Operation manual

Daikin Altherma hybrid heat pump

EHYHBH05AA
EHYHBH08AA
EHYHBX08AA

Operation manual
Daikin Altherma hybrid heat pump

English

Table of contents

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:

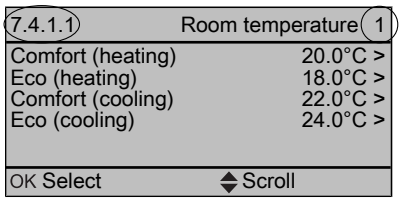
Document	Contains…	Format
General safety precautions	Safety instructions that you must read before operating your system	Paper (in the box of the indoor unit)
Operation manual	Quick guide for basic usage	
User reference guide	Detailed step-by-step instructions and background information for basic and advanced usage	Digital files on http://www.daikineurope.com/support-and-manuals/product-information/.

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.

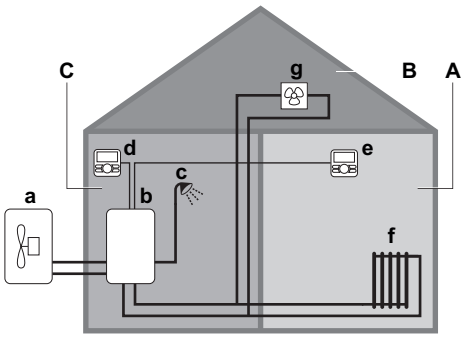
Example: Go to [7.4.1.1]: > User settings > Preset values > Room temperature > Comfort (heating)

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

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 Instant domestic hot water or domestic hot water (DHW) tank
d User interface at the indoor unit
e User interface in the living room, used as room thermostat
f Radiators
g Heat pump convectors or fan coil units

3 Operation

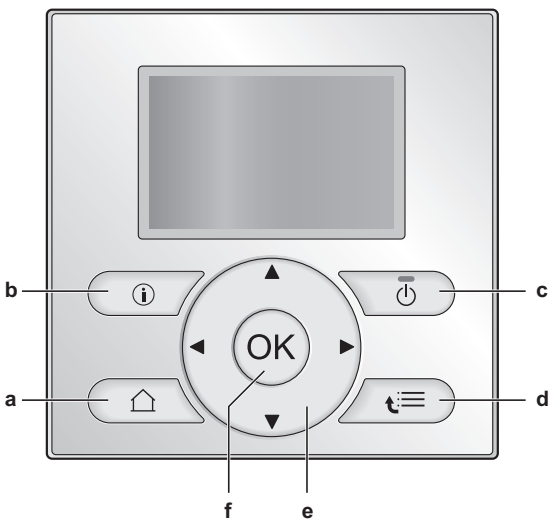
3.1 Overview: Operation

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. 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 up a level (when you are navigating through 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 through the menu structure.
- Changes settings.
- Selects a mode.

f OK
- 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.
- Goes to the next step (when you are programming a schedule in the menu structure).
- 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.
	Heat pump (compressor) operation or boiler operation. This symbol is related to the home page.
	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.

Icon	Description
	Holiday mode is active or ready to be activated.
	Child lock mode and/or function lock mode is active.
	Boiler operation.
	Heat pump (compressor) operation.
	Boiler and heat pump (compressor) operation.
	The disinfection mode is active.
	A malfunction occured. Press ⓘ to display more information about the malfunction.
	Weather-dependent mode is active.
	User permission level = Installer.
	Defrost/oil return mode is active.
	Hot start mode is active.
	Emergency operation is active.

INFORMATION

Boiler operation does NOT necessarily imply burner operation. When a heating demand is sent to the boiler, boiler operation (🔥) is continuous, but the burner will ONLY operate alternately.

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 options 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 taking monthly restrictions into account. **Note:** Automatic changeover is only possible under certain conditions.

