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TECH CONTROLLERS EU-F-4z v2 Room Regulators for Frame Systems User Manual

Contents

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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 stored 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.
- 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.
- It is recommended to periodically check the condition of the device.

Changes in the merchandise described in the manual may have been introduced subsequent to its completion on 20.04.2021. The manufacturer retains the right to introduce changes to the structure or colours. The illustrations may include additional equipment. Print technology may result in differences in the 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 waste 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.

DEVICE DESCRIPTION

The EU-F-4z v2 room regulator is intended for controlling the heating device. Its main task is to maintain the pre-set room temperature by sending a signal to the heating device when the room temperature has been reached. The regulator is intended to be mounted in a frame.
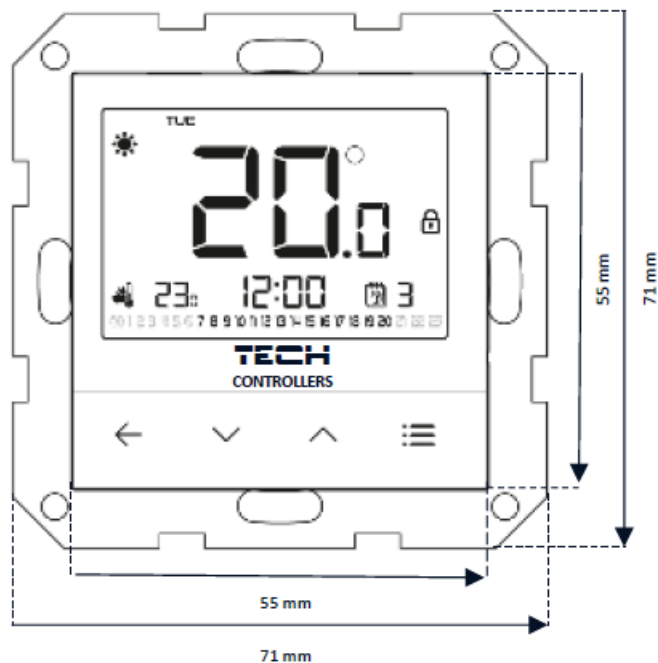
Functions of the regulator:

- maintaining pre-set room temperature
- manual mode
- day/night mode
- weekly control
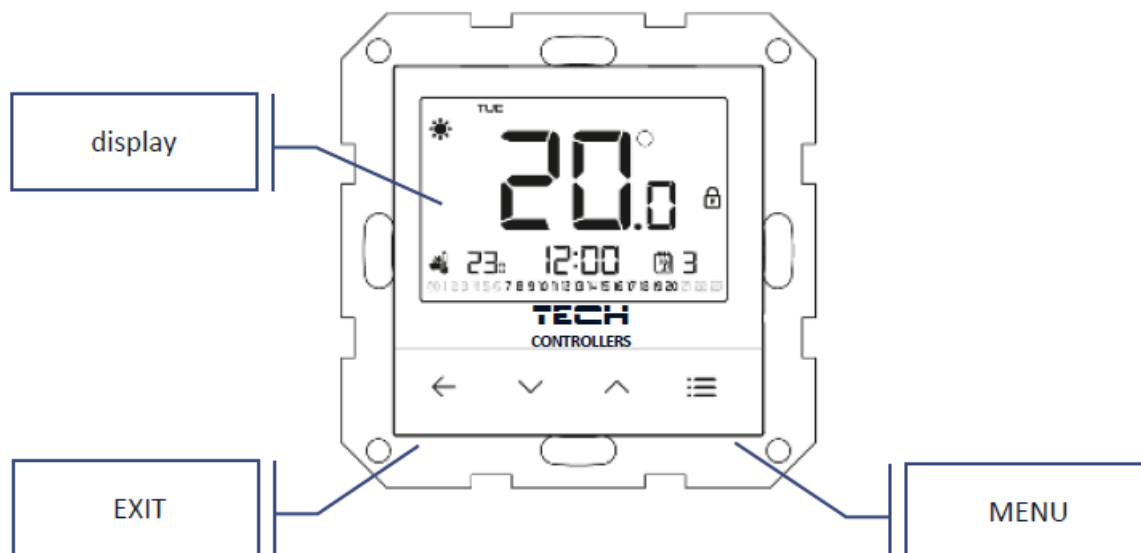- floor heating control (optional – an additional temperature sensor is necessary)

Controller equipment:

- touch buttons
- front panel made of glass
- built-in temperature and humidity sensor
- intended to be mounted in a frame

Before purchasing a given frame, please check the dimensions carefully as the above list may change!

