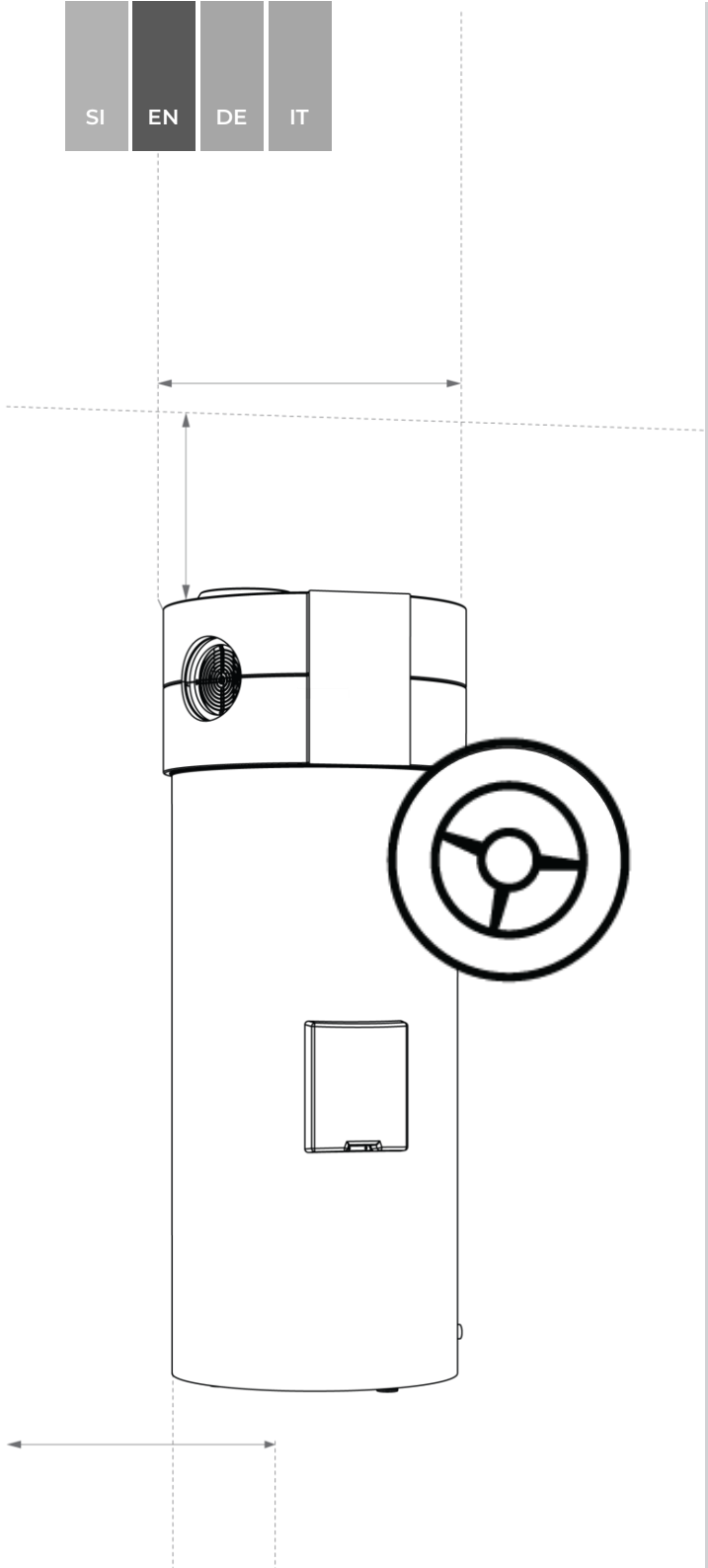
SI EN DE IT

KRONOTERM 1976
HEAT PUMPS

USAGE



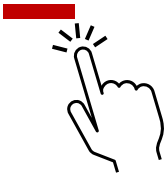
USER MANUAL

User

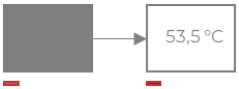
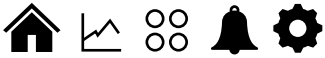
ESSENTA

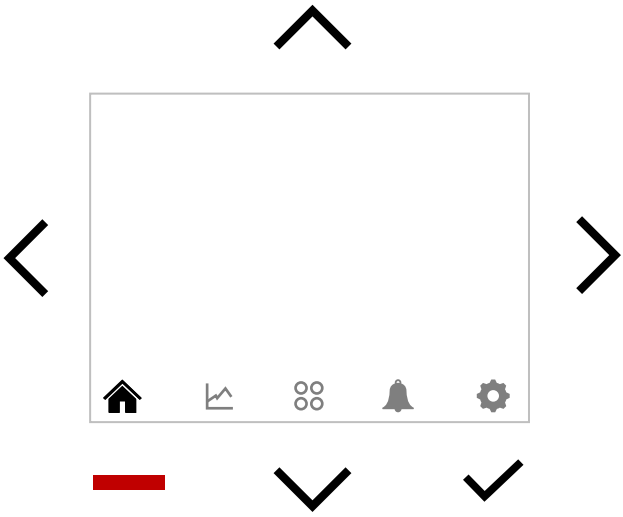
Heat pump

ESSENTA System



RED TOUCH KEY

		Wake up the screen
1x		Home screen
1-5x		Navigate through menu (cyclic selection)
5 sec		Lock/Unlock the screen



OTHER TOUCH KEYS

		Set and view the set temperature
		Enter the submenu
		Right/Left
		Enter the submenu
	OK	Select option, next
	2 s	Confirm setting, hold for 2 seconds

MAIN MENUS

	Home screen, temperature, and schedule
	Operation overview
	Quick settings
	Notifications and errors
	Settings

KRONOTERM INSTRUCTION SYSTEM

The user manual is a part of the KRONOTERM instruction system, which follows our projects' lifecycle from design phase to service support.

User Manual ESSENTA – 17-25-46-220236-00 / 2.2026

Despite taking extensive care to ensure the accuracy of all figures and descriptions, KRONOTERM d.o.o. reserves the right to correct malfunctions, changes to technical details, and changes to figures with no prior notice. Information herein is given based on the latest available product information at the time of drafting and printing this document. All data are preliminary. We also reserve the right to suspend the sales of an individual product or even the entire sales program.

All updates are available in digital format. Please contact your chosen system administrator for access.

Figures are symbolic and are only intended as a reference. Despite our efforts we cannot ensure that the products' true colors, proportions, or other graphical elements will be faithfully represented in print and on electronic screens. Products may differ from their visual representations.

Printed in Slovenia.

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

Write to **info@kronoterm.com** for any additional questions.

TABLE OF CONTENTS

1 IMPORTANT INFORMATION

This manual explains how to use the ESSENTA DHW heat pump.

Incorrect settings may cause the device to malfunction or not operate correctly. To minimize risks, important information is highlighted with symbols in the manual. Follow all general safety guidelines and warnings related to operation.

- If the product is ever given to a third party, these instructions must also be given to said third party.

1.1 SYMBOLS

This symbol indicates various risks for the user or the device:
DANGER: Risk that can lead to serious bodily injury.
WARNING: Risk that can lead to minor bodily injury.
CAUTION: Risk that can lead to device damage or malfunction.

The symbols indicate information:

NOTE: NOTE: Notification that provides important information about the appliance and the manufacturer's requirements.

HINT: For optimal use of the device or a better user experience.

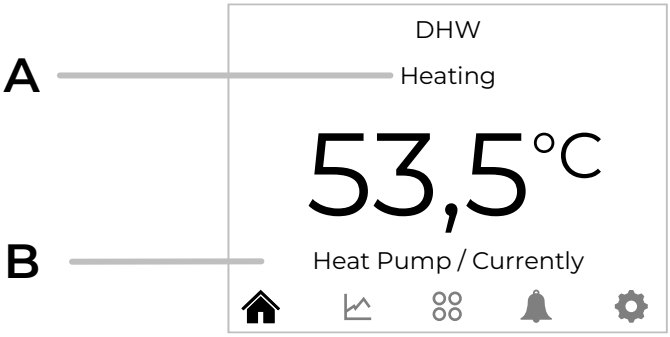
1.2 GENERAL WARNINGS

NOTE

Ask the commissioning engineer or installer to explain in detail how the device works and how to operate it.

Keep these instructions in a dry place in the device's vicinity.

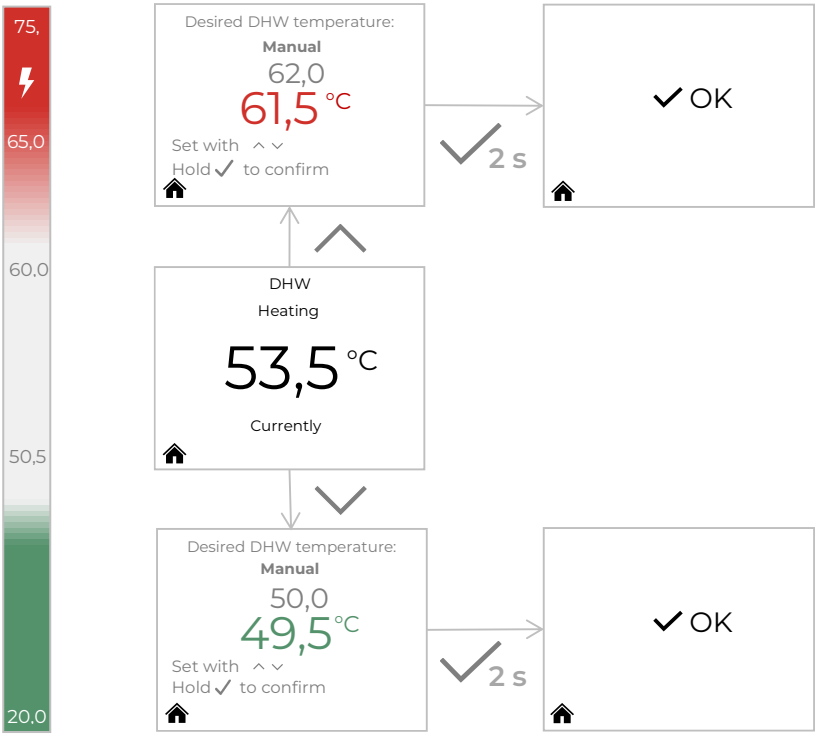
2 HOME SCREEN



A	CURRENT STATUS	SECTION
Heating	Water heating in progress.	
Storing energy	SG Ready or digital signals for energy storage are active.	7.6.5
Standby	Target temperature reached. Water heating off.	
Holiday	Holiday mode is active.	4.6
Anti-Legionella	Anti-Legionella overheating cycle in progress.	4.3, 7.6.1.
Boost	The device is operating in Boost mode – rapid heating.	4.4
Ext. shutdown	An external or digital signal has turned off the heat pump.	7.6.5
OFF	Operation is turned off, only the interface is active.	4.1

