TECH
CONTROLLERS

USER MANUAL

EU-RI-1

EN

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TECH

JG. 24.02.2022

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 regulator 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.
- The regulator should not be operated by children.

⚠ WARNING

- 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 24.02.2022. 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.

Care for the natural environment is our priority. Being aware of the fact that we manufacture electronic devices obligates us to dispose of used elements and electronic equipment in a manner which is safe for nature. As a result, the company has received a registry number assigned by the Main Inspector of Environmental Protection. The symbol of a crossed out rubbish bin on a product means that the product must not be thrown out to ordinary waste bins. By segregating waste intended for recycling, we help protect the natural environment. It is the user's responsibility to transfer waste electrical and electronic equipment to the selected collection point for recycling of waste generated from electronic and electrical equipment.

II.   DEVICE DESCRIPTION

The EU-RI-1 room regulator is intended to be used with the EU-I-2, EU-I-2 Plus, EU-I-3 and EU-I-3Plus controllers. Its main task is to maintain the pre-set room/floor temperature by sending a signal to the main controller, when the room or floor temperature is lower than the pre-set value.

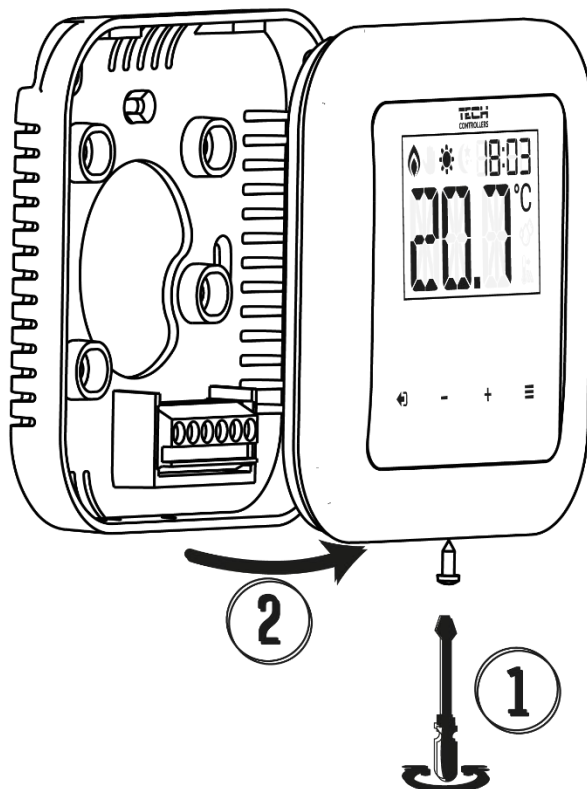The EU-RI-1 regulator functions:

- Maintaining pre-set room temperature
- Manual mode
- Day/night mode
- Constant mode

Equipment:

- Front panel made of glass
- Built-in temperature sensor
- Possibility of connecting a floor sensor

III.   INSTALLATION

The room regulator should be installed by a qualified person. EU-RI-1 regulator may be installed on the wall.

The room regulator should be connected to the heating device with the use of a four-core cable (included sample RS cable forged on one side). The wiring diagram is presented below:

![TECH]
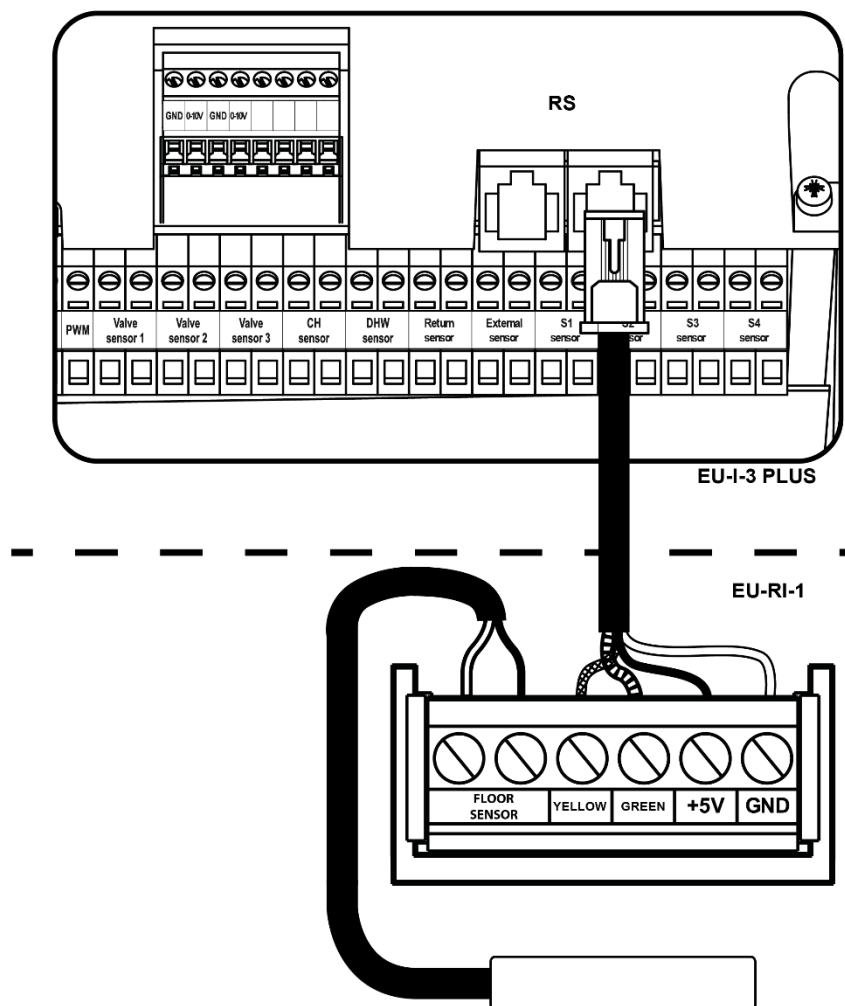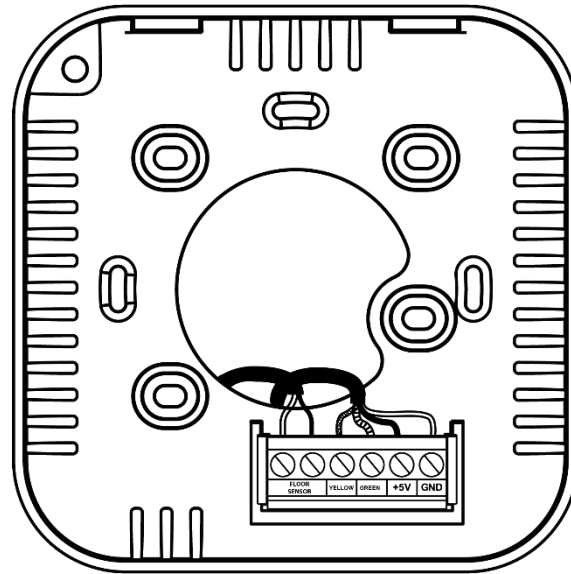
Pictorial diagram showing how to connect the EU-RI-1 to other devices in the system.
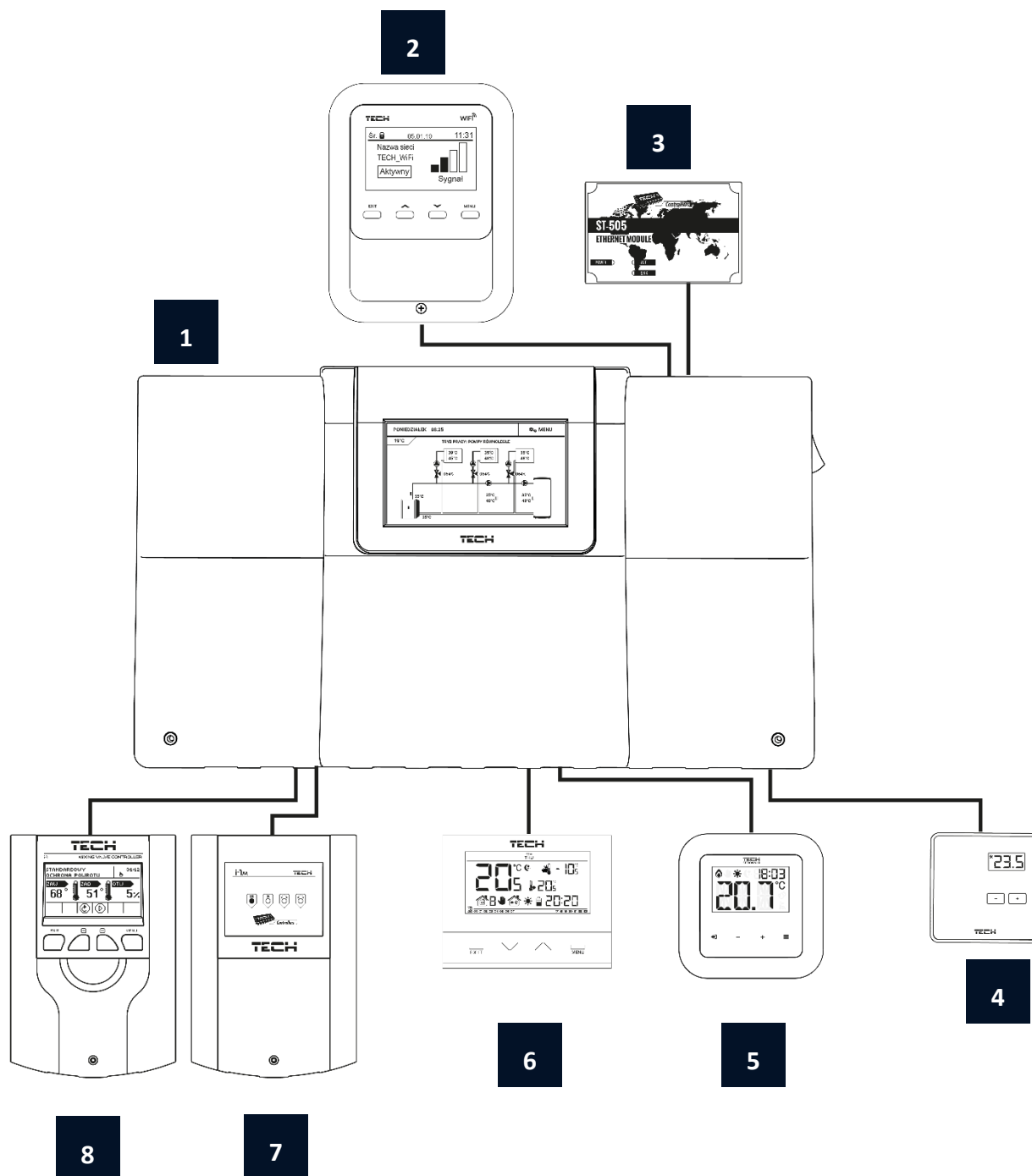
1. The EU-I-3Plus main controller
2. EU-WiFi RS Internet module
3. EU-505 Internet module
4. EU-294 Room regulator
5. EU-RI-1 Room regulator
6. EU-292 Room regulator
7. EU-i-1M Valve
8. EU-i-1 Valve

