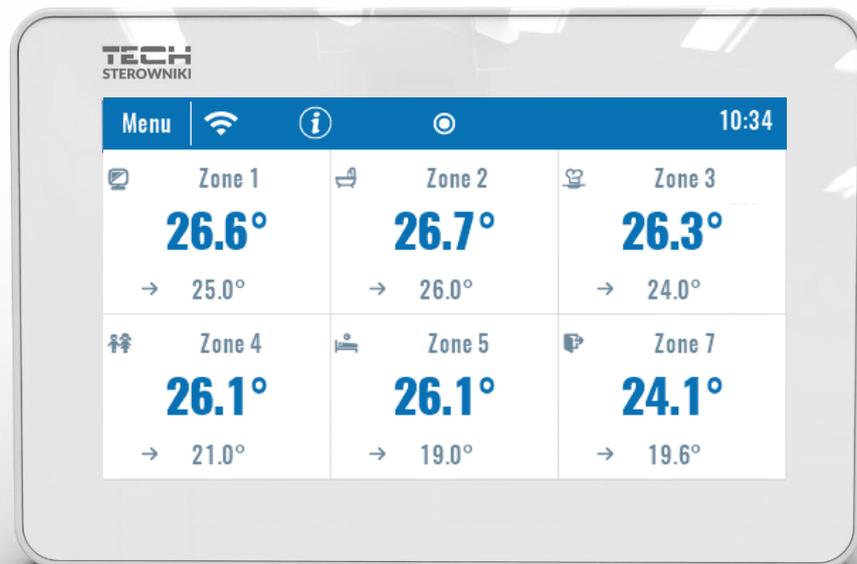


TECH TECH CONTROLLERS

USER MANUAL

EU-M-9r

EN



www.tech-controllers.com

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JG.11.08.2022

I. SAFETY

Before using the device for the first time the user should read the following regulations carefully. Not obeying the rules included in this manual may lead to personal injuries or controller damage. The user's manual should be stored in a safe place for further reference. In order to avoid accidents and errors it should be ensured that every person using the device has familiarized themselves with the principle of operation as well as security functions of the controller. If the device is to be sold or put in a different place, make sure that the user's manual is there with the device so that any potential user has access to essential information about the device.

The manufacturer does not accept responsibility for any injuries or damage resulting from negligence; therefore, users are obliged to take the necessary safety measures listed in this manual to protect their lives and property.



WARNING

- High voltage! Make sure the controller is disconnected from the mains before performing any activities involving the power supply (plugging cables, installing the device etc.).
- The device should be installed by a qualified electrician.
- Before starting the controller, the user should measure earthing resistance of the electric motors as well as the insulation resistance of the cables.
- The controller should not be operated by children.

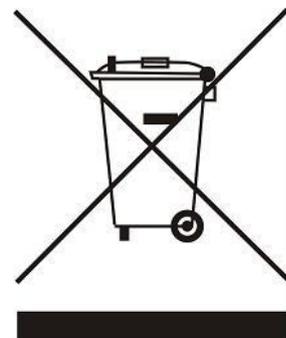


NOTE

- The device may be damaged if struck by a lightning. Make sure the plug is disconnected from the power supply during storm.
- Any use other than specified by the manufacturer is forbidden.
- Before and during the heating season, the controller should be checked for condition of its cables. The user should also check if the controller is properly mounted and clean it if dusty or dirty.

Changes in the merchandise described in the manual may have been introduced subsequent to its completion on 11.08.2022. The manufacturer retains the right to introduce changes to the structure. The illustrations may include additional equipment. Print technology may result in differences in colours shown.

We are committed to protecting the environment. Manufacturing electronic devices imposes an obligation of providing for environmentally safe disposal of used electronic components and devices. Hence, we have been entered into a register kept by the Inspection For Environmental Protection. The crossed-out bin symbol on a product means that the product may not be disposed of to household waste containers. Recycling of wastes helps to protect the environment. The user is obliged to transfer their used equipment to a collection point where all electric and electronic components will be recycled.



II. DEVICE DESCRIPTION

EU-M-9r panel control is intended for cooperation with EU-L-9r external controller and controlling subordinate room regulators, sensors and thermostatic actuators.

EU-M-9r control panel may be used to adjust the settings in other zones - pre-set temperature, floor heating.



NOTE

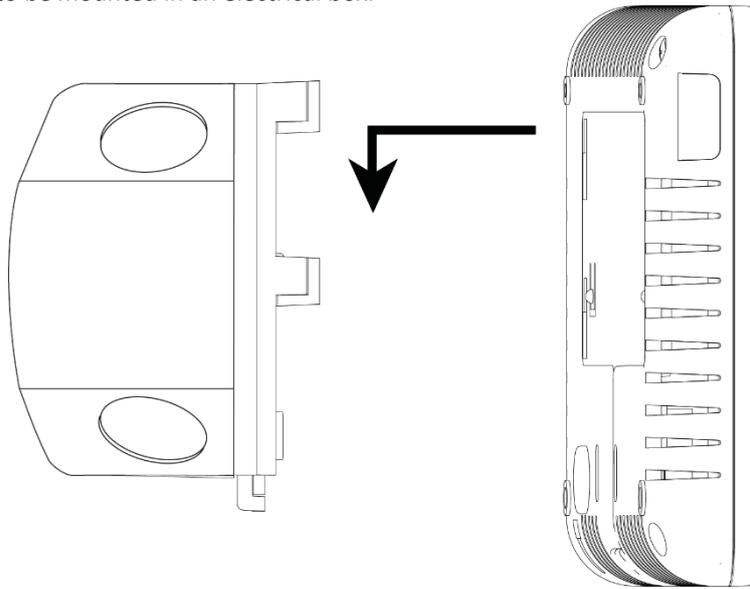
Only one EU-M-9r control panel may be installed in a heating system. The panel may control up to 32 heating zones.

