

KRONOTERM

Web Interface

User Manual



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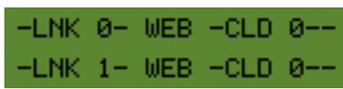
2 FIRST STEPS

2.1 Acquiring a Unique ID Code on the Heat Pump

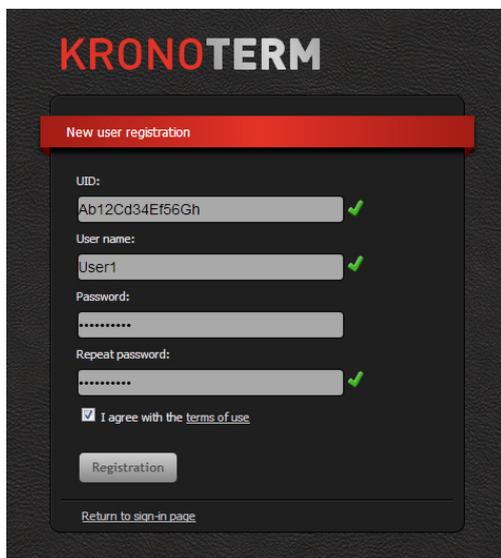
<p>1</p> 	<p>The procedure starts in the basic menu of the heat pump controller display (where the current operation status is displayed).</p>	<p>2</p> 	<p>Press directional key  to display currently active code.</p>
<p>3</p> 	<p>To acquire a new unique ID code first make sure that the value of both LNK and CLD is 1. Activate request for a new code by clicking the  key.</p>	<p>4</p> 	<p>New unique ID code is displayed after the request has been activated. Use it for further registration procedure.</p>



If the value of either **LNK** or **CLD** is **0**, it means that an error occurred during connection. The LNK indicates status of physical connection to Local Area Network, while CLD indicates status of connection to cloud server and therefore successful connection to the internet. For troubleshooting confer document »**Instructions for the Heat Pump Cloud Connection**«.



2.2 New User Account Registration



Before first connection to the web interface can be established a new user account must be created and connected with your heat pump. Registration is possible with a browser on a personal computer, a tablet computer or a mobile smart phone.

The web application can be accessed through:

- the **KRONOTERM** web page:

<http://www.kronoterm.com>

by clicking on the “Cloud” icon

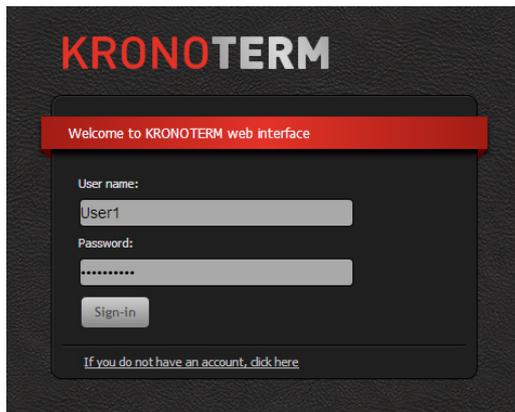
- or directly on the web address:

<https://cloud.kronoterm.com>

14-digit ID code is needed for the registration. It can be acquired by following the procedure described in Section 2.1.

First enter the acquired code in the UID box on the web page. Next enter desired username and password. Validity of each entry is confirmed by a green check mark. New user account is created by clicking on the “Registration” button.

2.3 Login to Web Interface



Use a username and a password provided during new account registration procedure (Section 2.2) and login into web interface by clicking the “**Sign-in**” button.

Forgot your username or password?

If you forget your user name and/or password you need to obtain a new unique code and repeat the procedure for a new user account registration.



3 INTERFACE

- | | |
|---|---|
| <ul style="list-style-type: none"> 1 Navigation menu 2 Head – Contains information about the connection of the heat pump to the cloud, currently set date time and status bar | <ul style="list-style-type: none"> 3 Temperature overview 4 Settings 5 Submenus |
|---|---|

3.1 Status Bar

Status bar contains all relevant information about the operation of the heat pump.