IV. HOW TO USE THE REGULATOR

1. PRINCIPLE OF OPERATION

The main function of the EU-RI-1 room regulator is to maintain the pre-set room/floor temperature by sending a signal to the EU-I-2, EU-I-2 Plus, EU-I-3 or EU-I-3Plus controller, when the room or floor temperature is lower than the pre-set value.

2. OPERATION MODES

The regulator may operate in one of the two operation modes available:

- **Day/night mode** – in this mode the pre-set temperature changes depending on the time of the day. The user presets the temperature values for both day-time and night-time as well as the time of entering day mode and night mode. In order to activate this mode, press MENU and hold until a corresponding icon (day ☀ /night ☾ mode) appears on the main screen.

- **Manual mode –** In this mode, the user sets the temperature in the main screen view using PLUS and MINUS buttons. The manual ✋ mode will be activated automatically after pressing one of these buttons. Once this mode is activated, the previously selected mode enters 'sleep mode' and remains inactive until the next pre-programmed temperature change. Manual mode may be deactivated by holding the EXIT button for about 3 seconds.

- **Constant mode** - Constant mode allows the user to set the desired temperature permanently. Activating this mode deactivates the day / night mode.

V. MAIN SCREEN DECRIPTION

The device is controlled using the touch buttons. If the regulator is in idle mode, press any button.
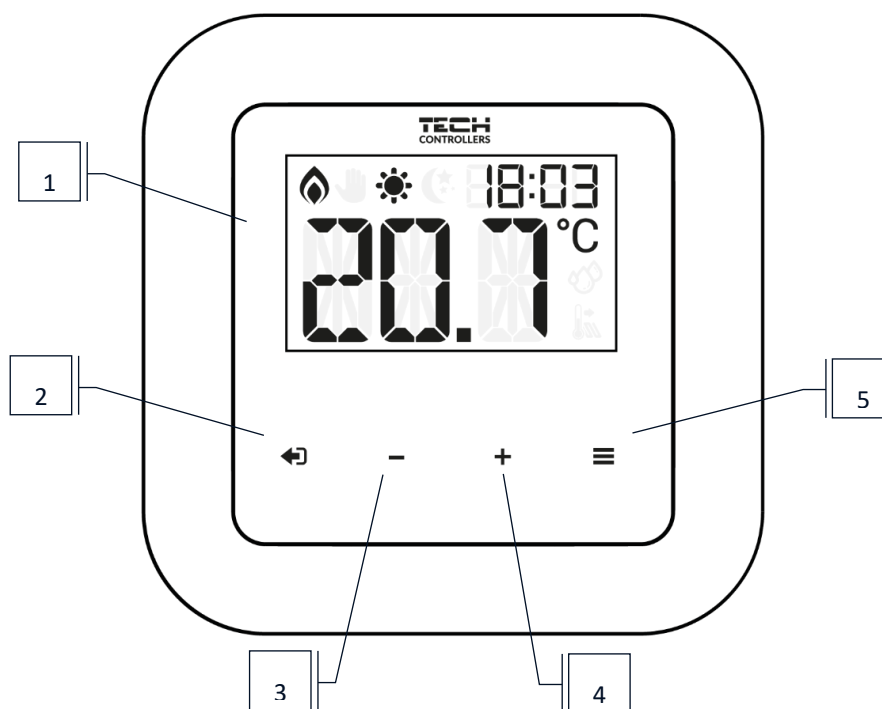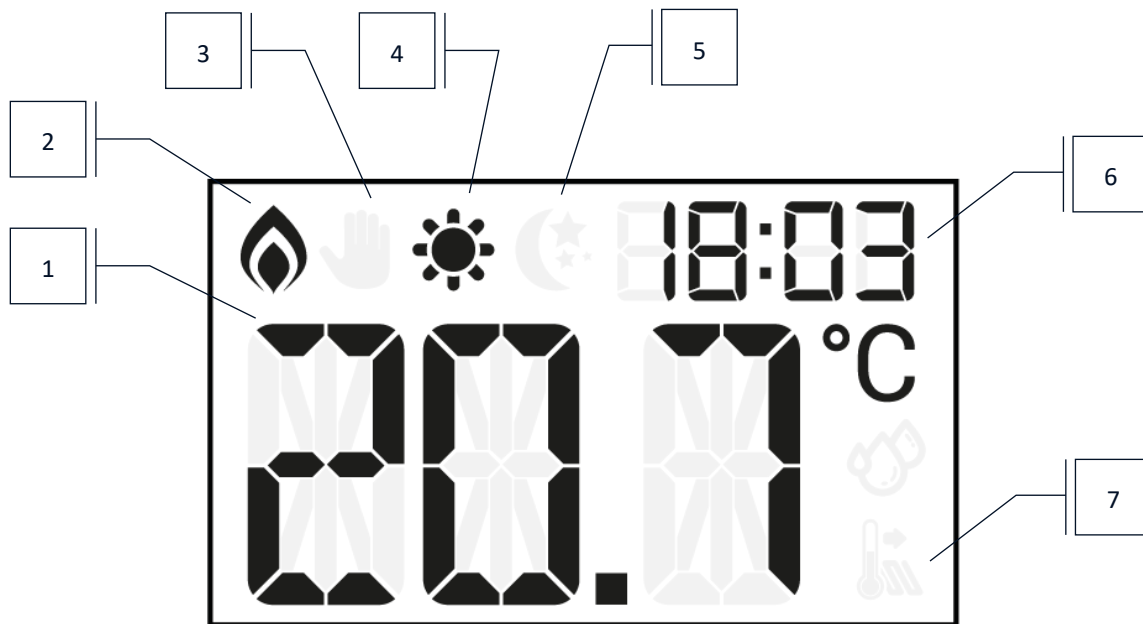
1. Display
2. **EXIT** button – the button is used to return to the main screen view.
    In the main screen view, press this button to display the temperature value read from the built-in room sensor, the floor temperature value.
    Hold EXIT button to delete the pre-set temperature value.
3. **MINUS** button – press this button to decrease the pre-set temperature. In the menu, use this button to adjust particular parameters.
4. **PLUS button** – press this button to increase the pre-set temperature. In the menu, use this button to adjust particular parameters.
5. **MENU** button – press this button to enter the menu with operation parameters. While editing parameters, press MENU button to confirm the changes and move on to edit the next parameter.

