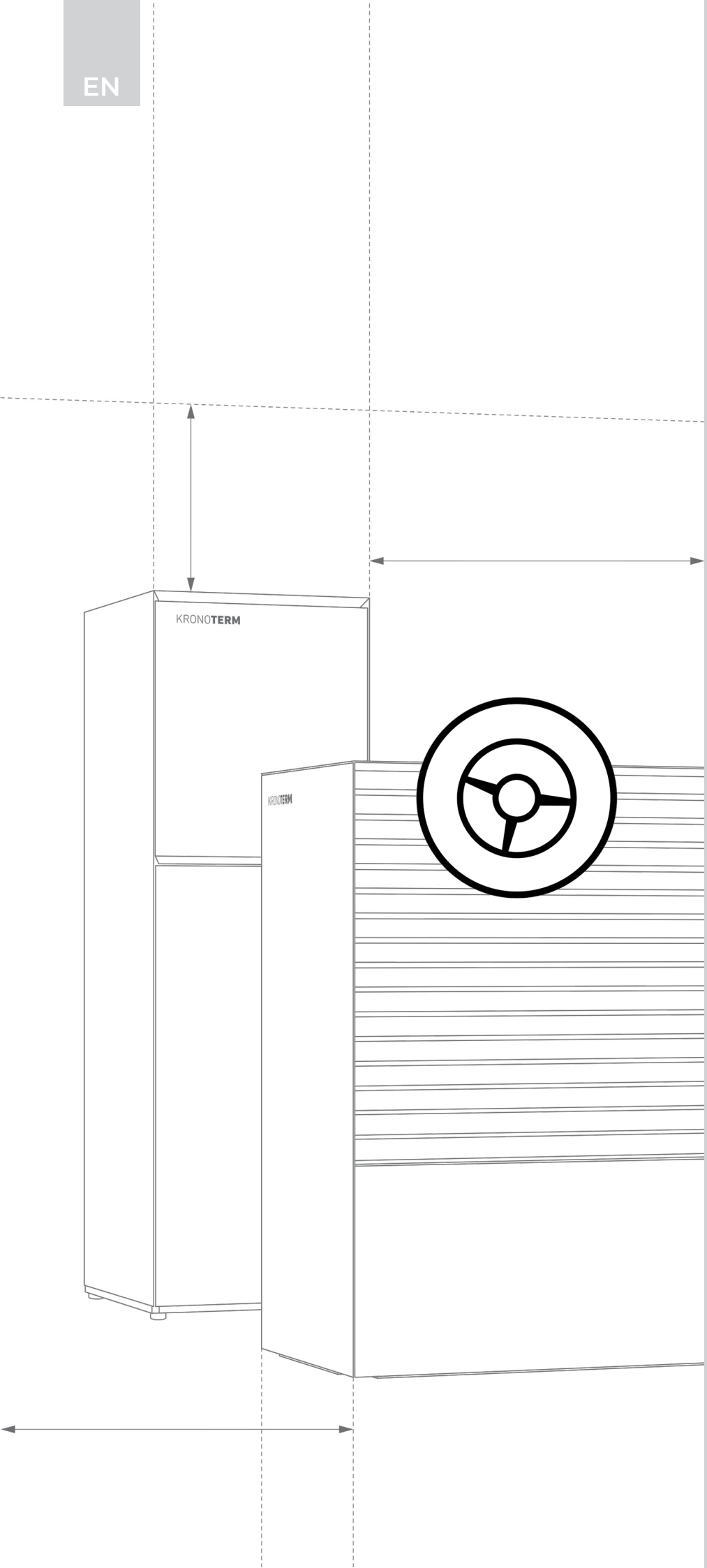
EN

KRONOTERM 1976

HEAT PUMPS



USAGE

OPERATING INSTRUCTIONS

Technician, user

KT – 2A

Controller

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

DESCRIPTION OF DOCUMENT AND APPROACH

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 KT-2A_17-19-45-6702-08_EN

Despite taking extensive care to ensure the accuracy of all figures and descriptions, KRONOTERM d.o.o. reserves the right to make corrections, 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

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.**
- **In case 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 risks for the user or the appliance itself.
DANGER: A risk that could lead to grave bodily harm.
WARNING: A risk that could lead to minor bodily harm.
CAUTION: A risk that could damage or destroy the appliance.

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

1.2 GENERAL WARNINGS

Improper handling of the appliance can lead to it being damaged and can cause harm to person or property.

DANGER

All instructions, examples of good practice, and legislation must be abided when wiring and inspecting electric components to ensure safe handling.

NOTE

Read these instructions thoroughly before using.

Any processing or replacement of the appliance's original integral parts will void the manufacturer's warranty for the appliance's safety and proper function. The manufacturer is not responsible for the consequences of negligent or improper appliance use. The manufacturer is not responsible for any claim for compensation in the event of appliance damage or other damage resulting from not adhering to the instructions herein.

NOTE

The warranty is voided if the appliance is installed differently from the manner prescribed herein.

Provide for the appliance's regular maintenance by a qualified service technician.

Require that the installation technician explain how the appliance works and how to use it.

The appliance is not intended to be connected to potable water.

Children over the age of 13 and adults with impaired physical or cognitive disabilities, or people with insufficient experience and expertise, may use the appliance only under the supervision of a qualified person.

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

1.3 SAFETY WARNINGS AND INSTRUCTIONS

DANGER

Do not clean the appliance or interfere with it while it is in operation.

NOTE

Only authorized service technicians may service and maintain the appliance.

Call the service technician that installed your appliance in the event of a disruption or malfunction in your appliance's operation.

WARNING

This appliance is not to be played with.

The appliance may only be used by people who have learned about its safe operation and who understand the potential dangers of operating such an appliance.

Children over 8 years of age and persons with reduced physical or mental capabilities and/or lacking experience and knowledge may only use this appliance under the supervision of a qualified individual.

Ensure that the appliance's operation never threatens anyone's safety. Prevent children and unqualified persons from accessing the appliance.

Unplug the appliance before any servicing.

2 HOME SCREEN AND NAVIGATION

The KT–2A Controller has 3 operational modes:

Thermostat.

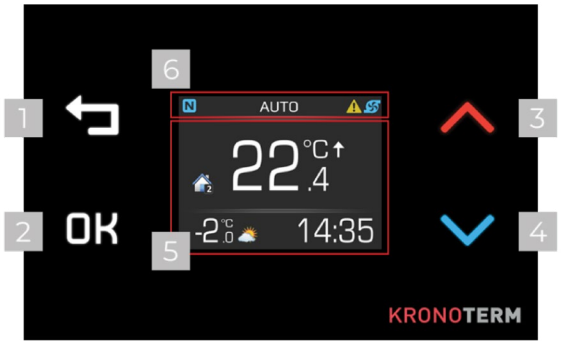
Controller for the heat pump and heating system.

Thermostat and controller for the heat pump and heating system

NOTE

The authorized installation technician sets the KT–2A operational mode when installing the appliance.

