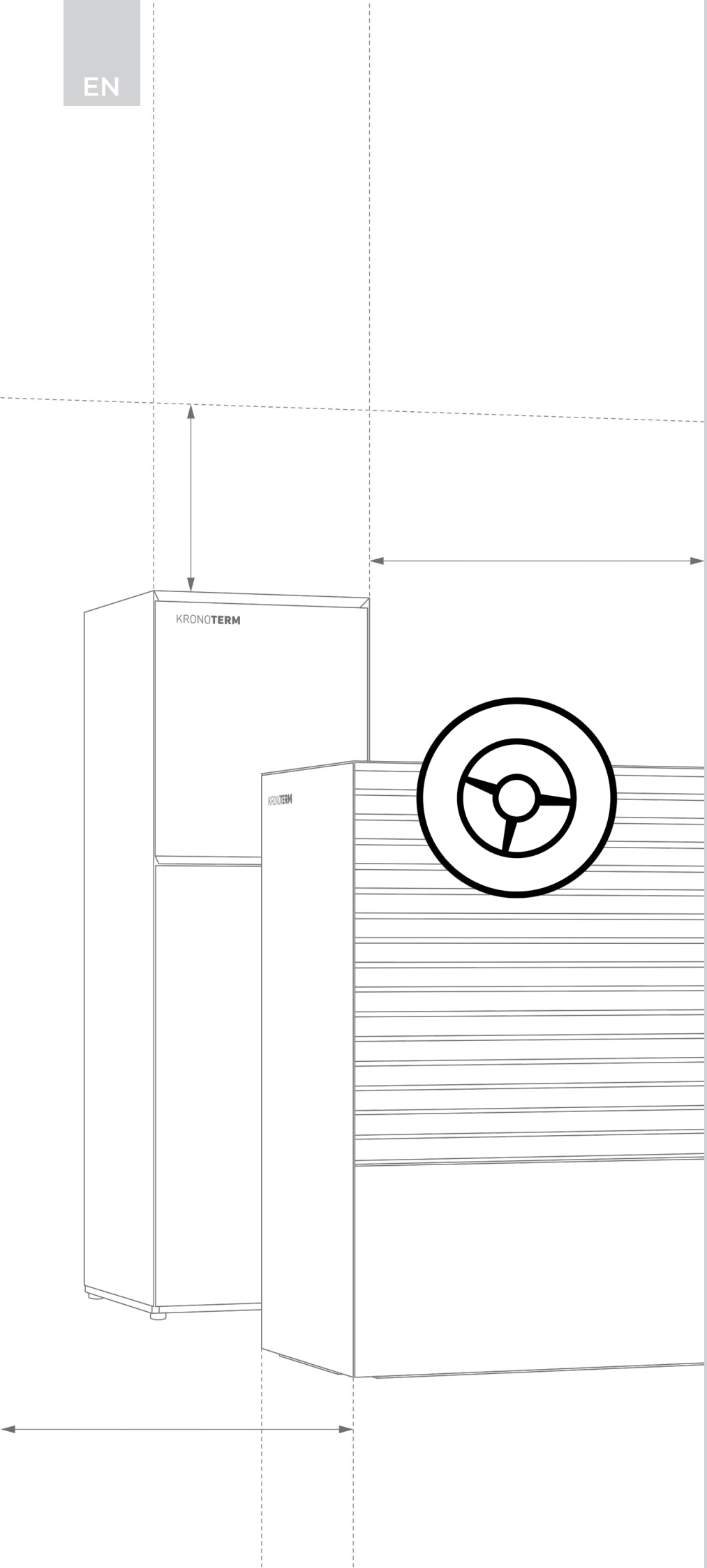
EN

KRONOTERM 1976

HEAT PUMPS



USAGE

OPERATING INSTRUCTIONS

Technician, user

Cloud.Kronoterm

Operating

ADAPT, VERSI, ETERA, WPLV, ADAPT^{MAX}

KRONOTERM INSTRUCTION SYSTEM

This document is a part of the KRONOTERM instruction system, which follows our products' lifecycle from design phase to service support.

The installation manual is the basis for a professional and expert approach to the installation of the KRONOTERM heat pump system.

Operating instructions_Usage CLOUD.KRONOTERM_17-20-27-10003-05_EN

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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

These instructions were written to inform you of all important steps to take between commissioning and further use. They describe how to set and use the appliance.
Incorrectly set parameters on the controller can lead to a malfunction or cause the appliance to stop working. Symbols in these instructions emphasize important information on mitigating risks. Follow all general safety instructions and warnings on appliance operation.

- **After installation these instructions must be given to the end user.**
- **If the product is handed over to a third party, these instructions must also be given to said third party.**

1.1. SYMBOLS

Symbols in these instructions emphasize important information on mitigating risks.

These symbols indicate important information.
NOTE: Declaration on important information about the appliance and the manufacturer's requirements.

1.2. ABOUT CLOUD.KRONOTERM

The purpose of the service is to provide for easier user management via mobile applications and/or a web browser, and to provide better and more responsive technical support. Use of this service is not a condition for basic use of the appliance.

The HOME.CLOUD service, in addition to connecting to the cloud CLOUD.KRONOTERM.COM, includes mobile apps for use on smartphones and Android and Apple tablets.