NOTE

Hold the MENU button for about 5 seconds to enter the second menu where it is possible to register the regulator in the main controller, calibrate the temperature read from the room and floor sensors, check the software version and restore factory settings.
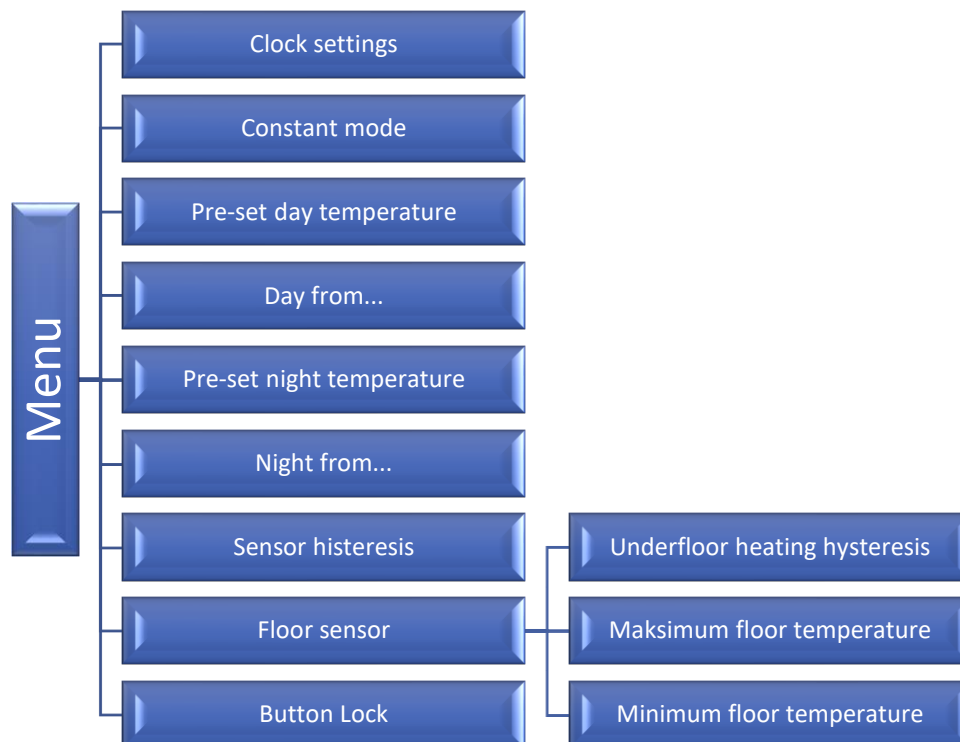

