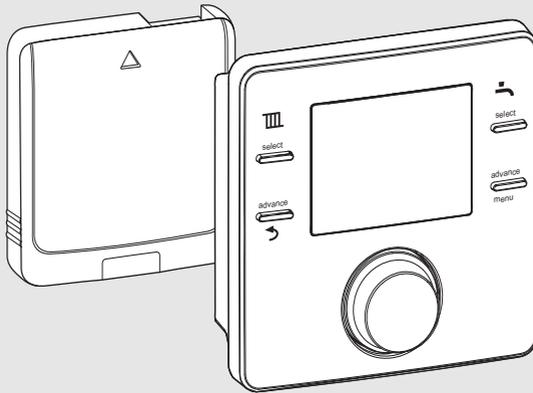


Installation and user manual

Control unit and Key **Comfort+ II RF**



CE



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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

⚠ Notices for the target group

These operating instructions are intended for the heating system operator.

All instructions must be observed. Failure to comply with instructions may result in material damage and personal injury, including danger to life.

- ▶ Read and retain the operating instructions (heat source, heating controller, etc.) prior to operation.
- ▶ Observe the safety instructions and warnings.

⚠ Determined use

- ▶ Use the product only to control heating systems.

Any other use is considered inappropriate. We take no responsibility for damage caused through incorrect use.

⚠ Risk of scalding at the DHW draw-off points

- ▶ If DHW temperatures above 60 °C are set or if thermal disinfection is activated, a mixer must be installed. If in doubt, ask your installer.

2 About the product

The Comfort+ II RF contains the programmable, wall mounted control unit Comfort+ II RF for the radio-controlled remote control and the Key which is implemented in the heat source.

2.1 User interface

The control unit is a room temperature-dependent controller. The control unit can be used together with an outside temperature sensor (wireless or tethered) as a weather-compensated wireless controller. The purpose of the control unit is to control a heating system via radio remote control and it is mounted on the wall. The control unit is suitable for central heating and DHW heating via a heating controller with modulation. Up to six switching times can be set in the central heating and DHW program.

The modulation facilitates intelligent communication with the heat source so the required room temperature is obtained as efficiently as possible. The burner may stop shortly before the required room temperature is reached in order to save fuel/ money and minimise the extent to which the required room temperature is exceeded. This behaviour, together with lower radiator temperatures, is normal. The required room temperature must only be set once at the control unit. Open the thermostatic valves at the radiators in the room in which the control unit is used completely and set the output of the radiators as low as possible via adjustable lockshield valves or set the manual valves as low as possible.

All programming and adjustment can be carried out conveniently from the living space which means the Comfort+ II RF is the perfect choice for heat sources that are difficult to access.

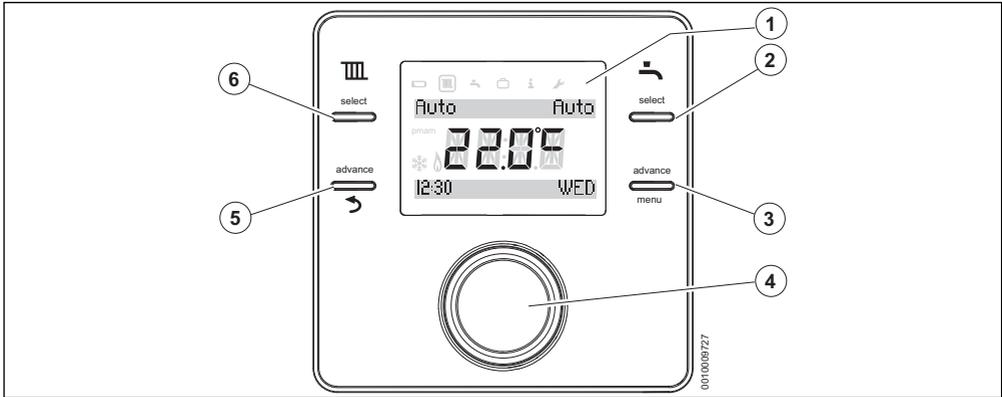


Fig. 1 User interface

1	display	Temperature, time, date, heating (CH) and domestic hot water (DHW), fault code, menu symbols and symbols
2	DHW key	On, Off, Auto, Once, Adv
3	Advance key Menu key	Single press - timer moves further to the next programmed power-up or shutdown time. Repeated press – timer returns to the original program. Long press – main menu is opened.
4	Rotary push button knob: select (turn) and confirm (press)	Select (turn), confirm (press), exit the idle state (press briefly) and switch on the display illumination (press for longer than one second)
5	Advance key ↶ key	Single press – temperature of the next switching time applies as a set temperature immediately. Repeated press – timer returns to the original program. Single press (navigation in the menu) – timer returns to superordinate menu.
6	Heat key	On, Off, Auto, Adv

Table 1

2.2 Key

The Key is used together with the control unit.

The Key is installed in the heat source.

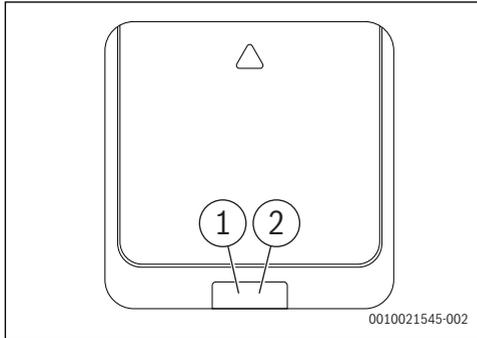


Fig. 2 Key

- [1] Connect the Key
- [2] LED on the Key

Description of the LED displays	Example
Red flashing LED: Fault, e.g. no EMS connection: <ul style="list-style-type: none"> ▶ Install Key again, reproduce last functional state. 	
Yellow flashing: Pairing-mode, new/additional wireless participant can be registered.	
Flashing green: No fault, initialisation process is running.	
Constant red: Temporary fault, e.g. no wireless participant within range: <ul style="list-style-type: none"> ▶ Wait for normal operating condition to be resumed. 	
Constant yellow LED: No fault, no wireless participant registered/connected on the key: <ul style="list-style-type: none"> ▶ Separate control unit and then reconnect with key (→ Chapter 6.6, page 15). 	
Constant green LED: No fault, normal operating condition.	
LED Off: No fault, power-saving mode or appliance switched off.	