B	HEAT SOURCE	SECTION
Currently	/ *Display of the current temperature*	
Heat pump (HP)	Heat pump	4.2
HP and EH	Heat pump and electric heater	4.2
Electric heater (EH)	Electric heater	4.2, 7.6.4
HP + EB	Heat pump and external boiler	7.6.5
External boiler (EB)	External boiler (oil, gas, pellet boiler...)	4.2, 7.6.5
Wood-fired boiler	Wood	0
Solar	Solar energy	0

3 TEMPERATURE SETTING



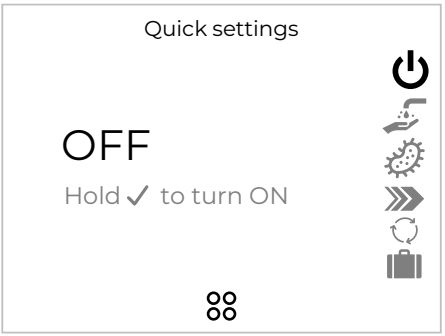
Temperature - colour	Device operation
60,5 – 75,0 °C	Least economical, maximum comfort
50,5 – 60,0 °C	Neutral, balanced
20,0 – 50,0°C	Energy-saving and eco-friendly

NOTE

If the temperature exceeds 65 °C, the device heats the water using the electric heater.

Manual temperature adjustment is not possible when the device operates on a schedule. For more information on setting the temperature with an active schedule, refer to section 5.6.

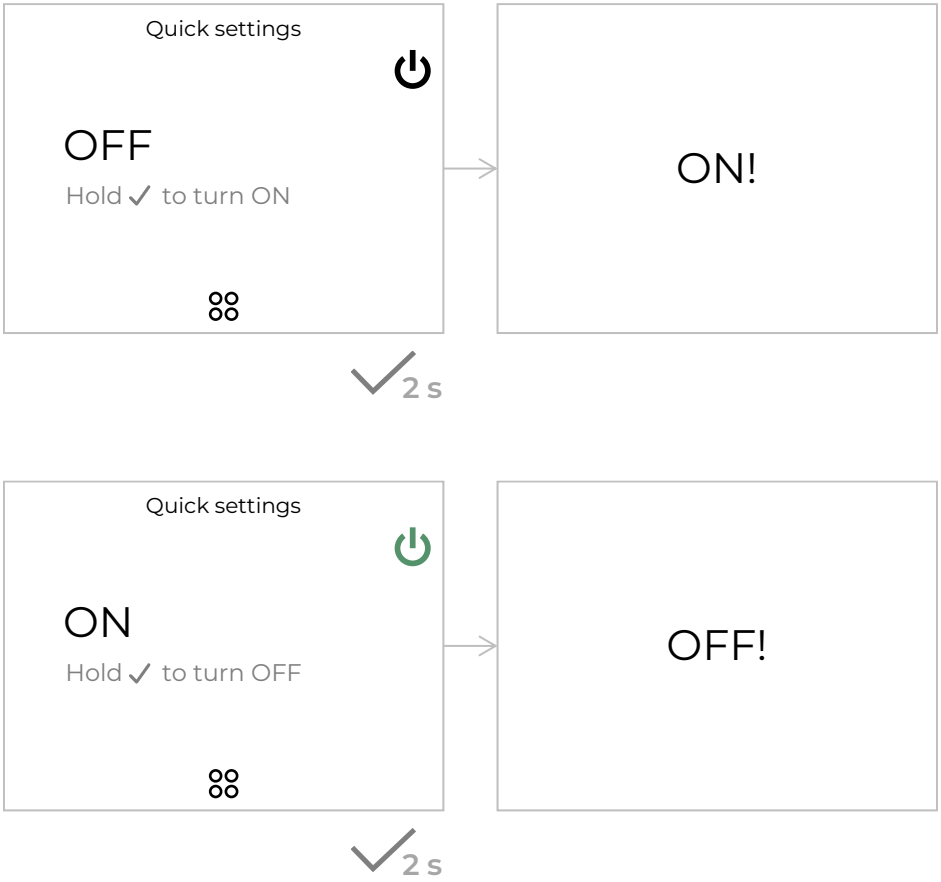
4 QUICK SETTINGS



ON/OFF	ON/OFF – operation is turned off, only the interface is active.
Operating mode	Switching between different operating modes: Auto, Heater, Boiler (see 4.2)
Anti-Legionella	Enable or disable manual domestic water overheating (see 4.3)
Boost	Turn on and off quick domestic water heating (see 4.4)
Recirculation	Activate recirculation for 15 minutes regardless of schedule settings (see 4.5)
Holiday	Set the period when water heating is inactive (see 4.6)
Ducts	Enable switching between air sources (default/primary/secondary). (see 4.7)

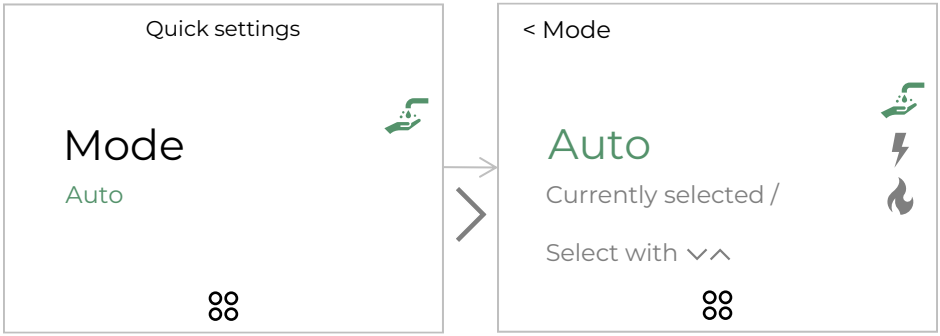
4.1 POWER ON AND OFF

Turning the domestic water heating ON and OFF. When ON, the icon turns green.



4.2 OPERATING MODE: AUTO, HEATER, BOILER

Energy source selection for domestic hot water heating. The device can operate using a heat pump, electric heater, or an external boiler such as an oil or biomass boiler.



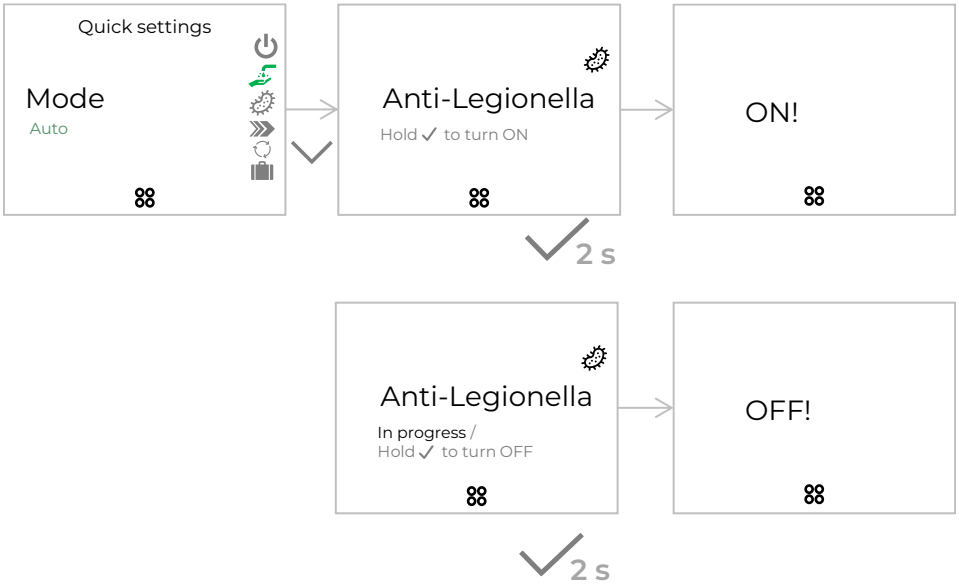
Auto	Automatic mode: The heat pump ensures that the water is always heated. When the outdoor temperature drops below the bivalent temperature, the available additional heater (electric, oil, gas, or pellet) automatically switches on. If solar or biomass heat is available, the device will use this energy first.
Heater	Domestic hot water heating using only the integrated electric heater. Other heater settings can be found in section 7.6.4.
Boiler	Domestic hot water heating using only an external boiler. (If the external source is solar or a wood-fired boiler, this function is not possible.) Other settings for the external boiler can be found in section 7.6.5.

HINT

For the most efficient and economical operation of the device, the Auto setting is recommended.

4.3 ANTI-LEGIONELLA

This function heats water to a higher temperature to prevent the growth of harmful bacteria. Once activated, this quick function continues to operate until it is turned off.