1. Current temperature
2. Heating to pre-set temperature active
3. Manual mode active
4. Day mode active
5. Night mode active
6. Current time
7. Floor temperature (the icon is displayed only when the floor sensor has been activated in the regulator menu)

VI. REGULATOR FUNKTIONS – MENU 1

1. BLOCK DIAGRAM - REGULATOR MENU

In order to start editing particular parameters, press MENU button. Press the MENU button to choose the parameter to be edited - the parameter is flashing. In order to change the settings, use the touch buttons PLUS and MINUS. Once the changes have been introduced, confirm by pressing MENU button (confirm and go on to edit the next parameter). Changes will also be saved automatically after 5 seconds of inactivity.

2. CLOCK SETTINGS

After registering the device, the time is updated from the controller (EU-I-2, EU-I-2 Plus, EU-I-3, EU-I-3Plus) to EU-RI-1. By default, TIM is set to OFF. With the PLUS button you can set TIM to ON and set the time on the regulator. In this case, the time from the controller will not be taken into account.

In order to set the time, enter the menu and press MENU button until the clock settings **TIM** appear on the screen. Use PLUS and MINUS to set the hour and minutes. Confirm by pressing MENU button (confirm and move on to edit the next parameter) or EXIT button (confirm and return to the main screen view). Changes will also be saved automatically after 5 seconds of inactivity.
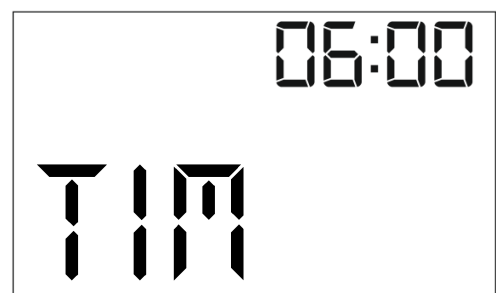
3. CONSTANT MODE

Constant mode allows the user to set the desired temperature permanently. Activating this mode deactivates the day / night mode. In order to do this, press the MENU button until the constant mode screen appears. Use the PLUS or MINUS buttons to select ON and confirm by pressing the MENU button. Then, the pre-set temperature screen for the constant mode appears. Use the PLUS / MINUS buttons to set the desired temperature. Confirm your choice by pressing the MENU button. The change of the pre-set temperature will also be confirmed automatically after about 5 seconds of inactivity.

After confirming the constant mode, the manual mode icon will ✋ appear on the screen. In order to **disable** the constant mode, select the constant mode screen again and set it to OFF. Then, the pre-set temperature set for the day or night time will apply.
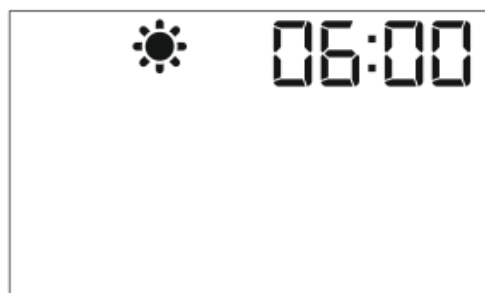
4. PRE-SET DAY TEMPERATURE

In order to define the pre-set day temperature, enter the menu and press MENU button until the pre-set day temperature settings appear on the screen. Use PLUS and MINUS to set the temperature. Confirm by pressing MENU button (confirm and move on to edit the next parameter) or EXIT button (confirm and return to the main screen view). Changes will also be saved automatically after 5 seconds of inactivity.

5. DAY FROM…

The Day from... function defines the exact time when the daytime starts. In order to set this parameter, press MENU button until the daytime setting screen appears. Use PLUS and MINUS to set the hour and minute of day mode activation. Confirm by pressing MENU button (confirm and move on to edit the next parameter) or EXIT button (confirm and return to the main screen view). Changes will also be saved automatically after 5 seconds of inactivity.

