

## ■ Installation and maintenance instructions

For the competent person

### Installation and maintenance instructions



# vSMART

vSMART

**GB, IE**

**Publisher/manufacturer**

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## 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

## Safety 1



### 1.2 Risk caused by inadequate qualifications

Assembly and disassembly, installation, start-up, maintenance, repairs and decommissioning must only be carried out by a competent person who is sufficiently qualified to observe all of the instructions that come with the product, to proceed in accordance with the current state of the art, and to comply with all applicable directives, standards, laws and other regulations.

### 1.3 Intended use

In the event of inappropriate or improper use, damage to the product and other property may arise.

The Vaillant vSMART controller controls a heating installation with a Vaillant boiler with eBUS interface in a way that is weather-controlled and time-dependent.

In addition, the hot water generation from a connected domestic hot water cylinder can be controlled.



## 1 Safety

Operation is permissible with the following components and accessories:

- Domestic hot water cylinder (conventional)

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.

The use of the product in vehicles, such as camper vans and caravans, is not classed as intended use. Units that are not classed as vehicles are mobile homes or those that are installed in a fixed and permanent location (known as "fixed installation").



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.

## **1.4 General safety information**

### **1.4.1 Risk of death from contaminated drinking water**

- ▶ Inform the operator about the measures for protecting against legionella in the drinking water installation.

### **1.4.2 Danger due to malfunctions**

- ▶ Ensure that the heating system is in a technically perfect condition.
- ▶ Ensure that no safety or monitoring devices have been removed, bridged or disabled.
- ▶ Immediately rectify any faults and damage that may affect safety.



- ▶ Install the controller in a location where it is not covered by furniture, curtains, or other objects.
- ▶ Inform the operator that all the radiator valves in the room where the thermostat is installed must be fully open.

#### **1.4.3 Risk of material damage caused by an unsuitable installation room**

If you are installing the controller in a moist environment, the electronics may be damaged by moisture.

- ▶ The controller should only be installed in dry rooms.

#### **1.4.4 Risk of material damage caused by using an unsuitable tool**

- ▶ Use the correct tool to tighten or loosen screw connections.

## **Safety 1**



### **1.5 Requirements for lines**

- ▶ Use standard commercial lines for the wiring.

#### **Minimum cross-section**

- Bus line (extra-low voltage):  $\geq 0.75 \text{ mm}^2$

#### **Maximum line length**

- Bus lines:  $\leq 125 \text{ m}$

### **1.6 Regulations (directives, laws, standards)**

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

## 2 Notes on the documentation

### 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

- ▶ Pass these instructions and all other applicable documents on to the system operator.

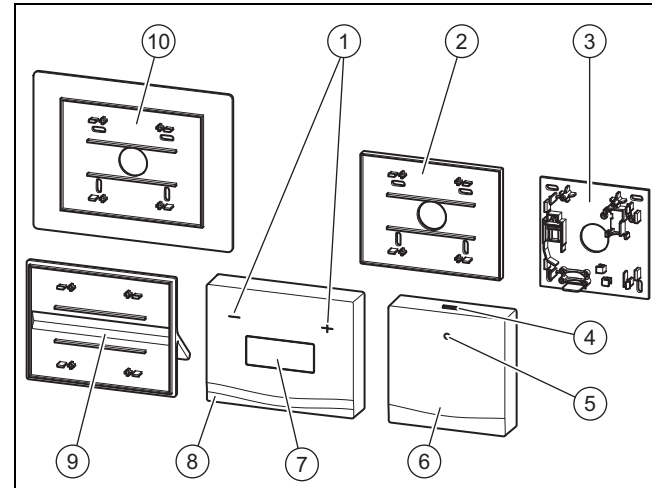
#### 2.3 Applicability of the instructions

These instructions apply for the following only:

Description	Article number
vSMART	0020197226

### 3 Product description




#### 3.1 Design of the product



- |    |   |   |                    |
|----|---|---|--------------------|
| 1  | [-] and [+] buttons                             | 5 | Status LED         |
| 2  | Small wall socket: Thermostat                   | 6 | Communication unit |
| 3  | Wall socket: Communication unit                 | 7 | Display            |
| 4  | Bluetooth button/comfort protection mode button | 8 | Thermostat         |
| 9  | Product stand                                   |   |                    |
| 10 | Large wall socket: Thermostat                   |   |                    |

## 3.2 Information on the identification plate

The identification plate is mounted on the rear of the communication unit and the thermostat in the factory.

