

TECH CONTROLLERS

USER MANUAL

ST-980 Venma

EN

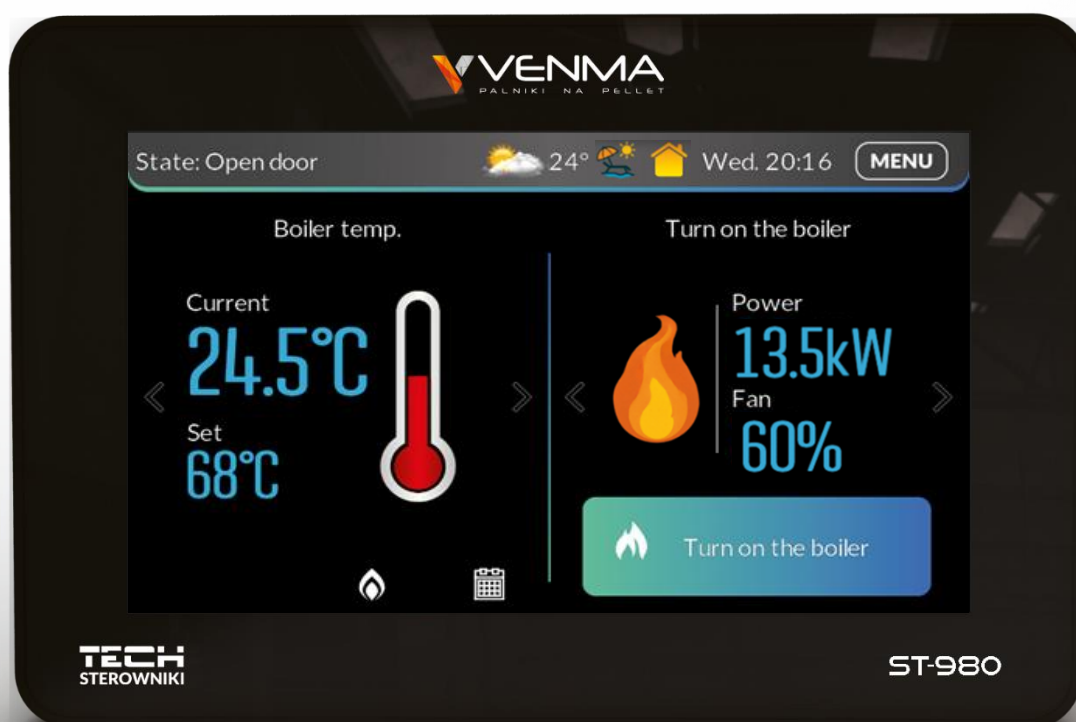


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ALL IMAGES PUBLISHED SERVE ILLUSTRATION ONLY AND MAY DIFFER FROM THE ACTUAL APPEARANCE.

Before operating the device please read the following instructions carefully. Failure to observe these instructions may cause personal injuries and damage the device.

To avoid unnecessary errors and accidents, make sure that all persons operating the device are thoroughly familiarized with its operation and safety functions. Please retain the operating manual for future reference and make sure that it stays with the device if it is transferred or sold, so that everyone using it will have sufficient information concerning the operation and safety of the device. For the safety of life and property, take precautions in accordance with the user manual, as the manufacturer is not responsible for damage caused by negligence.



WARNING

- Live electrical equipment. Before carrying out any operations related to the power supply (connecting cables, installing the device, etc.), make sure that the controller is not connected to the mains.
- Installation should be carried out by a person holding appropriate electrical qualifications.
- Before starting the controller, the ground resistance of electric motors and the insulation resistance of electric wires should be measured.
- The controller is not intended to be operated by children.



CAUTION

- Atmospheric discharges can damage the controller, so during a thunderstorm, switch it off by unplugging the mains plug.
- The controller may not be used contrary to its intended purpose.
- Before and during the heating season, check the technical condition of the cables. Also check the installation of the controller, clean dust and other soiling.

There might be changes introduced in the products listed in the present manual, following its last revision of 09.12.2025. The manufacturer reserves the right to introduce design changes. Illustrations may contain optional equipment. Printing technology may affect differences in the presented colours.



Care for the natural environment is of paramount importance to us. The awareness that we manufacture electronic devices is linked with our obligation to dispose the used electronic parts and devices in a way that is safe for the environment. Therefore, the company requested and received a registration number issued by the Polish Chief Inspector for Environmental Protection. The symbol of the crossed wheeled bin on the product indicates that the product must not be disposed of with municipal waste. By segregating waste for recycling, we help protect the environment. It remains the user's responsibility to hand over used equipment to a designated collection point for recycling electrical and electronic equipment waste.

2 DEVICE DESCRIPTION

The ST-980 controller is a device designed for pellet boilers equipped with a feeder and a blower fan. Thanks to its sophisticated software, the controller can perform a number of functions:

- Feeder control
- Burner cleaning device control
- Blowing fan control
- Central heating (CH) pump control
- Domestic hot water (DHW) pump control
- Built-in valve control unit
- Valve weather control
- Weekly schedule control
- It can operate with room controllers
- Software Update via USB
- Built-in Internet module
- Optional connection of an additional valve control module (e.g.: i-1, i-1m)

3 INSTALLING THE CONTROLLER

The controller should be installed by a properly qualified person only.

WARNING

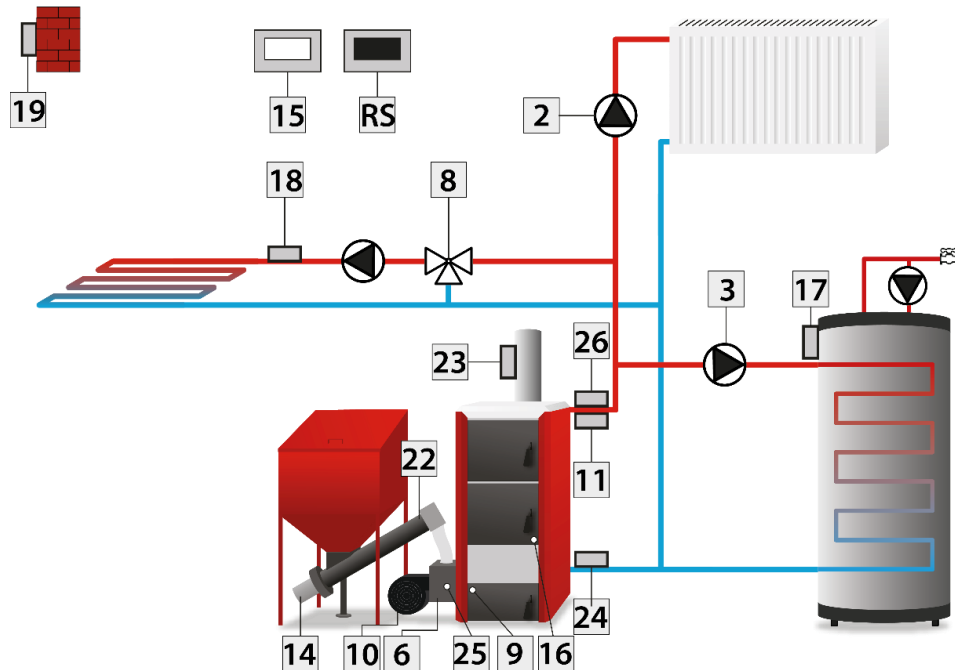


Danger of injury or death due to electric shock on live connections. Before working on the controller, disconnect its power supply and secure it against accidental switching on.