3 Installation and commissioning



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+ II RF control unit.

3.1 Installation and commissioning key

Installation in the heat source

- ▶ Isolate the mains electrical supply and secure against unintentional reconnection.
- ▶ Install Key in the heat source. For wall mounted gas boilers, through insertion into the key slot from below.
 For information on the installation in the heat source → technical documentation of the heat source.

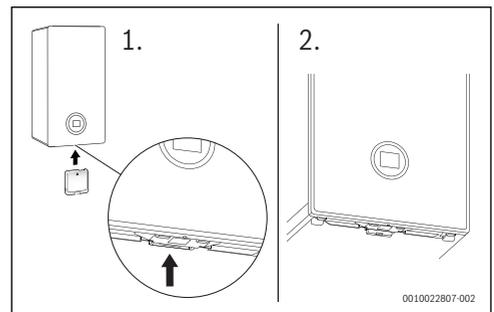


Fig. 3 Install Key

- ▶ Switch on the heat source.

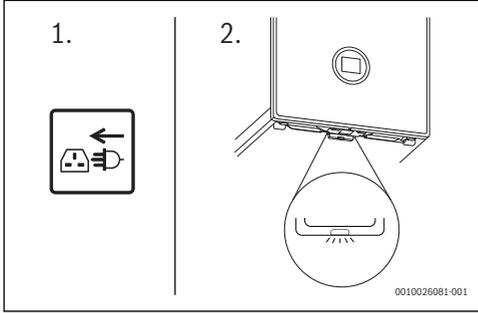


Fig. 4 Initialisation



Control unit and Key are connected in delivered condition ex factory and detect each other automatically when powered up.

- ▶ Insert batteries into the control unit (→ Chapter 9, page 19).
- ▶ Key and control unit connect automatically.

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

- ▶ Before the installation of the control unit, ensure that the signal strength at the installation location of the control unit is sufficient (→ section "Signal strength", page 11).
- ▶ Install the control unit.

3.2 Installation and commissioning of the control unit

Putting the control unit into operation

The control unit uses wireless frequencies. It therefore offers flexibility in terms of selecting a position. Connection of cables is not required.

Air must be able to circulate freely round the control unit and it must be installed on an open surface unhindered by curtains or furniture. The control unit must not be positioned closer than 300 mm to metal objects, including wall-mounted metal boxes.

Do not mount the control unit on a wall where it will be exposed to sunlight or draughts, preferably on an inside wall 1.2 m above the floor.

The control unit must not be directly influenced by radiators or heat-emitting objects, such as TVs or table lamps.

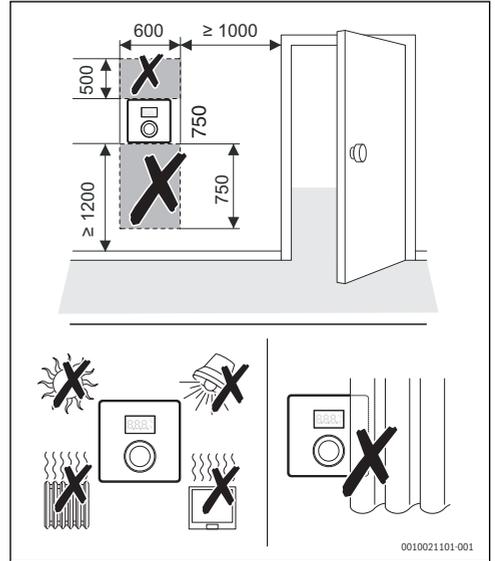


Fig. 5 Installation location of the control unit

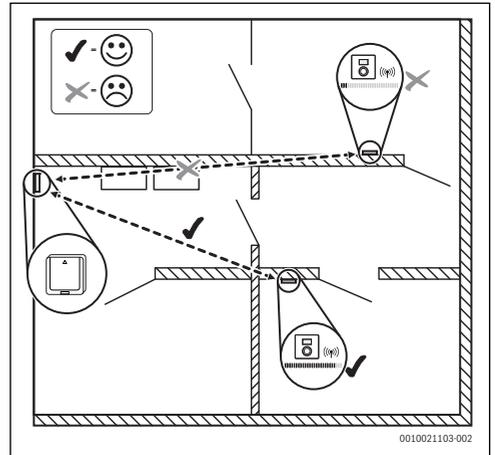


Fig. 6 Wireless range

Releasing control unit from wall socket

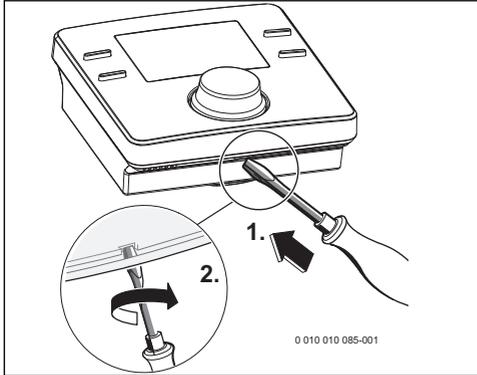


Fig. 7 Releasing control unit from wall socket

- ▶ Insert a screwdriver into the recess on the underside of the control unit.
- ▶ Gently turn the screwdriver, until the locking device opens.

Wall-mounted installation

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

If the signal is weak, try another position in the room, until the best possible signal strength is achieved (→ Section "Signal strength", page 11).

- ▶ 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.

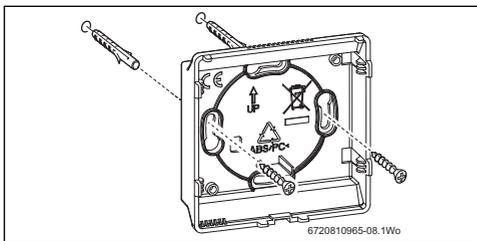


Fig. 8 Installing the wall socket for the control unit

- ▶ 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.

3.3 Putting the control unit into operation

- ▶ Switch on the heat source.



Control unit and Key are set and connected ex factory so that they are directly functional.

Once the connection has been established, the preset date and time, the heating and DHW **Auto** mode and the current room temperature will appear on the display.