NOTE

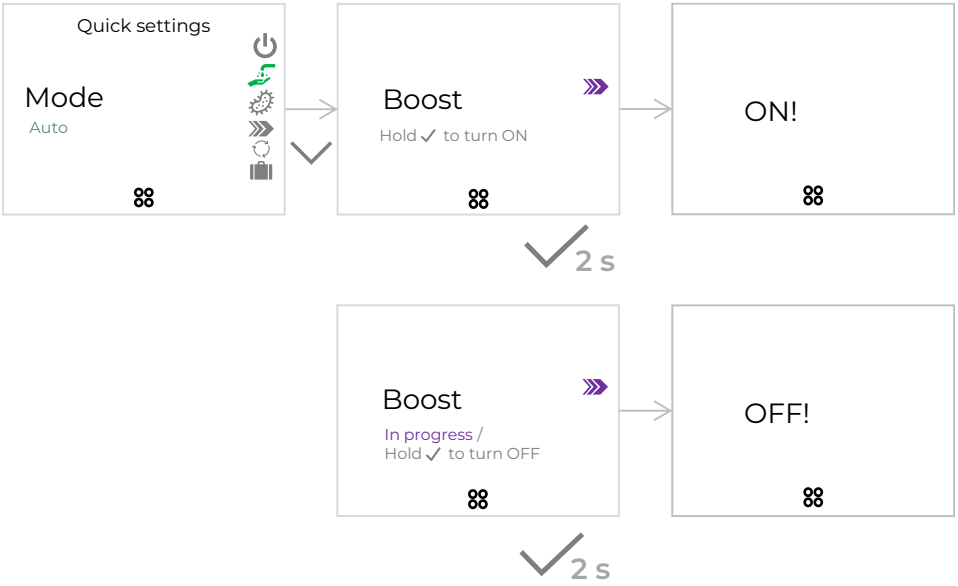
By default, the Anti-Legionella function is activated every 14 days and 1 day before the end of the Holiday mode. For customising the function parameters (period, time, temperature), see 7.6.1.

HINT

Frequent overheating is not recommended, as energy consumption during overheating is 1/3 higher than during normal operation.

4.4 BOOST– QUICK HEATING

The Boost function is intended for one-time quick heating of water using the heat pump and selected additional sources simultaneously.



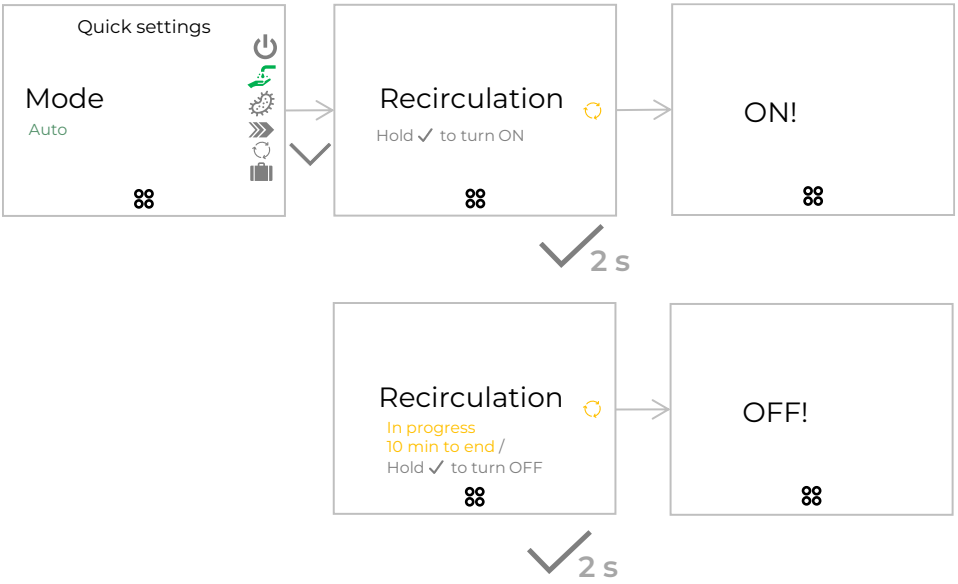
NOTE

The program heats the water as quickly as possible to the set target temperature. If a schedule is active, the water will reach the temperature set for the selected mode (COMFORT, NORMAL, ECO).

Boost switches off automatically when the set temperature is reached or can be turned off manually (see image above). After deactivation, the system returns to the previous operating mode.

4.5 RECIRCULATION

Recirculation allows hot water to continuously flow through the pipes, ensuring it is immediately available at the point of use. When quick setup is activated, recirculation runs for 10 minutes.



NOTE

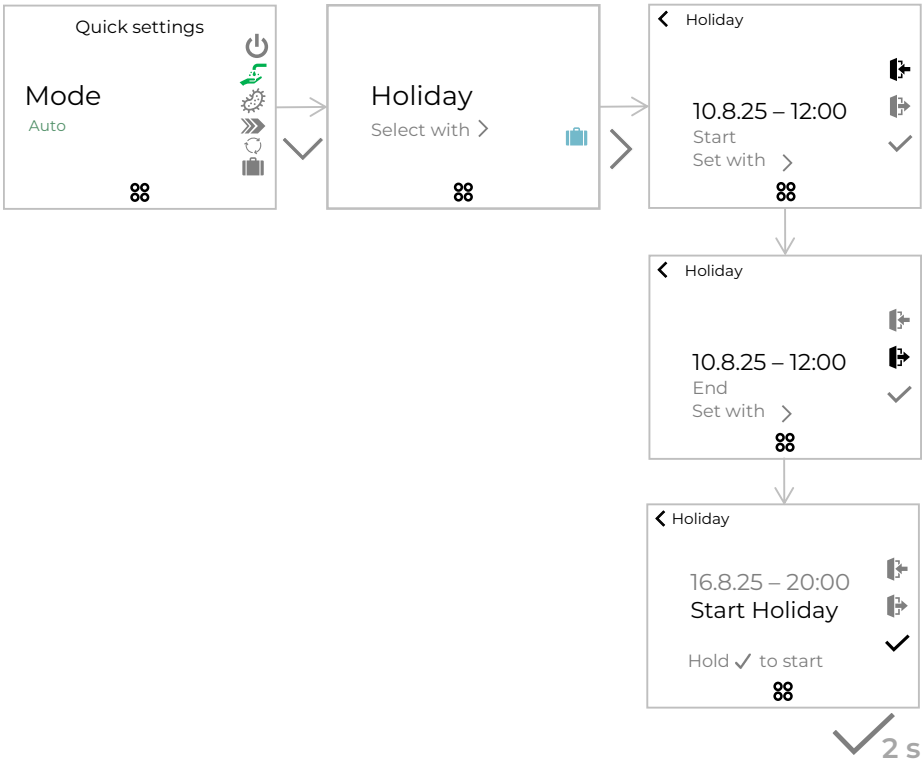
The function turns off either after 10 minutes or manually (see image above).

The recirculation function can operate according to a set schedule (see 7.6.1), or it can be activated manually at any time using the quick settings.

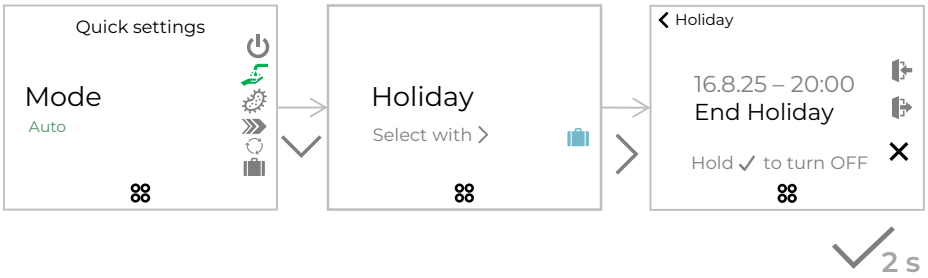
This setting is available only if the system's additional equipment supports domestic hot water recirculation and if the function was enabled during commissioning or later in the settings (see 0).

4.6 HOLIDAY

The Holiday mode allows you to turn off water heating for selected days. During this period, no programs are run, even if a schedule is set.



End before the set date



NOTE

After the set period ends, the device automatically returns to the operating mode and settings used before the Holiday mode.

If the Holiday mode runs for at least one day, the Anti-Legionella overheating function will activate 24 hours before the end of the period.

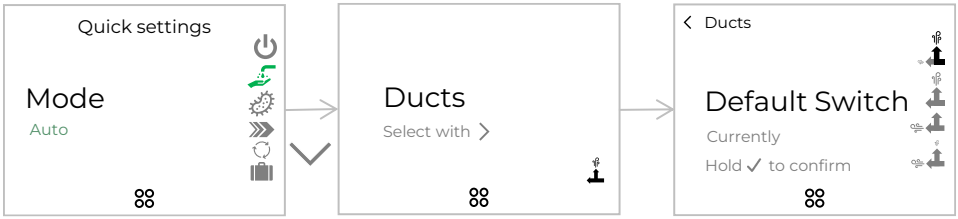
In Holiday mode, the water heating is turned off. However, if the temperature falls below 8 °C, the water will be reheated to 10 °C.

HINT

The Anti-Legionella function ensures that the ESSENTA DHW tank is always filled with hot water at the end of the Holiday period.

4.7 DUCTS

The air duct mode selection allows operation with various air sources (e.g., indoor or outdoor).



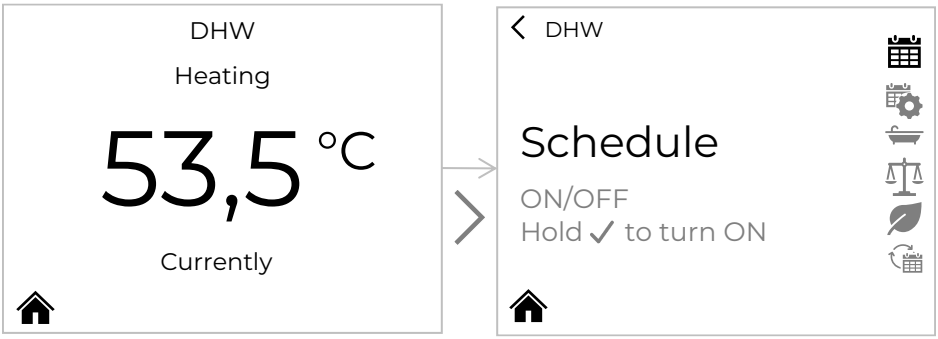
Default Switch	**Default:** The main source for air intake and output is the primary duct. The secondary duct activates automatically when the set changeover temperature is reached.
Prim. only	**Primary duct only:** Air intake and exhaust occur only through the primary duct.
Sec. only	**Secondary duct only:** Air intake and exhaust occur only through the secondary duct.
Reverse changeover	**Reverse changeover:** The main source for air intake and output is the secondary duct. The primary duct activates automatically when the set changeover temperature is reached.

NOTE

For more information and duct settings, see 7.6.3.

This setting is available only in configurations with switchable air ducts and if the function was enabled at commissioning or later in the settings (see sec. 7.6.3).

