Operation manual

Daikin Altherma - Low Temperature Split

EHBH04CA
EHBH08CA
EHBH16CA
EHBX04CA
EHBX08CA
EHBX16CA

EHVH04S18CA
EHVH08S18CA
EHVH08S26CA
EHVH16S18CA
EHVH16S26CA
EHVX04S18CA
EHVX08S18CA
EHVX08S26CA
EHVX16S18CA
EHVX16S26CA

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1 About this document

Thank you for purchasing this product. Please:

- Read the documentation carefully before operating the user interface to ensure the best possible performance.
- Request the installer to inform you about the settings that he used to configure your system. Check if he has filled in the installer settings tables. If not, request him to do so.
- Keep the documentation for future reference.

Target audience

End users

Documentation set

This document is part of a documentation set. The complete set consists of:

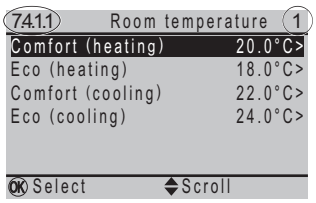
Document	Contains…	Format
General safety precautions	Safety instructions that you must read before operating your system	Paper (in the box of the indoor unit)
Operation manual	Quick guide for basic usage	
User reference guide	Detailed step-by-step instructions and background information for basic and advanced usage	CD/DVD (in the box of the indoor unit)

Latest revisions of the supplied documentation may be available on the regional Daikin website or via your installer.

Available screens

Depending on your system layout and installer configuration, not all screens in this document may be available on your user interface.

Breadcrumbs



Breadcrumbs help you to locate where you are in the menu structure of the user interface. This document also mentions these breadcrumbs.

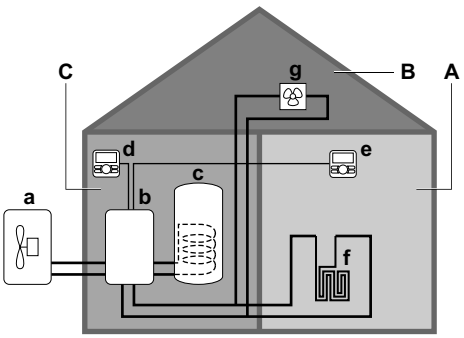
Example: Go to [7.4.1.1] = Go to > User settings > Preset values > Room temperature > Comfort (heating)

2 About the system

Depending on the system layout, the system can:

- Heat up a space
- Cool down a space (if a heating/cooling heat pump model is installed)
- Produce domestic hot water (if a DHW tank is installed)

2.1 Components in a typical system layout



A Main zone. Example: Living room.
B Additional zone. Example: Bedroom.
C Technical room. Example: Garage.
a Outdoor unit heat pump
b Indoor unit heat pump
c Domestic hot water (DHW) tank
d User interface at the indoor unit
e User interface in the living room, used as room thermostat
f Under floor heating
g Heat pump convectors or fan coil units

INFORMATION

Indoor and domestic hot water tank can be separated or integrated depending on the indoor unit type.

3 Operation

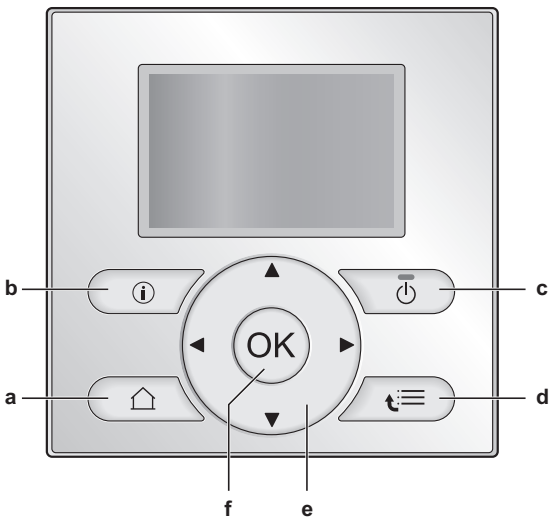
3.1 Overview: Operation

You can operate the system via the user interface. This part describes how to use the user interface:

Part	Description
At a glance	▪ Buttons ▪ Status icons
Space heating/cooling control	How to control space heating/cooling: ▪ Setting the space operation mode ▪ Controlling the temperature
Domestic hot water control	How to control domestic hot water: ▪ Reheat mode ▪ Scheduled mode ▪ Scheduled + reheat mode
Schedules	How to select and program schedules.
Menu structure	Overview of menu structure
Installer settings table	Overview of installer settings

3.2 The user interface at a glance

3.2.1 Buttons



a HOME PAGES
- Switches between home pages (when you are on a home page).
- Goes to the default home page (when you are in the menu structure).

b MALFUNCTION INFORMATION
If a malfunction occurs, ⓘ is displayed on the home pages. You can press to display more information about the malfunction.

c ON/OFF
Turns ON or OFF one of the controls (room temperature, leaving water temperature, DHW tank temperature).

d MENU STRUCTURE/BACK
- Opens the menu structure (when you are on a home page).
- Goes a level up in the menu structure (when you are navigating in the menu structure).
- Goes back 1 step (example: when you are programming a schedule in the menu structure).

e NAVIGATING/CHANGING SETTINGS
- Navigates the cursor on the display.
- Navigates in the menu structure.
- Changes settings.
- Selects a mode.

f OK
- Goes to the next step when you are programming a schedule in the menu structure.
- Confirms a selection.
- Enters a submenu in the menu structure.
- Switches between displaying actual and desired values, or between displaying actual and offset values (if applicable) on the home pages.
- Enables you to activate or deactivate child lock if pressed for more than 5 seconds on a home page.
- Enables you to activate or deactivate a function lock if pressed for more than 5 seconds in the main menu of the menu structure.

INFORMATION

If you press or while changing settings, the changes will NOT be applied.

3.2.2 Status icons

Icon	Description
	Space operation mode = Heating.
	Space operation mode = Cooling.
	Unit is operating.
	Desired room temperature = preset value (Comfort; daytime).
	Desired room temperature = preset value (Eco; nighttime).
	▪ On the room temperature home page: Desired room temperature = according to the selected schedule. ▪ On the DHW tank temperature home page: DHW tank mode = Scheduled mode.
	DHW tank mode = Reheat mode.
	DHW tank mode = Scheduled + reheat mode.
	At the next scheduled action, the desired temperature will increase.
	At the next scheduled action, the desired temperature will NOT change.
	At the next scheduled action, the desired temperature will decrease.
	The preset value (Comfort or Eco) or scheduled value is temporarily overruled.
	The system will produce domestic hot water for the indicated number of persons.
	The DHW tank booster mode is active or ready to be activated.
	Quiet mode is active.
	Holiday mode is active or ready to be actived.
	Child lock mode and/or function lock mode is active.
	An external heat source is active. Example: Gas burner.
	The disinfection mode is active.
	A malfunction occured. You can press to display more information about the malfunction.
	Weather-dependent mode is active.

Icon	Description
	User permission level = Installer.
	Defrost/oil return mode is active.
	Hot start mode is active.
	Emergency operation is active.

3.3 Space heating/cooling control

3.3.1 Setting the space operation mode

To set the space operation mode

1 Go to [4]: ☰ > Operation mode.

2 Select one of the following and press OK:

If you select…	Then the space operation mode is…
Heating	Always heating mode.
Cooling	Always cooling mode.
Automatic	Automatically changed by the software based on the outdoor temperature (and depending on installer settings also the indoor temperature), and takes monthly restrictions into account. Note: Automatic changeover is only possible under certain conditions.

