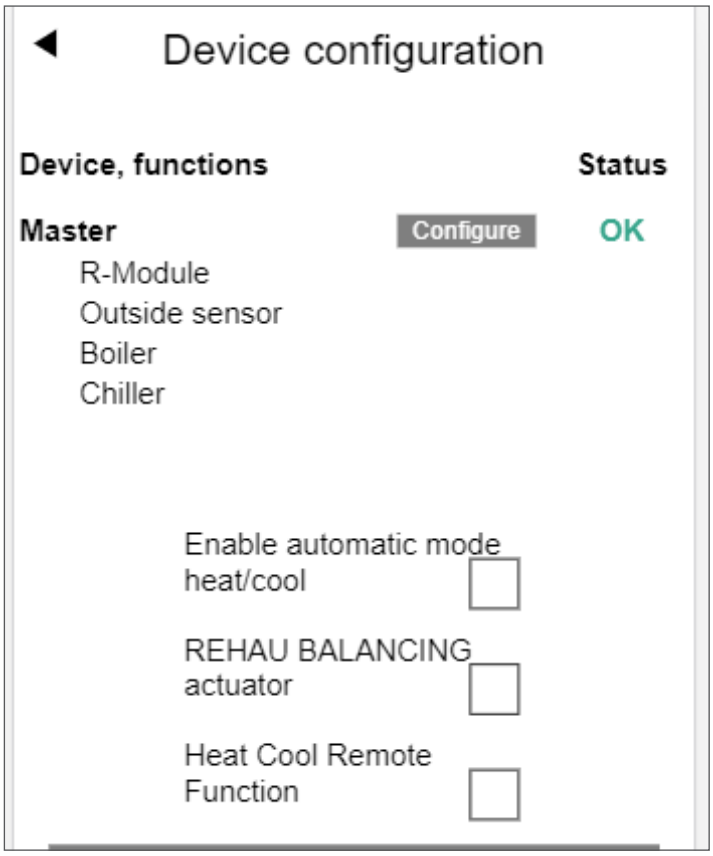


It is not possible to mix
Rel 1 &2 fan coil + dehumidifier compressor
Rel 3 & 4 dehumidifier valve + dehumidifier compressor

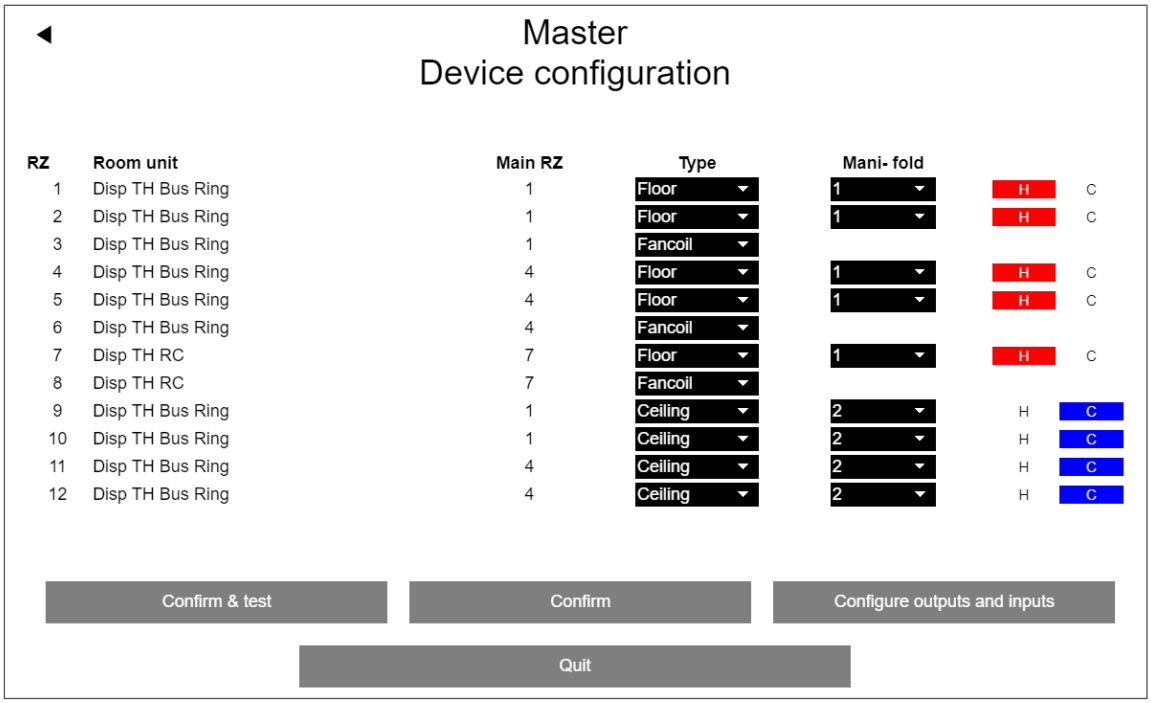
- Fan coil only (up to 4 fan coils)