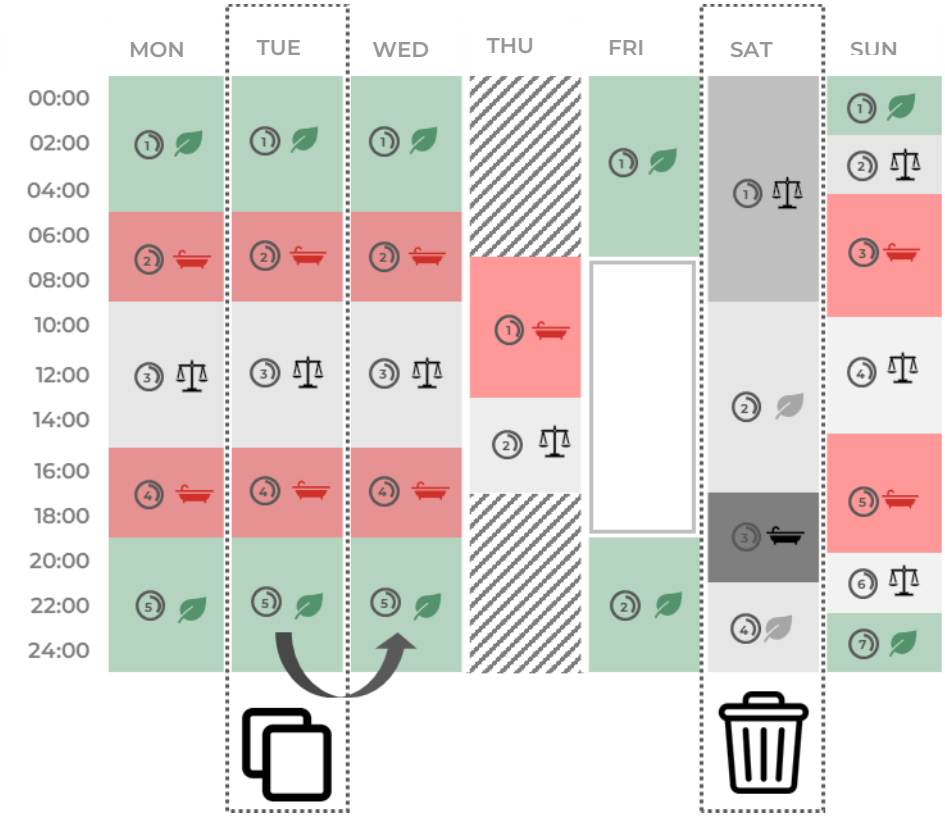
5 SCHEDULE



	SCHEDULE SETTINGS
	Schedule activation ON/OFF (see 5.2)
	Schedule – setup and editing (see 5.1)
	COMFORT - temperature setting (see 5.6)
	NORMAL - temperature setting (see 5.6)
	ECO - temperature setting (see 5.6)
	Recirculation schedule – setting (see 5.7)

5.1 STEPS TO SET THE SCHEDULE

1. Schedule activation (see 5.2)
2. Setting days in the schedule (see 5.3)
3. Editing scheduled days:
   - Copying a daily schedule (see 0) or
   - Deleting a schedule (see 5.5)
4. Setting the schedule temperature (see 5.6)



	Interval – maximum of 7 per day (see 5.3.1)		OFF – the device is not operating
	COMFORT temperature (see 5.6)		No interval set, NORMAL mode is active
	NORMAL temperature (see 5.6)		Copy and paste day (see 0)
	ECO temperature (see 5.6)		Delete one day's settings (see 5.5)

5.2 SCHEDULE ACTIVATION

To operate the device using a schedule, you must first activate the schedule (set to ON).

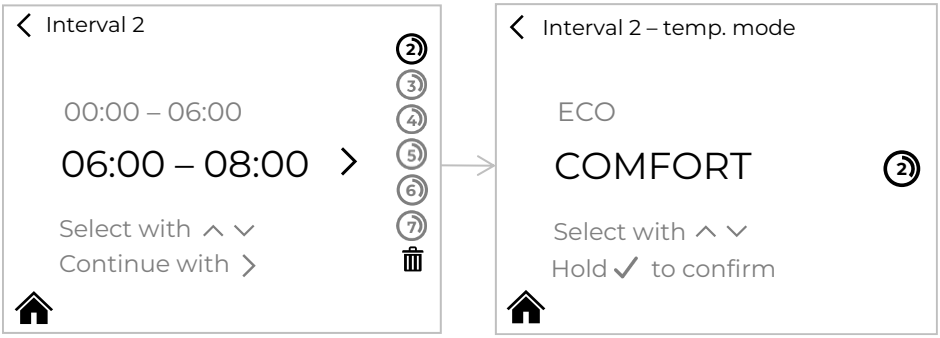
5.3 SCHEDULE SETTING

The schedule can be set for each day of the week.

5.3.1 Time intervals

Each day in the schedule is divided into time intervals. For each time interval, specify:

1. Start time
2. End time
3. Temperature mode: COMFORT, NORMAL, ECO, or OFF mode.



NOTE

A maximum of 7 intervals is available per day.

The intervals are set in sequence – from 1 to 7 – skipping is not possible.

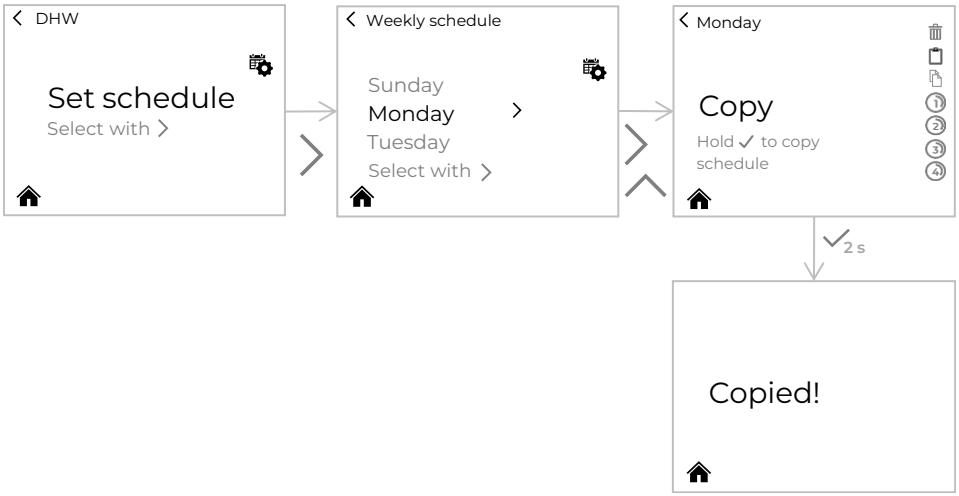
The intervals must follow one another in time and must not overlap.

The intervals are set for a single day, from 00:00 to 24:00.

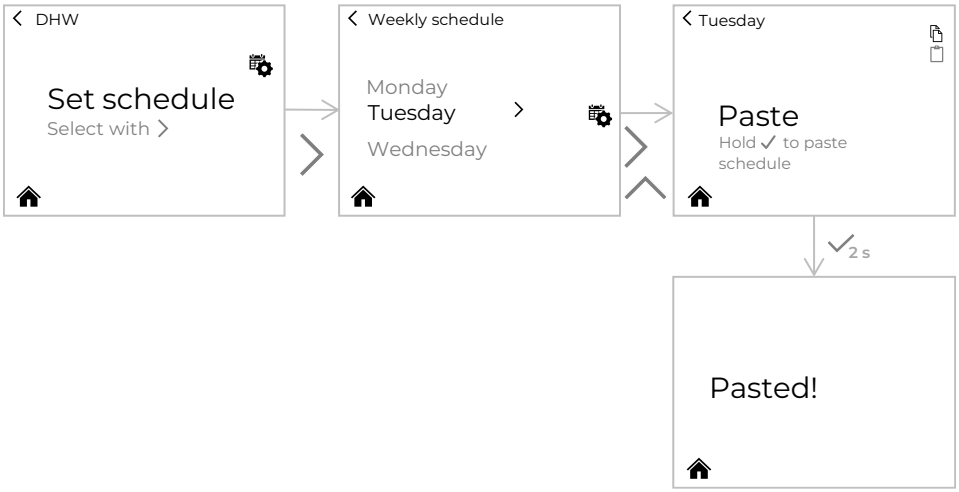
If no interval is set for a specific time of day, the device operates in NORMAL mode during that period.