3 GRAPHIC INTERFACE AND CONTROLLER



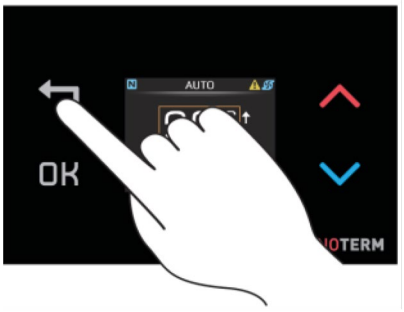
1	BACK button for: • returning to the previous menu, • undoing parameter settings in menus, • exiting menus.
2	The OK OK za: • confirming settings, • choosing menus.
3	The UP button for: • scrolling up through menus, • changing or increasing the value of individual parameters.
4	The DOWN button for: • scrolling down through menus, • changing or decreasing the value of individual parameters.
5	Screen for displaying menus, parameter values, settings, and the status of the appliance and/or heating system.
6	Status line to display the status quo of the heat pump and/or heating system.

3.1 LOCKING BUTTONS

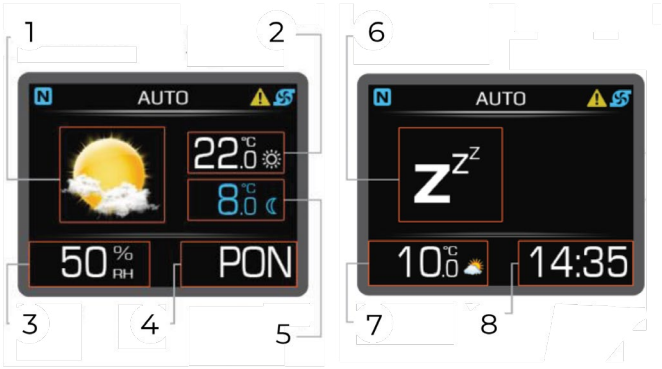
Locking the buttons on the controller prevents the changing of settings by unauthorized persons.

To lock the buttons, press the buttons OK and simultaneously, and hold them for 2 seconds. The symbol is shown when buttons are locked.
To unlock the buttons, press the buttons OK and simultaneously, and hold them for 2 seconds.

3.2 QUICK VIEW



Access the Quick View by pressing on the home screen. Press a second time to toggle between the system overview and the weather forecast.



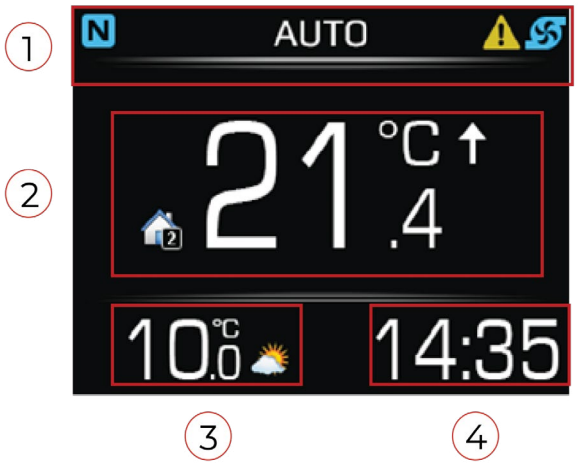
1	Weather symbol.
2	High (day–time) temperature.
3	Humidity.
4	Weekday.
5	Low (night–time) temperature.
6	Icon of current operational mode.
7	Outside temperature.
8	Hour.

NOTE

The weather forecast feature is only activated if your appliance is connected to the internet and if you have set the appliance's location in the Cloud. Kronoterm.com online interface.

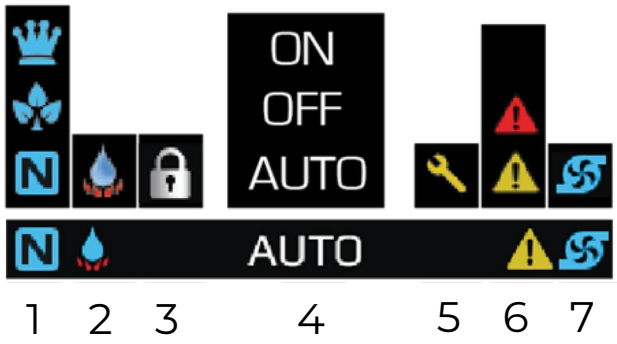
4 THERMOSTAT

Home screen in thermostat mode:



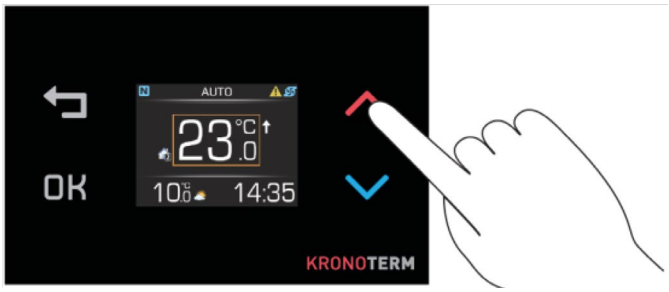
1	A **grey bar** in the status line shows that the KT–2A Controller is set on **thermostat mode**.
2	Ambient temperature.
3	Outside temperature.
4	Time.

4.1 STATUS LINE IN THERMOSTAT MODE



1	Heating loop operational mode: N Heating loop is in **NORMAL** mode. Heating loop is in **ECO** mode. Heating loop is in **COMFORT** mode.
2	Quick heating DHW: Quick heating function for DHW is activated.
3	Locking buttons: Buttons are locked.
4	Heating loop operational mode: **ON** – the heating loop is working constantly, **OFF** – the heating loop is not working, **AUTO** – the heating loop is working according to schedule.
5	Annual inspection: Notification for an annual inspection of your heat pump – order an inspection.
6	Alarm: Warning – verify the meaning of the warning code and take appropriate measures, it is not necessary to call a service technician. Error – verify the meaning of the error code and call a service technician if necessary.
7	The heating loop's circulation pump: The heating loop's circulation pump is working.

4.2 SETTING THE DESIRED AMBIENT TEMPERATURE



Press ^ or v to show the set ambient temperature. The temperature is outlined in orange. Set the desired ambient temperature by pressing ^ or v
Confirm the change by pressing OK or by waiting 8 seconds for it to confirm automatically.

4.3 SETTING PARAMETERS IN THERMOSTAT MODE

Settings for the heating loop's operational mode:

ON – the heating loop is working constantly in Normal mode.

AUTO – the heating loop is working according to schedule.

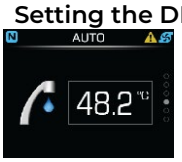
OFF – the heating loop is not working

Quick heating DHW:

ON – quick heating for DHW is activated.

OFF – quick heating for DHW is activated

Setting the DHW temperature.



Setting the display's brightness.

Night–time screen mode, the screen dims in dark:

 The screen dims in 30% dark.

 The screen dims in 60% dark.

 The screen dims in 100% dark.

 The screen stays illuminated.

SETTING BRIGHTNESS

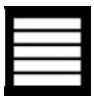
Table 1

 Brightness 15%.

 Brightness 30%.

 Brightness 40%.

 Brightness 60%.

 Brightness 100%.

SETTING NIGHT–TIME MODE

Table 2

 The screen automatically dims at 30% darkness.

 The screen automatically dims at 60% darkness.

 The screen automatically dims at 100% darkness.

 The screen stays illuminated.

