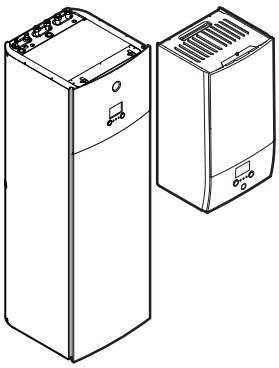
User reference guide

Daikin Altherma – Low temperature split



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User reference guide
Daikin Altherma – Low temperature split

English

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1 General safety precautions

1.1 About the documentation

- The original documentation is written in English. All other languages are translations.
- The precautions described in this document cover very important topics, follow them carefully.
- The installation of the system, and all activities described in the installation manual and the installer reference guide MUST be performed by an authorised installer.

1.1.1 Meaning of warnings and symbols

DANGER

Indicates a situation that results in death or serious injury.

DANGER: RISK OF ELECTROCUTION

Indicates a situation that could result in electrocution.

DANGER: RISK OF BURNING

Indicates a situation that could result in burning because of extreme hot or cold temperatures.

DANGER: RISK OF EXPLOSION

Indicates a situation that could result in explosion.

WARNING

Indicates a situation that could result in death or serious injury.

WARNING: FLAMMABLE MATERIAL

CAUTION

Indicates a situation that could result in minor or moderate injury.

NOTICE

Indicates a situation that could result in equipment or property damage.

INFORMATION

Indicates useful tips or additional information.

Symbol	Explanation
	Before installation, read the installation and operation manual, and the wiring instruction sheet.
	Before performing maintenance and service tasks, read the service manual.
	For more information, see the installer and user reference guide.

1.2 For the user

- If you are NOT sure how to operate the unit, contact your installer.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in

a safe way and understand the hazards involved. Children shall NOT play with the appliance. Cleaning and user maintenance shall NOT be made by children without supervision.

WARNING

To prevent electric shocks or fire:

- Do NOT rinse the unit.
- Do NOT operate the unit with wet hands.
- Do NOT place any objects containing water on the unit.

NOTICE

- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.

- Units are marked with the following symbol:

This means that electrical and electronic products may NOT be mixed with unsorted household waste. Do NOT try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, of oil and of other parts must be done by an authorized installer and must comply with applicable legislation.
Units must be treated at a specialized treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. For more information, contact your installer or local authority.

- Batteries are marked with the following symbol:

This means that the batteries may NOT be mixed with unsorted household waste. If a chemical symbol is printed beneath the symbol, this chemical symbol means that the battery contains a heavy metal above a certain concentration.
Possible chemical symbols are: Pb: lead (>0.004%).
Waste batteries must be treated at a specialized treatment facility for reuse. By ensuring waste batteries are disposed of correctly, you will help to prevent potential negative consequences for the environment and human health.

2 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:

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

The original documentation is written in English. All other languages are translations.

Breadcrumbs

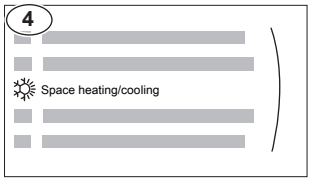
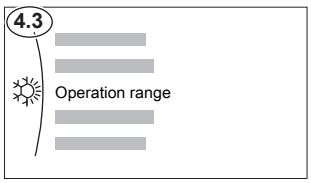
Breadcrumbs (example: **[4.3]**) help you to locate where you are in the menu structure of the user interface.

1	To **enable** the breadcrumbs: In the home screen or main menu screen, press the help button. The breadcrumbs will appear in the top left corner of the screen.	**?**
2	To **disable** the breadcrumbs: Press the help button again.	**?**

This document also mentions these breadcrumbs. **Example:**

1	Go to **[4.3]**: Space heating/cooling > Operation range.	

This means:

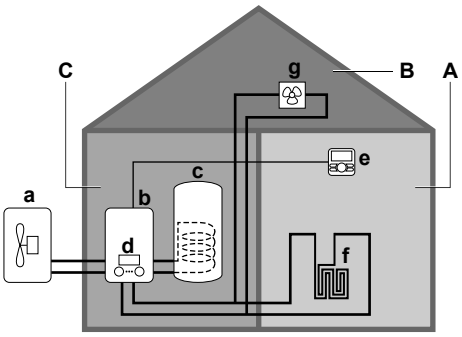
1	Starting from the home screen, turn the left dial and go to Space heating/cooling. 	
2	Press the left dial to enter the submenu.	
3	Turn the left dial and go to Operation range. 	
4	Press the left dial to enter the submenu.	

3 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)

3.1 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 used as room thermostat
f Underfloor heating
g Radiators, heat pump convectors, or fan coil units

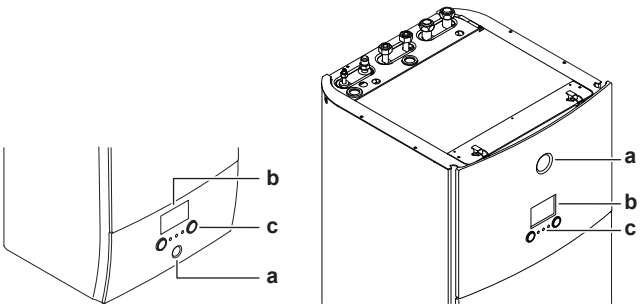
INFORMATION

The indoor unit and the domestic hot water tank (if installed) can be separated or integrated depending on the indoor unit type.

4 Operation

4.1 User interface: Overview

The user interface has the following components:



a Status indicator
b LCD screen
c Dials and buttons

Status indicator

The LEDs of the status indicator light up or blink to show the operating mode of the unit.

LED	Mode	Description
Blinking blue	Standby	The unit is not in operation.
Continuous blue	Operation	The unit is in operation.
Blinking red	Malfunction	A malfunction occurred. See "7.1 To display the help text in case of a malfunction" on page 17 for more information.