Current temperature is displayed on the screen. Hold the EXIT button to display current humidity. Hold the button again to display the pre-set temperature screen.

- Use EXIT to activate weekly control or day/night mode and to deactivate manual mode. In the controller menu, use this button to confirm new settings and return to the main screen view.
  Use ∨ to activate manual mode and decrease the pre-set temperature value. In the controller menu, use this button to adjust parameter settings.
- Use ∧ to activate manual mode and increase the pre-set temperature value. In the controller menu, use this button to adjust parameter settings.
- Use MENU to enter the controller menu. While editing parameters, press MENU to confirm changes and move on to edit another parameter.
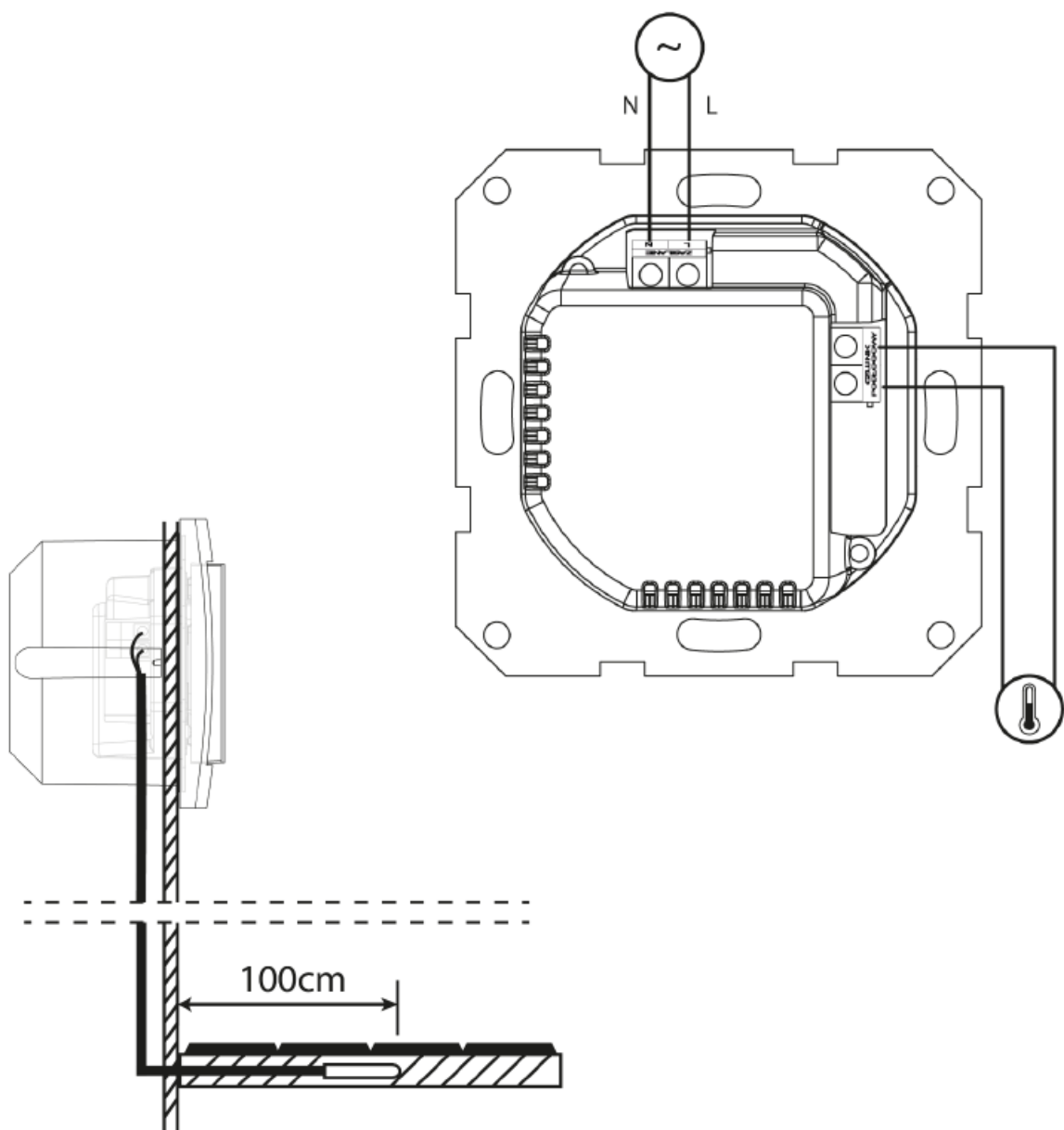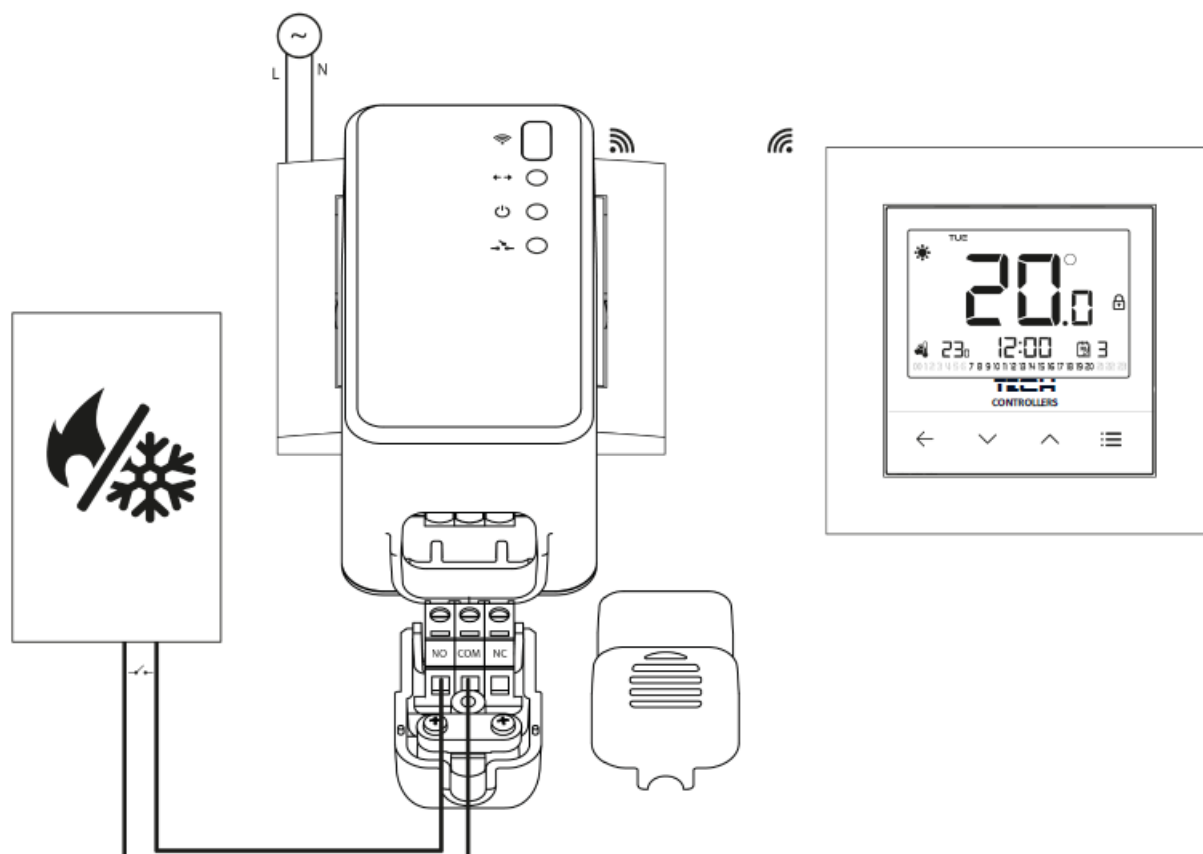
HOW TO INSTALL THE CONTROLLER