To restrict when automatic changeover is possible

1 Go to [7.5]: ☰ > User settings > Allowed operation mode.

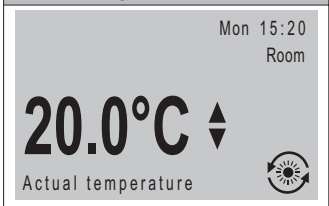
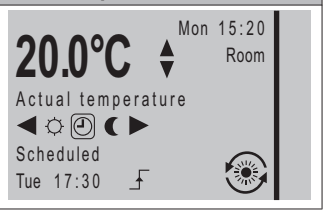
2 Select a month and press OK.

3 Select Heating only, Cooling only or Heating/Cooling, and press OK.

3.3.2 Using the room temperature home page

Typical room temperature home pages

Depending on the user profile, you can do more or less on the home page.

User profile = Basic	User profile = Detailed
	

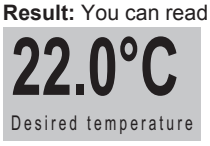
To read out the actual and desired room temperature

1 Go to the room temperature home page (Room).

Result: You can read out the actual temperature.

2 Press OK.

Result: You can read out the desired temperature.



To temporarily overrule the room temperature schedule

1 Go to the room temperature home page (Room).

2 Use ▲ or ▼ to adjust the temperature.

To change the mode from scheduled to preset value

Prerequisite: User profile = Detailed.

1 Go to the room temperature home page (Room).

2 Press ◀ or ▶ to select a preset value (☼ or ☾).

To set the overrule period

1 Go to [7.2]: ☰ > User settings > Temperature lock.

2 Select a value and press OK:

- Permanent
- hours (2, 4, 6, 8)

Result: This overrule period (Temperature lock) remains valid until you change it again.

3.3.3 Using the leaving water temperature home pages (main + additional)

INFORMATION

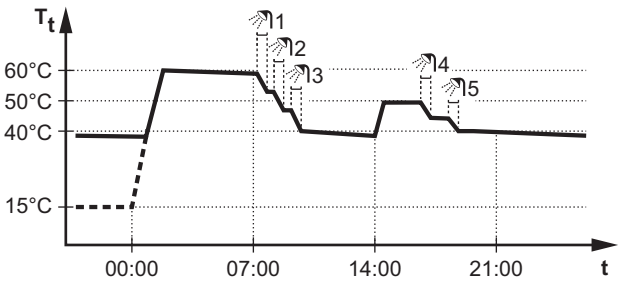
The leaving water is the water that is sent to the heat emitters. The desired leaving water temperature is set by your installer in accordance with the heat emitter type. Example: Under floor heating is designed for lower leaving water temperature than radiators and heat pump convectors and/or fan coil units. You only have to adjust leaving water temperature settings in case of problems.

For more information about the leaving water temperature, see the user reference guide.

3.4 Domestic hot water control

3.4.1 Reheat mode

In reheat mode ( ), the DHW tank continuously heats up to the desired temperature (example: **50°C**).



- T_t: DHW tank temperature
- t: Time

INFORMATION

It is recommended NOT to use the selection of ([6-0D]=0, [A.4.1] Domestic hot water Setpoint mode=Reheat only) in case of a domestic hot water tank without internal booster heater.

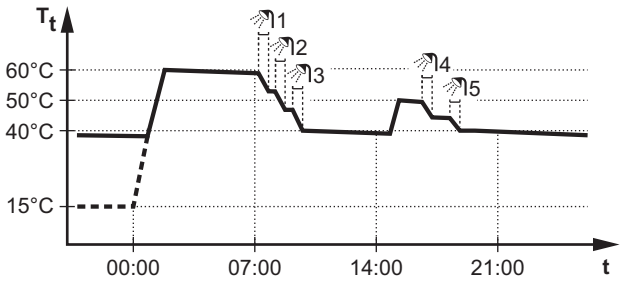
The risk of space heating (cooling) capacity shortage/ comfort problems is significant (in case of frequent domestic hot water operation, frequent and long space heating/cooling interruption will happen).

