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RAS-CT4

Vers. 1.04.1

Room sensor



The **RAS-CT4** is a room sensor and room control device for installation in living spaces. The device must be connected to a higher ranking controller (e.g. CAN-MTx2) via CORA DL or CORA wireless.

The room sensor has a PT1000 sensor input and a switching output.

Up to 3 functions of the higher ranking controller (only functions of the type ***heating circuit***, ***cooling circuit***, ***individual room control*** and ***stage selector switch***) and optionally an associated ***time switch*** function can be set. These are displayed on the **RAS-CT4** in a fully prepared format, with basic setting options for the end customer. Page designs on the **RAS-CT4** are predefined.

It is also possible to set, for example, 3 heating circuit controls (+ optionally 1 time switch each) or other combinations of valid functions. A time switch function can also be set independently.

Three freely selectable measurements can also be displayed on the home page.

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Versions

The RAS-CT4 is available in 2 versions, with the following features:

RAS-CT4-**NT**

- Wireless connection only
- 230 V power supply

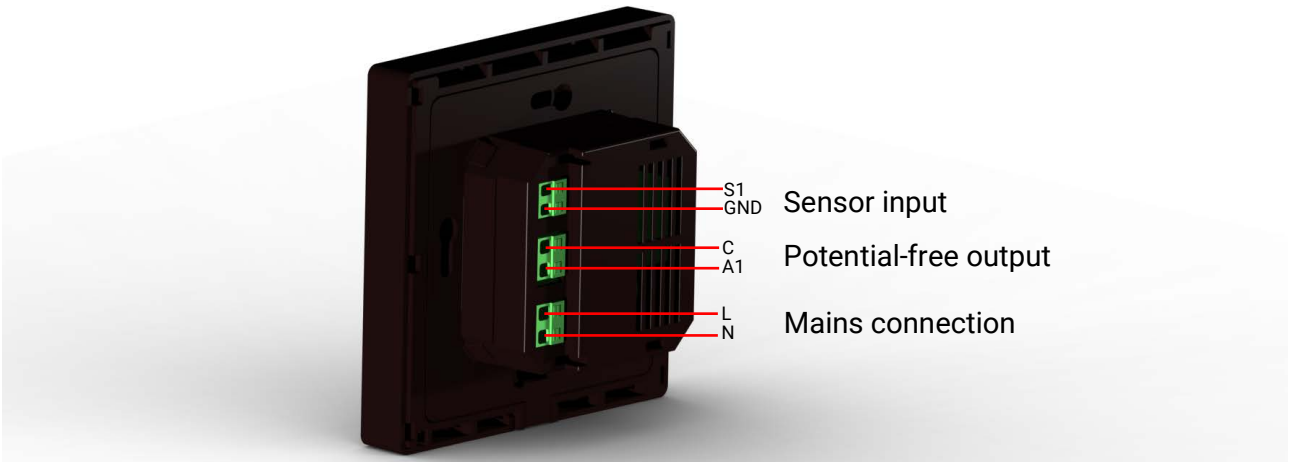
RAS-CT4-**DL**

- Wireless or cable connection (CORA DL)
- 12 V power supply

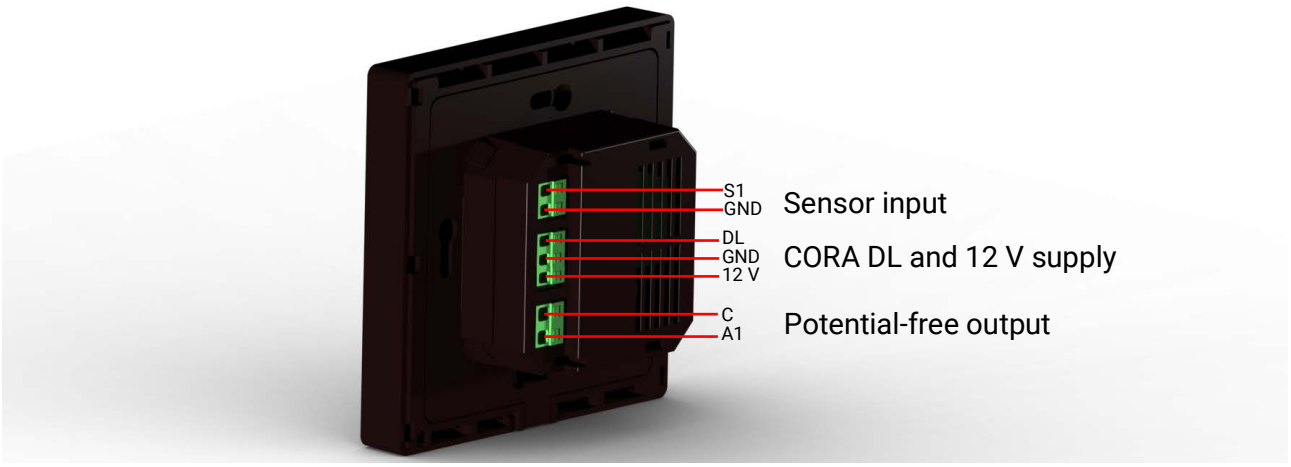
Both versions are available with or without a CO_2 and air pressure sensor.