LCD screen

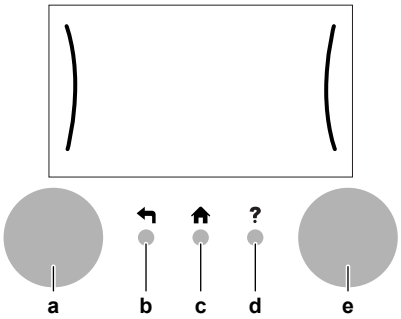
The LCD screen has a sleeping function. After a certain time of non-interaction with the user interface, the screen darkens. Pressing any button or rotating any dial awakens the display. The time of non-interaction differs depending on the user permission level:

- User or Advanced user: 15 min
- Installer: 1 h

Dials and buttons

You use the dials and buttons:

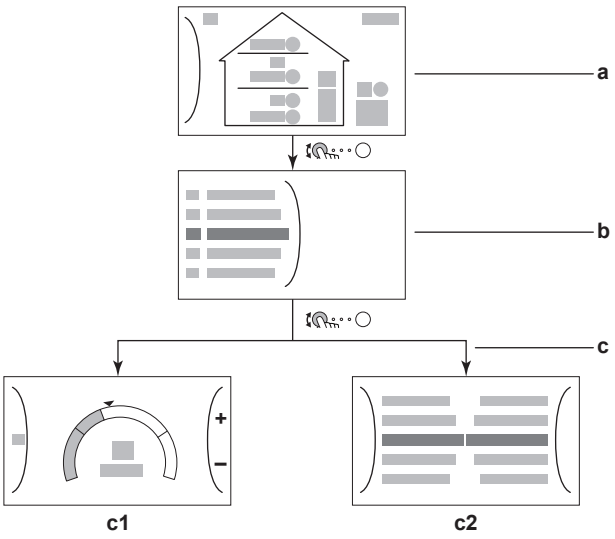
- To navigate through the screens, menus and settings of the LCD screen
- To set values



	Item	Description
a	Left dial	The LCD shows an arc on the left side of the display when you can use the left dial. ▪ : Turn, then press the left dial. Navigate through the menu structure. ▪ : Turn the left dial. Choose a menu item. ▪ : Press the left dial. Confirm your choice or go to a submenu.
b	Back button	: Press to go back 1 step in the menu structure.
c	Home button	: Press to go back to the home screen.
d	Help button	**?**: Press to show a help text related to the current page (if available).
e	Right dial	The LCD shows an arc on the right side of the display when you can use the right dial. ▪ : Turn, then press the right dial. Change a value or setting, shown at the right side of the screen. ▪ : Turn the right dial. Navigate through the possible values and settings. ▪ : Press the right dial. Confirm your choice and go to the next menu item.

4.2 Possible screens: Overview

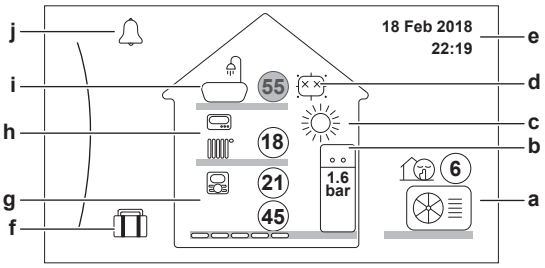
The most common screens are as follows:



a Home screen
b Main menu screen
c Lower level screens:
c1: Setpoint screen
c2: Detailed screen with values

4.2.1 Home screen

Press the ⌂ button to go back to the home screen. You see an overview of the unit configuration and the room and setpoint temperatures. Only symbols applicable for your configuration are visible on the home screen.



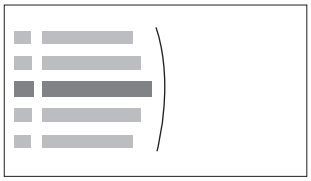
Possible actions on this screen	
○···○	Go through the list of the main menu.
○···○	Go to the main menu screen.
?	Enable/disable breadcrumbs.

Item		Description
21 21		The temperatures are shown in circles. If the circle is grey, the corresponding operation (example: space heating) is currently not active.
Outdoor unit a2 a3 a1	a1	: Outdoor unit
	a2	: Quiet mode active
	a3	Measured ambient temperature
Indoor unit / domestic hot water tank b2 b1	b1	Indoor unit: ▪ : Floor-standing indoor unit with integrated tank ▪ : Wall-mounted indoor unit with separated tank ▪ : Wall-mounted indoor unit
	b2	Water pressure
Space operation mode	c	▪ : Cooling ▪ : Heating
Disinfection / Powerful	d	▪ : Disinfection mode active ▪ : Powerful operation active
Date / time	e	Current date and time
Holiday	f	: Holiday mode active

Item		Description
Main zone g3 g4 g1 g2	g1	Heat emitter type: ▪ : Underfloor heating ▪ : Fancoil unit ▪ : Radiator
	g2	Leaving water temperature setpoint
	g3	Room thermostat type: ▪ : Daikin user interface used as room thermostat ▪ : External control ▪ Hidden: Leaving water temperature control
	g4	Measured room temperature
Additional zone h3 h1 h2	h1	Heat emitter type: ▪ : Underfloor heating ▪ : Fancoil unit ▪ : Radiator
	h2	Leaving water temperature setpoint
	h3	Room thermostat type: ▪ : External control ▪ Hidden: Leaving water temperature control
Domestic hot water i1 i2	i1	: Domestic hot water
	i2	Measured tank temperature
Malfunction	j	or : A malfunction occurred See "7.1 To display the help text in case of a malfunction" on page 17 for more information.

4.2.2 Main menu screen

In the home screen, press ○···○ to open the main menu screen. From the main menu, you can access the different setpoint screens and submenus.



Possible actions on this screen	
○···○	Go through the list.
○···○	Enter the submenu.
?	Enable/disable breadcrumbs.

Item	Description
or Malfunctioning	**Restriction:** Only displayed if a malfunction occurs. See "7.1 To display the help text in case of a malfunction" on page 17 for more information.
Room	**Restriction:** Only displayed if a room thermostat is connected to the indoor unit. Set the room temperature.
Main zone	Shows the applicable symbol for your main zone emitter type. Set the leaving water temperature for the main zone.

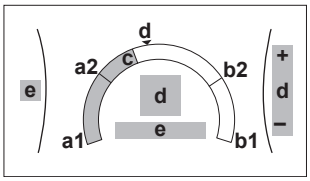
Item	Description
Additional zone	**Restriction:** Only displayed if there are two leaving water temperature zones. Shows the applicable symbol for your additional zone emitter type. Set the leaving water temperature for the additional zone (if present).
Space heating/ cooling	Shows the applicable symbol for your unit. Put the unit in heating mode or cooling mode. You cannot change the mode on heating only models.
Tank	**Restriction:** Only displayed if a domestic hot water tank is present. Set the domestic hot water tank temperature.
User settings	Gives access to user settings such as holiday mode and quiet mode.
Information	Displays data and information about the indoor unit.
Installer settings	**Restriction:** Only for the installer. Gives access to advanced settings.
Commissioning	**Restriction:** Only for the installer. Perform tests and maintenance.
User profile	Change the active user profile.
Operation	Turn heating/cooling functionality and domestic hot water preparation on or off.

4.2.3 Setpoint screen

The setpoint screen is displayed for screens describing system components that need a setpoint value.