05.03 Usage of outputs on NEA SMART 2.0 Base

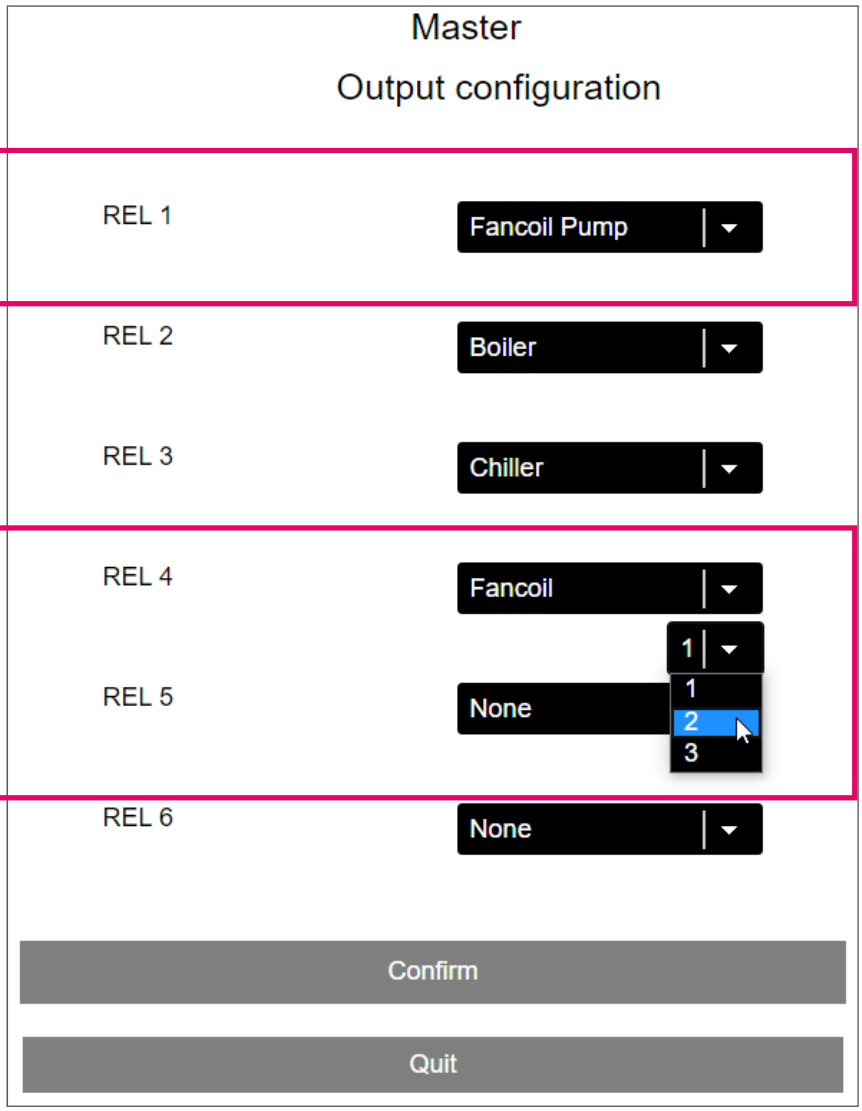


05.04 Usage of zone outputs



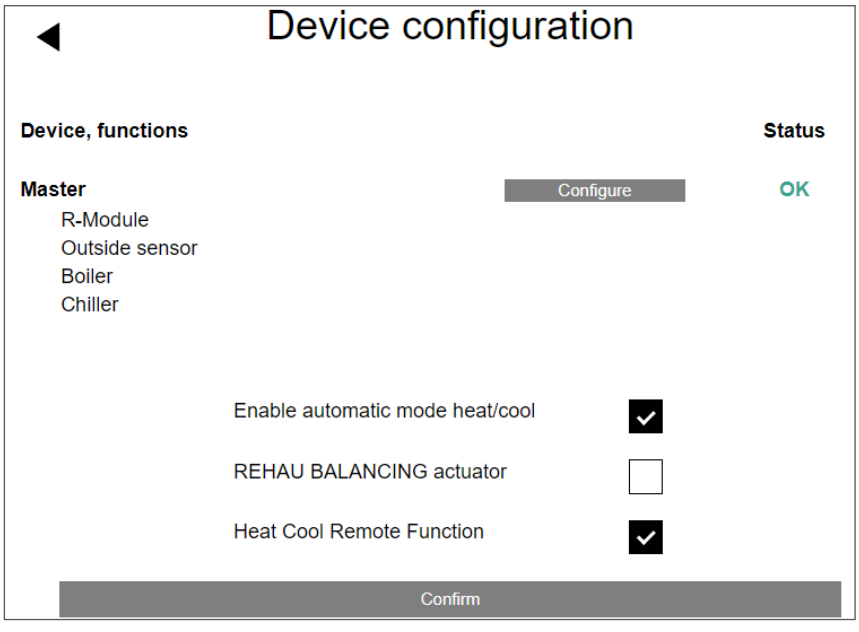
In this case, the fan coil is automatically assigned to the room unit, which is paired to this zone.
There is no fan coil number, which has to be selected.
The options “manifold”, “heating” and “cooling” disappear.