3.4.2 Scheduled mode

In scheduled mode ( ), the DHW tank produces hot water corresponding to a schedule. The best time to produce hot water is during the night, because (possibly):

- Space heating demand is lower
- Electric tariffs are lower

Example:

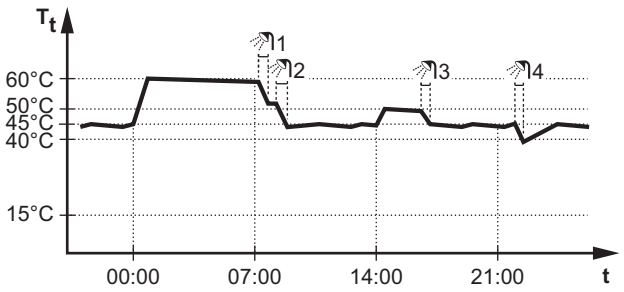


- T_t: DHW tank temperature
- t: Time

3.4.3 Scheduled + reheat mode

In scheduled + reheat mode ( ), the domestic hot water control is the same as in scheduled mode. However, when the DHW tank temperature drops below a preset value (= Reheat; example: **45°C**), the DHW tank heats up until it reaches the preset value. This ensures that a minimum amount of hot water is available at all times.

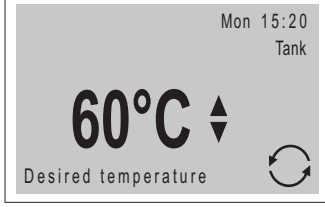
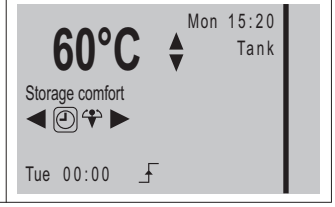
Example:

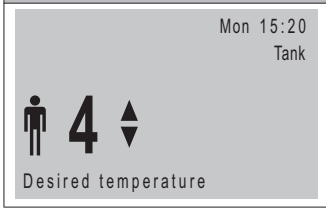
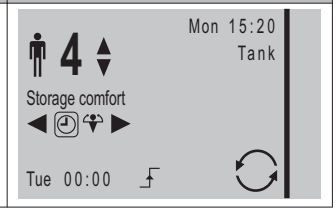


3.4.4 Using the DHW tank temperature home page

Typical DHW tank temperature home pages

Depending on the user profile, you can see and do more or less on the home page. The examples in the illustrations below are in DHW tank mode = Scheduled.

User profile = Basic	User profile = Detailed
	

User profile = Basic	User profile = Detailed
	

To read out and adjust the desired reheat temperature (in reheat mode)

1 Go to the DHW tank temperature home page (Tank).

Result: You can read out the desired reheat temperature.

2 Press ▲ or ▼ to adjust.
Note: If the desired temperature is weather dependent, you cannot change it on the home page.

To read out and overrule the active or next scheduled desired temperature (in scheduled mode or scheduled + reheat mode)

1 Go to the DHW tank temperature home page (Tank).

Result: or is displayed.

2 Press ▲ or ▼ to overrule.
Note: If the desired temperature is weather dependent, you cannot change it on the home page.

3.4.5 Using the DHW tank booster mode

To activate the DHW tank booster mode (method 1)

1 Go to the DHW tank temperature home page (Tank).

2 Press ► for more than 2 seconds.

To activate the DHW tank booster mode (method 2)

Prerequisite: User profile = Detailed

1 Go to the DHW tank temperature home page (Tank).

2 Press ► to select .

3.5 Schedules: Example

INFORMATION

The procedures to program other controls are similar.

In this example:

- Room temperature schedule in heating mode
- Monday = Tuesday = Wednesday = Thursday = Friday
- Saturday = Sunday

3.5.1 To program the schedule

1 Go to [7.3.1.1]: > User settings > Set schedules > Room temp. > Set heating schedule.

2 Select Empty and press OK.

3 Program the schedule for Monday.

4 Copy from Monday to Tuesday, Wednesday, Thursday and Friday.

5 Program the schedule for Saturday.

6 Copy from Saturday to Sunday.

7 Save the schedule and give it a name.

3.5.2 To program the schedule for Monday

1 Use ▲ and ▼ to select Monday.

2 Press ▶ to enter the schedule for Monday.

3 Program the schedule for Monday:

- Use ◀ and ▶ to select an entry.
- Use ▲ and ▼ to change the value of an entry.

