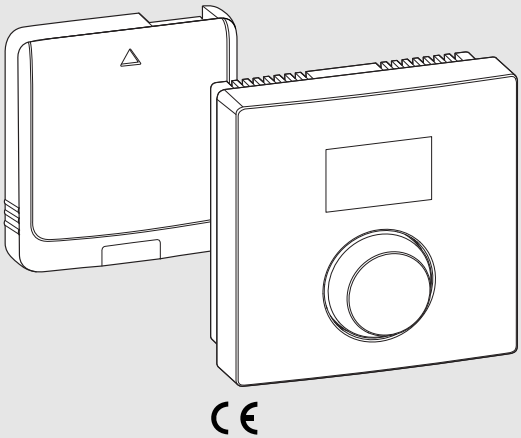
Installation and operating instructions

Control unit and key
Comfort+ I RF/Stat RF



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1 Explanation of symbols and safety instructions

1.1 Explanation of symbols

Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimising danger are not taken.

The following signal words are defined and can be used in this document:

DANGER:

DANGER indicates that severe or life-threatening personal injury will occur.

WARNING:

WARNING indicates that severe to life-threatening personal injury may occur.

CAUTION:

CAUTION indicates that minor to medium personal injury may occur.

NOTICE:

NOTICE indicates that material damage may occur.

Important information

The info symbol indicates important information where there is no risk to people or property.

1.2 General safety instructions

Installation and commissioning

- ▶ Observe all country-specific regulations and standards during installation and operation!
- ▶ All instructions must be observed. Failure to comply with instructions may result in material damage and personal injury, including possible loss of life.
- ▶ Ensure that the user interface is installed and commissioned by an approved contractor.
- ▶ Do not install the user interface in wet areas.
- ▶ Install and commission the heat source and other accessories in accordance with the relevant instructions.
- ▶ Never connect the user interface to the 230 V mains.
- ▶ Before installing the user interface: electrically isolate the heat source and all other BUS units from the power supply and secure against unintentional reconnection, making sure that the power supply is completely disconnected.

⚠ Damage caused by frost

The solar system can freeze if it is switched off:

- ▶ Observe the notices regarding frost protection.
- ▶ Due to the additional functions, e.g. DHW heating or pump anti-seizure protection, the system should always be left on.
- ▶ Correct any faults immediately.

⚠ Electrical work

Electrical work may be carried out only by qualified electricians.

- ▶ Before starting electrical work:
  - – Isolate all poles of the mains voltage and secure against reconnection.
  - – Make sure the mains voltage is disconnected.
- ▶ Never connect the product to the mains voltage.
- ▶ Observe the wiring diagrams of other system components as well.

2 Product Information

Possible applications and use

Comfort+ I RF activates the timer in the wall-mounted boiler (→ operating instructions for the appliance).

- Use as **room temperature-dependent controller** for systems with one unmixed heating circuit
- Use in the case of a heat source with BUS system, EMS 2

Supplied parts

- Control unit
- Key
- Technical documentation
- Batteries

2.1 Function as room temperature-dependent controller

The Comfort+ I RF/Stat RF controls the heat source via the room temperature. The control unit is not suitable for controlling heat sources from other manufacturers.

Output control

The heat output of the heat source changes according to the discrepancy between the current and desired room temperature. This method of control is suitable for a uniform temperature level, e.g. open-plan house. There are fewer burner starts and shorter pump runtimes. This control mode may not be available depending on the connected heat source.

2.2 User interface

2.2.1 Control unit

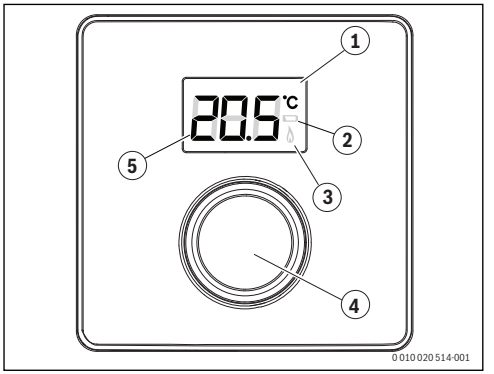


Fig. 1 Control elements

[1] Display
[2] Battery status indicator
[3] Burner ON Indicator
[4] Rotary push button knob: select (turn) and confirm (press)
[5] Current room temperature

Description of the displays	Example
Current room temperature (standard display)	
Desired room temperature: ▶ Press selector to briefly show the desired room temperature (flashing).	
Battery status indicator: Weak battery ▶ Replace batteries within 60 days.	
Boiler is producing heat, e.g. the burner is running.	