Example:

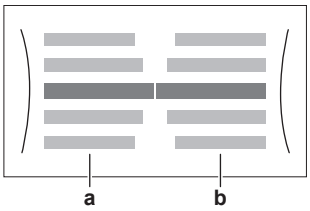
- Room temperature screen
- Main zone screen
- Additional zone screen
- Tank temperature screen



Possible actions on this screen	
	Go through the list of the submenu.
	Go to the submenu.
	Adjust and automatically apply the desired temperature.

Item		Description
Minimum temperature limit	**a1**	Fixed by the unit
	a2	Restricted by the installer
Maximum temperature limit	**b1**	Fixed by the unit
	b2	Restricted by the installer
Current temperature	**c**	Measured by the unit
Desired temperature	**d**	Turn the right dial to increase/decrease.
Submenu	**e**	Turn or press the left dial to go to the submenu.

4.2.4 Detailed screen with values



a Settings
b Values

Possible actions on this screen	
	Go through the list of settings.
	Change the value.
	Go to the next setting.
	Confirm changes and proceed.

4.3 Basic usage

4.3.1 Using the home screen

About the home screen

On the home screen, you can read out the most important settings that are meant for daily usage. The setup of the unit is displayed in a schematic way. See "4.2.1 Home screen" on page 5 for more information.

To go to the home screen

Press the ⌂ button to return to the home screen.

4.3.2 Using the menu structure

About the menu structure

Go to the menu structure to change the settings of the unit and read out values such as the current temperature. For an overview of the settings available to the user, see "4.9 Menu structure: Overview user settings" on page 15.

To go to the menu structure

Press to go to the menu structure.

4.3.3 Turning operation ON or OFF

Certain functionalities of the unit can be enabled of disabled separately. If a functionality is disabled, the corresponding temperature icon in the home screen will be greyed out.

To turn room temperature control ON or OFF

1	Go to [C.1]: Operation > Room.	
2	Set operation to On or Off.	

To turn space heating/cooling operation ON or OFF

1	Go to [C.2]: Operation > Space heating/cooling.	
2	Set operation to On or Off.	

To turn tank heating operation ON or OFF

1	Go to [C.3]: Operation > Tank.	
2	Set operation to On or Off.	

4.4 Space heating/cooling control

4.4.1 About space heating/cooling control

Controlling space heating/cooling typically consists of the following stages:

1 Setting the space operation mode
2 Controlling the temperature

Depending on the system layout and installer configuration, you use a different temperature control:

- Room thermostat control (linked or NOT linked to leaving water temperature)
- Leaving water temperature control
- External room thermostat control

4.4.2 Setting the space operation mode

About space operation modes

Depending on your heat pump model, you have to tell the system which space operation mode to use: heating or cooling.

If a … heat pump model is installed	Then…
Heating/cooling	The system can heat up and cool down a space. You have to tell the system which space operation mode to use.
Heating only	The system can heat up a space, but NOT cool down a space. You do NOT have to tell the system which space operation mode to use.

To determine if a heating/cooling heat pump model is installed

1	Go to [4]: Space heating/cooling.	
2	Check if [4.1] Operation mode is listed and editable. If so, a heating/cooling heat pump model is installed.	

To tell the system which space operation to use, you can:

You can…	Location
Check which space operation mode is **currently used**.	Home screen
Set the space operation **mode** permanently.	Main menu
Restrict automatic changeover according to a monthly schedule.	

To check which space operation mode is currently used

The space operation mode is displayed on the home screen:

- When the unit is in heating mode, the ☼ icon is shown.
- When the unit is in cooling mode, the ❄ icon is shown.

The status indicator shows if the unit is currently in operation:

- When the unit is not in operation, the status indicator will show a blue pulsation with an interval of approximately 5 seconds.
- While the unit is in operation, the status indicator will light up blue constantly.

To set the space operation mode

1	Go to [4.1]: Space heating/cooling > Operation mode	
2	Select one of the following options: ▪ Heating: Always heating mode ▪ Cooling: Always cooling mode ▪ Automatic: The operation mode changes automatically based on the outdoor temperature. Restricted according to the operation mode schedule.	

Automatic heating/cooling changeover is is NOT applicable for heating only models. When Automatic is selected, the changing of the operation mode is based on the Operation mode schedule [4.2].

To restrict automatic changeover according to a schedule

Conditions: You set the space operation mode to Automatic.

1	Go to [4.2]: Space heating/cooling > Operation mode schedule.	
2	Select a month.	
3	For each month, select an option: ▪ Reversible: Not restricted ▪ Heating only: Restricted ▪ Cooling only: Restricted	
4	Confirm the changes.	

Example: Changeover restrictions

When	Restriction
During cold season. **Example:** October, November, December, January, February and March.	Heating only
During warm season. **Example:** June, July and August.	Cooling only
In-between. **Example:** April, May and September.	Heating/Cooling

If both the Operation mode and the Operation mode schedule are set to Automatic, the operation mode will be determined by the outdoor temperature.

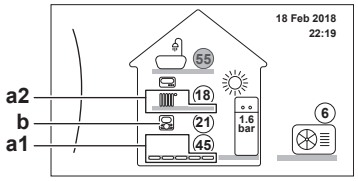
4.4.3 Determining which temperature control you are using

To determine which temperature control you are using (method 1)

Check the installer settings table filled in by the installer.

To determine which temperature control you are using (method 2)

You can see on the home screen which temperature control you are using.



a1 Heat emitter of the main zone
a2 Heat emitter of the additional zone (if any)
b Room thermostat type of the main zone

To determine the number of temperature zones

Check the number of heat emitters displayed on the home screen:

If…	Then…
One heat emitter symbol is displayed	There is only one zone.

If…	Then…
Two heat emitter symbols are displayed	There are two zones.

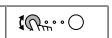
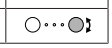
To determine the control type

Check the room thermostat type of the main zone:

If…	Then the main zone temperature control is…
	Room thermostat control
	External room thermostat control
No icon	Leaving water temperature control

4.4.4 To change the desired room temperature

During room temperature control, you can use the room temperature setpoint screen to read out and adjust the desired room temperature.

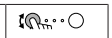
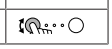
1	Go to [1]: Room. You can read out the desired and actual room temperature in the center of the setpoint screen.	
2	Adjust the desired room temperature.	

If scheduling is on after changing the desired room temperature

- The temperature will stay the same as long as there is no scheduled action.
- The desired room temperature will return to its scheduled value whenever a scheduled action occurs.

You can avoid scheduled behaviour by (temporarily) turning off scheduling.

To turn off room temperature scheduling

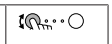
1	Go to [1.1]: Room > Schedule.	
2	Select No.	