4.4 MENUS AND PARAMETERS IN THERMOSTAT MODE

Setting parameters

Menu	Parameter name	Parameter value range	Note
	**Activating the quick heating of DHW.**	**ON** – Turn on. **OFF** – Turn off.	
	**Operation mode.**	**ON –** Turn on. **AUTO** – Working schedule. **OFF** – Turn off.	
	**Setting brightness.**	0–100 %	Values are given in Table 1.
	**Setting night–time mode.**	0–100 %	Values are given in Table 2.

4.4.1 SETTING THE DHW TEMPERATURE

Press OK to get to the parameter menu.
Press ^ or v to browse **DHW** parameters.

Press OK to begin setting parameters.

Press ^ or v to set the **desired DHW temperature.**

Confirm the settings by pressing OK.

Press ↩ to return to home screen.

4.4.2 TURNING ON THE ONE–TIME QUICK HEATING OF DHW

Press OK to get to the parameter menu.
Press ^ or v to find the **quick activation.**

Press OK to begin setting parameters.

Press ^ or v to set it to ON.

Confirm the settings by pressing OK .

Press ↩ to return to home screen.

4.4.3 SETTING THE HEATING LOOP OPERATION MODE

Press OK to get to the parameter menu.
Press ^ or v to find the **heating loop parameter.**

Press OK to begin setting parameters.

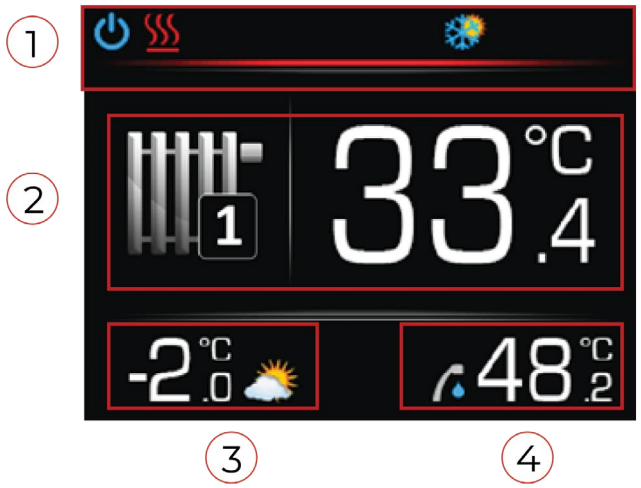
Press ^ or v to set it to **ON.**

Confirm the settings by pressing OK.

Press ↩ to return to home screen.

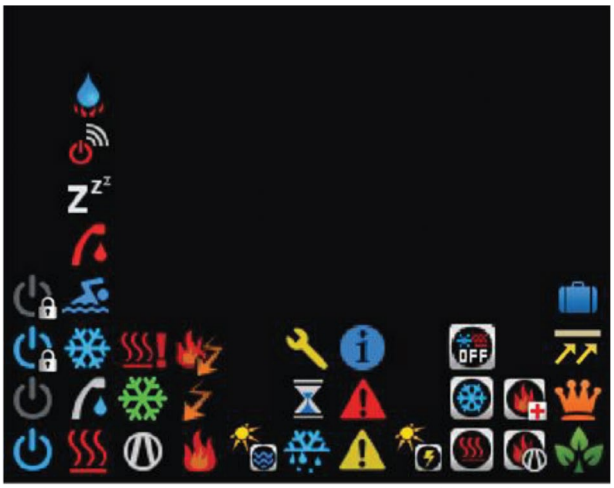
5 CONTROLLER

Home screen of the KT–2A controller in controller mode.



1	A **red bar** in the status line shows that the **KT–2A** is set to controller + thermostat mode.
2	Ambient temperature or water temperature in the heating loop/system.
3	Outside temperature.
4	DHW temperature.

5.1 STATUS LINE IN CONTROLLER MODE



1	**Heat pump status:** The heat pump and heating system are turned on. The heat pump and heating system are turned off. Locked screen, heat pump on. Locked screen, heat pump off.
2	**Heat pump operational mode:** Heating. Heating DHW. Active cooling. Heating the pool. Manual activation of 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 block on turning the heat pump on is active (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.

5.2 TURNING ON/OFF THE HEAT PUMP AND HEATING SYSTEM

Press OK to get to the main menu

Choose the menu "**shortcut**" by pressing the button OK.
Confirm the shortcut menu by pressing OK .
Press ^ or v to find **on/off.**

Press OK to begin setting parameters.

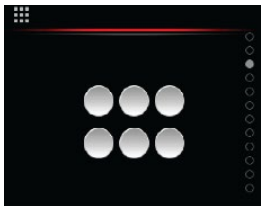
Press ^ or v to choose the setting **OFF** or **ON**.
Confirm the settings by pressing OK .

Confirm the parameter value by pressing OK.
Cancel the parameter value by pressing ↩

To return to the home screen press ↩ **2 times.**

5.3 TURNING HEATING AND COOLING ON/OFF

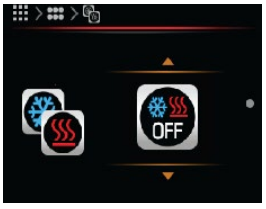
Press OK to get to the main menu



Choose the menu **"shortcut"** by pressing the button OK .
Press ^ or v to find the **operational parameter.**

Press OK to begin setting parameters.

Press ^ or v to set parameters for the **cooling and heating DHW mode.**



Confirm the settings by pressing OK.
Cancel the parameter value by pressing ↩

To return to the home screen press ↩ **2 times.**

NOTE

Heating, cooling and DHW heating modes:

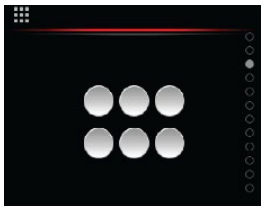
The appliance is in heating and DHW mode.

The appliance is in cooling and DHW mode.

The appliance is not heating or cooling the building, only DHW and pool heating is active.

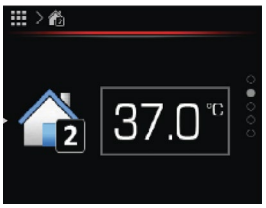
5.4 SETTING THE DESIRED AMBIENT TEMPERATURE

Press OK to get to the main menu

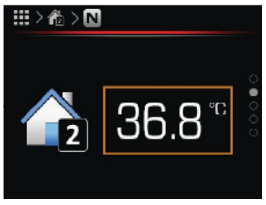


Press ^ or v to search for the **heating loop** settings.

Choose the heating loop menu by pressing OK.
Press ^ or v to find the ambient temperature parameter.



Press OK to begin setting parameters.



Press ^ or v to set the **desired ambient temperature**.
Confirm the settings by pressing OK.
Cancel the parameter value by pressing ↩.
To return to the home screen press ↩ 2 times.

5.5 SETTING THE DHW TEMPERATURE

Press OK to get to the main menu.

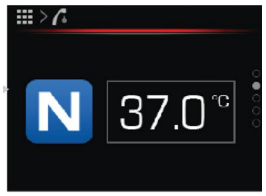
Press ^ or v to search for the DHW settings.

Choose the **DHW** menu by pressing OK.

Press ^ or v to find the DHW temperature parameter.

Press OK to stop setting parameters.

Press ^ or v to set the desired DHW temperature.



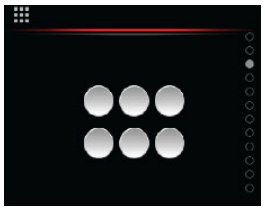
Confirm the settings by pressing OK.