Controller functions and equipment:

- possibility of controlling the operation of main controllers and thermostatic actuators, room regulators, wired temperature sensors (R-9b, R-9z, R-9s, C-7p) and wireless temperature sensors (C-8r, R-8b, R-8z, C-mini) registered in the controllers.
- Built-in Wi-Fi module
- Possibility of controlling the heating system online via <https://emodul.eu>
- Large, colour display made of glass

III. HOW TO INSTALL THE CONTROLLER

The controller is intended to be mounted in an electrical box.



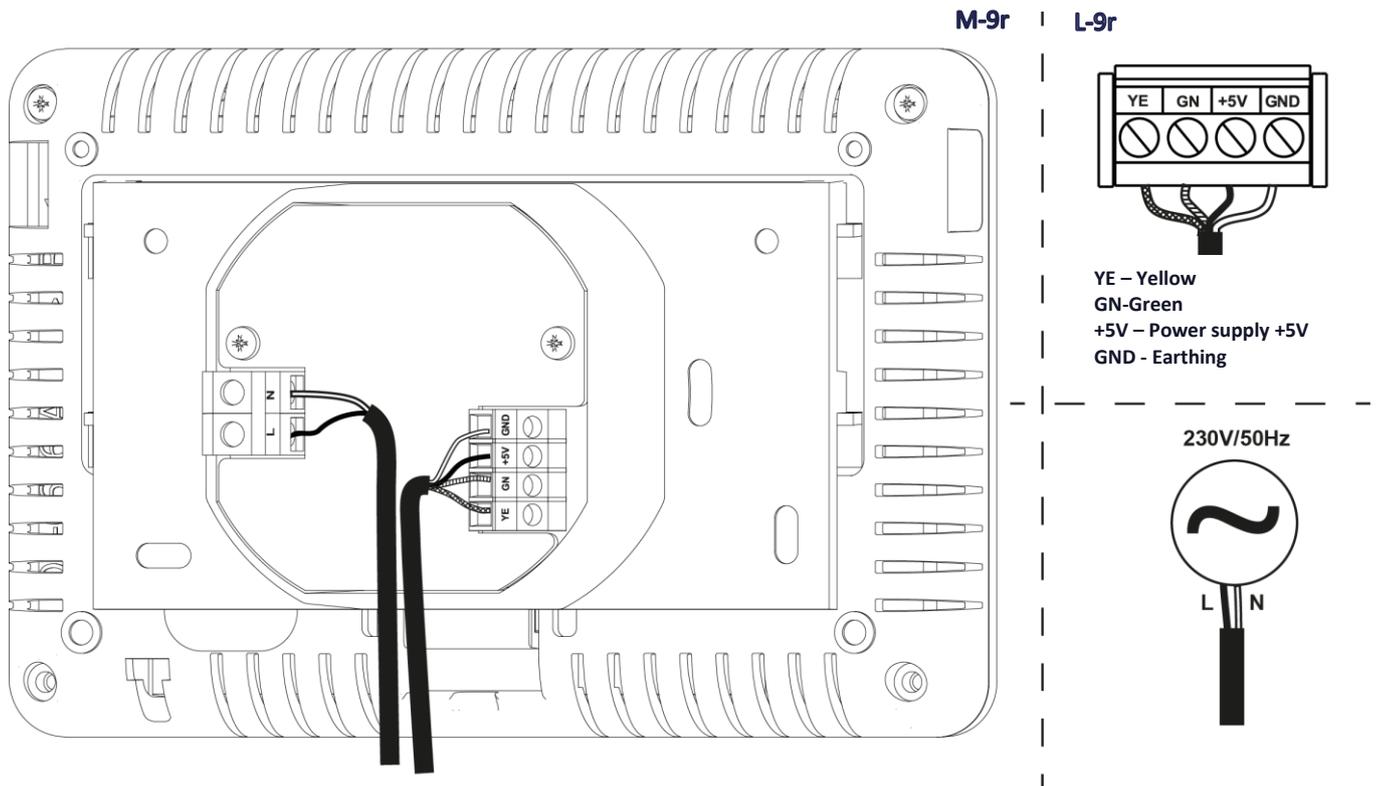
WARNING

Risk of fatal electric shock from touching live connections. Before working on the controller switch off the power supply and prevent it from being accidentally switched on.