Information on the identification plate	Meaning
	Barcode with serial number (on the communication unit only), 7th to 16th digit = product article number
	→ "CE label" section
vSMART	Product description
V mA	Operating voltage and current consumption
	→ "Recycling and disposal" section

## 3.3 CE label



The CE label shows that the products comply with the basic requirements of the applicable directives as stated on the identification plate.

The declaration of conformity can be viewed at the manufacturer's site.

The manufacturer hereby declares that the type of radio equipment used in the product complies with directive 2014/53/EU. The complete text of the EU declaration of conformity can be viewed at the manufacturer's site.

## 4 Installation

### 4.1 Checking the scope of delivery

- ▶ Check that the scope of delivery is complete.

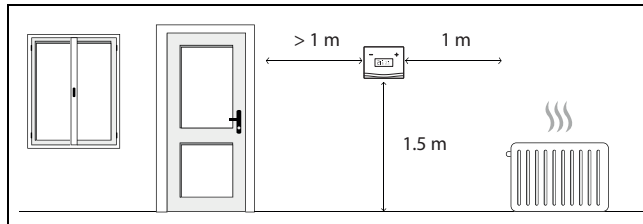
#### 4.1.1 Scope of delivery

Number	Description
1	Thermostat
1	Communication unit
1	Product stand for thermostat
1	Small wall socket for thermostat
1	Large wall socket for thermostat
1	Wall socket for communication unit
1	Power supply unit for communication unit
3	Batteries for the thermostat
1	Enclosed documentation

## 4 Installation

Number	Description
1	Enclosed fastening material: <ul style="list-style-type: none"><li>- 4 x rawl plugs</li><li>- 4 x screws</li></ul>

### 4.2 Minimum clearances



### 4.3 Observing the requirements for the installation site

#### Communication unit

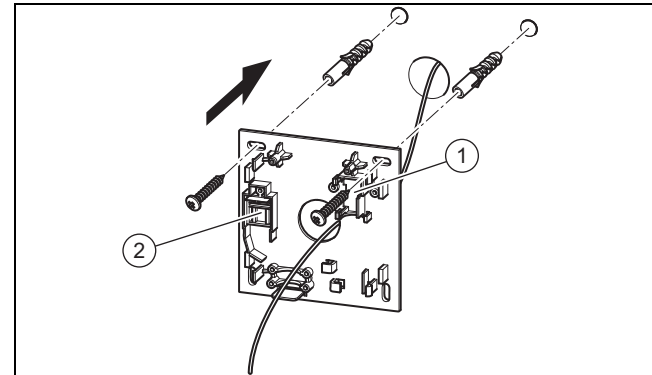
- ▶ Install the communication unit at a suitable position on the wall so that the WLAN RF connection and the RF connection to the thermostat are guaranteed.
- ▶ Install the communication unit close to a plug socket for the power supply.
- ▶ Position the communication unit in such a way that the communication unit can be connected to the boiler via an eBUS line.

#### Thermostat

- ▶ Choose a location for the thermostat that will allow an RF connection to be established with the communication unit.
- ▶ Position the thermostat in such a way that the room temperature can be recorded without any problems. You must observe the minimum clearances for this (→ Page 8).