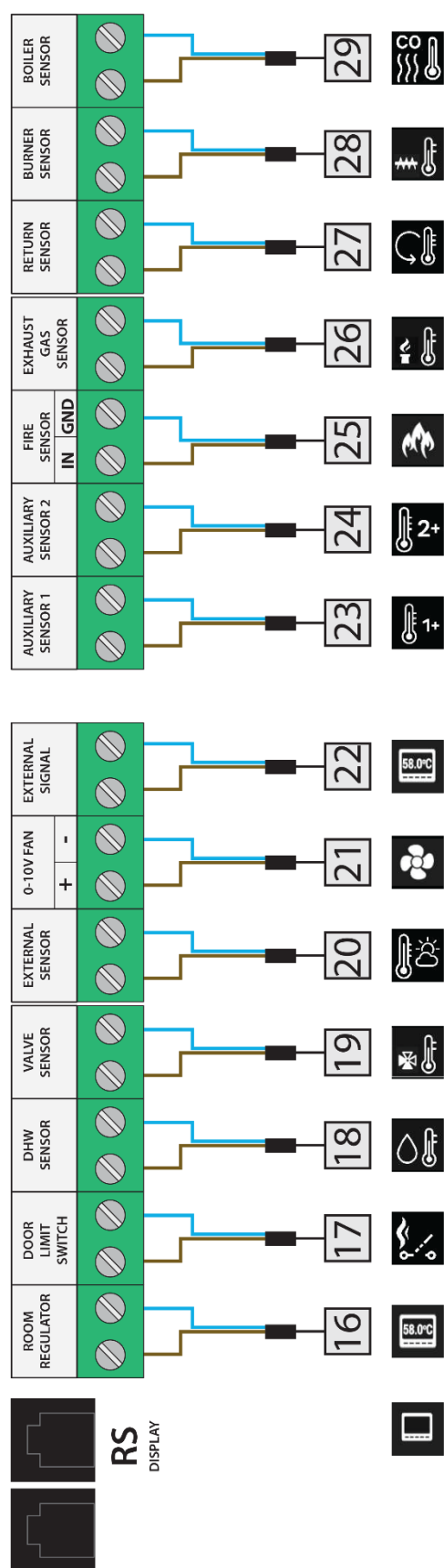
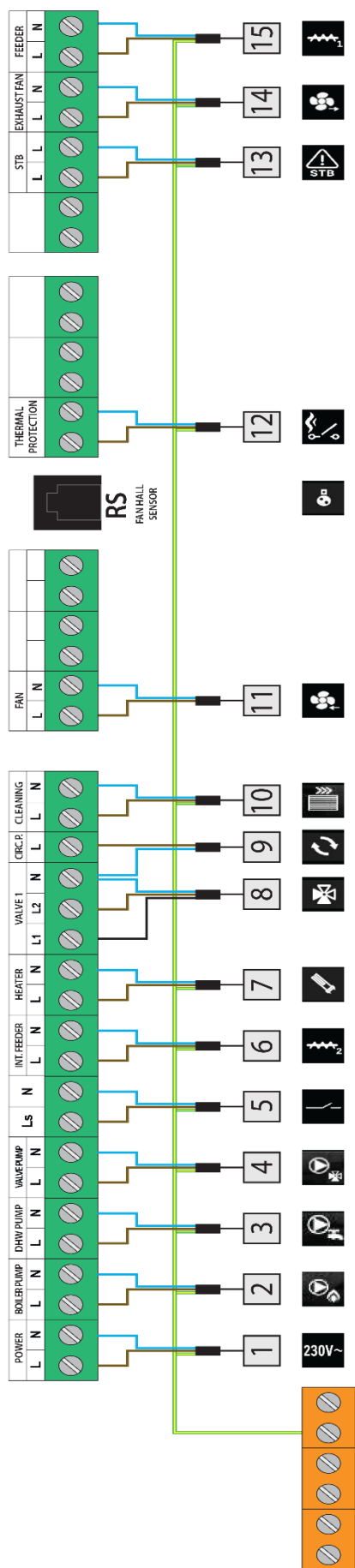
CAUTION



Incorrect wiring may damage the controller.



Illustrative Diagram



**CAUTION**

In order to correctly connect the circulation pump, the neutral conductor "N" must be connected together with the "N" output of *Valve 1*.

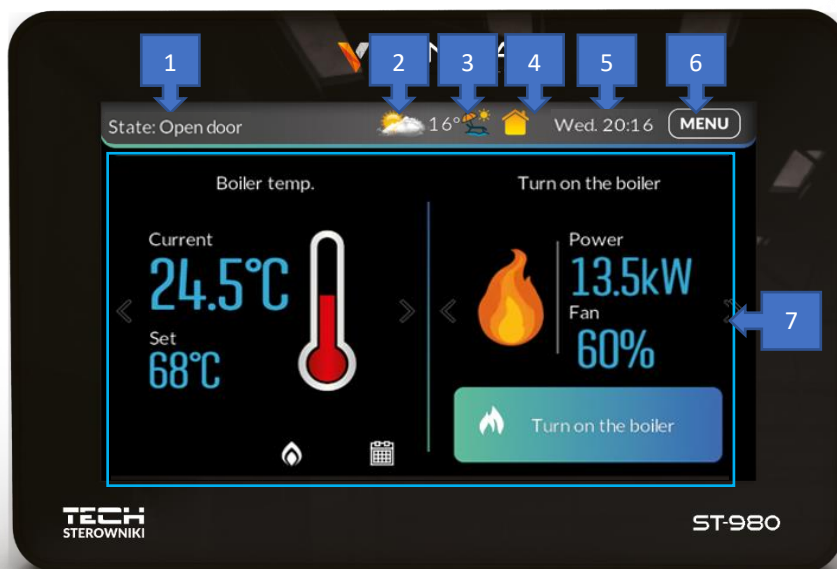
No.	Icon	Meaning
1.		Power
2.		Boiler pump
3.		DHW Pump
4.		Valve pump
5.		Auxiliary contact
6.		Internal feeder
7.		Heater
8.		Valve 1
9.		Circulation pump
10.		Cleaning
11.		Fan
		Fan Hall sensor
12.		Thermal protection
13.		STB0
14.		Exhaust fan
15.		Feeder

No.	Icon	Meaning
		Display
16.		Room regulator
17.		Door limit switch
18.		DHW sensor
19.		Valve sensor
20.		External sensor
21.		0-10V fan
22.		External signal
23.		Auxiliary sensor 1
24.		Auxiliary sensor 2
25.		Fire sensor
26.		Exhaust gas sensor
27.		Return sensor
28.		Burner sensor
29.		Boiler sensor

4 CONTROLLER OPERATION

The device is operated with use of a touchscreen display. During the normal operation of the controller, two areas are visible on the display, which can be adjusted according to our own needs by using the arrows.

The user can select one of the available screen views: *Boiler temperature*, *Reason for extinguishing*, *Boiler parameter view*, *Boiler ON/OFF function*, *Valve operating parameters*.



- 1 Current controller operating mode
- 2 Current outdoor temperature.
- 3 Icon indicating the selected operating mode (e.g. active *Summer Mode*)
- 4 The status of the room controller (the yellow icon indicates that the set temperature in the room has not been reached, while the red one indicates that the temperature in the room has been reached).
- 5 Current date and time. Tapping this button allows you to change the date and time settings.
- 6 Icon for accessing the menu of the controller, on which we move with the arrows. If we want to select a given option, we press the icon directly to confirm.
- 7 Screens allowing you to view detailed boiler operation parameters.

Icon	Meaning
	Feeder 1/2
	Fan
	Boiler pump
	DHW Pump
	Cleaning
	Exhaust fan
	Operating schedule of the boiler
	Heater/ igniter
	Boiler/DHW weekly schedule
	Automatic ignition

MAIN MENU

Software version

Firing up/ Turn off the boiler

Boiler settings

Operating modes

User settings

Manual mode

Alarm history

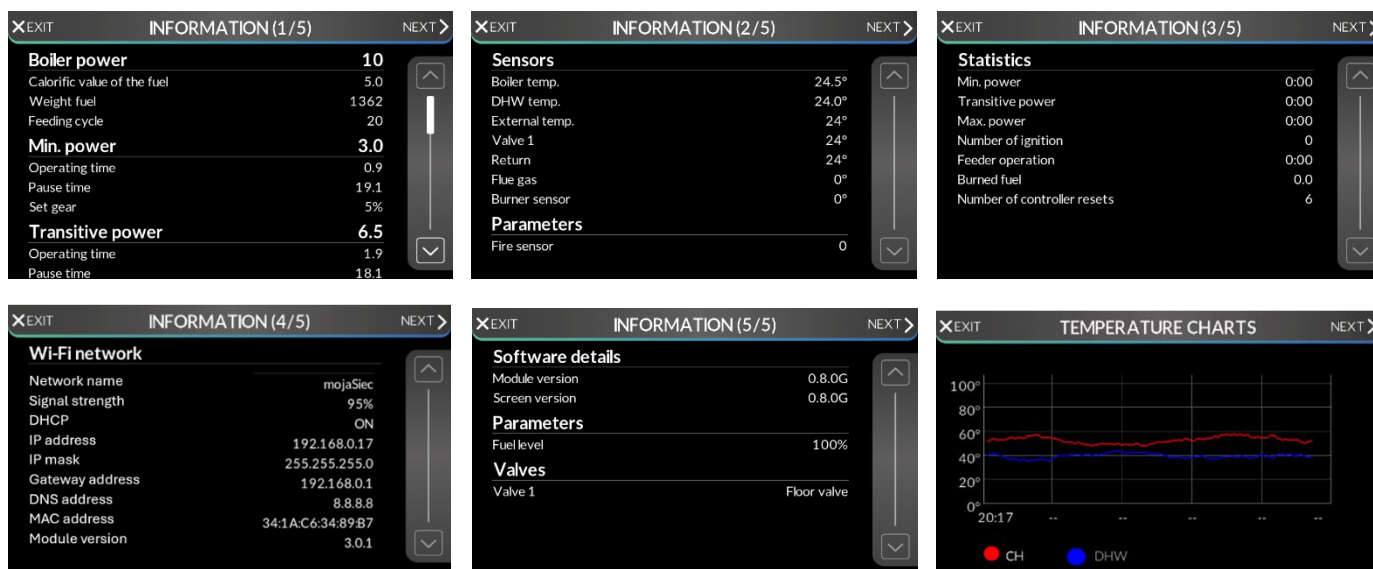
Service menu

DHW settings

Valve settings

5.1 SOFTWARE VERSION

The function allows you to view detailed controller operation parameters.



