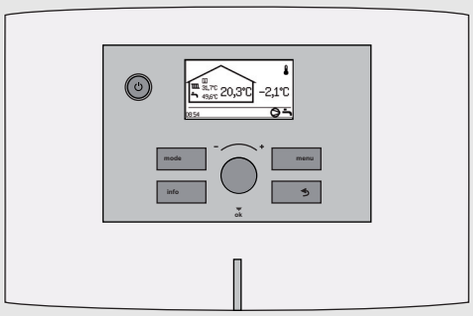
BOSCH

User Guide

Rego 1000



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1 Key to symbols and safety instructions

1.1 Key to symbols

Warnings

Warnings in this document are identified by a warning triangle printed against a grey background.
Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

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

- **NOTICE** indicates a situation that could result in damage to property or equipment.
- **CAUTION** indicates a situation that could result in minor to medium injury.
- **WARNING** indicates a situation that could result in severe injury or death.
- **DANGER** indicates a situation that will result in severe injury or death.

Important information

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

Additional symbols

Symbol	Explanation
▶	Step in an action sequence
→	Cross-reference to another part of the document
•	List entry
–	List entry (second level)

Table 1

1.2 Safety instructions

General

▶ Read the guide carefully and keep it to hand for future use.

Installation and commissioning

▶ The heat pump may be installed and put into operation only by a qualified installer.

Risk of damage due to operator error

Operator errors can result in personal injury and material damage.

▶ Ensure that children never operate this appliance unsupervised or play with it.
▶ Ensure that only personnel who can operate this appliance correctly have access to it.

Service and maintenance

▶ Only qualified personnel may carry out repairs. Incorrect repairs can lead to serious risks to the user, and a reduction in savings.
▶ Only use original spare parts.
▶ Service and maintenance must be carried out annually by an authorised service representative.

Safety of electrical devices for domestic use and similar purposes

The following requirements apply in accordance with EN 60335-1 in order to prevent hazards from occurring when using electrical appliances:

“This appliance can be used by children of 8 years and older, as well as by people with reduced physical, sensory or mental capabilities or lacking in experience and knowledge, if they are supervised and have been given instruction in the safe use of the appliance and understand the resulting dangers. Children shall not play with the appliance. Cleaning and user maintenance must not be performed by children without supervision.”

“”If the power cable is damaged, it must be replaced by the manufacturer, its customer service department or a similarly qualified person, so that risks are avoided”.

2 Control panel

Settings for the control of the heat pump are made with the control unit's control panel, which also provides information about current status.

2.1 Panel overview

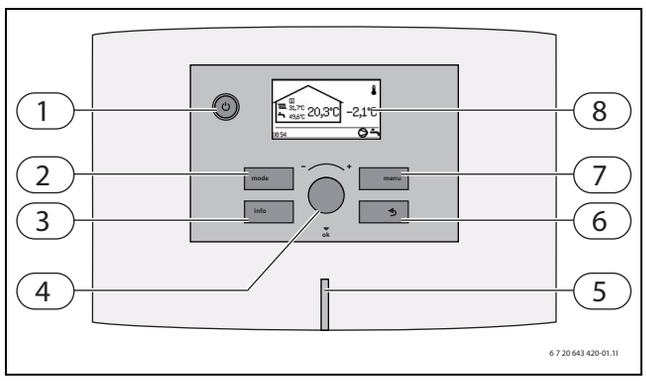

Fig. 1 Control panel

[1] On/Off button
[2] Mode button
[3] Info button
[4] Menu dial
[5] Status lamp
[6] Return button
[7] Menu button
[8] Menu display

2.2 Power switch (ON/OFF)

Use the On/Off button to turn the heat pump on and off.

2.3 Status lamp

The lamp lights green.	The heat pump is running.
The lamp flashes red.	There is an alarm which has not been acknowledged.
The lamp lights red.	The alarm has been acknowledged but the alarm cause remains.
The lamp flashes slowly green, menu window not lit.	The heat pump is in stand-by mode[1)].
The lamp and menu display not lit.	No voltage to the control unit.

Table 2 Lamp functions

1) Stand-by means that the heat pump is running but no heating or hot water demand exists.

2.4 Menu display

Use the menu display in order to:

- See information from the heat pump.
- See available menus.
- Change set values.

2.5 Menu button and menu dial

Use (menu) to get from *Initial menu* to the menus. Use the menu dial in order to:

- Navigate the menus and get to the setting displays.
  - Turn the dial to see more menus on the same level or change a set value.
  - Press the dial to change to a lower menu level or save a change.

2.6 Return button

Use (↩) to:

- Go back to the previous menu level.
- Leave a setting display without changing the set value.

2.7 Mode button

Use (mode) to change type of operation.

- Change type of operation.

The controller language can be changed with the (mode) button.

▶ Press the (mode) button in the initial menu for at least 5 s, then select the required language.

2.8 Info button

Use (info) to see information from the control unit about operating mode, temperature, program version, etc.

3 Menu navigation

3.1 Initial menu

Initial menu shows different temperatures, time, as well as current operating symbols. The window displays information alternately **Room temperature** (if room sensors exist) and **Flow temperature** for each circuit installed.

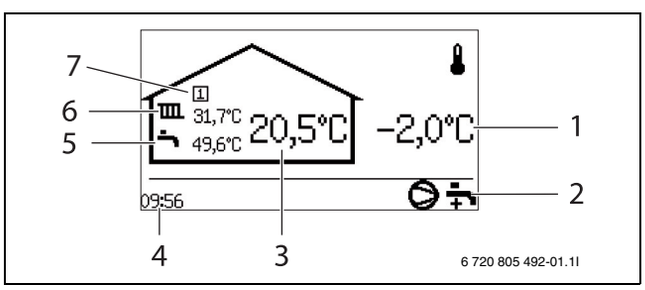

Fig. 2 Initial menu

[1] Outdoor temperature
[2] Current operating symbols
[3] The circuit room temperature
[4] Current time
[5] Hot water temperature
[6] Circuit flow temperature
[7] Circuit number

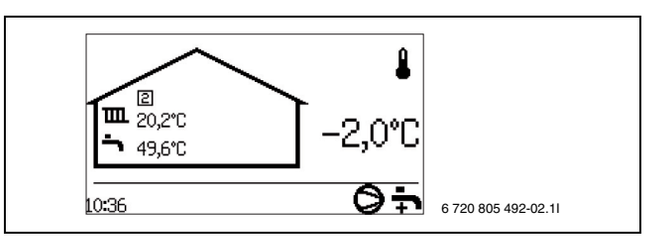

Fig. 3 Initial menu, circuit 2 is displayed

3.2 Finding desired function and changing value

Menu overview (→ Page 7) shows the main functions that are reached with (menu) and the dial.

▶ Press (menu).

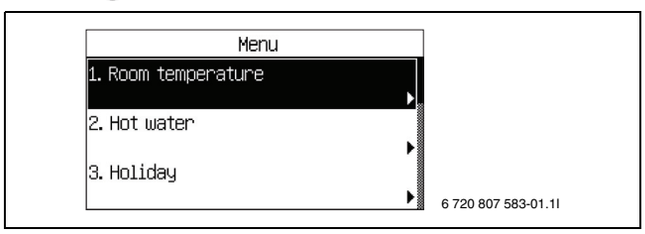

Fig. 4

▶ Turn the dial to mark a desired menu bar.

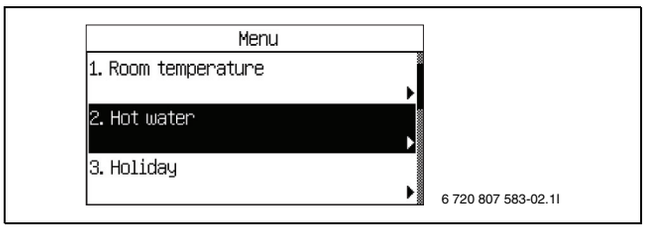

Fig. 5

▶ Select the function by pressing the dial. The first three menu functions under *Hot water* are displayed.

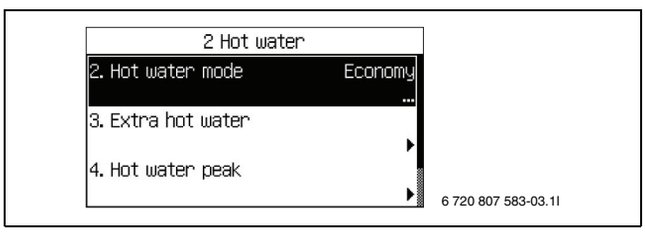

Fig. 6

▶ Press the dial to select the function.