HOME.CLOUD, which allows you to connect to the internet and thus to the CLOUD.KRONOTERM.COM, and is intended for the customer/owner or operator of the device.

The HOME.CLOUD system and service are also intended for the provider and its contractors and authorized persons, so they can provide technical support to the appliance user/owner.

1.2.1. DATA STORAGE

Given a WiFi signal, the device connects to the provider's server and then stores the operating parameters of both the device and the system. Data storage also allows for the provision of remote technical support to the user.

NOTE

If the appliance user/owner disagrees with this, do not connect the appliance to the internet, or immediately disconnect it from the network.

1.3. NEW USER ACCOUNT REGISTRATION

Before the first connection to the web interface can be established, a new user account must be created and connected to your device. Registration is possible through a browser on a personal computer, a tablet computer, or smartphone.

The web application can be accessed through:

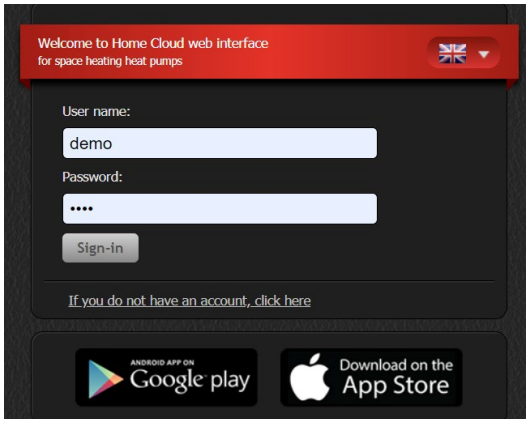
- **the KRONOTERM web page: http://www.kronoterm.com by clicking on the "Cloud" icon ali**
- **or directly at the web address: https://cloud.kronoterm.com.**

A 14-digit UID code is needed for registration. This can be acquired by following the procedure described in the manuals for Registration in Cloud.

Next, enter your desired username and password. The validity of each entry is confirmed by a green check mark. A new user account is created by clicking on the "Registration" button.

1.4. LOGGING IN TO THE WEB INTERFACE

Use the **"username"** and **"password"** provided during the new account registration procedure (Section 1.3 and login into web interface by clicking the "Sign-in" button.



OPOMBA

If you forget your username and/or password, you need a new unique code and must repeat the procedure for a new user account registration.

2 INTRODUCTION TO THE INTERFACE

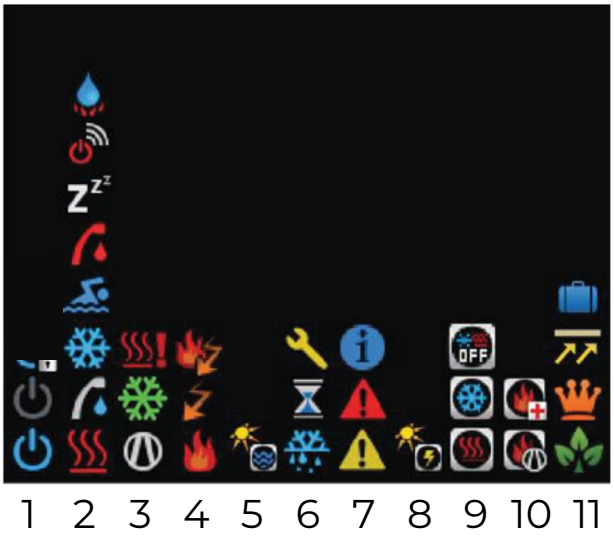
NOTE

The window shows the entire display interface. The window display depends on the installed system and the appliance's commissioning settings.

1	Main menus
2	Status line
3	Submenu display
4	Submenus

2.1. STATUS LINE

The status line contains all relevant information about the appliance's operation, its connection to the cloud, and the current time and date.



1	**Heat pump status:** The heat pump and heating system are turned on. The heat pump and heating system are turned off.
2	**Heat pump operational mode:** Heating. Heating DHW. Active cooling. Heating the pool. Manual activation of the anti-Legionella program. Standby – your heat pump will wait until it needs to work. The remote deactivation signal is on. Quick heating DHW.
3	**Heat pump operating mode:** Heat pump is currently ON. Passive cooling is activated. The anti-freezing program is activated.
4	**Status of additional heater:** Additional heater 2 is active (external source). Additional heater 1 is active (internal electric heater). Both additional heaters 1 and 2 are active.
5	**Heating with biomass or solar cells:** Heating with biomass or solar cells is active.
6	**Heat pump operating mode:** Defrosting is active. The heat pump is blocked from turning on (after turning it off). You need an annual inspection of your heat pump.
7	**Alarm:** Error – verify the meaning of the error code and call a service technician if necessary. Warning – verify the meaning of the warning code and take appropriate measures; it is not necessary to call a service technician. Information – verify the information code.
8	**Photovoltaic power signal:** A signal from a PV power station is active.

9	**Heating / Cooling / DHW mode:**
	Heat pump is in heating and DHW heating mode.
	Heat pump is in cooling and DHW heating mode.
	Heating and cooling mode is turned off. The heat pump is only heating DHW and the pool.
10	**Additional heater mode:**
	The additional internal electric heater is on.
	Activation of backup heating mode.
11	**Heating loop operation mode:**
	ECO mode is active.
	COMFORT mode is active.
	Screed-drying mode is active.
	Vacation mode is active.

