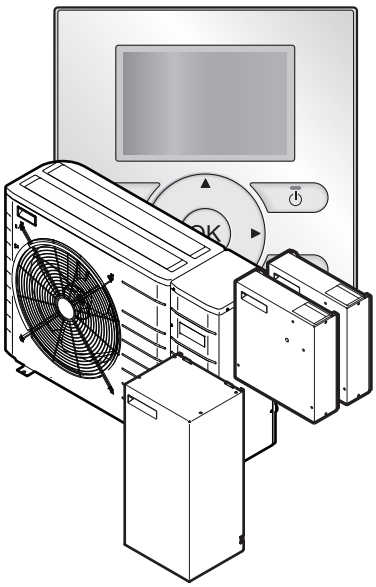
User reference guide

Packaged air-cooled water chillers and packaged air to water heat pumps



EWAQ004BAVP
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EKMBUHCA9W1

User reference guide
Packaged air-cooled water chillers and packaged air to water heat pumps

English

Table of Contents

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 outdoor unit)
- **Operation manual:**
  - Quick guide for basic usage
  - Format: Paper (in the box of the outdoor 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/

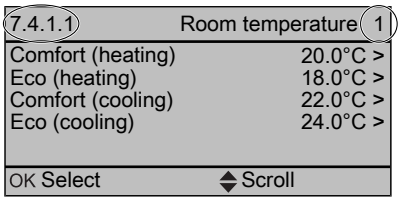
Latest revisions of the supplied documentation may be available on the regional Daikin website or via your installer.

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

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.

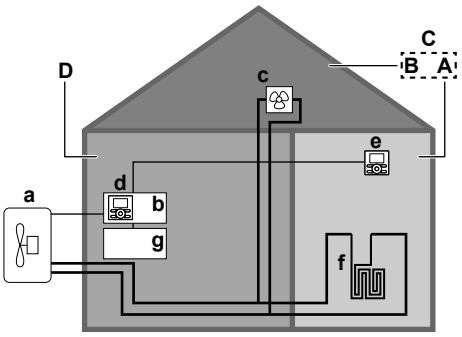
Example: Go to [7.4.1.1]: > User settings > Preset values > Room temperature > Comfort (heating)

3 About the system

Depending on the system layout, the system can:

- Cool down a space
- Heat up a space (if a heating/cooling heat pump model is installed)

3.1 Components in a typical system layout



A Living room.
B Bedroom.
C Main LWT zone with multiple rooms (A and B).
D Technical room. **Example:** Garage.
a Outdoor unit heat pump
b Control box EKCB07CAV3
c Fan coil units
d User interface connected to the control box
e User interface in the living room, used as room thermostat
f Underfloor heating
g Option box EK2CB07CAV3

4 Operation

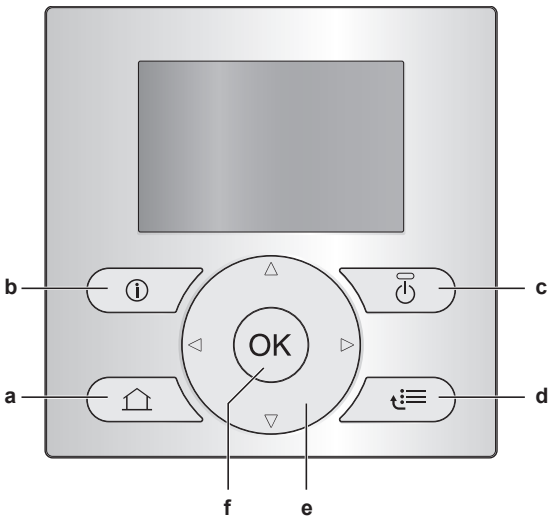
4.1 Overview: Operation

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
Basic usage	Information about: ▪ Home pages, where you can read out and change settings that are meant for daily usage ▪ Menu structure, where you can read out and configure settings that are NOT meant for daily usage ▪ ON/OFF controls
Space heating/cooling control	How to control space heating/cooling: ▪ Setting the space operation mode ▪ Controlling the temperature
Advanced usage	Information about: ▪ Quiet mode ▪ Holiday mode ▪ Reading out information ▪ Date, time, units of measurement, contrast and backlight ▪ User profile and home pages ▪ Locking and unlocking buttons and functions
Preset values and schedules	▪ How to use preset values ▪ How to select and program schedules ▪ Overview of predefined schedules
Menu structure	Overview of menu structure
Installer settings table	Overview of installer settings

4.2 The user interface at a glance

4.2.1 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).

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).

INFORMATION

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

4.2.2 Status icons

Icon	Description
☀	Space operation mode = Heating.
❄	Space operation mode = Cooling.
↻	Unit is operating.
☼	Desired room temperature = preset value (Comfort; daytime).

Icon	Description
	Desired room temperature = preset value (Eco; nighttime).
	On the room temperature home page: Desired room temperature = according to the selected schedule.
	Actual temperature.
	Desired temperature.
	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.
	Quiet mode is active.
	Holiday mode is active or ready to be activated.
	Button lock mode and/or function lock mode is active.
	An external heat source is active. **Example:** Gas burner.
	A malfunction occurred. 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.

4.3 Basic usage

4.3.1 Using home pages

About home pages

You can use the home pages to read out and change settings that are meant for daily usage. What you can see and do on the home pages is described where applicable. Depending on your system layout, the following home pages may be possible:

- Room temperature (Room)
- Main leaving water temperature (LWT main)

To go to a home page

1 Press .

Result: One of the home pages is displayed.