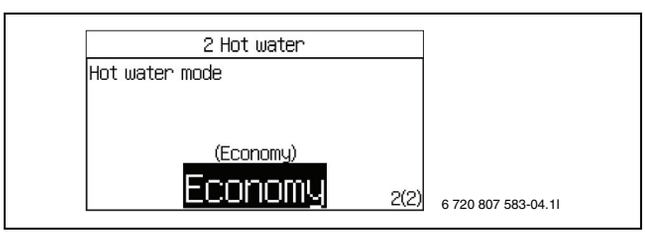

Fig. 7

▶ Turn the menu dial to change the set value.

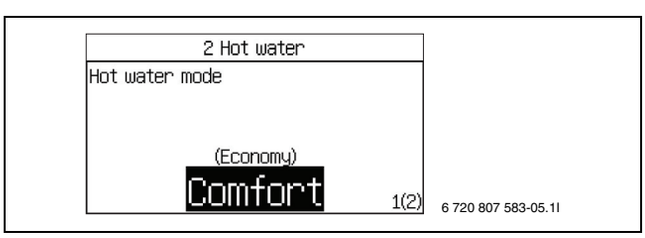

Fig. 8

▶ Press the dial to save the value or use ↩ to return without changing.

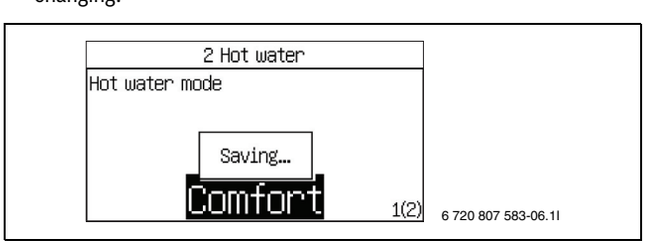

Fig. 9

The control unit automatically returns to the menu after the value has been saved.

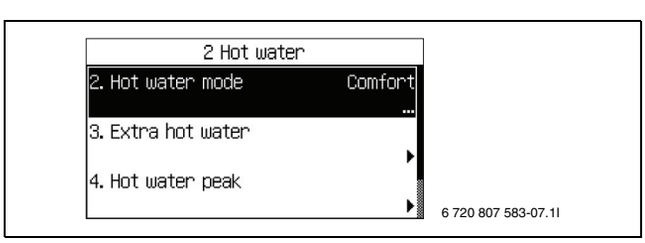

Fig. 10

Economy and **Comfort** are explained in more detail in the chapter about hot water mode (→ Chapter 6.3).

3.3 Help information in the menu display

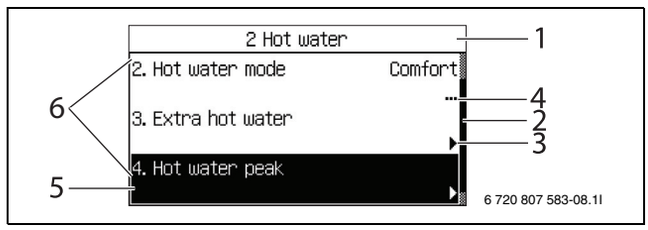

Fig. 11 Help information 1

[1] The menu level is **Hot water**
[2] Drop-down list. The marked row shows your position among the functions under **Hot water** .
[3] The arrow shows that there is new menu on the next level.
[4] The points show that the next level is a setting window.
[5] The function is marked.
[6] Three of the functions under **Hot water** .

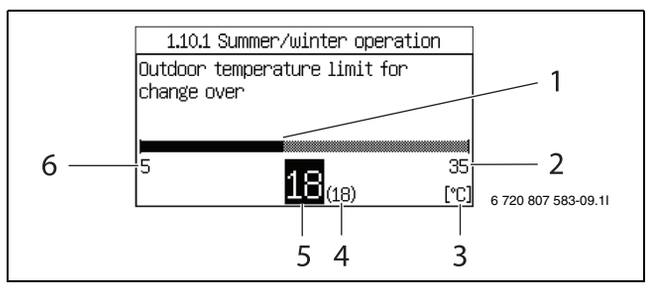

Fig. 12 Help information 2

[1] Graphic display of the value.
[2] Highest possible value.
[3] Unit.
[4] Previous value.
[5] New value. (Saved when the menu dial is pressed.)
[6] Lowest possible value

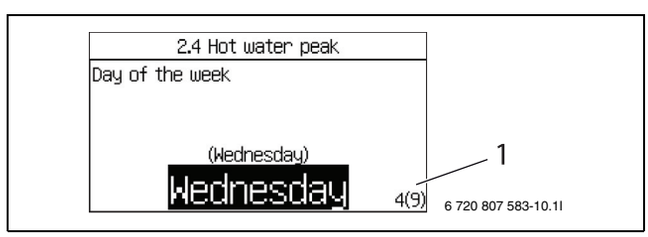

Fig. 13 Help information 3

[1] Option 4 out of 9 is displayed.

4 Information from the heat pump

The heat pump provides information about temperatures, operating modes, possible alarms, etc.

4.1 Operating information

The *Initial menu* shows different temperatures and times of day. Different operating symbols show the functions for which there are demand or which are in operation.

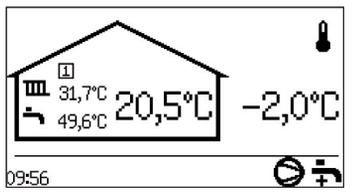

Fig. 14

4.2 Info button

- ▶ Press (info) in the *Initial menu*.
  Detailed information about temperatures, operating mode, etc., is displayed.
- ▶ Turn the dial to see all the information.
- ▶ Press (↩) to return to the initial.
- ▶ Press (info) in a menu display.
  The detailed information is displayed for as long as (info) is pressed.
- ▶ Release (info) .
  The menu display is displayed.

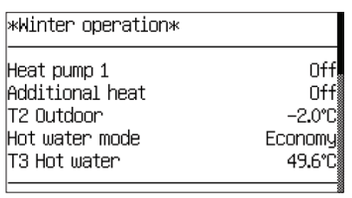

Fig. 15

4.3 Operating symbols

Symbols for different functions and components for which there is a need or which are in operation are displayed in the bottom right corner of the *Initial menu*. The operating symbols displayed can vary depending on the type of heat pump.

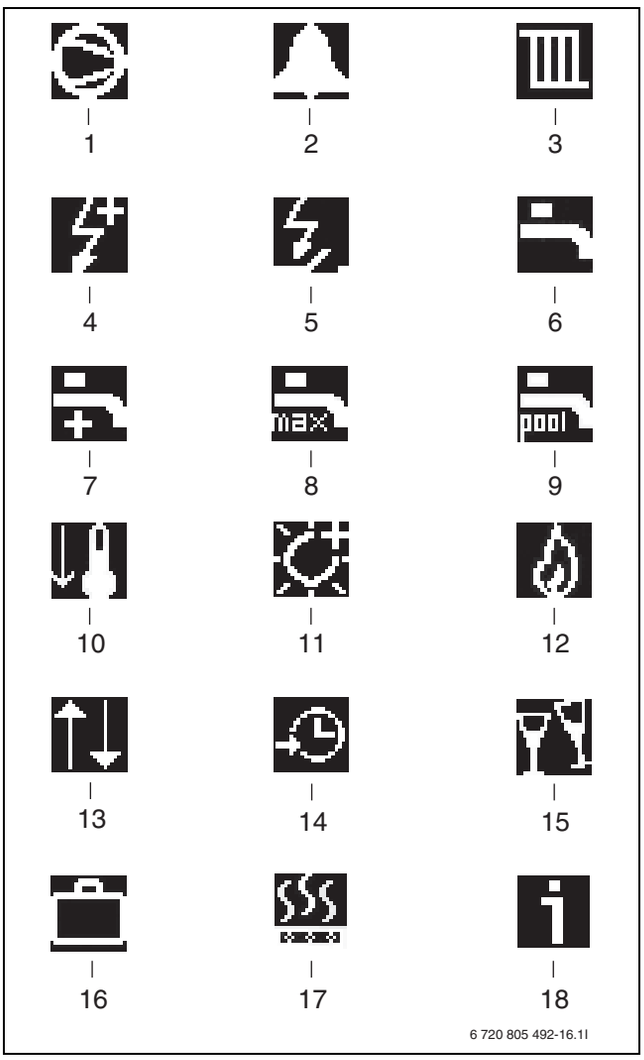

Fig. 16 Operating symbols

[1] Compressor
[2] Alarm (compressor, additional heat)
[3] Heating
[4] Electric additional heat
[5] Energy supply cut-off
[6] Hot water
[7] Extra hot water
[8] Hot water peak
[9] Pool (option)
[10] Cooling (option)
[11] Sun (option)
[12] Shunted additional heat (option)
[13] External controls
[14] Program/Time control
[15] Party
[16] Holiday
[17] Screed drying
[18] Information log

5 Menu overview

The top menu for the customer is:

- **1 Room temperature**
- **2 Hot water**
- **3 Holiday**
- **6 Energy measurements**
- **7 Timers**
- **8 External control**
- **12 General**
- **13 Alarms**
- **14 Access level**
- **15 Return to factory settings**