SYSTEM STATUS	
1	Heat pump on Heat pump off
2	Underfloor, wall or radiator heating active Tap water heating active Active cooling active Pool heating active Anti-legionella program active Heat pump in starting-up state Heat pump remotely deactivated Defrosting of the external exchanger in progress
3	Fast heating of tap water to a comfort temperature in progress Fail-safe anti-freeze mode active
4	Additional or backup source active
5	Alternative source active
6	Passive cooling active
7	Heat pump in warning state Heat pump in error state

USER STATUS	
1	Heat pump operating in summer mode (cooling) Heat pump operating in winter mode (heating)
2	Additional source enabled Back-up source enabled
3	General ECO mode active Screed drying programme active
4	Service of the heat pump required

Global ECO mode uses less energy for the operation of control loops (with the exception of tap water).



3.2 Temperature Overview

The window displays data supported by your installation.

	Outside temperature		Alternative source temperature
	Tap water temperature		Buffer tank temperature
	Temperature of the heating loop measured on the heating line		Pool temperature
	Temperature of the heating loop, measured on the thermostat		Temperature of the heating loop, measured on the heating line in the summer operation mode

4 MENUS



4.1 Basic



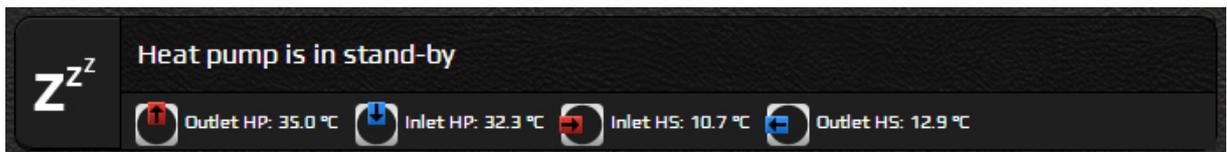
4.1.1 Basic

ON	Switch the heat pump on and off.
OFF	
	Activate fast heating of tap water to a comfort temperature.
	Increase or reduce general temperature deviation for all control loops in 4 steps of 1°C in ± 4°C range.
AUTO	Set global heat pump operation mode. AUTO - The heat pump operates according to the schedule.
	ECO - The heat pump operates in global ECO mode which uses less energy for operation. It overrides the local settings of all respective control loops in the system.



4.1.2 System Overview

4.1.2.1 Heat pump Operation



Heat pump operation mode together with inlet and outlet temperatures of the heat source is shown in the upper banner.

4.1.2.2 Control loops



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

	Control loop icon
	Current temperature of the control loop
	Calculated target temperature
	Operation status (OFF, AUTO, ON)



- OFF** - Control loop deactivated.
- AUTO** - Control loop operating according to its schedule.
- ON** - Control loop activated.

Control loop operation modes: (1,2,3)	
1	<ul style="list-style-type: none"> 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 Control loop follows the buffer tank temperature
2	<ul style="list-style-type: none"> Control loop thermostat activated (blank space) Control loop thermostat deactivated
3	<ul style="list-style-type: none"> Control loop pump deactivated (blank space) Control loop pump activated



The window shows the operation, statuses and temperatures of the regulation circle, within which the thermostat is present.

	Regulation circle icon
	Temperature of lifting conduit of regulation circle.
	Current temperature of the control loop
	Calculated target temperature
	Operation status (OFF, AUTO, ON)

For more information about the control loop automatic modes of operation see Section 4.2 *Schedules*.



4.1.3 Shortcuts

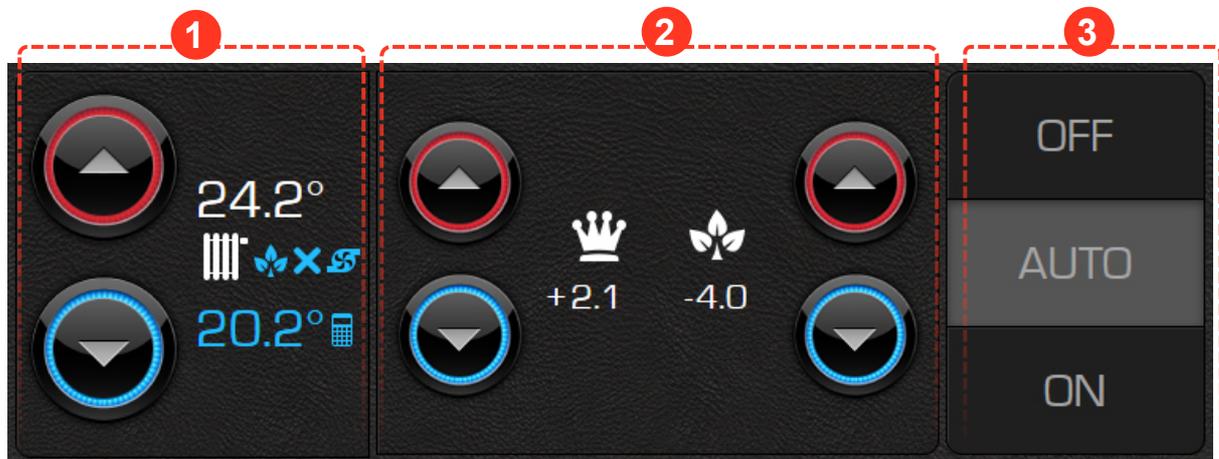
Available shortcuts for your system are displayed. All shortcuts require confirmation.