Electrical connection

RAS-CT4-**NT**



RAS-CT4-**DL**



Wireless system

Principles

The wireless system comprises at least two devices (e.g. CAN-MTx2 and RAS-CT4), which communicate with one another, exchange values or send firmware/function data.

The wireless range is typically 10 m in buildings (through approx. 1 wall/ceiling, depending on thickness and material). Up to 3 additional wireless-capable devices can be used as a bridge to enable data to be exchanged under deviating conditions.

The screen of the RAS-CT4 significantly attenuates the wireless signal – so the higher ranking controller should not be positioned in the direction of the screen.

RCV-DL, GBS-F and RAS-F devices **cannot** be used.

Pairing devices

Two steps are carried out to pair two devices:

1. **Allow** pairing on the **target device**
2. **Initiate** pairing on the **control device**

To allow pairing on the RAS-CT4 (= target device), click the **Allow pairing** button on the **General settings** page. Pairing is then enabled for **5** minutes.

For pairing, you will need to enter the **CORA ID** of the RAS-CT4 on the control device.

The pairing process on other devices (*control device*) can be found in the corresponding operating instructions.

Relaying wireless signals

Wireless-capable devices can relay signals of other devices. All required settings for this are carried out at the device that transmits the signal to be relayed.

The RAS-CT4 can also be used to relay wireless signals from other devices. If the RAS-CT4 receives signals via a relay, it automatically returns data via the same relay. No settings are therefore required for the relay on the RAS-CT4.

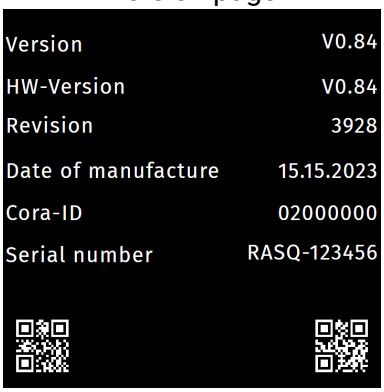
CORA DL (cable instead of wireless)

Only the RAS-CT4-DL can also be used via a cabled connection. This replaces all functions of the wireless system. The RAS-CT4-DL cannot be run with a wireless and a cabled connection at the same time. The RAS-CT4-NT cannot be connected via CORA DL.

When used with CORA DL, the RAS-CT4-DL can still be used as a HOP for forwarding wireless signals.

Page navigation

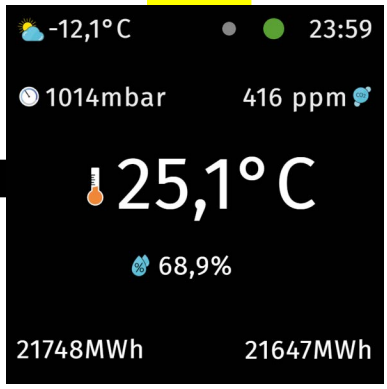
Version page

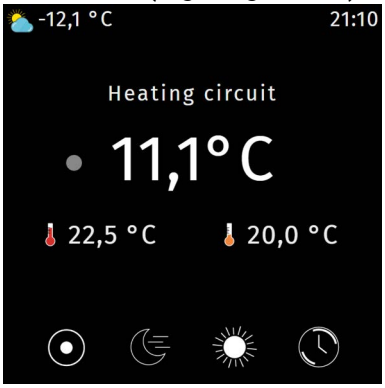


You can navigate between pages by swiping your finger across the screen.