4.4.5 To change the desired leaving water temperature

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. Only adjust the leaving water temperature settings in case of problems.

You can use the leaving water temperature setpoint screen to read out and adjust the desired leaving water temperature.

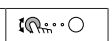
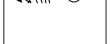
1	Go to [2]: Main zone or [3]: Additional zone. You can read out the desired and actual leaving water temperature in the center of the setpoint screen.	
2	Adjust the desired leaving water temperature.	

If scheduling is on after changing the desired leaving water temperature

- The temperature will stay the same as long as there is no scheduled action.
- The desired leaving water temperature will return to its scheduled value whenever a scheduled action occurs.

You can avoid scheduled behaviour by (temporarily) turning off scheduling.

To turn off leaving water temperature scheduling

1	Go to one of the following: ▪ [2.1]: Main zone > Schedule ▪ [3.1]: Additional zone > Schedule	
2	Select No.	

To enable weather dependent operation for the leaving water temperature

See "4.8 Weather dependent operation" on page 13.

4.5 Domestic hot water control

4.5.1 About domestic hot water control

Depending on the DHW tank mode (installer setting), you use a different domestic hot water control:

- Reheat only
- Schedule + reheat
- Schedule only

CAUTION

The booster heater permission schedule is used to restrict or allow booster heater operation based on a weekly program. Advice: In order to avoid unsuccessful disinfection function, at least allow the booster heater (by the weekly program) for minimum 4 hours starting from the scheduled start-up of disinfection. If the booster heater is restricted during disinfection, this function will NOT be successful and the applicable warning AH will be generated.

INFORMATION

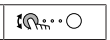
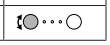
In case of error code AH and no interruption of the disinfection function occurred due to domestic hot water tapping, following actions are recommended:

- When the Reheat only or Schedule + reheat mode is selected, it is recommended to program the start-up of the disinfection function at least 4 hours later than the last expected large hot water tapping. This start-up can be set by installer settings (disinfection function).
- When the Schedule only mode is selected, it is recommended to program a Eco action 3 hours before the scheduled start-up of the disinfection function to preheat the tank.

To determine which domestic hot water mode you are using (method 1)

Check the installer settings table filled in by the installer.

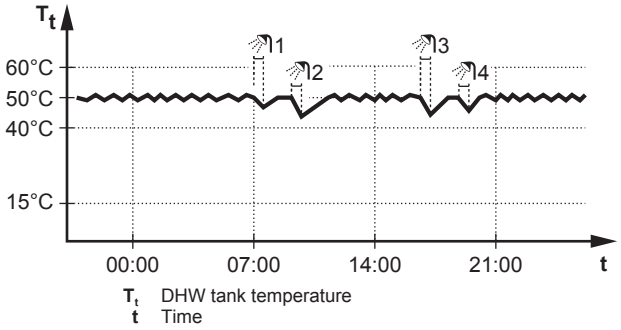
To determine which domestic hot water mode you are using (method 2)

1	Go to [5]: Tank.	
2	Check which items are displayed:	

If… is displayed	Then the DHW tank mode =…
Only [5.1] Powerful operation	Reheat only
All items except [5.4] Reheat setpoint are displayed	Schedule only
All items including [5.4] Reheat setpoint are displayed	Schedule + reheat

4.5.2 Reheat mode

In reheat mode the DHW tank continuously heats up to the temperature shown on the home screen (example: 50°C).



T_t DHW tank temperature
t Time

INFORMATION

Risk of space heating capacity shortage for domestic hot water tank without internal booster heater: In case of frequent domestic hot water operation, frequent and long space heating/cooling interruption will happen when selecting the following:

Tank > Heat up mode > Reheat only.

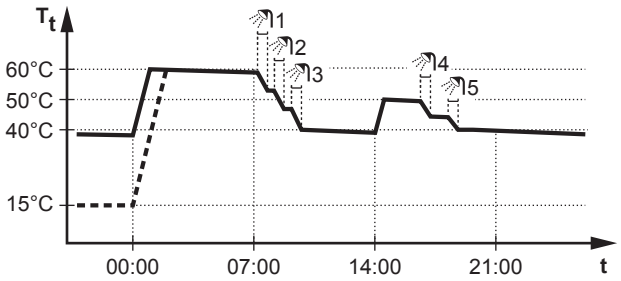
INFORMATION

When the DHW tank mode is reheat, the risk for capacity shortage and comfort problem is significant. In case of frequent reheat operation, space heating/cooling function is regularly interrupted.

4.5.3 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.

Example:



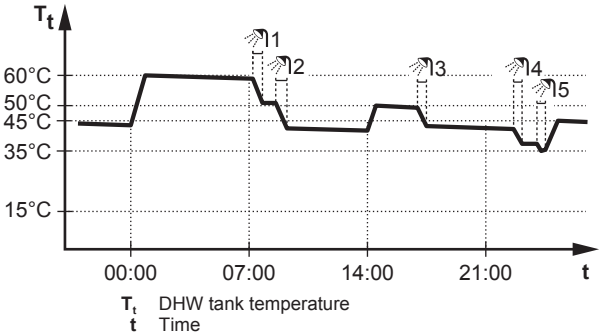
T_t DHW tank temperature
t Time

- Initially, the DHW tank temperature is the same as the temperature of the domestic water entering the DHW tank (example: **15°C**).
- At 00:00 the DHW tank is programmed to heat up the water to a preset value (example: Comfort **= 60°C**).
- During the morning, you consume hot water and the DHW tank temperature decreases.
- At 14:00 the DHW tank is programmed to heat up the water to a preset value (example: Eco = **50°C**). Hot water is available again.
- During the afternoon and evening, you consume hot water again and the DHW tank temperature decreases again.
- At 00:00 the next day, the cycle repeats.

4.5.4 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 tank temperature – hysteresis value; example: 35°C), the DHW tank heats up until it reaches the reheat set point (example: 45°C). This ensures that a minimum amount of hot water is available at all times.

Example:



T_t DHW tank temperature
t Time

4.5.5 To change the domestic hot water temperature

In Reheat only mode, you can use the room temperature setpoint screen to read out and adjust the domestic hot water temperature.

1	Go to [5]: Tank. You can read out the desired and actual room temperature in the center of the setpoint screen.	
2	Turn the right dial to adjust the domestic hot water temperature.	

In other modes, you can only view the setpoint screen but not modify it. Instead, you can modify the settings for the Comfort setpoint [5.2], Eco setpoint [5.3] and Reheat setpoint [5.4].

4.5.6 Using DHW powerful operation

About powerful operation

Powerful operation allows the domestic hot water to be heated by the backup heater or booster heater. Use this mode on days when there is more hot water usage than usual.

