Operating and installation instructions

Room thermostat

VR 51

GB, IE

Publisher/manufacturer

Vaillant GmbH
Berghauser Str. 40 ▮ D-42859 Remscheid
Tel. +49 21 91 18-0 ▮ Fax +49 21 91 18-2810
info@vaillant.de ▮ www.vaillant.de

Contents

1 Safety 4
1.1 Action-related warnings 4
1.2 Intended use 5
1.3 General safety information 6

2 Notes on the documentation 9
2.1 Observing other applicable documents 9
2.2 Storing documents 9
2.3 Validity of the instructions 9

3 System and product description 10
3.1 Component of the **ambiSENSE** system 10
3.2 Design of the product 11
3.3 Display 12
3.4 Radio operation 14
3.5 Flashing sequence of the signal LED 15
3.6 Duty cycle limit 17
3.7 CE marking 19
3.8 Checking the scope of delivery 19

4 Integration into the ambiSENSE system 20
4.1 Pairing 20

5 Set-up 22
5.1 Defining the installation site 22
5.2 Installing the room thermostat 23

6 Operation 30
6.1 Changing the operating mode 30
6.2 Setting the temperature 30

6.3 Using the Boost function....31
6.4 Activating/deactivating the operation lock....32

7 Troubleshooting....32
7.1 Detecting and rectifying faults....32
7.2 Command not confirmed....33
7.3 Resetting to factory setting....34

8 Care and maintenance....37
8.1 Caring for the product....37
8.2 Changing batteries....38

9 Decommissioning....42
9.1 Decommissioning the product....42
9.2 Recycling and disposal....43

10 Customer service....43

11 Technical data....44

1 Safety

1.1 Action-related warnings

Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

Warning symbols and signal words

Danger!
Imminent danger to life or risk of severe personal injury

Danger!
Risk of death from electric shock

Warning.
Risk of minor personal injury

Caution.
Risk of material or environmental damage

1.2 Intended use

In the event of inappropriate or improper use, damage to the product and other property may arise.
You can use the room thermostat for the time-controlled regulation of individual rooms.
Intended use includes the following:

- observance of accompanying operating, installation and servicing instructions for the product and any other system components
- installing and fitting the product in accordance with the product and system approval
- compliance with all inspection and maintenance conditions listed in the instructions.

Intended use also covers installation in accordance with the IP class.
Any other use that is not specified in these instructions, or use beyond that specified in this document shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.
Caution.
Improper use of any kind is prohibited.

1.3 General safety information

1.3.1 Danger caused by improper operation

Improper operation may present a danger to you and others, and cause material damage.

➤ Carefully read the enclosed instructions and all other applicable documents, particularly the "Safety" section and the warnings.

- Only carry out the activities for which instructions are provided in these operating instructions.

1.3.2 Risk of material damage caused by frost

- Do not install the product in rooms prone to frost.

1.3.3 Danger caused by a malfunction

- Install the product such that room air can circulate freely around the product, and it is not covered by furniture, curtains or other objects.

1.3.4 Risk of material damage caused by unsuitable environmental conditions

The electronics may be damaged if you install the product in an unsuitable environment.

- ➤ Only install the product in dry, dust-free rooms.
- ➤ Ensure that the product is not exposed to constant solar or heat irradiation, vibrations or mechanical loads.

1.3.5 Regulations (directives, laws, standards)

- ➤ Observe the national regulations, standards, guidelines and laws.

2 Notes on the documentation

2.1 Observing other applicable documents

➤ You must observe all the operating and installation instructions included with the system components.

2.2 Storing documents

➤ Keep this manual and all other applicable documents safe for future use.

2.3 Validity of the instructions

These instructions apply only to:

Product	article number
VR 51	0020247923

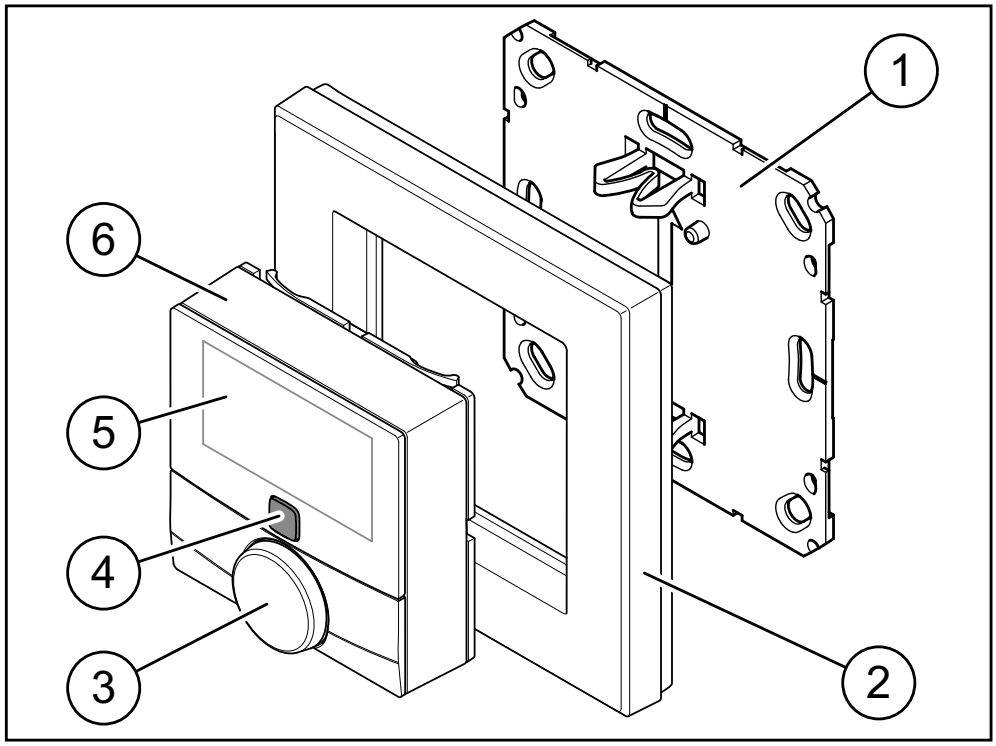
3 System and product description

3.1 Component of the ambiSENSE system

The product is part of the **ambiSENSE** room climate solution and communicates via a radio protocol. All products in the **ambiSENSE** room climate solution can be configured via the **VRC 700** app using a smartphone.
You can use the room thermostat with air-humidity sensor for the time-controlled regulation of the room temperature via the **VRC 700** app and adjust the heating times to your individual needs.
The product is easily paired to the VR 920 Internet gateway in order to control one or several **ambiSENSE** VR 50 radiator thermostats. The room thermostat measures the temperature and air humidity in the room, and forwards this to the radiator

thermostats in cycles, meaning that the room temperature can be regulated even more precisely.
The installation takes place by screwing in or sticking the mounting plate and fastening in the clip-on frame that is supplied.
The product can be integrated into existing switch series.

3.2 Design of the product

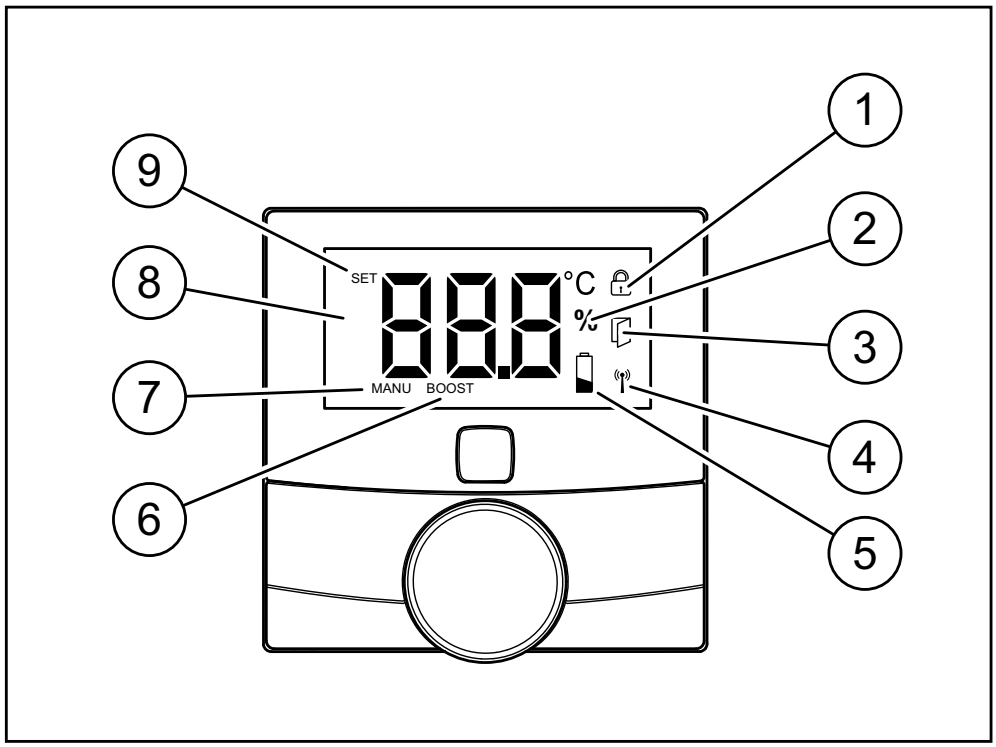


1 Mounting plate
2 Clip-on frame
3 Setting wheel
4 System button
5 Display
6 Room thermostat

3.3 Display

Note

The background lighting for the display is switched off in standby mode. To activate the background lighting, press the setting wheel once.



