

TECH TECH CONTROLLERS

USER MANUAL

EU-296

EN



www.tech-controllers.com

EU DECLARATION OF CONFORMITY

Hereby, we declare under our sole responsibility that **EU-296** manufactured by TECH STEROWNIKI, 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.


PAWEŁ JURA


JANUSZ MASTER

Wieprz, 09.12.2021

I. Use

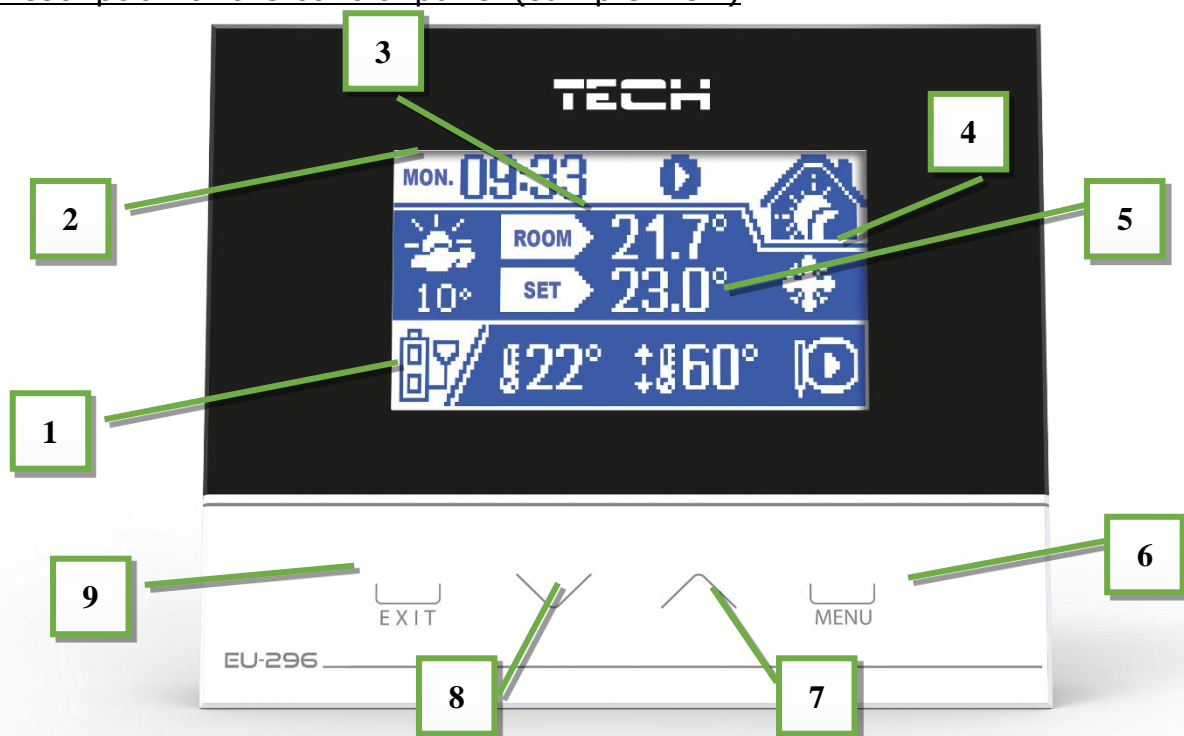
The EU-296 universal room thermostat is designed to control and monitor room temperatures and temperatures in central heating and hot water systems. Additionally, the device can run a weekly or day/night heating program, and be operated with two mixing valves (using EU-61 control modules). The device features an alarm clock, many useful settings and a parental lock to protect against unwanted changes to settings. By using the thermostat you will be able to comfortably control the temperature in your home (central heating system) and the temperature of hot water directly from your flat/house without having to walk down to the boiler room.

An easy to read large backlit graphic display makes it easy to read and modify parameters on the thermostat. Other advantages of the thermostat include a design that makes it easy to mount the device on the wall, attractive appearance and reasonable pricing.

The EU-296 room thermostat works with TECH's RS communications type controller.

