



# TECH CONTROLLERS EU-M-7n Master Controller User Manual

[Home](#) » [TECH CONTROLLERS](#) » TECH CONTROLLERS EU-M-7n Master Controller User Manual 





## Contents

- 1 SAFETY
- 2 DESCRIPTION
- 3 HOW TO INSTALL THE CONTROLLER
- 4 HOW TO USE THE CONTROLLER
- 5 CONTROLLER FUNCTIONS
- 6 ALARMS
- 7 SOFTWARE UPDATE
- 8 TECHNICAL DATA
- 9 EU Declaration of conformity
- 10 Documents / Resources
  - 10.1 References
- 11 Related Posts

## 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 put in a different place, make sure that the user 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**

- A live electrical device! Make sure the device 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.



## **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 26.10. 2020. 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.

## **DESCRIPTION**

The EU-M-7n control panel is intended for cooperation with the EU-L-7e external controller. It enables the user to control the devices of the underfloor heating system.

The EU-M-7n offers the possibility of activating/deactivating a zone, changing the pre-set temperature in each zone and setting up schedules.

### **Functions offered by the controller:**

- Communication with the EU-L-7e controller (via RS cable)
- Displaying settings: date and time
- Parental lock
- Alarm clock
- Screensaver – possibility of uploading photos, a slide show
- Software update via USB
- Managing the settings of the remaining zones – pre-set temperatures, schedules, names etc.
- Possibility of introducing changes in global schedules

### **Controller equipment:**

- A glass panel
- A large, easy-to-read touch screen
- Flush-mountable



#### UWAGA

EU-M-7n Panel works only with main controller with software version above 3.x.x!

**WHITE**



**BLACK**



## HOW TO INSTALL THE CONTROLLER



#### WARNING

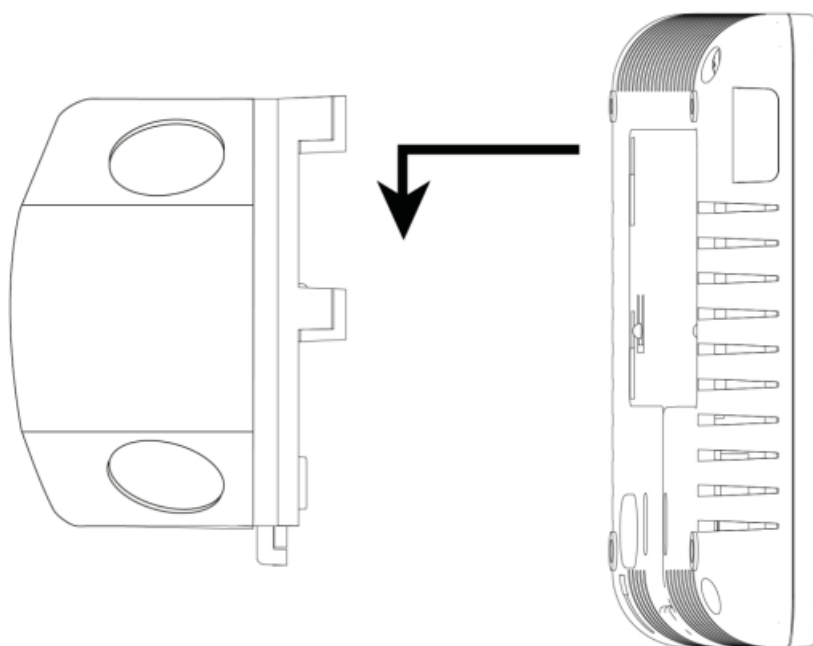
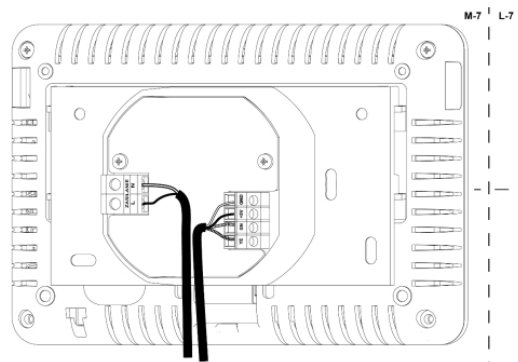
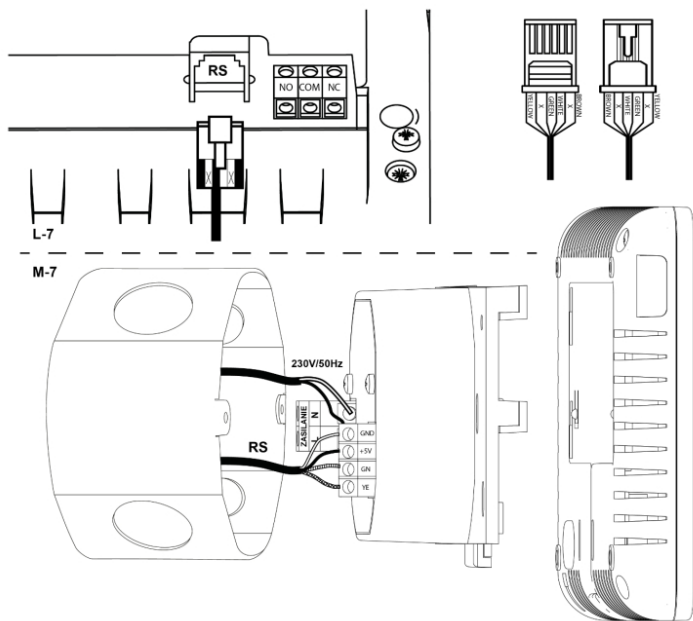
Risk of fatal electric shock from touching live connections. Before working on the controller switch off the power supply and prevent it from being accidentally switched on.