1 Operation lock active
2 Unit for the numeric display
3 Automatic decrease active
4 Radio data transmission
5 Low battery charge
6 Boost mode active
7 Manual mode active
8 Target/actual temperature
9 Setting mode active

3.4 Radio operation

The radio signal is transmitted on a non-exclusive transmission path. Faults can therefore not be ruled out. Interferences may, for example, be caused by switching operations, electric motors or defective electrical units.
The range inside buildings may differ considerably from the range outdoors. Except for the transmission power and the reception properties of the transceivers, environmental influences (such as air humidity and structural elements) play an important role on-site.

3.5 Flashing sequence of the signal LED

Flashing sequence	Meaning	Required activity
Brief period of flashing orange	Radio transmission/ transmission attempt or configuration data is transferred	Wait until the transmission has ended.
1 x long period of lighting up green	Process confirmed	Continue with the operation.
1 x long period of lighting up red	Process failed or duty cycle limit reached	Wait for the duty cycle limit interval and try again.

Flashing sequence	Meaning	Required activity
Brief period of flashing orange (every 10 seconds)	Pairing mode active	Enter the digits of the unit number to confirm.
Brief period of lighting up orange (after a green or red reception notification)	Batteries flat	Replace the batteries.
3 x long period of flashing red	Product defective	Note the display in your App or contact your specialist dealer.
Lights up 1 x orange and 1 x green (after inserting the batteries)	Test display	Once the test display goes out, you can continue.

Flashing sequence	Meaning	Required activity
Long and brief period of flashing orange (alternating)	Update to the unit software (OTAU = Over the Air Update)	New software is transferred. (Duration: Up to 12 hours) This does not affect how the product works during this time.

3.6 Duty cycle limit

The duty cycle limit describes a legally regulated limit on the transmission time of units in the 868 MHz range. The aim of this regulation is to guarantee that all units that work in the 868 MHz range work correctly. In the frequency range 868 MHz that is used by the product, the maximum transmission time for each individual unit is 1% of an hour (i.e. 36 sec-

onds in 1 hour). The product complies with this directive.
normally reached. In individual cases, e.g. during start-up or the new installation of a system, increased and radio-intensive pairing processes may mean that this limit is not reached. If the duty cycle limit is exceeded, the signal LED lights up red for one extended period and may indicate that a function is temporarily missing from the product. After a short time (max. one hour), the product's function is restored.

3.7 CE marking

CE

The CE mark shows that the products comply with the basic requirements of the applicable guidelines as stated on the data plate.
The manufacturer hereby declares that the type of radio equipment that is described in these instructions complies with Directive 2014/53/EU. The complete text for the EU Declaration of Conformity is available at: http://www.vaillant-group.com/doc/doc-radio-equipment-directive/.

3.8 Checking the scope of delivery

➤ Check that the scope of delivery is complete and intact.

Number	Designation
1	Room thermostat

Number	Designation
1	Clip-on frame
1	Mounting plate
2	1.5 V LR03/Micro/AAA batteries
2	5 mm rawl plug, 3 x 30 mm cross-head screws
2	Double-sided adhesive strips
1	Unit number sticker
1	Operating and installation instructions

4 Integration into the ambiSENSE system

4.1 Pairing

To ensure that the room thermostat is integrated into the **ambiSENSE** system and can communicate with other **ambiSENSE** units, it must first be paired

to the VR 920 Internet gateway. You should therefore first set up the VR 920 Internet gateway via the **VRC 700** app in order to be able to use **ambiSENSE** units in the system.
Then pair the product via the **VRC 700** app as follows.