3 BASIC SUBMENUS

3.1. BASIC

Depending on your system's configuration and the parameters set at commissioning, you will see a variety of temperature sensor symbols.
A window will display the temperatures of the sensors built into your system. OK je napisano.

	Outside temperature
	Alternative source temperature .
	DHW temperature
	Pool temperature.
	Heating loop temperature, measured at spatial correctors KT-1, KT-2A.
	Cooling loop temperature in summer mode

NOTE

If you have a built-in temperature sensor for your buffer tank, the return pipe temperature is shown. The temperature that the buffer tank senses cannot be seen on the interface.

If you have a built-in temperature sensor for the heating loop, the inlet temperature of heating loop is displayed.

If the sensor is not connected, you will see the reading N/A, and the controller alerts a warning.

	Return pipe temperature when heat pump is in standby mode
	Return pipe temperature with a working heat pump while room is heating
	Return pipe temperature with a working heat pump while DHW is heating

3.1.1. SYMBOL DESCRIPTION

Next to the sensors the current temperature of the sensors is displayed.

1	Temperature sensor symbol
2	Temperature sensor name
3	Current temperature

3.2. SYSTEM OVERVIEW

In the first line you see the symbol and the text description of the device status. In the second line, the symbols of the inlet and outlet temperature, the pressure of the heating system and the pressure of the source.

3.2.1. DEVICE OPERATION

In the first line you see the symbol and the text description of the device status. In the second line, the symbols of the inlet and outlet temperature and the pressure of the heating system.

3.2.2. CONTROL LOOPS INFORMATION

Operation, status, and temperature for all control loops present in the system are displayed.

1	Control loop icon.
2	Current temperature of the control loop.
3	Calculated target temperature.
4	Operation status (OFF, AUTO, ON).
5	**Control loop operation modes.**
a	Control loop in OFF mode: in accordance with its schedule or because of a manual deactivation (blank space)
	Control loop in COMFORT mode
	Control loop in ECO mode
	Control loop in NORMAL mode
b	Control loop thermostat is activated (blank space)
	Control loop thermostat is deactivated
c	Control loop pump is deactivated(blank space)
	Control loop pump is activated

OPOMBA

OFF: Control loop deactivated.

AUTO: Control loop operating according to its schedule.

ON: Control loop activated.

Control loop with a thermostat present (KT-1 / KT-2A)
The window shows the operation, statuses and temperatures of the control loop, within which the thermostat KT-1 or KT-2A is present.

1	Control loop icon
2	Supply pipe temperature
3	Current temperature of the control loop
4	Calculated target temperature
5	Operation status (OFF, AUTO, ON)

For more information about the control loop automatic operation modes, see Chapter 4.

3.3. SHORTCUT MENU

The window shows the shortcuts that your system allows.

NOTE

Certain shortcuts require confirmation when prompted by the interface. When the button is active (colored blue), the source function is enabled. You must turn it off manually (by pressing the button again).

Holiday mode
Turn the program on and enter the number of days you will be gone. DHW heating turns off, and one day before you return the anti-Legionella program turns on to sterilize your DHW.
In heating mode the appliance will maintain a minimum temperature within the system. In cooling mode it will go to standby for the amount of days that you enter.

Quick heating DHW
Turn on quick heating for DHW to the set DHW temperature. After heating DHW to the right temperature, the appliance returns to its previous mode. The program turns off automatically.

Anti-Legionella heating
Turn on the anti-Legionella program, which is found in advanced settings.

Additional source
Manually turn on the additional heater, which works in tandem with the appliance itself. Turn it on to heat the system even more quickly.

> **NOTE**
>
> **Turning this function on does not influence the source's operation.**

Back-up source
Manually activate the back-up heating mode. Turn on the back-up source to compensate for the appliance. This is a temporary solution in the event that the appliance malfunctions.

> **NOTE**
>
> **Turning this function on does not influence the source's operation. This source turns on as it is needed.**

Modes
Switch between cooling and heating, or turn off the cooling or heating mode.The heat pump only heats DHW and the pool.

> **NOTE**
>
> **Changing the heating mode affects the entire system.**

ON / OFF mode
Turn the appliance ON/OFF

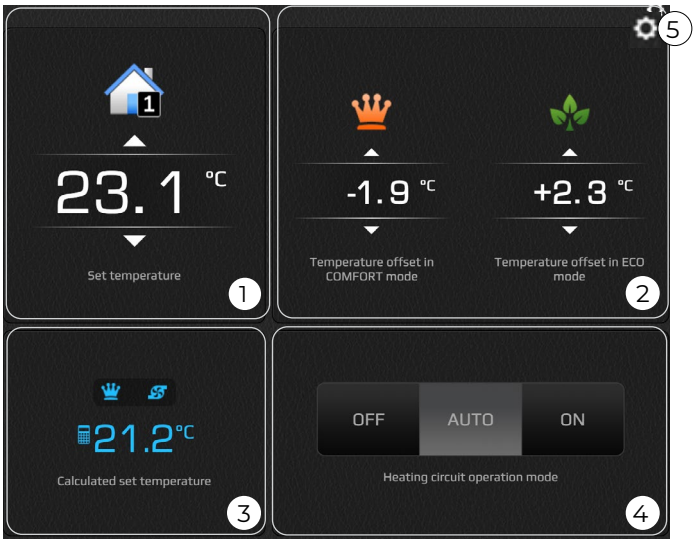
Manual activation of filling the system with water
When the pressure in the heating system falls by 0.5 bar below the parameter set in advanced settings  , the button to turn off manual filling of the system is displayed.