2 Press again to display the next home page (if any).

4.3.2 Using the menu structure

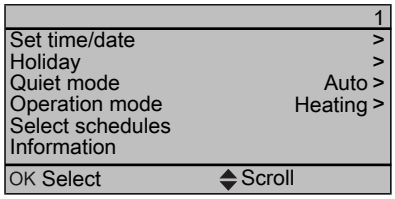
About the menu structure

You can use the menu structure to read out and configure settings that are NOT meant for daily usage. What you can see and do in the menu structure is described where applicable. For an overview of the menu structure, see "4.8 Menu structure: Overview user settings" on page 15.

To go to the menu structure

1 From a home page, press .

Result: The menu structure is displayed.



To navigate in the menu structure

Use , , , , and .

4.3.3 Turning ON/OFF controls

About turning ON/OFF controls

Before you can control…	You have to turn ON…
Room temperature	Room temperature control (Room)
Main leaving water temperature	Main leaving water temperature control (LWT main)

If you turn ON…	Then…
Room temperature control	Main leaving water temperature control is automatically turned ON.
Main leaving water temperature control	Room temperature control is NOT automatically turned ON.

If you turn OFF…	Then…
Room temperature control	Main leaving water temperature control is NOT automatically turned OFF.
Main leaving water temperature control	Room temperature control is automatically turned OFF.

To check if a control is turned ON or OFF

1 Go to the home page of the control. **Example:** Room temperature home page (Room).

2 Check if the LED is ON or OFF. **Note:** If the control is turned OFF, OFF is also displayed on the screen.

To turn ON or OFF the room temperature control

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

2 Press .

To turn ON or OFF the main leaving water temperature control

1 Go to the main leaving water temperature home page (LWT main)

2 Press .

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.
Cooling only	The system can cool down a space, but NOT heat up a space. You do NOT have to tell the system which space operation mode to use.

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

You can…	Location
Check which space operation mode is **currently used**.	Home pages: ▪ Room temperature ▪ Leaving water temperature (main)
Set the space operation **mode**.	Menu structure
Restrict when **automatic changeover** is possible.	

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

1 Press ☰ to go to the menu structure.

2 Check if [4] Operation mode is listed. If so, a heating/cooling heat pump model is installed.

To check which space operation mode is currently used

1 Go to one of the following the home pages:

- Room temperature home page (Room)
- Main leaving water temperature home page (LWT main)

2 Check the status icon:

If you see…	Then…
☀	Operation mode = heating. Unit is NOT heating up your space.
☀	Operation mode = heating. Unit is heating up your space at this moment.
❄	Operation mode = cooling. Unit is NOT cooling down your space.
❄	Operation mode = cooling. Unit is cooling down your space at this moment.

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

Prerequisite: You switched the permission level to Advanced end user.

Prerequisite: You switched the space operation mode to automatic.

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.

Typical automatic 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

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)

If you have 2 user interfaces, perform the following procedure on the main user interface.

Prerequisite: You switched the permission level to Advanced end user.

1 Check the following:

If…	Then the temperature control is…
	Main zone
Room temperature is listed under: [6.1]: ☰ > Information > Sensor information	Room thermostat control. Go to next step to check if leaving water set point and room temperature set point are linked.
Thermostat main A is listed under: [6.5]: ☰ > Information > Actuators	External room thermostat control.
Else	Leaving water temperature control.

2 Only for room thermostat control: Go to the main leaving water temperature home page (LWT main) and check the following:

Is ⇕ displayed next to the set point?	Then leaving water set point and room temperature set point are…
Yes	NOT linked. You can set the leaving water set point on the home page.
No	Linked by their preset values. You can set the preset values in the menu structure.

4.4.4 Room thermostat control - About room thermostat control

Room thermostat control means that you control the following:

- Room temperature of the main zone
- Leaving water temperature of the main zone

Room temperature of the main zone

To control the room temperature of the main zone, you can do the following:

You can…	Location
Read out the actual and desired room **temperature**.	Room temperature home page
Temporarily overrule the room temperature **schedule**.	
Change the mode from scheduled to preset value. If you do this, you also have to define (in the menu structure): ▪ Preset values ▪ Overrule period (Temperature lock)	Room temperature home page if user profile = Detailed
Select which room temperature **schedule** you want to use.	Menu structure
Program schedules.	
Define preset values that are used by the room temperature schedule, and when you change the mode from scheduled to preset value.	

See also:

- "4.4.5 Room thermostat control - Using the room temperature home page" on page 7
- "To set the overrule period" on page 8
- "4.6 Preset values and schedules" on page 12

Leaving water temperature of the main zone

To control the leaving water temperature of the main zone, you can do the following:

You can…	Location
Read out the desired leaving water **temperature**.	Leaving water temperature home page (main)
Adjust the leaving water **temperature**. Condition: Leaving water set point is NOT linked with the room temperature set point. Only change this if the desired room temperature cannot be reached.	
Define preset values. Condition: Leaving water set point is linked with the room temperature set point. Only change this if the desired room temperature cannot be reached.	Menu structure

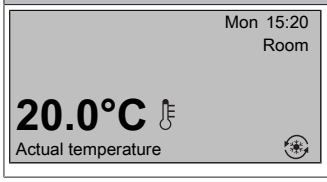
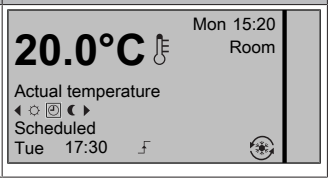
See also:

- "4.4.6 Room thermostat control - Using the leaving water temperature home pages" on page 9
- "4.6 Preset values and schedules" on page 12

4.4.5 Room thermostat control - Using the room temperature home page

Typical room temperature home pages

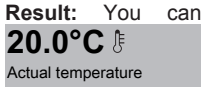
Depending on the user profile, the user interface gives you either a basic or a detailed home page. To set the user profile, refer to "4.5.6 Configuring user profile and home pages" on page 12.