	Additional source	<p>Manual start-up of the additional source used to speed up the heating. Both, the heat pump and the additional source (electric heater or boiler) are activated. Active button (blue color) indicates that the source is enabled.</p> <p>Enabling of additional source does not imply its actual operation – it will automatically turn on when needed.</p>
	Mode of operation	<p>Switch between summer (cooling) and winter (heating) mode of operation.</p> <p>Change of operation mode affects the operation and configuration of the entire system!</p>
	Back-up source	<p>Manual start-up of the back-up source. The back-up source is used as a substitute in case of a heat pump malfunction. Active button (blue color) indicates that the source is enabled. The source is disabled manually by pressing the button again.</p> <p>Enabling of back-up source does not imply its actual operation – it will automatically turn on when needed.</p>
	Defrosting	<p>Manual defrosting of the heat exchanger is an option available only for air-source heat pumps. The option is activated when the heat exchanger freezes and defrosting is needed for proper operation.</p> <p>Function can also be activated automatically!</p>
	Pool	<p>Activation of the priority pool heating.</p>



4.1.4 Control loops (Buffer Tank, Heating Loops, Tap Water, Pool)

All control loops have the same interface for their settings.



- 1 Basic setting – used to set the temperature in NORMAL mode of operation. Upper value shows set target temperature of the control loop and lower value (blue) shows calculated target control loop temperature, which includes all the corrections of the set target temperature induced by the system settings and functions (ECO and COMFORT mode, weather-based regulation, general deviation). By using these two buttons we affect the set target temperature directly and calculated target temperature indirectly.

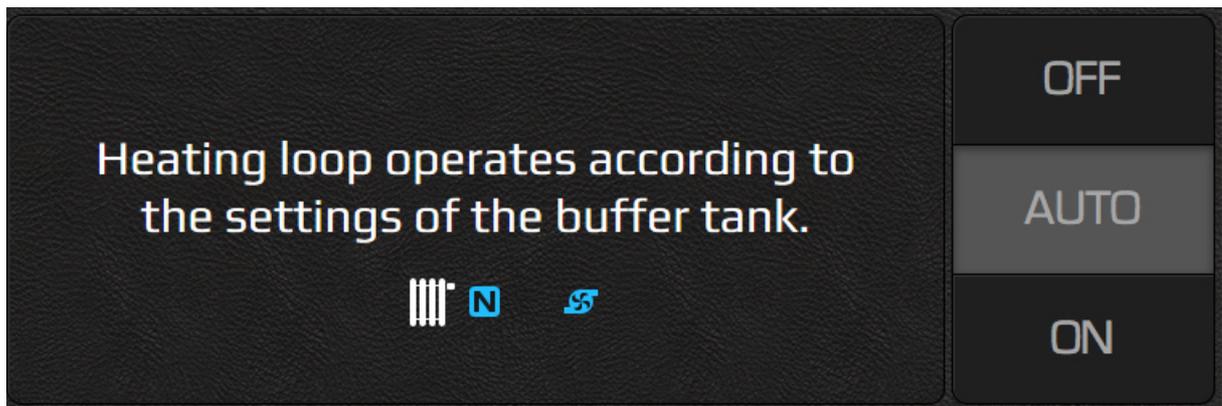
In the case, that the control loop is controlled through a room thermostat, the above temperature shows the set target value on the thermostat. The buttons directly influence the target temperature and thermostat. The icon of heating circle changes into the icon of the room (house).