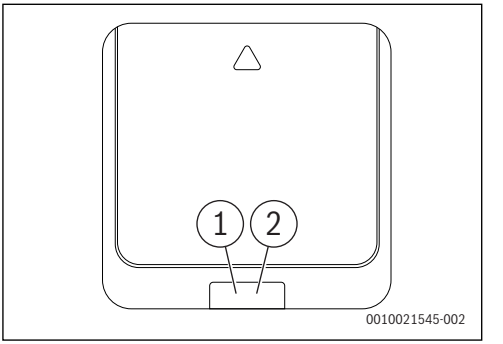
Setting the desired room temperature	Result
▶ Turn the selector to select the desired room temperature.	
▶ Press the selector to confirm the setting.	

Switching off the heating	Result
▶ Reduce the desired room temperature, until **OFF** appears. When the heating is switched off, frost protection for the room is also switched off. Frost protection of the heat source remains active.	

2.2.2 Key

The key must be used in conjunction with the control unit.

The key is installed in the heat source.



[1] Button on key
[2] LED on key

Description of the LED displays	Example
Red flashing LED: Fault, e.g. no EMS connection: ▶ Install the key again, restore the last functioning status. Flashing green: No fault, initialisation process is running.	
Constant red: Temporary fault: ▶ Wait for normal operating condition to be resumed. Constant yellow LED: No fault, time and date not available: ▶ Set the time and date on the appliance. Constant green LED: No fault, normal operating condition.	
LED Off: No fault, power-saving mode or appliance switched off.	

3 Installation and commissioning

3.1 Installation

CAUTION:

Electrical work

Electrical work must only be carried out by a qualified electrician.

- ▶ Before starting electrical work:
  Isolate the mains electrical supply and secure against unintentional re-connection.
- ▶ Check for zero voltage.
- ▶ Also observe connection diagrams of other system components.

For information on the heat source, → Technical documentation for the heat source.

These instructions contain the installation and operating instructions for the Comfort+ I RF/Stat RF control unit.

3.1.1 Installing the key

- ▶ Isolate the mains electrical supply and secure against unintentional re-connection.
- ▶ Install the key in the heat source. For information in installing in the heat source, → Technical documentation for the heat source.

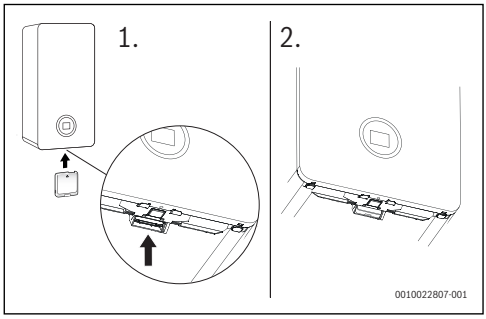


Fig. 2 Installing the key

- ▶ Switch on the heat source.

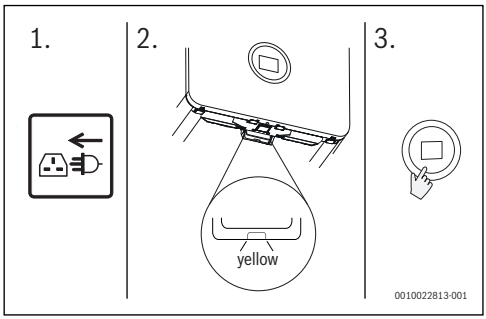


Fig. 3 Initialisation

- ▶ Set time and date. For information on setting timer and date, → Technical documentation for the heat source.