The regulator should be installed by a qualified person.
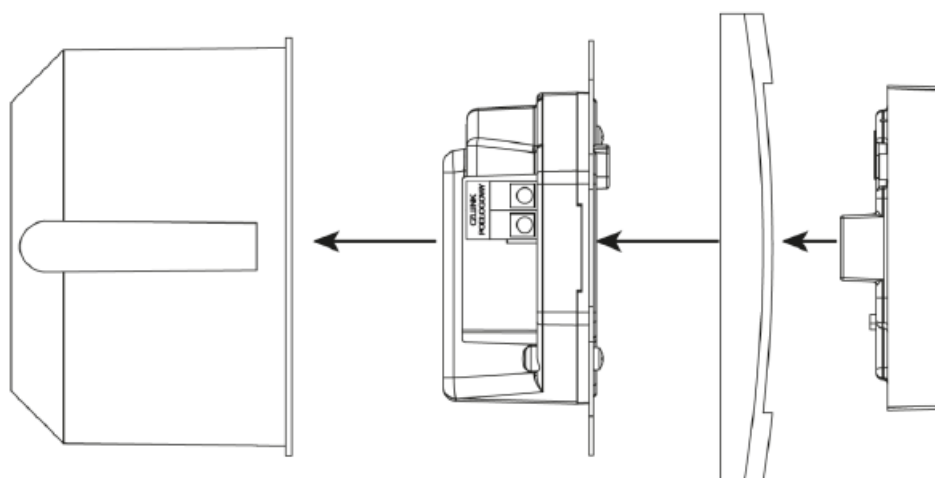
WARNING

- The regulator should be installed by a qualified person.
- Risk of fatal electric shock from touching live connections. Before working on the radio module switch off the power supply and prevent it from being accidentally switched on
- Incorrect connection of wires may damage the regulator!

The diagrams below illustrate how the regulator should be mounted.
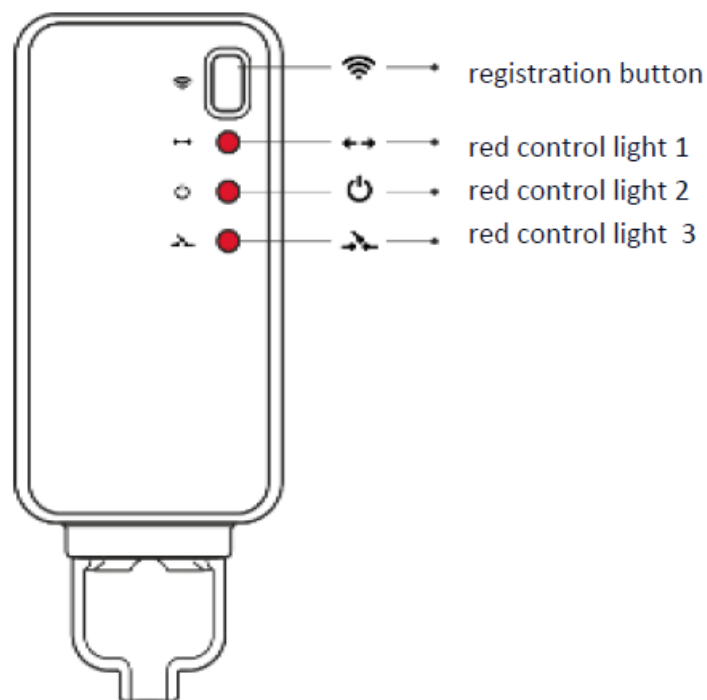
N   L