05.05 Usage of relay outputs on NEA SMART 2.0 Base and R-Module:



Fan coil pump is activated when one of the fan coils starts (option)

Number of fan coil has to be selected

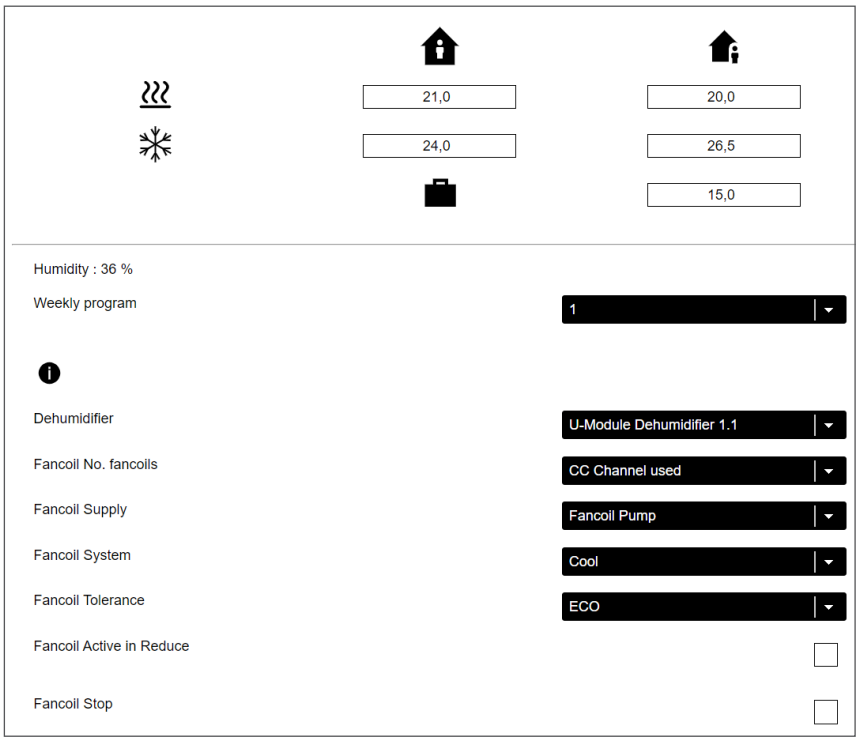


New features:
a) Balancing actuator
b) Heat Cool Remote Function:
System switches to Heating / Cooling according to digital inputs
Option is available, when heating or cooling input is defined