User profile = Basic	User profile = Detailed
	

To read out the actual and desired room temperature

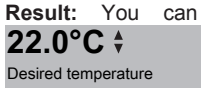
1 Go to the room temperature home page (Room).

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 ◐).

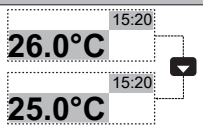
Result: The mode will return to Scheduled according to the overrule period.

Example: Temporarily overruling the schedule AND changing the mode to preset value

You have configured the following settings:

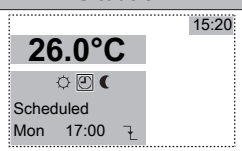
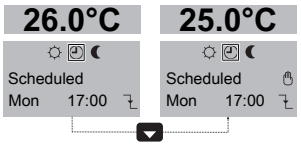
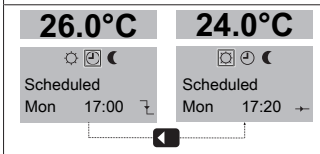
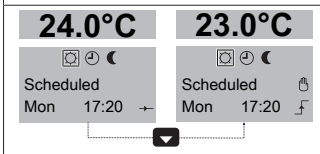
Settings		Description
Preset values	Comfort (cooling) = 24°C	Desired temperature when you are at home.
	Eco (cooling) = 26°C	Desired temperature: ▪ When you are away ▪ During the night
Schedule	07:00 Comfort	You are at home. Desired temperature = preset value (Comfort(cooling)).
	09:00 Eco	You are away. Desired temperature = preset value (Eco (cooling)).
	17:00 Comfort	You are at home. Desired temperature = preset value (Comfort (cooling)).
	19:00 23°C	You are at home and want it to be a little cooler. Desired temperature = custom temperature.
	23:00 Eco	Desired temperature = preset value (Eco (cooling)).
Overrule period (Temperature lock)	2 hours	If you temporarily overrule the schedule by a preset value, after 2 hours the schedule will be used again.

If user profile = Basic, then you can **temporarily overrule** the room temperature schedule by pressing ▲ or ▼.

Situation	Description
	15:20 => Scheduled temperature = preset value (Eco (cooling)) = 26°C. You **temporarily overrule** the schedule. Desired temperature = custom temperature = 25°C. At the next scheduled action (17:00), the schedule will be used again.

If user profile = Detailed, then you can:

- **Temporarily overrule** the room temperature schedule by pressing ▲ or ▼ (same as if user profile = Basic)
- **Change the mode** from scheduled to a preset value by pressing ◀ or ▶

Situation	Description
	Room temperature **schedule** is used. 15:20 => Desired temperature = preset value (Eco (cooling)) = 26°C. The next scheduled action is at 17:00 and the desired temperature will then decrease.
	You **temporarily overrule** the schedule. Desired temperature = custom temperature = 25°C. At the next scheduled action (17:00), the schedule will be used again.
	You **change the mode** from scheduled to preset value (Comfort (cooling)). Desired temperature = preset value (Comfort (cooling)) = 24°C. After 2 hours, the schedule will be used again (17:20 => 24°C).
	Before you have **changed the mode** from scheduled to preset value, and now you **temporarily overrule** the preset value. Desired temperature = custom temperature = 23°C. After 2 hours, the schedule will be used again (17:20 => 24°C).

To set the overrule period

Prerequisite: You switched the permission level to Advanced end user.

1. Go to [7.2]: ☰ > User settings > Temperature lock.
2. Select a value and press OK:
   - Permanent
   - hours (2, 4, 6, 8)

Usage example: You have a party

If you are in the following situation:

- You are using the following room temperature schedule:
  - 17:00 preset value (Comfort) = 24°C
  - 23:00 preset value (Eco) = 26°C
- Tonight you have a party and you want to use the preset value (Comfort) until 02:00.

Then you can do the following:

1. Set the overrule period (Temperature lock) to 6 hours.
2. At 20:00, go to the room temperature home page (Room).
3. Press ◀ to select ☼.

   Result: The preset value (Comfort) will be used until 02:00. After that, the schedule will be used again.

Usage example: You go away for a couple of hours

If you are in the following situation:

- You are using the following room temperature schedule:
  - 08:00 preset value (Comfort) = 24°C
  - 23:00 preset value (Eco) = 26°C
- At 14:00, you go away for 3 hours.

Then you can do the following:

1. Set the overrule period (Temperature lock) to 2 hours.
2. Go to the room temperature home page (Room).
3. Press ▶ to select ☾.

Result: For the next 2 hours, the room will NOT be cooled to the scheduled 24°C, but to the preset value (Eco = 26°C). After 2 hours, the room will cool down again to the scheduled 24°C.

Advantage:

You save energy because you do NOT cool the room unnecessary, and by the time you come home the room is cool again.

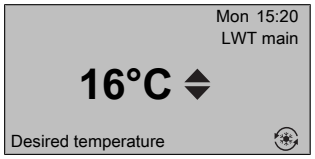
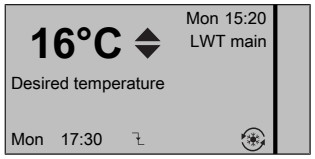
4.4.6 Room thermostat control - Using the leaving water temperature home pages

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/or fan coil units. You only have to adjust leaving water temperature settings in case of problems.

Typical leaving water temperature home pages

Main zone:

User profile = Basic	User profile = Detailed
	

To read out the desired main leaving water temperature

Go to the leaving water temperature home page (LWT main).

To adjust/overrule the leaving water temperature (NOT linked to room temperature setpoint)

INFORMATION

To see if the leaving water temperature setpoint is linked to the room temperature setpoint, see "4.4.3 Determining which temperature control you are using" on page 6.