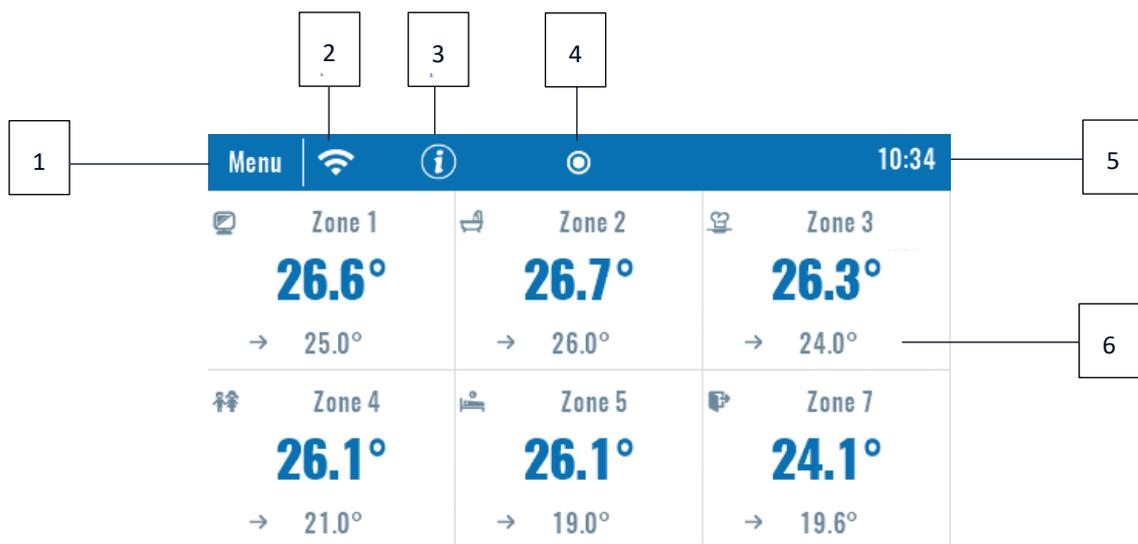
WARNING

Incorrect connection of cables may lead to controller damage.

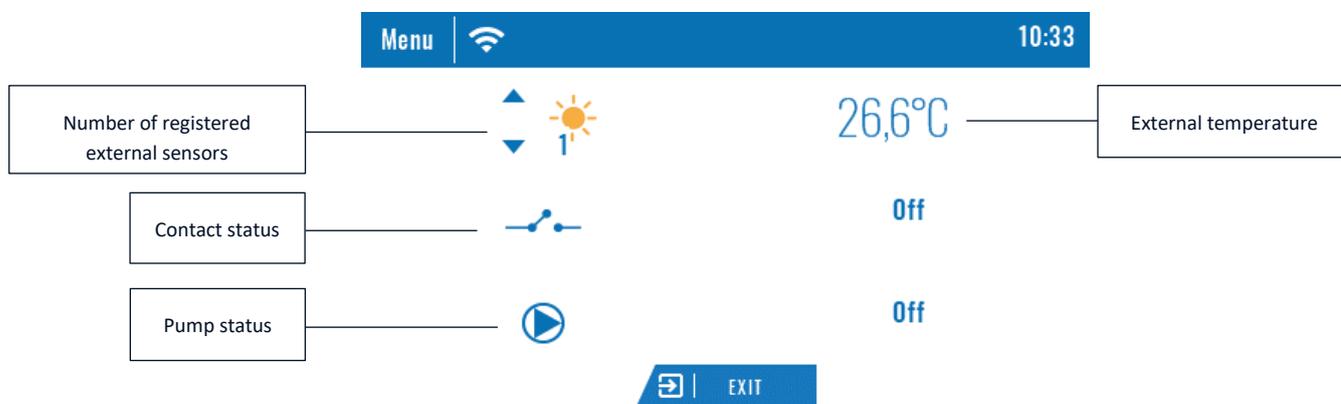


IV. MAIN SCREEN DESCRIPTION

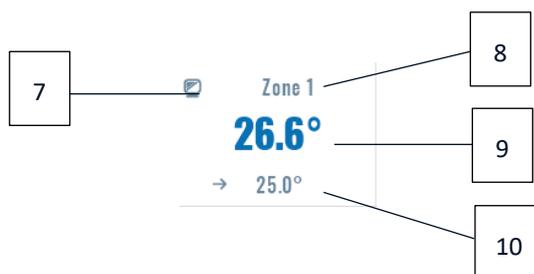
The touch screen enables convenient and intuitive operation of the controller.



1. Enter controller menu
2. WiFi signal strength
3. Question mark icon – tap here to open up a screen with current external temperature, contact status and pump status.



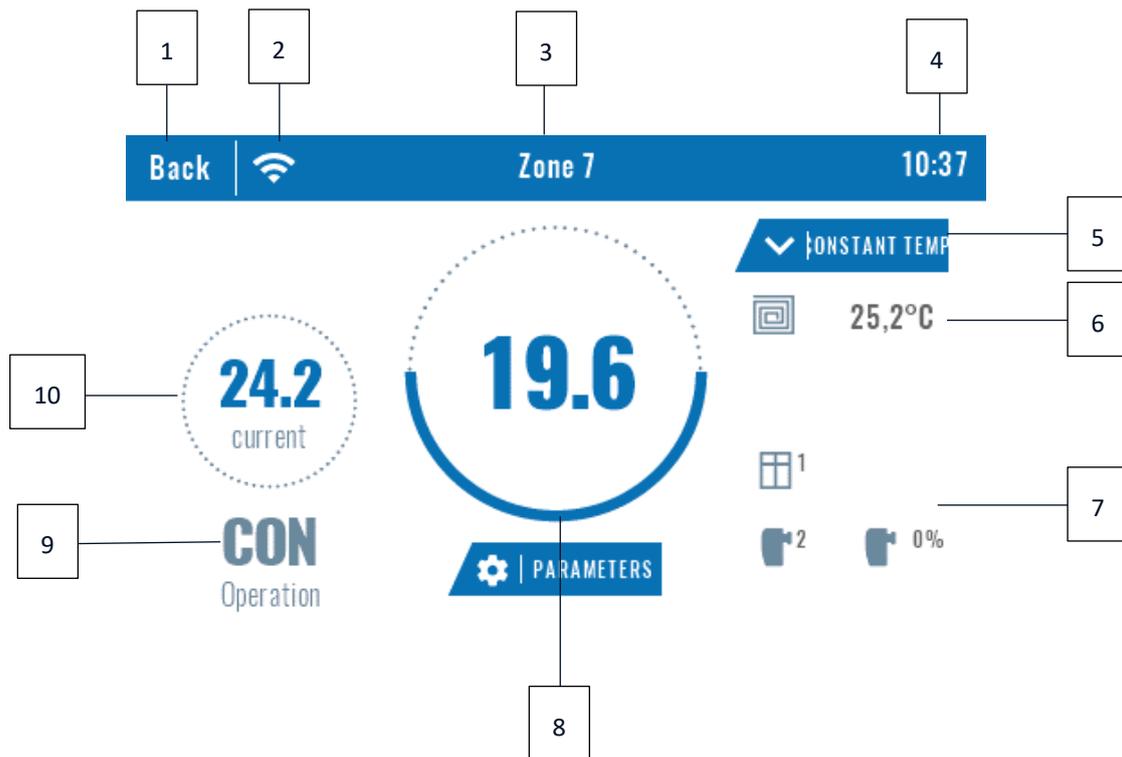
4. Tab change
5. Current time
6. Zone status:



7. Zone icon
8. Zone name
9. Current zone temperature
10. Pre-set zone temperature

EU-M-9r control panel is a master controller, which enables the user to change the pre-set zone parameters regardless of the regulator or room sensor used in the zone.

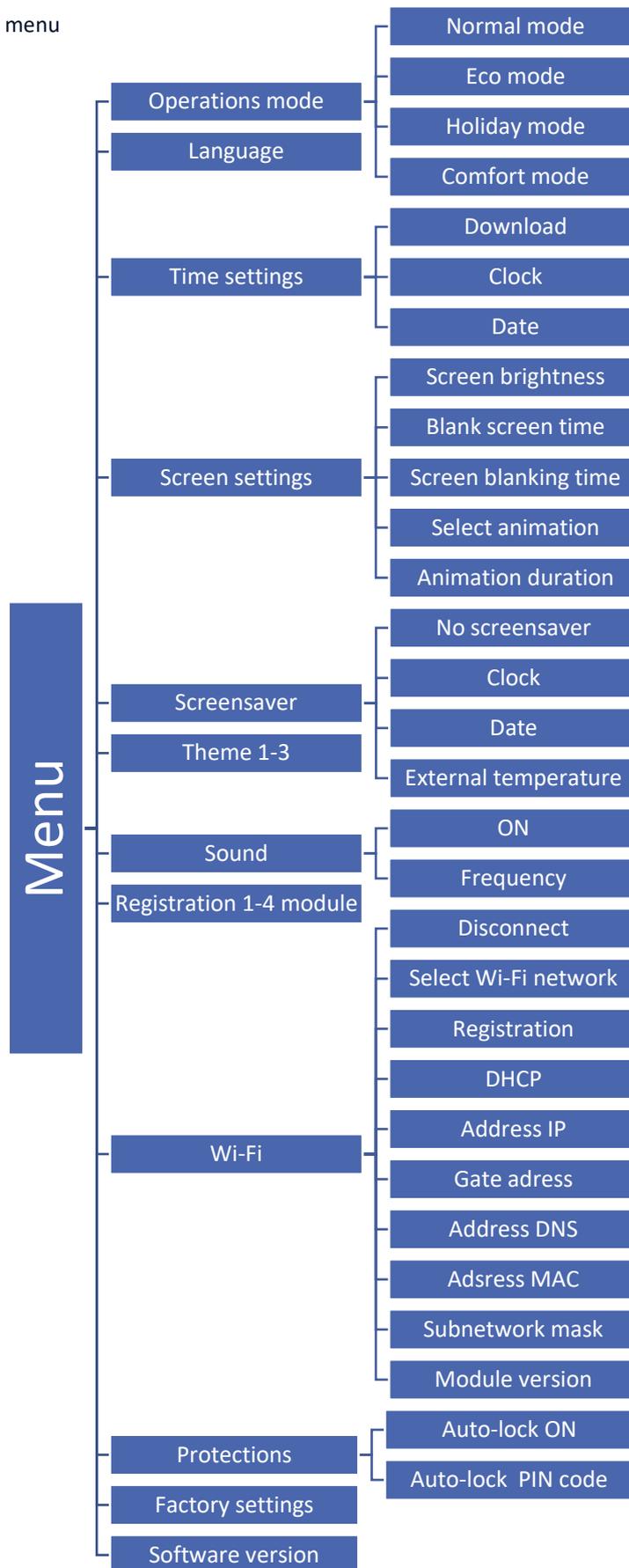
In order to enter the settings of a given zone, tap on the zone status. The screen will show basic zone editing screen:



1. Return to the main screen
2. WiFi signal strength
3. The number of the zone which the displayed information refers to.
4. Current time
5. Mode change icon: schedules (local, global) or constant temperature.
6. Floor temperature
7. Information about the registered window sensor and actuatorsPre-set zone temperature
8. Current schedule type
9. Current zone temperature

V. CONTROLLER FUNCTIONS

Blok diagram – controller menu



1. OPERATION MODES

This function enables the user to activate the selected operation mode in all main controllers and in all zones. It is possible to choose from normal mode, Eco mode, holiday mode and comfort mode. For each mode the user may define the temperature in the main controller.

2. LANGUAGE

This option is used to select the language version.

3. TIME SETTINGS

This function is used to set current time and date. It is also possible to select *Download* function, which involves downloading time data from the Internet and sending it automatically to the main controller.

4. SCREEN SETTINGS

This functions enables the user to adjust the screen parameters to individual needs.

5. SCREENSAVER

The user may activate a screensaver which will appear after a pre-defined time of inactivity. In order to return to the main screen view, tap on the screen. The user may set the screensaver in the form of a clock, date or external temperature. It is also possible to select no screensaver.

6. THEME

This function enables the user to choose the colour version of the controller screen.

7. SOUND

This function enables the user to activate/deactivated button sounds.

8. REGISTRATION

This function enables the user to register EU-M-9r control panel in EU-L-9r external controller.