Factory value = F-value

HP x = Heat pump 1 or 2 / Compressor 1 or 2

No.	Name	F value	Min.	Max.	Alternative
1	Room temperature				
1.1	Circuit 1 Heating				
1.1.5	Heat curve				
1.1.6	Compressor 1 operating time on/off	20,0	10,0 (Comfort)	30,0 (Economy)	
1.1.7	Compressor 2 operating time on/off	20,0	10,0 (Comfort)	30,0 (Economy)	
1.1.10	Room sensor				
1.1.10.1	Room temperature influence (with room sensor)	3,0	0,0	10,0	
1.1.11	Room temperature program				
1.1.11.1	Active program	HP optimized			HP optimized / Program 1 / Program 2
1.1.11.2	View/edit active program				
1.1.11.3	Room temperature normal	20,0 °C	10,0 °C	35,0 °C	
1.1.11.4	Temperature increase/decrease (no room sensor)	=			--/-/+/++
1.1.11.6	Room temperature influence	3,0	0,0	10,0	
1.1.11.7	Room temperature exception	17 °C	10 °C	30 °C	
1.1.11.8	Copy to all heating circuits	No			No / Yes
1.3	Circuit 2 (option)				
1.3.5	Heat curve (see 1.1.5)				
1.3.7	Room sensor (see 1.1.10)				
1.3.8	Room temperature program (see 1.1.11)				
1.4	Circuit 3 (option) (see 1.3)				
1.5	Circuit 4 (option) (see 1.3)				
1.10	General				
1.10.1	Summer/winter operation				
1.10.1.1	Winter operation	Automatic			On / Automatic / Off
1.10.1.2	Outdoor temperature limit for change over	18 °C	5 °C	35 °C	
2	Hot water				
2.2	Hot water mode	Economy			Comfort / Economy
2.3	Extra hot water				
2.3.1	Extra hot water duration	0h	0h	48h	
2.3.2	Extra hot water stop temperature	65,0 °C	50,0 °C	65,0 °C	
2.4	Hot water peak				
2.4.1	Day of the week	None			None /Day/ All
2.4.2	Interval in weeks	1	1	4	
2.4.3	Start time	3:00	0:00	23:00	
2.5	Hot water program				
2.5.1	Active program	Always hot water			Always hot water / Program 1 / Program 2
2.5.2	View/edit active program				
3	Holiday				
3.1	Circuit 1 and hot water				
3.1.1	Activate holiday function	No			No / Yes
3.1.2	Start date				
3.1.3	Stop date				
3.1.4	Room temperature	17,0 °C	10,0 °C	35,0 °C	
3.1.5	Copy to all heating circuits	No			No / Yes
3.1.6	Block hot water production	No			No / Yes
3.2	Circuit 2 (option) (see 3.1)				
3.3	Circuit 3 (option) (see 3.1)				
3.4	Circuit 4 (option) (see 3.1)				
6	Energy measurements				

Table 3 Menu overview

No.	Name	F value	Min.	Max.	Alternative
6.1	Generated energy				
6.2	Consumption electric additional heat				
7	Timers (Timers that are running are displayed)				
8	External control				
8.1	Heat pump 1				
8.1.1	External input 1				
8.1.1.14	Room temperature	No (0,0 °C)	10,0 °C	35,0 °C	
8.1.2	External input 2 (see 8.1.1)				
8.2	Heat pump 2 (see 8.1)				
8.5	External input circuit 2 (option)				
8.5.2	Block heating at tripped underfloor temperature limiter	No			No / Yes
8.5.3	Block heating	No			No / Yes
8.5.6	Room temperature	No (0,0 °C)	10,0 °C	35,0 °C	
8.6	External input circuit 3 (option) (see 8.5)				
8.7	External input circuit 4 (option) (see 8.5)				
12	General				
12.1	Room sensor settings				
12.1.1	Show outdoor temperature in room sensor	No			No / Yes
12.2	Set date				yyyy-mm-dd
12.3	Set time				hh:mm:ss
12.4	Summer/winter time	Automatic			Manual / Automatic
12.6	Display contrast	50%	20%	100%	
12.7	Language				
13	Alarms				
13.1	Information log				
13.2	Delete information log				
13.3	Alarm log				
13.4	Delete alarm log	No			No / Yes
13.7	Alarm indication				
13.7.1	Alarm buzzer signal				
13.7.1.1	Interval	2s	1s	3600s (60min)	
13.7.1.2	Blocking time	Off			Start time 0:00-23:45/ Stop time 0:00-23:45
13.7.2	Alarm indication control unit				
13.7.2.1	Block alarm buzzer	No			No / Yes
13.7.3	Alarm indication room sensor				
13.7.3.2	Block alarm indicator lamp	No			No / Yes
14	Access level				
15	Return to factory settings				

Table 3 Menu overview

6 Settings Customer level

6.1 Mode button functions

By pressing (mode) , the following functions can be used directly:

- **Room temperature normal** / **Temperature increase/decrease**
- **Hot water mode**
- **Extra hot water duration**
- **Party**
- **Holiday**
- **Disable cooling**

The controller language can be changed with the (mode) button.

▶ Press the (mode) button in the initial menu for at least 5 s, then select the required language.

Room temperature normal / Temperature increase/decrease

Here, temperature changes for **Circuit 1** can be made. If this circuit is equipped with a room temperature sensor, the display shows **Room temperature normal**, otherwise **Temperature increase/decrease** is shown.

▶ For description of setting of **Room temperature normal** (→Chapter 6.2, **1.1.11.3 Room temperature normal**).

▶ For description of setting of **Temperature increase/decrease** (→Chapter 6.2, **1.1.11.4 Temperature increase/decrease**).

It always takes some time for a change of a heating setting, e.g. an increase or decrease in room temperature, to apply. The same applies in the event of a quick change of the outdoor temperature. This is why you should always wait for at least 24 hours before making a new change.

Hot water mode

▶ For description of **Hot water mode** (→Chapter 6.3, **2.2 Hot water mode**).

Extra hot water duration

▶ For description of setting of **Extra hot water** (→Chapter 6.3, **2.3 Extra hot water**).

After a period with blocked hot water production, e.g., holiday, it is recommended to enable the extra hot water function so as to eliminate bacteria and quickly reach the correct hot water temperature.

Party

Party mode means that a running room program is stopped during the set time in order to avoid a temperature drop.

>Number of hours

Factory setting	0h
Lowest value	0h
Highest value	99h

Table 4 Party duration

▶ Select the number of hours that party mode should be active for. The function starts immediately on all activated circuits.

>Circuit x

Factory setting	No
Alternative	No/Yes

Table 5 Enable party mode

▶ Select **Yes** to enable party mode.
Party mode can be enabled for each installed circuit. The menu is displayed only if more than one circuit is installed.

>Deactivate party mode

Factory setting	No
Alternative	No/Yes

Table 6 Deactivate party mode

▶ Select **Yes** to disable party mode on all activated circuits.
The heat pump returns to program mode.
The menu is displayed only if party mode is active.

Holiday

▶ For description of setting of **Holiday** (→Chapter 6.3, **3 Holiday**).

Disable cooling

The menu is displayed only if the cooling function is installed and affects all circuits with cooling.

It takes a long time before the cooling mode manages to affect the temperature in the house, therefore wait at least one day after disabling/enabling before making any additional adjustments.

6.2 Room temperature

Press the menu button in the Initial menu to move to the top menu level. Select **1 Room temperature** to adjust the heating.

Under **1 Room temperature** there is:

- **1.1 Circuit 1 Heating**
- **1.3/1.4 Circuit 2, 3...** (option)
- **1.10 General**

1.1 Circuit 1 Heating

1.1.5 Heat curve

The heat curve constitutes the basis for the control unit's control of the temperature on the heating water to the circuit and indicates how high it needs to be in relation to the outdoor temperature. The control unit increases the temperature of the heating water when the outdoor temperature drops. The temperature of the heating water out to the circuit, i.e. the flow temperature is measured by sensor T1 for circuit 1 (full name E11.T1) and sensor T1 for circuit 2 (full name E12.T1).

Each circuit is controlled by its own heat curve. The installer sets the type of heating for each circuit, that is **Radiator** or **Underfloor**. The heat curve for **Underfloor** has lower values because the floors do not tolerate such high temperatures.