To check if powerful operation is active

If is displayed on the home screen, powerful operation is active.

Activate or deactivate Powerful operation as follows:

1	Go to [5.1]: Tank > Powerful operation	
2	Turn powerful operation Off or On.	

Usage example: You immediately need more hot water

You are in the following situation:

- You already consumed most of your domestic hot water.
- You cannot wait for the next scheduled action to heat up the domestic hot water tank.

Then you can activate powerful operation. The domestic hot water tank will start heating up the water to the Comfort temperature.

INFORMATION

When powerful operation 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.

4.6 Advanced usage

The amount of information you can read out in the menu structure depends on your user permission level:

- User: Standard mode
- Advanced user: You can read out more information

4.6.1 To change the user permission level

You can change the user permission level as follows:

1	Go to [B]: User profile.	
2	Enter the applicable code for the user permission.	—
	▪ Move the cursor from left to right.	
	▪ Browse through the list of digits and change the selected digit.	
	▪ Confirm the pincode and proceed.	

Advanced user pin code

The Advanced user pin code is **1234**. Additional menu items for the user are now visible.

User pin code

The User pin code is **0000**.

4.6.2 Using quiet mode

About quiet mode

You can use quiet mode to decrease the sound of the outdoor unit. However, this also decreases the heating/cooling capacity of the system. There are multiple quiet mode levels.

You can:

- Completely deactivate quiet mode
- Manually activate a quiet mode level until the next scheduled action
- Use and program a quiet mode schedule

To check if quiet mode is active

If is displayed on the home screen, quiet mode is active.

To use quiet mode

1	Go to [7.4.1]: User settings > Quiet > Activation.	
2	Do one of the following:	—

If you want to…	Then…	
Completely deactivate quiet mode	Select Off.	
Manually activate a quiet mode level	Select the applicable quiet mode level. **Example:** Most quiet.	
Use and program a quiet mode schedule	Select Automatic.	
	Go to [7.4.2] Schedule and program the schedule. For more information about scheduling, see "4.7.4 Schedule screen: Example" on page 12.	

Usage example: Baby is sleeping in the afternoon

If you are in the following situation:

- You have programmed a quiet mode schedule:
  - During the night: Most quiet.
  - During the day: Off to ensure the heating/cooling capacity of the system.
- However, during the afternoon the baby is sleeping and you want it to be quiet.

Then you can do the following:

1	Go to [7.4.1]: User settings > Quiet > Activation.	
2	Select Most quiet.	

Advantage:

The outdoor unit runs in its most quiet level.

4.6.3 Using holiday mode

About holiday mode

During your holiday, you can use the holiday mode to deviate from your normal schedules without having to change them. While holiday mode is active, space heating/cooling operation and domestic hot water operation will be turned off. Room frost protection and anti-legionella operation will remain active.

Typical workflow

Using holiday mode typically consists of the following stages:

1 Setting the starting date and ending date of your holiday.

2 Activating the holiday mode.

To check if holiday mode is activated and/or running

If is activated on the home screen, holiday mode is active.

To configure the holiday

1	Activate the holiday mode.	—
	▪ Go to [7.3.1]: User settings > Holiday > Activation.	
	▪ Select On.	
2	Set the first day of your holiday.	—
	▪ Go to [7.3.2]: From.	
	▪ Select a date.	
	▪ Confirm the changes.	
3	Set the last day of your holiday.	—
	▪ Go to [7.3.3]: Till.	
	▪ Select a date.	
	▪ Confirm the changes.	

4.6.4 Reading out information

To read out information

1	Go to [8]: Information.	

Possible read-out information

In menu…	You can read out…
[8.1] Energy data	Produced energy, consumed electricity, and consumed gas
[8.2] Malfunction history	Malfunction history
[8.3] Dealer information	Contact/helpdesk number
[8.4] Sensors	Room, tank or domestic hot water, outside, and leaving water temperature (if applicable)
[8.5] Actuators	Status/mode of each actuator **Example:** Domestic hot water pump ON/OFF
[8.6] Operation modes	Current operation mode **Example:** Defrost/oil return mode
[8.7] About	Version information about the system
[8.8] Connection status	Information about the connection status of the unit, the room thermostat and the LAN adapter.

4.6.5 To configure time and date

1	Go to [7.2] User settings > Time/date.	

4.7 Preset values and schedules

4.7.1 Using preset values

About preset values

For some settings in the system, you can define preset values. You only need to set these values one time, then reuse the values in other screens such as the scheduling screen. If you later want to change the value, you only have to do it in one place.

To define tank temperature preset values

For EHBH/X: Only if a domestic hot water tank is installed

The domestic hot water schedule makes use of different preset values:

Preset value	Where used
Comfort setpoint	In schedule if domestic hot water tank mode is ▪ Schedule only ▪ Schedule + reheat
Eco setpoint	
Reheat setpoint	If domestic hot water tank mode is ▪ Schedule + reheat

To define energy prices

Only possible if Bivalent is enabled by the installer.

Preset value	Where used
Electricity price > ▪ High ▪ Medium ▪ Low	Used in the weekly schedule screen when setting the energy prices.
Gas price	

4.7.2 Setting the energy prices

In the system, you can set the following energy prices:

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

Refer to the installation manual for more information.

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

Price	Value in breadcrumb
Fuel: 5.3 euro cents/kWh	[7.6]=5.3
Electricity: 12 euro cents/kWh	[7.5.1]=12

To set the gas price

1	Go to [7.6]: User settings > Gas price.	
2	Select the correct gas price.	
3	Confirm the changes.	

INFORMATION

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

To set the electricity price

1	Go to [7.5.1]/[7.5.2]/[7.5.3]: User settings > Electricity price > High/Medium/Low.	
2	Select the correct electricity price.	
3	Confirm the changes.	
4	Repeat this for all three electricity prices.	—

INFORMATION

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

INFORMATION

If no schedule is set, the Electricity price for High is taken into account.

To set the electricity price schedule timer

1	Go to [7.5.4]: User settings > Electricity price > Schedule.	
2	Program the selection using the scheduling screen. You can set the High, Medium and Low electricity prices according to your electricity supplier.	—
3	Confirm the changes.	

INFORMATION

The values 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.

About energy prices in case of an incentive per kWh renewable energy

An incentive can be taken into account when setting the energy prices. Although the running cost can increase, the total operation cost, taking into account the reimbursement will be optimized.

NOTICE

Make sure to modify the setting of the energy prices at the end of the incentive period.

To set the gas price in case of an incentive per kWh renewable energy

Calculate the value for the gas price with the following formula:

- Actual gas price+(Incentive/kWh×0.9)

For the procedure to set the gas price, see "To set the gas price" on page 11.