In order to register EU-M-9r control panel, follow these steps:

- Select Registration in EU-M-9r (Menu > Registration)
- Select Registration in the external controller menu (Menu > Registration)

Select the place of registering the main controller (module 1, module 2, module 3, module 4).



NOTE

- It is possible to register up to four EU-L-9r external controllers to EU-M-9r panel. In order for the registration process to be successful, it is necessary to register the external controllers one by one. If the registration process is activated in more than one external controller at a time, it will end up in failure.

9. MODULE WI-FI

Internet module is a device enabling the user remote control of the heating system. The user controls the status of all heating system devices on a computer screen, a tablet or a mobile phone. Online control is possible via <https://emodul.eu>. It is described in detail in a separate section. After switching the module on and selecting DHCP option, the controller automatically downloads such parameters as IP address, IP mask, gateway address and DNS address from the local network. If any problems arise when downloading the network parameters, they may be set manually.

Required network settings

For the Internet module to work properly, it is necessary to connect the module to the network with a DHCP server and an open port 2000.

After connecting the Internet module to the network, go to the module settings menu (in the master controller).

If the network does not have a DHCP server, the Internet module should be configured by its administrator by entering appropriate parameters (DHCP, IP address, Gateway address, Subnet mask, DNS address).

1. Go to the WiFi module settings menu.
2. Select "ON".
3. Check if the "DHCP" option is selected.
4. Go to "WIFI network selection"
5. Select your WIFI network and enter the password.
6. Wait for a while (approx. 1 min) and check if an IP address has been assigned. Go to the "IP address" tab and check if the value is different from 0.0.0.0 / -.-.-.-.
 - a) If the value is still 0.0.0.0 / -.-.-.-, check the network settings or the Ethernet connection between the Internet module and the device.
7. After the IP address has been assigned, start the module registration in order to generate a code which must be assigned to the account in the application.

10. PROTECTIONS

Select *Protections* in the main menu to configure parental lock settings. The user may select Auto-lock ON or Auto-lock PIN code functions – it is possible set an individual PIN code for entering the controller menu.

11. FACTORY SETTINGS

This function enables the user to restore the Fitter's menu settings saved by the manufacturer.

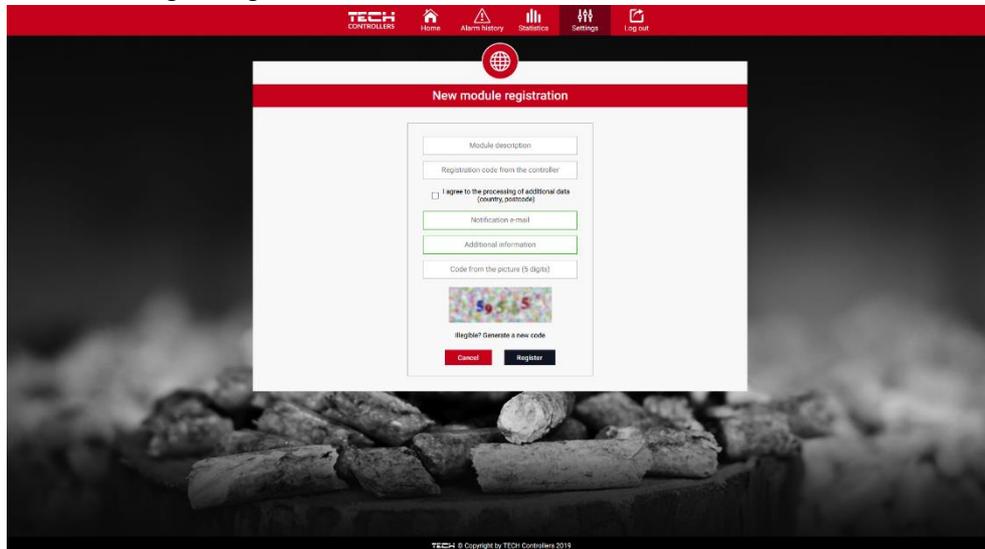
12. SOFTWARE VERSION

When this option is selected, the display shows the logo of the CH boiler manufacturer and the controller software version.

VI. HOW TO CONTROL THE HEATING SYSTEM VIA WWW.EMODUL.EU

1. REGISTRATION

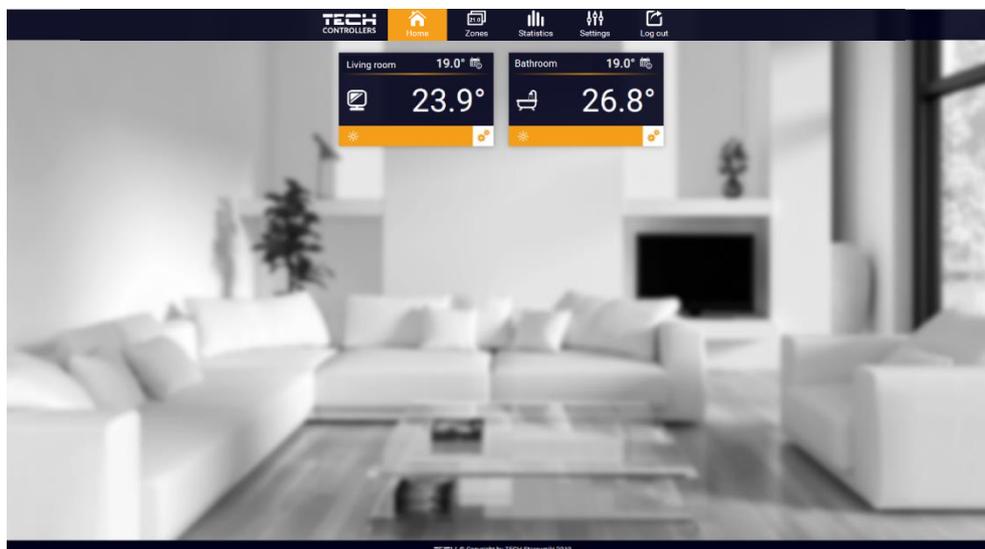
The website offers multiple tools for controlling your heating system. In order to take full advantage of the technology, create your own account: once logged in, register the module. The EU-M-9r controller in Wi-Fi → Registration generates a code which should be entered while registering the new module.