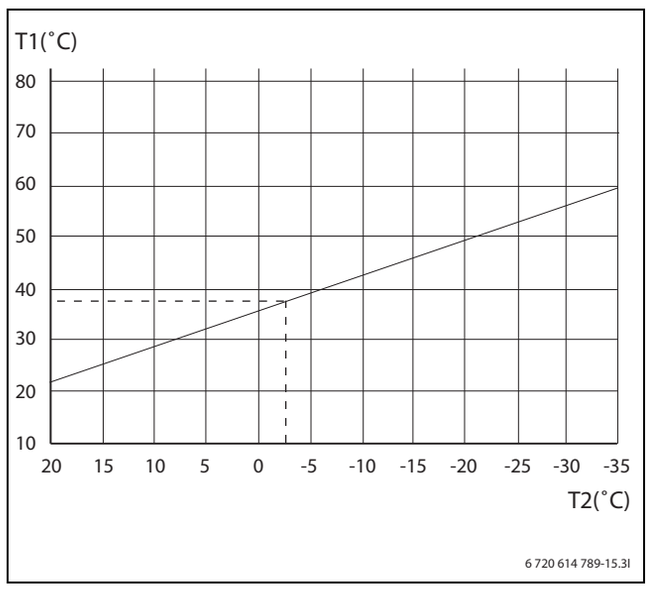

Fig. 17 Radiator

The figure indicates the factory setting curve for a radiator circuit. At -2.5 °C the flow set point is 37.4 °C.

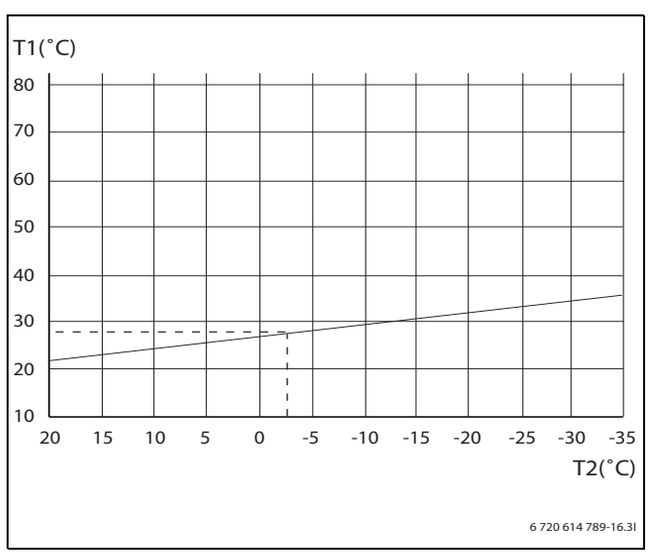

Fig. 18 Underfloor

The figure indicates the factory setting curve for an underfloor circuit. At -2.5 °C the flow set point is 27.2 °C.

Setting of heat curve

If the heat curve has been set too high, the display will show the message **Too high heat curve setting**.
▶ Change the heat curve setting.

A heat curve is set for each circuit. If the room temperature is perceived to be too high or too low in the circuit, it is preferable to adjust the curve.

The curve can be changed in different ways. The slope of the curve can be changed by offsetting the flow temperature upwards or downwards on the left-hand side (the value at outdoor temperature 20 °C, factory value 22.0 °C) as well as the right-hand side (the value at outdoor

temperature -35 °C, factory setting 60.0 °C). In addition, the curve can be affected by every 5th outdoor temperature degree.
The value at 0 °C is displayed above the curve's left-hand point, factory value 35.7 °C.

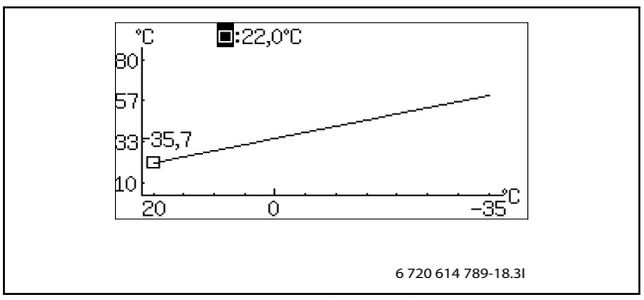

Fig. 19 Setting window Heat curve (radiator)

Change the left item:

- ▶ Press the menu dial when the square is marked.
  The value is marked.

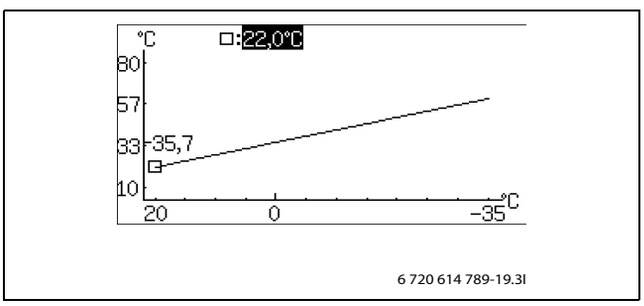

Fig. 20

- ▶ Turn the menu dial to change the value. Press the dial to save or use ↩ to return without saving.
  In the window, the square is marked again and any changed values are displayed after the square. In addition, the curve is updated according to the new value.

Change the right point:

- ▶ Turn the menu dial when the square is marked. The upper square is changed to outdoor temperature with the corresponding curve value after the colon. The circle marks the relevant curve position.
- ▶ Continue to turn the dial until it shows a square before the colon.
- ▶ Press the dial to mark the value.

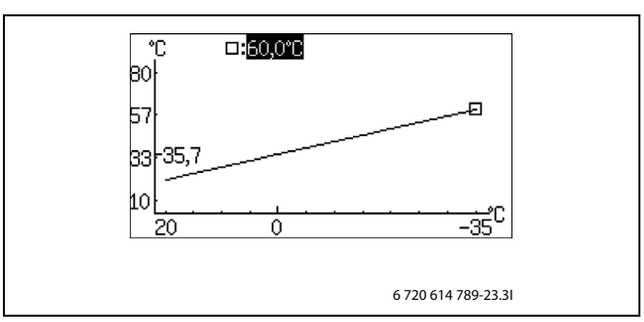

Fig. 21

- ▶ Turn the menu dial to change the value. Press the dial to save or use ↩ to return without saving.
  In the window, the square is marked again and any changed values are displayed after the square. In addition, the curve is updated according to the new value.

Change a specific value, for example the value at an outdoor temperature of 0 °C:

- ▶ Turn the menu dial when the square is marked until 0 0 °C is marked (→ Fig. 23).
- ▶ Press the dial to mark the value.

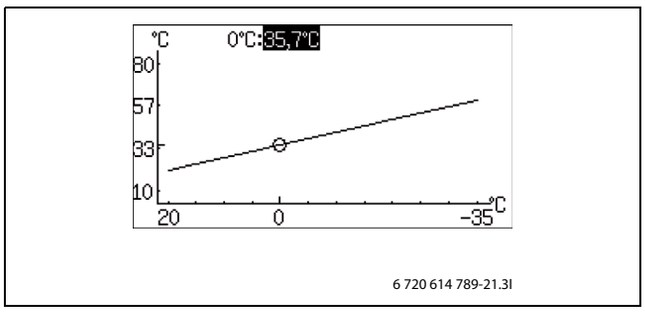

Fig. 22

- ▶ Turn the menu dial to change the value.

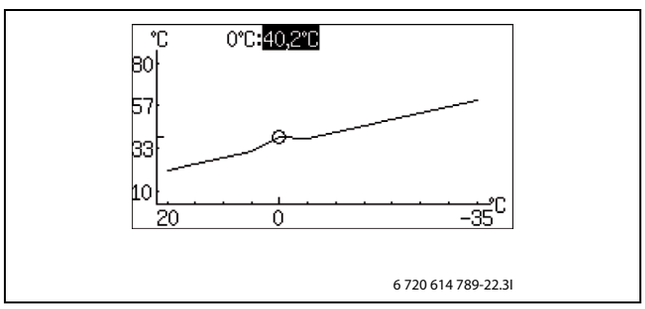

Fig. 23

- ▶ Press the dial to save or use ↩ to return without saving.
- ▶ Use ↩ to leave the curve setting window and return to the menu.

Recommendations:

- ▶ Increase the value of the right point if it feels too cold at low outdoor temperatures.
- ▶ Increase the value of curve at 0 °C if it feels a little cold at outdoor temperatures around 0.
- ▶ Increase or decrease the value of the curve equally at the right and left points to fine adjust the heat (the curve is offset parallel).

1.1.6 Compressor 1 operating time on/off

- ▶ Select how long the compressor should be on or off in heating mode. Higher set values result in fewer compressor starts and stops, which achieves higher economy. However, more pronounced temperature fluctuations in the heating system may result than with lower values.

1.1.7 Compressor 2 operating time on/off

Same as for **1.1.6 Compressor 1 operating time on/off** .

1.1.10 Room sensor

1.1.10.1 Room temperature influence (with room sensor)

- ▶ Set how much a 1 K (°C) difference in room temperature should influence the set point value for the flow line temperature.
  Example: at a 2 K (°C) deviation from the set room temperature, the set point value for the flow line temperature is changed by 6 K (°C) (2 K deviation * factor 3 = 6 K).

1.1.11 Room temperature program

- ▶ Choose if the circuit should be controlled with a program or not.