Home

Function (e.g.: htg circuit)

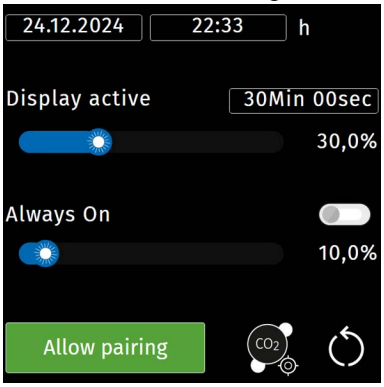




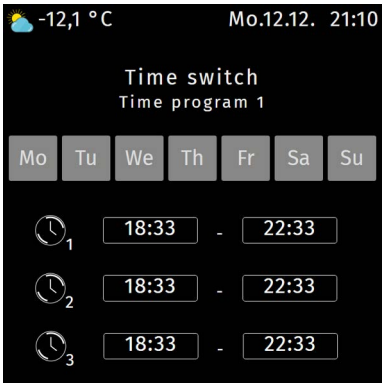
Further functions

Further functions

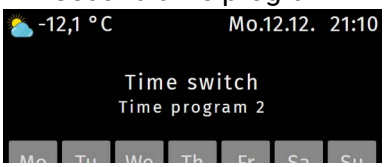
General settings



Associated time switch



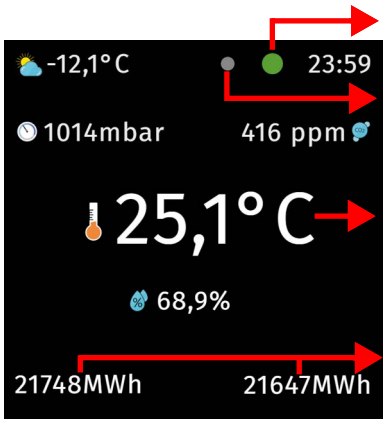
Second time program



Explanation of the pages

Home

The home page provides an overview of the date and time and various measurements such as outside and room temperature, CO_2, etc.

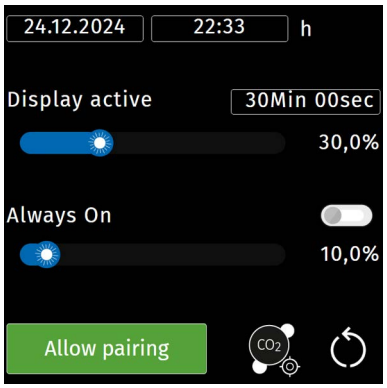


Traffic light display (see “Traffic light” parameter)

Relay output (grey = inactive, green = active)

Main display value (see input variable)

These two values can be freely selected using input variables. Units are displayed automatically. If nothing is linked to the input variables, these display values are hidden.



General settings

Below the home page, there is a page with general settings.

Here you can adjust the date and time – these settings are adopted on the connected controller/MTx2.

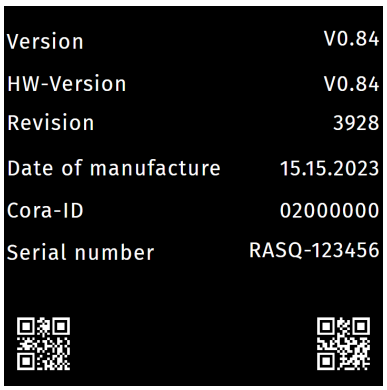
Once the **Display active** time has elapsed, the display is dimmed. If **Always on** has been activated, the **Always on** display will be activated instead once this time has elapsed.

If **Always on** is activated, the display remains dimly lit and the screen returns to the home page so that the room temperature, time, etc. are always displayed. Screensaver precautions are taken automatically.

Allow pairing allows pairing for CORA wireless for 5 minutes.

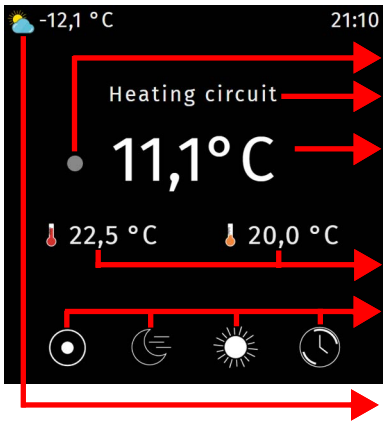
The CO_2 symbol  is used to calibrate the CO_2 sensor. The room should be well ventilated before calibration. During the 20 minute calibration process, the room must remain well ventilated and the room must be vacated.

The room sensor can be restarted via the round arrow .



Version

The version page contains various information about the device, such as CORA ID, firmware version and serial number.



Heating circuit

Green when heating circuit pump is active. Grey when inactive.