To adjust the leaving water temperature (main)

1 Go to the main leaving water temperature home page (LWT main).

2 Press ▲ or ▼ to adjust. **Example:** 16°C → 18°C

INFORMATION

In case of weather dependency, an offset value can be modified.

To adjust/overrule the leaving water temperature (linked to room temperature setpoint)

INFORMATION

To see if the leaving water temperature setpoint is linked to the room temperature setpoint, see "4.4.3 Determining which temperature control you are using" on page 6.

To set leaving water temperature preset values (main)

INFORMATION

You cannot adjust/overrule the leaving water temperature (main) for room thermostat control with linked leaving water temperatures. However if necessary, you can adjust the desired leaving water temperature (main) by adjusting preset values.

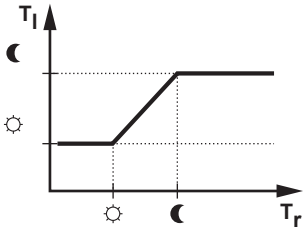
INFORMATION

Adjusting the leaving water temperature is permanent unless the leaving water temperature is according to a schedule. In that case the overruling is valid until the next scheduled action.

1 Go to [7.4.2]: ☰ > User settings > Preset values > LWT main.

2 Set the Preset values according to following graph.

Example: Room thermostat comfort temperature will correspond with leaving water comfort temperature.



- T_r: Room temperature
- T_l: Leaving water temperature

3 Press ▲ or ▼ to adjust/overrule.

4.4.7 Leaving water temperature control - About leaving water temperature control

Leaving water temperature control means that you only control the leaving water temperature. To control the leaving water temperature, you can do the following:

You can…	Location
Read out the desired leaving water **temperature** (main).	Leaving water temperature home pages (main)
Adjust/overrule the leaving water **temperature** (main).	
Select which leaving water temperature **schedule** (main) you want to use.	Menu structure
Program leaving water temperature **schedule** (main).	
Define preset values that are used by the leaving water temperature schedule (main).	

See also:

- "4.4.6 Room thermostat control - Using the leaving water temperature home pages" on page 9
- "4.6 Preset values and schedules" on page 12

4.4.8 Leaving water temperature control - Using leaving water temperature control according to a schedule

To set leaving water temperature preset values (main)

INFORMATION

Adjusting the leaving water temperature is permanent unless the leaving water temperature is according to a schedule. In that case the overruling is valid until the next scheduled action.

1 Go to [7.4.2]: ☰ > User settings > Preset values > LWT main.

2 Press ▲ or ▼ to adjust. **Example:** 16°C → 18°C

4.4.9 Leaving water temperature control - Using leaving water temperature control NOT according to a schedule

To adjust the leaving water temperature (main)

1 Go to the main leaving water temperature home page (LWT main).

2 Press ▲ or ▼ to adjust. **Example:** 16°C 18°C

4.4.10 External room thermostat control - About external room thermostat control

External room thermostat control means that you control the following:

- Room temperature on the external thermostat control
- Leaving water temperature on the user interface (Daikin)

To control the leaving water temperature, you can do the following:

You can…	Location
Read out the desired leaving water **temperature**.	Leaving water temperature home page (main)
Adjust the desired leaving water **temperature.** Only change this if the desired room temperature cannot be reached.	

See also: "4.4.6 Room thermostat control - Using the leaving water temperature home pages" on page 9

4.4.11 External room thermostat control - Using external room thermostat control

To adjust the leaving water temperature (main)

1 Go to the main leaving water temperature home page (LWT main).

2 Press ▲ or ▼ to adjust. **Example:** 16°C 18°C

4.5 Advanced usage

4.5.1 About changing the user permission level

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

- End user (= default)
- Adv. end user: You can read out more information.

To set the user permission level to Advanced end user

1 Go to the main menu or any of its submenus: ☰.

2 Press ⓘ for more than 4 seconds.

Result: The user permission level switches to Adv. end user. Additional information is displayed and "+" is added to the menu title. The user permission level will stay in Adv. end user until set otherwise.

To set the user permission level to End user

1 Press ⓘ for more than 4 seconds.

Result: The user permission level switches to End user. The user interface will return to the default home screen.

4.5.2 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

INFORMATION

If the outdoor temperature is below zero, we recommend to NOT use the most quiet level.

Possible quiet mode levels

Level	Description
Level 1	Least quiet. At colder ambient conditions, reduced performance can occur.
Level 2	Medium quiet. Under all circumstances, reduced performance is possible.
Level 3	Most quiet. Under all circumstances, performance will be reduced.

To check if quiet mode is active

1 Press ⌂ to go to one of the home pages.

2 If 🏠 is displayed, quiet mode is active.

To use quiet mode

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [3]: ☰ > Quiet mode.

2 Do one of the following:

If you want to…	Then…
Completely deactivate quiet mode	Select Always OFF and press OK.
Manually activate a quiet mode level	▪ Select On and press OK. ▪ Go to [7.4.4]: ☰ > User settings > Preset values > Quiet level. ▪ Select a level and press OK.
Use and program a quiet mode schedule	▪ Select Automatic and press OK. ▪ Program a schedule. See "4.6.2 Using and programming schedules" on page 13.

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: Level 3 (= 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:

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [3]: ☰ > Quiet mode.

2 Select On and press OK.

3 Go to [7.4.4]: ☰ > User settings > Preset values > Quiet level.

4 Select Level 3 and press OK.

Advantage:

The outdoor unit runs in its most quiet level.

4.5.3 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. You can only use holiday mode if temperature control = room thermostat control. See also "4.4.3 Determining which temperature control you are using" on page 6.

Using holiday mode typically consists of the following stages:

1 Configuring the holiday for one of the following situations:

Situation	Then…
You stay at home during your holiday	You have to select a day: space heating/cooling will be according to the desired room temperature of the selected day.
You go away during your holiday	You have to configure space heating/cooling settings. Space heating/cooling will be according to these settings.