Cancel the parameter value by pressing ↩

To return to the home screen press ↩ 2 times.

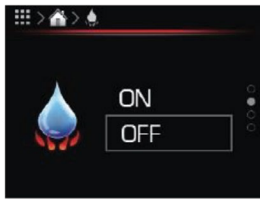
5.6 TURNING ON THE QUICK HEATING OF DHW

Press OK to get to the main menu.

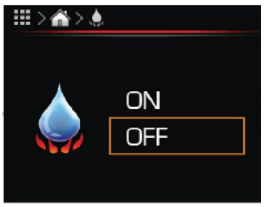


Choose the offered shortcut menu by pressing OK .

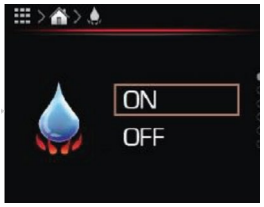
Press ∧ or ∨ to find the quick heating of DHW parameter.



Press OK to begin setting parameters.



Press ∧ or ∨ to set it to ON.

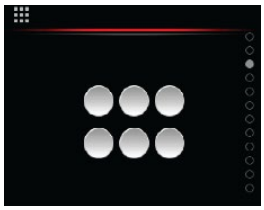


Confirm the settings by pressing OK.

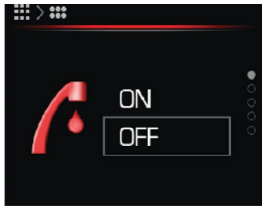
ZTo return to the home screen press ↩ **2 times.**

5.7 MANUAL ACTIVATION OF ANTI–LEGIONELLA PROGRAM

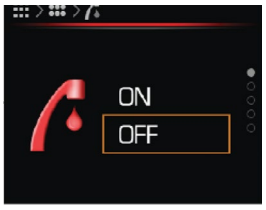
Press OK to get to the main menu.



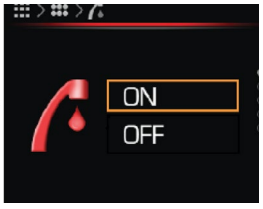
Choose the offered shortcut menu by pressing OK.
Press ^ or v to find the parameter to manually turn on the anti–legionella program.



Press OK to begin setting parameters.



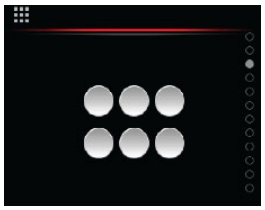
Press ^ or v to set it to ON.



Confirm the settings by pressing OK.
To return to the home screen press ↩ **2 times.**

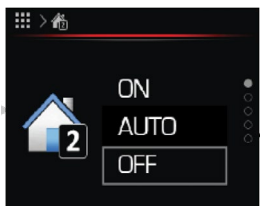
5.8 SETTING THE HEATING LOOP OPERATING MODE

Press OK to get to the main menu.

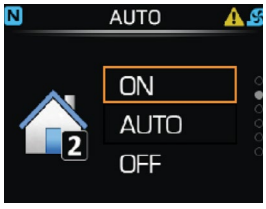


Press ^ or v to search for the heating loop settings.

Choose the heating loop menu by pressing OK.



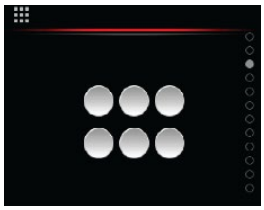
Choose the offered parameter and press OK to stop setting parameters.



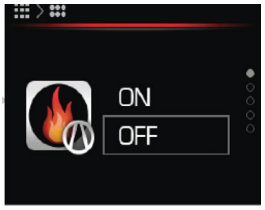
Press ^ or v set it to ON or AUTO.
Confirm the settings by pressing OK.
To return to the home screen press ↩ **2 times.**

5.9 PARALLEL ACTIVATION OF THE ADDITIONAL HEATER 1

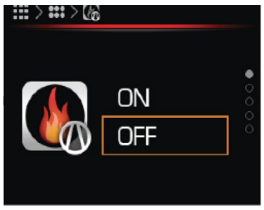
Press OK to get to the main menu.



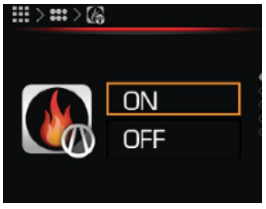
Choose the offered shortcut menu by pressing OK .
Press ^ or v to find the parameter to manually turn on the **additional heater 1.**



Press OK to begin setting parameters.



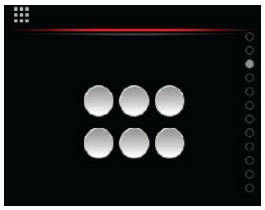
Press ^ or v to set it to ON.



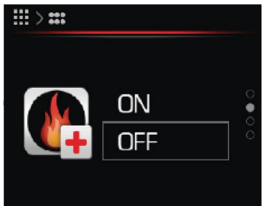
Confirm the settings by pressing OK.
To return to the home screen press ↩ **2 times.**

5.10 ACTIVATION OF BACKUP HEATING MODE

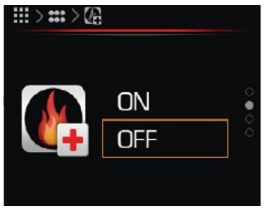
Press OK to get to the main menu



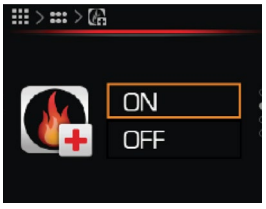
Choose the offered shortcut menu by pressing OK .
Press ^ or v to **find the parameter to manually turn on the reserve heating mode.**



Press OK to begin setting parameters.



Press ^ or v to set it to ON.



Confirm the settings by pressing OK.
To return to the home screen press ↩ 2 times.

6 MENUS AND PARAMETERS IN OPERATING MODE

NOTE

You can set various temperatures and operating modes for the heating loop, pool, buffer tank, and DHW tank.

NORMAL

The Normal Regulator mode keeps your set temperature.

ECO

The ECO Regulator mode keeps the temperature at the set ECO parameter lower than the Normal temperature.

For cooling, the ECO Regulator mode keeps the temperature at the set ECO parameter higher than the Normal temperature.

COMFORT

The COMFORT Regulator mode keeps the temperature at the set COMFORT parameter lower than the NORMAL temperature.

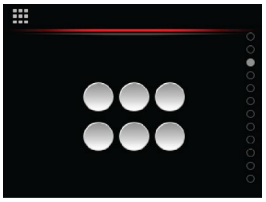
For cooling, the COMFORT Regulator mode keeps the temperature at the set COMFORT parameter higher than the Normal temperature.

NOTE

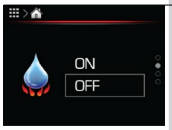
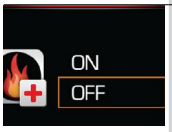
The KT–2A Controller allows for unlimited temperature parameters, and the system automatically adjusts the temperature to the allowed values.

On controller KT-2A are displayed only menus which were activated in commissioning protocol.