- ➤ Open the **VRC 700** app on the smartphone.
- ➤ Select **Settings** on the bottom right.
- ➤ Select **ambiSENSE**
- ➤ Select **Add individual room component**.
- ➤ Follow the installation assistant.
- ➤ When the installation assistant in the app requests that you establish the power supply, remove the product from the clip-on frame and mounting plate, and pull the insulating strips out of the battery compartment.
- ➤ When you are prompted to do so by the installation assistant for the app, enter

the digits of the unit number (SGTIN = Serialised Global Trade Item Number) in the app to confirm or use the smartphone to scan the QR code.

Note
You can find the unit number and the QR code on the enclosed sticker and in the product's battery compartment.

➤ Wait until the pairing process is complete.
- The signal LED lights up green. The pairing process has been successfully completed.
- The signal LED lights up red. The pairing process has failed. Try again.

5 Set-up

5.1 Defining the installation site

Install the room thermostat:

- On an interior wall of the living room
  Height: ≈ 1.5 m above the floor
  In a frost-free room

Do not install the room thermostat:

- Close to heat sources, such as radiators, chimney walls, television sets, direct sunlight
- Above a cooker, from which vapours and grease are released
- On cold walls
- Between furniture, behind curtains or other objects that may prevent the room air from being recorded
- In a room that has a very dusty atmosphere or in a corrosive environment
- Close to draughts (doors or windows)

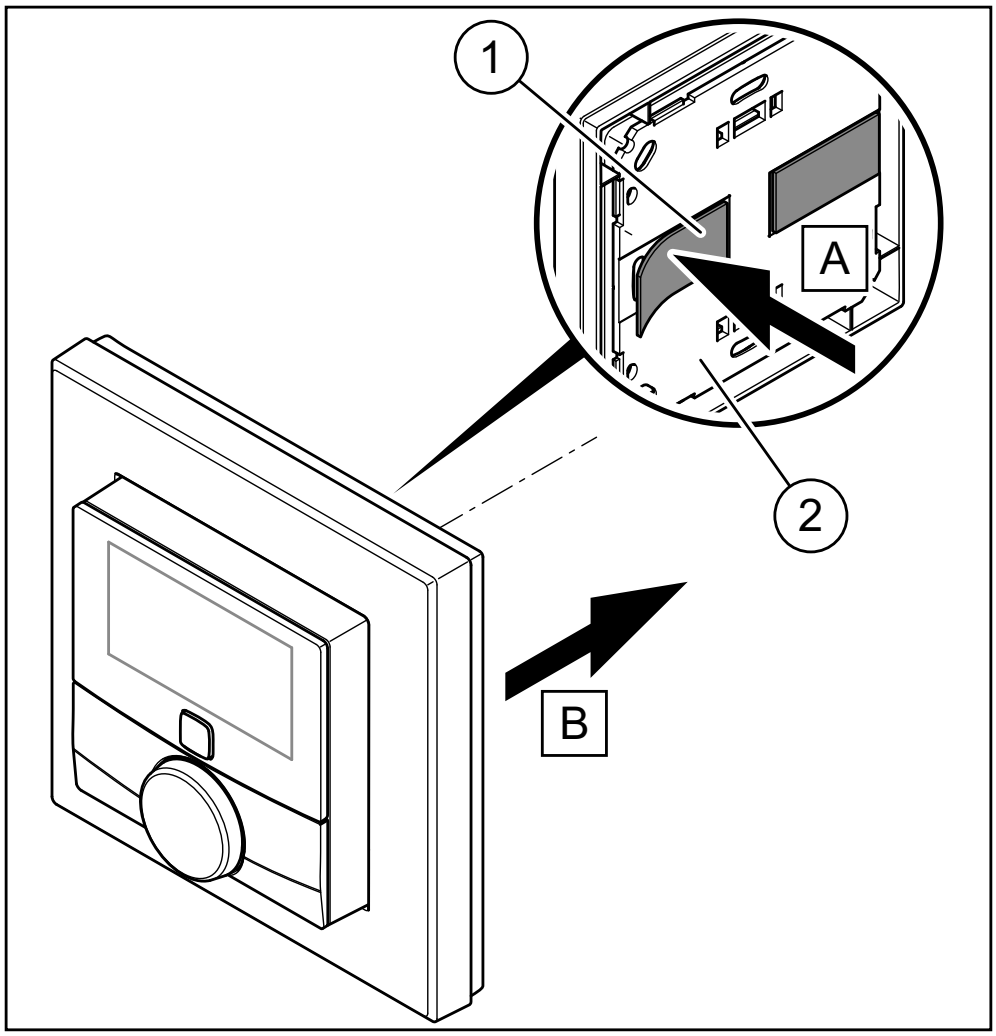
5.2 Installing the room thermostat

You can either install the room thermostat in the clip-on frame that is also supplied or you can integrate it into an existing switch series.