2 Activating the holiday mode.

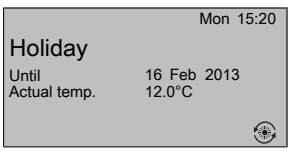
- If you do NOT activate, the configured holiday settings will NOT be used.
- If you activate:

Period	Then…
Before and after your holiday	Your normal schedules will be used.
During your holiday	The configured holiday settings will be used.

To check if holiday mode is activated and/or running

1 Press ⌂ to go to one of the home pages.

2 Check the following:

If… is displayed	Then…
	One of the following holiday modes is activated: ▪ Holiday mode (Away) is activated, but NOT running yet. ▪ Holiday mode (Home) is activated. You cannot see if the holiday mode is already running.
	Holiday mode (Away) is activated and running.

To configure the holiday (when you stay at home)

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [2.2]: ☰ > Holiday > Holiday mode.

2 Select Home.

3 Configure the holiday mode settings (when you stay at home).

4 Activate the holiday mode.

Possible holiday mode settings (when you stay at home)

Setting	Description
From and Until	First and last day of your holiday.
Use day schedule	Day schedule used during your holiday. **Example:** Saturday

INFORMATION

Switch to Adv. end user if you want to change the Use day schedule setting.

To configure the holiday (when you go away)

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [2.2]: ☰ > Holiday > Holiday mode.

2 Select Leave.

3 Configure the holiday mode settings (when you go away).

4 Activate the holiday mode.

Possible holiday mode settings (when you go away)

Setting	Description
From and Until	First and last day of your holiday.
Operation mode	Operation mode used during your holiday.
Heating	Set point used during your holiday when the unit is operating in heating mode.
Cooling	Set point used during your holiday when the unit is operating in cooling mode.

INFORMATION

You can only change the From and Until settings in the End user level. For changing the other settings, you have to switch to Adv. end user level.

To activate or deactivate the holiday mode

Prerequisite: You have configured the holiday.

1 Go to [2.1]: ☰ > Holiday > Holiday.

2 Do one of the following:

- To activate, select Yes and press OK.
- To deactivate, select No and press OK.

Usage example: You go away during the winter

If you are in the following situation:

- In 2 days, you go away for 2 weeks during the winter.
- You want to save energy, but prevent your house from freezing.

Then you can do the following:

Prerequisite: You switched the permission level to Advanced end user.

1 Configure the holiday. Go to [2]: ☰ > Holiday, and configure the following settings:

Setting	Value
Holiday mode	Away
From	2 February 2014
Until	16 February 2014
Operation mode	Heating
Heating	12°C

2 Activate the holiday mode.

- Go to [2.1]: ☰ > Holiday > Holiday.
- Select Yes and press OK.

Advantage:

- Before and after your holiday, your normal schedule will be used.
- During your holiday, you save energy and prevent your house from freezing.

Usage example: You come home during your holiday

If you are in the following situation:

- You configured and activated the holiday mode (Away).
- During your holiday, you come home for a few hours and want to use your normal schedule.

Then you can do the following:

1 Deactivate the holiday mode.

2 When you go away again, activate the holiday mode again.

Advantage:

You do NOT have to change your schedule or holiday configuration.

4.5.4 Reading out information

To read out information

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [6]: ☰ > Information.

Possible read-out information

In menu…	You can read out…
[6.1] Sensor information	Room, outside, and leaving water temperature. (If applicable)
[6.2] Energy metering	Produced energy, consumed electricity, and consumed gas.
[6.3] Error handling	Error history and contact/ helpdesk number.
[6.4] User permission level	Current user permission level.
[6.5] Actuators	Status/mode of each actuator. **Example:** Backup heater ON/ OFF.
[6.6] Operation modes	Current operation mode. **Example:** Defrost/oil return mode.
[6.7] Running hours	Running hours of the system.
[6.8] Version	Version information about the system.

4.5.5 Configuring date, time, units of measurement, contrast and backlight

To configure time and date

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [1]: ☰ > Set time/date.

INFORMATION

Switch to Adv. end user to change daylight saving time and 12/24h notation.

To configure units of measurement

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [7.6]: ☰ > User settings > Unit of measurement.

Possible units of measurement settings

Setting	Possible units of measurement
Decimal point	▪ Dot ▪ Comma
Temperature	▪ °C ▪ °F
Produced energy	▪ kWh ▪ MBtu
Flow	▪ l/min ▪ GPM

To configure the contrast of the user interface

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [7.1.1]: ☰ > User settings > Display > Contrast.

To configure the backlit LCD time of the user interface

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [7.1.2]: ☰ > User settings > Display > Backlit LCD time.

4.5.6 Configuring user profile and home pages

To set a user profile

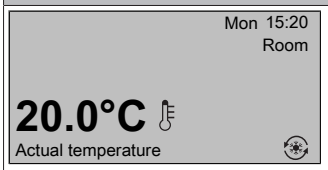
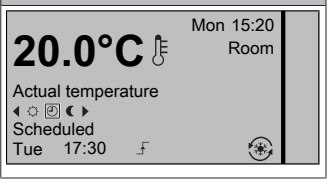
Prerequisite: You switched the permission level to Advanced end user.

1 Go to [7.1.3]: ☰ > User settings > Display > User profile.

2 Select a user profile and press OK.

Possible user profiles

If user profile = Detailed, you can see and do more on the home pages.

User profile = Basic	User profile = Detailed
	

To configure which home pages are made available to the end user

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [7.1.4]: ☰ > User settings > Display > Available home pages.

Result: The home pages that are possible for your system layout are listed.

2 Select a home page and press OK.

3 Do one of the following:

- To display the home page, select Yes and press OK.
- To hide the home page, select No and press OK.