06 Installer settings in web pages

06.01 Room configuration page

Example 1:
Fan coil uses zone output, is used in cooling mode only and is defined for ECO mode.
Fan coil is supplied by Fan coil pump



Options are:
Fan coil tolerance:
- ECO: Fan coil starts when temperature is 1.5K away from set point
- NORM: tolerance is 1K
- COMFORT: tolerance is 0,5K

Fan coil system:
- Heating
- Cooling
- Heating / cooling

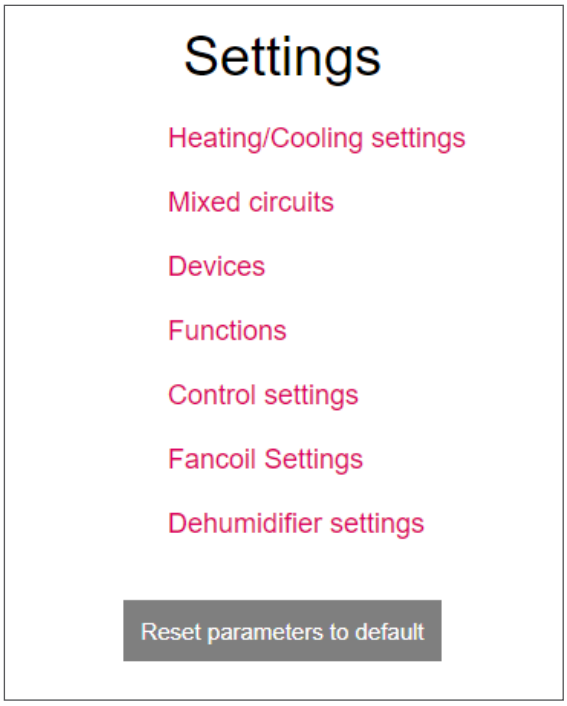
Fan Coil supply (cooling / heating water):
- None (means supply is not controlled by NEA SMART 2.0 system)
- Manifold #
- Pump global
- Fan coil pump

Fan coil active in reduced:
When checkbox is activated, fan coil works also in reduced mode

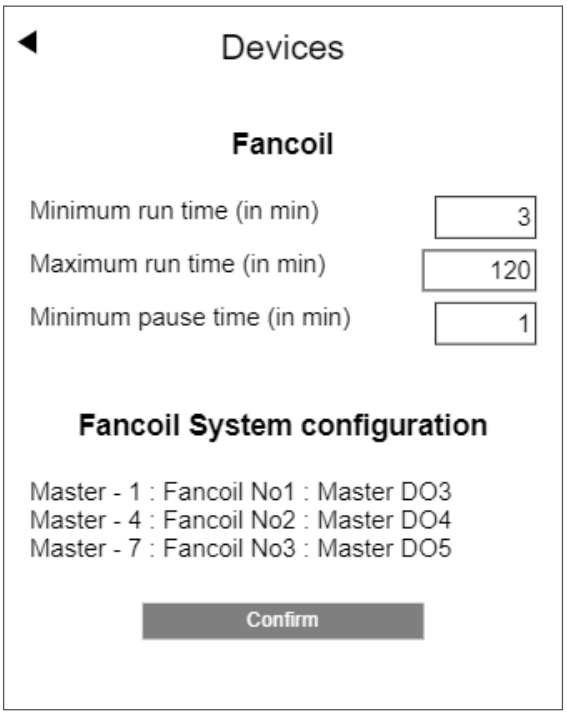
Fan coil stop:
When checkbox is activated, fan coil is blocked.