To restrict automatic changeover operation mode

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

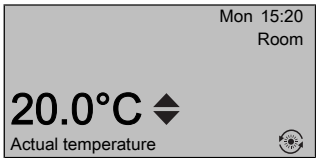
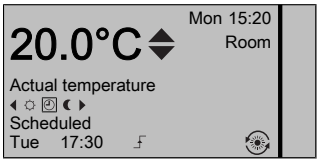
2 Select a month and press OK.

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

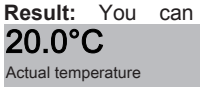
Depending on the user profile, the user interface gives you either a basic or a detailed home page. To switch between home pages, go to [7.1.3]: ☰ > User settings > Display > User profile.

User profile = Basic	User profile = Detailed
	

To read out the actual and desired room temperature

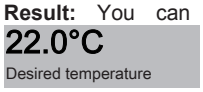
1 Go to the room temperature home page (Room).

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 ◐).

Result: The mode will return to Scheduled according to the overrule period.

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)

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:** Underfloor 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.

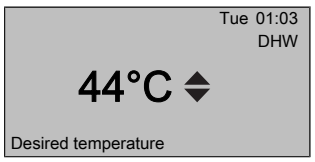
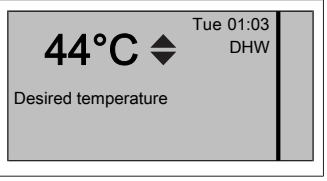
3.4 Domestic hot water control

3.4.1 Instant DHW (no tank installed)

When there is a demand for hot water tapping, the boiler provides DHW instantly. The DHW temperature is visible on the boiler's main display.

Using the instant DHW home page

Depending on the user profile, the user interface gives you either a basic or a detailed home page.

User profile = Basic	User profile = Detailed
	

To adjust the instant DHW temperature

1 Go to the instant DHW home page.

2 Press ▲ or ▼ to adjust the instant DHW temperature (DHW).

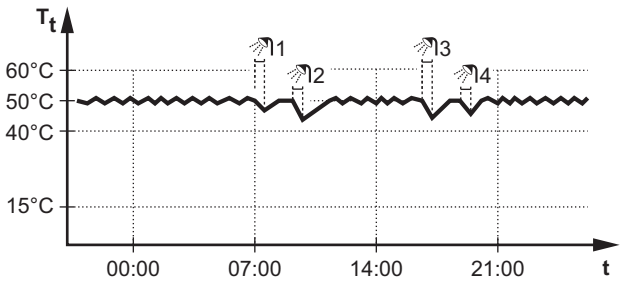
The instant DHW set point temperature may NOT be below 40°C.

3.4.2 Tank

The following modes are only applicable if a tank is installed and are set by the installer.

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

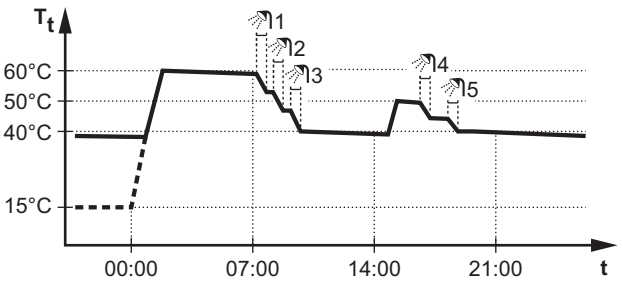
When the DHW tank booster mode is active, the risk of space heating/cooling and capacity shortage comfort problems is significant. In case of frequent domestic hot water operation, frequent and long space heating/cooling interruptions will happen.

Scheduled mode

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

- The space heating demand is lower
- Electricity tariffs are lower

Example:

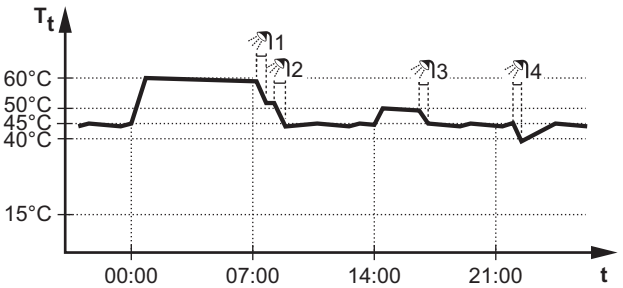


- T_t: DHW tank temperature
- t: Time

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 this preset value. This ensures that a minimum amount of hot water is available at all times.