Activation of the recirculation pump
Manually activate the recirculation pump for sanitary water for 5 minutes.

3.4. CONTROL LOOPS

Buffer tank, Heating loops, DHW water, Pool
All of the listed windows have the same settings interface. In advanced settings the adaptive curve can only be included for the heating loops to which the KT-2A controller or KT-1 thermostat are connected.

	Buffer tank
	Heating Loops
	DHW water
	Pool



1	Setting the temperature in NORMAL loop mode. The temperature shows the set desired appliance parameter . Use the arrows to change the desired temperature. If the heating loop is controlled through the thermostat KT-1 or KT-2A, the temperature shows the desired set value on the thermostat. Use the direction buttons on the corrector to change the desired temperature. The heating loop water temperature symbol becomes the symbol for ambient temperature when using the KT-1 or KT-2A .
2	ECO and COMFORT deviations from the set loop temperature: the COMFORT mode (increased operation) is set on the left side using two arrow buttons. The ECO mode (decreased operation) is set on the right side using two arrow buttons. You can set deviations in intervals of 0.1 °C.
3	The temperature displayed in blue shows the calculated desired loop temperature, taking into consideration all corrections to the desired temperature (ECO and COMFORT mode, weather mode, general deviation). Above that is displayed status information on the heating loop.
4	Heating loop operational mode: The OFF/AUTO/ON buttons turn the loop off (OFF), to turn the loop on permanently (ON), or to set loops depending on a schedule (AUTO).
5	Advanced settings (see 3.4.1)

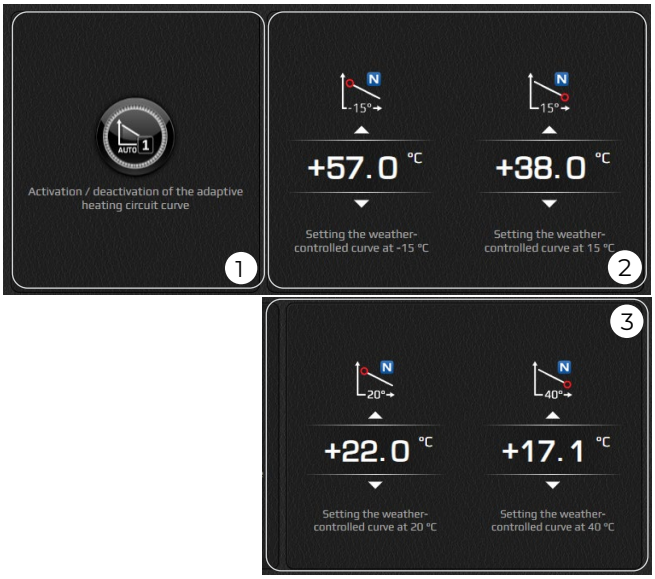
NOTE

The curve on the symbol tells you that the heating loop is in weather mode. Neither DHW nor the pool can be in weather mode.

The symbol tells you the ambient room temperature, while all other symbols (e.g.) show the water temp.

For direct heating loops set the desired temperature and the ECO and COMFORT modes just as explained in Chapter 3.4.

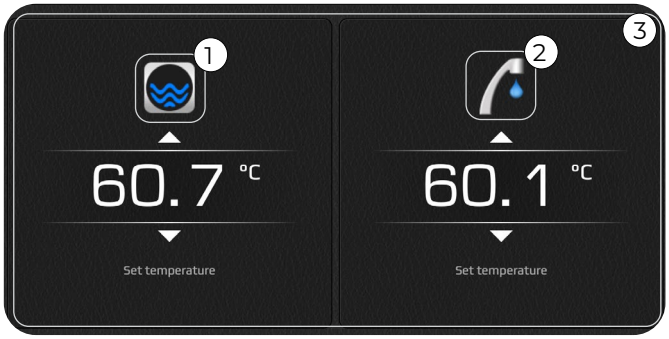
3.4.1. ADVANCED SETTINGS



1	OFF/ONN for the adaptive curve regulation mode for individual loops. Adaptive curve regulation turns on automatically if it is set that way at commissioning.
2	Weather mode for the curve – the hot water temperature in the supply pipe at a various ambient outdoor temperatures. If it is cold inside and the temperature outside is below 0 °C, increase the value at –15 °C outdoor temperature. If it is above 0 °C outside, change the value at +15 °C outdoor temperature. **NOTE** **Turn off adaptive curve regulation if you would like to change parameters.**
3	Weather mode for the curve – the cold water temperature in the supply pipe at a various ambient outdoor temperatures. If it is warm inside and the temperature outside is below 30 °C, decrease the value at +20 °C outdoor temperature. If it is above 30 °C outside, change the value at +40 °C outdoor temperature. **NOTE** **You cannot use the adaptive curve in cooling mode.**

3.5. ALTERNATIVE SOURCE

Depending on your system's configuration and the parameters set at commissioning, you will see the menu "Alternative source" and a symbol for setting the temperature of the buffer tank and DHW.
This function does not work according to the principle of a differential thermostat and is independent from the appliance's operation.