- **Screen 1** – boiler operation information (min./max. power, current/set temperature), fan operation parameters
- **Screen 2** – operation parameters of connected sensors
- **Screen 3** – statistics
- **Screen 4** – Internet module (Ethernet) operation information
- **Screen 5** – information about the software version, fuel level and valve operation
- **Screen 6** – CH and DHW temperature changes information

5.2 FIRING UP/TURN OFF THE BOILER

After activating this function, the ignition process will follow. Before starting the ignition process, make sure that there is an appropriate level of fuel in the feeder. If the amount of fuel is correct, the user can confirm the start of the ignition process.

After activating the ignition process in the controller menu, the option changes to *Extinguish*, which allows the user to initiate the boiler extinguishing process. This function changes only when the controller reaches the operating phase, because the ignition cannot be stopped.

5.3 BOILER SETTINGS

MAIN MENU

Boiler settings

Temperature settings

Power

Feeder calibration

Cleaning

Additional contact

Tray

5.3.1 TEMPERATURE SETTINGS

5.3.1.1 BOILER SETPOINT TEMPERATURE

This option is used to set the boiler temperature. Boiler temperature range: 53°C-80°C.

5.3.1.2 BOILER HYSTERESIS

This option is used to set the hysteresis of the preset temperature, i.e. the difference between the temperature of entry into the temperature maintaining cycle, and the temperature that will re-enable operating cycle.

Example:

<i>Boiler set point</i>	60°C
<i>Hysteresis</i>	3°C
<i>Transition to temperature maintaining cycle</i>	60°C
<i>Return to operating cycle</i>	57°C

When the preset temperature is 60°C and the hysteresis is 3°C, the device will be switched off once the temperature reaches 60°C, while the return to the operating cycle will occur when the temperature drops to 57°C).

5.3.1.3 SET ROOM TEMPERATURE*

* Option visible with room controller connected via RS communication.

This option is used to set the preset temperature of the room operated by a room controller equipped with RS communication – connected and activated in the *User settings* menu.

5.3.2 POWER

5.3.2.1 MINIMUM POWER

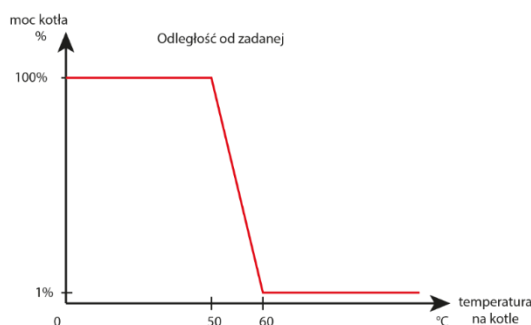
The boiler starts to work with the minimum power when the temperature at the boiler approaches the preset temperature. The purpose of this stage is to maintain the furnace temperature at the setpoint. The fan operation is defined by the user with the *Fan Correction* function.

- **Fan correction** - this function is used to adjust the fan power. The principle of operation of this adjustment is based on adjusting the characteristics of the fan up or down. If the blowing over the entire adjustment range is too low/high, this coefficient must be properly raised/lowered so that the fan operates at the correct power.

5.3.2.2 INTERMEDIATE POWER

In this stage, the feeder and fan operate according to user-defined settings, and the transition to the next stage takes place when the boiler temperature reaches a value below the setpoint temperature by the value set by the user in the *Distance from the setpoint* (0-2°C) option.

- **Distance from the setpoint** - a function that allows you to set the value, after which the controller will begin to modulate the boiler power when approaching the boiler set temperature.



Example:

If the set temperature is 60°C and the distance is set to 10°C, the modulation will start at 50°C.

Boiler set point	60°C
Distance From Setpoint	10°C
Boiler power modulation	50°C

5.3.2.3 MAXIMUM POWER

In this stage, the feeder and fan (the *Fan Correction* function) operate according to user-defined settings. The transition to the next stage of modulation takes place when the boiler temperature reaches a value below the setpoint temperature by the value set by the user at the *Distance from the setpoint* (3-15°C).

5.3.3 FEEDER CALIBRATION

5.3.3.1 FUEL CALORIFIC VALUE

Function used to enter the calorific value of the pellet (as listed on the packaging).

5.3.3.2 FUEL SCALE

The option where the weight of the measured fuel is to be entered.

5.3.3.3 START WEIGHING

A function that allows you to measure the amount of fuel that the feeder delivers within 6 minutes with continuous operation of the feeder. Before activating this function, disconnect the feeder from the burner and place a suitable sized container underneath, wait until the end of the process and weigh the discharged fuel.

5.3.3.4 STARTING DOSE CORRECTION

Parameter responsible for increasing or decreasing the bedding before starting the operation of the heater.

5.3.4 CLEANING

The parameters of this submenu allow the user to adjust the course of the furnace cleaning process to individual needs.

5.3.4.1 FAN GEAR

The function allows you to set the fan power during the cleaning process.

5.3.4.2 OPENING TIME

The opening time determines the operating time of the cleaning device until full opening.

5.3.4.3 PRE-IGNITION CLEANING

The function is used to partially clean the furnace before starting the ignition.

5.3.4.4 POST-EXTINGUISHING CLEANING

After activating this function, the furnace cleaning process will be carried out each time after extinguishing in the boiler.

5.3.4.5 CLEANING – OPERATING MODE

Activating the option will result in short-term cleaning of the furnace without interrupting the boiler operation.

5.3.5 ADDITIONAL CONTACT

The parameters of this submenu are used to set the operation of a device connected to the auxiliary contact input. After selecting the type of device, an additional menu will appear on the display screen showing the parameters of the connected secondary pump.

Device type

Pump deactivated

Circulation pump

Ash removal

Alarm

5.3.5.1 CIRCULATION PUMP

After checking this option, the additional device will act as a circulation pump - used to control the hot water mixing pump between the buffer and the DHW receivers. The following parameters are used to configure its operation:

5.3.5.1.1 Working time

This parameter is used to set the operating time of the pump during its activity.

5.3.5.1.2 Pause time

This parameter is used to determine the time between consecutive start-ups of the circulation pump, during which the pump will not operate.

5.3.5.1.3 Operating schedule

Thanks to this function, the user sets the daily cycle of activation or stopping of the pump with an accuracy of 30 minutes. During the designated periods of activity, the pump will switch on at the frequency set in the *Pause Time* parameter for the time set in the *Operating Time* parameter.

Programming the operating schedule proceeds as in the case of *Weekly control*.

5.3.5.2 ASH REMOVAL

Option to automatically remove ash from the ashtray. The ash removal process takes place during extinguishing of the boiler.

5.3.5.3 ALARM

Activating the function will activate the auxiliary contact in the event that an alarm appears on the display.

5.3.6 TRAY

5.3.6.1 TANK CAPACITY

The option is used to set the feeder capacity.

5.3.6.2 TRAY FILLED

This function is used after the fuel tank is fully refilled to update the fuel quantity to 100%.



PLEASE NOTE:

Before using this function, calibrate the operation of the fuel feeder for the first time.

5.4 OPERATING MODES

In this function, the user selects one of the available boiler operation modes.

MAIN MENU

Operating modes

House heating

Boiler priority

Parallel pumps

Summer mode

5.4.1 HOUSE HEATING

After selecting this option, the controller enters the heating only state. The boiler pump will start operating above the boiler pump start-up temperature. Below this temperature (minus the hysteresis value) the pump stops working.

5.4.2 BOILER PRIORITY

In this mode, the DHW pump operates until the boiler is heated (the valves close to the maximum and the valve pumps are switched off). At the moment of obtaining the set temperature on the boiler, the previously operating pump will be switched off, while the boiler pump will be switched on and the mixing valves will be switched on. The moment the boiler temperature drops below the set point temperature by the hysteresis value, the DHW pump will switch on again and the valves will stop working.



CAUTION

If the temperature at the boiler is higher than the boiler's current temperature, the pump will not turn on to not cool the water in the boiler.