### 4.4 Installing the communication unit

#### 4.4.1 Installing the communication unit's wall socket

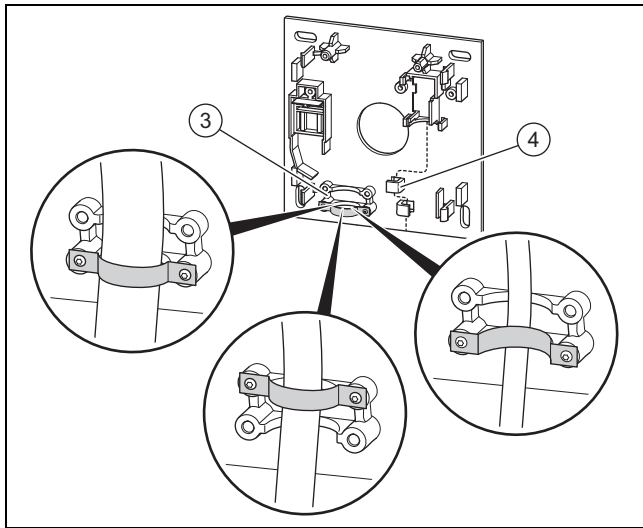


1. Remove the wall socket from the rear of the communication unit.
2. Position the wall socket at a suitable location on the wall and take the cable duct for the eBUS line into consideration.



## Installation 4

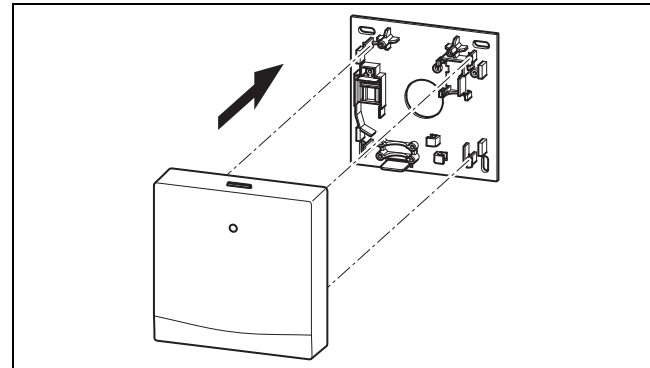
3. If an eBUS line is fed out from the wall, guide the eBUS line through the cable duct for the wall socket. If no eBUS line is fed out from the wall, guide the eBUS line through the underside of the communication unit.
4. Mark the drill holes.
5. Drill two holes that have a diameter of 6 mm.
6. Insert the supplied rawl plugs into the holes.
7. Use the supplied screws to secure the wall socket to the wall.



8. When you route the line from the underside of the wall socket to the eBUS connector, use the strain relief (3).

- The strain relief can be adjusted to fit different cable diameters (up to a maximum of 9 mm).
9. Connect the eBUS line to the terminals of the eBUS plug (2) on the wall socket (→ Page 12).
  10. Plug the power supply unit bush into the mating connector (1) on the wall socket and route the cable through the strain relief (4).

### 4.4.2 Placing the communication unit on the wall socket



1. Carefully place the communication unit on the wall socket.
2. Carefully press the communication unit into the wall socket until the locking tabs on the communication unit are heard to click into place in the wall socket.
  - ◁ The LED on the communication unit flashes blue.

## 4 Installation

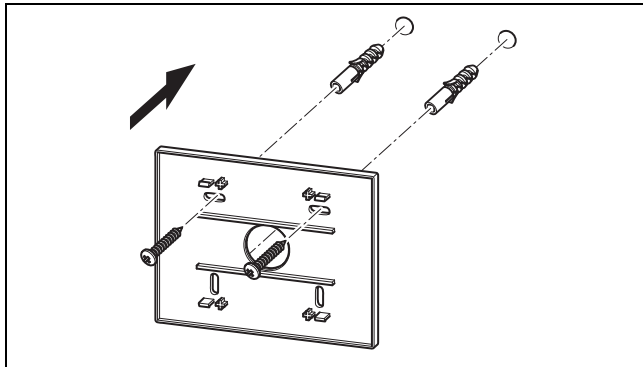
### 4.5 Installing the thermostat

You can mount the thermostat on the wall using the wall socket or you can fit the thermostat on the product stand.