Optimised operation

This means that the control unit is only controlled by the flow set point value (→ Chapter 6.2.1), without programmed changes during the day. Optimised operation provides the best comfort and energy savings in the vast majority of cases.

Program 1 and 2

These selections provide an opportunity to define user programs for time control by adjusting the start and stop times, as well as a normal and an programmed temperature.

Program	Day	Start	Stop
Program 1, 2	Mon - Sun	5:30	22:00

Table 7 Program 1 and 2

To set the desired time of day:

- ▶ Select **Program 1** or **Program 2**.
- ▶ Go to menu **1.1.11.2 View/edit active program**.
- ▶ Select day by turning the menu dial.

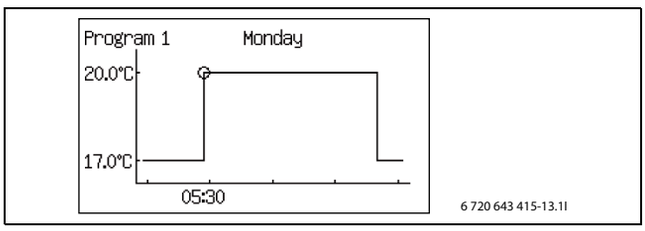

Fig. 24

- ▶ Press the menu dial to mark the value to be changed.

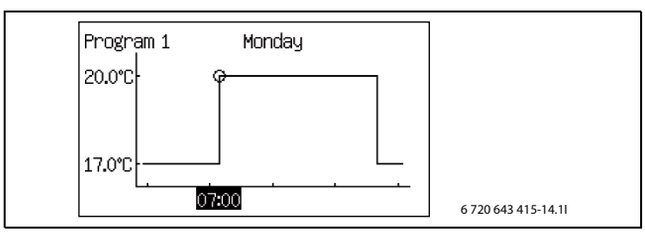

Fig. 25

- ▶ Turn the menu dial until the desired setting has been selected.
- ▶ Then press the menu dial.
- ▶ Turn the menu dial to be able to set additional values in the same way as above.
- ▶ Go back one step with ⟲.
- ▶ Select **Saving alternative**:
  - **Return without saving**
  - **Program 1**
  - **Program 2**

  The set changes are saved as a selected program or not at all.
- ▶ To adjust the normal temperature, proceed to menu **1.1.11.3 Room temperature normal**.
- ▶ To adjust the exceptional temperature, proceed to menu **1.1.11.7 Room temperature exception**.

Room temperature program when there is a room sensor:

1.1.11 Room temperature program

1.1.11.1 Active program

If a program is selected, the following (if the menu button is turned) is displayed:

1.1.11.2 View/edit active program

1.1.11.3 Room temperature normal

- ▶ Set the desired set point for the room temperature.

1.1.11.6 Room temperature influence

- ▶ Set the values in the same way as for**1.1.10.1 Room temperature influence** .

1.1.11.7 Room temperature exception

- ▶ Set the temperature that should apply as exceptional temperature in the program.
  The menu is only displayed if **Program 1** or **Program 2** is selected.

1.1.11.8 Copy to all heating circuits

- ▶ Select **Yes** to have the same control for all installed circuits.
  The menu is displayed only under **Circuit 1** .

Room temperature program when there is no room sensor:

1.1.11 Room temperature program

1.1.11.1 Active program

1.1.11.2 View/edit active program

The same as when there is a room sensor, see above.

1.1.11.3 Room temperature normal

- ▶ Set the measured value in the room.
  The indicated value is used by temperature programs to calculate the difference between normal and exceptional temperature.

1.1.11.4 Temperature increase/decrease

- ▶ Use this function to adjust the room temperature so that the normal room temperature (see the previous menu) becomes the desired temperature.
- ▶ Use this function to simply increase or decrease the heat when there are no room sensors.
  – – Results in approx. 1 °C lower room temperature.
  – results in approx. 0.5 °C lower room temperature.
  \+ results in approx. 0.5 °C higher room temperature.
  ++ results in approx. 1 °C higher room temperature.

1.1.11.6 Room temperature influence

- ▶ Set the values in the same way as for **1.1.10.1 Room temperature influence** .

1.1.11.7 Room temperature exception

The same as when there is a room sensor, see above.

1.1.11.8 Copy to all heating circuits

The same as when there is a room sensor, see above.

It always takes some time for a change of a heating setting, e.g. an increase or decrease in room temperature, to apply. The same applies in the event of a quick change of the outdoor temperature. This is why you should always wait for at least 24 hours before making a new change.

1.3 Circuit 2 (option)

- ▶ Set the values in the same way as for **1.1 Circuit 1 Heating** .

1.4 Circuit 3 (option)

- ▶ Set the values in the same way as for **1.1 Circuit 1 Heating** .

1.5 Circuit 4 (option)

- ▶ Set the values in the same way as for **1.1 Circuit 1 Heating** .

6.2.1 Set point value

The heating circuit's set point value is the temperature of the flow that the heat pump attempts to maintain. Sometimes, the measured actual value fluctuates a bit upward and downward depending on changes in the outdoor temperature or a large hot water demand.

The set point value specified by the customer/installer is most often the room temperature, which is recalculated by the control unit into a corresponding flow temperature set point value. Under normal conditions, 1 K (°C) in room temperature corresponds to approx. 3 K (°C) in flow temperature.

The set point value is normally based on:

- Current curve value (the low line temperature at the current outdoor temperature according to the applicable heat curve).
- Current curve influence through:
  - **Room sensor**
  - **Holiday**
  - **Active program**

– **External control**

Set point value calculation

The set point value for the heating circuit is the current curve value adjusted with active curve influence, if any such exists.

Priority order for curve influence is:

- **External control**
- **Active program**
- **Holiday**

Only one of these can be active. How big the influence should be and when to exercise it is set in the respective function.

Fixed set point value

A fixed set point value (not curve-based) applies in the event of:

- External set point value. The set point value is determined according to input signal 0-10V where 1V is 10 °C and 10V is 80 °C (0V triggers an alarm).

Set point value limitation

The calculated set point value is always checked against the permitted temperature limits.

The applicable set point value T1 for **Circuit 1** and the measured actual value for T1 are used to activate and deactivate the heat demand.

The following applies to **Circuit 2, 3...**: When the actual value for the mixed circuit's T1 is low in relation to the set point value, more heating water is shunted into the circuit so as to maintain the set point value.

If the flow temperature has been below the set point value for a certain period of time, there is heat demand and the compressor produces heat before there is a too significant temperature reduction indoors. This happens until the flow temperature is a couple of degrees higher than the set point value. (Or because **Maximum operating time for heating at hot water demand** has passed.)

Heating demand is not active during summer operation.

1.10 General

1.10.1 Summer/winter time

1.10.1.1 Winter operation

If **On** is selected, the heat pump is constantly in winter operation and heat and hot water are always produced. **Off** signifies constant summer operation; only hot water is produced. **Automatic** signifies change-over at the set outdoor temperature.

1.10.1.2 Outdoor temperature limit for change over

The menu is displayed only if **Automatic** selected in **1.10.1.1 Winter operation** .

In the event of alternation between winter and summer operation and vice versa, there is a certain delay aimed at preventing constant starting and stopping of the compressor when the outdoor temperature oscillates around the temperature limit.

6.3 Hot water

Under **2 Hot water** there are functions to:

- Select operating mode
- Request **2.3 Extra hot water**
- Specify when **2.4 Hot water peak** must be performed in order to eliminate bacteria.
- Set any **2.5 Hot water program**

2.2 Hot water mode

▶ Select hot water mode.
Economy means that the hot water is permitted to cool slightly before hot water production starts compared to **Comfort** . Heating stops at a slightly lower temperature.

▶ Change to **Comfort** If more or hotter hot water is desired.
This setting must be used if electric additional heat is missing or if the hot water circulation is used, when the temperature in the hot water circulation is otherwise too low.

The factory settings for on and off temperature are approx. 8 K (°C) lower in Economy mode compared to Comfort mode. These values can be adjusted by the installer.

2.3 Extra hot water

Additional amount of hot water is produced by temporarily increasing the temperature of the hot water during the set number of hours to the indicated stop temperature.

2.3.1 Extra hot water duration

▶ Set the duration of extra hot water production.

2.3.2 Extra hot water stop temperature

▶ Set the stop temperature for extra hot water.

The heat pump starts the function directly and uses the compressor first and then the additional heat source to increase the temperature. When the desired number of hours have passed, the heat pump returns to normal hot water mode.

DANGER: Risk of burn injuries.
▶ Use a mixing valve when the hot water temperature exceeds 60 °C.

2.4 Hot water peak

Hot water peak means a temporary increase in the hot water temperature to approx. 65 °C for thermal elimination of bacteria (pasteurisation).