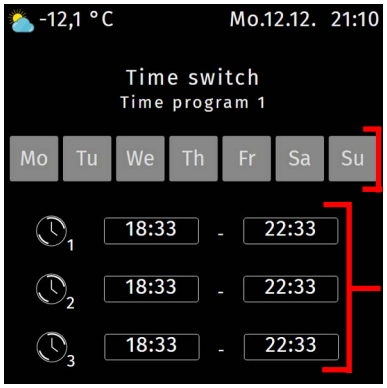
Designations are taken from the function on the controller.

Current room temperature according to “**Room temperature**” input variable of the **Heating circuit control** function

Set room temperatures for standard and setback mode

Operating modes (LnR: frost protection, setback, standard, time/auto)

The outside temperature comes from the “Outside temperature” input variable of the respective function.

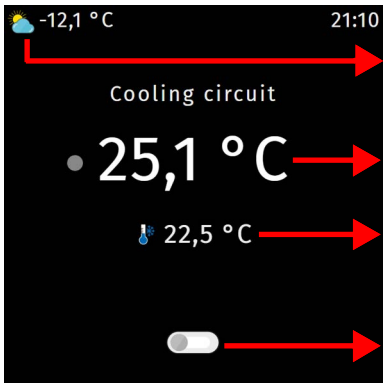


Associated time switch

The first 3 time windows of the first 2 time programs can be set here – the other time programs of the **time switch** function can only be set on the higher ranking controller.

Days on which the current time program is active

Time windows that are active on the selected days



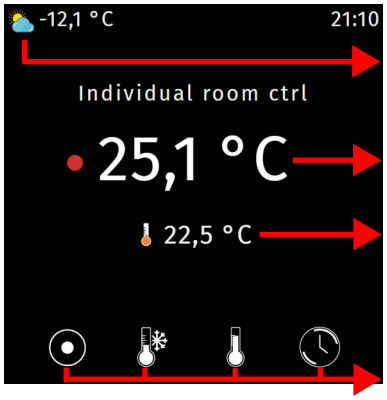
Cooling circuit

The outside temperature comes from the “Outside temperature” input variable of the respective function.

Current **room temperature** according to input variable “**Room temperature**” of the **Cooling circuit control** function

Set room temperature according to the “**Set room temperature**” input variable of the **Cooling circuit control** function. Can be set here if the “Set room temp.” input variable of the function is unused.

Enabling/disabling of the **Cooling circuit control** function. Only displayed if the “Enable” input variable is not connected.



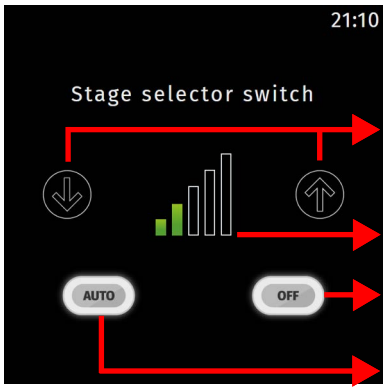
Individual room control

The outside temperature comes from the “Outside temperature” input variable of the respective function.

Current room temperature according to “**Room temperature**” input variable of the **Individual room control** function

Set room temperature according to the “**Set room temp.**” input variable of the **Individual room control** function

Operating modes (LnR: frost protection, setback, standard, time/auto)



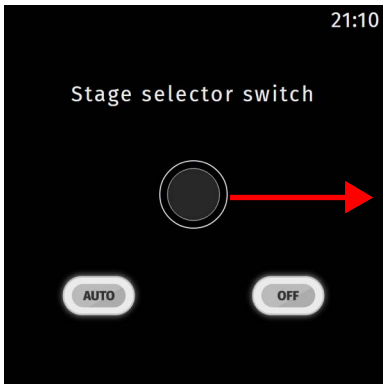
Stage selector switch

Lower/higher stage

Current stage. You can also click directly on the bars.