4 Using the control unit

The control unit has preset heating and DHW switching times (→ Table 2). These settings can be adjusted to meet the requirements of the user in the menu (→ Chapter 5, page 9). The switching times can be reset to factory settings (→ section "Reset to factory settings (Reset all)", page 11).

Switching time	06:30	08:30	16:30	22:30
Heating temperature	20 °C	16 °C	21 °C	10 °C
Hot water	On	Off	On	Off

Table 2

4.1 Standard display

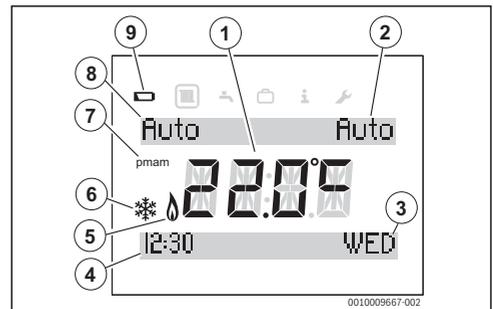


Fig. 9 Standard display

- [1] Current room temperature
- [2] DHW operating mode
- [3] Day of the week
- [4] Clock
- [5] Burner in operation (lights up if heat source is in heating mode; up to 6-minute delay)
- [6] Frost protection (lights up in heating mode **Off**)
- [7] **am** or **pm** (lights up if 12-hour time format is used)
- [8] Heating operating mode
- [9] Battery low

- Press **select** key for heating program to select one of the following operating modes:
 - **On** = heating is permanently on
 - **Off** = heating is permanently off
 - **Auto** = programmed switching times are executed
 - **Adv** = select/deselect heating program in the **Auto** operating mode by pressing the **advance** key to bring the next programmed switching time forward or to revert to the normal program.
- Press **select** key to select one of the following operating modes:
 - **On** = DHW heating permanently on
 - **Off** = DHW heating permanently off
 - **Once** = DHW heating on, from the first programmed switch-on time to the last programmed switch-off time
 - **Auto** = programmed switching times are executed
 - **Adv** = select/deselect DHW program in the **Auto** operating mode by pressing the **advance** key to bring the next programmed switching time forward or to revert to the normal program.

4.2 Call up/select temperature setting of operating modes

4.2.1 Room temperature display of Auto operating mode

If the control unit is in the operating mode **Auto**, press the selector to display the setpoint value of the room temperature.



Fig. 10 Automatic heating

4.2.2 Room temperature display of On operating mode

If the control unit is in the **On** operating mode, press the selector to display the text **Permanently** and the set permanent room temperature.

4.2.3 Room temperature display of Off operating mode

If the control unit is in the **Off** operating mode, **Permanently** and the temperature 5 °C is displayed.

After three seconds the screen will revert to the actual room temperature. The frost protection symbol (→ Fig. 9, Pos. [6]) is displayed. The heat source supplies heat as soon as the room temperature falls below 5 °C to protect the system against freezing.

4.2.4 Setting the room temperature

The display shows the current room temperature in normal mode.

Turn the selector anticlockwise in the **Auto** or **On** operating mode to reduce the set value for room temperature, or clockwise to increase it. The selected temperature flashes for three seconds.

The new temperature appears briefly on the display and also the switching time when this temperature applies.

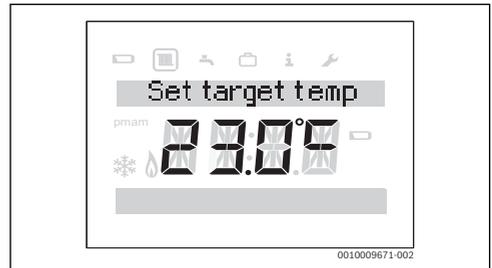


Fig. 11 Room temperature set value

4.3 Key lock

When the key lock is active, interaction between the user and control unit is not possible. **Key lock** appears when the key is pressed or the selector is pressed/turned.

Activating the key block

To activate the key block:

- ▶ Press and hold the **select** heating key and selector simultaneously until **Key lock** is displayed. After a short time, the standard display reappears.

Switching the key block off

To deactivate the key block:

- ▶ Press and hold the **select** heating key and selector simultaneously until **Key lock** is no longer displayed. After a short time, the standard display reappears.

5 Settings in the main menu

- ▶ Press the **menu** key until the main menu is displayed.

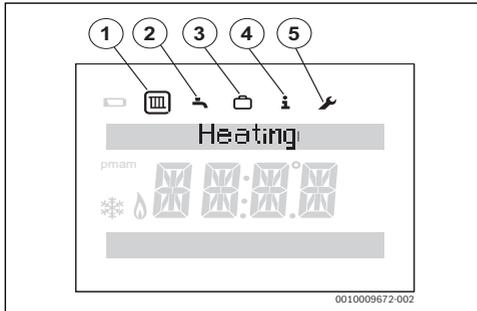


Fig. 12 Main menu

- [1] Heating 
- [2] DHW 
- [3] Holiday 
- [4] Information 
- [5]  settings

- ▶ Turn the selector to select the a symbol.
A frame appears round the selected symbol.
- ▶ Press the selector to open the menu.
Flashing arrows indicate that additional menus are available.
- ▶ Press the  key to return to the higher-level menu.



The display backlighting switches off after 20 seconds of user inactivity until a key is pressed again or the selector is pressed/turned.

The standard display reappears after 60 seconds of user inactivity.

5.1 Time program for adjusting the heating

The purpose of this time program is to adjust the temperature from the corresponding switching time. The control unit has the following factory settings:

Switching time	06:30	08:30	16:30	22:30
Heating temperature	20 °C	16 °C	21 °C	10 °C

Table 3

- ▶ Select the “Heating”  symbol in the main menu.
- ▶ Press the selector.
Time program is displayed.
- ▶ Press the selector.
Mo-Fr is displayed.
- ▶ Turn selector if necessary to select a different time period. The following time periods can be selected:
 - **Mo-Fr**
 - **Sat-Sun**
 - **Monday**
 - **Tuesday**
 - **Wednesday**
 - **Thursday**
 - **Friday**
 - **Saturday**
 - **Sunday**
- ▶ Press the selector.
Time setting 1 is displayed. This is the time of the first temperature change, e.g. the first heating phase of the day. The hours display flashes.
 - ▶ Turn the selector if necessary to set the hour.
 - ▶ Press the selector.
The minutes display flashes.
 - ▶ Turn the selector if necessary to set the minutes.
 - ▶ Press the selector.
Temp. setting 1 is displayed. This is the temperature following the time of the first temperature change, e.g. for the first heating phase of the day. The temperature indicator flashes.
 - ▶ Turn the selector if necessary to set the temperature.
 - ▶ Press the selector.
Time setting 2 is displayed. The hours display flashes.
 - ▶ Set **Time setting 2** and **Temp. setting 2**.
 - ▶ Set or deactivate **Time setting 3** up to **Temp. setting 6** (→ Chapter 5.3).