- 2 ECO and COMFORT – Offsets from the set target control loop temperature. COMFORT mode (increased operation) is set on the left side and ECO mode (reduced operation) is set on the right side. Offset set in steps of 0.1°C.
- 3 Control loop operation status – Buttons OFF/AUTO/ON on the right side of the window serve for deactivation (OFF), permanent control loop activation (ON) or the control loop set to operate according to its schedule (AUTO).



The curve on the control loop icon indicates **weather-dependant regulation**. Weather-dependant regulation of tap water and pool control loops is not possible.

4.1.4.1 Dependent control loops



If the control loop is dependent it is not possible to set a target temperature and ECO and COMFORT offsets. Dependent control loop can only be set in two modes: ON and OFF. Dependant control loop follows the settings of another loop in the system. Picture above shows the control loop operating according to the settings of the buffer tank.



4.1.5 Alarms

Report/cancellation list of heat pump errors and warnings is displayed in Alarms window.

Alarm types:

	Warning – Warning detected during operation. The system could continue to operate.
	Error – Critical error occurred during operation. The system had to shutdown.
	Cleared warning or error.

When critical error occurs the user is given an option to clear the errors by pressing the “Confirm” button. The operating conditions are verified again and system will start to operate again if the error is eliminated. If the error conditions are not resolved a service of the heat pump is required.



4.2 Schedules

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

OFF	OFF mode	Control loop deactivated.
	NORMAL mode	Temperature set to the set target value (see 4.1.4 Control loops).
	ECO mode	Temperature lowered from the set target temperature for the value of ECO offset (see 4.1.4 Control loops)
	COMFORT mode	The temperature is increased from the set target temperature for the value of COMFORT offset (see 4.1.4 Control loops)

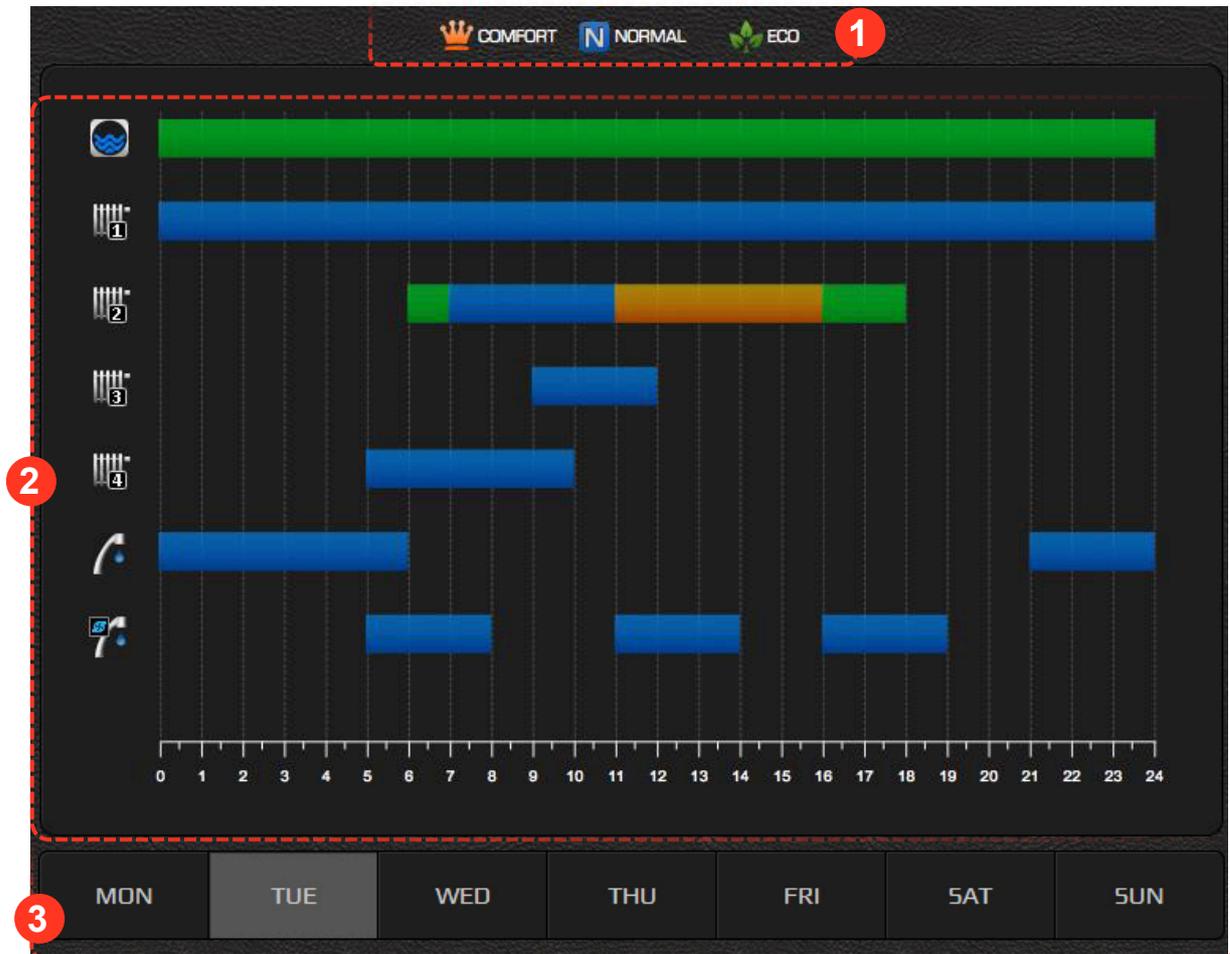
Note: In case of a **weather-dependant regulation** the set target temperature of the NORMAL mode is calculated from the predefined temperature curve.