1	**Buffer tank**
2	**DHW**
3	Setting the temperature of the alternative source for the BUFFER TANK and DHW in heating mode. The temperature shows the set desired value. Use the arrows to change the desired temperature.

3.6. ALARMS

In the alarm menu you will see a list of faults, warnings, and notifications that arise during the appliance's operation.

Alarm types:

	Warning A warning occurred that did not shut the system down
	Error An error occurred that shut the whole system down.
	Cleared warning or error.
	Notification Important information was given during the appliance's operation.

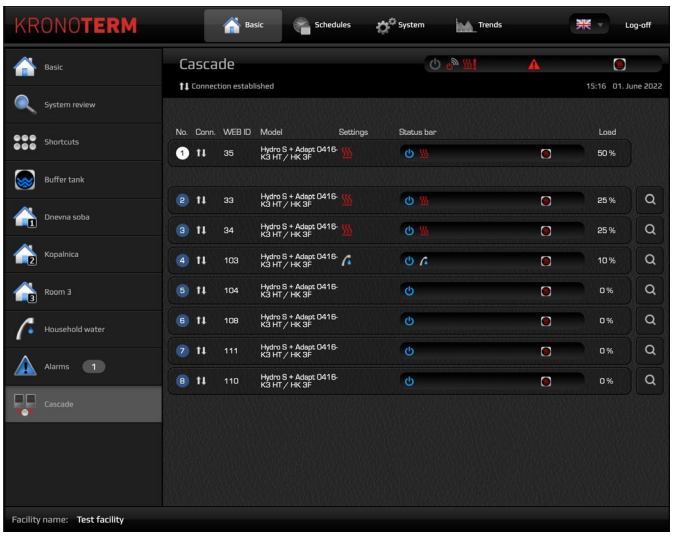
When a critical error occurs, the user is given the option to clear the errors by pressing the "Confirm" button. The operating conditions are verified again and the system will start operating again if the error is resolved. If the error conditions are not resolved, the appliance must be serviced by a technician. .

3.7. CASCADE SOLUTION

NOTE

The cascade solution enables the connection of up to four external appliances, which at the same time only work in the same function (heating, cooling or sanitary water).

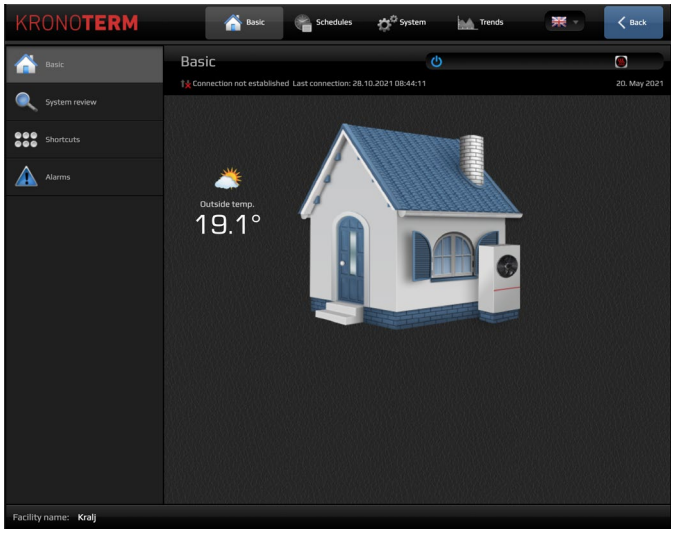
Basic cascade view shows the number of appliances that are connected in a cascade solution.



1	Cascade 1 (»master« HP connected to the cascade solution)
2	Cascade 2 (»slave« HP connected to the cascade solution)
3	Cascade 3 (»slave« HP connected to the cascade solution)
4	Cascade 4 (»slave« HP connected to the cascade solution)
5-8	The solution is not supported by the software
Conn.	Status: • connection established to the cloud • connection not established to the cloud
WEB ID	No. of web module of the appliance
MODEL	Display of installed indoor and outdoor appliance
Settings	Display of function in which the appliance work in cascade solution
Status bar	The temperature of the inlet and outlet water and the current status of each appliance, see chapter 2.1
Load	Shows the current load of each appliance in %.
	Establishes a connection to an individual appliance in a cascade solution.

3.7.1. INTERFACE FOR »SLAVE« UNIT IN CASCADE SOLUTION

The same display as for the non-cascade appliance. It differs only in the »back« button, which allows the return to cascade 1 (»master«).