6.1 SHORTCUT MENU



Shortcut

Menu	Parameter name	Parameter value range	Note
	Turn on Holiday mode	ON – Turn on OFF – Turn off	**ON** – set the number of vacation days 0 – 999.
	Mode	 Heating Cooling OFF AUTO	**OFF** – only DHW is heated (pool option).
	Quick heating DHW	ON – Turn on OFF – Turn off	
	Anti–legionella heating	ON – Turn on OFF – Turn off	Up to 67 °C (with electric heater).
	Pool heating loop	ON – Turn on AUTO – Working schedule OFF – Turn off	
	Turn on additional source	ON – Turn on OFF – Turn off	Turn on additional source.
	Turn on additional source	ON – Turn on OFF – Turn off	Turn on additional source.
	Turn on heat pump	ON – Turn on OFF – Turn off	
	Filling the system with water	ON – Turn on OFF – Turn off	Adding water to the heating system up to 1.3 bar.
	Activation of the recirculation pump	ON - Turn On OFF - Turn Off	ON - The recirculation pump turns on for 5 minutes.

6.2 SYSTEM OVERVIEW

System overview

Menu	Parameter name	Parameter value range	Note
	**Pipe temperatures**	 Supply pipe temperature Return pipe temperature Heating system pressure Pressure of the source	Show the temperature, water and source pressure.
	**Buffer tank**	 Actual temperature Calculated (desired) temperature	Overview of buffer tank temperature values.
	**DHW**	 Actual temperature Calculated (desired) temperature	Overview of DHW temperature values.
	**Heating loop 1**	 Actual temperature Calculated (desired) temperature	Overview of heating loop 1 temperature values
	**Heating loop 2**	 Actual temperature Calculated (desired) temperature	Overview of heating loop 2 temperature values
	**Heating loop 3**	 Actual temperature Calculated (desired) temperature	Overview of heating loop 3 temperature values
	**Heating loop 4**	 Actual temperature Calculated (desired) temperature	Overview of heating loop 4 temperature values
	**Pool**	 Actual temperature Turn off	Overview of pool temperature values.
	**Alternative source**	Actual temperature	Overview of alternative source temperature values.
	**System communication status**	 WEB status Link status MB connection status	
	**Energy overview**		Overview of current values of electrical consumption, heating/cooling capacity, and COP.

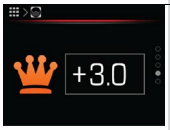
6.3 APPLIANCE ALARMS

Appliance alarms

Menu	Parameter name	Parameter value range	Note
	**Error**	2114–b3 to 2335–b8	There is a disturbance in operation. The heat pump and heating system do not work.
	**Warning**	2115–b1 to 2341–b4	There was a light operational disturbance. The heating system works.
	**Information**	2117–b13 Remote shut downp	There is information regarding events in the operation of the heating system. The heating system works normaly.
	**Warning or error**		The warning or error was fixed.

6.4 BUFFER TANK HEATING MENU


Buffer tank

Menu	Parameter name	Parameter value range	Note
	**Buffer tank operational mode**	**ON – Turn on** **AUTO – Working schedule** **OFF – Turn off**	
	**Buffer tank ECO mode**	–10 °C/ 0 °C	**ECO** lowering the temperature by the set value.
	**Buffer tank COMFORT mode**	0 °C/ +10 °C	**COMFORT** raising the temperature by the set value.
	**Setting the schedule**	1–7 days 0–4 h	Weekly operational schedule.
	**Weather mode –15 ºC**	Adaptive regulation is not possible for buffer tank. The value depends on the setting at commissioning.	Heating curve setting at –15 °C ambient temperature.
	**Weather mode +15 ºC**	Adaptive regulation is not possible for buffer tank. The value depends on the setting at commissioning.	Heating curve setting at +15 °C ambient temperature.

NOTE

The KSM regulator calculates the temperature of the water in the buffer tank based on the heating curve with reference temperatures at –15 °C and +15 °C.

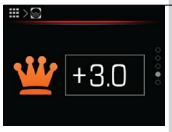
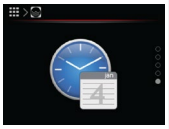
For heating at a constant temperature (regardless of ambient outside temperature) set both parameters of the heating curve at –15 °C and+15 °C to the same value.

6.5 HEATING LOOPS WITH THE KT–1 OR KT–2A THERMOSTATS MENU

NOTE

During the commisioning protocol set one KT–1 or KT–2A for each heating loop.

Heating loop

Menu	Parameter name	Parameter value range	Note
	**Heating loop operational mode**	**ON – Turn on** **AUTO – Working schedule** **OFF – Turn off**	
	**Desired ambient temperature**	+17 °C/+27 °C	Set the desired ambient temperature on which basis the KSM regulator calculates the right water temperature in the heating loop.
	**ECO ambient mode**	–10 °C/0 °C	ECO lowering the ambient temperature by the set value.
	**COMFORT ambient mode**	0 °C/+10 °C	COMFORT raising the ambient temperature by the set value.
	**Setting the schedule**	1–7 days 0 – 24 h	Weekly operational schedule.
	**Weather mode –15 0C**	This is set only if adaptive regulation is turned off. The value depends on the setting at commissioning.	See chapter 6.8 Heating curve setting at –15 °C ambient temperature.
	**Weather mode +15 0C**	This is set only if adaptive regulation is turned off. The value depends on the setting at commissioning	Heating curve setting at +15 °C ambient temperature.

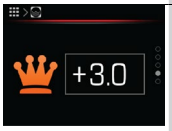
NOTE

If adaptive regulation is turned off, the KSM regulator calculates the temperature of the water in the heating loop based on the heating curve with reference temperatures at –15 °C and +15 °C.

For a constant water temperature in the heating system set the setting at –15 °C and at +15 °C to the same value.

6.6 MENU HEATING LOOPS WITHOUT THE KT–1 OR KT–2A THERMOSTATS MENU

Heating loop

Menu	Parameter name	Parameter value range	Note
	**Heating loop operational mode**	**ON** – Turn on **AUTO** – Working schedule **OFF** – Turn off	
	**ECO loop mode**	–10 °C/0 °C	**ECO** lowering the temperature of the heating loop by the set value.
	**COMFORT loop mode**	0 °C /+10 °C	**COMFORT** raising the temperature of the heating loop by the set value.
	**Setting the schedule**	1–7 days 0–24 h	See chapter 6.8 Weekly operational schedule.
	**Weather mode –15 ºC**	The value depends on the setting at commissioning or user settings.	Heating curve setting at –15 °C ambient temperature.
	**Weather mode +15 ºC**	The value depends on the setting at commissioning or user settings.	Heating curve setting at +15 °C ambient temperature.

NOTE

If there is no KT–1/KT–2A thermostat, adaptive regulation is turned off. The KSM regulator calculates the temperature of the water in the heating loop based on the heating curve with reference temperatures at –15 °C and +15 °C.

For a constant water temperature in the heating system set the setting at –15 °C and at +15 °C to the same value.

6.7 MENU HEATING THE POOL MENU

Pool

Menu	Parameter name	Parameter value range	Note
	**Pool heating loop operational mode**	**ON** – Turn on **AUTO** – Working schedule **OFF** – Turn off	
	**Setting the pool loop temperature**	+10 °C to 50 °C	Set the desired pool water temperature.
	**ECO pool mode**	–10 °C/0 °C	**ECO** lowering the pool temperature by the set value.
	**COMFORT pool mode**	0 °C /+10 °C	**COMFORT** raising the pool temperature by the set value.
	**Setting the schedule**	1–7 days 0–24 h	Weekly operational schedule. See chapter 6.8

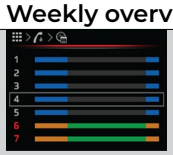
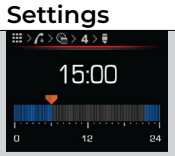
NOTE

If there is no KT–1/KT–2A thermostat, adaptive regulation is turned off. The KSM regulator calculates the temperature of the water in the heating loop based on the heating curve with reference temperatures at –15 °C and +15 °C.