5.4.3 PARALLEL PUMPS

Mode in which the boiler pump operates above the pump start-up threshold. The DHW pump switches on in parallel and reheats the boiler, while after reheating the DHW, the pump switches off. The pump will restart after the temperature drops by the DHW hysteresis value.



CAUTION

If the boiler's current temperature is lower than the current temperature on the boiler, the DHW pump will not switch on to protect against cooling of the boiler water.

5.4.4 SUMMER MODE

In this mode, only the DHW pump operates (from the threshold of switching on the DHW pump), the CH valves is closed so as not to unnecessarily heat the house. If the boiler temperature is too high, the valve will be opened in an emergency procedure.

MAIN MENU

User settings

Weekly schedule control
Cleaning period
Room regulator
Language version
Screen settings
Ethernet Module
Time settings
Factory settings

5.5.1 WEEKLY SCHEDULE CONTROL

The function allows you to program the weekly boiler operation control, boiler set temperature deviations and DHW.



CAUTION

For the correct operation of this function it is necessary to set the current date and time.

5.5.1.1 BOILER WEEKLY SCHEDULE

The weekly function allows you to program deviations in the set temperature of the boiler on individual days of the week and specific hours. The temperature deviations set are in the range of $\pm 10^{\circ}\text{C}$.

To enable weekly control, select and check *Mode 1* or *Mode 2*. Detailed settings of these modes can be found in the following sections of the submenu: *Set Mode 1* and *Set Mode 2*.

When one of the modes is activated, the calendar icon will be displayed on the main screen of the controller, below the parameters of the set CH temperature, indicating that the weekly control is on.

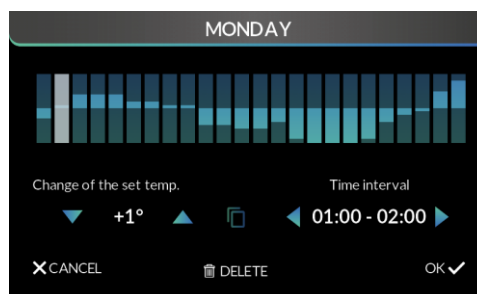
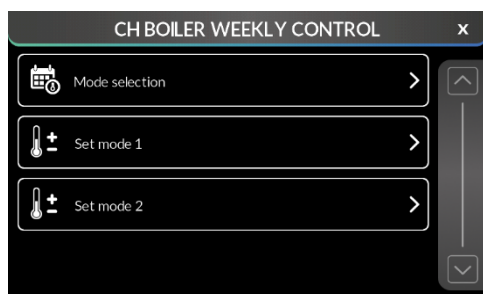
- WEEKLY CONTROL SETPOINT – WEEKLY SCHEDULE

The weekly control can be programmed in two different modes:

MODE 1 - in this mode it is possible to program deviations of the set temperature for each day of the week separately.

Mode 1 programming:

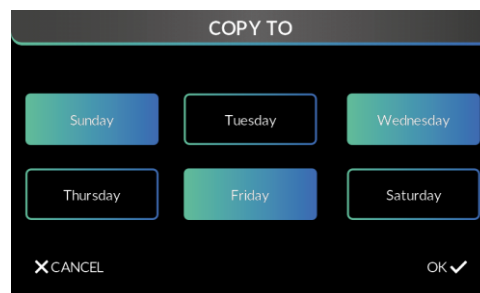
- ⇒ Select the option: Set Mode 1
- ⇒ Then select the day of the week for which we want to change the temperature settings.
- ⇒ The edit screen appears on the display:



- ⇒ First, using the icons:   select the time for which we want to change the temperature.
- ⇒ After selecting the time, use the icons:   to decrease or increase the temperature by the selected value.
- ⇒ The set temperature can be changed in the range of -10°C to $+10^{\circ}\text{C}$.

- ⇒ If you want to apply the same change also to the neighboring hours, touch the  icon, it illuminates in red:  
- ⇒ After setting all deviations for a given day of the week, select: 
- ⇒ A screen will appear enabling you to copy the setting to other days of the week.

If you wish the boiler to operate with such settings also on other days of the week, please select them and confirm the selection:



- ⇒ All settings can be reset by selecting the  KASUJ option and confirming the resetting of the settings

Example:

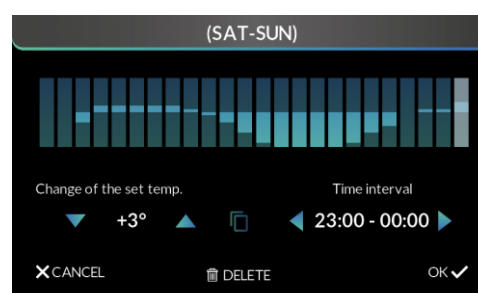
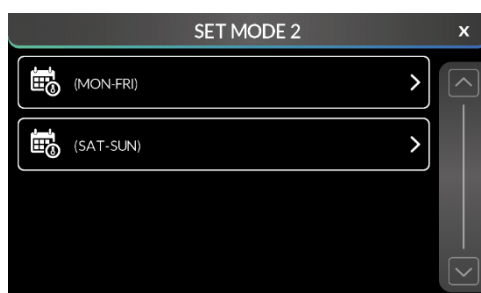
	Time	Temperature - setting of weekly control (+/-)
Monday		
PRESET	4 ⁰⁰ - 7 ⁰⁰	+5°C
	7 ⁰⁰ - 14 ⁰⁰	-10°C
	17 ⁰⁰ - 22 ⁰⁰	+7°C

In this case, if the setpoint temperature at the boiler is 50°C, then on Mondays, from 4⁰⁰ to 7⁰⁰ hours the setpoint temperature on the boiler will increase by 5°C, i.e. it will be 55°C; in the hours from 7⁰⁰ to 14⁰⁰ it will decrease by 10°C, so it will be 40°C, while between 17⁰⁰ and 22⁰⁰ it will increase to 57°C.

MODE 2 - in this mode, it is possible to program the temperature deviations in detail for all working days (Monday – Friday) and for the weekend (Saturday – Sunday).

Mode 2 programming:

- ⇒ Select the option: Set Mode 2.
- ⇒ Then select the part of the week for which we want to change the temperature settings.
- ⇒ The editing procedure is the same as for Mode 1.



Example:

	Time	Temperature - setting of weekly control (+/-)
Monday - Friday		
PRESET	4 ⁰⁰ - 7 ⁰⁰	+5°C
	7 ⁰⁰ - 14 ⁰⁰	-10°C
	17 ⁰⁰ - 22 ⁰⁰	+7°C
Saturday - Sunday		
PRESET	6 ⁰⁰ - 9 ⁰⁰	+5°C
	17 ⁰⁰ - 22 ⁰⁰	+7°C

In this case, if the setpoint temperature on the boiler is 50°C, then on Monday to Friday, from 4⁰⁰ to 7⁰⁰ hours the set temperature on the valve will increase by 5°C, i.e. it will be 55°C; in the hours from 7⁰⁰ to 14⁰⁰ it will drop by 10°C, amounting to 40°C, while between 17⁰⁰ and 22⁰⁰ it will increase to 57°C.

During the weekend, from 6⁰⁰ to 9⁰⁰ hours, the temperature on the boiler will rise by 5°C, that is to 55°C, and between 17⁰⁰ and 22⁰⁰ it will rise to 57°C.

5.5.1.2 DHW WEEKLY

This function is used to program the daily changes in the DHW set temperature. The set temperature deviations are in the range of +/-10°C. The method of setting the weekly control is presented in the section: *Boiler weekly*.

5.5.1.3 OPERATING SCHEDULE OF THE BOILER

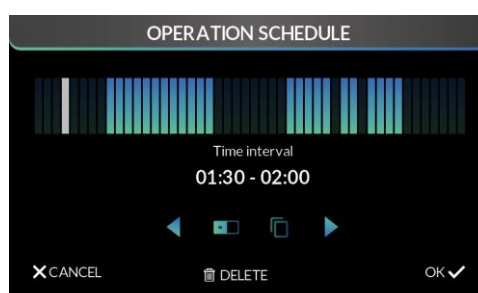
When we turn on the *Boiler operating schedule* option, icons with individual days of the week appear. By selecting one of them, a screen is displayed on which the user can freely choose a work plan to meet their needs.

The boiler operation schedule allows users to program the time of the boiler's activity – the user can determine the periods of the boiler's activity on selected days of the week with an accuracy of up to 30 minutes. In the inactive periods, the boiler will remain extinguished regardless of other factors (e.g. signal from the room controller).