4 SCHEDULES

Schedules enable time-dependent regulation of individual control loops. Four different operational modes are possible:

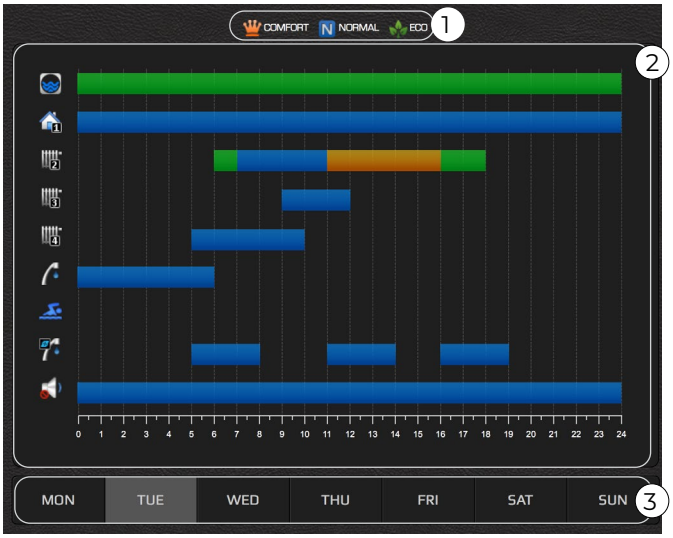
OFF	**OFF mode** Control loop deactivated.
	NORMAL mode Temperature set to the set target value see 3.4 (Control loops).
	ECO mode Temperature lowered from the set target temperature for the value of NORMAL offset, see 3.4 (Control loops).
	COMFORT mode The temperature is increased from the set target temperature for the value of NORMAL offset, see 3.4 (Control loops).

NOTE

In weather-dependent regulation, the set target temperature of the NORMAL mode is calculated from the predefined temperature curve.

4.1. CONTROL LOOPS

An overview of all control loops' schedules in the system is given in this window.

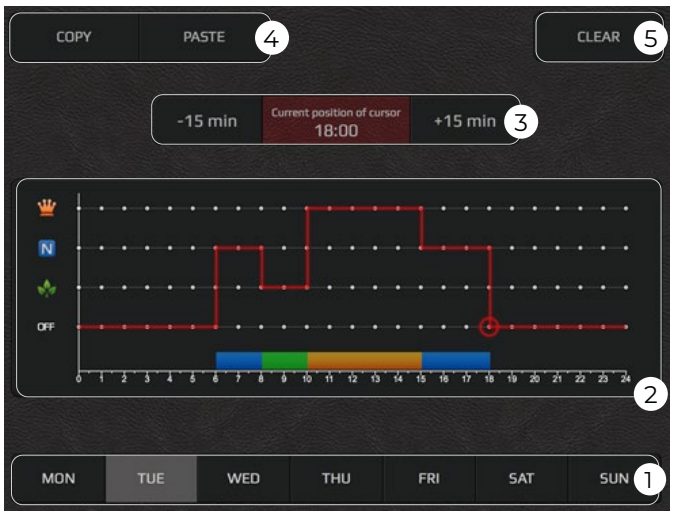


1	The color legend used.
2	Graphic display of schedules sorted by individual control loops.
3	Currently chosen day of the week.

4.2. CONTROL LOOPS

The schedule for individual control loops for each day of the week can be set in this window. By default, all control loops are deactivated (set to OFF).

	Buffer Tank
	Heating Loops
	DHW Circulation
	Domestic hot water (DHW)
	Pool



1	Select the schedule's day from the lower banner.
2	A red line is shown on the graph. It is in the OFF mode and extends over the entire time scale, indicating that on the chosen day the device will be in constant stand-by mode. Change the device schedule by pressing the grey dots at the level of the desired mode OFF, NORMAL, ECO, or COMFORT. The red line level shifts to the set mode. The dot circled with red circle indicates an active cursor.

3	Smaller corrections for the active time point (indicated by active pointer) to a schedule can be set by pressing the +15 min and –15 min buttons. **NOTE** **A maximum of 6 transitions per day are enabled per schedule.**
4	The interface offers a copy/paste feature for easier editing: **1. The schedule is copied to the clipboard by pressing the “Copy” button.** **2. Move to the day where you want the schedule to be copied to and press the “Paste” button.**
5	The “Clear” key is used to reset the active day’s schedule to the default OFF mode.

NOTE

For the DHW control loop or direct control loops, only NORMAL or OFF modes are available.

The schedule is automatically saved 15 seconds after the last change has been made or after the menu has been left.

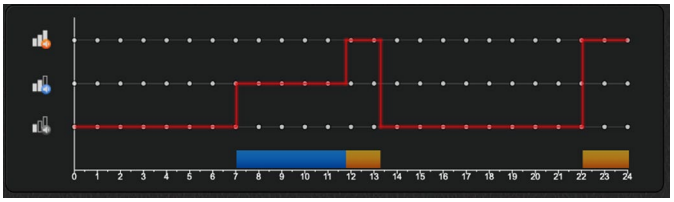
4. 3. OPERATIONAL MODE

There are three different operational modes:

Boost mode: the appliance is more powerful, less efficient, and louder.

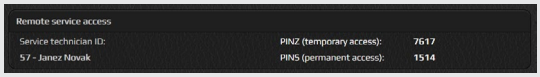
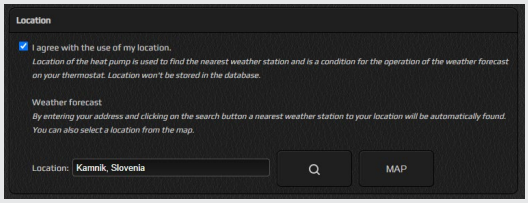
Optimal mode: the appliance is optimized in terms of heating capacity, noise, and efficiency

Silent mode: the appliance is quieter and less powerful.