4.2.1 Schedules Overview

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



- 1 Used colour legend.
- 2 Graphic display of schedules sorted by individual control loops.
- 3 Currently chosen day of the week.



4.2.2 Control loops

(Buffer Tank, Heating Loops, Tap Water, Pool, Tap Water Circulation)

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

- 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 heat pump will be in constant stand-by mode. Change the heat pump schedule by pressing the grey dots at the level of the desired mode OFF, NORMAL, ECO or NORMAL. 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 »+15min« and »-15min« buttons.



Note: Maximum 6 transitions per day are enabled for a schedule.

- 4 The interface offers a copy/paste feature for easier editing:
 - 1) Schedule is copied to the clipboard by pressing the »Copy« button.
 - 2) We move to the day where we 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 a default OFF mode.



Note: In the case of tap water control loop or direct control loops only NORMAL or OFF modes are available.

Note: Schedule is automatically saved 15 seconds after the last change has been made or after the menu has been left.



4.3 System

The system menu is used to:

	Access the heat pump connection instructions and the web interface user manual.
	Change the user account password.
	Edit the names of individual control loops and set the heat pump location (name). Note: Useful for easier heat pump identification for users with several heat pumps installed.
	Set up automated e-mail notifications.
	Overview and summary of heat pump operation time.
	Setting of time and date on the heat pump.
	Access the system information and versions.
	Change the web user interface language.
	Export all system parameters and temperature readings to a text document.