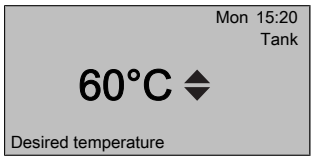
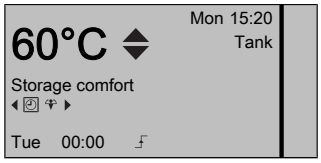
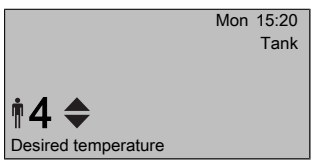
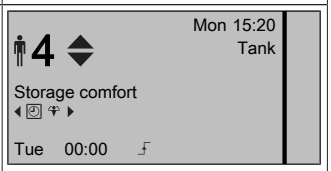
Example:



Using the DHW tank temperature home page

Typical DHW tank temperature home pages

Depending on the user profile, the user interface gives you either a basic or a detailed home page. Depending on an installer setting, either an actual temperature or a number of people is displayed to indicate the domestic hot water tank temperature. The examples in the illustrations below are in DHW tank mode = Scheduled.

User profile = Basic	User profile = Detailed
	
	

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

1 Go to [7.4.3.3]: ☰ > User settings > Preset values > Tank temperature > Reheat.

Result: You can read out the desired reheat temperature.

2 Press ▲ or ▼ to adjust.

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: 60°C ◆ or 4 ◆ is displayed.

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

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 5 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

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. See below for more details.

4 Copy from Monday to Tuesday, Wednesday, Thursday and Friday. See below for more details.

5 Program the schedule for Saturday.

6 Copy from Saturday to Sunday.

7 Save the schedule and give it a name. See below for more details.

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.

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.

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. (Only applicable for room temperature schedules). **Example:** MyWeekSchedule

To select which schedule you currently want to use

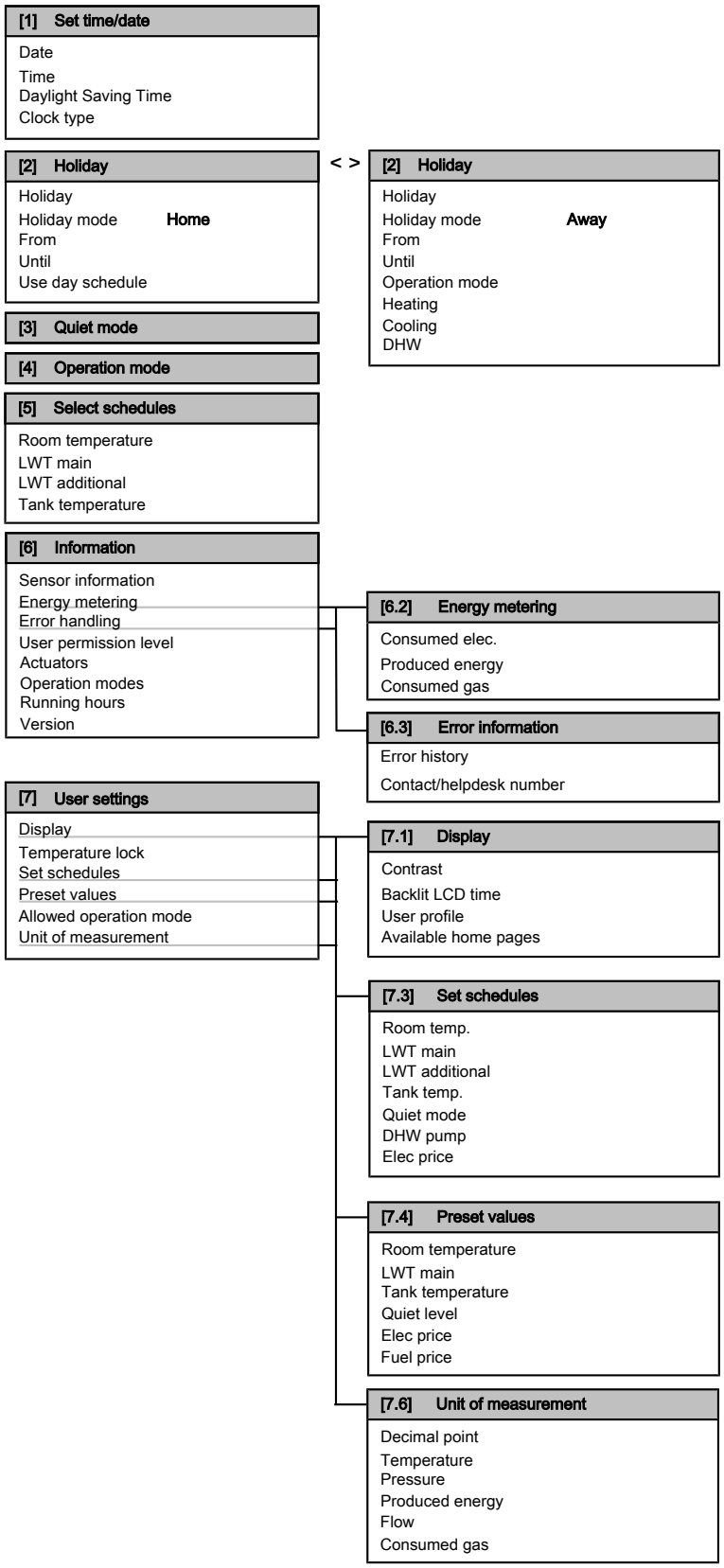
1 Go to [5]: ☰ > Select schedules.