5.4 COPYING DAILY SCHEDULE

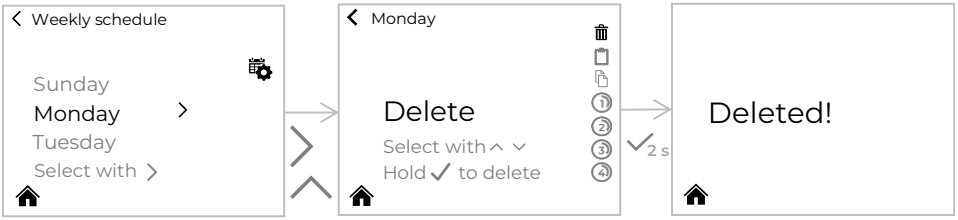
COPY→ MONDAY



PASTE→ TUESDAY



5.5 DELETE SCHEDULE



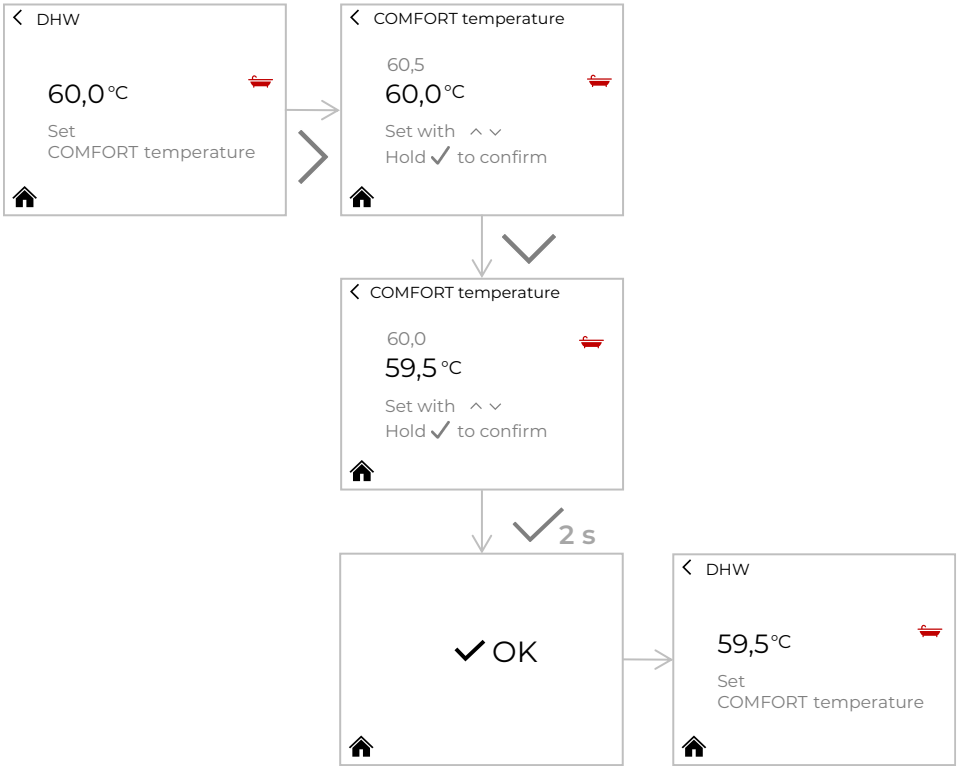
NOTE

The settings are deleted for the entire day, not for individual intervals.

5.6 CUSTOM SCHEDULE TEMPERATURE SETTING: COMFORT, NORMAL, ECO

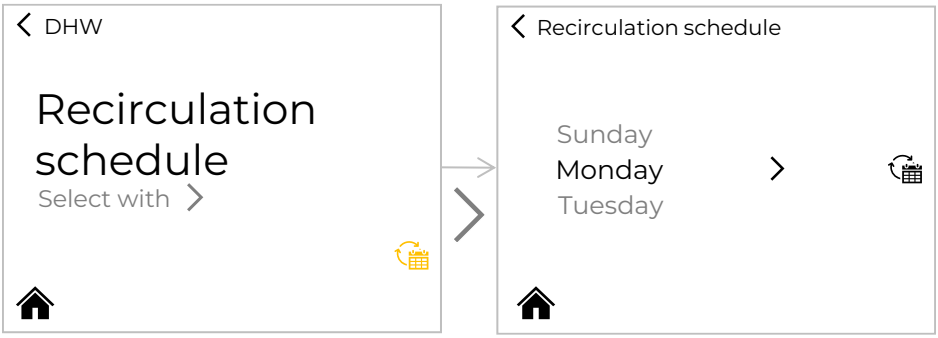
When the device operates on a schedule, three different temperature levels can be defined for individual time intervals: COMFORT, NORMAL, and ECO.

			Default	Custom
	COMFORT	When the maximum amount of hot water is needed.	60 °C.	up to 75 °C.
	NORMAL	When a medium amount of hot water is needed.	55 °C	25 - 65 °C
	ECO	Most energy-efficient choice. When hot water demand is lowest.	45 °C	25 - 65 °C



5.7 RECIRCULATION SCHEDULE

Recirculation can be turned on or off.
The schedule sets the time intervals when recirculation is turned on.



NOTE

The recirculation schedule is set, copied, and deleted in the same way as the domestic hot water heating schedule (see sec. 5.7).

A maximum of 7 intervals is available per day. The intervals are set in sequence – from 1 to 7 – skipping is not possible.

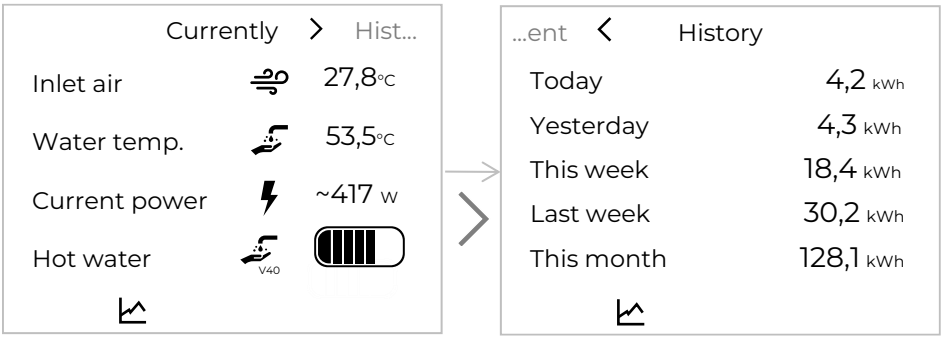
The intervals must follow one another in time and must not overlap.

The intervals are set for a single day, from 00:00 to 24:00.

If no time period is defined in the schedule (no interval), recirculation is OFF during that time.

This setting is only available if the system's additional equipment supports hot water recirculation and if this function was enabled at commissioning or later in the settings (see 0).

6 OPERATION OVERVIEW



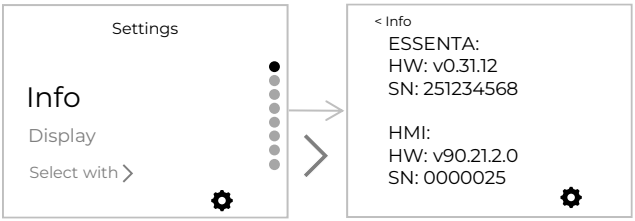
Inlet air	Air temperature at device inlet
Water temp.	Current water temperature in DHW tank
Current capacity	Current electrical power consumption
Hot water V40	Mixed hot water level
History	Estimated electricity consumption for today and past periods

NOTE

The displayed electricity consumption is an estimate and may differ from actual consumption.

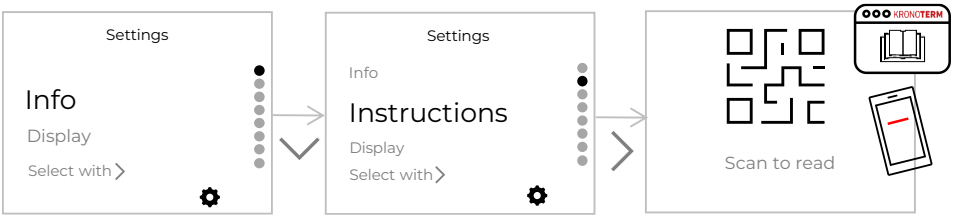
7 SETTINGS

7.1 INFO



Device model	ESSENTA
Device serial number	SN: 251234568
Program information	HMI: HW: 1.00... SN: 250000154

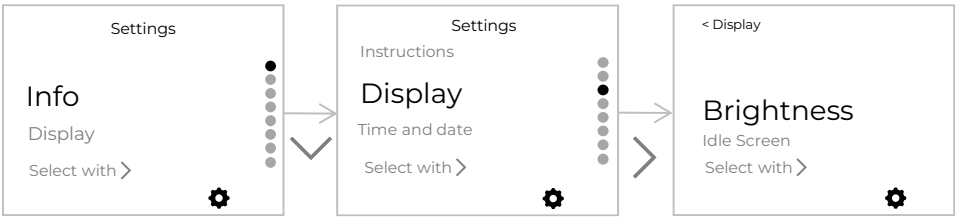
7.2 INSTRUCTIONS



Scan the QR code on the screen to view manuals.

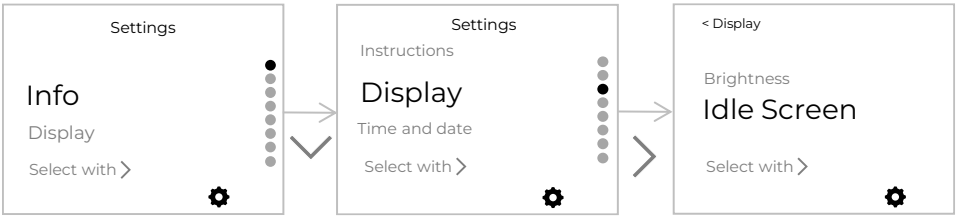
7.3 DISPLAY

7.3.1 Brightness

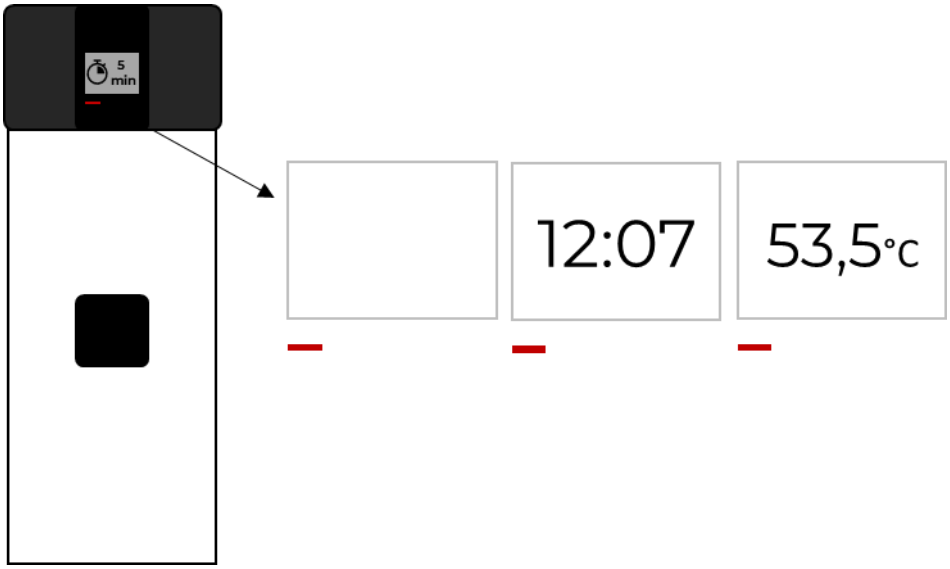


Screen brightness adjustment: 50 / 75 / 100 %.