To set the electricity price in case of an incentive per kWh renewable energy

Calculate the value for the electricity price with following formula:

- Actual electricity price+Incentive/kWh

For the procedure to set the electricity price, see "To set the electricity price" on page 11.

Example

This is an example and the prices and/or values used in this example are NOT accurate.

Data	Price/kWh
Gas price	4.08
Electricity price	12.49
Renewable heat incentive per kWh	5

Calculation of the gas price:

Gas price=Actual gas price+(Incentive/kWh×0.9)

Gas price=4.08+(5×0.9)

Gas price=8.58

Calculation of the electricity price:

Electricity price=Actual electricity price+Incentive/kWh

Electricity price=12.49+5

Electricity price=17.49

Price	Value in breadcrumb
Gas: 4.08 /kWh	[7.6]=8.6
Electricity: 12.49 /kWh	[7.5.1]=17

4.7.3 Using and programming schedules

About schedules

Depending on your system layout and installer configuration, schedules for multiple controls may be available.

You can:

- Select which schedules you currently want to use.
- Program your own schedules if the predefined schedules are not satisfactory. The actions you can program are control specific.

Possible scheduling screens

Name and location	Usage
[1.2] Room > Heating schedule	Program the desired room temperature in heating mode.
[1.3] Room > Cooling schedule	Program the desired room temperature in cooling mode.
[2.2] Main zone > Heating schedule	Program the desired leaving water temperature for the main zone in heating mode.
[2.3] Main zone > Cooling schedule	Program the desired leaving water temperature for the main zone in cooling mode.
[3.2] Additional zone > Heating schedule	Program the desired leaving water temperature for the additional zone in heating mode.
[3.3] Additional zone > Cooling schedule	Program the desired leaving water temperature for the additional zone in cooling mode.
[4.2] Space heating/ cooling > Operation mode schedule	See "4.4.2 Setting the space operation mode" on page 7.
[5.5] Tank > Schedule	Program the domestic hot water tank temperature for your normal domestic hot water needs: ▪ Comfort ▪ Eco ▪ Stop
[7.4.2] User settings > Quiet > Schedule	Program when the unit has to use which quiet mode level: ▪ Off ▪ Quiet ▪ More quiet ▪ Most quiet
[7.5.4] User settings > Electricity price > Schedule	Program when a certain electricity tariff is valid.

Example of programming a schedule

See "4.7.4 Schedule screen: Example" on page 12.

4.7.4 Schedule screen: Example

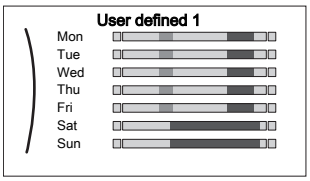
This example shows how to set a room temperature schedule in heating mode for the main zone.

INFORMATION

The procedures to program other schedules are similar.

To program the schedule

Example: You want to program the following schedule:



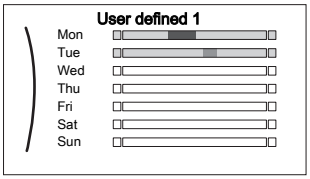
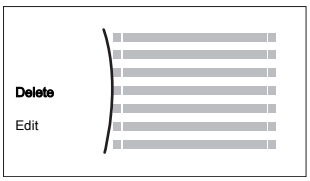
Prerequisite: The room temperature schedule is only available if room thermostat control is active. If leaving water temperature control is active, you can program the main zone schedule instead.

1. Go to the schedule.
2. Clear the contents of the schedule (optional).
3. Program the schedule for Monday.
4. Copy the schedule to the other weekdays.
5. Program the schedule for Saturday and copy it to Sunday.
6. Give the schedule a name.

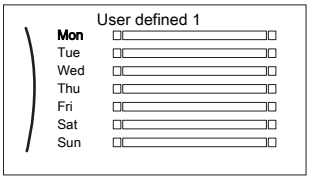
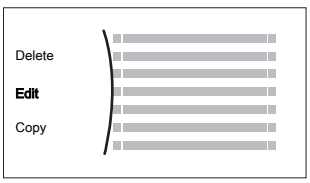
To go to the schedule:

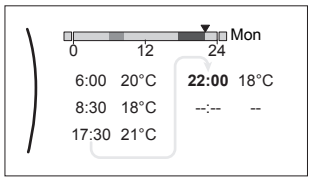
1	Go to [1.1]: Room > Schedule.	
2	Set scheduling to Yes.	
3	Go to [1.2]: Room > Heating schedule.	

To clear the contents of the schedule:

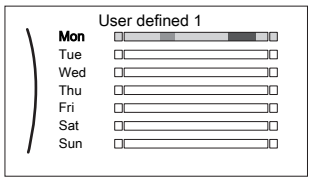
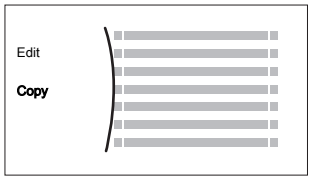
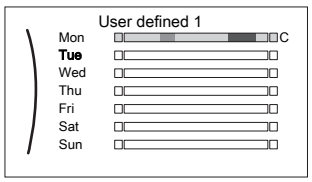
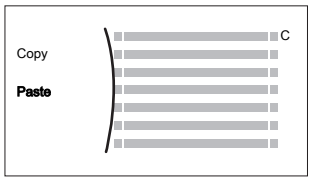
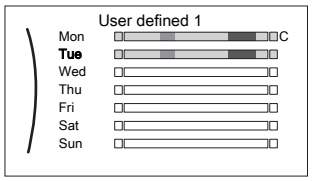
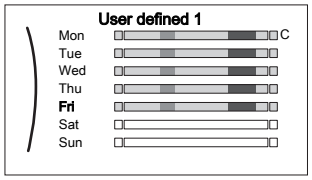
1	Select the name of the current schedule. 	
2	Select Delete. 	
3	Select OK to confirm.	

To program the schedule for Monday:

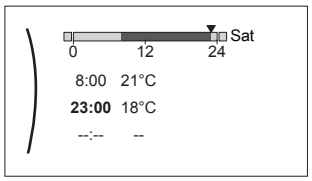
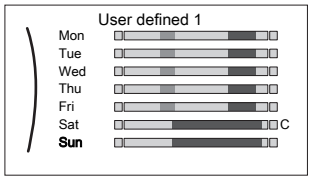
1	Select Monday. 	
2	Select Edit. 	

3	Use the left dial to select an entry and edit the entry with the right dial. You can program up to 6 actions each day. 	
4	Confirm the changes.	