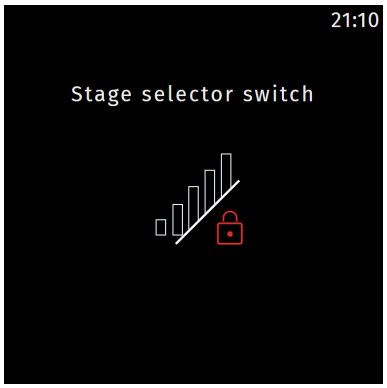
If base stage = 0, switch to stage 0 (hidden if base stage = 1)

Activate automatic mode (hidden if **Auto mode stage** input variable is unused)

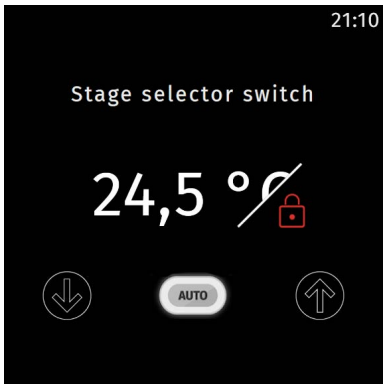


If the base stage is set to 0 and the maximum stage is set to 1, a digital ON/OFF switch is realised. In this case, the page for the stage selector switch has a button for switching on/off.

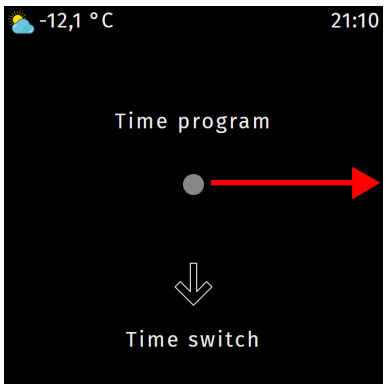
Switching on/off (= switching between stages 0 and 1)



If the stage selector switch enable goes to OFF, the buttons are hidden and a lock appears in front of the bars.



View in **values** mode



Standalone time switch

If a **time switch** is set without a higher ranking function, the following placeholder page appears above the time switch.

Green when “Status time condition” is active. Grey when inactive.

Programming

The RAS-CT4 is included in the programming of the higher ranking controller with which it is paired. A new CORA device is created there and the CORA ID (see “Version” page) is entered. It is recommended that programming be performed with **TAPPS2** PC software.

The functions that are to be displayed on the Room sensor must be programmed on the higher ranking controller (e.g. MTx2) to which the RAS-CT4 is connected.

Display of the outside temperature

If the *Outside temperature* input variable of the CORA device is linked, this temperature is displayed on the home page. On the page of a function (e.g. Heating circuit), the outside temperature displayed is the value linked to the “Outside temperature” input variable of the respective function. If nothing is connected there, the outside temperature display is hidden.

Input variables

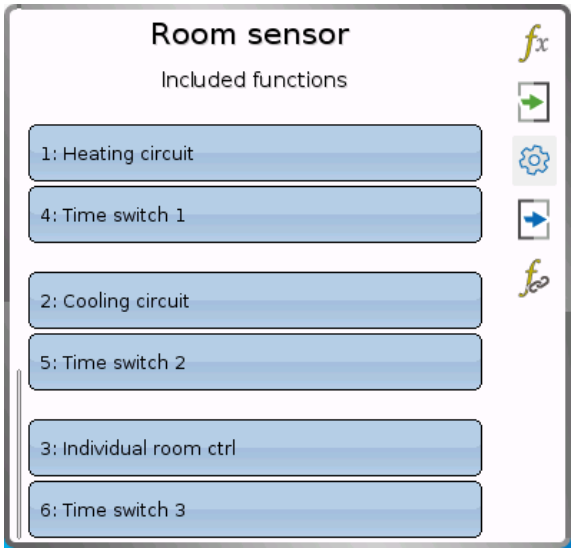
Outside temperature	Leads to a separate sub-menu in which the source for the outside temperature to be displayed is set.
Output	Switching of the relay output on the RAS-CT4.
Display value 1	Used defined values displayed on the RAS-CT4 home page. Units are displayed automatically.
Display value 2	
Main display value	If this input variable remains unused, the room temperature is displayed as the main display value on the main page. Otherwise, the value connected here will be displayed instead.
Traffic light input	Value for displaying the signal light (see “signal light” parameter)

Parameters

Connection	*RAS-CT4-NT: only CORA wireless available*
CORA ID	Entry of the CORA ID, see “Version” page
HOP 1-3 ID	For relaying wireless signals (see “*Relaying wireless signals*” on page 3)
Connect automatically	Selection of whether an attempt should be made to re-establish the connection after the wireless connection is lost.
Brightness	Brightness of the display when the room sensor is operated
Display timeout	After this time, the display is deactivated. If “Always on” is set to Yes, the display will be partially dimmed instead.
Always on	If on, once the “*Display timeout*” period has elapsed, the screen is only partially dimmed and returns to the home page – the display remains visible. Screensaver precautions are taken automatically.
Brightness Always on	Brightness of the display when Always on is activated.
Change page on wake-up	If **Yes**, the page of the first adjustable function will be displayed on wake-up (by touching the deactivated display).
Menu lock	If **Yes**, the settings page cannot be called up on the RAS-CT4. This means that the date and time can no longer be changed on the RAS-CT4. General settings can now only be made on the paired controller.
No. of involved functions	Number of functions to be displayed by the RAS-CT4 as prepared pages. Half of these set functions are “Time switch” functions that are subordinate to other permissible functions.