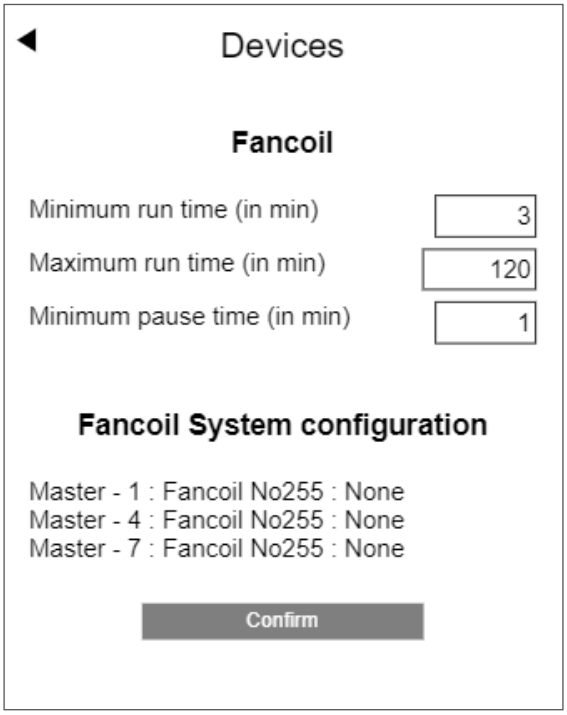
06.02 Fan coil timing and display of configuration

In installer settings menu there is a new point “Fancoil settings”



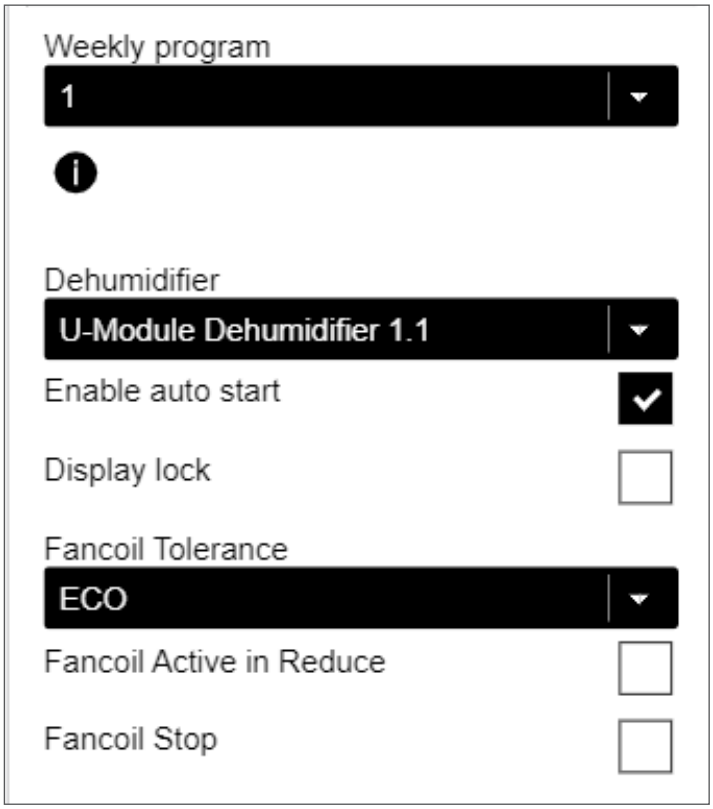
Run times can be defined here, and configuration is shown (number and relay output)
Remark: In the right example the fan coils have no valid number (255) because they are assigned directly to a room unit.