For the hot water temperature increase, the compressor is used first; the additional heat source then continues alone.

2.4.1 Day of the week

▶ Set the day when hot water peak should happen. **None** means that the function is deactivated. **All** means that a hot water peak takes place every day.
If hot water peak is deactivated comfort mode must be selected in the menu **2.2 Hot water mode** .

2.4.2 Interval in weeks

▶ Set how often a hot water peak should take place.
  – 1 means a hot water peak every week.
  – 2 means that a hot water peak takes place in all even weeks of the year, i.e., in week 2, 4, 6, etc.
  – 3 means week 3, 6, 9, etc.
  – 4 means week 4, 8, 12, etc.

2.4.3 Start time

▶ Set time for the hot water peak.

WARNING: Risk of scalding.
At hot water temperatures greater than 60 °C, there is a risk of scalding.
▶ Exercise caution when using hot water immediately after a hot water peak.

2.5 Hot water program

Program 1 and **Program 2** enables you to block hot water production during the set time.

2.5.1 Active program

2.5.2 View/edit active program

The menu is only displayed if **Program 1** or **Program 2** is selected. Programs are changed in the same way as for **1.1.11 Room temperature program** .

6.4 Holiday

During holidays (absence), the heating can, for example, be kept at a lower or higher level and hot water production can be switched off. *Start* and *Stop date*, *Room temperature* and *Block hot water production* are only displayed if the holiday function is activated.

3.1 Circuit 1 and hot water

3.1.1 Activate holiday function

3.1.2 Start date

3.1.3 Stop date

- ▶ Set start and stop date for the desired period. Format yyyy-mm-dd. The period starts and ends at 00:00. Both the start and end date are included in the period.
- ▶ Terminate the period prematurely by indicating **No** in menu item **3.1.1 Activate holiday function** .

3.1.4 Room temperature

- ▶ Set the room temperature that should apply to the circuit during the period.

3.1.5 Copy to all heating circuits

3.1.6 Block hot water production

3.2 Circuit 2 (option)

- ▶ Set the values in the same way as for **3.1 Circuit 1 and hot water** .

3.3 Circuit 3 (option)

- ▶ Set the values in the same way as for **3.1 Circuit 1 and hot water** .

3.4 Circuit 4 (option)

- ▶ Set the values in the same way as for **3.1 Circuit 1 and hot water** .

6.5 Energy measurements

Energy is measured per compressor; the calculated results are added prior to being displayed.

6.1 Generated energy

This displays **6.1 Generated energy** in kWh divided into **6.1.1 Heating** and **6.1.3 Hot water**.

6.2 Consumption electric additional heat

This displays **6.2 Consumption electric additional heat** in kWh divided into **6.2.1 Heating** and **6.2.2 Hot water** .

6.6 Timers

Timers are used by the control unit to count down the different time dependent functions such as **Extra hot water duration**. At customer level the following timers can be observed (only timers that are counting are displayed):

Timer	F value
7.1 Extra hot water	0h
7.3 Alarm mode delay	1h
7.5 Operating time for heating at hot water demand	20min
7.6 Hot water, operating time at heating demand	30min
7.7/7.8 Heat pump x timers	
7.7.1/7.8.1 Compressor start delay	10min
7.11 Additional heat timers	
7.11.1 Additional heat start delay	60min
7.11.2 Delay mixing valve control after additional heat start	20min

Table 8 Timers

6.7 External control

When an external input is connected, the control unit performs functions which are set to **Yes** or is separated from 0 (**Room temperature**). When the external input is no longer connected, the control unit returns to normal mode. Only installed functions are displayed.

8.1 Heat pump 1

8.1.1 External input 1

8.1.1.9 Block compressor

8.1.1.11 Block additional heat

8.1.1.12 Block heating at tripped underfloor temperature limiter

8.1.1.13 Block heating

8.1.1.14 Room temperature

- ▶ Set the room temperature that should apply in the event of enabled external control.
- ▶ Value > 0 °C enables the function.

The highest temperature is used if temperature changes have been set for a certain circuit at several external inputs.

8.1.1.15 Block hot water production

8.1.2 External input 2

- ▶ Set the values in the same way as for **8.1.1 External input 1** .

8.2 Heat pump 2

- ▶ Set the values in the same way as for **8.1 Heat pump 1** .

8.5 External input circuit 2

8.5.2 Block heating at tripped underfloor temperature limiter

8.5.3 Block heating

8.5.6 Room temperature

8.6 External input circuit 3

- ▶ Set the values in the same way as for **8.5 External input circuit 2** .

8.7 External input circuit 4

- ▶ Set the values in the same way as for **8.5 External input circuit 2** .

6.8 General

Among other things, settings for date and time are available here.

12.1 Room sensor settings

12.1.1 Show outdoor temperature in room sensor

12.2 Set date

12.3 Set time

- ▶ Check and change, if necessary, date and time. These are used by the control unit to manage the different clock settings, e.g., holiday and room temperature program.

12.4 Summer/winter time

- ▶ Select if there should be automatic change over between summer and winter time or not (dates according to EU standard).

12.6 Display contrast

- ▶ If necessary, change the background light of the control panel.

12.7 Language

- ▶ Change language, if desired.

6.9 Alarms

The different alarms that can occur are described in (→Chapter 7).

Under **13 Alarms** there is:

- **13.1 Information log**
- **13.2 Delete information log**
- **13.3 Alarm log**
- **13.4 Delete alarm log**
- **13.7 Alarm indication**

13.1 Information log

The information log displays information from the heat pump. The control panel output mode displays the symbol for information log when the active information is available.

13.2 Delete information log

The information log is deleted here.

13.3 Alarm log

The alarm log shows the alarms and warnings that have occurred. Alarm category (→ Chapter 7.5) is displayed in the top left corner of the display. If the alarm is active, the alarm symbol (→Chapter 4.3) is displayed both in the alarm log and the initial menu of the control panel.

13.4 Delete alarm log

The alarm log is deleted here.

13.7 Alarm indication

Settings for alarm buzzer and status lamp are made here.

13.7.1 Alarm buzzer signal

13.7.1.1 Interval

- Set the length of the alarm interval.
  The alarm buzzer sounds for one second and is silent during the rest of the interval. The setting applies to all alarm buzzers.

13.7.1.2 Blocking time

- Set the times between which alarms buzzers should not be allowed to produce an acoustic signal.

13.7.2 Alarm indication control unit

13.7.2.1 Block alarm buzzer

The setting applies only to the control unit's alarm buzzer.

13.7.3 Alarm indication room sensor

13.7.3.2 Block alarm indicator lamp

The setting applies to all room sensors.

6.10 Access level

Access level is **Customer** as standard: This level gives you access to all functions that the user requires. The installer also has access to the additional functions required at installation.

6.11 Return to factory settings

- Select **15 Return to factory settings** and **Yes** to reset all customer settings to the factory settings. Settings made by the installer are not affected.

7 Alarm

7.1 Control unit and room sensor alarm lamp

The status lamp on the control unit is used to show ON/OFF status for the heat pump but also to show possible alarms. The status lamp is therefore also called alarm lamp.

In the event of an alarm the alarm lamp flashes red (control unit) until the warning cause has disappeared. The alarm lamp is not used for warning alarms.
The room sensor alarm lamp can be blocked.

Behaviour	Function
The lamp lights green continuously.	The heat pump is running.
The lamp flashes red.	There is an alarm which has not been acknowledged.
The lamp lights red continuously.	The alarm has been acknowledged but the alarm cause remains.
The lamp flashes green slowly.	The heat pump is in stand-by mode[1].

Table 9 Alarm lamp control unit

1) Stand-by means that the heat pump is running but no heating or hot water demand exists.

The room sensor display is used to indicate alarms for some alarm categories (→ 10). The display window slowly flashes red until the alarm has been acknowledged in the heat pump control unit, or been automatically reset.

The room sensor alarm display function is referred to as alarm lamp in this chapter.

The room sensor alarm lamp can be blocked.

7.2 Alarm buzzer at alarm

At an alarm the alarm buzzer on the heat pump sounds for one second per alarm buzzer interval set. At certain times of the day the alarm buzzer can be blocked or blocked altogether.
In the event of a warning, the alarm buzzer does not sound.

7.3 Acknowledgement of alarms

Acknowledgement means that you have to press (menu) to make the alarm window disappear. What happens after acknowledgement is described in the respective alarm description.

In most cases, warnings do not have to be acknowledged. The alarm window disappears by itself once the warning cause has disappeared. It is, however, possible to acknowledge the warning.

7.4 Alarm timer, alarm mode

In the event of an alarm that stops the compressor the control unit starts a timer at 1h. If the fault does not recur additional heat may start when the timer has counted down.

7.5 Alarm categories

The alarms are divided into different categories depending on the type and seriousness of the fault. Alarm category is displayed in the alarm window and alarm log.