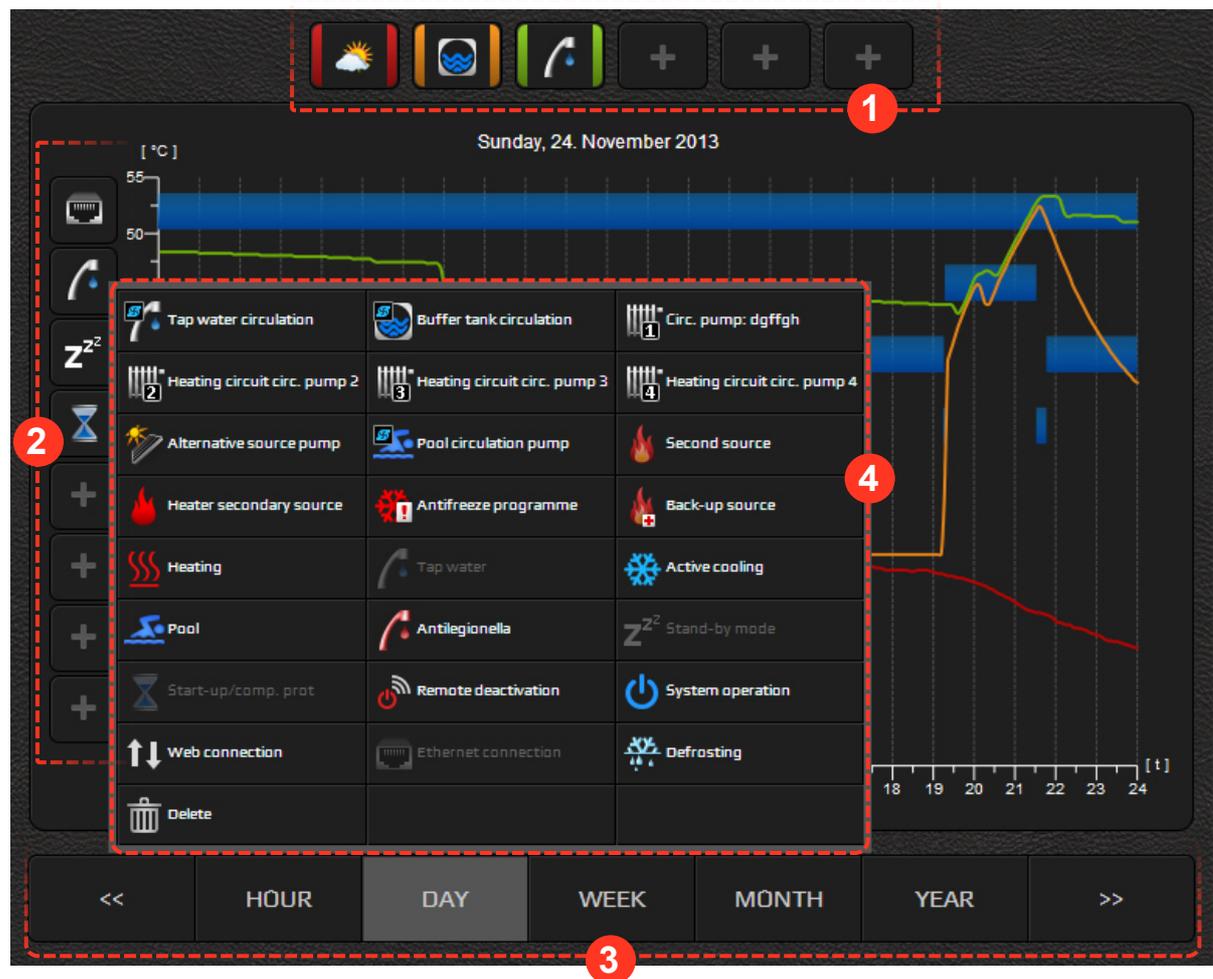
4.4 Trends

The trends are an indispensable part of the Cloud.KRONOTERM interface. They enable a precise overview and comparison of operation of all heating system components. The data is shown in high capacity, well organised diagrams. We can use individual diagrams to optimise system operation and thus reduce heating expenses. The histogram of theoretical use enables the change of electricity use of the system. Daily, weekly and monthly use can be reviewed directly in the EURO currency.



4.4.1 Graphs

Graphs enable us to easily check and compare the history of all system parameter's values.



- 1 Measurement value selection.
- 2 Event selection.
- 3 Time interval selection. Buttons “<<” and “>>” are used to move forward and backwards for one time unit.
- 4 Pop-up window from which the events are selected.

4.4.4.1 Temperature Selection

- 1) Click on the + icon.
- 2) Select temperature.
- 3) Temperature icon and a line are added to the diagram; the line is outlined and has a new colour which serves as a legend.