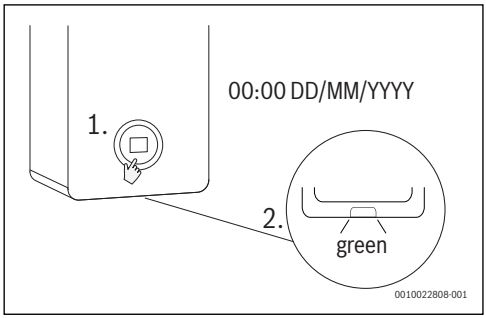


Fig. 4 Setting time and date

3.1.2 Putting the control unit into operation

The control unit and key are paired in the factory at the time of manufacture. They detect each other automatically when switching on.

- ▶ Insert the batteries in the control unit (→ sec 7.1, page 8).
- ▶ The key and control unit connect automatically.
  While the connection is being established, the control unit shows a countdown starting with 120.

Once installed the display shows the current room temperature after the connection has been established.

- ▶ Ensure that the signal strength is adequate at the installation location for the control unit, before you install it (→ page 7).
- ▶ Install the control unit.

3.1.3 Installing Comfort+ I RF/Stat RF control unit

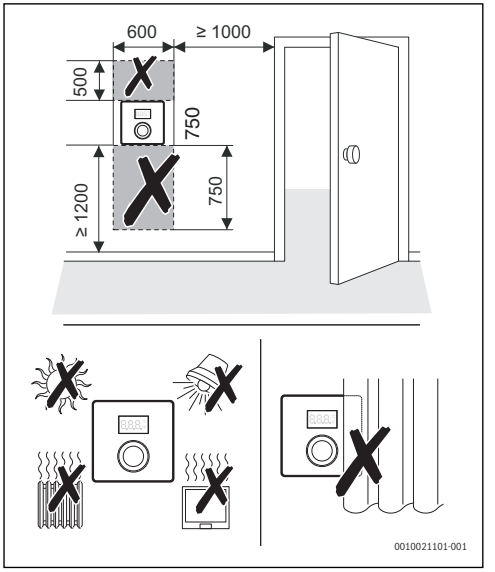


Fig. 5 Installation location of the control unit

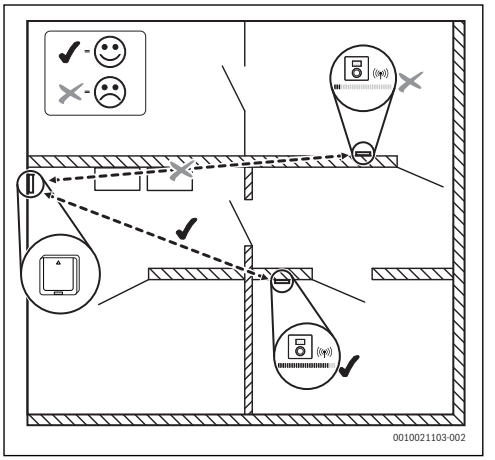


Fig. 6 Wireless range

Releasing control unit from wall socket

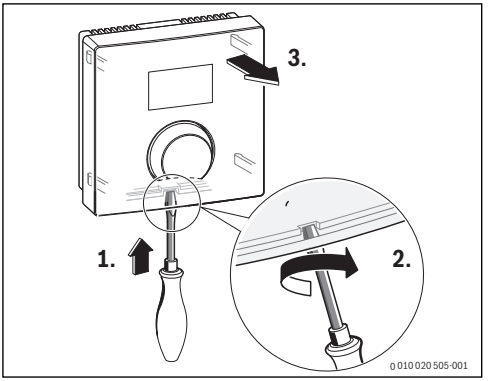


Fig. 7 Releasing control unit from wall socket

Wall-mounted installation

Find a position with good signal strength before starting the wall-mounted installation of the control unit.

If the signal strength is low, check out another position in the room, until the best possible signal strength is achieved (→ page 7).

- ▶ Use the wall socket as a template to mark the position of the screws.
- ▶ Drill two suitable holes for the length and diameter of the rawl plugs.