100cm

How to install particular elements:

WIRELESS RECEIVER EU-MW-3

The EU-F-4z v2 regulator communicates with the heating device (or the CH boiler controller) by means of a radio signal sent to the receiver. The receiver is connected to the heating device (or the CH boiler controller) using a two-core cable. It communicates with the room regulator using a radio signal.

registration button — red control light 1 — red control light 2 — red control light 3
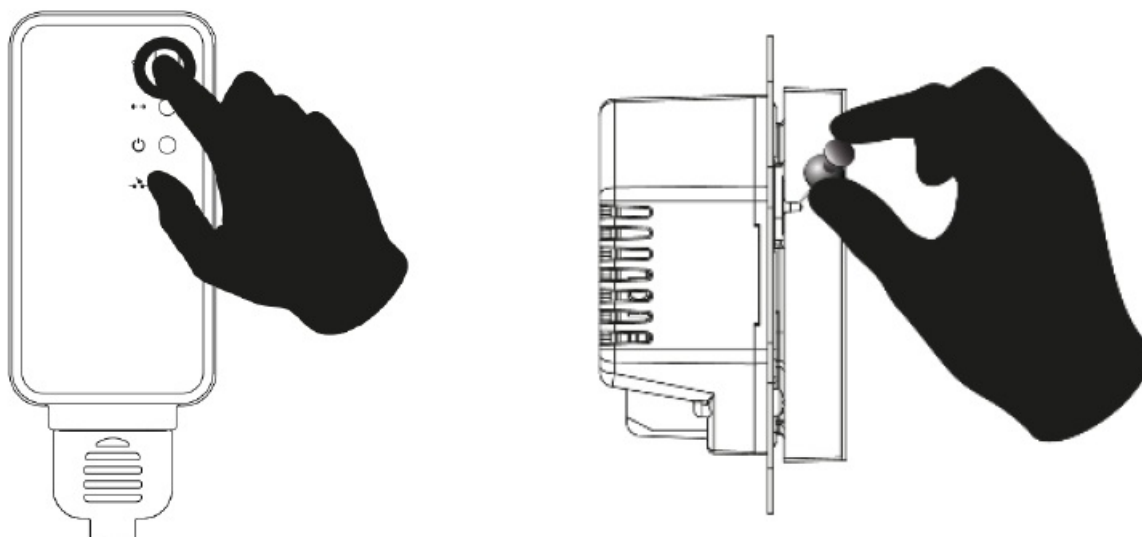
The receiver has three control lights:

- **red control light 1 –** signalises data reception;
- **red control light 2 –** indicates receiver operation;
- **red control light 3 –** goes on when the room temperature fails to reach the pre-set value – the heating device is switched on.

NOTE
In case of no communication (e.g. due to no power supply), the receiver automatically disables the heating device after 15 minutes.

In order to pair the EU-F-4z v2 regulator with the EU-MW-3 receiver, follow these steps:

- press the Registration button on the receiver
- press the Registration button on the regulator or in the controller menu, using REG screen and pressing

NOTE
Once registration has been activated in EU-MW-3, it is necessary to press the registration button on the EU-F-4z v2 regulator within 2 minutes. When the time is over, the pairing attempt will fail.

If:

- the EU-F-4z v2 regulator screen shows Scs and the outermost control lights in EU-MW-3 are flashing simultaneously – the registration has been successful;
- the control lights in EU-MW-3 are flashing one after another from one side to the other – the EU-MW-3 module has not received the signal from the controller;
- the EU-F-4z v2 regulator screen displays Err and all the control lights in EU-MW-3 light up continuously – the registration attempt failed.

REGULATOR FUNCTIONS

OPERATION MODES

The room regulator may operate in one of three different modes.