II. Principle of operation

Description of the control panel (sample view)



1. C.H. PARAMETERS SECTION (from left: SET AND CURRENT TEMP., C.H. PUMP OPERATION)
2. SET DAY OF WEEK, TIME
3. CURRENT ROOM TEMPERATURE
4. HEATED UP / UNDER-HEATED STATUS INFORMATION
5. PRESET ROOM TEMPERATURE
6. ENTER MENU, CONFIRM SETTINGS
7. Main screen: EDIT ROOM TEMPERATURE; menu: MOVE RIGHT, edit: PLUS
8. Main screen: EDIT ROOM TEMPERATURE; menu: MOVE LEFT, edit: MINUS
9. EXIT

Description of graphic symbols

- > operation modes of room thermostat



constant temperature,



- weekly operation



- day/night,

- > operation modes of pumps



- house heating,



- boiler priority,



- pumps in parallel,



- try summer mode

- > room heated up status information

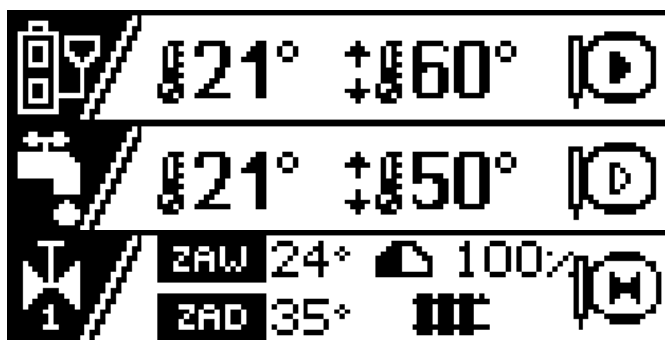


- room temperature set-point reached (room heated up),



- room temperature set-point not reached (room under-heated),

- > parameters section view



- central heating view,

- hot water view,



- valve view (1 or 2).

The control functions are operated by pressing the exit, *plus*, *minus* and OK (menu) buttons. While in the main screen view you can quickly change screen section views by pressing the <plus> and <minus> keys (to switch between central heating and hot water temperatures and valve parameters). To set your desired (setpoint) room temperature use the <+> and <-> keys.

From the main screen view the user can access and view:

- ✓ current time and day of week,
- ✓ room thermostat operation mode,
- ✓ pump operation mode,
- ✓ current and set temperature in the room,
- ✓ outdoor temperature*,
- ✓ current and set temperature for selected pump or valve*
(depending on the selected view),
- ✓ degree of opening of mixing valve*,

*active only when the boiler controller is operated with the EU-61 valve module.

You can turn on  /off  the child lock (symbol displayed on the screen) by holding down the <ok> key for about 3 seconds in the main screen view. If you hold down the <ok> key in the menu list view you will exit the current view and move to the main screen view. You can enter the thermostat menu by pressing the *MENU* (*ok*) key for a short time. The following sections present the various menu functions

of the thermostat.

To exit the menu use the plus/minus buttons for menu items (*Exit*) and confirm your selection with the OK button or hold down this button for a few seconds.

Note: Any changes in temperature set-points, time or other settings on the room thermostat or the boiler controller will cause the new settings to appear on both devices.

II.a) Thermostat menu

During normal operation of the thermostat the **graphic** display shows the *main page*. After pressing the **MENU** button the user can access the individual functions of the controller.

II.b) Description of controller functions

1. PRESET TEMPERATURE FOR VALVE #1 (-#4)

This feature allows you to change the temperature set-point of the mixing valve installed, which can be adjusted within the range supported by the boiler controller. If no mixing valves are used this function will not be displayed.

2. PRESET CENTRAL HEATING TEMPERATURE

This feature allows you to change the boiler temperature set-point (C.H.), which can be adjusted within the range supported by the boiler controller.

3. PRESET HOT WATER TEMPERATURE

This feature allows you to change the boiler temperature set-point (HW), which can be adjusted within the range supported by the boiler controller. If the operation mode is set to home heating this function will not be displayed.

4. THERMOSTAT OPERATION MODE

This function is used to choose one of the three operation modes that are available for the room thermostat:

- Constant temperature (in this mode the thermostat maintains a set temperature throughout the day and night),

- Weekly operation (in this mode the thermostat runs a weekly program as per settings previously entered by the user).

- Day and night mode (the thermostat maintains pre-set day and night temperatures during selected time intervals as per settings entered by the user).

Note: To change settings for any mode, select Menu>Ustawienia trybów pracy (Menu>Settings for operation modes).

5. THERMOSTAT HYSTERESIS

The item room temperature hysteresis allows for a tolerance for pre-set temperatures to be introduced to prevent unwanted oscillations in the event of minimal temperature fluctuations between 0.2 ÷ 4°C.


For example, when the temperature set-point is 23 ° C and the hysteresis value is set to 1°C the room thermostat will indicate room underheating after the temperature in your home drops to 22°C.