New module registration screen

2. HOME TAB

Home tab displays the main screen with tiles illustrating the current status of particular heating system devices. Tap on the tile to adjust the operation parameters:



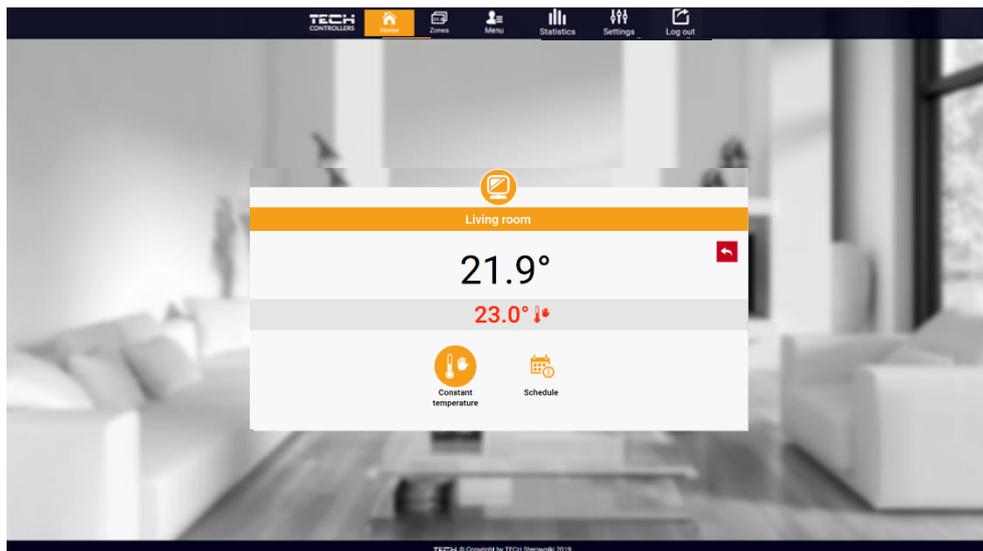
Screenshot presenting an example tab with main menu parameters

NOTE



„No communication” message means that the communication with the temperature sensor in a given zone has been interrupted. The most common cause is the flat battery which needs replacing.

Tap on the tile corresponding to a given zone to edit its pre-set temperature:

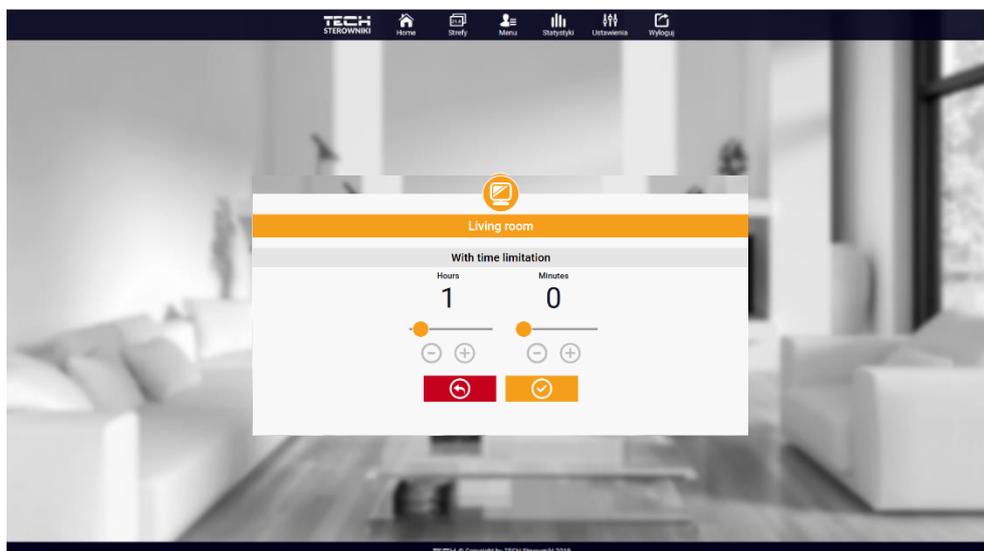


Screenshot presenting an example setting change

The upper value is the current zone temperature whereas the bottom value is the pre-set temperature.

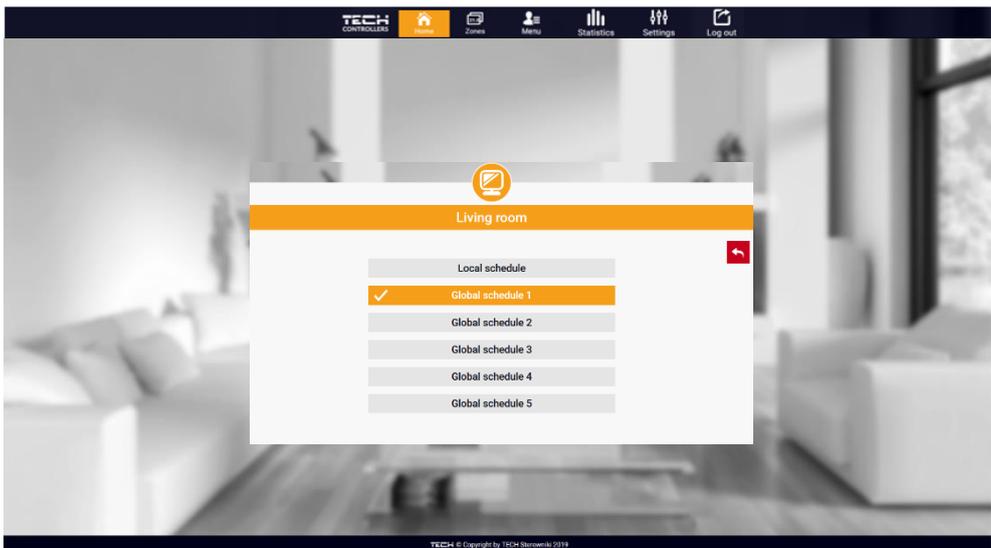
The pre-set zone temperature depends by default on the weekly schedule settings. Constant temperature mode enables the user to set a separate pre-set temperature value which will apply in the zone regardless of the time.