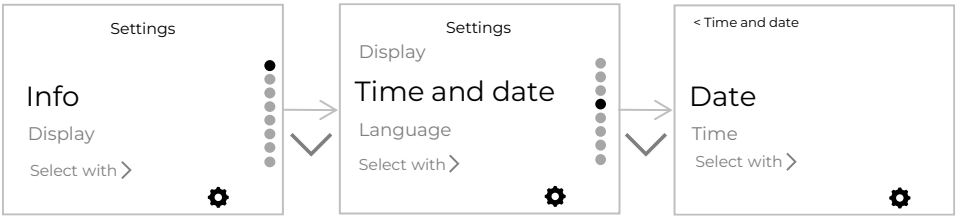
7.3.2 Idle Screen



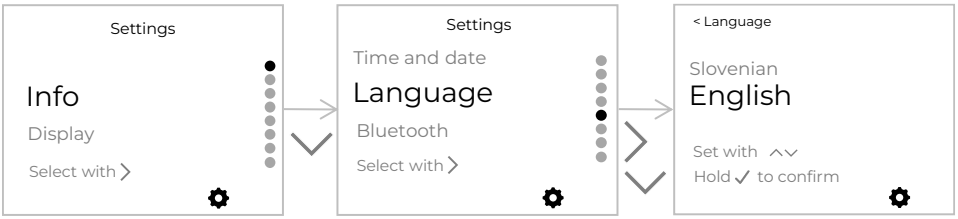
The display switches to sleep mode after 5 minutes of inactivity. In sleep mode, the screen displays one of three options: off (none), time, or temperature.



7.4 TIME AND DATE

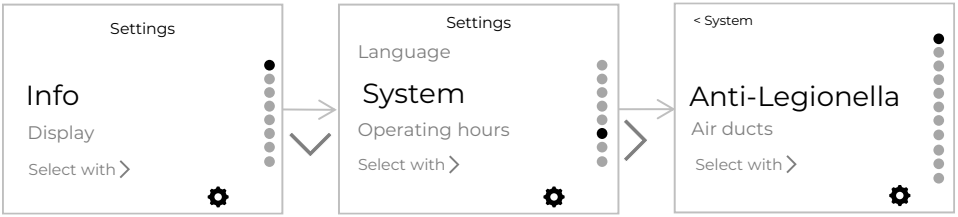


7.5 LANGUAGE



7.6 SYSTEM

7.6.1 Anti-Legionella



The Anti-Legionella function heats water to a higher temperature to prevent the growth of harmful bacteria. The following settings can be customized:

- Period: the time interval between activations of the Anti-Legionella function.
- Start: the start time for each period.
- Temperature: the domestic hot water temperature; the default temperature is 65 °C.

WARNING

The Anti-Legionella function requires setting an overheating period in accordance with national regulations for safe domestic hot water preparation.

The device performs thermal disinfection only in the DHW tank. To fully disinfect the system, ensure hot water flows through all the pipes in the water installation.

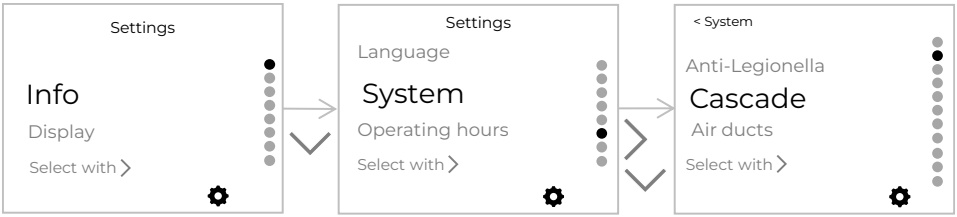
NOTE

Immediate activation of the Anti-Legionella function is described in section 6.2. This type of activation does not interfere with the regular Anti-Legionella program schedule.

HINT

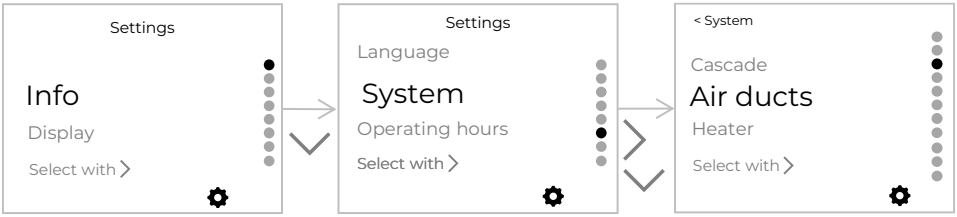
We recommend starting the Anti-Legionella function around 00:00. At that time, electricity is usually cheaper, and there will be enough hot water available in the DHW tank in the morning.

7.6.2 Cascade



Enables operation when multiple ESSENTA devices are connected.

7.6.3 Air Ducts



For configurations with air ducts, one of the following three options can be selected:

1. No ducts
2. Ducts
3. Switchable ducts, with the following settings:
    - Changeover temperature (0-30 °C)
    - Primary duct length
    - Secondary duct length

Switchable ducts: primary and secondary ducts

- If two air sources are available (room/outdoor/exhaust air), the **primary duct** is the air duct through which the main air intake and exhaust take place.
- The primary duct can also be defined by the room, so that air is supplied to the room being cooled.
- The **secondary duct** is the duct through which air from the secondary air source flows.
- When the set changeover temperature is reached, the intake and exhaust air will switch from the primary to the secondary duct.

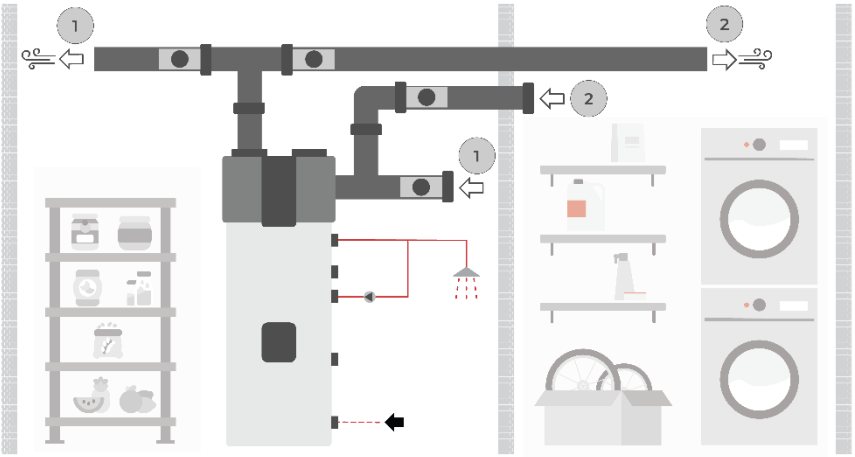


Figure 1: Example of selecting primary and secondary ducts

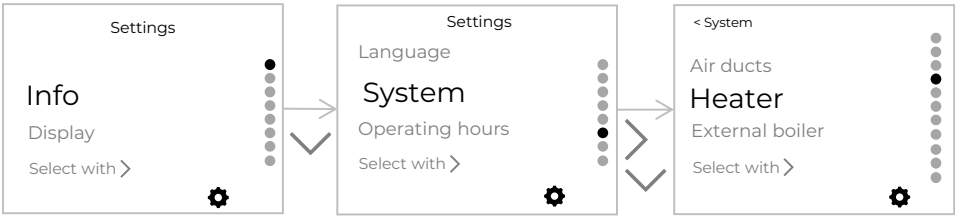
1	Primary duct
2	Secondary duct

NOTE

This setting is available only for device configurations that include switchable air ducts.

Operation of the primary and secondary channels can be set in quick settings (see 4.7.).

7.6.4 Electric heater



Settings for the electric heater integrated into the ESSENTA device. Available options are AUTO and OFF:

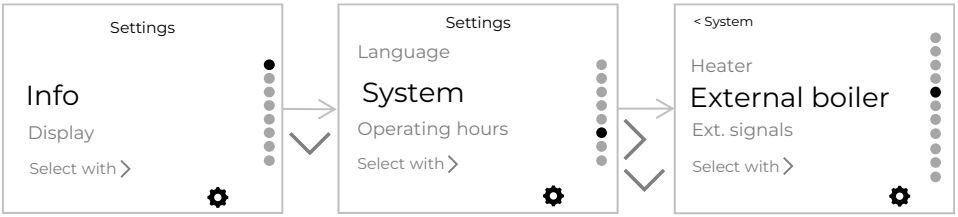
- **Auto:** The built-in electric heater will automatically turn on when needed for optimal and efficient device operation (e.g., with cold inlet air or during defrosting).
- **OFF:** Turning off the built-in electric heater; the heater is disabled for all operating functions.

NOTE

OFF: This setting works only if the device is in AUTO mode (set in quick settings, see 4.2)

Operation using the electric heater only can be set in the quick settings (see 4.2).

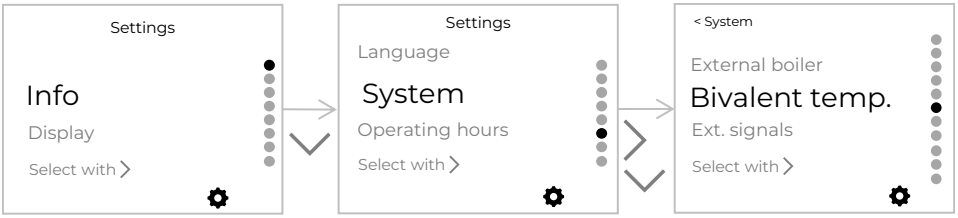
7.6.5 External boiler



The following settings are available for an external boiler or heat source:

1. **Electric heater**
   An additional external electric heater can be activated when the temperature drops below the bivalent temperature (see 7.6.6) or manually as needed (see 4.2).
2. **Boiler**
   An oil, gas, or pellet boiler activates when the temperature drops below the bivalent temperature (see 7.6.6) or manually as needed (see 4.2).
3. **Wood-fired boiler**
   Heat from the wood-fired boiler is used when available (see 0). The device will first use this energy before activating the heat pump.
4. **Solar**
   Heat from the solar collectors is used when available (see 0). The device will first use this energy before activating the heat pump.