4.6 Preset values and schedules

4.6.1 Using preset values

About preset values

You can define preset values for multiple controls. Preset values make it easy to use the same value in many places (schedules and room temperature home page (☼ and ◐)). If you later want to change the value, you only have to do it in one place.

To define preset values

1 Go to [7.4]: ☰ > User settings > Preset values.

2 Select for which control you want to define a preset value. **Example:** Room temperature.

3 Select a preset value and press OK. **Example:** Comfort (cooling).

4 Select a temperature and press OK.

Possible preset values

Control	Preset value	Where used
Room temperature	Comfort	▪ Room temperature schedules ▪ Room temperature home page (☼ and ◖) if user profile = Detailed
	Eco	
LWT main	Comfort	Main leaving water temperature schedules
	Eco	
Quiet level		Used when quiet mode is set to On
Elec price	High Medium Low	Not applicable
Fuel price		Not applicable

4.6.2 Using and programming schedules

About schedules

Depending on your system layout and installer configuration, schedules (predefined and/or user-defined) 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 actions per control

Control	Possible actions
Room temperature	Program when to heat up or cool down a space: ▪ Comfort (preset value) ▪ Eco (preset value) ▪ [Custom temperature]
Main leaving water temperature	
Quiet mode	Program when the unit has to use which quiet mode level: ▪ Level 1 ▪ Level 2 ▪ Level 3 ▪ OFF
Electricity price	Program when a certain electricity tariff is valid.

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:** [5.1.2] Cooling.

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

To program a schedule

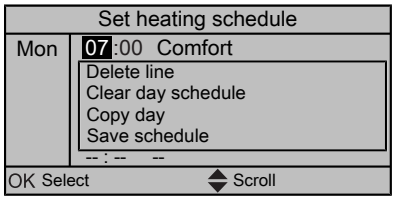
1 Go to [7.3]: ☰ > User settings > Set schedules.

2 Open an empty, predefined or user-defined schedule.

3 Change it.

4 Save it.

Guidelines when programming



You can:

- Delete lines from the schedule
- Clear a day schedule
- Copy from one day to others

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.

4.6.3 Schedules: Example

INFORMATION

The procedures to program other schedules are similar.

In this example:

- Room temperature schedule in cooling 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 cooling 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 and press OK.

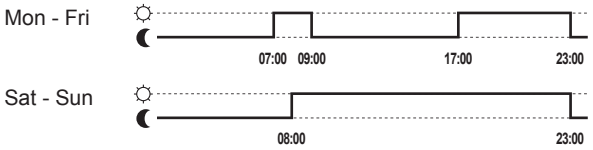
3 Change the name and press OK. (Only applicable for room temperature schedules). **Example:** MyWeekSchedule

4.6.4 Predefined schedules: Room temperature + leaving water temperature (main)

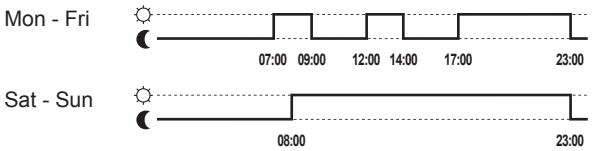
☼: Desired temperature = Preset value (Comfort)

☾: Desired temperature = Preset value (Eco)

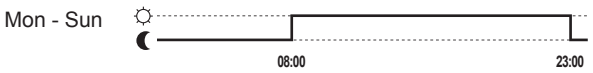
Predefined 1



Predefined 2



Predefined 3



INFORMATION

The predefined schedules are applicable for both heating and cooling operation.

4.7 Weather dependent operation

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

- Fixed
- Weather-dependent (the leaving water temperature is determined automatically depending on the outdoor temperature)

To select the setpoint mode, see the installer reference guide.

To set the parameters for the weather-dependent curve, see below.

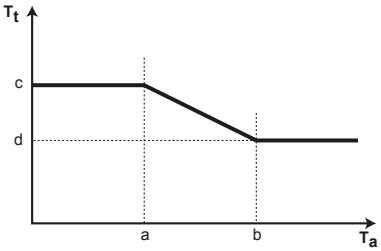
4.7.1 To set the weather dependent settings

Prerequisite: You switched the permission level to Advanced end user.