By selecting Constant temperature icon, the user may define the pre-set temperature which will apply for a pre-defined period of time. Once the time is up, the temperature will be set according to the previous schedule (schedule or constant temperature without time limit).



Temperature with time limit - settings

Tap on Schedule icon to open up the schedule selection screen:



Screenshot presenting weekly schedule choice

Two types of weekly schedules are available in EU-M-9r controller:

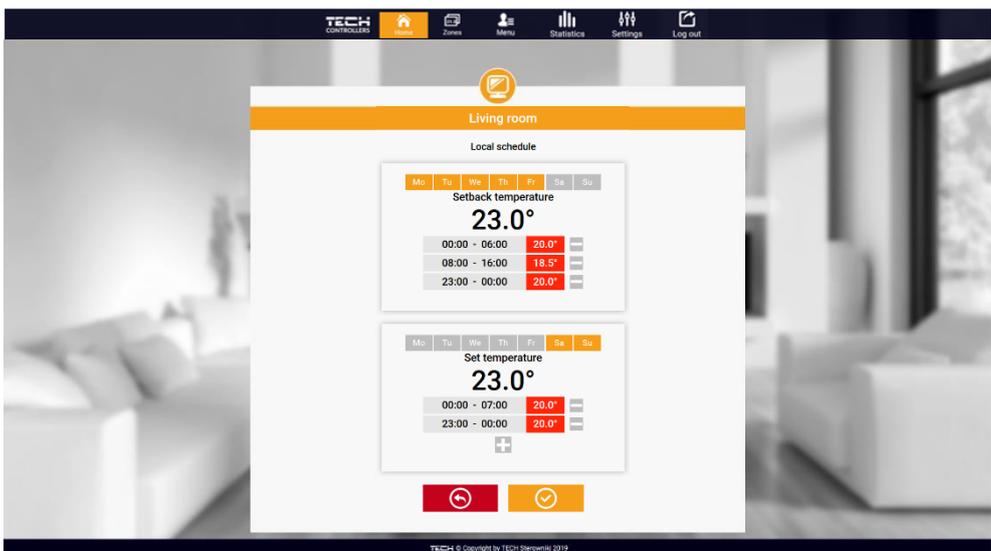
1. Local schedule

It is a weekly schedule assigned to a particular zone. Once the controller detects the room sensor, the schedule is assigned automatically to the zone. It may be edited by the user.

2. Global schedule (Schedule 1-5)

Global schedule may be assigned to any number of zones. The changes introduced in the global schedule apply to all zones where the global schedule has been activated.

After selecting the schedule select OK and move on to edit the weekly schedule settings:



Screenshot showing the screen for editing the settings of the weekly schedule

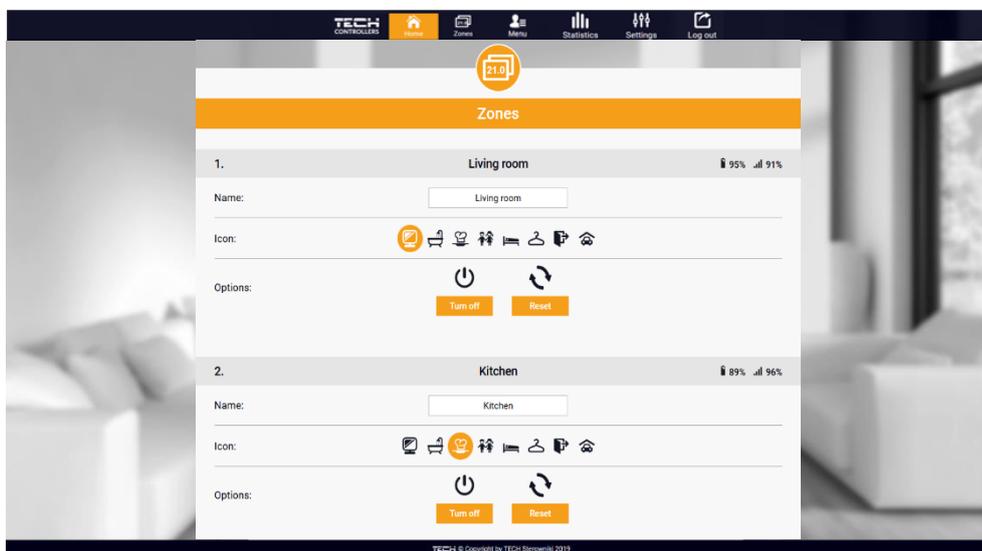
Editing enables the user to define two programs and select days when the programs will be active (e.g. from Monday to Friday and the weekend). The starting point for each program is the pre-set temperature value. For each program the user

may define up to 3 time periods when the temperature will be different from the pre-set value. The time periods must not overlap.