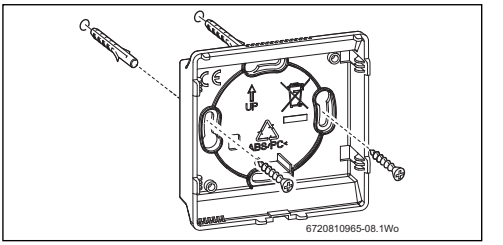


Fig. 8 Installing the wall socket for the control unit

- ▶ Insert the rawl plugs.
- ▶ Insert the screws in such a way, that they protrude sufficiently to enable the wall socket to fit behind the screw heads.
- ▶ Install the wall socket horizontally.

3.2 Start-up after a reset

Systems with one heating circuit (room controller – CO)	
▶ Switch on the system / Reset Comfort+ I RF/ Stat RF. Three dashes are displayed while the connection is being established. The room temperature is displayed after the connection has been established.	

4 Using the control unit

Operations with examples.

Opening the service menu	Result
▶ Press and hold the selector until 2 dashes are displayed.	
▶ Release the selector to display the first setting.	

Connecting with other appliances	Result
▶ Select a setting in the service menu.	
▶ Turn the selector to connect the key and control unit.	
▶ Press the selector to start the connection. During connection a countdown starts at 120 s. As soon as a connection is established, the countdown is ended and 1 flashes for 3 s. The appliances are connected. Menu rF 1 then opens.	
▶ If the countdown is on 0 s and no connection has been established, the display changes again to A.	
▶ After 30 s the current room temperature is displayed, or press and hold the selector for more than 3 s to return to the previous menu. ▶ Close the service menu.	

Checking the signal strength	Result
▶ Select a setting in the service menu.	
▶ Press the selector. ▶ The signal strength is displayed as a number from 0 to 10. [0] No reception [1-3] Poor reception [4-6] Good reception [7-10] Very good reception	
▶ Close the service menu.	

Closing the service menu	Result
▶ Press and hold the selector until 3 dashes are displayed.	
▶ Release the selector. The current room temperature is displayed and the control unit operates with the changed setting.	

The control unit and key are connected in the factory at the time of manufacture and detect each other automatically, as soon as the key is installed and connect when the system is switched on. There is no need to pair/unpair the units during installation, unless there is a problem with one or both of the units.

5 Settings in the service menu

Setting	Adjustment range[1)]	Description
S2		Signal strength
rF 1		Connection between control unit and key
S1		Software version[2)]
F1	1 | **0**	Resetting Stat RF/Comfort+ I RF 0: Do not reset 1: Reset
E1	– 3.0 ... **0.0** ... 3.0	Correction value for the room temperature displayed

1) **Highlighted values** = Default setting

2) Turn the selector to read out the whole value.

A reset restores the default setting. The settings are retained in the event of a power failure.

6 Troubleshooting

If a fault can not be rectified, note down the fault code:

- ▶ Contact the approved contractor or Customer Service.
- ▶ Advise the type of fault and ID no. of the control unit.

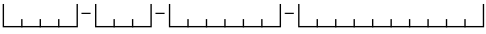


Table 1 ID no. → rear of the control unit (to be entered by the installer)

If there is a fault, the display shows the fault code.

If further information required, see the service manual.

6.1 Temperature faults

[Desired room temperature is exceeded]	
Test procedure/cause	**Action**
Check the installation location of the control unit (→ fig. 5)	Install the control unit in a better place.

Table 2

6.2 Faults in the control unit or key

6.2.1 User interface

In the event of a fault, a fault code is displayed.

Fault code	Possible cause and remedy from the specialist
A61	No wireless signal ▶ Check the signal strength and position the control unit in a better place.
A91	No communication via EMS (reported by the heat source) ▶ Check EMS connection. ▶ Check that the key is installed correctly.
A91	The control unit is not connected to a heat source (established by the control unit) ▶ Check EMS connection. ▶ Check that the key is installed correctly.
A01	"Maintenance due" triggered by the Landlord function (reported by the heat source)
A11	For all other fault codes, which the heat source reports

Table 3 Fault codes for the specialist

6.2.2 Key

[LED flashes red once per second]	
Description	**Action**
Local program fault No fault in the heat source but probably loss of the wireless signal to at least one control unit.	Check the control units for faults.