For a constant water temperature in the heating system set the setting at –15 °C and at +15 °C to the same value.

6.8 SEEING THE HEATING LOOP SCHEDULE

The schedule allows up to 6 room or water temperature transitions in one day.

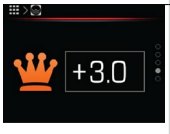
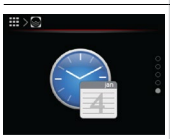
Menu	Weekly overview	Choose settings	Settings	Operational mode
 Schedule	 Choose day	 Edit	 Setting interval	 Normal mode
		 Copy		 Turn off
		 Paste		 **ECO** mode
		 Delete		 **COMFORT** mode

You can set operational schedules for:

- **heating loops 1 – 4,**
- **buffer tank heating loop,**
- **pool heating loop,**
- **heating the DHW.**

6.9 MENU DHW

 **DHW**

Menu	Parameter name	Parameter value range	Note
	**DHW heating mode**	**ON** – Turn on **AUTO** – Working schedule **OFF** – Turn off	
	**Desired DHW temperature**	+25 °/+60 °C	Set the temperature of the water in the DHW tank.
	**ECO DHW heating**	–10 °C/0 °C	**ECO** lowering the DHW temperature by the set value.
	**COMFORT DHW heating**	0 °C/+10 °C	**COMFORT** raising the DHW temperature by the set value.
	**Setting the schedule**	1–7 dni 0–24 h	Weekly operational schedule.

6.9.1 SETTING ANTI–LEGIONELLA HEATING

Setting and activating a function requires 3 parameters:

Menu	Parameter name	Parameter value range	Note
	**Temperature of anti–Legionella heating**	60–75 °C	Water at a temperature of 75 °C eliminates Legionella in 10 minutes, while water at 60 °C eliminates it in 25 minutes.
	**Interval**	0–99 days	Activate the function by entering the heating period. Turn the function off by setting the heating period from 24 to 0.
	**Beginning of heating**	00:00–24:00	Changing the start time sets the beginning of heating.

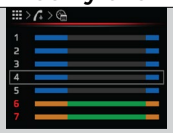
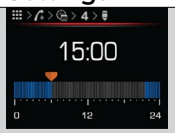
6.10 MENU CIRCULATING DHW

Circulating DHW

Menu	Parameter name	Parameter value range	Note
	**Setting the schedule**	1–7 days 0–24 h	The schedule allows up to 6 temperature transitions per day.

6.10.1 SETTING THE SCHEDULE FOR CIRCULATING DHW

The schedule allows up to 6 room or water temperature transitions per day, every day of the week.

Menu	Weekly overview	Choose settings	Settings	Operational mode
 Schedule	 Choose day	 Edit	 Setting interval	 Turn on circulation in NORMAL mode.
		 Copy		 Turn off circulation.
		 Paste		
		 Delete		

6.11 OPERATIONAL MODE MENU

Operational mode

Menu	Parameter name	Parameter value range	Note
	**Setting the schedule**		

NOTE

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

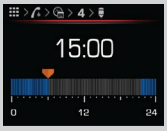
Optimal mode: the appliance is optimized in terms of heating capacity, noise, and efficiency.

Silent mode: the appliance is quieter and less powerful.

WPLV appliances do not support the Boost operational mode.

6.11.1 SETTING APPLIANCE OPERATIONAL MODE

The schedule allows for up to 6 different operational modes in a single day, every day of the week.

Menu	Weekly overview	Choose settings		Settings	Operational mode
					
Schedule	Choose day	Edit		Setting interval	Optimal mode
			Copy		 Silent mode
			Paste		 Boost mode
			Delete		

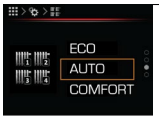
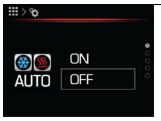
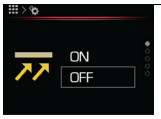
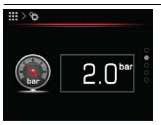
6.12 SOLAR (BIOMASS) MENU

Solar (biomass) source

Menu	Parameter name	Parameter value range	Note
	**Desired DHW temperature**	+20 0C/ +80 0C	Set the temperature of the water in the DHW tank
	Desired buffer tank temperature	+20 °C / +80 °C	Set the temperature of the water in the DHW tank

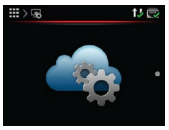
6.13 MENU SETTINGS

Setting

Menu	Parameter name	Parameter value range	Note
	**Temperature offset**	–4 °C/+4 °C	General rise or fall of parameter NORMAL for heating loop and buffer tank.
	**Heating loop operational mode**	**ECO** **AUTO** **COMFORT**	General heating loop operating mode.
	**Switching operational modes**	**ON** – automatic switch **OFF** – deactivate automatic switch	**ON** – automatic switch between heating and cooling. If you deactivate automatic switching, you must ensure to manually switch modes.
	**Screed–drying**	**ON** – Turn on **OFF** – Turn off	Program sušenja estriha.
	**Heating system pressure**	1 – 1.3 bar	The heating system pressure can be max. 2.5 bar.
	**Adaptive curve loop 1**	**ON** – Turn on **OF**F – Turn off	Adaptive regulation automatically turns off if it is set that way at commissioning.
	**Adaptive curve loop 2**	**ON** – Turn on **OFF** – Turn off	Adaptive regulation automatically turns off if it is set that way at commissioning.
	**Adaptive curve loop 3**	**ON** – Turn on **OF**F – Turn off	Adaptive regulation automatically turns off if it is set that way at commissioning.
	**Adaptive curve loop 4**	**ON** – Turn on **OFF** – Turn off	Adaptive regulation automatically turns off if it is set that way at commissioning.
	**Pressure of the source**	0.8–1.3 bar	The pressure in the heating system can be a maximum of 2.5 bars.

6.14 MENU SETTING THE REGULATOR

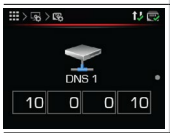
Regulator settings

Menu	Parameter name	Parameter value range	Note
	**Setting the hour**	0 – 24 h	Setting the hour.
	**Setting the date**	1 – 31 days 1 – 12 months	Setting the date.
	**Setting brightness**	0 – 100%	See Table 1.
	**Setting night–time mode**	**ON –** Turn on **OFF –** Turn off	See Table 2.
	**Cloud settings**	Generating a registration UID code (Cloud. Kronoterm).	
	**Network settings**		See chapter 6.13.1.
	**System information**	Regulator information	See chapter 6.13.2.
	**Advanced settings**	Accessing the service menu	Access allowed only for authorized persons.