If a switching time is not used and no values are set:

- ▶ After the last temperature set, press the selector repeatedly without making any further settings.

Example showing the adjustment of switching times:

- **Time setting 1, Temp. setting 1:** time before getting up and comfortable temperature for getting up.
- **Time setting 2, Temp. setting 2:** time and temperature after leaving the house.
- **Time setting 3, Temp. setting 3:** time before returning home and comfortable living temperature.
- **Time setting 4, Temp. setting 4:** time after going to sleep and temperature during the night until the next switching time.
- If more switching times are required, repeat procedure for **Time setting 5, Time setting 6** and **Temp. setting 5, Temp. setting 6**.

5.2 Setting the DHW time program

The purpose of this time program is to adjust the DHW heating switch-on/switch-off times. The control unit has the following factory settings:

Switching time	06:30	08:30	16:30	22:30
Hot water	On	Off	On	Off

Table 4

- ▶ Select the "DHW"  symbol in the main menu.
- ▶ Press the selector.
Time program is displayed.
- ▶ Press the selector.
Mo-Fr is displayed.
- ▶ Turn selector if necessary to select a different time period. The following time periods can be selected:
 - **Mo-Fr**
 - **Sat-Sun**
 - **Monday**
 - **Tuesday**
 - **Wednesday**
 - **Thursday**
 - **Friday**
 - **Saturday**
 - **Sunday**
- ▶ Press the selector.
DHW 1 on is displayed.
The hours display flashes.
- ▶ Turn the selector if necessary to set the hour.

- ▶ Press the selector.
The minutes display flashes.
- ▶ Turn the selector if necessary to set the minutes.
- ▶ Press the selector.
DHW 1 off is displayed.
The hours display flashes.
- ▶ Turn the selector if necessary to set the hour.
- ▶ Press the selector.
The minutes display flashes.
- ▶ Turn the selector if necessary to set the minutes.
- ▶ Press the selector.
DHW 2 on is displayed.
The hours display flashes.
- ▶ Set **DHW 2 on** and **DHW 2 off**.
- ▶ Set or deactivate **DHW 3 on** and **DHW 3 off** if necessary (→ Chapter 5.3).



If the third switching time is not used and no values are set:

- ▶ After **DHW 2 off**, press the selector repeatedly without making any settings.

5.3 Deactivate switching times

- ▶ In the heating or DHW time program, press the selector until the switching time to be deactivated is displayed. The hours display flashes.
- ▶ Turn the selector to set the flashing hours display to **00**.
- ▶ Press the selector.
The minutes display flashes.
- ▶ Turn the selector clockwise past **00** until the dashes appear.
The switching time is deactivated.

5.4 Reset time program

- ▶ Select "hot water"  symbol in main menu.
- ▶ Press the selector.
- ▶ Turn selector to select **Reset DHW Clock Program**.
- ▶ Press the selector.
- ▶ Turn selector to select **Yes**.
- ▶ Press the selector.
Time program is reset.

5.5 Setting the temperature

- ▶ Select "hot water"  symbol in main menu.
- ▶ Press the selector.
- ▶ Turn the selector to select **Temperature**.
- ▶ Press the selector.
- ▶ Turn selector to set the temperature.
- ▶ Press the selector.
Temperature is set.

5.6 Holiday

- ▶ Select the "Holiday"  symbol in the main menu.
- ▶ Press the selector.
Holiday prog. is displayed.
- ▶ Press the selector.
- ▶ **Off** flashes.
- ▶ Select **On**.
- ▶ Press the selector.
The start and end date of the holiday are displayed.
The day of the start date flashes.
- ▶ Turn the selector if necessary to set the day.
- ▶ Press the selector.
The month of the start date flashes.
- ▶ Turn the selector if necessary to set the month.
- ▶ Press the selector.
The day of the end date flashes.
- ▶ Set end date (day/month).
After the month display for the end date has been set, the menu closes.

If the holiday program has been set, this becomes active at midnight on the first day that has been set and inactive at midnight on the last day that has been set.

The heating and DHW heating are switched off while the holiday program is active. These revert to normal operation at the end of the holiday. The frost protection symbol is displayed to indicate that the heat source is off but is switched on at temperatures below 5 °C to provide protection against freezing.

Cancel the holiday program:

- ▶ Select the "Holiday"  symbol in the main menu.
- ▶ Press the selector.
Holiday prog. and **On** is displayed.
- ▶ Press the selector.
On flashes.
- ▶ Turn the selector to select **Off**.
- ▶ Press the selector.
- ▶ Press the  key to return to the standard display.

5.7 Information

- ▶ Select the "Info"  symbol in the main menu.

The following menu items are available in the "Info" menu:

- **System Pressure**
 - **Outdoor temp.**
 - **DHW**
 - **Signal strength**
 - **Energy Consumption**
- ▶ Turn selector to select menu item.
 - ▶ Press the selector.

System Pressure

- ▶ Turn selector to display pressure in heating circuit.
- ▶ Press the  key to return to the standard display.

Outdoor temp.

If an outside temperature sensor (accessories) is installed, the current outside temperature is displayed.

DHW

- ▶ Turn selector to display the current hot water temperature.
- ▶ Press the  key to return to the standard display.

Signal strength

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



Do not display the signal strength for too long as this quickly depletes the batteries.