3.5.3 To copy from one day to another

1 Select the day from which you want to copy and press OK.
Example: Monday.

2 Select Copy day and press OK.

3 Set the days you want to copy to Yes and press OK.
Example: Tuesday = Yes, Wednesday = Yes, Thursday = Yes and Friday = Yes.

3.5.4 To save the schedule

1 Press OK, select Save schedule and press OK.

2 Select User defined 1, User defined 2 or User defined 3 and press OK.

3 Change the name and press OK.
Example: MyWeekSchedule

3.5.5 To select which schedule you currently want to use

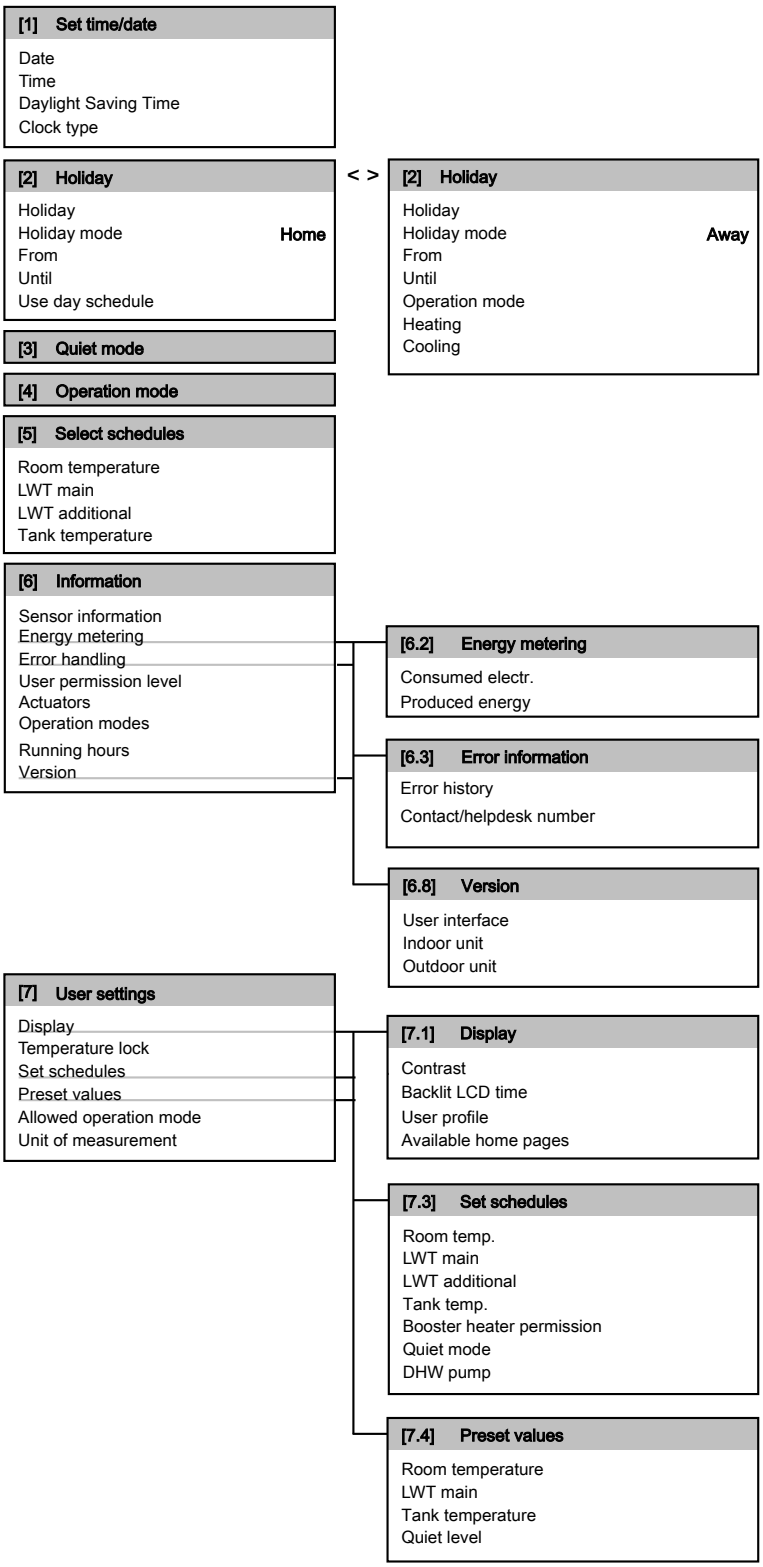
1 Go to [5]: ☰ > Select schedules.