Categories A-H are alarms, categories I-J are warnings/information, categories K-M are warnings, category Z is information.

Meaning	A	B	C	D	E	F	G	h	In	J	K	L	M	Z
Stops the compressor	X	X	X	X	X				X	X				
Stops additional heat						X	X				X			
Alarm lamp, alarm buzzer is activated	X	X	X	X	X	X	X	X						
Alarm delay	5s	3s	15 min	1 min	5s	1s	1s	1s	5s	5s	2s	5s	0s	0s
Requires acknowledgement to restart	X	X	X	X		X								
Can be restarted before acknowledgement					X		X	X	X	X	X		X	
Menu display must be acknowledged	X	X	X	X	X	X	X	X				X	X	
Placed in the information log									X	X				X

Table 10 Alarm categories

[In] Temporary stop of compressor. The information may recur a number of times during a certain time period; if there are more during the period, a category A alarm is sounded.

[J] Temporary stop of compressor. The information may recur a number of times during a certain time period; if there are more during the period, a category A alarm is sounded.

[M] Used for board connection problems.

7.6 Alarm window

When an alarm/warning occurs, the display shows information about what has happened. At the same time, information is saved in the alarm log. The alarm symbol is displayed in the initial menu of the control panel (→ Chapter 4.3).

Example of an alarm:

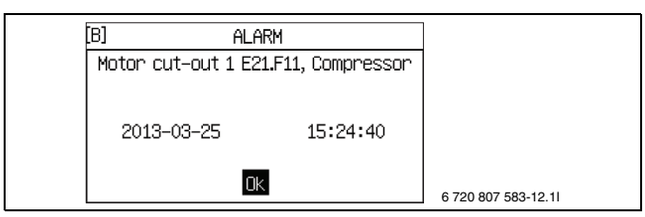

Fig. 26

7.7 Alarm functions

The different alarms that can occur are presented here, the alarm text is indicated in the heading.

Most alarm texts contain a designation of the part of the heat pump that has caused the alarm. Always indicate the whole alarm information when you are in contact with the installer.

E21 refers to heat pump 1, E22 refers to heat pump 2.

E11 refers to circuit 1, E12 circuit 2, E13 circuit, 3, etc.

Txx refers to different temperature sensors.

7.7.1 High hot gas temperature E2x.T6

Function: Compressor stops. Activated when the temperature from the compressor becomes too high. The alarm can occur in individual cases under extreme service conditions.

Alarm timer starts: Yes.

Reset condition: The hot gas temperature drops to the permitted temperature.

Category: A.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.2 Tripped low pressure switch E2x.RLP

Function: Compressor stops. Activated when the pressure in the refrigerant circuit of the heat pump becomes too low.

Alarm timer starts: Yes.

Reset condition: The pressure goes back to the permitted level.

Category: A.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Check and clean the particle filter when required.

▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.3 Tripped high pressure switch E2x.RHP

Function: Compressor stops. Activated when the pressure in the refrigerant circuit becomes too high.

Alarm timer starts: Yes.

Reset condition: The pressure goes back to the permitted level.

Category: A.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.4 Low pressure collector circuit

Function: Compressor stops. Activated when the pressure in the collector circuit becomes too low.

Alarm timer starts: Yes.

Reset conditon: The pressure goes back to the permitted level.

Category: A.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.5 Low temperature collector circuit in E2x.T10

Function: Alarm is given if the collector circuit temperature is too low and if warning of this has been given several times.

Alarm timer starts: Yes.

Reset condition: The collector circuit temperature exceeds the lowest permitted temperature.

Category: A.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.6 Low temperature collector circuit out E2x.T11

Function: Alarm is given if the collector circuit temperature is too low and if warning of this has been given several times.

Alarm timer starts: Yes.

Reset condition: The temperature of the refrigerant exceeds the lowest permitted temperature.

Category: A.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.7 Too high boot count I/O board BAS x

Function: Compressor stops. Is activated if the controller has executed more than three new starts after the alarm **Check CANbus cable connection**,
(→ Chapter 7.8.6).

Alarm timer starts: Yes.

Reset condition: The CAN-BUS communication with the controller has been restored.

Category: A.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.8 Motor cut-out 1 E2x.F11, Compressor

Function: Activated when the compressor's motor cut-out has tripped because of high current or lost current phase resulting in undue strain on the compressor.

Alarm timer starts: Yes.

Reset condition: Motor cut-out reset.

Category: B.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Check the heating system fuses, and main fuses.
▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.9 Phase error E2x.B1

Function: The compressor stops when the phase guard trips because of the lack of a phase or the presence of a phase sequence error. Also too low (<195V) or too high (>254V) voltage generates an alarm.

Alarm timer starts: Yes.

Reset condition: The error has been remedied.
At too low/high voltage: The voltage is greater than 201V or lower than 250V.

Category: E.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Check the heating system fuses, and main fuses.
▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.10 Failure on sensor E2x.T6 hot gas

Function: The compressor stops because the hot gas cut-out cannot be guaranteed. Activated when the sensor's value indicates a temperature lower than -50 °C.

Alarm timer starts: Yes.

Reset condition: The value of the sensor indicates > -50 °C.

Category: E.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.11 Short circuit on sensor E2x.T6 hot gas

Function: The compressor stops because the hot gas cut-out cannot be guaranteed. Activated when the sensor's resistance value indicates a temperature higher than 150 °C.

Alarm timer starts: Yes.

Reset condition: The value of the sensor indicates < 150 °C.

Category: E.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.12 High flow temperature E1x.T1

Function: Compressor stops. Activated when the temperature in the heating circuit becomes too high in relation to the settings that are made.

Alarm timer starts: Yes.

Reset condition: The sensor's value falls below the temperature for beginning of the heating demand.

Category: E.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Lower the heating on the circuit.
▶ Check that the thermostat valves are open.
▶ Contact the dealer if the alarm recurs often.

7.7.13 Faulty electric heater E21.E2

Function: The electric heater is turned off. Activated by tripped overheat protection on the electric additional heat, high flow temperature or too high temperature in electric additional heat. The automatic trip fuse to the electric additional heat may have been tripped due to, for example, a short circuit.

Reset condition: Overheat protection reset or the temperature has fallen.

Category: F.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Reset the overheat protection if this has been triggered.
▶ Reset the automatic fuse if this has been tripped.
▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.14 Overheat protection tripped hot water electric heater

Function: The electric heater is turned off. If alarm output from the electric heater has been connected to the multi module, the alarm is given when an error occurs.

Reset condition: The error in the electric heater has been overcome and no alarm signal.

Category: F.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Contact the dealer if the alarm remains after acknowledgement.

7.7.15 Failure on sensor E31.T32 anti-freeze cooling

Function: The mixing valve in the collector circuit is closed. Activated when the sensor's value indicates a temperature lower than -10 °C. The sensor is used in certain cooling applications and is placed in the collector circuit for cooling to prevent the heat exchanger from freezing.

Reset requirement: The value of the sensor indicates >-10 °C.

Category: G.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.16 Short circuit on sensor E31.T32 anti-freeze cooling

Function: The mixing valve in the collector circuit is closed. Activated when the sensor's value indicates a temperature higher than 30 °C. The sensor is used in the collector circuit for cooling in order to prevent the heat exchanger from freezing.

Reset requirement: The value of the sensor indicates >30 °C.

Category: G.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.17 Error dew point sensor E1x.TM

Function: Cooling on current mixing valve is aborted. Activated when the signal from the sensor deviates from its normal operating range. The alarm may appear after a power failure but the alarm cause normally disappears automatically and the only thing that has to be done is to acknowledge the alarm.

Reset condition: The sensor's signals return to the normal operating range.

Category: G.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.18 Faulty protective anode E41.F31

Function: Does not affect the compressor or additional heat. The alarm is activated when the anode in the hot water heater is broken or does not work.

Reset condition: The anode should be taken care of so as to prevent corrosion in the hot water heater.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Acknowledgement is required.

▶ Contact the dealer.

7.7.19 Failure on sensor E11.T1 flow

Function: The system switches over to control based on sensor T8. The alarm is activated when the sensor's value indicates a temperature lower than 0 °C.

Reset condition: The value of the sensor indicates >0 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.20 Short circuit on sensor E11.T1 flow

Function: The system switches over to control based on sensor T8. The alarm is activated when the sensor's value indicates a temperature higher than 110 °C.

Reset condition: The value of the sensor indicates < 110 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.21 Failure on sensor E12.T1, E13.T1... flow

Function: The mixing valve for the circuit is closed completely. The alarm is activated when the sensor's value indicates a temperature lower than 0 °C.

Reset condition: The value of the sensor indicates >0 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.22 Short circuit on sensor E12.T1, E13.T1... flow

Function: The mixing valve for the circuit is closed completely. The alarm is activated when the sensor's value indicates a temperature higher than 110 °C.