#### 4.5.1 Installing the thermostat's wall socket

##### Preliminary work

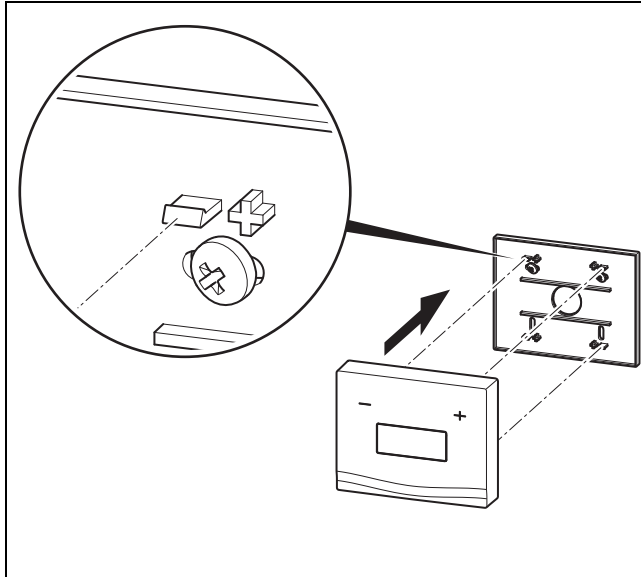
1. Before wall-mounting the thermostat, ensure that the RF connection between the thermostat and communication unit is guaranteed (see the following section).
2. If the RF connection is adversely affected by electrical equipment or buildings, choose a different installation site for the thermostat.



1. Remove the wall socket from the rear of the thermostat.
2. Position the wall socket at a suitable location on the wall. Observe the minimum clearances (→ Page 8).

3. Mark the drill holes.
4. Drill two holes that have a diameter of 6 mm.
5. Insert the supplied rawl plugs into the holes.
6. Use the supplied screws to secure one of the two wall sockets to the wall.
  - If a thermostat has already been installed at the installation site and the wall breakthrough is not covered by the small wall socket, use the large wall socket. Otherwise, use the small wall socket.

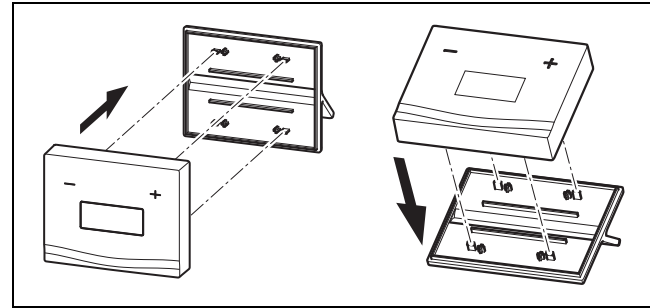
### 4.5.2 Placing the thermostat on the wall socket



1. Insert batteries into the thermostat.
2. Carefully place the thermostat on the wall socket.
3. Carefully press the thermostat into the wall socket until the latching lugs on the wall socket audibly click into place in the thermostat.
4. Check the RF connection between the thermostat and communication unit (temperature indicator on the display; see operating instructions).

5. If necessary, reduce the distance between the thermostat and communication unit.

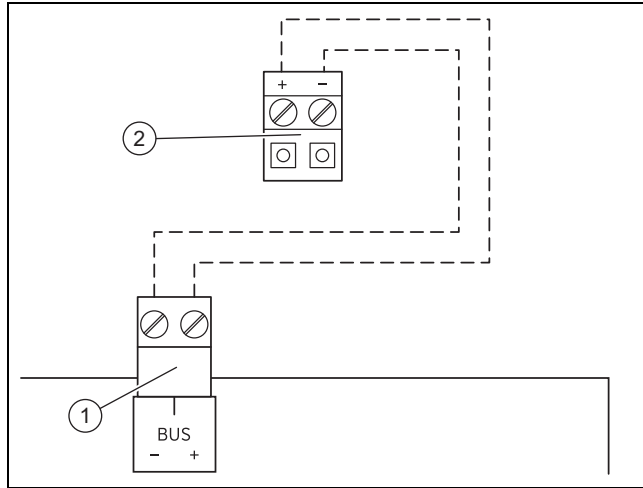
### 4.5.3 Placing the thermostat on the product stand