- **Day/night mode** ☀ ☾ **–** the pre-set temperature depends on the time of day – the user sets a separate temperature for the day and night (comfort temperature and economical temperature), as well as the time when the controller will enter each mode. In order to activate this mode, press EXIT until a day/night mode icon appears on the main screen.
- **Weekly control mode** 📅 **–** the controller enables the user to create 9 different programs divided into 3 groups:
    - PROGRAM 1÷3 – daily settings apply to all days of the week
    - PROGRAM 4÷6 – daily settings are configured separately for working days (Monday-Friday) and for the weekend (Saturday – Sunday)
    - PROGRAM 7÷9 – daily settings are configured separately for each day of the week.
- **Manual mode** ✋ **–** the user sets the temperature manually directly from the main screen view. When the manual mode is activated, the previous operation mode enters sleep mode and remains inactive until the next pre-programmed change of the pre-set temperature. Manual mode can be disabled by pressing the EXIT button.

REGULATOR FUNCTIONS
In order to edit a parameter, select a corresponding icon. The remaining icons become inactive. Use the buttons ⌄⌃ to adjust the parameter. In order to confirm, press EXIT or MENU.

1. **DAY OF THE WEEK** FRI

    This function enables the user to set current day of the week.

2. **CLOCK** 🕐

    In order to set current time, select this function, set the time and confirm.

3. **DAY FROM**

This function enables the user to define the exact time of entering the day mode. When day/night mode is active, comfort temperature applies during the daytime.

4. **NIGHT FROM**

This function enables the user to define the exact time of entering the night mode. When day/night mode is active, economical temperature applies during nighttime.

5. **BUTTON LOCK**

In order to activate button lock, select ON. Hold EXIT and MENU at the same time to unlock.

6. **OPTIMUM START**

It involves constant monitoring of the heating system efficiency and using the information to activate the heating in advance in order to reach the pre-set temperatures.

When this function is active, at the time of a pre-programmed change from comfort temperature to economical temperature or the other way round, the current room temperature is close to the desired value. In order to activate the function, select ON.

7. **AUTOMATIC MANUAL MODE**

This function enables manual mode control. If this function is active (ON), the manual mode is disabled automatically when a pre-programmed change resulting from the previous operation mode is introduced. If the function is disabled (OFF), the manual mode remains active regardless of the pre-programmed changes.

8. **WEEKLY CONTROL**

This function enables the user to set current weekly control program and edit the days and time when particular temperature value will apply.

- **HOW TO CHANGE THE WEEKLY PROGRAM NUMBER**

  Select this function and hold the MENU button. Every time you hold the button, the program number will change. Press EXIT to confirm – the controller will return to the main screen and the new setting will be saved.

- **HOW TO SET DAYS OF THE WEEK**

  - Programs 1÷3 – it is not possible to select the day of the week because the settings apply to each day.

  - Programs 4÷6 – it is possible to edit working days and the weekend separately. Choose the group by pressing briefly the MENU button.

  - Programs 7÷9 – it is possible to edit each day separately. Choose the day by pressing briefly the MENU button.

- **HOW TO SET TIME LIMITS FOR COMFORT AND ECONOMICAL TEMPERATURE**

  The hour which is being edited is displayed on the screen. In order to assign comfort temperature, press . To assign economical temperature, press . You will automatically move on to edit the next hour. The bottom strip of the screen shows weekly program parameters. If a given hour is displayed, it means that it has been assigned comfort temperature. If it is not displayed, it means that it has been assigned economical temperature.

9. **PRE-SET COMFORT TEMPERATURE**

This function is used in weekly operation mode and day/night mode. Use the arrows to set the temperature. Confirm by pressing the MENU button.

10. **PRE-SET ECONOMICAL TEMPERATURE**

This function is used in weekly operation mode and day/night mode. Use the arrows to set the temperature. Confirm by pressing the MENU button.

11. **PRE-SET TEMPERATURE HYSTERESIS**

It defines the pre-set temperature tolerance in order to prevent undesired oscillation in case of small temperature fluctuation.

For example, when the pre-set temperature is 23°C and the hysteresis is set to 1°C, the room regulator reports that the temperature is too low when the room temperature drops to 22 °C.