07 User settings in web pages

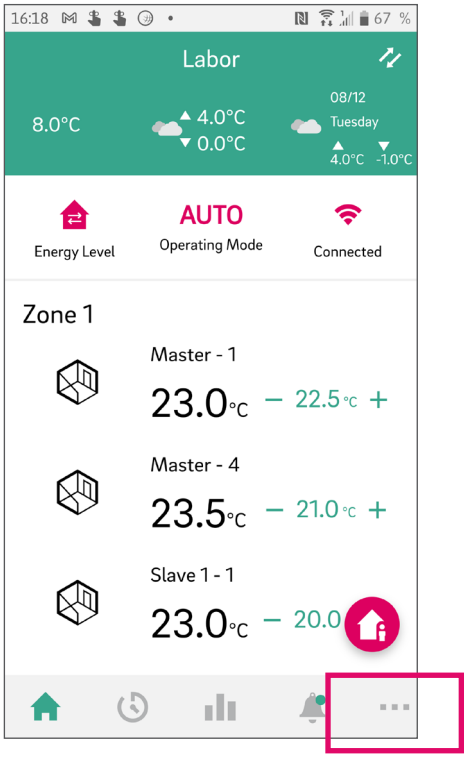
In room configuration page the user can
- change fan coil tolerance (ECO / NORMAL / COMFORT)
- enable / disable operating in reduced mode
- disable the fan coil permanently or temporarily