1. Remove the wall socket from the rear of the thermostat.
2. Insert batteries into the thermostat.
3. Carefully place the thermostat on the product stand.
  - Define the installation angle for the thermostat by placing it on the product stand at a 180° rotation.
4. Carefully press the thermostat onto the product stand until the latching lugs on the product stand audibly click into the thermostat.
5. Check the RF connection between the thermostat and communication unit (temperature indicator on the display; see operating instructions).
6. If necessary, reduce the distance between the thermostat and communication unit.

## 5 Carrying out the electrical installation

### 5 Carrying out the electrical installation



#### **Danger!** **Risk of death from live connections!**

When working in the electronics box of the boiler, there is a risk of death from electric shock. Continuous voltage is present on the mains connection terminals, even if the main switch is turned off.

- ▶ Switch the main switch off before working on the electronics box of the boiler.

- ▶ Disconnect the boiler from the power mains by disconnecting the mains plug or by de-energising the boiler via a partition with a contact opening of at least 3 mm (e. g. fuses or power switches).
- ▶ Secure the power supply against being switched on again.
- ▶ Open the electronics box only when the boiler is disconnected from the power supply.

1. Disconnect the power supply to the boiler.
2. Secure the power supply to the boiler against being switched back on again.
3. Connect the eBUS line to the terminals **(2)** of the pin header connector in the wall socket of the communication unit.
  - The polarity of the eBUS line is not relevant. If the eBUS line connections are switched, this does not impair communication.
4. Connect the eBUS line to the terminal block of the boiler **(1)**, as described in the instructions for the boiler.

**Conditions:** The boiler that is to be connected has a terminal "24 V = RT".

- ▶ Make sure that the bridge is installed between the "24 V = RT" terminals.

**Conditions:** The boiler that is to be connected has a terminal "3 4 5".

- ▶ Make sure that the bridge is installed between terminals 3 and 4.

## 6 Operating concept

The operating instructions describe the operating concept and how to operate product.

### 7 Start-up

#### 7.1 Handing the product over to the operator

1. Inform the operator how to handle the product. Answer any questions the operator may have.
2. Draw special attention to the safety instructions which the operator must follow.
3. To protect persons against scalding, inform the operator as follows:
  - Is a cold water mixing valve integrated as protection against scalding?
4. To prevent malfunctions, inform the operator of the following regulations:
  - The heating installation must only be operated if it is in a perfect technical condition.
  - Safety and monitoring equipment must never be removed, bridged or disabled.

- Faults and damage that adversely affect safety must be eliminated immediately by a competent person.
  - The controller must not be covered by furniture, curtains or other objects.
  - All radiator valves in the room in which the thermostat is installed must be fully open.
5. Inform the operator that, in their absence during a frost period, the heating installation must be left in operation and the rooms must be set at a sufficient temperature in order to prevent frost damage.
  6. Pass all of the instructions and documentation for the product to the operator for safe-keeping.
  7. Tell the operator the article number of the product.
  8. If the operator is using underfloor heating, set the maximum target flow temperature on the boiler.

## 8 Troubleshooting

If a fault occurs, the thermostat display shows a symbol.

- ▶ Use the table in the appendix to rectify the fault.  
Faults – Overview (→ Page 15)
- ▶ If you are unable to rectify the fault, contact Customer Service.

## 9 Maintenance

### 9 Maintenance

#### 9.1 Procuring spare parts

The original components of the product were also certified as part of the declaration of conformity. If you do not use certified Vaillant original spare parts for maintenance or repair work, this voids the conformity of the product. We therefore strongly recommend that you fit Vaillant genuine spare parts. Information about available Vaillant original spare parts is available by contacting the contact address provided on the reverse of this document.