6. OPERATION MODE SETTINGS

This feature allows you to edit the settings of each operation mode of the thermostat:

- Constant temperature. You can enter one temperature set-point between 5 and 40°C for the whole day and night.
- Weekly operation. For each day of the week daily temperature deviations can be programmed with optimal values for the household members (deviation from room temperature set-point). For each day of the week you can enter any deviation with an accuracy of one hour from the main temperature set-point in a 24 hour day and night cycle.

First, select the day of the week on which an hourly deviation is to be set and then use the <+> and <-> keys to set the desired temperature deviation for your selected hour. To change other hourly times make your selection using the *left/right* keys and then set the next value of deviation.

To make settings easier to enter you can copy a set deviation value for the next hours by holding down the <OK> key and pressing the <right><left> buttons to copy the settings when the symbol  appears in the upper right corner.

Setting multiple time slots for each day of the week can be a tedious tasks. To make it easier the system will allow you to copy your 24 hour settings into the other days. When leaving the 24 hour deviations setup of any day of the week you can copy the schedule onto other days.

Weekly programming helps reduce heating costs and ensures that your desired thermal comfort conditions can be maintained around the clock.

Day and night mode. This setting allows you to enter day and night temperatures for the thermostat to maintain. You can set the start times of the day and night periods by accessing *MENU>Ustawienia sterownika>Rozp. pory dziennej i nocnej* ("MENU>Controller Settings>Start of day and night periods.")

7. CONTROLLER SETTINGS

This feature allows you to optimally configure additional settings for the controller to meet your individual needs. The following settings are available:

- Key tones. This function allows you to turn on/off the audio tone of the keys that can be heard when you operate the thermostat.

- Start of the day and night periods. This setting specifies the time at which the day and night periods are to begin. This function is used both to set the times when *day and night* temperature modes are to change and to adjust the brightness of the screen backlight in all modes (see below).

- Brightness. With this function you can specify a percentage value for the brightness of the display backlight for the day and night periods (1 to 100%).

- Contrast. This setting allows you to adjust the display contrast.

- Date and time settings. You can set the current time and day of the week for the thermostat. If the time and day of the week was previously set in the boiler controller it will be set automatically in the room thermostat.

- Sensor calibration. The sensor is calibrated during installation or after prolonged use of the thermostat if the room temperature displayed on the internal sensor deviates from the actual one. Adjustment range: -5 to +5 °C with an accuracy of 0.5 °C.

8. ALARM CLOCK

After switching on the alarm clock set the alarm time.

9. LANGUAGE

This feature allows you to enter language settings for the room thermostat.

III. Alarms

The EU-296 room temperature thermostat will indicate all alarms going off in the main controller of the central heating boiler. When an alarm is activated the room thermostat will sound a beep and the display will show the same message as that on the boiler controller. If the internal sensor suffers damage an alarm will be displayed saying "room sensor damaged".

Technical specifications

Setting range for room temperature	5°C : 40°C
Power supply voltage	12V DC
Power consumption	0,2W
Measurement error	+/- 0,5°C
Operating temperature	5°C : 50°C

VI. Assembly

The EU-296 room thermostat is to be connected to the host controller (mounted on the CH boiler) using a four-wire communication cable. The cable connections for both devices are shown in the diagram below.

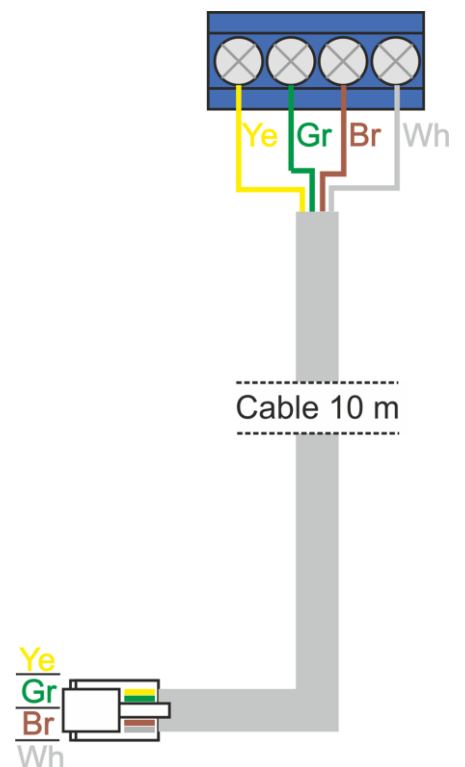
RJ12

Room thermostat terminal block

Sequence of wires for connecting room unit:

- BI – white
- BR – brown
- ZI – green
- Ž – yellow

RJ12 plug connector for the central heating boiler controller





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.

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