Reset condition: The value of the sensor indicates < 110 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.23 Failure on sensor T2 outdoor

Function: In the event of a failure on T2, the outdoor temperature is set to 0 °C so that the heat pump can continue to produce heat. The alarm is activated when the sensor's value indicates a temperature lower than -50 °C.

Reset condition: The value of the sensor indicates > -50 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.24 Short circuit on sensor T2 outdoor

Function: In the event of a short circuit on T2, the outdoor temperature is set to 0 °C so that the heat pump can continue to produce heat. The alarm is activated when the sensor's value indicates a temperature higher than +70 °C.

Reset condition: The value of the sensor indicates < 70 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.25 Failure on sensor T3 hot water

Function: The hot water production is terminated. The alarm is activated when the sensor's value indicates a temperature lower than 0 °C.

Reset condition: The value of the sensor indicates >0 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.26 Short circuit on sensor T3 hot water

Function: The hot water production is terminated. The alarm is activated when the sensor's value indicates a temperature higher than +110 °C.

Reset condition: The value of the sensor indicates < 110 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.27 Failure on sensor E1x.TT.T5 room

Function: The room temperature influence is set to 0, which means that the room sensor cannot affect the heating system any longer. The alarm is activated when the sensor's value indicates a temperature lower than -1 °C.

Reset condition: The value of the sensor indicates > -1 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.28 Short circuit on sensor E1x.TT.T5 room

Function: The room temperature influence is set to 0, which means that the room sensor cannot affect the heating system any longer. The alarm is activated when the sensor's value indicates a temperature higher than +70 °C.

Reset condition: The value of the sensor indicates < 70 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.29 Failure on sensor E31.TT.T5 room

Function: The alarm is activated when the sensor's value indicates a temperature lower than -1 °C. In the event of a failure on sensor T5, the room temperature influence is set to 0.

Reset condition: The value of the sensor indicates > -1 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

7.7.30 Short circuit on sensor E31.TT.T5 room

Function: The alarm is activated when the sensor's value indicates a temperature higher than +70 °C. In the event of a short circuit on sensor T5, the room temperature influence is set to 0.

Reset condition: The value of the sensor indicates < 70 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

7.7.31 Failure on sensor E2x.T8 heat transfer fluid out

Function: Activated when the sensor's value indicates a temperature lower than 0 °C.

Reset condition: The value of the sensor indicates >0 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.32 Short circuit on sensor E2x.T8 heat transfer fluid out

Function: Activated when the sensor's value indicates a temperature higher than 110 °C.

Reset condition: The value of the sensor indicates < 110 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.33 Failure on sensor E2x.T9 heat transfer fluid in

Function: Activated when the sensor's value indicates a temperature lower than 0 °C.

Reset condition: The value of the sensor indicates >0 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.34 Short circuit on sensor E2x.T9 heat transfer fluid in

Function: Activated when the sensor's value indicates a temperature higher than 110 °C.

Reset condition: The value of the sensor indicates < 110 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.35 Failure on sensor E2x.T10

Function: Activated when the sensor's resistance value indicates a temperature lower than -20 °C.

Reset condition: The value of the sensor indicates > -20 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.36 Short circuit on sensor E2x.T10

Function: Activated when the sensor indicates a temperature in excess of 70 °C.

Reset requirement: The sensor value displayed < 70 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.37 Failure on sensor E2x.T11

Function: Activated when the sensor's value indicates a temperature lower than -50 °C.

Reset condition: The value of the sensor indicates > -50 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.7.38 Short circuit on sensor E2x.T11

Function: Activated when the sensor indicates a temperature in excess of 70 °C.

Reset requirement: The sensor value displayed < 70 °C.

Category: H.

Alarm lamp/buzzer: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the alarm remains active for more than three hours or recurs often.

7.8 Warnings

7.8.1 Electric additional heat shut down due to high temperature E2x.T8

Function: The electric heater is turned off. The warning is activated in additional heat mode if the outgoing temperature of the heat transfer fluid exceeds the maximum value.

Reset condition: The warning is deactivated when the temperature falls.

Category: K.

Alarm lamp: Yes.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer if the warning recurs often.

7.8.2 High temperature difference heat transfer fluid E2x

Function: The warning is activated when the temperature difference between heat transfer fluid out and heat transfer fluid in becomes too high.

Reset condition: The warning is deactivated on acknowledgement of the warning display.

Category: L.

Alarm lamp/buzzer: No.

Restart: The warning does not close anything but is registered in the alarm log.

▶ Check and clean the particle filter, if required.

▶ Contact the dealer if the warning remains after acknowledgement.

7.8.3 High temperature difference collector circuit E2x

Function: The warning is activated when the temperature difference between collector circuit out and collector circuit in becomes too big.

Reset condition: The warning is deactivated on acknowledgement of the warning display.

Category: L.

Alarm lamp/buzzer: No.

Restart: The warning does not close anything but is registered in the alarm log.

▶ Check and clean the particle filter, if required.

▶ Contact the dealer if the warning remains after acknowledgement.

7.8.4 The heat pump is now working in anti-freeze mode

Function: Activated when the temperature in one of the circuits becomes too low.

Reset condition: The temperature in the circuit is increased.

Category: L.

Alarm lamp/buzzer: No.

Restart: Automatic once the alarm cause has disappeared.

▶ Contact the dealer.

7.8.5 Check connection to I/O board x

Function: Depends on the board.

Reset condition: Communication with the board is re-established.

Category: M.

Alarm lamp/buzzer: No.

Restart: Acknowledgement is required.

▶ Contact the dealer.

7.8.6 Check CANbus cable connection

Function: Communication with the controller has been interrupted. The controller executes a new start if the alarm is still active after two hours. If more than three new starts have been carried out within one hour, the alarm **Too high boot count I/O board BAS x** (category A), → Chapter 7.7.7.

Category: M.

Alarm lamp/buzzer: No.

Restart: Acknowledgement is required.

▶ Contact the dealer if the warning recurs often.

7.9 Information log

The information log displays information from the heat pump.

7.9.1 High flow temperature E2x.T8

Function: The information is given if the temperature of the heating medium is too high. The information can appear temporarily when high room and hot water temperatures are set.

Reset condition: The information is deactivated when the temperature falls to the permitted level.

Category: I.

7.9.2 Temporary heat pump stop E21.RLP

Function: Activated when the pressure in the refrigerant circuit of the heat pump becomes too low. If the information appears several times during a certain time period, the information transforms into a category A alarm (→ Chapter 7.7.2).

Reset condition: The pressure goes back to the permitted level.

Category: I.

7.9.3 Temporary heat pump stop E21.RHP

Function: Activated when the pressure in the refrigerant circuit becomes too high. If the information appears several times during a certain time period, the information transforms into a category A alarm (→ Chapter 7.7.3).

Reset condition: The pressure goes back to the permitted level.

Category: I.

7.9.4 Low temperature collector circuit in E2x.T10

Function: The information is given if the temperature of the refrigerant to the heat pump is too low. If the information appears several times during a certain time period, the information transforms into a category A alarm (→ Chapter 7.7.5).

Reset condition: The temperature of the collector circuit exceeds the lowest permitted temperature.

Category: J that can be transformed into A.

7.9.5 Low temperature collector circuit out E2x.T11

Function: The information is given if the temperature of the refrigerant from the heat pump is too low. If the information appears several times during a certain time period, the information transforms into a category A alarm (→ Chapter 7.7.6).

Reset condition: The temperature of the collector circuit exceeds the lowest permitted temperature.

Category: J that can be transformed into A.

7.9.6 Hot water peak failure, new try within 24 hours

Function: The hot water has not come up at the right temperature. The hot water peak is repeated at the same time on the next day.

Reset condition: The correct hot water peak temperature is reached.

Category: Z.

7.9.7 Temporary heat pump stop due to working area limits

Function: The compressor stops until the hot gas temperature falls below the set limit. The warning can occur when the heat pump works close to the lowest permitted outdoor temperature.

Reset condition: The hot gas temperature is within the range of the compressor.

Category: Z.

7.9.8 Temporary hot water stop due to working area limits

Function: Ongoing hot water operation is aborted and replaced with heating operation. The warning can occur when the heat pump works close to the lowest permitted outdoor temperature.

Reset condition: The hot gas temperature is within the range of the compressor.

Category: Z.

7.9.9 Additional heat is now working at its highest temperature

Function: The additional heat begins to be stepped down. The information is activated in additional heat mode if the outgoing temperature (T1 or T8) approaches the set maximum value. The information is blocked during hot water peaks or extra hot water.

Reset condition: The information is deactivated when the temperature falls.

Category: Z.

7.9.10 Temporary hot water stop E2x

Function: Ongoing DHW mode is temporarily interrupted; the system changes over to heating mode.

Reset condition: DHW temperature drops a few degrees.

Category: Z.

Notes

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