5 SYSTEM

The system menu is used to:

	Access the device connection instructions and the web interface user manual.
	Change the user account password.
	Edit the names of individual control loops and set the device location (name). Note: Useful for easier device identification for users with several heat pumps installed.
	Set up automated email notifications.
	Overview and summary of device operation time.
	Setting of time and date on the device.
	Information: Access information about the manufacturer and about individual versions of the appliance’s components. **Remote service access:** For remote technical support over the phone, you must provide your service technician **(ID servicer)** the 4-digit temporary **(PINZ)** or permanent **(PINS)** code to access your system 
	NOTE **Location is enabled only when you install the spatial corrector KT-2A. To display the “Weather Forecast” menu, you must set the location where the device is installed.** **User interface:** Change the language of the web user interface. **Building type:** Set the display of the building in the "Basic" menu. You can choose between a residential, commercial, and industrial type of building. **Location:** Sett correct location for correct display of the weather forecast. 
	Export all system parameters and temperature readings to a text document.

Advanced settings:

1	Turn on screed-drying mode.
2	ON/OFF automatic switch between heating and cooling.
3	The **COMFORT, AUTO**, and **ECO** buttons set the appliance's general mode and apply to all menus (cooling/heating, buffer tank, pool, DHW) that were activated at commissioning. **COMFORT** – the appliance is set to general **COMFORT** mode (uses more energy) **AUTO** – the appliance follows settings in the regulation loops (each loop works as it is set) **ECO** – the appliance is set to general ECO mode (uses less energy)
4	Use the slider on the temperature scale to increase or decrease the general temperature deviations for all regulation loops in 4 steps, intervals of 1 °C by ± 4 °C. 5: Setting heating system pressure.
5	Setting heating system pressure.
6	Setting the temperature of anti-Legionella DHW heating, its interval, and its start time.
7	Setting the pressure of the heat source.

6 TRENDS

Trends are an indispensable part of the Home Cloud interface. They enable a precise overview and comparison of all heating system components. The data is shown in high-capacity, well-organized diagrams. We can use individual diagrams to optimize system operation and thus reduce heating expenses. The theoretical use histogram lets you adjust how the system consumes electricity. Daily, weekly, and monthly consumption can be reviewed directly in terms of euros spent.

6.1. GRAPHS

1	Choose a sensor.
2	Choose a function.
3	Choose the time interval. Press < or > to move one step ahead or back.
4	The window where you choose events.

6.1.1. CHOOSE TEMPERATURE:

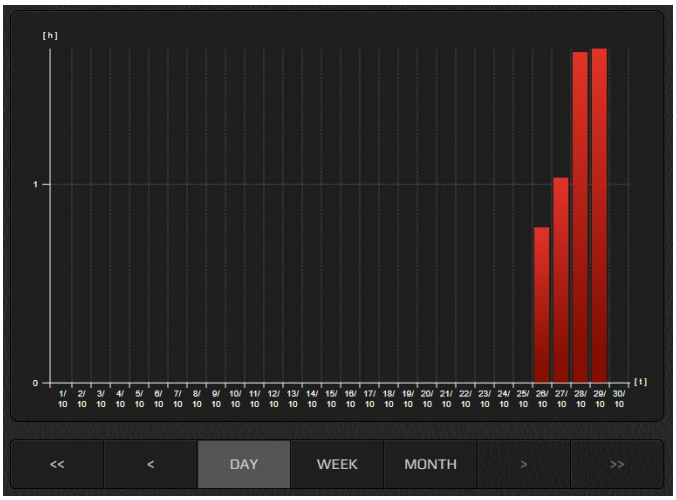
- Click on the + icon.
- Choose a sensor.
- The chosen sensor is assigned a color and is drawn on the graph. The color serves as a legend.

6.1.2. CHOOSE EVENTS:

- Click on the + icon.
- Choose a function.
- The chosen function is assigned a blue banner and is drawn on the graph. Blue shows the function's operation.

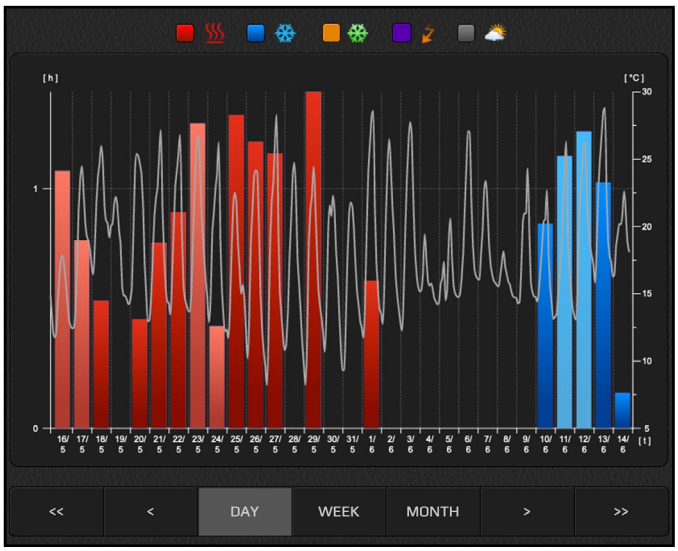
6.2. SANITARY WATER HISTOGRAM

The histogram enables a review of sanitary water heating history by days, weeks, and months.