12. **TEMPERATURE SENSOR CALIBRATION**

It should be performed while mounting or after the regulator has been used for a long time, if the room temperature measured by the internal sensor differs from the actual temperature.

13. **REGISTRATION**

This function is used to register relays. The number of relays is displayed on the screen. In order to register, hold the MENU button and the screen will inform if the registration has been successful or not (Scs/Err). If the maximum number of relays have been registered (max 6), the screen displays dEL option, which enables the user to remove a previously registered relay.

14. **FLOOR SENSOR**

This function is active in heating mode after connecting the floor sensor. In order to display specific parameters of the floor sensor, select ON.

15. **MAXIMUM FLOOR TEMPERATURE**

This function is used to set the maximum pre-set floor temperature.

16. **MINIMUM FLOOR TEMPERATURE**

This function is used to set the minimum pre-set floor temperature.

17. **FLOOR TEMPERATURE HYSTERESIS**

It defines the pre-set floor temperature tolerance.

18. **"FL CAL" FLOOR TEMPERATURE CALIBRATION**

it should be performed if the floor temperature measured by the sensor differs from the actual temperature.

19. **SERVICE MENU**

Certain controller functions are secured with a code. They can be found in the service menu. In order to introduce changes in the service menu settings, enter the code – 215 (use arrows to select 2, hold the Menu button and follow in the same way with the remaining digits of the code).

- **Heating/cooling mode (HEAT/COOL)** – this function enables the user to select the desired mode. If a floor sensor is used, the heating mode should be selected (HEAT).

- **Minimum pre-set temp. –** this function enables the user to set the minimum pre-set temperature.
- **Maximum pre-set temp. –** this function enables the user to set the maximum pre-set temperature.
- **Optimum start –** this function displays the calculated value of temperature increase per minute.
    - **— –** optimum start has not been calibrated
    - **OFF –** no calibration since the last start
    - **FAIL –** calibration attempt failed but optimum start may work on the basis of the last successful calibration
    - **SCS –** calibration was successful
    - **CAL –** calibration in progress
    - **Factory settings –** Def – in order to restore factory settings, select the Def function and hold the MENU. Next, select YES to confirm.

PRE-SET TEMPERATURE
It is possible to adjust the pre-set temperature directly from the room regulator using the buttons . The regulator switches then to manual mode. In order to confirm changes, press the MENU button.

TECHNICAL DATA

EU-F-4z v2	
Power supply	230V ± 10% / 50Hz
Maximum power consumption	0,5W
Range of humidity measurement	10 ÷ 95% RH
Range of room temperature setting	5ºC ÷ 35ºC

EU-MW-3	
Power supply	230V ± 10% / 50Hz
Operating temperature	5°C ÷ 50°C
Maximum power consumption	<1W
Potential-free cont. nom. out. load	230V AC / 0,5A (AC1) */24V DC / 0,5A (DC1) **
Operation frequency	868MHz
Maximum transmitting power	25mW

- **AC1 load category:** single-phase, resistive or slightly inductive AC load.
- **DC1 load category:** direct current, resistive or slightly inductive load.

EU declaration of conformity

Hereby, we declare under our sole responsibility that the EU-F-4z v2 room regulator manufactured by TECH, 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, 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 art. 3.1a Safety of use
- PN-EN 62479:2011 art. 3.1 a Safety of use
- ETSI EN 301 489-1 V2.2.3 (2019-11) art.3.1b Electromagnetic compatibility
- ETSI EN 301 489-3 V2.1.1:2019-03 art.3.1 b Electromagnetic compatibility
- ETSI EN 300 220-2 V3.2.1 (2018-06) art.3.2 Effective and coherent use of radio spectrum
- ETSI EN 300 220-1 V3.1.1 (2017-02) art.3.2 Effective and coherent use of radio spectrum

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Documents / Resources

	TECH CONTROLLERS EU-F-4z v2 Room Regulators for Frame Systems [pdf] User Manual EU-F-4z v2 Room Regulators for Frame Systems, EU-F-4z v2, Room Regulators for Frame Systems, Regulators for Frame Systems