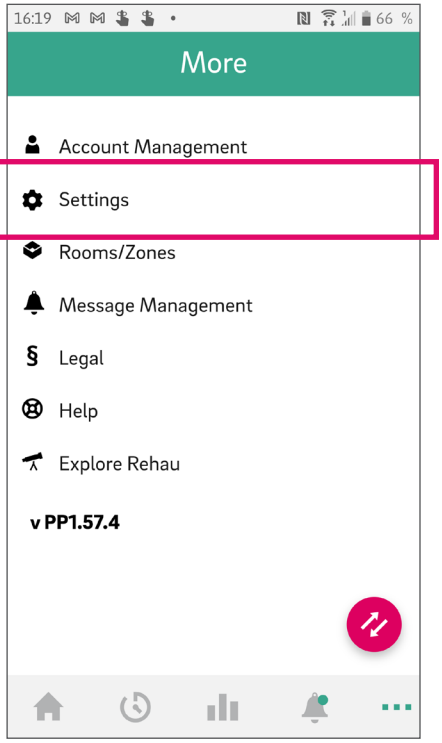


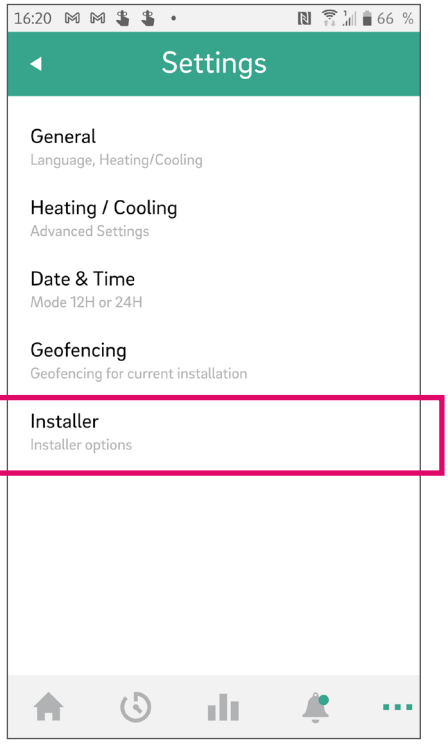
08 Operating via App

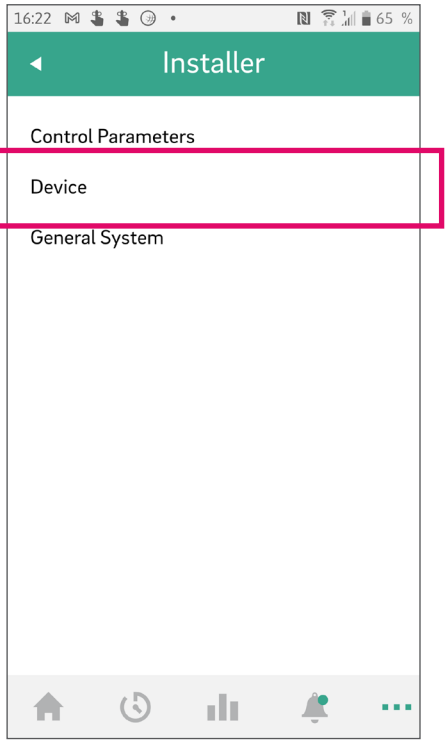
08.01 Installer

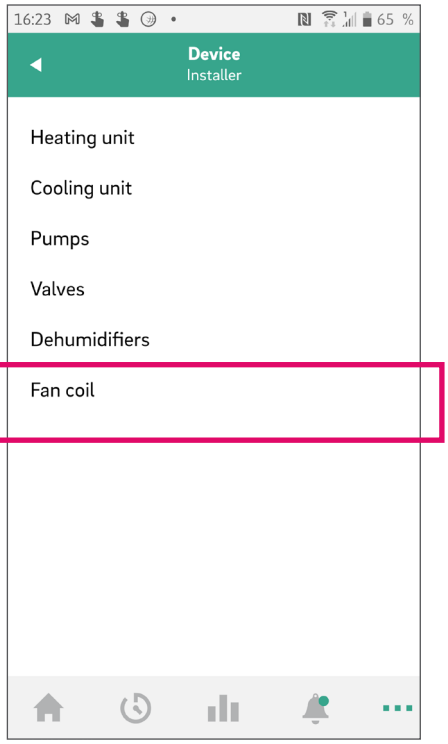
Fan coil timing:
Go to Other – Settings – Installer – Devices – Fan coil