Involved functions	Selection of functions to be displayed as prepared pages. Permissible functions: *Heating circuit*, *Cooling circuit*, *Individual room control, Stage selector switch* and an assigned *Time switch* for each.
Signal light	Open the signal light menu
Room temperature [internal/external]	Selection of whether the temperature measured by the RAS-CT4 or the connected PT1000 sensor is used as the room temperature for displays and calculations.
Show room temp. **Show humidity** **Show air pressure** **Show CO2 content** **Show output status**	The different values can be hidden individually on the main page.
Sensor correction	Separate input of sensor corrections for RAS (internally measured) room temp. and external temp.

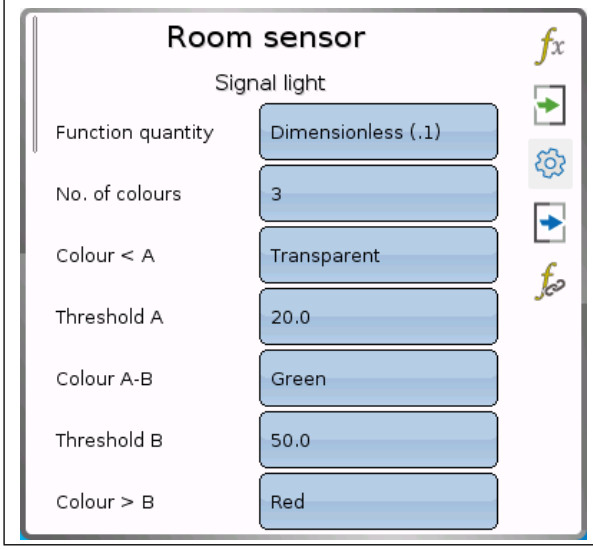
- **Involved functions**



Under **Involved functions**, you can set the functions that should be shown. The first line of each pair of lines only displays valid functions (heating circuit, cooling circuit, individual room control, stage selector switch) that have already been programmed. Up to 3 of these functions are possible, even several of the same function type.

In the second lines of that pair of lines, a time switch function can be assigned to the primary function. A time switch can also be set without a higher ranking function. In the navigation on the RAS-CT4, a placeholder page is then displayed in place of the missing higher ranking functions.

- **Signal light**



The signal light reflects the state of a value using a coloured icon on the main page. The signal light setting is similar to the range function: The number of thresholds (1-5) is selected and each threshold (as well as outside the limit thresholds) is assigned a colour. The measurement is monitored and the colour of the active threshold is visible on the main page.

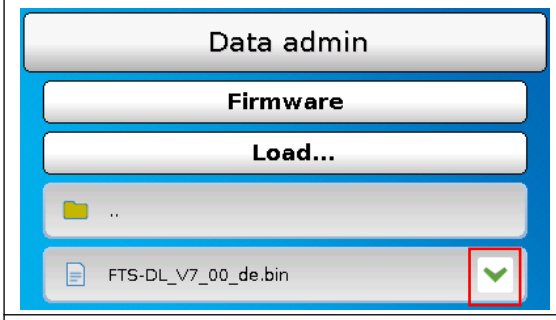
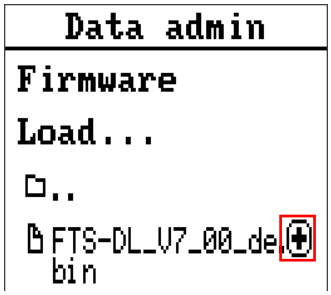
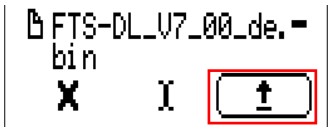
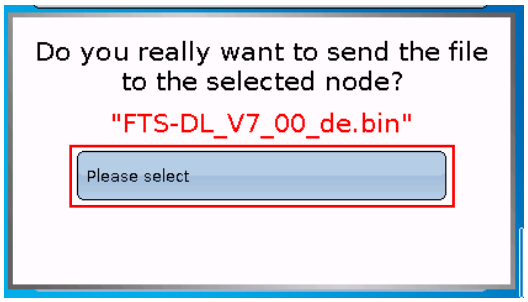
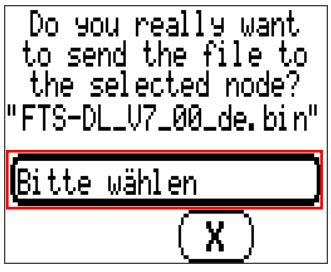
Output variables