2 Select for which control you want to use a schedule.
Example: [5.1] Room temperature.

3 Select for which operation mode you want to use a schedule.
Example: [5.1.1] Heating.

4 Select a predefined or user-defined schedule and press OK.

3.6 Menu structure: Overview



3.7 Installer settings: Tables to be filled in by installer

3.7.1 Quick wizard

Setting	Default	Fill in…
Backup heater configuration (only for unified backup heater) [A.2.1.5]		
BUH type	1 (1P,(1/2))	
Preferential kWh rate power supply [A.2.1.6]		
Preferential kWh rate	0 (LWT control)	
Space heating/cooling settings [A.2.1]		
Unit control method	0 (In room)	
User interface location	1 (1 LWT zone)	
Number of LWT zones	1 (1 LWT zone)	
Pump operation mode	1 (Sample)	
Domestic hot water settings [A.2.2]		
DHW operation	Depends on model	
DHW tank heater	Depends on model	
DHW pump	0 (No)	
Thermostats [A.2.2]		
Contact type main	2 (Thermo ON/OFF)	
Contact type add.	2 (Thermo ON/OFF)	
External sensor	0 (No)	
Digital I/O PCB [A.2.2.6]		
Ext. backup heat src	0 (No)	
Solar kit	0 (No)	
Alarm output	0 (Normally open)	
Bottom plate heater	0 (No)	
Demand PCB [A.2.2.7]		
Demand PCB	0 (No)	
Energy metering [A.2.2]		
External kWh meter 1	0 (No)	
External kWh meter 2	0 (No)	
Capacities (energy metering) [A.2.3]		
Booster heater	0 kW	
BUH: step 1	Depends on model	
BUH: step 2	Depends on model	
Bottom plate heater	0 W	

3.7.2 Space heating/cooling control

Setting	Default	Fill in…
Leaving water temperature: Main zone [A.3.1.1]		
LWT setpoint mode	0 (Absolute)	
Set weather-dependent heating	25/40/15/−10	
Set weather-dependent cooling	18/22/35/20	
Leaving water temperature: Additional zone [A.3.1.2]		
LWT setpoint mode	0 (Absolute)	
Set weather-dependent heating	25/40/15/−10	
Set weather-dependent cooling	18/22/35/20	
Leaving water temperature: Delta T emitter [A.3.1.3]		
Heating	5°C	
Cooling	5°C	
Leaving water temperature: Modulation [A.3.1.1.5]		
Modulated LWT	0 (No)	
Leaving water temperature: Emitter type [A.3.1.1.7]		
Emitter type	1 (Slow)	

3.7.3 Domestic hot water control [A.4]

Setting	Default	Fill in…
Setpoint mode	2 (Scheduled only)	
Setpoint readout type	0 (Temperature)	
Maximum setpoint	Depends on model	

INFORMATION

It is recommended NOT to use the selection of ([6-0D]=0, [A.4.1] Domestic hot water Setpoint mode=Reheat only) in case of a domestic hot water tank without internal booster heater.