6.14.1 NETWORK SETTINGS

Network settings

Menu	Parameter name	Parameter value range	Note
	**Setting DHCP**	**ON** – Turn on **OFF** – Turn off	

	**Setting IP**		
	**Setting Mask**		
	**Setting GATEWAY**		
	**Setting DNS1**		
	**Setting DNS2**		

6.14.2 SYSTEM INFORMATION

Informacije o sitemu

Menu	Parameter name	Parameter value range	Note
	**KT–2A regulator information**		
	**KSM information**		
	**WEB module information**		
	**Operating hours**		We distinguish between operating hours and counters.
	**Service access**		

6.14.2.1. OPERATIONAL HOURS

Depending on your commissioning parameters, your system records various operational hours and number of start-tups from commissioning of the system. The counter “Number of defrosting” resets every 24 hours.

Operational hours:

Display on KT-2A	Description
Compressor – cooling:	The compressor is working during cooling
Compressor – heating:	The compressor is working during heating
Compressor – water heater:	The compressor is working during heating DHW
Main circulation pump:	Main circulation pump is working
Circulation pump – water heater:	DHW circulation pump is working
Second source 1:	Additional source x1 is working
Second source 2:	Additional source 2 is working

Counters:

Display on KT-2A	Description
Compressor start-ups – heating:	The compressor turned on – heating
Compressor start-ups – cooling:	The compressor turned on – cooling
Compressor start-ups – household:	The compressor turned on – DHW
Compressor – daily	Not a function
Number of defrostings:	Number of defrosting
Thermal energy	The produced thermal energy
Electrical energy heating mode	Used electrical energy in heating mode
SCOP	SCOP
Pumped ground water	Overpumped quantity of groundwater

6.14.2.2. 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.

Service access

Menu	Parameter name	Note
		**SERVID:** ID of the service technician who wants temporary or permanent access to your system. **PINZ:** Code for temporary access to your system. **PINS:** Code for permanent access to your system.

7 HEATING CURVE

The KSM regulator regulates the heating water temperature (buffer tank, heating loop) based on the current outdoor air temperature. In case you also install a KT–1 or KT–2A also the room temperature is also taken in to the calculation.

The lower the outdoor temperature, the greater the heat loss, and to compensate for this loss the temperature of heating water must be higher.

The higher the outdoor temperature, the lower the heat loss, and to compensate for the difference the temperature of heating water must be lower.

The slope of the heating curve is set at 2 points. The first applies to an outdoor temperature of −15 °C, and the other to +15 °C. For cooling, these reference points are +20 °C and +40 °C.

Menu	Parameter name	Parameter value range	Note
	**Weather mode −15 °C**	Parameter value range This is set depending on the heating system (floor, radiator, convection, etc.).	The parameter value is the temperature of the heating water based on the reference ambient outdoor air temperature of −15 °C. Set this to match the heating system (floor, radiator, convection, etc.). If the air outside is colder than 0 °C (e.g. −7 °C) and it is cold inside, increase the value of the **weather mode parameter** −15 °C. Contrarily, if it is too warm inside, lower this parameter.
	**Weather mode +15 °C**	Set this to depend on the heating system (floor, radiator, convection, etc.).	Vrednost parametra predstavlja temperaturo ogrevalne vode pri referenčni zunanji temperaturi zraka +15 °C. Vrednost nastavite glede na vrsto ogrevalnega sistema (talno, radiatorsko, konvektorsko ogrevanje) If the air outside is warmer than 0 °C (e.g. +7 °C) and it is cold inside, increase the value of **the weather mode parameter +15 °C**. water temperature. Contrarily, if it is too warm inside, lower this parameter.

NOTE

The factory setting of the heating curve at +15 °C (−15 °C) for the buffer tank and heating loop can be changed in the buffer tank and heating loop settings. The adaptive curve must be turned off to set these parameters.

8 SETTING THE SCHEDULE

8.1 MODE

The operational mode of specific elements of the heating system (heating, cooling, loops 1, 2, 3, and 4, DHW, the pool, quiet mode, and circulation) can be adjusted for time by using the schedule function.

You can set 4 modes for heating, cooling, mixed loops, heating DHW, and heating the pool:
- OFF: heating/cooling is turned off.
- Normal: whether heating or cooling, the regulator holds the desired temperature.
- ECO: in this mode the regulator keeps the temperature at the set ECO parameter lower than the Normal temperature. For cooling in this mode, the regulator keeps the temperature at the set ECO parameter higher than the Normal temperature.
- COMFORT: in this mode the regulator keeps the temperature at the set COMFORT parameter higher than the Normal temperature. For cooling in this mode, the regulator keeps the temperature at the set COMFORT parameter lower than the Normal temperature.

You can set two operational modes for circulating DHW:
- **OFF: the circulation pump is turned off**
- **CIRCULATION: the circulation pump is turned on**

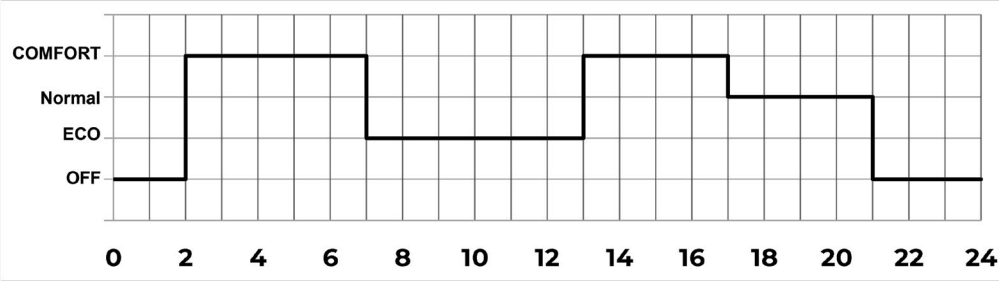
8.2 SETTING THE SCHEDULE

NOTE

We recommend that you set your schedules online at cloud.KRONOTERM.com or with the mobile app. Read the instructions on using our cloud interface.

The schedule allows for up to 6 temperature transitions in a single day, every day of the week.

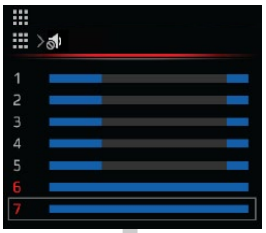
Here is an example of how to set the desired temperature:



2:00	Heating in **COMFORT** mode turns on (the temperature is higher by the **COMFORT** value than the **NORMAL** temperature).
7:00	Heating switches to **ECO** mode (the temperature is lower by the ECO value than the NORMAL temperature).
13:00	1Heating switches back to **COMFORT**.
17:00	Heating switches to **NORMAL** mode (temperature is kept at the value set for NORMAL).
21:00	Heating is turned **OFF.**

Here's an example of setting schedules:

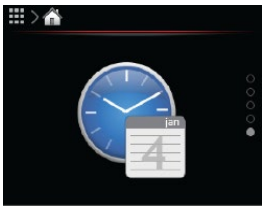
Press OK to get to the main menu.



Press ^ or v to search for the **heating loop** settings.

Choose the heating loop menu by pressing OK

Press ^ or v choose the **Schedule** parameter.



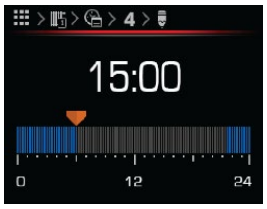
Confirm the settings by pressing OK

Press ^ or v to choose a day to set a schedule.

Confirm the settings by pressing OK.