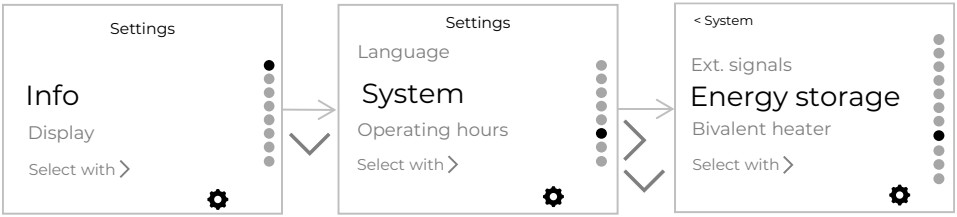
7.6.6 Bivalent temperature



When the inlet air is colder (below 3 °C), the heat pump operates at reduced power. At this point, the selected additional heater (electric heater, oil, gas, or pellets boiler, etc.) can be activated for assistance. Setting the bivalent temperature determines at which temperature this additional heater turns on. When the inlet air temperature rises 3 °C above this value, the additional heater turns off automatically.

The default bivalent temperature is -5 °C.

7.6.7 Energy storage



To utilize surplus electricity.

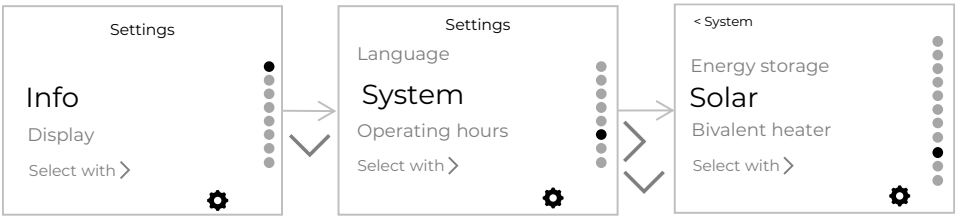
Set the temperature to which the water should be heated when surplus electricity (e.g., from a solar power system) is available. The device receives information about available energy via the signal configured in section 7.6.9.

The default temperature is 65 °C, and the maximum is 85 °C.

NOTE

This option is enabled when the SG signal is active or if energy storage is selected for signal 1 or 2 in the settings (see 8.5.5).

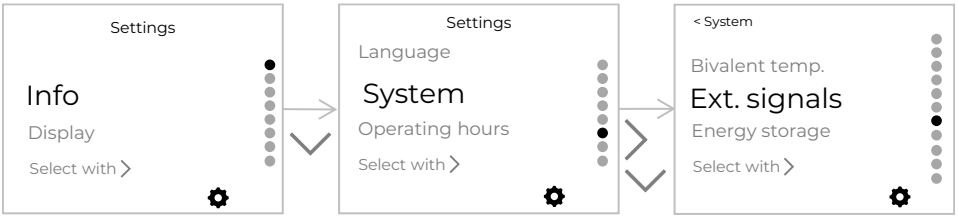
7.6.8 Solar/Wood-fired boiler



For utilizing surplus thermal energy.

The temperature up to which the water is heated is set for times when surplus thermal energy from external sources (e.g. a solar system or a wood-fired boiler) is available.

7.6.9 Ext. signals



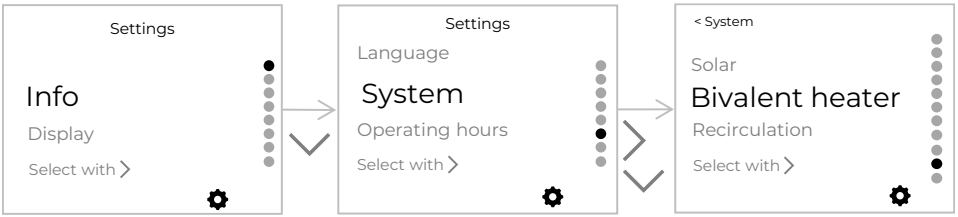
The device control can accept up to 2 customizable external signals. Possible settings are described in the table below.

Setting	Action on signal
None	/
Energy storage AUTO	Water heating for energy storage with automatic heat source selection up to the set temperature (see 7.6.7)
Energy storage HP+EH	Water heating for energy storage using the heat pump and electric heater up to the set temperature (see 7.6.7)
Energy storage HP+EH+EB	Water heating for energy storage using the heat pump, electric heater, and external boiler (source) up to the set temperature (see 7.6.7)
Ventilation	The device's fan turns on to allow room ventilation.
OFF	Turn off device

NOTE

If the SG signal is active, External signals 1 and 2 cannot be configured.

7.6.10 Bivalent heater



The bivalent or additional heater is used to support the operation of the heat pump. It also activates in the event of a heat pump malfunction.

The following can be set as the bivalent heater:

- None
- El. heater – built-in electric heater (see 7.6.4) –*default option*
- External boiler: oil, gas, pellet boiler, external additional el. heater... (see 7.6.5)
- Both heaters – electric heater and external boiler

NOTE

The temperature setting for activating the bivalent heater is detailed in section 7.6.6.

Manual activation of the bivalent heater is possible via the Quick settings (see 4).

When the device operates with external or exhaust air, the operation of the bivalent heater and compressor depends on the air temperature:

- **When the air temperature is between –5 °C and –10 °C, the heat pump compressor operates together with the selected bivalent heater.***
- **If the air temperature is below –10 °C, only the selected bivalent heater operates.**
- **If the air temperature is 45 °C or higher, only the selected bivalent heater operates.**

***The –5 °C threshold can be adjusted by setting a different bivalent temperature (see 7.6.6).**

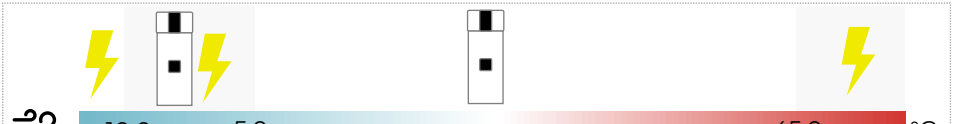
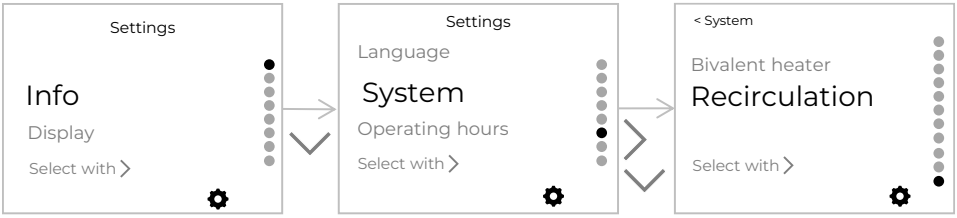


Figure 2: Heater operation depending on air temperature

7.6.11 Recirculation



Recirculation allows hot water to continuously flow through the pipes, ensuring it is immediately available at the point of use.

Settings:

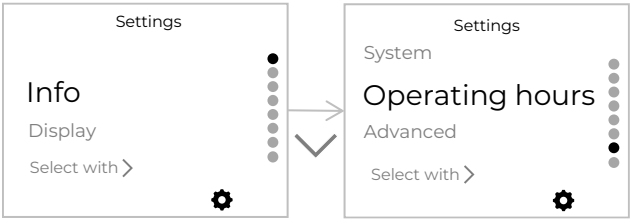
- Configuration: Yes/No – indicates whether domestic hot water recirculation is enabled.
- Manual – sets the duration for manual recirculation activation (see 4.5). The default value is 10 minutes.

NOTE

This setting is only available if the system's additional equipment supports domestic hot water recirculation.

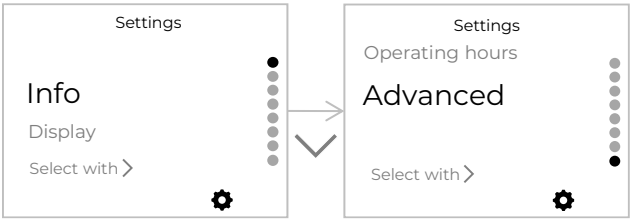
If recirculation is enabled, you can set the recirculation schedule (see 5.7) or activate it manually as needed (see 4.5).

7.7 OPERATING HOURS



Display of operating hours for the heat pump, electric heater, external heater, primary and secondary ducts, recirculation, and number of defrost cycles.

7.8 ADVANCED



Advanced settings are intended for technical support personnel. Entering a PIN code is required to edit the settings. The following can be set:

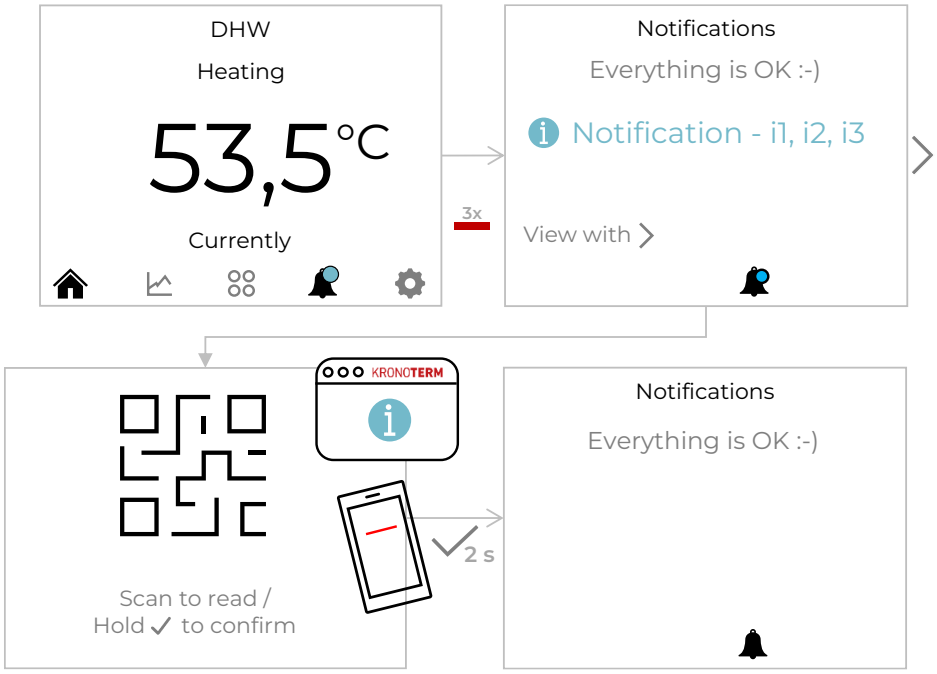
- Inputs and outputs – I/O
- Modbus parameters
- Output test
- Error and warning history
- Factory reset

8 NOTIFICATIONS AND ERRORS

	Notification (see sec. 8.1)
	Error (see sec. 8.2)
	Critical error (see sec. 8.2)

8.1 NOTIFICATIONS

Notifications provide important information and tips for the user.