Table 4

7 Maintenance

7.1 Replace batteries

The control unit and key require no maintenance other than changing the batteries in the control unit.

The casing can be cleaned with a dry cloth. Do not use cleaning agents or solutions.

The control unit is powered by 2 AAA batteries.

As soon as the symbol for weak batteries is displayed in normal operation, the batteries must be replaced within the next 60 days, otherwise the programmed settings are lost.

Access to the batteries

To release the control unit from the wall socket:

1. Insert a flat-head screwdriver into the recess on the underside of the control unit.
2. Gently turn the screwdriver, until the locking device is open.
3. Release the control unit from the wall socket (→ fig. 7, page 6).

Replace batteries

- ▶ Replace the used batteries with new ones of the same type (AAA).
- ▶ Ensure that the **+** pole of the battery is inserted in the **+** pole of the battery compartment.
- ▶ Fit the control unit into the wall socket: first insert into the lugs [1] at the top and then latch the underside into place.

CAUTION:

Risk of explosion if the battery is replaced with an incorrect type.

- ▶ Use specified batteries only.

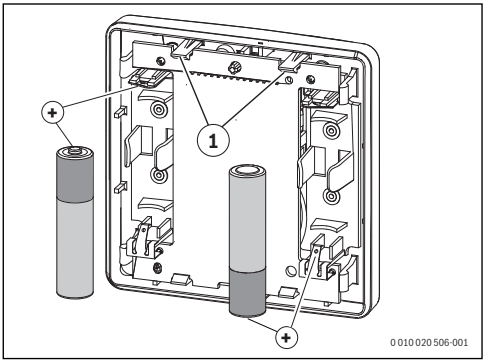


Fig. 9 Replace batteries

8 Product data for energy consumption

The product data specified comply with the requirements of EURegulation No. 811/2013 as a supplement to EcodesignDirective 2017/1369/EU. The class of temperature controller is required to calculate the central heating energy efficiency of an integrated system, and it is therefore incorporated into the system data sheet.

Function of Comfort+ I RF/Stat RF & key	Class[1)]	[%][1),2)]
Room temperature-dependent, modulating	**V**	**3.0**

1) Classification in accordance with EU Regulation No. 811/2013 for identification of integrated systems
2) Contribution to seasonal energy efficiency of central heating in %

9 Simplified EU Declaration of Conformity regarding radio equipment

Bosch Thermotechnik GmbH hereby declares, that the Comfort+ I RF/Stat RF product described in these instructions complies with the Directive 2014/53/EU.

The complete text of the EU Declaration of Conformity is available on the Internet: worcester-bosch.co.uk.

10 Specifications

Band width frequency	868.7 ... 869.2 MHz
Maximum transmitting capacity	<10 mW
Transmission frequency	868 MHz
Transmission protocol (wireless)	X3D-C
Receiver category	2

Table 5 Wireless technology in Comfort+ I RF/Stat RF

Dimensions (W × H × D)	82 × 82 × 23 mm
Power supply	2 × AAA
Battery service life in normal use	2 years
Rated current	12 mA
BUS interface	EMS 2
Control range	5 ... 30 °C
Permissible ambient temperature	0 ... 60 °C
Protection class	III
IP rating	IP20
Temperature of ball test	75 °C
Degree of pollution	2

Table 6

11 Environmental protection/disposal

Used electrical and electronic appliances

Electrical or electronic devices that are no longer serviceable must be collected separately and sent for environmentally compatible recycling (in accordance with the European Waste Electrical and Electronic Equipment Directive).

To dispose of old electrical or electronic devices, you should use the return and collection systems put in place in the country concerned.

Batteries must not be disposed together with your household waste. Used batteries must be disposed of in local collection systems.

TECHNICAL SUPPORT:	0330 123 3366
RENEWABLE SUPPORT:	0330 123 9229
CONTROLS AND CONNECTIVITY TEAM:	0330 123 3641
APPOINTMENTS:	0330 123 9339
SPARES:	0330 123 9779
LITERATURE:	0330 123 9119
TRAINING:	0330 123 0166
SALES:	0330 123 9669

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