6. PRE-SET NIGHT TEMPERATURE

In order to define the pre-set night temperature, enter the menu and press MENU button until the pre-set night temperature settings appear on the screen. Use PLUS and MINUS to set the temperature. Confirm by pressing MENU button (confirm and move on to edit the next parameter) or EXIT button (confirm and return to the main screen view). Changes will also be saved automatically after 5 seconds of inactivity.

7.   NIGHT FROM…

The Night from... function defines the exact time when the nighttime starts. In order to set this parameter, press MENU button until the nighttime setting screen appears. Use PLUS and MINUS to set the hour and minute of night mode activation. Confirm by pressing MENU button (confirm and move on to edit the next parameter) or EXIT button (confirm and return to the main screen view). Changes will also be saved automatically after 5 seconds of inactivity.

8.   SENSOR HYSTERESIS

Room temperature hysteresis defines the pre-set temperature tolerance in order to prevent undesired oscillation in case of small temperature fluctuation (within the range of 0,2 ÷ 5°C).

Example:

Pre-set temperature: 23°C
Hysteresis: 1°C

The room regulator reports that the temperature is too low when the room temperature drops to 22 °C.

In order to set the hysteresis, press MENU until the hysteresis settings appear on the screen.

Use PLUS and MINUS to set the desired hysteresis value. Press MENU to confirm and move on to the next parameter or press EXIT to confirm and return to the main screen view. Changes will also be saved automatically after 5 seconds of inactivity.

9.   FLOOR SENSOR

In order to enable or disable the floor heating, press the MENU button until the floor heating screen appears.

In order to enable the floor heating, press PLUS button (ON will be displayed on the screen).

In order to disable the floor heating, press MINUS button (OFF will be displayed on the screen). To confirm, press MENU button (confirm and go on to edit the next parameter) of EXIT button (confirm and return to the main screen view). Changes will also be saved automatically after 5 seconds of inactivity.

⚠️ **NOTE**

- Correct operation of a regulator with a floor sensor is possible only in the mode RS REGULATOR → STANDARD REGULATOR.
- When the floor sensor is enabled, make sure that the minimum valve opening in the controller (EU-I-2, EU-I-2 Plus, EU-I-3, EU-I-3Plus) is set at the minimum of 5% or more.

10.   UNDERFLOOR HEATING HYSTERESIS

Underfloor heating hysteresis defines the tolerance for the maximum and minimum temperature. The settings range is 0,2°C to 5 °C.
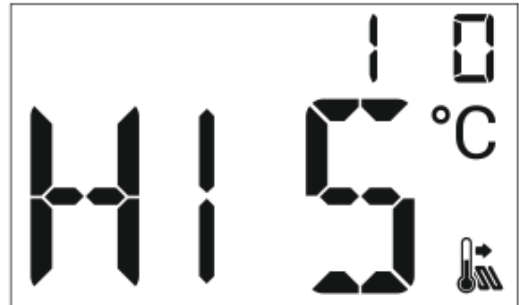
If the floor temperature exceeds the maximum temperature, the underfloor heating will be disabled. It will be enabled only after the temperature has dropped below the maximum floor temperature minus hysteresis value.

Example:

Maximum floor temperature: 33°C
Hysteresis: 2°C

When the floor temperature reaches 33°C, the underfloor heating will be disabled. It will be activated again when the temperature drops to 31°C.

If the floor temperature drops below the minimum temperature, the underfloor heating will be enabled. It will be disabled after the floor temperature has reached the minimum value plus hysteresis value.

Example:

Minimum floor temperature: 23°C
Hysteresis: 2°C

When the floor temperature drops to 23°C, the underfloor heating will be enabled. It will be disabled when the temperature reaches 25°C.

11.   MAXIMUM FLOOR TEMPERATURE

In order to set the maximum floor temperature, activate the underfloor heating and press MENU until the maximum floor temperature settings appear on the screen. Use PLUS and MINUS to set the temperature. Confirm by pressing MENU button (confirm and move on to edit the next parameter) or EXIT button (confirm and return to the main screen view). Changes will also be saved automatically after 5 seconds of inactivity.