To install it in the clip-on frame, you can use either the supplied double-sided adhesive strips or the supplied screws to secure the room thermostat to the wall.

Installation with double-sided adhesive strips

➤ To ensure that the adhesive strips can stick for a long time, the installation surface must be smooth, level, undamaged, clean, free of grease and solvents, and not too cool.



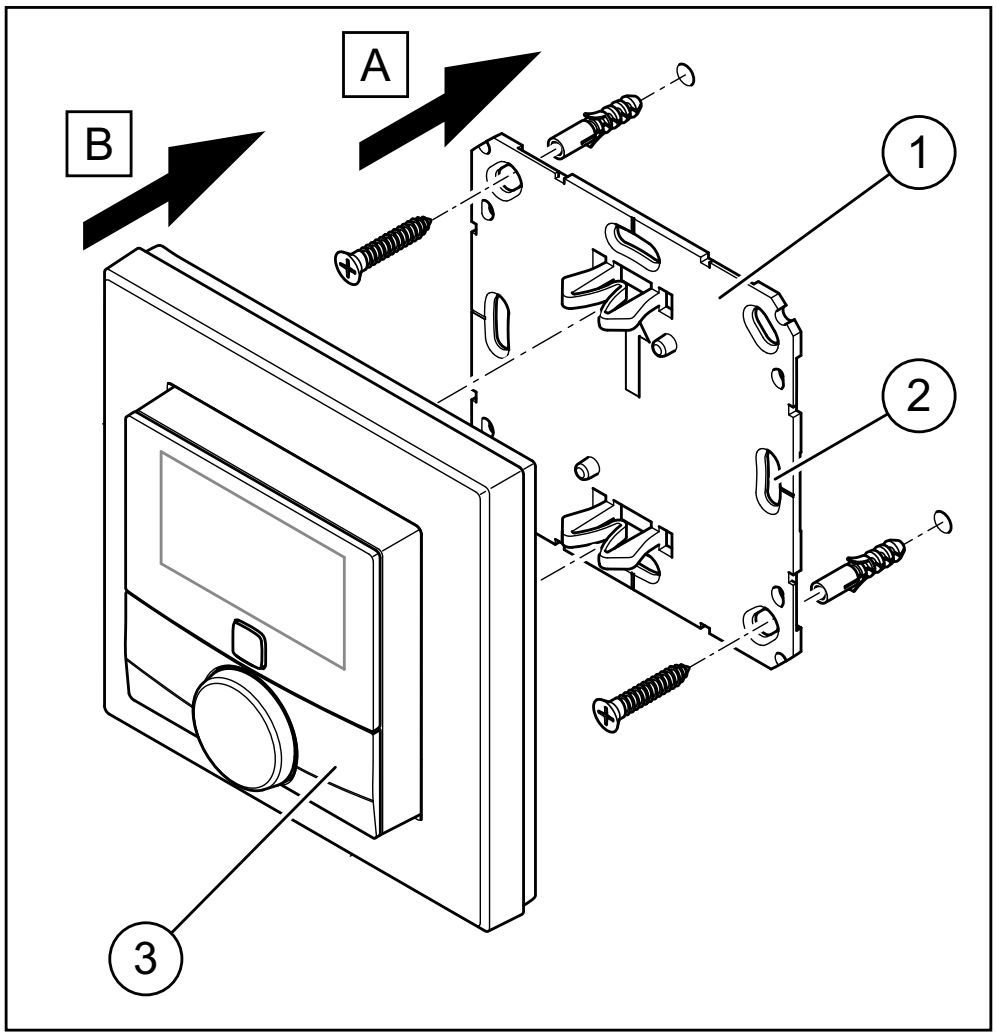
➤ Secure the adhesive strips **(1)** to the rear of the mounting plate **(2)** in the markings provided for that purpose. Ensure that you can read the writing on

the rear and that the clips for the mounting plate can click into the openings on the room thermostat.

➤ Remove the plastic film from the adhesive strips.

➤ Press the assembled room thermostat onto the wall with the rear at the required position.

Screw mounting



➤ Select a suitable installation site in the room.

Note
Ensure that no cables or pipes are routed within the wall.

➤ Use the mounting plate to mark two of the drill holes located diagonally opposite to each other.

Note
Ensure that the arrow on the front of the mounting plate is pointing upwards.