To copy the schedule to the other weekdays:

1	Select Monday. 	
2	Select Copy.  **Result:** "C" is displayed next to the copied day.	
3	Select Tuesday. 	
4	Select Paste.  **Result:** 	
5	Repeat this action for all other weekdays. 	—

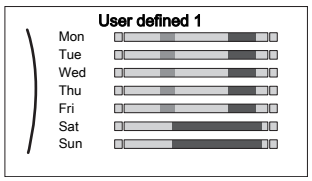
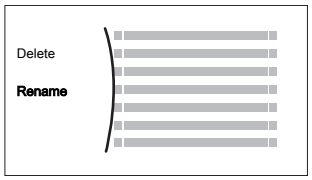
To program the schedule for Saturday and copy it to Sunday:

1	Select Saturday.	
2	Select Edit.	
3	Use the left dial to select an entry and edit the entry with the right dial. 	
4	Confirm the changes.	
5	Select Saturday.	
6	Select Copy.	
7	Select Sunday.	
8	Select Paste. **Result:** 	

To rename the schedule:

INFORMATION

Not all schedules can be renamed.

1	Select the name of the current schedule. 	
2	Select the Rename option. 	
3	Browse through the character list and confirm the selected character.	
4	Confirm the new name.	

Usage example: You work in a 3-shift system

If you work in a 3-shift system, you can do the following:

1. Program 3 room temperature schedules in heating mode and give them appropriate names. **Example:** EarlyShift, DayShift and LateShift
2. Select the schedule that you currently want to use.

4.8 Weather dependent operation

In space heating/cooling control, the leaving water temperature setpoint mode can be:

- Fixed
- WD heating, fixed cooling (in heating mode, the leaving water temperature is determined automatically depending on the outdoor temperature)
- Weather dependent (the leaving water temperature is determined automatically depending on the outdoor temperature)

You can change the setpoint mode for the:

- Main zone [2.4]
- Additional zone (if available) [3.4]

To modify the parameters for the weather-dependent curve ([2.5] and [2.6] for the main zone and [3.5] and [3.6] for the additional zone, see below.

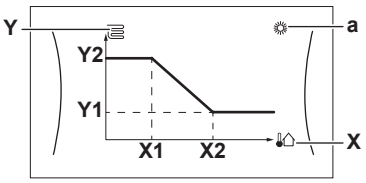
4.8.1 Detailed screen with weather-dependent curve

When weather dependent operation is active the desired tank temperature is determined automatically depending on the averaged outdoor temperature. When the outdoor temperature is lower the tank temperature will need to be higher as the water pipes will be colder and vice versa.

The weather-dependent curves are defined by two setpoints:

- Setpoint (X1, Y2)
- Setpoint (X2, Y1)

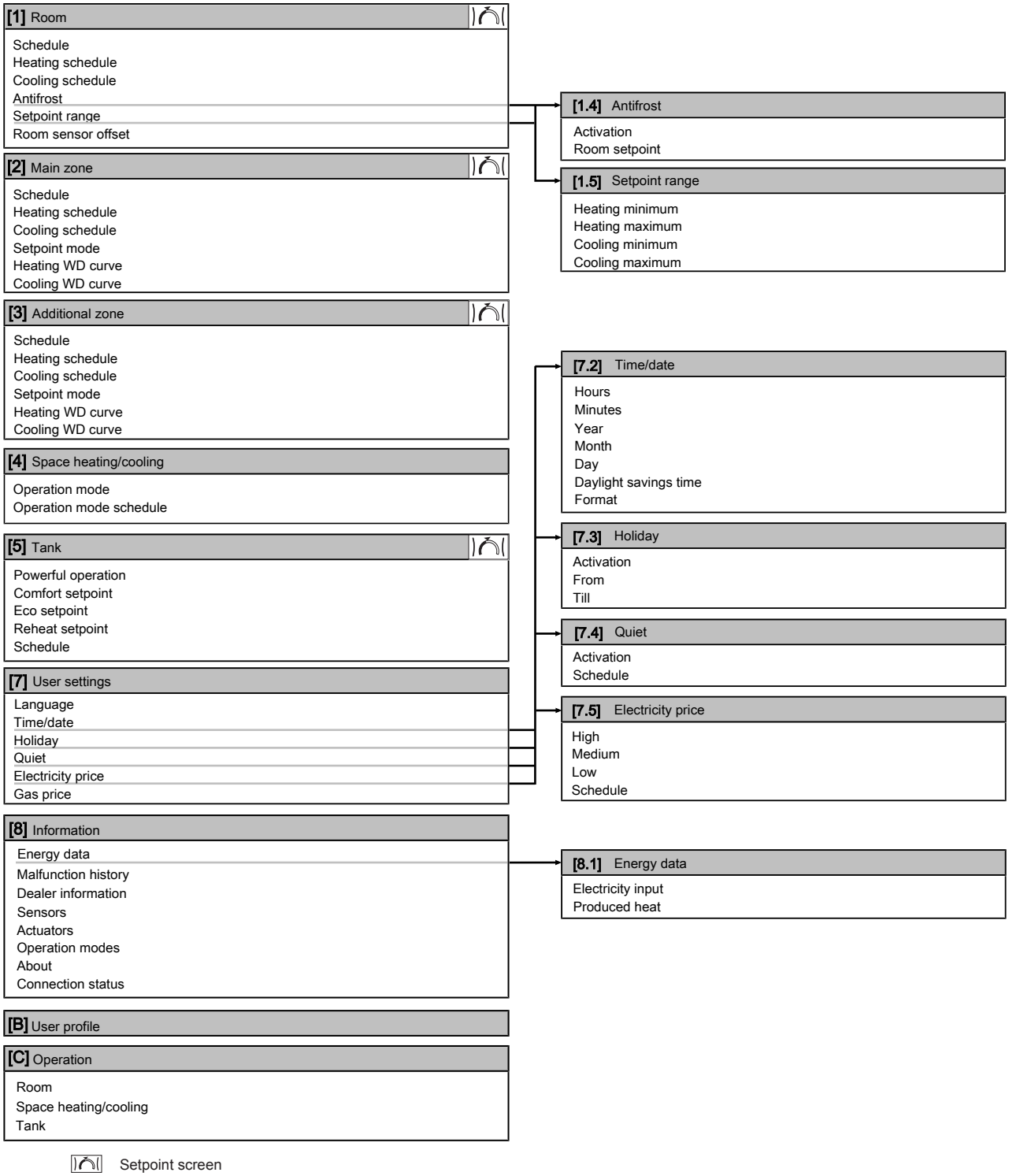
Weather-dependent curve:



Possible actions on this screen	
	Go through the temperatures.
	Change the temperature.
	Go to the next temperature.
	Confirm changes and proceed.