Outside the time periods the pre-set temperature will apply. The accuracy of defining the time periods is 15 minutes.

3. ZONES TAB

The user may customize the home page view by changing zone names and corresponding icons. In order to do it, go to Zones tab:



Screenshot showing the tab Zones

4. MENU TAB

In Menu tab, the user may activate one of four operation modes: normal, holiday, Eco or comfort.

5. STATISTICS TAB

Statistics tab enables the user to view the temperature values for different time periods e.g. 24h, a week or a month. It is also possible to view the statistics for the previous months.

6. SETTINGS TAB

Settings tab enables the user to register a new module and change the e-mail address or the password.

VII. PROTECTIONS AND ALARMS

Alarm type	Possible cause	How to fix it
Sensor damaged (room sensor, floor sensor)	Sensor short circuit or damage	<ul style="list-style-type: none"> - Check the connection with the sensor - Replace the sensor with a new one; if necessary contact the service staff.
No communication with the sensor / wireless room regulator	<ul style="list-style-type: none"> - Out of range - No battery - Battery consumption 	<ul style="list-style-type: none"> - Put the sensor/regulator in a different place - Insert batteries into the sensor/regulator <p>After the communication is reestablished, the alarm is deleted automatically</p>
Alarm: no communication with module/ wireless contact	No range	<ul style="list-style-type: none"> - Put the device in a different place or use a repeater to extend the range. - The alarm deactivates automatically when communication is established.
Alarm actuator STT-868		
ERROR #0	Flat battery in the actuator	<ul style="list-style-type: none"> - Replace the batteries
ERROR #1	- Some parts have been damaged	<ul style="list-style-type: none"> - Call the service staff
ERROR #2	<ul style="list-style-type: none"> - No piston controlling the valve - Too big stroke (movement) of the valve - The actuator has been incorrectly mounted on the radiator - Inappropriate valve on the radiator 	<ul style="list-style-type: none"> - Install a piston controlling the actuator - Check the valve stroke - Install the actuator correctly - Replace the valve on the radiator
ERROR#3	<ul style="list-style-type: none"> - The valve got stuck - Inappropriate valve on the radiator - Too little stroke (movement) of the valve 	<ul style="list-style-type: none"> - Inspect the valve operation - Replace the valve on the radiator - Check the valve stroke
ERROR #4	<ul style="list-style-type: none"> - Out of range - No batteries 	<ul style="list-style-type: none"> - The actuator is too far from the controller - Insert batteries into the actuator <p>After the communication is re-established, the alarm is deactivated automatically.</p>

Alarm actuator STT-869		
ERROR #1 – Calibration error 1 – Moving the screw to the mounting position took too much time	- The limit switch sensor is damaged	- Call the service staff
ERROR #2 – Calibration error 2 – The screw is maximally pulled out. No resistance while pulling out	- The actuator has not been screwed to the valve or has not been screwed completely - The valve stroke is too big or the valve dimensions are not typical - Actuator current sensor is damaged	- Check if the controller has been installed properly - Replace the batteries - Call the service staff
ERROR #3 – Calibration error 3 - The screw has not been pulled out enough - the screw meets resistance too early	- The valve stroke is too small or the valve dimensions are not typical - Actuator current sensor is damaged - Low battery level	- Replace the batteries - Call the service staff
ERROR #4 – No feedback	- The master controller is switched off - Poor range or no range in the master controller - Radio module in the actuator is damaged	- Turn on the master controller - Reduce the distance from the master controller - Call the service staff
ERROR #5 – Low battery level	- The battery is fl at	- Replace the batteries
ERROR #6 – Encoder is locked	- The encoder is damaged	- Call the service staff
ERROR #7 – To high voltage	- Unevenness of the screw, the thread etc. may cause excessive resistance - Too high resistance of gear or motor - Current sensor is damaged	- Call the service staff
ERROR #8 – Limit switch sensor error	- Limit switch sensor damaged	- Call the service staff

VIII. SOFTWARE UPDATE



WARNING

Software update shall be conducted only by a qualified fitter. After the software has been updated, it is not possible to restore previous settings.

In order to install new software, the controller must be unplugged from the power supply. Next, insert the flash drive with the new software into the USB port. Connect the controller to the power supply. A single sound signalizes that the software update process has been initiated.

IX. TECHNICAL DATA

Specification	Value
Supply voltage	230V +/-10%/50Hz
Operating temperature	5÷50°C
Maximum power consumption	2W
Transmission	IEEE 802.11 b/g/n

TECH CONTROLLERS

EU Declaration of Conformity

Hereby, we declare under our sole responsibility that **EU-M-9r** manufactured by TECH STEROWNIKI II Sp. z o.o., head-quartered in Wieprz Biała Droga 31, 34-122 Wieprz, is compliant with Directive 2014/53/EU of the European parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC (EU OJ L 153 of 22.05.2014, p.62), Directive 2009/125/EC of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (EU OJ L 2009.285.10 as amended) 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 62368-1:2020-11 par. 3.1a Safety of use

PN-EN IEC 62479:2011 art. 3.1a Safety of use

ETSI EN 301 489-17 V3.2.4 (2020-09) par.3.1b Electromagnetic compatibility

ETSI EN 301 489-1 V2.2.3 (2019-11) par.3.1b Electromagnetic compatibility

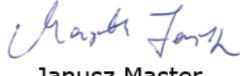
ETSI EN 301 489-3 V2.1.1:2019-03 par.3.1 b Electromagnetic compatibility,

ETSI EN 300 328 V2.2.2 (2019-07) par.3.2 Effective and coherent use of radio spectrum,

PN EN IEC 63000:2019-01 RoHS.

Wieprz, 11.08.2022


Paweł Jura


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