#### WARNING

Incorrect connection of wires may damage the controller!

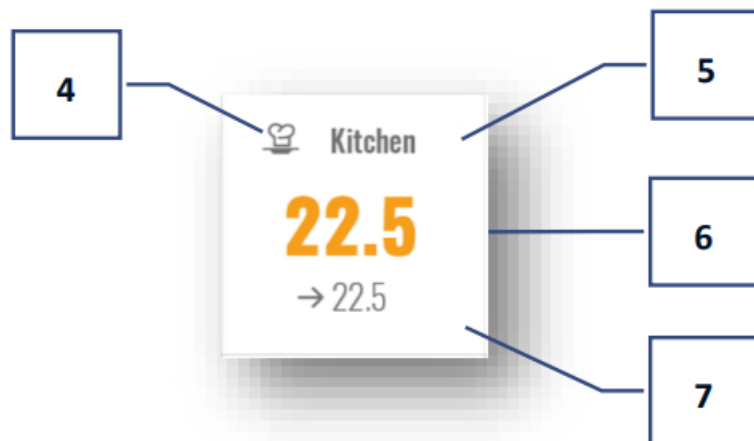
Use a four-core RS cable to connect the control panel to the EU-L-7e external controller (the cables are not included in the control panel set). The diagrams below illustrate correct connection:



## HOW TO USE THE CONTROLLER



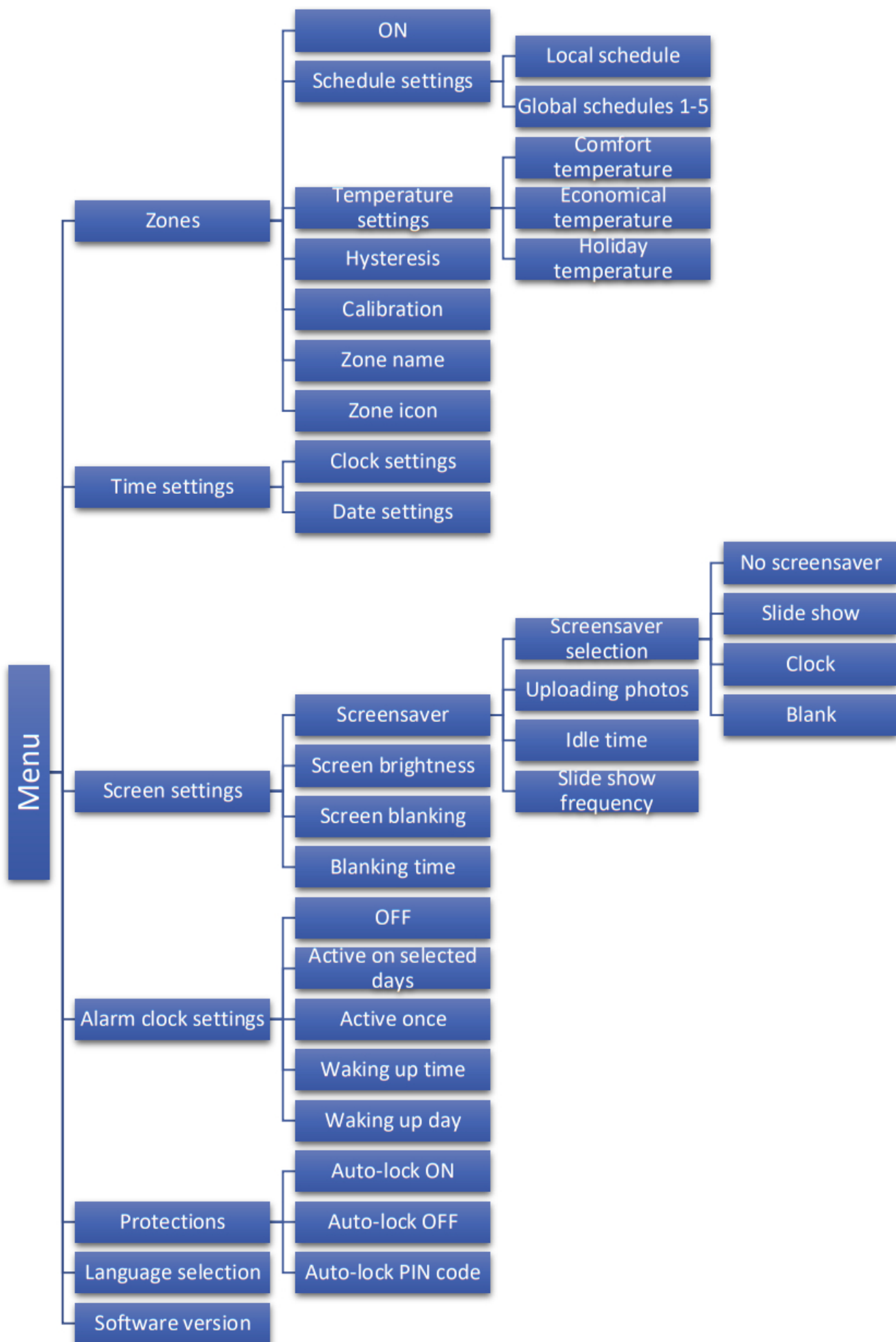
1. Enter the controller menu
2. Current date and time
3. Status of particular zones



4. Zone icon
5. Zone number or name
6. Current temperature in a zone
7. Pre-set temperature in a zone

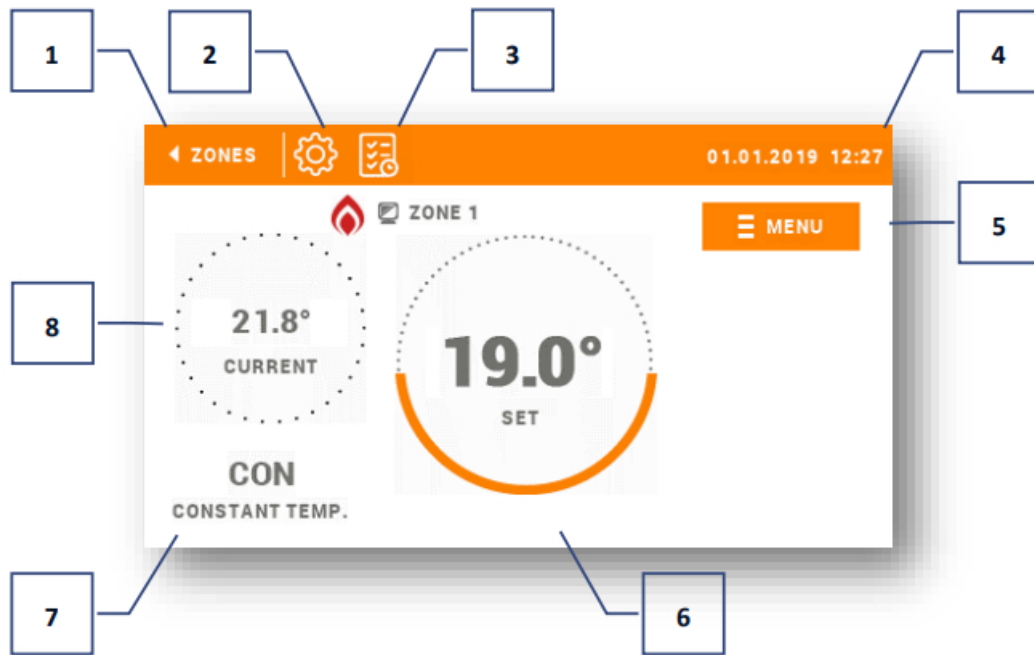
## CONTROLLER FUNCTIONS

### 1. BLOCK DIAGRAM – CONTROLLER MENU



## 2. ZONES

EU-M-7n is a master controller. it enables the user to edit most parameters of other zones. In order to edit a given zone parameters, tap on the area of the screen with the zone status information. The display shows the basic zone editing screen:



1. Return to the main menu
2. Change the operation mode
3. Operation mode of the controller – pre-set temperature according to the schedule. Tap here to open up schedule selection screen.
4. Current time and date
5. Enter the zone menu – tap on this icon to see further menu options: ON, Schedule settings, Temperature settings, Hysteresis, Calibration, Zone name and Zone icon.
6. Pre-set zone temperature – tap here to adjust the value.
7. Current operation mode
8. Current zone temperature

## 2.1. SCHEDULE SETTINGS

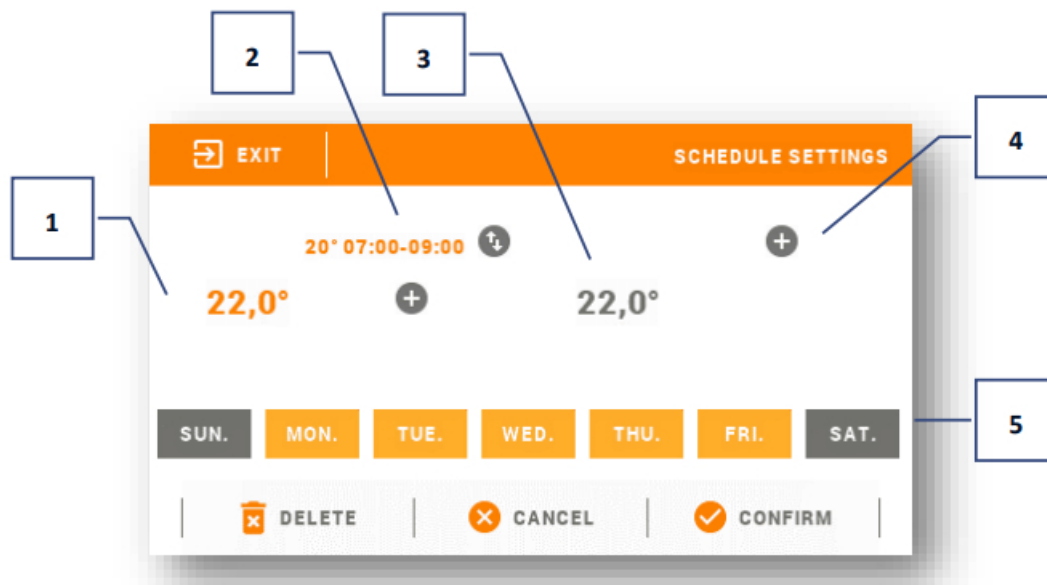
The EU-M-7n control panel offers two types of schedules – local and global (1-5).

- Local schedule is assigned only to the controlled zone. Any changes introduced in the local schedule apply only in this particular zone.
- Global schedules are available in all zones – in each zone only one such schedule may be activated. The global schedule settings apply automatically in all remaining zones where a given global schedule is active.

**How to edit a schedule:** After entering the schedule editing screen, the schedule may be adjusted to the user's needs. The settings may be configured for two separate groups of days – the first group marked with orange colour, the other one with grey colour.

It is possible to assign up to 3 time periods with separate temperature values to each group. Outside these periods of time, a general pre-set temperature will apply (its value may also be edited by the user).





1. General pre-set temperature for the first group of days (orange colour – in the example above the colour is used to mark working days Monday-Friday). The temperature applies outside the time periods defined by the user.
2. Time periods for the first group of days – the pre-set temperature and the time limits. Tapping on a given period opens up an editing screen.
3. General pre-set temperature for the second group of days (grey colour – in the example above the colour is used to mark Saturday and Sunday).
4. In order to add new periods, tap on „+“.
5. Days of the week – orange days are assigned to the first group whereas grey days are assigned to the second one. In order to change the group, tap on a selected day.

The time period editing screen enables the user to adjust the pre-set temperature and the time limits of the period with the accuracy of 15 minutes. If the time periods overlap, they are marked with red colour. Such settings cannot be saved.