1 Go to [7.7]: ☰ > User settings > Set weather dependent.

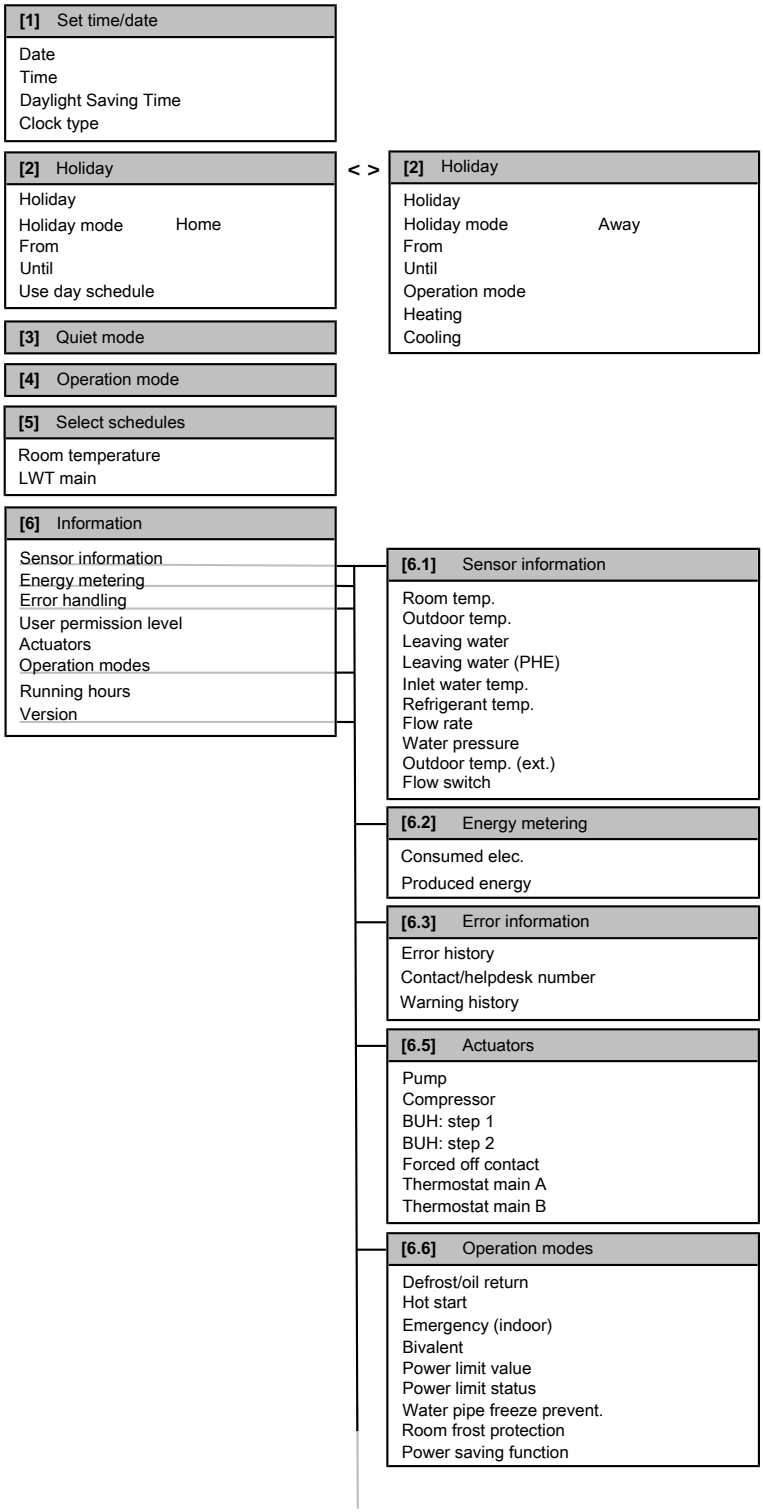
2 For main leaving water temperature zone [7.7.1], modify with ◄, ►, ▲, ▼, and confirm with OK.

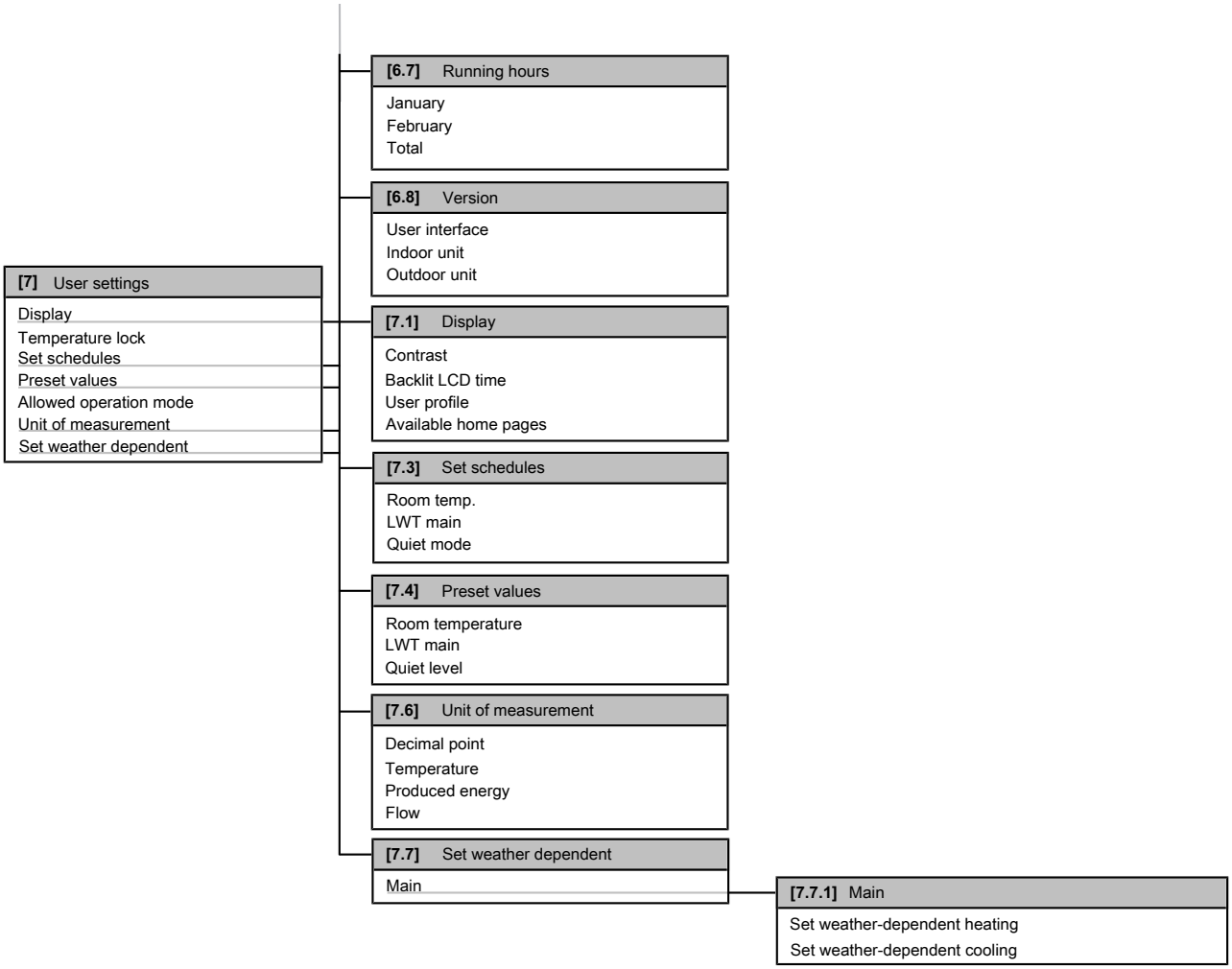
Set weather-dependent heating/Set weather-dependent cooling