➤ If required, use the holes **(2)** for the installation on a flush-mounted box.
➤ Drill the pre-marked holes (5 mm diameter).
➤ Install the mounting plate to the wall using the rawl plugs and screws supplied.
➤ Push the room thermostat and clip-on frame **(3)** onto the mounting plate so that the clips for the mounting plate

click into the openings on the rear of the room thermostat.

Installation in multiple combinations

You can also use the room thermostat with clip-on frames from other manufacturers or you can integrate it into a multiframe. The room thermostat fits into frames from the following manufacturers:

- Berker: S.1, B.1, B.3, B.7 glass
- ELSO: Joy
- GIRA: System 55, Standard 55, E2, E22, Event, Esprit
- merten: 1-M, Atelier-M, M-Smart, M-Arc, M-Star, M-Plan
- JUNG: A 500, AS 500, A plus, A creation

➤ When installing in multiple combinations, ensure that the mounting plate for the room thermostat is attached flush beside the mounting plates/sup-

porting rings that have already been attached and is aligned to these.

6 Operation

6.1 Changing the operating mode

Automatic mode: The heating programme that is set via the **VRC 700** app is active.
Manual mode: You can set the temperature on the product or by using the **VRC 700** app. The temperature setting is retained until the next time a manual change is implemented.

➤ Press and hold the setting wheel to switch between manual mode and automatic mode.

6.2 Setting the temperature

In automatic mode, the desired temperature (Quick Veto) that is manually set on the product remains for three hours. The set time programme is then reactivated.

You can also use the **VRC 700** app in automatic mode to manually set a desired temperature (Quick Veto) that overwrites the current time programme for a certain amount of time. The duration for which the manually set temperature should apply can be individually defined here.
In manual mode, the temperature is retained until the next time a manual change is implemented.

➤ Turn the setting wheel clockwise or anti-clockwise to manually increase or decrease the room temperature.
  – The display shows the current target temperature and the "**SET**" display.

6.3 Using the Boost function

The Boost function is used to rapidly heat up the radiator(s) in the room for a short period by opening the valve.

➤ Briefly press the setting wheel.

- The Boost function is automatically terminated after 300 seconds.

6.4 Activating/deactivating the operation lock

You can use the relevant room settings in the **VRC 700** app to activate and deactivate the product's operation lock.

7 Troubleshooting

7.1 Detecting and rectifying faults

Conditions: The room temperature does not reach the set temperature

➤ Check whether the radiator thermostats on the radiators in the room in which the product is installed have radio contact with the Internet gateway.
➤ Check whether the radiator thermostats on the radiators in the room in which the product is installed have radio contact with the VR 920 Internet gateway.

➤ Check whether room air can circulate freely around the room thermostat, and that the room thermostat is not covered by furniture, curtains or other objects.

Conditions: The display is off

➤ Press the setting wheel briefly once.
➤ Check whether the "Low battery" symbol is shown in the display.
➤ Check that the batteries for the room thermostat have been correctly inserted in the battery compartment.

7.2 Command not confirmed

If at least one transceiver does not confirm a command, the signal LED lights up red once the incorrect transmission is completed.
The reason for the incorrect transmission may be radio interference caused by one of the following:

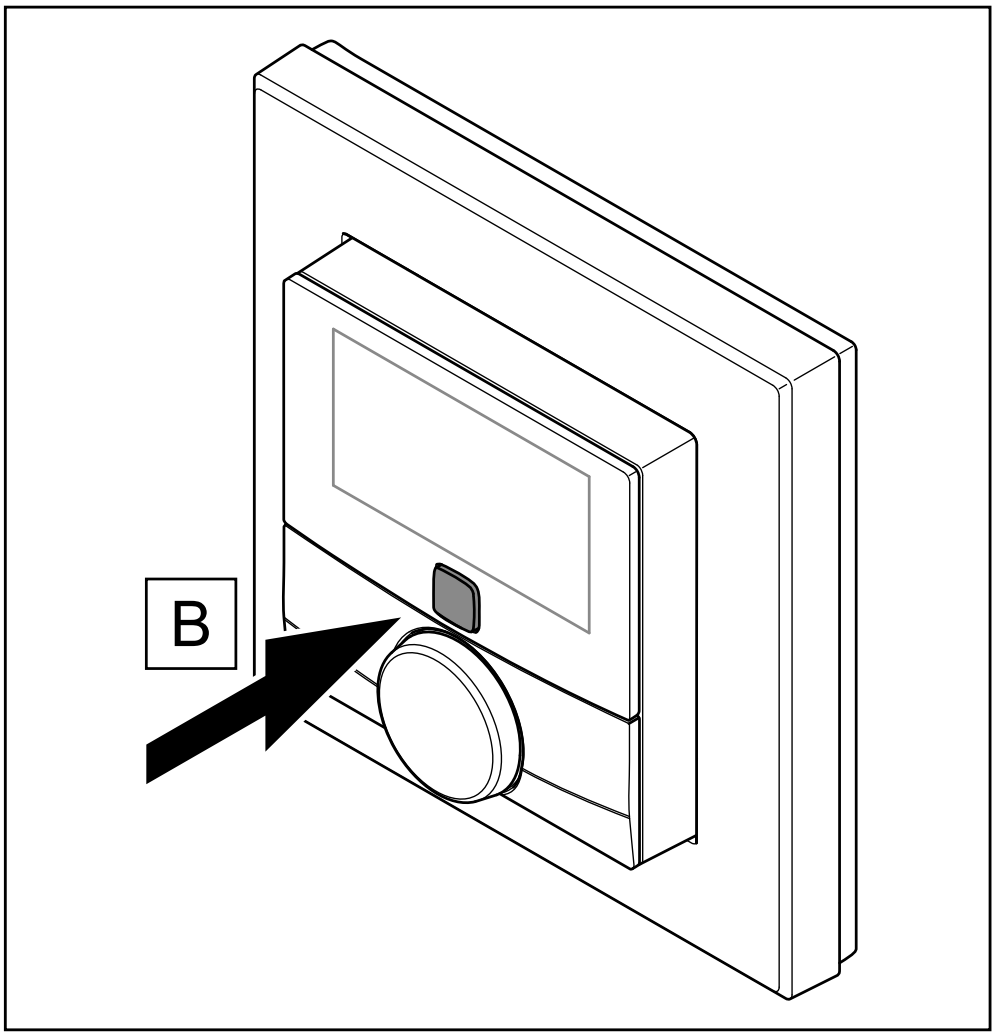
– Transceiver cannot be reached

- Transceiver cannot implement the command (load failure, mechanical blockage, etc.)
- Defective transceiver

7.3 Resetting to factory setting

Note
All settings will be lost.

1. Remove the batteries. (Page 38)



2. Re-insert the batteries in accordance with the polarity markings and, at the same time, press and hold the system

button for four seconds until the signal LED starts to rapidly flash in orange.

3. Release the system button.
4. Press the system button again for four seconds until the signal LED lights up green.
5. Release the system button to complete the process of restoring the factory settings.
   - The product restarts.

8 Care and maintenance

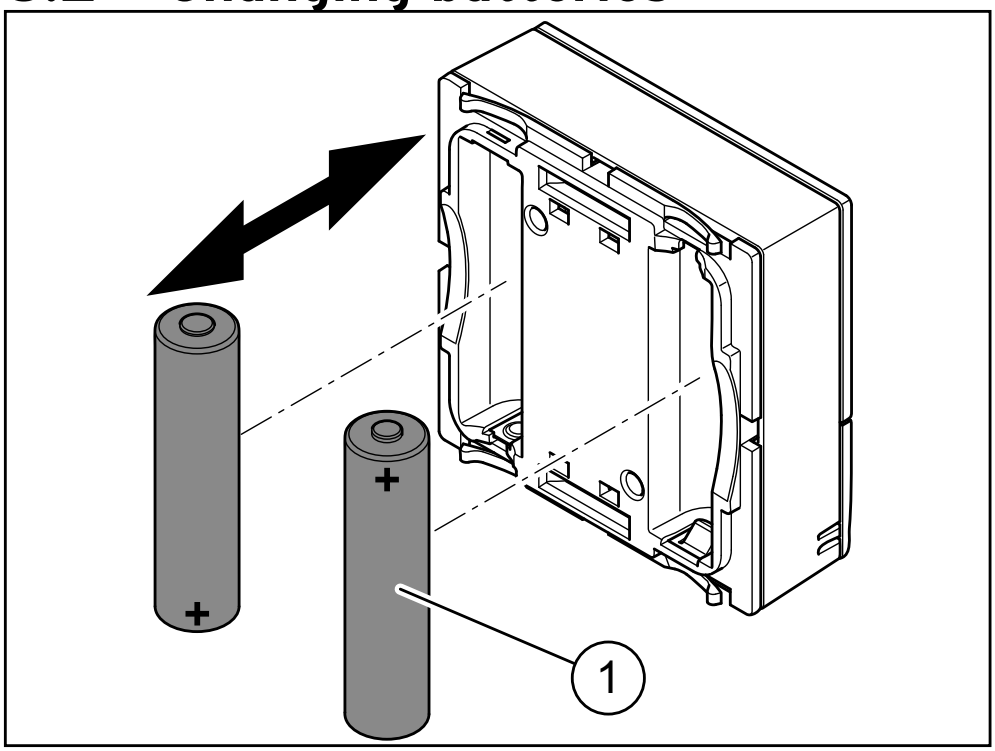
8.1 Caring for the product

Caution.
Risk of material damage caused by unsuitable cleaning agents.