Timeout	Digital signal **Yes/No** • If **Yes**: Connection to the device lost
RAS room temperature	Room temperature measured by RAS-CT4
Relative humidity	Relative humidity in %
Absolute humidity	Absolute humidity in g/m^3
Dew point	Dew point temperature in °C
Air pressure	Air pressure in mbar
CO2 content	CO_2 content in ppm
External temperature	Temperature of the connected PT1000 sensor

Firmware update

For the RAS-CT4 firmware update, the controller to which it is linked via CORA-DL or CORA wireless must have an inserted SD card with the required firmware. On this controller, navigate to data admin.

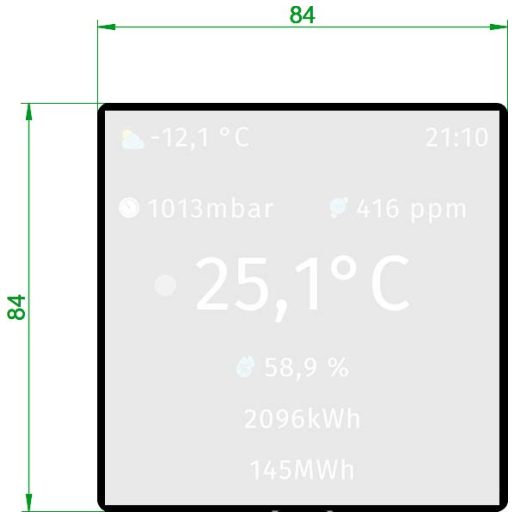
For firmware updates via CMI, a firmware version of at least 1.42 is required.

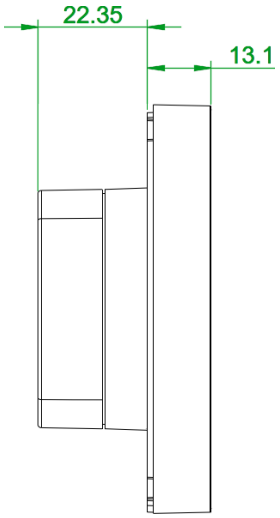
UVR16x2/CAN-MTx2		UVR610/CAN-EZ3
	Select the green arrow/ plus symbol next to the firmware.	
	From the drop-down menu, select the button to share the firmware.	
	Here, select the CORA device. Ensure appropriate naming during programming.	

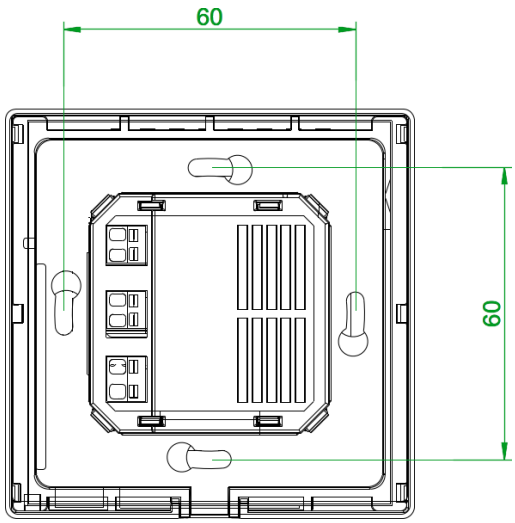
Total reset

To perform a total reset, press and hold anywhere on the display during sensor start-up, as soon as the TA logo appears. A confirmation prompt appears, asking you to confirm that you want to initiate a total reset.

Dimensions in mm



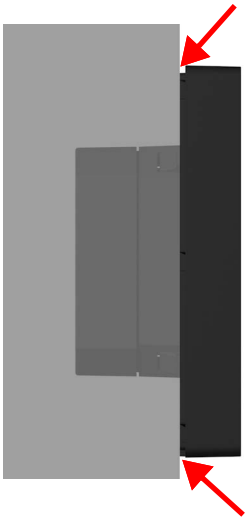




Installation

When mounted against the wall, the ventilation slots (top and bottom) must remain clear so that the room air can flow through and reach the sensor chip.