- ▶ If you require spare parts for maintenance or repair work, use only Vaillant genuine spare parts.

## 10 Recycling and disposal

### Disposing of the packaging

- ▶ Dispose of the packaging correctly.
- ▶ Observe all relevant regulations.




## 11 Customer service

To ensure regular servicing, it is strongly recommended that arrangements are made for a Maintenance Agreement. Please contact Vaillant Service Solutions for further details.

Vaillant Service Solutions: 03 30 100-31 43

## Appendix

### A Faults – Overview

Symbol	Meaning	Remedy
	Batteries almost flat.	– Replace the batteries in the thermostat.
	Batteries flat.	– Replace the batteries in the thermostat.
	No connection to the communication unit.	– Reduce the distance between the thermostat and the communication unit.

### B Technical data

#### B.1 Technical data – Thermostat

<b>Power supply</b>	3 x 1.5 V (AAA)
<b>Battery life</b>	Approx. 2 years
<b>Level of protection</b>	IP20
<b>Protection class</b>	III
<b>Degree of contamination</b>	II
<b>Ambient temperature</b>	≤ 50 °C
<b>Adjustable temperature range</b>	7 ... 30 °C
<b>Transmission frequency for thermostat – communication unit</b>	868 MHz

## Appendix

<b>868 MHz, transmission power</b>	+10 dBm
<b>868 MHz, receiver category</b>	2
<b>868 MHz, relative activation duration</b>	< 0.1%
<b>Maximum range, outdoors</b>	100 m
<b>Maximum range, indoors</b>	≈ 25 m
<b>Height</b>	83 mm
<b>Width</b>	105 mm
<b>Depth</b>	26 mm

### B.2 Technical data – Communication unit

<b>Power supply</b>	100 ... 240 V
<b>Frequency</b>	50/60 Hz
<b>Current consumption</b>	< 2 W
<b>Level of protection</b>	IP20
<b>Protection class of the communication unit</b>	III
<b>Protection class of the power supply</b>	II
<b>Degree of contamination</b>	II
<b>Ambient temperature</b>	≤ 50 °C



<b>Transmission frequency for thermostat – communication unit</b>	868 MHz
<b>868 MHz, transmission power</b>	+10 dBm
<b>868 MHz, receiver category</b>	2
<b>868 MHz, relative activation duration</b>	< 0.1%
<b>WLAN, type</b>	802.11 b/g/n (2.4 GHz)
<b>WLAN, transmission power</b>	< +16 dBm
<b>WLAN, supported network encryption</b>	WEP, WPA, WPA2
<b>Bluetooth, type</b>	2.1
<b>Bluetooth, transmission power</b>	+10 dBm
<b>Height</b>	84 mm
<b>Width</b>	83 mm
<b>Depth</b>	25 mm

### B.3 Product data in accordance with EU Ordinance no. 811/2013, 812/2013

Brand name	Vaillant
Model	vSMART
Temperature control class	VI
Contribution to the seasonal room-heating energy efficiency $\eta_s$	4,0 %

## Appendix

All data contained in the product information has been calculated using the specifications from the European directives. Variations from product information listed at another location may be the result of different test conditions. Only the data contained in this product information is definitive and valid.

### B.4 App



#### Note

The app is available as a free download (see operating instructions).

Several devices that have an Internet connection can be used to access it.

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Compatible with:

- At least iOS 8
- At least Android 4.0

## C Legal note

"Made for iPod", "Made for iPhone" and "Made for iPad" mean that an electronic accessory has been designed that was developed especially for the relevant connection to an iPod, iPhone or iPad, and for which the developer has certified that it complies with Apple's performance standards. Apple shall not be liable for the operation of this device or its compliance with the safety standards and regulations. Note that using this accessory with an iPhone may impair the radio performance.





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