Energy Consumption

- ▶ Turn selector to display the energy consumption in accordance with the table.
- ▶ Press the  key to return to the standard display.

display	Unit	Information
CH gas cons.	kWh	Fuel consumption of the heating in the daily mean over 30 days
CH elec cons.	Wh	Electricity consumption of the heating in the daily mean over 30 days
DHW gas cons.	kWh	Fuel consumption for hot water in the daily mean over 30 days
DHW elec cons.	Wh	Electricity consumption for hot water in the daily mean over 30 days

Table 5

5.8 Adjust

- ▶ Select the “Settings”  symbol in the main menu.

The following menu items are available in the “Settings” menu:

- **Language** (default setting EN)
- **Time/date**
- **Format**
 - **Date format** (default setting: DD.MM.YYYY)
 - **Time format**
- **Sensor calib.** (default setting: 0.0 °C)
- **Contrast** (default setting: 10)
- **Reset all**

Setting the language

- ▶ Turn the selector to select **Language**.
- ▶ Press the selector.
- ▶ Turn the selector to select a language:
 - **EN** (English)
 - **FR** (French)
- ▶ Press the selector.

Setting the time

- ▶ Turn the selector to select **Time/date**.
- ▶ Press the selector.
Clock time is displayed.
- ▶ Press the selector.
The hours display flashes.
- ▶ Turn the selector if necessary to set the hour.
- ▶ Press the selector.
The minutes display flashes.
- ▶ Turn the selector if necessary to set the minutes.
- ▶ Press the selector.

Setting the date

- ▶ Turn the selector to select **Time/date**.
- ▶ Press the selector.
Clock time is displayed.
- ▶ Turn the selector to select **Date**.
- ▶ Press the selector.
The day flashes.
- ▶ Turn the selector if necessary to set the day.
- ▶ Press the selector.
The month flashes.
- ▶ Turn the selector if necessary to set the month.
- ▶ Press the selector.
The year flashes.
- ▶ Turn the selector if necessary to set the year.
- ▶ Press the selector.
- ▶ Turn the selector to select **DST**.
- ▶ Press the selector.
- ▶ Turn the selector to select **On or Off**.
- ▶ Press the selector.

Setting Date format

- ▶ Turn the selector to select **Format**.
- ▶ Press the selector.
- ▶ Turn the selector to select **Date format**.
- ▶ Press the selector.
- ▶ Turn the selector to select **DD.MM.YYYY** or **MM/DD/YYYY**.
- ▶ Press the selector.
Date format is displayed after a few seconds.

Setting Time format

- ▶ Turn the selector to select **Format**.
 - ▶ Press the selector.
 - ▶ Turn the selector to select **Time format**.
 - ▶ Press the selector.
 - ▶ Turn the selector to select **12** or **24**-hour format.
 - ▶ Press the selector.
- Time format** is displayed after a few seconds.

Set Sensor calib.

If the displayed room temperature is incorrect, a calibration of up to $\pm 3\text{ }^{\circ}\text{C}$ can be set.

- ▶ Turn selector to select **Sensor calib.**
The set sensor calibration is displayed.
- ▶ Press the selector.
The set sensor calibration flashes.
- ▶ Turn the selector to set the sensor calibration.
- ▶ Press the selector.

Setting the display contrast

- ▶ Turn selector to select **Contrast**.
- ▶ Press the selector.
- ▶ The current contrast flashes.
- ▶ Turn the selector to set the desired contrast level between 0 and 20.
- ▶ Press the selector.

Reset to factory settings (Reset all)

Reset all resets all settings of the control unit in the main menu to the factory settings.

All adjusted switching times and temperatures for central heating or DHW heating and all other settings must be re-entered.

The factory settings can be found under the relevant menu item description.

- ▶ Turn selector to select **Reset all**.
- ▶ Press the selector to confirm.
NO flashes.
- ▶ If a Reset is required, turn the selector to select **YES**.
- ▶ Press the selector.
Lines appear one by one on the display until four can be seen briefly. The display displays **Reset all** again.

The factory settings of the control unit (→ Table 6) have been restored.

Switching time	06:30	08:30	16:30	22:30
Heating temperature	20 °C	16 °C	21 °C	10 °C
Hot water	On	Off	On	Off

Table 6

6 Settings in the service menu

The following functions are only used by specialists. They are used for the installation of the Comfort+ II RF or for troubleshooting.

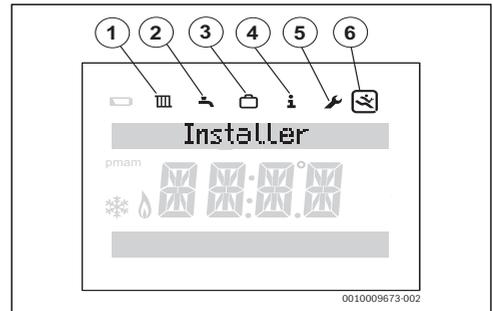


Fig. 13 Installer menu display

- [1] Heating 
- [2] DHW 
- [3] Holiday 
- [4] Information 
- [5]  settings
- [6] Service menu 

- ▶ Press the **menu** and  keys until the main menu with service menu is displayed (→ Fig. 13).
- ▶ Turn the selector to select the “service menu”  symbol.
- ▶ Press the selector.

The following menu items are available in the service menu:

- **System data**
- **Reset all**
- **Heat.circuit**
- **Maintenance**
 - **Fault history**
 - **Maintenance**
- **System info**
- **Radio settings**
- **Weather Comp.**

The top line of text in the display shows the menu items. Flashing arrows indicate that additional menus are available.

6.1 System data

- ▶ Turn the selector to select **System data**.
- ▶ Press the selector.
HC assignment is displayed.
The number **1** appears in the display, i.e. there is only one heating circuit.
- ▶ Press the  key to return to **System data**.

6.2 Restoring the factory settings (Reset all)

The **Reset all** menu item restores the factory settings for all settings in the service menu. The factory settings can be found under the relevant menu item description.

- ▶ Turn the selector to select **Reset all**.
- ▶ Press the selector.
NO flashes.
- ▶ Turn selector to select **NO** or **YES**.
- ▶ Press the selector.
If **YES** is selected, all settings in the installation menu are reset to factory settings. Four lines appear one by one on the display until the reset is complete. If **NO** is selected, no Reset occurs.