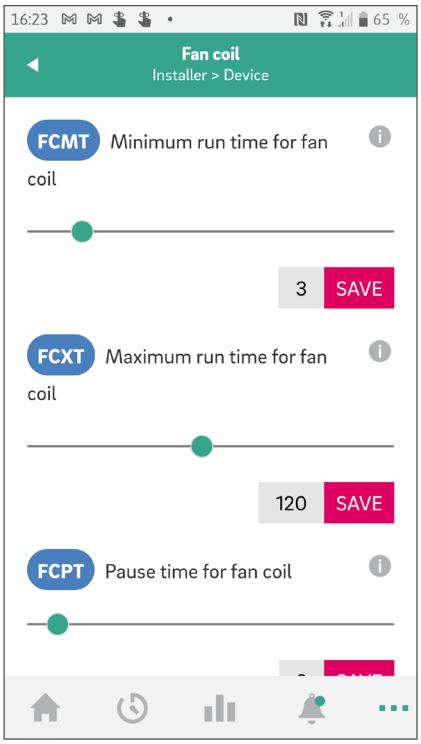






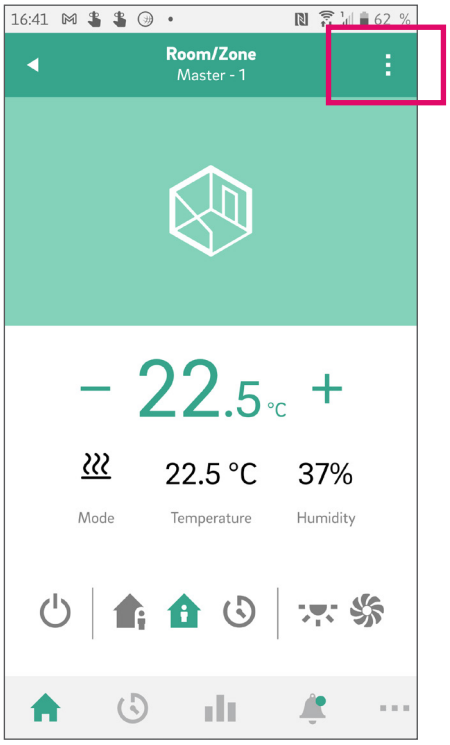


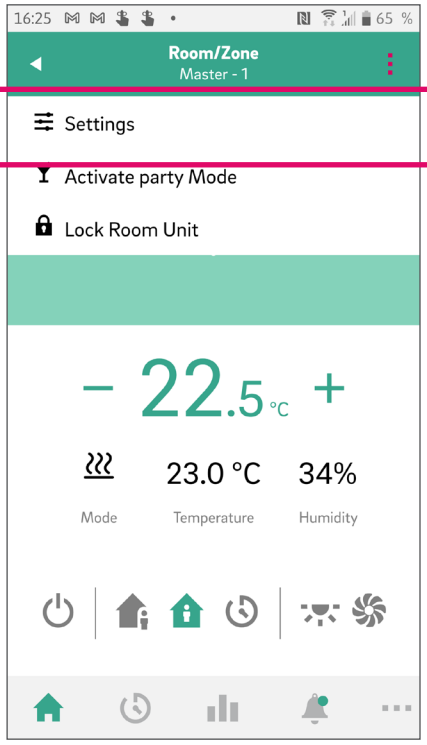

16:23
65 %
Device
Installer
Heating unit
Cooling unit
Pumps
Valves
Dehumidifiers
Fan coil

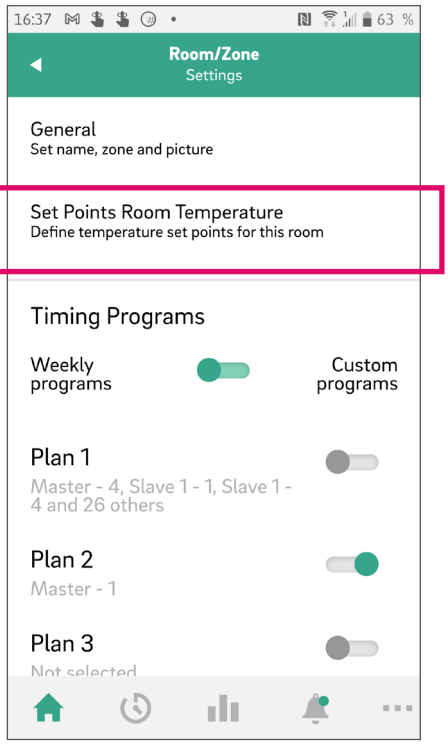

16:23
65 %
Fan coil
Installer > Device
FCMT
Minimum run time for fan coil
3
SAVE
FCXT
Maximum run time for fan coil
120
SAVE
FCPT
Pause time for fan coil

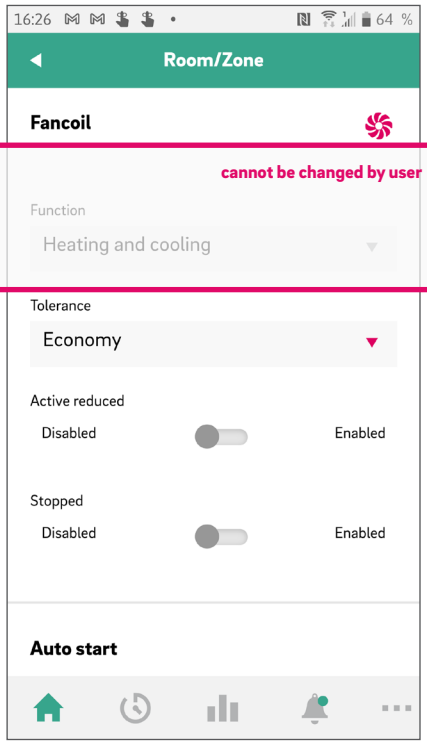
08.02 User settings

Go to Menu – Settings – Temperature settings... - scroll down to fan coil









Parameter FCXT can be set up to 240 min, one step further is infinite run time

Our verbal and written advice with regard to usage is based on years of experience and standardised assumptions and is provided to the best of our knowledge. The intended use of REHAU products is described comprehensively in the technical product information. The latest version can be viewed ater **www.rehau.com/TI**.

We have no control over the application, use or processing of the products. Responsibility for these activities therefore remains entirely with the respective user/processor. Where claims for liability nonetheless arise, they shall be governed exclusively according to our terms and conditions, available at www.rehau.com/conditions, insofar as nothing else has been agreed upon with REHAU in writing. This shall also apply for all warranty claims, with the warranty applying to the consistent quality of our products in accordance with our specifications. Subject to technical changes.

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