Press ^ or v to choose the Edit parameter.

Follow the instructions bellow to copy a schedule from selected day to another day



Press ^ or v to set the schedule hour.

Confirm the settings by pressing OK.

Press ^ or v to choose **NORMAL, ECO, OFF,** or **COMFORT** operational mode.

Confirm the settings by pressing OK

To return to the home screen press ⮌

*Copying schedules

Press ^ or v to choose the **copy** parameter.

Confirm the settings by pressing OK

Press ^ or v to choose to which day you want to copy preselected schedule.

Confirm the settings by pressing OK

Press ^ or v izberite choose **paste.**

Confirm the settings by pressing OK

Press ^ or v to choose a day.

Confirm the settings by pressing OK

To return to the home screen press ↩

9 SCREED–DRYING PROGRAM

How to set and activate the screed–drying program is described in the commissioning protocol. During commissioning the technician will set it, turn it on, adjust it if needed, and explain the program to you.

10 HOLIDAY PROGRAM

Activate the program using the KT-2A controller and setting the holiday duration. The overheating of DHW activates one day before the end of the program, followed by the activation of the heating, cooling or pool function.

NOTE

The single-day activation of the program does not have a function.

In the heating mode, the water temperature in the system drops to the temperature of the anti-freezing operational mode (AF). Heating of the DHW and of the pool deactivates.

Cooling, heating of the DHW and the pool deactivates in the cooling mode.

11 ADDITIONAL HEATER

The KSM regulator allows for 2 additional heaters.

a)Additional heater 1 is a built–in flow through electric heater that is used if the heat pump has a fault or if additional heat is needed to heat the system.
b)Additional heater 2 is an external electric heater, oil or gas heater that can but used as an additional heat generator in the heating system.

An authorized commissioning technician sets the additional heater 1 and 2.

Manually turn on the additional heater in the shortcut menu on the KT–2A or on the web and mobile HomeCloud app. The additional heater turns on automatically if needed.

In backup mode the additional heater 1 is turned on.

12 ANTI–FREEZING MODE

If there is a fault and the system is in standby mode, the heat pump switches to anti–freezing mode. In this mode water in the heating system is limited to the minimal temperature.
Additional heater 1 is always used in anti–freezing mode.

13 REGISTRATION OF THE HEAT PUMP INTO THE CLOUD

NOTE

See Instructions for Connecting the Web Module

See Instructions for Using the Web Interface.

The service of remote control of the heat pump and heating system Cloud.KRONOTERM.com is in its test phase and is completely free.

The information are of exclusively informative nature and the company Kronoterm d.o.o. does not guarantee their accuracy. Kronoterm d.o.o. is also not liable for malfunctions of the system as well as the potential damage to the customer making decisions based on this information.

Kronoterm d.o.o. is also not liable for inability of use, disruptions or malfunctions of the web service Cloud.KRONOTERM.com.

The service will be available for all until the company Kronoterm d.o.o. provides it.

In the case where Kronoterm d.o.o. for any reason temporarily or permanently can no longer provide the service, the users cannot file any claims arising from this service in relationship with the company Kronoterm d.o.o. for setting up another equivalent service.

The supplier of the service reserves the right to upgrade the software or make certain adjustments and settings key for correct and effective operation of the appliance through the service Home Cloud without prior notice of the user.

14 ERRORS, WARNINGS AND NOTIFICATIONS

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

Press OK to enter the menu.

Choose the offered diagnostic menu by pressing OK.

The following submenu will open. When you make a selection, you will see the code for faults, warnings, and notifications.

Error:

An error occurred that shut the whole system down.

Error code: 

Warning: A warning occurred that did not shut the system down.

Warning code: 

Notification: Important information was given during the appliance's operation.

Notification code: 

14.1 DISPLAYS

All faults, warnings, and notifications are shown as a code comprised of a 4–digit number and a 2–digit number/letter combo.
All necessary instructions for parsing and understanding these codes is given below.

NOTE

In case of error or waring showen, reset the error and restart the appliance. If the error is still active 10 min after auto-reset,, contact installer who commission the system.

14.2 LIST OF ALARMS

The diagnostic menu records all events during the appliance's operation. Priority events are shown in the status line with a graphic display in the form of a red or yellow exclamation point. In addition to the recorded error and warnings, other event codes can also appear in the diagnostic menu. These can only be resolved by authorized service.

14.2.1 NOTIFICATIONS

/	/

14.2.2 WARNING LIST

2117-b13	Remote shutdown
2124-b7	No response from cascade modules
2124-b8	Cascade module 1 has to be inspected
2124-b9	Cascade module 2 has to be inspected
2124-b10	Cascade module 3 has to be inspected
2124-b11	Cascade module 4 has to be inspected
2330-b5	Refrigerant loss
2341-b4	Low pressure – heating system

14.2.3 ERROR LIST

2114-b3	High pressure
2114-b7	Low pressure
2114-b8	CP phase control
2114-b9	No water flow
2114-b14	Efficiency
2115-b0	Failure module 1
2115-b1	Failure module 2
2115-b4	Too high compressor temperature
2115-b5	Communication failure – outdoor unit
2115-b8	Max. number of defrosting
2116-b2	Temperature sensor fault – condenser inlet (T28)
2116-b3	Temperature sensor fault – condenser outlet (T27)
2117-b10	Outlet minimum temperature
2119-b14	No model set
2119-b15	Outdoor unit fault
2126 - b0	Communication failure with cascade module 1
2126 - b1	Communication failure with cascade module 2
2126 - b2	Communication failure with cascade module 3
2126 - b3	Communication failure with cascade module 4
2126 - b8	Failure on cascade module 1
2126 - b9	Failure on cascade module 2
2126 - b10	Failure on cascade module 3
2126 - b11	Failure on cascade module 4
2186-b0	Heating loop thermostat failure 1
2186-b1	Heating loop thermostat failure 2
2186-b2	Heating loop thermostat failure 3
2186-b3	Heating loop thermostat failure 4
2335-b3	AC over voltage fault
2335-b4	AC under voltage fault
2335-b8	Input loss of phase fault
2339-b0	Temperature sensor fault – DHW (T1)
2339-b1	Temperature sensor fault – outdoor heating system (T2)
2339-b2	Temperature sensor fault – 1st loop (T3)
2339-b3	Temperature sensor fault – 2nd loop (T4)
2339-b4	Temperature sensor fault –3rd loop (T5)
2339-b5	Temperature sensor fault – 4th loop (T6)
2339-b6	Temperature sensor fault – pool (T7)
2339-b7	Temperature sensor fault – solar/biomass (T8)
2339-b8	Temperature sensor fault – buffer tank 1 (T9)
2339-b9	Temperature sensor fault – buffer tank 2 (T10)
2339-b12	Temperature sensor fault – outlet HP (T15)
2339-b13	Temperature sensor fault – inlet HP (T16)
2339-b14	Temperature sensor fault – outlet after elect. heater (T13)
2339-b15	Temperature sensor fault – inlet indoor unit (T14)
2340-b7	Pressure sensor fault – heating system (T25)
2340-b8	Flow sensor fault – heating system (T26)
2340-b9	SD card fault

—

Kronoterm d.o.o.
Trnava 5e, 3303 Gomilsko, SLO
T +386 3 703 16 20
www.kronoterm.com
info@kronoterm.com