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…
Preferential kWh rate power supply [A.2.1.6]		
Preferential kWh rate	0 (No)	
Space heating/cooling settings [A.2.1]		
Unit control method	2 (RT control)	
User interface location	1 (In room)	
Number of LWT zones	0 (1 LWT zone)	
Pump operation mode	2 (Request)	
Domestic hot water settings [A.2.2]		
DHW operation	Depends on model	
DHW pump	0 (No)	
Thermostats [A.2.2]		
Contact type main	2 (H/C request)	
Contact type add.	2 (H/C request)	
External sensor	0 (No)	
Digital I/O PCB [A.2.2.6]		
Solar kit	0 (No)	
Alarm output	0 (Normally open)	
Demand PCB [A.2.2.7]		
Demand PCB	0 (No)	
Energy metering [A.2.2]		
External kWh meter 1	0 (No)	
Gas meter	0 (No)	

3.7.2 Space heating/cooling control

Setting	Default	Fill in…
Leaving water temperature: Main zone [A.3.1.1]		
LWT setpoint mode	1 (Weather dep.)	
Set weather-dependent heating	35/60/15/−10	
Set weather-dependent cooling	18/22/35/20	
Leaving water temperature: Additional zone [A.3.1.2]		
LWT setpoint mode	0 (Fixed)	
Set weather-dependent heating	35/60/15/−10	
Set weather-dependent cooling	8/12/35/20	
Leaving water temperature: Modulation [A.3.1.1.5]		
Modulated LWT	1 (Yes)	
Leaving water temperature: Emitter type [A.3.1.1.7]		
Emitter type	0 (Quick)	
Savings mode [A.6.7]		
Savings mode	0 (Economical)	
Electricity price [7.4.5]		
Elec price	20/kWh (High)	
	20/kWh (Medium)	
	15/kWh (Low)	
Fuel price [7.4.6]		
Fuel price	8.0/kWh	

3.7.3 Domestic hot water control [A.4]

Setting	Default	Fill in…
Type	2 (Scheduled only)	
Maximum setpoint	Depends on model	

INFORMATION

When the DHW tank booster mode is active, the risk of space heating/cooling and capacity shortage comfort problems is significant. In case of frequent domestic hot water operation, frequent and long space heating/cooling interruptions will happen.