NOTE

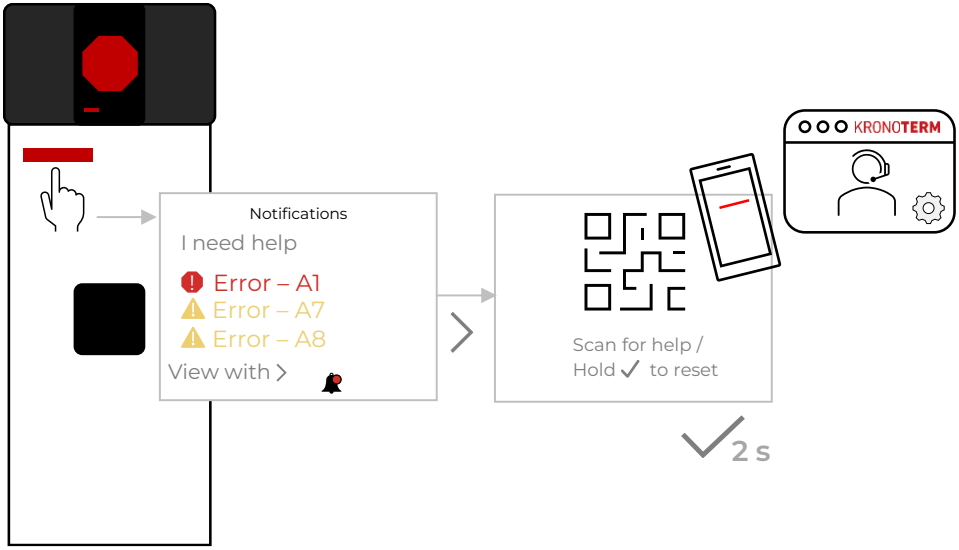
To read notifications, scan the QR code to access the notifications page at kronoterm.com.

After holding the ✓ key for two seconds, the notification will be dismissed and the message will disappear from the screen.

8.2 ERRORS

A fault indicated by a yellow colour or a triangle warns of a malfunction of the device or its individual components. Despite the error, **the device continues to operate.**

A critical error causes **the device to shut down.**

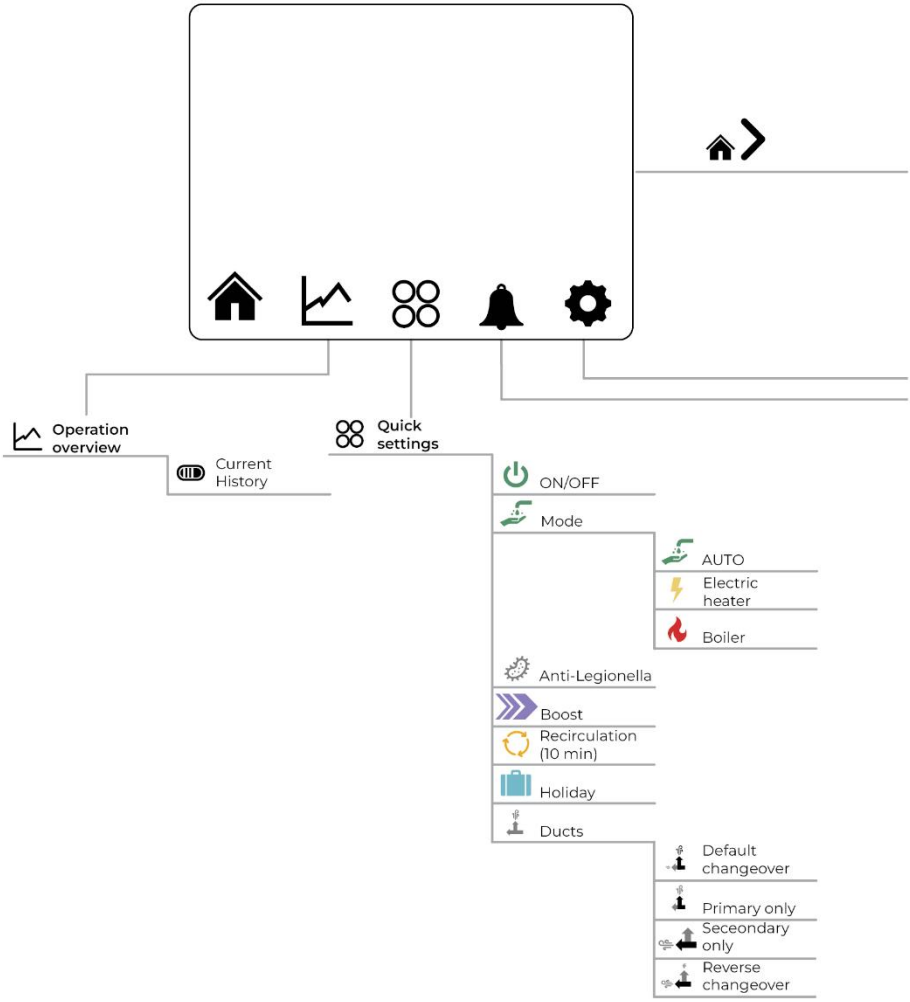


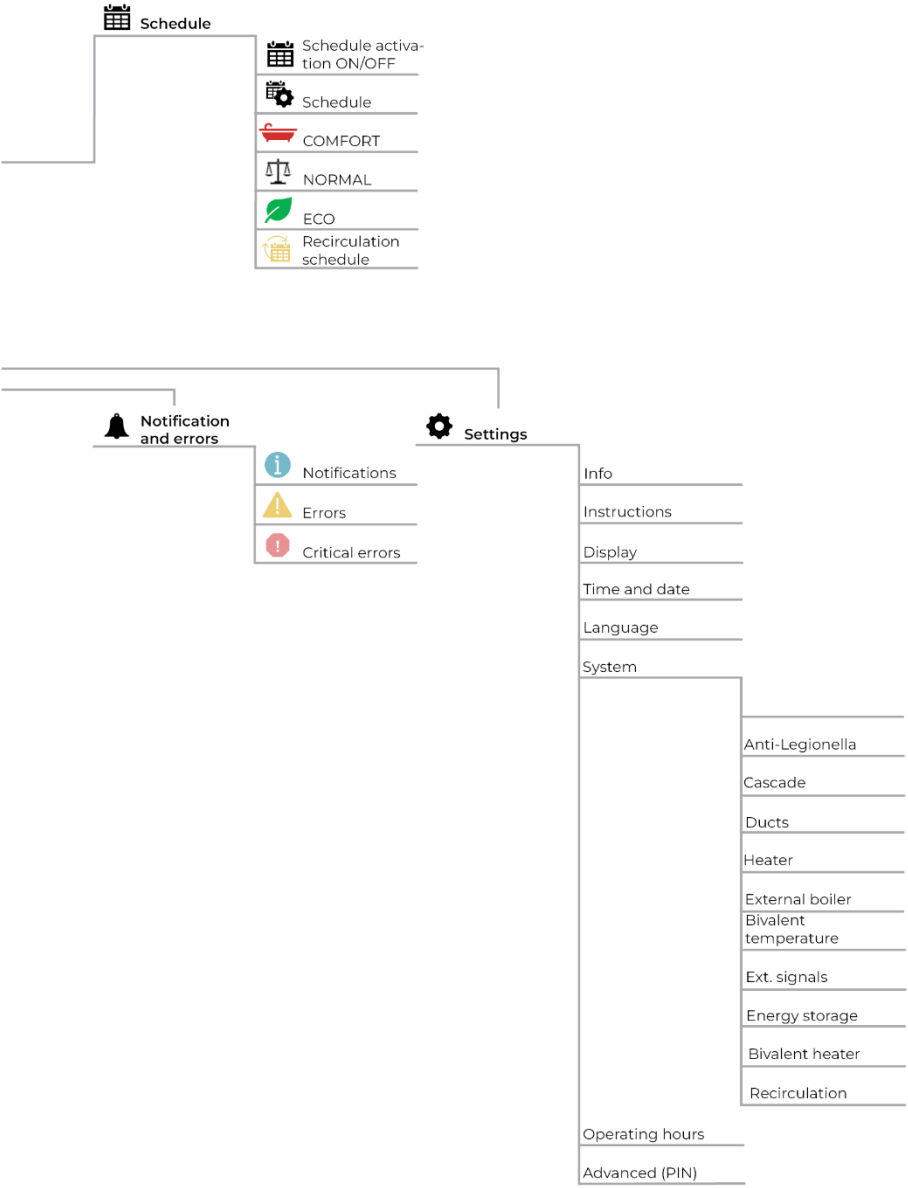
NOTE

For assistance with errors, scan the QR code to access the customer support website. The website provides information on the cause of the error and allows you to create a service request for assistance.

The error indicator will disappear only when the error is no longer active. Resetting is only possible once the cause of the error has been resolved.

While the error is active, the display will remain in standby mode (see 7.3.2) showing a yellow or red error symbol.


Operation overview
Current
History
Quick settings
ON/OFF
Mode
AUTO
Electric heater
Boiler
Anti-Legionella
Boost
Recirculation (10 min)
Holiday
Ducts
Default changeover
Primary only
Seceondary only
Reverse changeover


Schedule
Schedule activation ON/OFF
Schedule
COMFORT
NORMAL
ECO
Recirculation schedule
Notification and errors
Notifications
Errors
Critical errors
Settings
Info
Instructions
Display
Time and date
Language
System
Anti-Legionella
Cascade
Ducts
Heater
External boiler
Bivalent temperature
Ext. signals
Energy storage
Bivalent heater
Recirculation
Operating hours
Advanced (PIN)

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KRONOTERM D.O.O.
Trnava 5e, 3303 Gomilsko, SLO
T: +386 3 703 16 20
www.kronoterm.com
info@kronoterm.com