The risk of space heating (cooling) capacity shortage/ comfort problems is significant (in case of frequent domestic hot water operation, frequent and long space heating/cooling interruption will happen).

3.7.4 Contact/helpdesk number [6.3.2]

Setting	Default	Fill in…
Contact/helpdesk number	—	

4 Energy saving tips

Tips about room temperature

- Make sure the desired room temperature is never too high (in heating mode) or too low (in cooling mode), but always according to your actual needs. Each saved degree can save up to 6% of heating/cooling costs.
- Do NOT increase the desired room temperature to speed up space heating. The space will NOT heat up faster.
- When your system layout contains slow heat emitters (example: under floor heating), avoid large fluctuation of the desired room temperature and do NOT let the room temperature drop too low. It will take more time and energy to heat up the room again.
- Use a weekly schedule for your normal space heating or cooling needs. If necessary, you can easily deviate from the schedule:
  - For shorter periods: You can overrule the scheduled room temperature. Example: When you have a party, or when you are leaving for a couple of hours.
  - For longer periods: You can use the holiday mode. Example: When you stay at home during your holiday, or when you go away during your holiday.

Tips about DHW tank temperature

- Make sure the number (available hot water for x persons) on the DHW tank temperature home page is NOT higher than your actual needs.

- Use a weekly schedule for your normal domestic hot water needs (only in scheduled mode).
  - Program to heat up the DHW tank to a preset value (Storage comfort = higher DHW tank temperature) during the night, because then space heating demand is lower and electric tariffs may be lower.
  - If heating up the DHW tank once at night is not sufficient, program to additionally heat up the DHW tank to a preset value (Storage eco = lower DHW tank temperature) during the day.
- Make sure the desired DHW tank temperature is NOT too high. Example: After installation, lower the DHW tank temperature daily by 1°C and check if you still have enough hot water.
- Program to turn ON the domestic hot water pump only during periods of the day when instant hot water is necessary. Example: In the morning and evening.

5 Maintenance and service

5.1 Overview: Maintenance and service

The installer has to perform a yearly maintenance. You can find the contact/helpdesk number via the user interface.

As end user, you have to:

- Keep the user interface clean with a soft damp cloth. Do NOT use any detergents.
- Regularly check if the water pressure indicated on the manometer is above 1 bar.

Refrigerant

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do NOT vent gases into the atmosphere.

Refrigerant type: R410A

Global warming potential value: 1975

Periodical inspections for refrigerant leaks may be required depending on the applicable legislation. Please contact your installer for more information.

5.2 To find the contact/helpdesk number

Go to [6.3.2]: > Information > Error handling > Contact/helpdesk number.

6 Troubleshooting

6.1 Symptom: You are feeling too cold (hot) in your living room

Possible cause	Corrective action
The desired room temperature is too low (high).	Increase (decrease) the desired room temperature. If the problem recurs daily, do one of the following: ▪ Increase (decrease) the room temperature preset value. ▪ Adjust the room temperature schedule.
The desired room temperature cannot be reached.	Increase the desired leaving water temperature in accordance with the heat emitter type.

6.2 Symptom: The water at the tap is too cold

Possible cause	Corrective action
You ran out of domestic hot water because of unusual high consumption.	If you immediately need domestic hot water, activate the DHW tank booster mode. However, this consumes extra energy. If you can wait, overrule (increase) the active or next scheduled desired temperature so that more hot water will be produced exceptionally. If the problems recurs daily, do one of the following: ▪ Increase the DHW tank temperature preset value. ▪ Adjust the DHW tank temperature schedule. Example: Program to additionally heat up the DHW tank to a preset value (Storage eco = lower tank temperature) during the day.
The desired DHW tank temperature is too low.	

7 Glossary

DHW = Domestic hot water
Hot water used, in any type of building, for domestic purposes.

LWT = Leaving water temperature
Water temperature at the water outlet of the heat pump.

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