- ➤ Do not use sprays, scouring agents, detergents, solvents or cleaning agents that contain chlorine.

- ➤ Clean the casing with a damp cloth and a little solvent-free soap.

8.2 Changing batteries



1. Remove the product from the mounting plate.
2. Always change all the batteries **(1)** at the same time.
   - Battery type: LR03/Micro/AAA
3. Do not use rechargeable batteries.
4. Insert the batteries, making sure that the poles are the right way round.

Note
After inserting the batteries, the product first runs through a selftest for approx. two seconds. Initialisation then takes place.

5. After inserting the batteries, observe the flashing sequence of the signal LED.
   - Self-test successful: Signal LED lights up orange first and then green.
6. Push the product in the clip-on frame-back onto the mounting plate.

8.2.1 Risk of death caused by unsuitable batteries

Danger!
Risk of death caused by unsuitable batteries!
If batteries are replaced with the wrong type of battery, there is a risk of explosion.

- ➤ Ensure that you use the correct battery type when replacing batteries.
- ➤ Dispose of used batteries in accordance with the instructions in this manual.

8.2.2 Leaking batteries

Danger!
Risk of chemical burns caused by leaking batteries!
If the product is not used for several weeks, the batteries may leak. The battery fluid may cause chemical burns.

- ➤ Remove the batteries if you will be away for an extended period.
- ➤ Take suitable measures to protect against chemical burns (e.g. wear protective gloves).

8.2.3 Batteries

- ➤ Note the battery type, as described in these instructions; see section “Data plate”.
- ➤ Remove and insert batteries as described in these instructions; see section “Changing the batteries”.
- ➤ Do not recharge non-rechargeable batteries.
- ➤ Remove rechargeable batteries from the product before charging them.
- ➤ Do not combine batteries with other battery types.

- ➤ Do not combine new and used batteries.
- ➤ Insert the batteries, making sure that the poles are the right way round.
- ➤ Remove the dead batteries from the product and dispose of them correctly.
- ➤ Remove the batteries if you intend to store the product and not use it for an extended period and/or to scrap it.
- ➤ Do not short-circuit the connection contacts in the product's battery compartment.

9 Decommissioning

9.1 Decommissioning the product

1. Delete the product in the **VRC 700** app.
2. Remove the product from the wall.
3. Remove the batteries.

9.2 Recycling and disposal

If the product is labelled with this mark:

- ➤ In this case, do not dispose of the product with the household waste.
- ➤ Instead, hand in the product to a collection centre for old electrical or electronic appliances.

If the product contains batteries that are labelled with this mark, these batteries may contain substances that are hazardous to human health and the environment.

- ➤ In this case, dispose of the batteries at a collection point for batteries.

10 Customer service

The contact details for our customer service are provided on our website.

11 Technical data

Parameter	Value
Battery type	2x 1,5 V LR03 / Micro / AAA
Current consumption	≤ 50 mA
Battery life	2 years
IP rating	IP 20
Degree of contamination	2
Maximum permitted environmental temperature	0 ... 35 °C
Height	86 mm (3.39 in)
Width	86 mm (3.39 in)
Depth	25 mm (0.98 in)
Weight (incl. batteries)	100 g (3.53 oz)
Transmission frequency	868.0 - 868.6 MHz / 869.4 - 869.65 MHz

Parameter	Value
Maximum transmission power	< 25 mW
Receiver category	SRD category 2
Range outdoors	250 m (820 ft - 3 in)
Duty cycle	< 1% per h / < 10% per h
Mode of operation	Type 1

0020248975_01

0020248975_01 GBIE 082017

Supplier

Vaillant Ltd.
Nottingham Road ▮ Belper ▮ Derbyshire ▮ DE56 1JT
Telephone 0330 100 3461
info@vaillant.co.uk ▮ www.vaillant.co.uk

© These instructions, or parts thereof, are protected by copyright and may be reproduced or distributed only with the manufacturer's written consent.
We reserve the right to make technical changes.