⇒ WEEKLY CONTROL SETPOINT: – BOILER SCHEDULE

Programming the schedule:

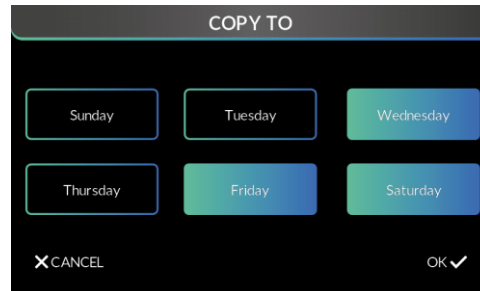
- ⇒ Please enable the option.
- ⇒ Then select the day of the week for which you wish to change the boiler operation mode.
- ⇒ The edit screen appears on the display:



- ⇒ First, using the icons:   select the time interval for which we want to activate or deactivate the boiler operation.
- ⇒ After selecting the time, use the:  icon to turn the boiler on or off during the given hours.
- ⇒ If you want to apply the same change also to the neighboring time intervals, touch the  icon, it will change the color of the backlight:  and then copy the setting to the next or previous time interval using.  
- ⇒ After setting the schedule for a given day of the week, select: 

⇒ A screen will appear enabling you to copy the setting to other days of the week.

If you want the boiler to operate with such settings also on other days of the week, please select them and confirm the selection.



⇒ All settings can be reset by selecting the  option and approving the resetting of the settings

5.5.2 CLEANING PERIOD

This parameter determines the frequency of automatic start of the furnace cleaning process.

5.5.3 ROOM REGULATOR

Room controller	Room controller
	RS room controller communication
	Standard controller algorithm
	Standard controller algorithm 2

5.5.3.1 ROOM CONTROLLER

This function is used to set the operating parameters of the room controller connected to the pellet boiler controller. In order for the cooperation with the room controller to be active, once connected, it must be activated by selecting the appropriate type of controller. Up to three room controllers can be connected to the controller.

5.5.3.1.1 TECH RS Controller

Mark this option if a room controller equipped with RS communication is connected to the controller. Such a controller allows you to view the current values of boiler parameters and change some settings, e.g.: boiler set point temperature, DHW set point temperature.

5.5.3.1.2 Standard controller 1

If a binary room controller is connected to the controller, check the *Standard controller* option. This type of room controller allows information about overheating or underheating of the room to be sent to the main controller.

5.5.3.1.3 Boiler pump room controller

Option visible when the function standard controller 1 and/or TECH RS controller is selected.

If this option is checked, the signal from the room controller about heating up the room will turn off the boiler pump.

5.5.3.2 RS ROOM CONTROLLER COMMUNICATION

Used only to switch on the communication. The room controller does not control the boiler or valve, and we have access to temperatures and options.

5.5.3.3 STANDARD CONTROLLER ALGORITHM

In this function, we select whether the standard controller is to act as a room controller or as a contact blocking the operation of the burner.

In case of selecting the option:

- **Room controller** – it will operate as normal room controller
- **Operation lock** – another heat source has been connected behind the controller and the control signal forces the absolute stop of the burner operation.

5.5.3.4 STANDARD CONTROLLER ALGORITHM 2

The controller is equipped with an additional digital input, which can support the following algorithms:

- **None** - Input disabled
- **Interlock** - an external signal that blocks the operation of the boiler. During operation, the controller will go into the extinguishing state and then into the standby state. If the interlock signal occurs during the extinguished state, it will not be possible to ignite the boiler.
- **Message** - an external signal, after which a low fuel message will be displayed on the controller. The message will only appear **once** until the feeder is full again or the controller restarts.

5.5.4 LANGUAGE VERSION

Allows the user to select the language version.

5.5.5 SCREEN SETTINGS

5.5.5.1 SCREEN VIEW

The user can change the main screen view. A screen showing the panels with the current operating parameters of the controller or a manufacturer's screen (intended only for authorized persons, code protected) where more detailed information is displayed.

5.5.5.2 SCREEN BRIGHTNESS

This function allows to set the screen brightness in the range of 10 to 100% during the use of the controller.

5.5.5.3 SCREEN FADING

With this function, you can determine the brightness of the screen when the controller is dimmed in the range of 0 to 50.

5.5.5.4 FADING TIME

The function allows you to set the fading time of the controller screen.

5.5.5.5 KEY TONE

This function allows you to enable or disable the key tones.

5.5.5.6 AUTOLOCK PIN CODE

The function allows you to activate the protection of the input to the controller menu. After selecting the *Autolock* option, entering the controller menu will only be possible after entering the four-digit PIN – "0000". After entering the PIN submenu, it is possible to set an individual PIN.

5.5.5.7 SOFTWARE UPDATE

The function allows you to update/change the software version currently installed on the controller.



CAUTION

- It is recommended to update the software on an extinguished boiler only.
- The flash drive on which the update installation file is to be located should be empty, preferably formatted.
- Pay special attention to the fact that the file saved on the flash drive should have exactly the same name as the file we are downloading - so that it is not overwritten.

- **Method 1:**
 - ⇒ Place the flash drive with the software in the USB port of the controller.
 - ⇒ Then select the *Software Update* option (in the screen settings).
 - ⇒ Confirm the restart of the controller.
 - The controller restarts.
 - The start screen of the controller appears with the version of the module and display software.
 - Software upgrade starts automatically.
 - The module and display software version must match.
 - Once the main screen appears on the controller display the update has been completed.
 - ⇒ After the update is completed, you have to remove the flash drive with the software from the USB port of the controller.
- **Method 2:**
 - ⇒ Place the flash drive with the software in the USB port of the controller.
 - ⇒ Then reset the device - through the disconnection and re-connection of power supply.
 - ⇒ Once the controller restarts, wait for the software update process to start.

The further process proceeds as described for *Method 1*.

5.5.6 ETHERNET MODULE



CAUTION

The controller is equipped with a built-in Internet module enabling the boiler to be controlled via the Internet.

Ethernet Module

ON/OFF

Wi-Fi network selection

Registration

DHCP

IP address

IP mask

Gateway Address

DNS Address

Module version

- ⇒ First of all, when registering the module, it is necessary to create an account at the emodul.pl website (if we do not already have one).

5.5.7.2 DATE SETTINGS

This parameter is used to set the current date. Use the icons to set the year, month and day separately.

5.5.8 FACTORY SETTINGS

The controller is delivered pre-configured for operation. However, it needs to be adapted to the needs of the user. It is possible to return to the factory settings at any time. By enabling the factory settings options, all the boiler's own settings (stored in the user settings menu) are deleted and the manufacturer's settings are restored. From now on, you can set your own boiler parameters again.

5.6 MANUAL MODE

For the convenience of the user, the controller is equipped with a *Manual Operation* module. In this function, each actuator is switched ON and OFF independently of the others.

This option allows you to quickly check the correct operation of individual devices, including: the igniter, the blower (fan), the blowing power, the exhaust fan, the feeder, the internal feeder, the cleaning, the boiler pump, the DHW pump, the built-in valve (manual operation allows you to initiate the opening/closing of the valve and the valve pump). The blowing power function can be used to control the fan speed.



CAUTION

When switching on the igniter, the blowing function will always be activated at the same time.

5.7 ALARM HISTORY

This option displays a list of all alarms that occurred in the controller. You can check the type of alarm and the time interval in which it occurred, along with the date and time.

ALARM HISTORY			x
no.	Alarm	Time interval	
1	Controller restart during operation	02.09.25 19:29:47	02.09.25 19:29:47
2	Controller restart during operation	01.09.25 18:53:22	01.09.25 18:53:22

5.8 SERVICE MENU

The functions in the service menu are intended only for service technicians with appropriate qualifications. This menu is code protected.

5.9 DHW SETTINGS

5.9.1 DHW HYSTERESIS

This option is used to set the boiler set point hysteresis. This is the difference between the set temperature (i.e. the desired temperature at the boiler) and the return to operation temperature.

Example:

DHW set temperature	55°C
Hysteresis	5°C
Pump shutdown	55°C
Switching the pump on again	50°C

When the preset temperature is 55°C and the hysteresis is 5°C, the device will be switched off once the temperature reaches 55°C, while the return to the operating cycle will occur when the temperature drops to 50°C).

5.9.2 DHW SET TEMPERATURE

This function is used to set the temperature of the domestic hot water. After heating the water in the boiler to this temperature, the controller switches off the DHW pump. The pump will be switched on again after the temperature has dropped below the set value of the *DHW hysteresis* parameter (reading from the DHW sensor).

5.9.3 DISINFECTION

Thermal disinfection applies to DHW and can only be activated if one of the three operating modes is active: *Boiler Priority*, *Summer Mode* or *Parallel Pumps*.