6.3 Heat.circuit

This menu item enables the installer/service personnel to set the maximum flow temperature for the heating and the regulation type in order to raise the efficiency of the heating system. The default setting is 85 °C and room temperature-dependent controls. The following control types can be selected:

Control type	Information
Algo WDC	Weather-compensated controls (only selectable with installed outside temperature sensor.)
Algo Room	Room temperature-dependent controls (default setting)

Table 7 Control types

Set the maximum flow temperature

- ▶ Turn selector to select **Heat.circuit**.
- ▶ Press the selector.
Max. flow is displayed.
- ▶ Press the selector.
The temperature flashes.
- ▶ Turn selector to select the required temperature for the heating system requirements.
- ▶ Press the selector.
- ▶ Press the  key to return to **Heat.circuit**.

Set control type

- ▶ Turn selector to select **Heat.circuit**.
- ▶ Press the selector.
Max. flow flashes.
- ▶ Turn selector to select **Heat. Algorithm**
- ▶ Press the selector.
The available control types are displayed.
- ▶ Turn selector to select the desired control type.
- ▶ Press the selector.
- ▶ Press  to return to **Heat.circuit**.

6.4 Maintenance

Read Fault history

- ▶ Turn the selector to select **Maintenance**.
- ▶ Press the selector.
- ▶ Press the selector to display **Boiler faults**.
Heat source faults are displayed here and at the heat source. Therefore it can be useful to understand the faults of the heat source on the control unit.
- ▶ Press the selector to display the first five faults with fault code and event date. Turn the selector to scroll through the display. If there were no faults, **No fault** would be displayed.
- ▶ Press  key to return to **Boiler faults**.
- ▶ Turn selector to select **Cont. faults**.
- ▶ Press the selector to display the first five faults of the control unit with fault code and event date. Turn the selector to scroll through the display. If there were no faults, **No fault** would be displayed.
- ▶ Press  key to return to **Cont. faults**.
- ▶ Press the  key, to return to **Fault history**.
- ▶ Turn the selector to select **Maintenance** or press  key to return to **Maintenance**.

Maintenance



Tenant:

- ▶ Call technical customer service to find out how to set the service display or contact telephone number.

This menu item is only for council housing tenants. It allows a date to be set for annual service/maintenance.

The service display Maintenance appears as a reminder 30 days before the scheduled date.

A contact telephone number is shown together with service display.

The tenant should call this number to arrange a suitable maintenance date with the landlord.

If the service display is not cleared or reset by the service engineer, the control unit limits the room temperature 14 days after the maintenance date to the reduced set value set at the device. Otherwise the central heating and DHW functions are set.

6.5 System info

- ▶ Turn the selector to select **System info**.
- ▶ Press the selector to display **Install.date**.
- ▶ Press the selector to display the installation date.
- ▶ Press the selector to return to **Install.date**.
- ▶ Turn the selector to select **SW controller**.
- ▶ Press the selector to display the program version of the control unit.
- ▶ Press the selector to return to **SW controller**.
- ▶ Turn the selector to select **SW base station**.
- ▶ Press the selector to display the program version of Key.
- ▶ Press the selector to return to **SW base station**.
- ▶ Press the  key to return to **System info**.

6.6 Radio settings - connecting/disconnecting



Control unit and Key are connected in the delivered condition ex factory and detect each other automatically when switching on.

For a successful pairing, the Key must be in the pairing mode (→ Chapter 7.1, page 17).

- ▶ Turn the selector to select **Radio settings**.
- ▶ Press the selector.
- ▶ Turn the selector to select **Unpairing** or **Pairing**.
- ▶ Before the connection, separate the control unit as a precaution (carry out **Unpairing**). After that select **Pairing** and press the selector.

Pairing is displayed and the timer starts at 120 seconds. After the connection, the timer stops and the display displays the number of connected control units for confirmation.

-or-

- ▶ To separate the control unit, select **Unpairing**, press the selector. **Unpairing** is displayed with progress bars. Once the connection has been disconnected, "0" appears as confirmation on the display.

6.7 Heating curve settings



This menu item is only available if the weather-compensated control has been set (→ section "Set control type", page 14).

- ▶ Turn the selector to select **Weather Comp..**
- ▶ Press the selector.
The display displays the type of the heating circuit (**Type circuit**).
- ▶ Turn the selector to select the settings options in accordance with table 8.

display	Set
Type circuit	Type of the heating circuit
Limiter	Optional limiter for the prevention of an exceedance of the heating setpoint value
Max outd. temp.	Outside temperature for shutdown of the heating
Des. flow temp.	The water temperature used for the highest point of the heating curve
Base flow temp.	The water temperature used for the lowest point of the heating curve
Ext. temp.	Reference outside temperature for the measurement of the heating elements
Room Influence	Parallel displacement of the heating curve corresponding to the deviations of the room temperature

Table 8 Heating curve settings

Type of the heating circuit

- ▶ Turn selector to select **Type circuit** and press to confirm.
The display displays the type of the heating curve that has just been programmed.

To change the type of the heating circuit:

- ▶ Turn the selector to either
 - Underfloor heating (floor) or
 - To select conventional heating (heating).
- ▶ Press the selector to confirm the selection.
- ▶ Press "Back"  to return to "Type of Heating Circuit".

Limiter

- ▶ Turn selector to select **Limiter** and press to confirm. The display indicates whether a limiter is currently programmed (**YES** or **NO**).

To change the current setting:

- ▶ Turn the selector to either
 - Select (**YES**) for limiter installed or
 - (**NO**) for no limiter installed.
- ▶ Press the selector to confirm the selection.

Outside temperature for shutdown of the heating

To display the current value of the outside temperature for the shutdown of the heating:

- ▶ Turn selector to select **Shutdown temp.** and press to confirm. The display displays the current value of the threshold of the maximum outside temperature.



The outside temperature for the shutdown of the heating can be set with a resolution of 1 °C between 10 °C and 30 °C.

To change the threshold of the maximum outside temperature:

- ▶ Press the selector. The current value of the outside temperature for the shutdown of the heating flashes.
- ▶ Turn the selector to select the desired outside temperature for the shutdown of the heating.
- ▶ Press the selector to confirm the selection.
- ▶ Press "Back" ↩ to return to the **Shutdown temp.**

The water temperature used for the highest point of the heating curve

To display the current value of the water temperature of the highest point of the heating curve:

- ▶ Turn the selector to select the **Highest Supply Temperature** and press to confirm. The display shows the value of the water temperature used for the highest point of the heating curve.