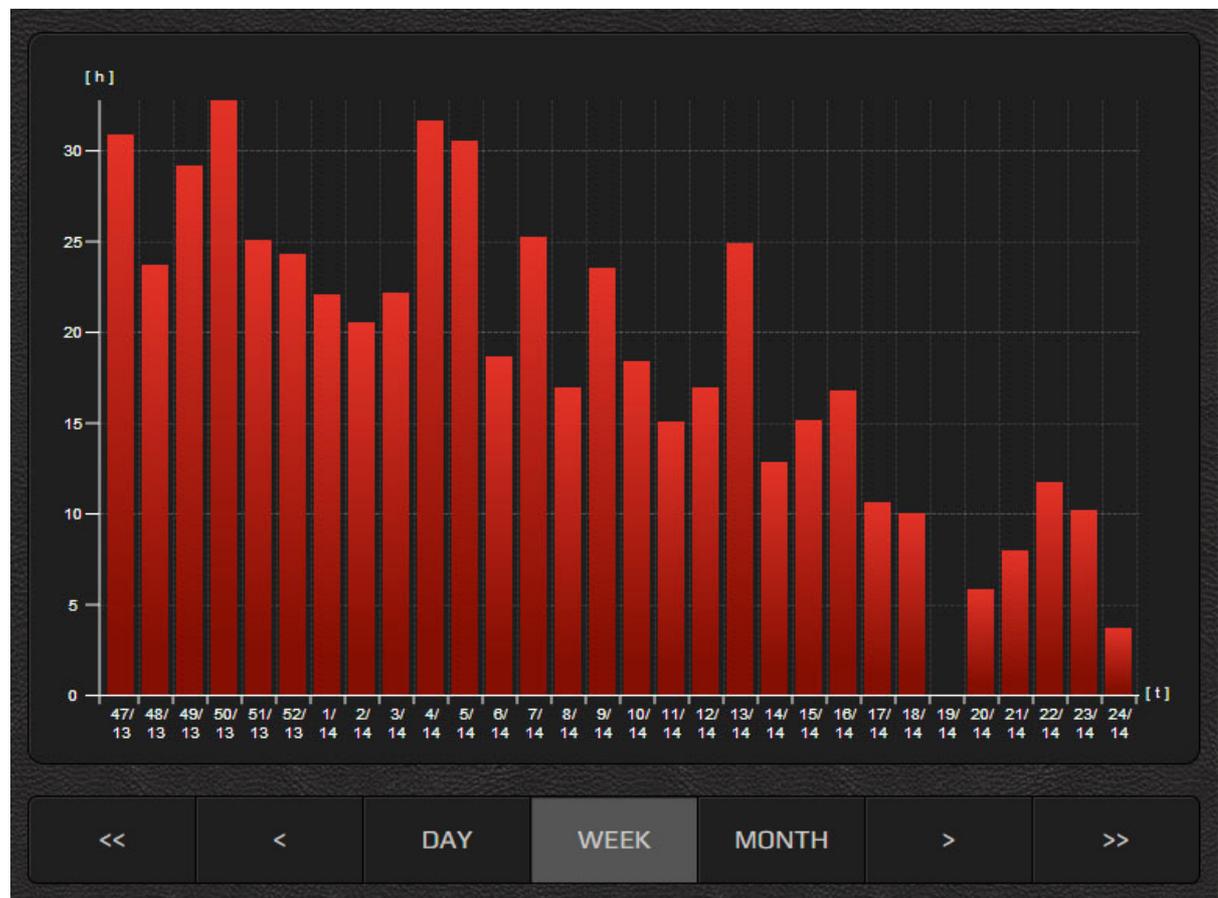
4.4.4.2 Event Selection

- 1) Click on the + icon.
- 2) Select event.
- 3) Event icon and a bar are added to the diagram; a bar is outlined and blue colour represents the operation.