Thermal disinfection consists in raising the temperature to the required disinfection temperature (min. 60°C) in the entire DHW circuit. The new regulations impose the obligation to adapt the DHW installation to periodic thermal disinfection carried out at a water temperature not lower than 60°C (the recommended temperature is 70°). Wires, fittings and technological system of hot water preparation must meet this condition.

Disinfection of DHW is aimed at eliminating the Legionella pneumophila bacteria, which cause a decrease in the cellular immunity of the body. This bacterium often multiplies in vessels with standing hot water (optimum temperature 35°C), which often takes place, e.g., in boilers.

Once this function is activated, the boiler heats up to the specified value and maintains this temperature for a specified period of time (e.g. 10 minutes), and then returns to the normal operating mode. From the moment of switching the disinfection on, the disinfection temperature must be reached for not more than 60 minutes (factory setting), otherwise this function will automatically deactivate.

Any changes to the settings for this function are only possible in service mode.

5.10 VALVE SETTINGS

The *Valve settings* menu contains the basic settings for the operation of the valves. The advanced options are located in the service menu and are intended for use by people with appropriate qualifications only.

5.10.1 VALVE 1

5.10.1.1 VALVE TEMPERATURE SETPOINT

Use this option to set the desired temperature that the valve is intended to maintain. During correct operation, the temperature of the water downstream the valve will follow the set one for the valve.

5.10.1.2 TYPE OF VALVE

With this setting, the user selects the type of controlled valve between:

- **CH valve** - set when you wish to control the temperature in the CH circuit using this valve sensor. The valve sensor shall be placed downstream of the mixing valve on the supply pipe.
- **FLOOR valve** - set when you wish to adjust the temperature on the underfloor heating circuit. The floor valve type protects the floor system against excessive temperatures. If the type of valve is set as CH, and it is connected to the floor system instead, this may lead to damage to the sensitive floor installation.
- **RETURN PROTECTION** - set when you wish to adjust the temperature at the return of our installation using the return sensor. Only return and boiler sensors are active in this type of valve, and the valve sensor is not connected to the controller. In this configuration, the valve protects the boiler's return from cold temperature as a priority, and if the boiler protection function is selected, it also protects the boiler from overheating. When the valve is closed (0% open), the water flows only in a short circuit, while the full opening of the valve (100%) means that the short circuit is closed and the water flows through the entire central heating system.



CAUTION

When the boiler protection is OFF, the CH temperature will not affect the opening of the valve. In extreme cases, the boiler may overheat, so it is recommended to configure the boiler protection settings.

- **COOLING** - set when you want to adjust the temperature of the cooling system (the valve opens when the set temperature is lower than the temperature of the valve sensor). Boiler protection and Return protection do not work in this type of valve. This type of valve operates even with active summer mode, while the pump operates using the shutdown threshold. In addition, this type of valve has a separate heating curve as a function of Weather sensor.

5.10.1.3 ROOM CONTROLLER

5.10.1.3.1 Controller type

- **Control without room controller** - This option should be checked when you do not wish the room controller to affect the operation of the valve.
- **RS controller lowering**- Mark this option if the valve is to be controlled by a room controller equipped with RS communication on the basis of lowering the set temperature of the valve by a specified value.
- **RS proportional controller** - When this controller is switched on, the current boiler and valve temperatures can be viewed. This controller must be connected to the RS socket of the main controller. After selecting this type of "room controller", the valve will operate according to the parameters *Changing the valve setpoint* and *Room temperature difference* (parameters that will appear in the submenu after checking this option).
- **Standard controller** – check this option if the valve is to be controlled by a binary room controller (not equipped with RS communication). When this function is checked, the *Reduction by the room controller* option will appear in this submenu.

5.10.1.3.2 Reduction by the room controller

In this setting, set the value by which the valve will lower its set temperature once the temperature set at the room controller is reached (room heated to set temperature).

5.10.1.3.3 Room temperature difference

This setting determines the unit change in the current room temperature (with unit of 0.1°C) at which the specified change in the set temperature of the valve will occur.

5.10.1.3.4 Set point temperature change

This setting determines how many degrees the valve temperature will increase or decrease with a unit change in room temperature (see: *Room temperature difference*). This function is only active with the TECH room controller and is closely related to the Room temperature difference parameter.

Example:

<u>SETTINGS:</u>	
<i>Room temperature difference</i>	0.5°C
<i>Set point temperature change</i>	1°C
<i>Valve set temperature</i>	40°C
<i>Room controller set temperature</i>	23°C

Case 1:

If the room temperature rises to 23.5°C (0.5°C above the set room temperature), the valve closes to the 39°C preset (by 1°C).

Case 2:

If the room temperature drops to 22°C (1°C below the set room temperature), the valve will open to the 42°C preset (2°C – because for every 0.5°C of the room temperature difference, the set valve temperature changes by 1°C).

5.11 BUFFER PARAMETERS

Buffer parameters	Set upper temperature
	Set lower temperature
	DHW function

The parameters of this submenu allow you to adjust the settings of the controller operation if a buffer vessel is installed as part of the system.

5.11.1 SET UPPER TEMPERATURE

The function allows you to set the set temperature of the upper part of the buffer (sensor C1 should be located at the top of the vessel). This temperature determines whether the buffer is heated or not.

5.11.2 SET LOWER TEMPERATURE

The option allows you to set the set temperature of the lower part of the buffer (the sensor should be located at the bottom of the vessel).

5.11.3 DHW FUNCTION

When using the buffer, it is necessary to specify how the boiler is connected:

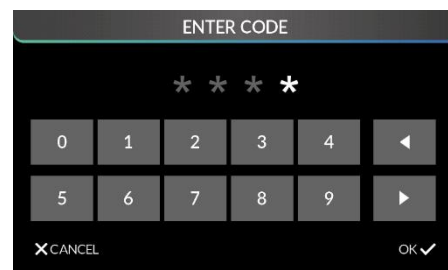
- **from the buffer** – check this option when the DHW boiler is built into the buffer or connected directly to the buffer. When this option is checked, the DHW pump will take into account the value from the buffer sensor.

- **from the boiler** – check the option if the DHW boiler is connected directly to the boiler (separate circuit in relation to the buffer). When this option is checked, the DHW pump will take into account the value from the boiler sensor.

6 SERVICE MENU - INSTALLER MENU

The access to the *Installer Menu* is located in the *Service Menu* and is protected by the following code: **5162**.

The installer menu is intended for use by people with appropriate qualifications and is mainly used for setting additional controller functions.



Service menu

Installer Menu

Burner settings
Valve settings
Exhaust fan
External temperature correction
Factory Defaults
Temperature settings
Disinfection

Burner settings

 Ignition parameters

 Operating parameters

 Extinguishing parameters

 Feed cycle

 Burner sensor

6.1.1 IGNITION PARAMETERS

The ignition parameters refer to the detailed settings of the ignition process.

- **Flame test time** – the purpose of this option is to detect whether there is fire on the grate. If the fire level is sufficient, then the controller enters the ignition stabilization state. The user sets the duration of the flame test.
- **Starting dose** – the parameter determines the value of the first dose of fuel feed to the furnace
- **Fan speed** - function determines the blowing power of the fan during the ignition process
- **Ignition time** – the parameter determines the maximum operating time of the heater
- **Ignition brightness** – this parameter determines the threshold value of the flame brightness, after which the controller will turn off the heater in the ignition process and proceed to the ignition delay stage. In addition, this parameter is also used in the operation phase – if the brightness of the flame drops below this value and does not rise for a long time, the controller automatically starts the ignition process.
- **Purge time** – the parameter applies to the first stage of the ignition process is aimed at cleaning the burner – the user sets the purge duration.
- **Warm-up time of the igniter** – the parameter refers to the ignition stage in which the heater operates.
- **Stabilization** - the final stage of the ignition process is the ignition stabilization, which initiates when the flame is detected by the flame sensor. This stage is to obtain a stable operation of the burner.

6.1.2 OPERATING PARAMETERS

- **Operating control** – this parameter is used to set the operating control time. If the fire sensor registers a flame loss during the time specified in this parameter, the controller starts the extinguishing and ignition process.
- **Inner feeder delay** – this parameter determines the delay time of the inner feeder relative to the main feeder.

6.1.3 EXTINGUISHING PARAMETERS

- **Blowout time** - this parameter determines the duration of the last extinguishing stage in which the fan operates at the set power.
- **Exhaust fan power** - this parameter determines the blowing power of the fan during the extinguishing process
- **Afterburning time** - this parameter is used to set the operating time of the inner feeder during the extinguishing process
- **Afterburning pause time** - this option is used to set the feeder pause time during the extinguishing process

6.1.4 FEED CYCLE

This is the full cycle time for the feeder (operating time + pause time).