12.   MINIMUM FLOOR TEMPERATURE

In order to set the minimum floor temperature, activate the underfloor heating and press MENU until the minimum floor temperature settings appear on the screen. Use PLUS and MINUS to set the temperature. Confirm by pressing MENU button (confirm and move on to edit the next parameter) or EXIT button (confirm and return to the main screen view). Changes will also be saved automatically after 5 seconds of inactivity.

13. BUTTON LOCK

The **LOC** function is used to lock the buttons. It may be enabled (**ON**) or disabled (**OFF**) with the use of PLUS/MINUS buttons. The lock is activated after the main screen blanking. Hold the PLUS and MINUS buttons for about 3 seconds to deactivate the lock.

VII. REGULATOR FUNCTIONS – MENU 2

In order to move to the second menu, hold the MENU button for about 5 seconds. Press the button to view the regulator options.

1. REGISTRATION

In order to ensure proper communication between the regulator and the main controller, it is necessary to register the regulator.

⚠️ **NOTE**

To register the regulator, your main controller software version must be at least 1.3.4 or later. In the case of older versions, the main controller software must be updated.

1. Go to the fitter's menu in the main controller, find the valve and select regulator function and registration.
2. Press and hold the MENU button in the regulator to select **REG** function (registration).
3. Hold the PLUS and MINUS buttons at the same time to start the registration. If the registration has been completed successfully, the display will show the message: ScS.

⚠️ **NOTE**

- The first step in registering the regulator is to start the registration process in the main controller and next select registration option in the room regulator.
- After successful registration, wait 30 seconds before registering another regulator.

2. BUILT-IN SENSOR CALIBRATION

Calibration should be performed while mounting or after it has been used for a long time, if the room temperature measured by the sensor differs from the actual temperature. Calibration setting range is from -9,9 to +9,9 ^{o}C with the accuracy of 0,1^{o}C.

To calibrate the built-in sensor, hold the MENU button to enter the second Menu. Next, keep pressing the MENU button until the temperature sensor calibration screen appears (**CAL**). Use the PLUS or MINUS buttons to set the desired correction. To confirm, press the MENU button (confirm and go on to edit the next parameter) or the EXIT button (confirm and return to the main screen view). The changes will also be saved automatically after about 5 seconds of inactivity.

3. FLOOR SENSOR CALIBRATION

Floor sensor calibration (an additional icon is displayed: 🌡️) should be performed if the floor temperature measured by the sensor differs from the actual temperature. Calibration setting range is from -9,9 to +9,9 ^{o}C with the accuracy of 0,1^{o}C.

To calibrate the built-in sensor, hold the MENU button to enter the second Menu. Next, keep pressing the MENU button until the floor sensor calibration screen appears (**CAL**🌡️). Use the PLUS or MINUS buttons to set the desired correction. To confirm, press the MENU button (confirm and go on to edit the next parameter) or the EXIT button (confirm and return to the main screen view). The changes will also be saved automatically after about 5 seconds of inactivity.

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4. SOFTWARE VERSION

Hold the MENU button to enter the second Menu. Next, keep pressing the MENU button until the software version screen appears. The user may check the software version number (**VER**). The number is necessary while contacting the service staff.

5. DEFAULT SETTINGS

Hold the MENU button to enter the second Menu. Next, keep pressing the MENU button until the default setting screen appears (**F00**). This function is used to restore factory settings. In order to do it, change the flashing digit 0 to 1.

⚠️ **NOTE**

Restoring factory settings will result in unregistering all devices from the main controller. It will be necessary to register them again.

VIII. TECHNICAL DATA

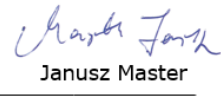| Specification	Value
Room temperature adjustment range	5ºC ÷ 35ºC
Power supply	5V DC
Maximum power consumption	0,05W
Measurement error	± 0,5ºC

EU Declaration of conformity

Hereby, we declare under our sole responsibility that **EU-RI-1** manufactured by TECH STEROWNIKI II Sp. z o.o., head-quartered 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, EN IEC 63000:2018 RoHS.

Pawel Jura   Janusz Master

Prezesi firmy

Wieprz, 24.02.2022

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