4.4.2 Sanitary water histogram

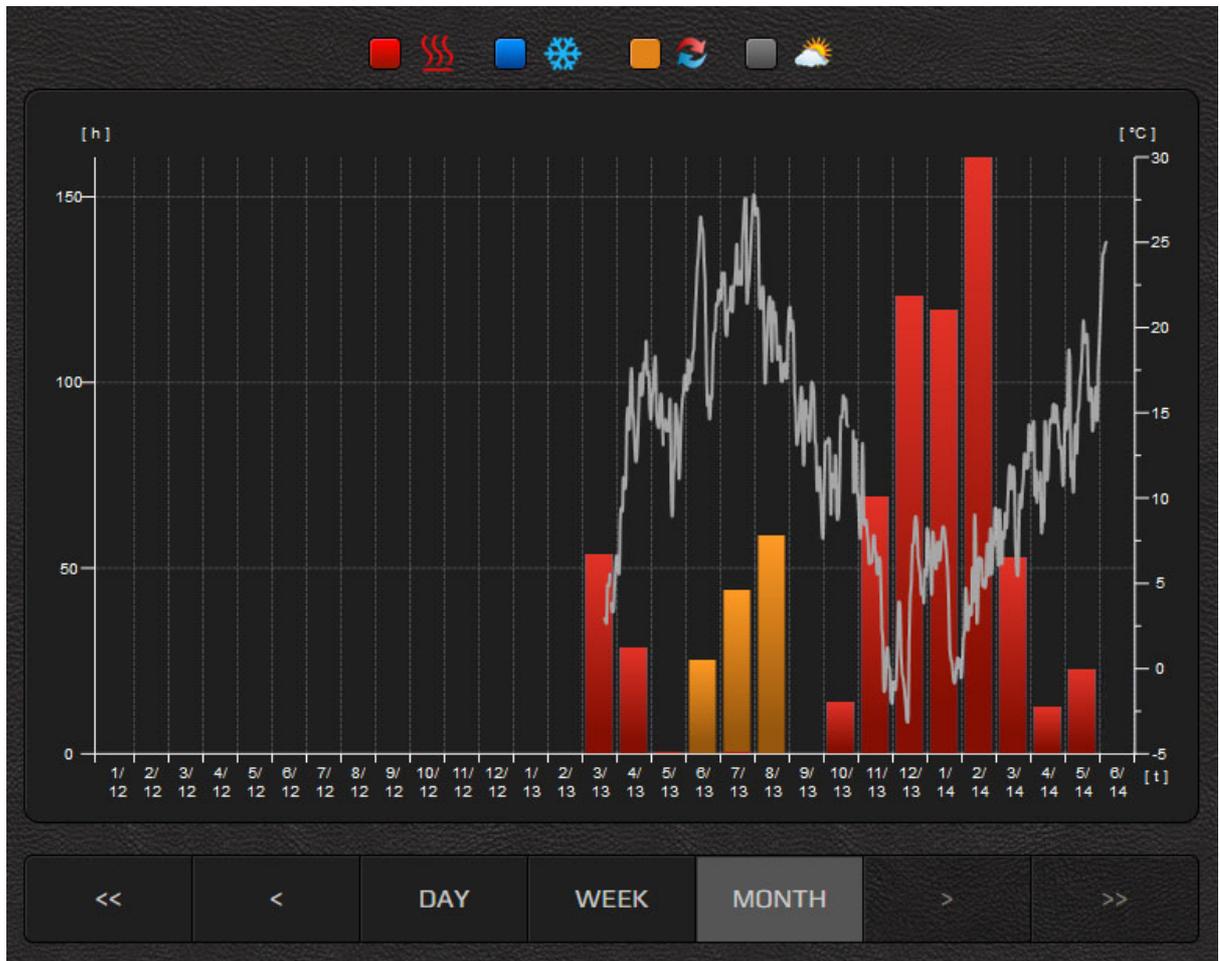
The histogram enables a review of sanitary water heating history by days, weeks and months.





4.4.3 Histogram of heating and cooling

Histogram enables an overview of heating, cooling and passive cooling through time.





4.4.4 Setting of theoretic usage

We enter theoretical data on the usage of individual components of the heating system into the empty fields and the price of electricity of your energy supplier. This data is a foundation for the generation of a histogram of theoretic usage.

Use of electricity

Graph type:

Heating loop circ. pump 1:	<input type="checkbox"/>	<input type="text" value="30.0"/>	W
Heating loop circ. pump 2:	<input type="checkbox"/>	<input type="text" value="40.0"/>	W
Household water pump:	<input type="checkbox"/>	<input type="text" value="50.0"/>	W
Buffer tank circulation pump:	<input type="checkbox"/>	<input type="text" value="80.0"/>	W
Heater:	<input type="checkbox"/>	<input type="text" value="6000.0"/>	W

Usage histogram does not show measured values but a theoretical calculation!



In order to display menus **Setting of theoretic usage**, **Setting of tariff counter** and **Theoretical usage histogram**, a correct heat pump model number must be set ("System / Info / Heat pump controller"). The model number is typically set by a technician at the heat pump setup. In case the heat pump model is not set (n/a), please contact technical support KRONOTERM. Theoretic usage menus are supported by most heat pump models.



4.4.5 Setting of tariff counter

In the menu, select the type of tariff counter (singer tariff, double tariff) and enter the price you purchase electricity for. In the case of a double tariff system, set daily tariff times in the schedule below. This data is a foundation for the generation of a theoretical usage histogram.

One-tariff

Dual-tariff

€

€

€

€

CONFIRM

COPY

PASTE

CLEAR

-15 min

Current position of cursor
N/A

+15 min

MON

TUE

WED

THU

FRI

SAT

SUN



4.4.6 Theoretical usage histogram

Histogram enables an overview of the history of electricity usage of individual heating system components.

For a proper display of usage, data on component usage and price of electricity of your energy supplier must be entered in the menu THEORETICAL USAGE SETTINGS.