6.1.5 BURNER SENSOR

The option allows the user to activate or deactivate the feeder sensor. When it is switched on, the temperature of the feeder alarm is active, as well as the alarm in the event of a failure of the feeder sensor.

Valve 1, Valves 2,3

ON/OFF**
Valve hysteresis
Opening time
Floor heating*
Floor heating - summer*
Weather sensor
Valve weekly
Valve pump
Return protection
Boiler protection**
Opening direction
Unit stroke
Minimum opening
Proportionality coefficient
Boiler sensor selection
Sensor selection**
External temperature correction**
Calibration
Measurement interval
Maximum floor temperature*
Factory Defaults
Valve deletion**

*Options only available for valve 1

**Options only available for valves 2,3

6.2.1 ON/OFF**

Option that allows to enable or disable the valve.

6.2.2 VALVE HYSTERESIS

This option is used to set the valve set point hysteresis. This is the difference between the set temperature (i.e. the desired valve) and the temperature after which the valve will start to close or open.

6.2.3 OPENING TIME

A parameter that specifies the time it takes the valve actuator to open the valve from 0% to 100%. This time should be selected to match that of the valve actuator (as indicated on its nameplate).

6.2.4 FLOOR HEATING*

This function is only visible after selecting the Floor Valve type of valve.

The function allows you to disable the operation of the floor heating installation. If this option is unchecked, the controller closes all valves to which the floor type is assigned (see valve parameters in the installation settings).

6.2.5 FLOOR HEATING - SUMMER*

This function is only visible after selecting the Floor Valve type of valve.

When this function is enabled, the floor valve will operate in the summer mode.

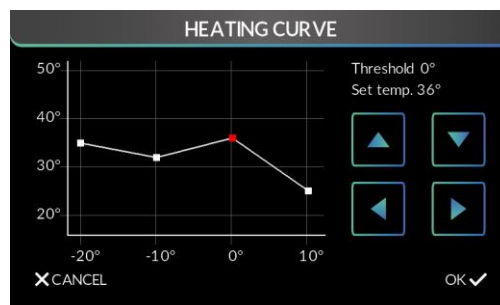
6.2.6 WEATHER SENSOR

For the weather control function to be active, place the external sensor in a not insulated location, one that is not exposed to atmospheric influences. After installing and connecting the sensor, switch on the *Weather sensor* function in the controller menu.

- **Heating curve**

Heating curve - this is the curve according to which the set temperature of the controller is determined on the basis of the external temperature. In order for the valve to operate properly, the set temperature (downstream the valve) is set to four intermediate external temperatures: -20°C, -10°C, 0°C and 10°C.

Programming the weather sensor heating curve:



Enable the *Heating curve* option.

- ⇒ Use the: icons to select the outside temperature threshold.
- ⇒ Then set the desired set temperature for the selected threshold, using:
- ⇒ After setting the schedule for a given day of the week, select

6.2.7 VALVE WEEKLY

The weekly function allows you to program deviations in the set temperature of the valve on individual days of the week and specific hours. The set temperature deviations are in the range of +/-10°C. To enable weekly control, select and check *Mode 1* or *Mode 2*. Detailed settings of these modes can be found in the following sections of the submenu: *Set Mode 1* and *Set Mode 2*.

The method of setting the weekly control is presented in the section: *User settings - Weekly control*.

6.2.8 VALVE PUMP

This option allows you to select the operating mode of the pump.

6.2.8.1 PUMP SETTINGS

- **Always ON** - the pump operates at all time regardless of the temperature.
- **Always OFF** - the pump is switched off permanently and the controller only controls the operation of the valve.
- **ON above the threshold** - the pump turns on above the set *switching temperature*. If the pump is to be switched on above the threshold, the threshold *pump switching temperature* must also be set. The value from the boiler sensor is taken into account.

6.2.8.2 PUMP ANTI-FOULING

When enabled, the valve pump will turn on for the time specified by the user. This prevents water from fouling the installation outside the heating season.

6.2.8.3 ROOM CONTROLLER VALVE PUMP

If this option is checked, the signal from the room controller about heating up the room will turn off the valve pump.

6.2.8.4 CLOSING BELOW THE THRESHOLD TEMPERATURE

After activating this function (selecting the Enabled option), the valve will remain closed until the boiler sensor reaches the pump switch-on temperature value.



PLEASE NOTE

If the auxiliary valve module is an i-1 model, the *pump anti-fouling* and the *Close below the threshold* functions can be set directly from the sub-menu of that module.

6.2.8.5 SWITCH-ON TEMPERATURE

This option applies to a pump operating above the threshold. The valve pump will switch on when the boiler sensor reaches the pump switching temperature.

6.2.9 RETURN PROTECTION

This function allows to set the boiler protection against too cold water returning from the main circuit, which could cause low temperature corrosion of the boiler. The return protection works in such a way that when the temperature is too low, the valve closes until the small circuit of the boiler reaches the required temperature.

6.2.9.1 MINIMUM RETURN TEMPERATURE

The user sets the minimum permissible return temperature, after which the valve closes.

6.2.10 BOILER PROTECTION**

Protection against excessive CH temperature is intended to prevent dangerous increase of boiler temperature. The user sets the maximum permissible boiler temperature.

In the event of a dangerous temperature rise, the valve begins to open to the house CH system to cool the boiler down. This function is permanently enabled.

6.2.10.1 MAXIMUM TEMPERATURE

The user sets the maximum permissible CH temperature, after which the valve will open.

6.2.11 OPENING DIRECTION

If, after connecting the valve to the controller, it turns out that it was supposed to be connected in the opposite direction, it is not necessary to switch the supply wires, but it is possible to change the opening direction of the valve by selecting the selected direction: *Right* or *Left*.

6.2.12 UNIT STROKE

This is the maximum single stroke (opening or closing) that the valve can perform during single temperature sampling. If the temperature is close to the set point, this stroke is calculated on the basis of the *proportionality coefficient* parameter. The smaller the unit stroke, the more precisely the set temperature can be reached, but the set temperature is reached over a longer period of time.

6.2.13 MINIMUM OPENING

A parameter defining the smallest opening percentage of the valve. This parameter enables us to leave the valve slightly open to maintain a minimum flow.

6.2.14 PROPORTIONALITY COEFFICIENT

The proportionality coefficient is used to determine the *valve stroke*. The closer to the set temperature, the smaller the stroke. If this coefficient is high, the valve will reach a similar opening faster, but it will be less precise.

The percentage of the unit opening is calculated using the following formula:

$$\text{PERCENTAGE OF UNIT STROKE} = (\text{set temp.} - \text{sensor temp.}) \cdot \frac{\text{proportionality coefficient}}{10}$$

6.2.15 BOILER SENSOR SELECTION

The function allows you to select a sensor to act as the boiler sensor – it can be the boiler sensor or an auxiliary sensor.



PLEASE NOTE

By default, the *boiler sensor* is selected, but in the case of buffer activation, it is automatically changed to the *auxiliary sensor 1*.

This option applies to the return sensor, boiler sensor and the external sensor and allows you to determine whether the auxiliary valve operation should take into account the own sensors of the valve module or the sensors of the main controller.

6.2.16 SENSOR SELECTION**

Option only available for valves 2,3.

This option applies to the return sensor and the external sensor and allows you to determine whether the auxiliary valve operation should take into account the own sensors of the valve module or the sensors of the main controller.

6.2.17 EXTERNAL TEMPERATURE CORRECTION**

Option only available for valves 2,3.

This function is used to adjust the external sensor, it is done during installation or after prolonged use of the sensor, if the displayed external temperature deviates from the actual one. The user determines what the *Correction Value* should be (adjustment range: -10 to +10°C with an accuracy of 0.1°C) and the *Averaging Time*, i.e. the time for which the temperature is sampled and after which its value will be read again.

6.2.18 CALIBRATION

This function enables the calibration of the built-in valve at any time. During calibration, the valve is set to a safe position, i.e. for the CH valve to its fully open position, and for floor valve, to its closed position.

6.2.19 MEASUREMENT INTERVAL

This parameter determines the frequency of measuring (control) of water temperature downstream of the CH installation valve. If the sensor indicates a temperature change (deviation from the set point), then the solenoid valve will open or close by the preset value to return to the preset temperature.

6.2.20 MAXIMUM FLOOR TEMPERATURE**

Available only when the floor valve type is selected for the valve.

The option determines the temperature at the valve, after which it will be completely closed and the valve pump will be switched OFF.

6.2.21 FACTORY DEFAULTS

This parameter allows you to return to the settings of a given valve saved by the manufacturer. Restoring the factory settings does not change the set valve type (*CH* or *floor*).

6.2.22 VALVE DELETION**

Parameter only available for Valves 2,3.