3.7.4 Contact/helpdesk number [6.3.2]

Setting	Default	Fill in…
Contact/helpdesk number	—	

4 Setting the energy prices

If your system's savings mode is set to Economical, it allows you to set:

- a fixed gas price
- 3 electricity price levels
- a weekly schedule timer for electricity prices.

The savings mode is set by the installer. Refer to the installation manual for more information.

Example: How to set the energy prices on the user interface?

Price	Value in breadcrumb
Gas: 5.3 euro cent/kWh	[7.4.6]=5.3
Electricity: 12 euro cent/kWh	[7.4.5]=12

4.1 To set the gas price

1 Go to [7.4.6]: ☰ > User settings > Preset values > Fuel price.
2 Use ▲ and ▼ to set the correct price.
3 Press OK to confirm.

INFORMATION

- Price value ranging from 0.00~290 valuta/MBtu (with 2 significant values).
- Price value ranging from 0.00~990 valuta/kWh (with 2 significant values).

4.2 To set the electricity price

1 Go to [7.4.5]: ☰ > User settings > Preset values > Elec price.
2 Use ▲ and ▼ to set the correct prices for High, Medium and Low, according to your electricity tariff.
3 Press OK to confirm.

INFORMATION

Price value ranging from 0.00~990 valuta/kWh (with 2 significant values).

4.3 To set the electricity price schedule timer

1 Go to [7.3.8]: ☰ > User settings > Set schedules > Elec price.

2 Program the schedule according to the High, Medium and Low electricity prices for each time interval.

3 Press OK to save the schedule.

INFORMATION

The values for High, Medium and Low correspond with the electricity price values for High, Medium and Low previously set. If no schedule is set, the electricity price for High is taken into account.

5 Energy visualisation

The user interface is able to graphically display energy statistics for:

- produced energy: energy produced by the heat pump.
- consumed electricity: recorded by an electricity meter or, when none is installed, calculated by the interface itself based on an internal calculation.
- consumed gas: only recorded when an external gas meter is installed. Note that the values recorded by the meter may differ from those shown on the boiler.

5.1 To view the energy statistics

1 Go to [6.2]: ☰ > Information > Energy metering.

2 Select either Consumed elec., Produced energy or Consumed gas.

3 Use the ◀ and ▶ buttons to toggle between views of the current month, the previous month, the last 12 months and a general overview.

4 Use the ▲ and ▼ buttons to toggle between different modes (if applicable).

6 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.

7 Maintenance and service

7.1 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 gas boiler is above 1 bar. Switch off the boiler to see the pressure on the main display of the gas boiler. Ignore the error that appears on the user interface. When you turn the gas boiler back on, the error will disappear.

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.

7.2 To find the contact/helpdesk number

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

8 Troubleshooting

8.1 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.

8.2 Symptom: The water at the tap is too cold

Possible cause	Corrective action
Your tank 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.	
The instant DHW temperature is too low. (Only applicable when no tank is installed).	Increase the instant DHW set point temperature.

8.3 Symptom: Heat pump failure

When the heat pump fails to operate the gas boiler can serve as an emergency back-up heater and either automatically or non-automatically take over the entire heat load. When auto emergency is activated and a heat pump failure occurs, the boiler will automatically take over the heat load. When a heat pump failure occurs and auto emergency is not activated, the domestic hot water and space heating operations will stop and need to be recovered manually. The user interface will then ask you to confirm whether the boiler can take over the entire heat load or not. When the heat pump fails, ⓘ will appear on the user interface.

Possible cause	Corrective action
Heat pump is damaged.	▪ Press ⓘ to view a description of the problem. ▪ Press ⓘ again. ▪ Select OK to allow the gas boiler to take over the entire head load. ▪ Call your local dealer to get the heat pump fixed.

INFORMATION

When the gas boiler takes over the entire heat load, gas consumption will be considerably higher.

9 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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