The water temperature used for the highest point of the heating curve can be set at a resolution of 1 °C, for a heating circuit of the type "radiator" between 30 °C and 85 °C and between 30 °C and 50 °C for a heating circuit of the type "underfloor heating".

To change the water temperature used for the highest point of the heating curve:

- ▶ Press the selector. The current value for the highest point of the water temperature used of the heating curve flashes.
- ▶ Turn the selector to select the desired water temperature used for the highest point of the heating curve.
- ▶ Press the selector to confirm the selection.
- ▶ Press "Back" ↩ to return to **Highest flow temp.**

The water temperature used for the lowest point of the heating curve

To display the current value that for the water temperature used of the lowest point of the heating curve:

- ▶ Turn the selector to select **Low flow temp.** and press to confirm. The display shows the value of the water temperature used for the lowest point of the heating curve.



The water temperature used for the lowest point of the heating curve can be set with a resolution of 1 °C between 20 °C and the value of the flow temperature.

To change the water temperature used for the lowest point of the heating curve:

- ▶ Press the selector. The current value for the water temperature used for the lowest point of the heating curve flashes.
- ▶ Turn the selector to select the desired water temperature used for the lowest point of the heating curve.
- ▶ Press the selector to confirm the selection.
- ▶ Press "Back" ↩ key to return to **Low Flow temp.**

Reference outside temperature for the measurement of the heating elements

To display the current value that for the reference outside temperature used for the measurement of the heating elements:

- ▶ Turn the selector to select **Reference outside temp.** and press to confirm. The display displays the current value of the reference outside temperature.



The reference outside temperature for the measurement of the heating elements can be set at a resolution of 1 °C between -20 °C and 0 °C.

- ▶ Press the selector.
The current value of the reference outside temperature flashes.
- ▶ Turn the selector to select the desired reference outside temperature.
- ▶ Press the selector to confirm the selection.
- ▶ Press "Back"  key to return to **Reference outside temp.**

The image 14 is an example of a heating curve for a conventional radiator and displays the temperatures that are to be set in this section.

Parallel displacement of the heating curve corresponding to the deviations of the room temperature

Deviations of the room temperature from the set height are compensated for by means of a parallel displacement of the heating curve. The higher the setting value, the greater the weighting of the room temperature deviation and the maximum possible influence of the room temperature on the heating curve.

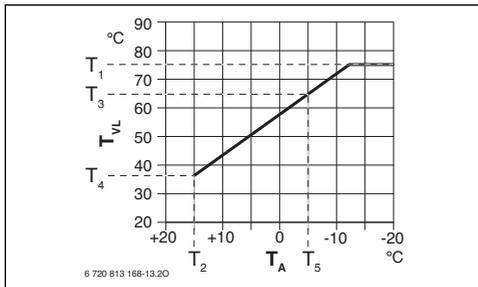


Fig. 14 Heating diagram for heating with conventional radiators

- T₁ Maximum heating water temperature
- T₂ Outside temperature for shutdown of the heating
- T₃ The water temperature used for the highest point of the heating curve
- T₄ The water temperature used for the lowest point of the heating curve
- T₅ The reference outside temperature used for the measurement of the heating elements

7 Key

The Key is connected to the control unit. Both communicate via wireless signals. The Key has a key [1] and a LED [2] to display various operating conditions.

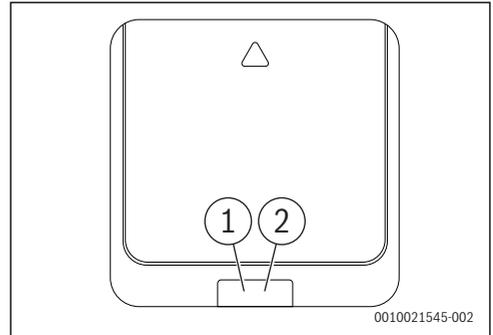


Fig. 15 Key

- [1] Connect the Key
- [2] LED on the Key

7.1 outside temperature sensor or new control unit



Control unit and Key are connected in delivered condition ex factory and detect each other automatically when powered up. An optionally available wireless outside temperature sensor must be connected to the Key.

If another/additional wireless participant is to be connected to the Key, the Key must be in the pairing mode:

- ▶ Briefly press key on Key.
The LED flashes yellow. Pairing mode is activated.
- ▶ During this time, transfer the new wireless participant (control unit or wireless outside temperature sensor) in pairing mode too.

If the pairing is successful, the LED 5 flashes green for seconds.

If the pairing is not successful, i.e. no new wireless participant was connected, the LED 5 flashes red for seconds.

7.2 Factory reset Key

- ▶ In order to carry out the factory reset, press the key on Key longer than 5 seconds.
The Key loses all connections and then goes directly into the pairing mode, i.e. it flashes yellow for up to 3 minutes and all wireless participants must be reconnected.



Before the wireless participants can be reconnected, they must first be separated. To do this, separate the control unit by means of the service menu (installer). Separate the outside temperature sensor by means of a reset.

8 Troubleshooting

If a fault cannot be corrected:

- ▶ Confirm the fault.
- ▶ Faults that are still active are displayed once again the next time the control unit returns from the idle state.
- ▶ Call an authorised specialist or customer service and give the fault code and sub-code, as well as the ID number of the user interface.



Table 9 Your contractor must enter the ID no. here.

8.1 Troubleshooting



Structure of table headers:
code - [cause or fault description].

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

[blank display or low battery symbol]

Description	Action
Batteries are used up.	Replace the batteries.

Table 10

207 - [low system pressure]

Description	Action
System pressure is low.	Fill system.

Table 11

1004 - [fault in other control unit]	
Description	Action
Another control unit in the system has developed a fault.	Check other control units in the system for faults.

Table 12

1007 - [no wireless signal]	
Description	Action
Control unit has no wireless connection with Key.	Check the signal strength and position the control unit in a better place.

Table 13

1009 - [no wireless signal or connection failed]	
Description	Action
Control unit has no wireless connection with Key.	Reconnect wireless device.

Table 14

1010 - [no communication with heat source via EMS-BUS]	
Description	Action
No communication, although heat source is EMS-compatible.	Replace EMS connections/interfaces.