This function is used to completely delete the valve from the controller memory. Valve Deletion is used, for example, when dismantling the valve or replacing the module (re-registration of the new module is required).

6.3 EXHAUST FAN

An additional device to improve the chimney draft. The device is controlled by the additional **SWW-1** module with use of RS communication, automatically adjusting its speed to the burner power. The fan operates in all operating states of the boiler, i.e. in *Ignition*, *Operation* and *Extinguishing*.

6.3.1 ON/OFF

Function used to enable / disable the option.

6.3.2 FAN OPERATING MIN

This function determines the minimum speed of the exhaust fan at the minimum burner power.

6.3.3 FAN OPERATING MAX.

The function allows you to specify the maximum speed of the exhaust fan at the maximum burner power.

6.4 EXTERNAL TEMPERATURE CORRECTION

This function is used to adjust the external sensor, it is done during installation or after prolonged use of the sensor, if the displayed external temperature deviates from the actual one. The user determines what the *Correction Value* should be (adjustment range: -10 to +10°C with an accuracy of 1°C) and the *Averaging Time*, i.e. the time for which the temperature is sampled and after which its value will be read again.

6.5 FACTORY DEFAULTS

This parameter allows you to restore the manufacturer's settings in the installer menu.

6.6 TEMPERATURE SETTINGS

Temperature settings

Minimum boiler temperature
Maximum boiler temperature
Antifreeze temperature
Emergency boiler pump on
Boiler alarm temperature
Feeder alarm temperature
Max exhaust gas temperature
Boiler pump switch-on temperature
Boiler set temperature increase

6.6.1 MINIMUM BOILER TEMPERATURE

The function refers to the lowest set CH temperature that can be set in the user menu. This setting can be adjusted in the range of: 40°C-65°C.

6.6.2 MAXIMUM BOILER TEMPERATURE

The function refers to the highest set CH temperature that can be set in the user menu. This setting can be adjusted in the range of: 80°C-90°C.

6.6.3 ANTIFREEZE TEMPERATURE

This option allows you to enable the antifreeze function, which is designed to protect the installation against freezing. After the temperature on the boiler or tank sensor drops below the specified value, the pump is switched on permanently. Its shutdown will only occur once the temperature in the circuit rises.

6.6.4 EMERGENCY BOILER PUMP ON

This option is only active in the boiler priority mode and in the summer mode. With this function, the user sets the alarm temperature, after which the boiler pump (default is 85°C) will be started to distribute hot water downstream. This value can be adjusted in the range of 70°C-95°C.

6.6.5 BOILER ALARM TEMPERATURE

This is the temperature above which the alarm is triggered (default 90°C). If the alarm temperature is exceeded, the fan is disconnected and at the same time the pumps start to operate, in order to distribute hot water downstream to the house piping. This value can be adjusted in the range of 70°C-95°C.

6.6.6 FEEDER ALARM TEMPERATURE

The option allows you to set the temperature measured on the feeder sensor, after which the alarm "*Feeder temperature too high*" will be triggered. The controller will return to operation after the temperature drops by 2°C and the alarm is reset.

6.6.7 BOILER PUMP SWITCH-ON TEMPERATURE

This option is used to set the switch-on temperature of the pumps (this is the temperature measured on the boiler). Below the set temperature, the pumps do not operate, and above this temperature, the pumps are switched on, but operate depending on the mode of operation.

6.6.8 BOILER SET TEMPERATURE INCREASE

The *Boiler set temperature increase* function is responsible for the proper heating of all heat-receiving devices (valve, buffer, DHW). The algorithm increases the boiler setpoint to maintain the following temperature condition:

Set CH >= heat receiver set + boiler set increase

6.7 DISINFECTION

Thermal disinfection consists in raising the temperature to the required disinfection temperature of no less than 60°C in the entire DHW circuit.

The new regulations impose the obligation to adapt the DHW installation to periodic thermal disinfection carried out at a water temperature not lower than 60°C (the recommended temperature is 70°). Wires, fittings and technological system of hot water preparation must meet this condition.

Disinfection of DHW is aimed at eliminating *Legionella pneumophila* bacteria, which cause a decrease in the cellular immunity of the body. This bacterium often multiplies in vessels with standing hot water (optimum temperature 35°C), which often takes place, for example, in boilers. In order for the function to work properly, the following parameters must be configured:

6.7.1 DISINFECTION TEMPERATURE

This parameter determines the temperature to be reached by the boiler during the disinfection process.

6.7.2 DISINFECTION TIME

This parameter determines the duration of the disinfection process.

6.7.3 MAXIMUM DISINFECTION REHEATING TIME

This parameter determines the maximum time of reheating the boiler to the disinfection temperature - if the boiler does not reach this temperature during this time, the disinfection process is interrupted.

7 SAFEGUARDS

In order to ensure maximally safe and seamless operation, the controller has a number of safeguards. In the event of an alarm, an acoustic signal is activated and a message will appear on the display.

7.1 THERMAL PROTECTION OF THE BOILER

It is an additional bimetallic sensor (located next to the boiler temperature sensor), disconnecting the fan in case of exceeding the temperature of 90°C. Its operation prevents boiling of water in the installation, in case of overheating of the boiler or damage to the controller. When this protection is triggered, once the temperature drops to a safe value, the sensor unlocks itself and the controller will return to normal operation. If this sensor is damaged or overheated, the fan will also be turned off. In the case of protection of the boiler in a closed system, instead of thermal protection in the form of a thermal switch, a safety temperature limiter of the STB type is used.

7.2 AUTOMATIC SENSOR CONTROL

If the CH, DHW temperature sensor is missing or damaged, an audible alarm is activated, additionally indicating the fault on the display, e.g.: **"Boiler sensor damaged"**. The blower is switched off. The pump is switched on regardless of the current temperature.

If the boiler sensor is damaged, the alarm will be active until the sensor is replaced with a new one.

If the DHW sensor is damaged, press the encoder knob to deactivate the alarm, and the controller returns to operation mode, bypassing the boiler-related modes. In order for the boiler to work in all modes, it is necessary to replace the sensor with a new one.

7.3 BOILER TEMPERATURE PROTECTION (STB)

The controller has additional software protection against dangerous temperature increase. If the alarm temperature (80°C) is exceeded, the boiler pump (in case of inactivity - boiler priority or summer mode) starts to operate, in order to distribute hot water downstream to the house piping. After exceeding the temperature of 90°C, the alarm and the pump are switched on regardless of the operating mode, the fan is disconnected, and an alarm message appears on the display indicating: *Alarm - temperature too high*.

To return the controller to operation, lower the temperature below the alarm level and press the MENU button to reset the alarm condition.

7.4 FUSE

The controller has a WT 6.3A fuse insert as mains protection.



PLEASE NOTE:

Do not use a higher rating fuse, as this may cause damage to the controller.

1	Power supply voltage	230V $\pm$ 10% /50Hz
2	Max. power consumption	9W
3	Operating temperature	5÷50°C
4	Max. load on pump, cleaning, valve outputs	0.5A
5	Max fan output load	0.6A
6	Max. load on feeder output	2A
7	Max. load on additional feeder output	0.5A
8	Max. load on the igniter output	2A
9	Temperature resistance of the KTY sensors	-30÷99°C



EU DECLARATION OF CONFORMITY

Hereby, we declare under our sole responsibility that **ST-980 Venma** manufactured by TECH STEROWNIKI II Sp. z o.o., headquartered in Wieprz Biała Droga 31, 34-122 Wieprz, is compliant with Directive **2014/35/EU** of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of Member States relating to **the making available on the market of electrical equipment designed for use within certain voltage limits** (EU OJ L 96, of 29.03.2014, p. 357), Directive **2014/30/EU** of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of Member States relating to **electromagnetic compatibility** (EU OJ L 96 of 29.03.2014, p.79), Directive **2009/125/EC** establishing a framework for the setting of ecodesign requirements for energy-related products as well as the regulation by the MINISTRY OF ENTREPRENEURSHIP AND TECHNOLOGY of 24 June 2019 amending the regulation concerning the essential requirements as regards the restriction of the use of certain hazardous substances in electrical and electronic equipment, implementing provisions of Directive (EU) 2017/2102 of the European Parliament and of the Council of 15 November 2017 amending Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (OJ L 305, 21.11.2017, p. 8).

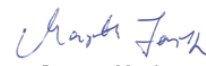
For compliance assessment, harmonized standards were used:

PN-EN IEC 60730-2-9:2019-06,

PN-EN 60730-1:2016-10,

PN EN IEC 63000:2019-01 RoHS.


Paweł Jura


Janusz Master

Prezesa firmy

Wieprz, 09.12.2025



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