Technical data

DL bus load	10 %
Permissible ambient temperature	+5 to +45 °C
Temperature accuracy	Typ. 0.5 K, max. ± 1 K
Rel. humidity accuracy	Typ. ± 2 %, max. ± 4 %
Dew point accuracy	Typ. ± 2.5 K (20 – 90 % relative humidity)
Max. relay output breaking capacity	5 A
Power consumption	Max. 2.5 W
Connection	• RAS-CT4-**NT**: CORA wireless only • RAS-CT4-**DL**: CORA wireless or CORA DL
Update interval of the values	Every 50 seconds
Frequency of wireless system	Main frequency: 868.5 MHz Signal forwarding/processor wake-up: 869.5 MHz
IP rating	IP20

Subject to technical modifications as well as typographical and printing errors. These instructions are only valid for devices with the corresponding firmware version. Our products are subject to constant technical advancement and further development. We therefore reserve the right to make changes without prior notice. ©2026

EU Declaration of conformity

Document- No. / Date:	TA25001, 02.07.2025
Company / Manufacturer:	Technische Alternative RT GmbH
Address:	A-3872 Amaliendorf, Langestraße 124

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product name:	RAS-CT4
Product brand:	Technische Alternative RT GmbH
Product description:	Room sensor

The object of the declaration described above is in conformity with Directives:

2014/35/EU	Low voltage standard
2014/30/EU (11/09/2018)	Electromagnetic compatibility
2011/65/EU (01/10/2022)	RoHS Restriction of the use of certain hazardous substances
2009/125/EU	Eco-design directive

Employed standards:

EN 60730-1:2021-06	Automatic electrical controls - Part 1: General requirements
EN IEC 61000-6-3:2022-06	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments
EN IEC 61000-6-2:2019-11	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments
EN IEC 63000:2019-05	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
EN 300220-2:2018-09	Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz - Part 2: Harmonised Standard for access to radio spectrum for non specific radio equipment
EN 301489-1:2020-06	Electromagnetic compatibility for radio equipment and services - Part 1: Common technical requirements
EN 301489-3:2019-08	Electromagnetic compatibility (EMC) - Standard for radio equipment and services - Part 3: Specific conditions for short range devices (SRD) for operation in the 9 kHz to 246 GHz frequency range

Position of CE - label: On packaging, manual and type label

CE

Issuer:	Technische Alternative RT GmbH A-3872 Amaliendorf, Langestraße 124

This declaration is submitted by



Dipl.-Ing. Andreas Schneider, General manager,
02.07.2025

This declaration certifies the agreement with the named standards, contains however no warranty of characteristics

The security advices of included product documents are to be considered.

Warranty conditions

Note: The following guarantee conditions do not in any way limit the legal right to warranty, but rather expand your rights as a consumer.

3. The company Technische Alternative RT GmbH provides a one-year warranty from the date of purchase for all the devices and parts which it sells. Defects must be reported immediately upon detection and within the guarantee period. Technical support knows the correct solution for nearly all problems. In this respect, contacting us immediately will help to avoid unnecessary expense or effort in troubleshooting.

4. The warranty includes the free of charge repair (but not the cost of on site fault-finding, removal, refitting and shipping) of operational and material defects which impair operation the event that a repair is not, for reasons of cost, worthwhile according to the assessment of Technische Alternative, the goods will be replaced.

5. Not included is damage resulting from the effects of over-voltage or abnormal ambient conditions. Likewise, no warranty liability can be accepted if the device defect is due to: transport damage for which we are not responsible, incorrect installation and assembly, incorrect use, non-observance of operating and installation instructions or incorrect maintenance.

6. The warranty claim will expire, if repairs or actions are carried out by persons who are not authorised to do so or have not been so authorised by us or if our devices are operated with spare, supplementary or accessory parts which are not considered to be original parts.

7. The defective parts must be sent to our factory with an enclosed copy of the proof of purchase and a precise description of the defect. Processing is accelerated if an RMA number is applied for via our home page www.ta.co.at A prior clarification of the defect with our technical support is necessary.

8. Services provided under warranty result neither in an extension of the warranty period nor in a resetting of the warranty period. The warranty period for fitted parts ends with the warranty period of the whole device.

9. Extended or other claims, especially those for compensation for damage other than to the device itself are, insofar as a liability is not legally required, excluded.

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