Table 15

1017 - [system pressure too low]	
Description	Action
System pressure is too low.	Fill system.

Table 16

1037 - [Weather-compensated control without outside temperature sensor]	
Description	Action
Weather-compensated control is set. No outside temperature sensor is connected or the batteries of the outside temperature sensor are flat.	Select room temperature-dependent controls or connect outside temperature sensor. Replace batteries of the outside temperature sensor.

Table 17

1070 - [maintenance due on ...]	
Description	Action
Maintenance is next due on <dd.mm.yyyy>. Please call your installer, tel. <tel nr>	The hardware maintenance is due in the next 30 days. Notify the installer

Table 18

1071 - [maintenance now due]	
Description	Action
Maintenance is now due. Please call your installer, tel. <tel nr>	The hardware maintenance is due. Notify the installer

Table 19

1072 - [maintenance overdue]	
Description	Action
Maintenance is overdue. Please call your installer, tel. <tel nr>	The hardware maintenance is overdue by 14 days. Notify the installer

Table 20

309x; x=number of heating circuit - [control unit temperature sensor faulty]	
Description	Action
Control unit temperature sensor outside the permissible range.	Replace control unit.

Table 21

9 Maintenance

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.

9.1 Replace batteries of control unit

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.

- ▶ Replace the batteries with new ones of the same type: LR6/AA 1.5 V Alkaline.

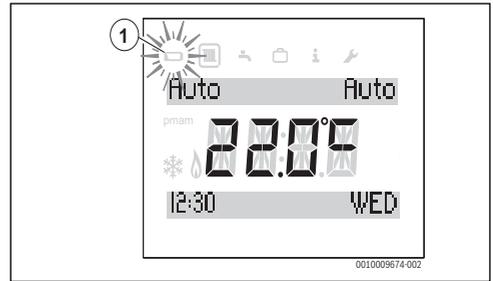


Fig. 16 Low batteries display

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.

Replace batteries

- ▶ Replace used batteries with new ones of the same type (AA).
- ▶ 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:

Danger of injury through explosion of batteries!

Usage of incorrect types of batteries may cause them to explode.

- ▶ Replacement of used batteries only through batteries of same type.
- ▶ Dispose of used batteries in according to environmental instructions.

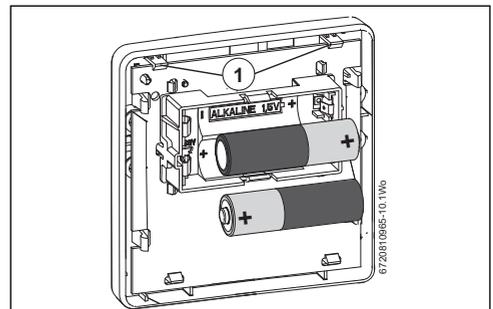


Fig. 17 Replace batteries

10 Product data for energy consumption

The product data specified comply with the requirements of EU Regulation No. 811/2013 as a supplement to ErP Directive 2017/1369/EU. The class of the temperature controller is required to calculate the central heating energy efficiency of an integrated system and is for this reason incorporated into the system data sheet.

Function of control unit	Class ¹⁾	[%] ^{1),2)}	
Comfort+ II RF & Key			 & 
Room temperature-dependent, modulating	V	3.0	●
Comfort+ II RF & Key & Outside Temperature Sensor (accessories)			 &  & 
Weather-compensated	VI	4.0	○

Table 22 Product data for the energy efficiency of the user interface

- Delivery condition
 - Adjustable
- 1) Classification of the user interface according to EU Regulation 811/2013 for the identification of integrated systems
 - 2) Contribution to seasonal energy efficiency of central heating in %

11 Simplified EU Declaration of Conformity regarding radio equipment

Bosch Thermotechnik GmbH hereby declares, that the Comfort+ II 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.

12 Specifications

Transmission protocol (wireless)	X3D-C
Transmission frequency	868.00 MHz
Band width frequency	868.7 – 869.2 MHz
Maximum transmitting capacity	10 mW
Installation height	-5 – 1800
Atmospheric pressure	780 – 10505
Operating temperature	0 – 60 °C
Storage temperature	-20 – 85 °C
Relative humidity 23 °C	0 – 80%
Relative humidity 40 °C	0 – 93%
IP rating	IP20, IPX4D according to DIN 40050
Category of receiver	2
Vibration	EN ISO 1335 ASTM 4728
Batteries required	AAA/AA
Battery service life	2 years
Temperature for the ball pressure test	75 °C
Pollution degree	2

Table 23 Wireless technology in Comfort+ II RF and Key

13 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.

14 Overview of main menu

Functions marked with  are only available if an outside temperature sensor is installed.

The menu items are displayed in the sequence listed below.

Heating

- Time program
 - Mo-Fr
 - Sat-Sun
 - Monday
 - Tuesday
 - Wednesday
 - Thursday
 - Friday
 - Saturday
 - Sunday

Hot water

- Time program
 - Mo-Fr
 - Sat-Sun
 - Monday
 - Tuesday
 - Wednesday
 - Thursday
 - Friday
 - Saturday
 - Sunday
- Reset DHW Clock Program
 - No
 - Yes
- Temperature

Holiday

- Holiday prog.
- Set Date
- Holi. temp adj

Info

- System Pressure
-  Outdoor temp.
- DHW
 - Actual temp
- Signal strength
- Energy Consumption

- CH gas cons.
- CH elec cons.
- DHW gas cons.
- DHW elec cons.

Settings

- Language¹⁾
- Time/date
 - Clock time
 - Date
 - DST
- Format
 - Date format
 - Time format
- Sensor calib.
- Contrast
- Reset all

Installer

- System data
 - HC assignment
- Reset all
- Heat.circuit
 - Max. flow
 - Heat. Algorithm
- Maintenance
 - Fault history
 - Maintenance
- System info
 - Install.date
 - SW controller
 - SW base station
- Radio settings
 - Pairing
 - Unpairing
- Weather Comp.²⁾
 - Type circuit
 - Limiter
 - Max outd. temp.
 - Des. flow temp.
 - Base flow temp.
 - Ext. temp.
 - Room Influence

1) Set language.

2) This menu item is only available if the weather-compensated control was previously set.





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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