Item	Description
a	Possible weather dependent zones: ▪ : Main zone or additional zone heating ▪ : Main zone or additional zone cooling ▪ : Domestic hot water
X, X1, X2	Outdoor ambient temperature
Y, Y1, Y2	Desired tank temperature or leaving water temperature. The symbol shown here corresponds to the heat emitter for that zone: ▪ : Underfloor heating ▪ : Fan coil unit ▪ : Radiator ▪ : Domestic hot water tank

4.9 Menu structure: Overview user settings



INFORMATION

Depending on the selected installer settings and unit type, settings will be visible/invisible.

4.10 Installer settings: Tables to be filled in by installer

4.10.1 Configuration wizard

Setting		Fill in…
System		
	Indoor unit type (read only)	
	Backup heater type [9.3.1]	
	Domestic hot water [9.2.1]	
	Emergency [9.5]	
	Number of zones [4.4]	
Backup heater		
	Voltage [9.3.2]	
	Configuration [9.3.3]	
	Capacity step 1 [9.3.4]	
	Additional capacity step 2 [9.3.5] (if applicable)	
Main zone		
	Emitter type [2.7]	
	Control [2.9]	
	Setpoint mode [2.4]	
	Schedule [2.1]	
Additional zone (only if [4.4] = 1)		
	Emitter type [3.7]	
	Control (read only) [3.9]	
	Setpoint mode [3.4]	
	Schedule [3.1]	
Tank		
	Heat up mode [5.6]	
	Comfort setpoint [5.2]	
	Eco setpoint [5.3]	
	Reheat setpoint [5.4]	

4.10.2 Settings menu

Setting		Fill in…
Main zone		
	Thermostat type [2.A]	
Additional zone (if applicable)		
	Thermostat type [3.A]	
Information		
	Dealer information [8.3]	

5 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 until the next scheduled action. **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.

Tips about leaving water temperature

- In heating mode, a lower desired leaving water temperature results in lower energy consumption and better performance. In cooling, the opposite is valid.
- Set the desired leaving water temperature in accordance with the heat emitter type. **Example:** Underfloor heating is designed for lower leaving water temperature than radiators and heat pump convectors.

Tips about DHW tank temperature

- 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.
  - 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.

6 Maintenance and service

6.1 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 area around the unit clean.
- Keep the user interface clean with a soft damp cloth. Do NOT use any detergents.
- Regularly check if the water pressure is above 1 bar.

Refrigerant

This product contains fluorinated greenhouse gases. Do NOT vent gases into the atmosphere.

Refrigerant type: R32

Global warming potential (GWP) value: 675

NOTICE

In Europe, the **greenhouse gas emissions** of the total refrigerant charge in the system (expressed as tonnes CO_2-equivalent) is used to determine the maintenance intervals. Follow the applicable legislation.

Formula to calculate the greenhouse gas emissions: GWP value of the refrigerant × Total refrigerant charge [in kg] / 1000

Please contact your installer for more information.

WARNING: FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.

WARNING

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).

WARNING

- Do NOT pierce or burn refrigerant cycle parts.
- Do NOT use cleaning materials or means to accelerate the defrosting process other than those recommended by the manufacturer.
- Be aware that the refrigerant inside the system is odourless.

WARNING

The refrigerant inside the unit is mildly flammable, but normally does NOT leak. If the refrigerant leaks in the room and comes in contact with fire from a burner, a heater, or a cooker, this may result in fire, or the formation of a harmful gas.

Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.

Do NOT use the unit until a service person confirms that the part from which the refrigerant leaked has been repaired.

6.2 To find the contact/helpdesk number

1	Go to [8.3]: Information > Dealer information.	

7 Troubleshooting

7.1 To display the help text in case of a malfunction

In case of a malfunction, the following will appear on the home screen depending on the severity:

- : Error
- : Malfunction

You can get a short and a long description of the malfunction as follows:

1	Press the left dial to open the main menu and go to Malfunctioning. **Result:** A short description of the error and the error code is displayed on the screen.	
2	Press **?** in the error screen. **Result:** A long description of the error is displayed on the screen.	**?**

7.2 To check the malfunction history

Conditions: The user permission level is set to advanced end user.

1	Go to [8.2]: Information > Malfunction history.	

You see a list of the most recent malfunctions.

7.3 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.

7.4 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 Powerful operation. 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 (Eco setpoint = lower tank temperature) during the day.
The desired DHW tank temperature is too low.	

7.5 Symptom: Heat pump failure

When the heat pump fails to operate, the backup heater and/or booster heater can serve as an emergency heater and either automatically or non-automatically take over the heat load.

- When auto emergency is set to Automatic and a heat pump failure occurs:
  - For EHVH/X: The backup heater will automatically take over the heat load and domestic hot water production
  - For EHBH/X: The backup heater will automatically take over the heat load, and the booster heater in the optional tank will automatically take over the domestic hot water production.
- When auto emergency is set to Manual and a heat pump failure occurs, the domestic hot water and space heating operation will stop and need to be recovered manually via the user interface. To recover operation manually, go to the Malfunctioning main menu screen, where the user interface will then ask you to confirm whether the backup heater and/or booster heater can take over the heat load or not.

When the heat pump fails, or will appear on the user interface.

Possible cause	Corrective action
Heat pump is damaged.	See "7.1 To display the help text in case of a malfunction" on page 17.

INFORMATION

When the backup heater or booster heater takes over the heat load, electricity consumption will be considerably higher.

8 Relocation

8.1 Overview: Relocation

If you want to relocate parts of your system (user interface, indoor unit, outdoor unit, DHW tank…), contact your installer. You can find the contact/helpdesk number via the user interface.

9 Disposal

NOTICE

Do NOT try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, oil and other parts MUST comply with applicable legislation. Units MUST be treated at a specialised treatment facility for reuse, recycling and recovery.

10 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.

Dealer
Sales distributor for the product.

Authorized installer
Technical skilled person who is qualified to install the product.

User
Person who is owner of the product and/or operates the product.

Applicable legislation
All international, European, national and local directives, laws, regulations and/or codes that are relevant and applicable for a certain product or domain.

Service company
Qualified company which can perform or coordinate the required service to the product.

Installation manual
Instruction manual specified for a certain product or application, explaining how to install, configure and maintain it.

Operation manual
Instruction manual specified for a certain product or application, explaining how to operate it.

Accessories
Labels, manuals, information sheets and equipment that are delivered with the product and that need to be installed according to the instructions in the accompanying documentation.

Optional equipment
Equipment made or approved by Daikin that can be combined with the product according to the instructions in the accompanying documentation.

Field supply
Equipment NOT made by Daikin that can be combined with the product according to the instructions in the accompanying documentation.

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