T_t Target leaving water temperature
T_a Outdoor temperature
a Low outdoor ambient temperature
b High outdoor ambient temperature
c Desired leaving water temperature when the outdoor temperature equals or drops below the low ambient temperature. **Note:** in heating, this value should be higher than (d) as for low outdoor temperatures warmer water is required. In cooling, this value should be higher than (d) as for low outdoor temperatures less cold water suffices
d Desired leaving water temperature when the outdoor temperature equals or rises above the high ambient temperature. **Note:** in heating, this value should be lower than (c) as for high outdoor temperatures less warm water is required. In cooling, this value should be lower than (c) as for high outdoor temperatures colder water is required.

4.8 Menu structure: Overview user settings





INFORMATION

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

INFORMATION

January and February in Running hours are just examples representing previous and current month respectively.

4.9 Installer settings: Tables to be filled in by installer

4.9.1 Quick wizard

Setting	Default	Fill in…
Space heating/cooling settings [A.2.1]		
Unit control method	2 (RT)	
User interface location	1 (Room)	
Pump operation mode	2 (Request)	
Glycol present	0 (No)	
Outdoor unit [A.2.2]		
External sensor (outdoor)	0 (No)	
Control box [A.2.2.E]		
Backup heater steps	0	
BUH type	1 (1P,(1/1+2))	
Preferential kWh rate	0 (No)	
Contact type main	1 (Thermo)	
Option box [A.2.2.F]		
Ext. backup heat src	0 (No)	
Alarm output	0 (NO)	
External kWh meter 1	0 (No)	
External kWh meter 2	0 (No)	
External sensor (indoor)	0 (No)	
PCC by digital inputs	0 (No)	
Capacities [A.2.3]		
BUH: step 1	Depends on model	
BUH: step 2	Depends on model	

4.9.2 Space heating/cooling control

Setting	Default	Fill in…
Leaving water temperature: Main zone [A.3.1.1]		
LWT setpoint mode	1 (WD)	
Leaving water temperature: Delta T source [A.3.1.3]		

Setting		Default	Fill in…
	Heating	5°C	
	Cooling	5°C	
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)	

4.9.3 Contact/helpdesk number [6.3.2]

Setting	Default	Fill in…
Contact/helpdesk number	—	

5 Setting the energy prices

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

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

The savings mode is set by the installer and can be either ecological or economical. In ecological mode, the primary energy use is minimised; in economical mode, the running costs. Discuss with the installer which savings mode is preferred. 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 cent/kWh	[7.4.6]=5.3
Fuel: 4.8 pence/kWh	[7.4.6]=4.8
Electricity: 12 euro cent/kWh	[7.4.5.1]=12
Electricity: 12.49 pence/kWh	[7.4.5.1]=12

5.1 To set the fuel 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).

5.2 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).

INFORMATION

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

5.3 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.

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.

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

Prerequisite: Calculate the value for the fuel price with the following formula: actual fuel price+(incentive/kWh×0.9)

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.

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

Prerequisite: Calculate the value for the electricity price with following formula: actual electricity price+incentive/kWh.

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.

5.3.3 Example

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

Data	Pence/kWh
Fuel price	4.08
Electricity price	12.49
Renewable heat incentive per kWh	5

Calculation of the fuel price:

Fuel price=Actual fuel price+(incentive/kWh×0.9)

Fuel price=4.08+(5×0.9)

Fuel 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
Fuel: 4.08 pence/kWh	[7.4.6]=8.58
Electricity: 12.49 pence/kWh	[7.4.5]=17.49

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 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 fan coil units.

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 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: R410A

Global warming potential (GWP) value: 2087.5

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

The refrigerant in the system is safe and normally does not leak. If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in 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 system until a service person confirms that the portion where the refrigerant leaks is repaired.

7.2 To find the contact/helpdesk number

Prerequisite: You switched the permission level to Advanced end user.

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

8 Troubleshooting

8.1 Overview: Troubleshooting

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

For the symptoms listed below, you can try to solve the problem yourself. For any other problem, contact your installer. You can find the contact/helpdesk number via the user interface.

8.2 To check the error history

Prerequisite: Only available if ⓘ is displayed on the home pages.

1 Go to [6.3.1]: ☰ > Information > Error handling > Error history.

8.3 To check the warning history

Prerequisite: Only available if ⓘ is displayed on the home pages.

1 Go to [6.3.1]: ☰ > Information > Error handling > Warning history.

8.4 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.

Possible cause	Corrective action
The desired room temperature cannot be reached.	Increase the desired leaving water temperature in accordance with the heat emitter type.

8.5 Symptom: Heat pump failure

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

- When auto emergency is **activated** and a heat pump failure occurs, the backup heater will automatically take over the heat load.
- When auto emergency is **not activated** and a heat pump failure occurs, the space heating operations will stop and need to be recovered manually. The user interface will then ask you to confirm whether the backup heater can take over the 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 backup heater to take over the heat load. ▪ Call your local dealer to get the heat pump fixed.

INFORMATION

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

9 Relocation

9.1 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.

10 Disposal

NOTICE

Do NOT try to dismantle the system yourself: 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.

11 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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