6.3. HEATING AND COOLING HISTOGRAM

The histogram shows you the number of hours of heating, cooling, passive heating, additional heater 1 and/or additional heater 2, and outdoor temperature.



6.4. USAGE SETTINGS

NOTE

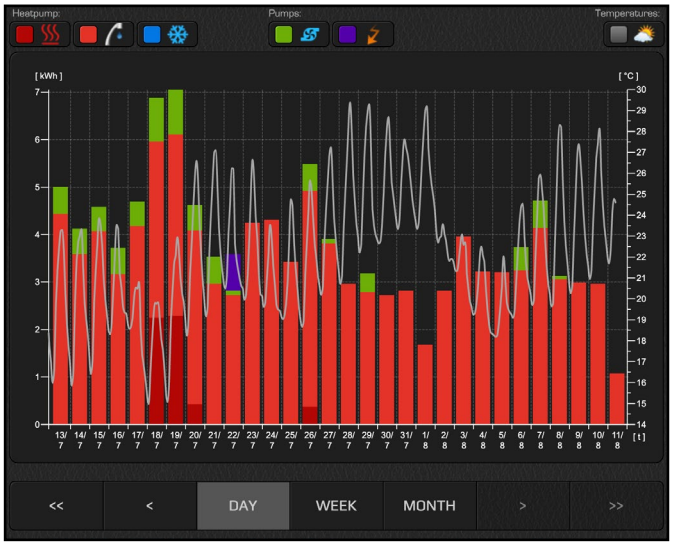
If the appliance model is not set properly (Chapter 0), you cannot access usage settings.

In this case contact KRONOTERM technical support.

6.5. THEORETICAL USAGE HISTOGRAM

The histogram shows the history of electricity consumption per individual component in the heating system.

To get a proper display of consumption you must enter usage specifications for each component in the heating system and the price of electricity from your energy provider.

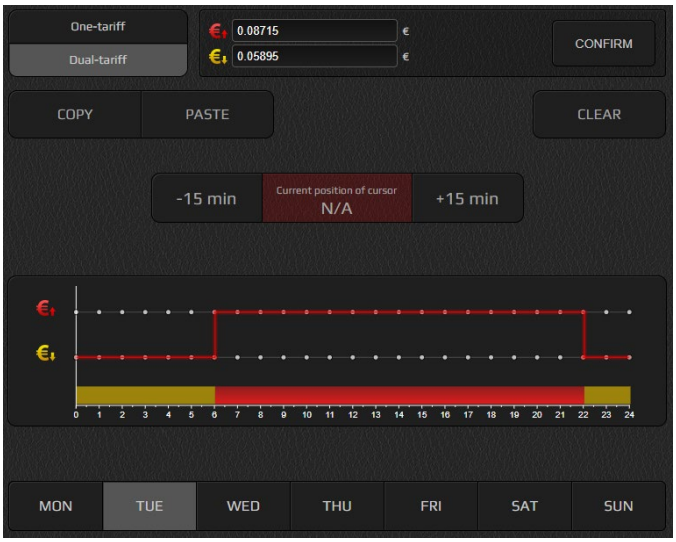


6.5.1. SETTING OF THEORETICAL USAGE

Enter the usage specifications of individual system components in the field on their consumption.
This information is necessary to make theoretical usage histograms.
When setting the theoretical consumption, you can choose between two displays: Display of **Electric power [kWh]** or **Costs [€].**

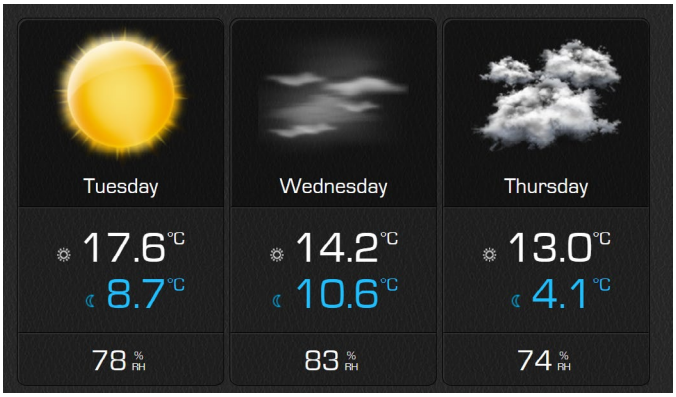
6.5.2. SETTING OF THE TARIFF COUNTER

In the menu, select the type of tariff counter (single tariff, double tariff) and enter the price of your provider's electricity. For a double tariff system, set daily tariff times in the schedule below. This information is the foundation for generating theoretical usage histograms.



6.6. WEATHER FORECAST

Review the weather forecast for three days in advance.



NOTE

The weather forecast synchronized every 5 hours.

To display the Weather Forecast menu, you must install the KT-2 controller and set the location settings in the User Interface (see Chapter 5).

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