## 2.2. TEMPERATURE SETTINGS

This function enables the user to define the temperature outside the schedule. The user may choose from comfort temperature, economical temperature and holiday temperature.

## 2.3. HYSTERESIS

This function is used to define tolerance of the pre-set temperature in order to prevent undesired oscillation in case of small temperature fluctuation (within the range of 0 ÷ 5°C) with the accuracy of 0,1°C.

**Example:** when the pre-set temperature is 23°C and the hysteresis is set at 0,5°C, the zone temperature is considered too low when the room temperature drops to 22,5°C.

## 2.4. CALIBRATION

Room sensor calibration should be performed while mounting or after the controller has been used for a long time, if the external temperature displayed differs from the actual temperature. Calibration setting range is from -10°C to +10°C with the accuracy of 0,1°C.

## 2.5. ZONE NAME

This function enables the user to assign name to a given zone.

## 2.6. ZONE ICON

This function enables the user to select an icon which will be displayed next to the zone name.

## 3. TIME SETTINGS

This function enables the user to set the time and date which will be displayed on the main screen (if auto time has been selected in the EU-L-7e controller and it is connected to the Internet via a WiFi module, the EU-M-7n panel will display current time automatically).

#### **4. SCREEN SETTINGS**

Tap on this icon to adjust the screen settings to individual needs. It is possible to adjust the following parameters: screensaver, screen brightness, screen blanking and blanking time.

##### **4.1. SCREENSAVER**

The user may activate a screensaver which will appear after a pre-defined time of inactivity. The following screensaver settings may be configured by the user:

###### **4.1.1. SCREENSAVER SELECTION**

After tapping on this icon, the user may edit the following parameters:

- No screensaver – the screen blanking function is disabled.
- Slide show – the screen displays the photos which have been uploaded via USB.
- Clock – the screen displays a clock
- Blank – after the pre-defined time of inactivity the screen goes blank.

###### **4.1.2. UPLOADING PHOTOS**

Before importing the photos to the controller memory they must be processed using ImageClip (the software may be downloaded from [www.techsterowniki.pl](http://www.techsterowniki.pl)).

After the software has been installed and started, load the photos. Select the area of the photo which will be displayed on the screen. The photo may be rotated. After one photo has been edited, load the next one. When all the photos are ready, save them in the main folder of the flash drive. Next, insert the flash drive into the USB port and activate Picture import function in the controller menu.

It is possible to upload up to 8 photos. When uploading new photos, the old ones are automatically removed from the controller memory.

###### **4.1.3. IDLE TIME**

This function is used to define the time after which the screensaver is activated.

###### **4.1.4. SLIDE SHOW FREQUENCY**

This option is used to set the frequency at which the photos are displayed on the screen if the Slide show is activated.

##### **4.2. SCREEN BRIGHTNESS**

This function enables the user to adjust the screen brightness to current conditions in order to improve its quality.

##### **4.3. SCREEN BLANKING**

The user may adjust the brightness of blank screen.

##### **4.4. BLANKING TIME**

This function enables the user to define the time of inactivity after which the screen goes blank.

#### **5. ALARM CLOCK SETTINGS**

This submenu is used to activate and edit the alarm clock parameters (time and date). The alarm clock may be activated once or on selected days of the week. It is also possible to disable this function.

#### **6. PROTECTIONS**

Tapping on Protections icon in the main menu opens up a screen enabling the user to configure the parental lock function. When this function is activated by selecting Auto-lock ON, the user may set the PIN code necessary to access the controller menu.



#### **NOTE**

0000 is the default PIN code.

#### **7. LANGUAGE SELECTION**

This function enables the user to select the language version of the controller menu.

#### **8. SOFTWARE VERSION**

When this option is selected, the screen displays the controller manufacturer's logo and the current software version.

### **ALARMS**

The EU-M-7n control panel signals all alarms which occur in the EU-L-7e external controller. In the event of alarm, the control panel sends a sound signal and the display shows the same message as the external controller.

## 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.

## TECHNICAL DATA

Power supply	230V $\pm$ 10% / 50Hz
Power consumption	1,5W
Operation temperature	5°C $\div$ 50°C
Acceptable relative ambient humidity	< 80% REL.H

The pictures and diagrams are for illustration purposes only. The manufacturer reserves the right to introduce some changes.

## EU Declaration of conformity

Hereby, we declare under our sole responsibility that the EU-M-7n control panel manufactured by TECH, 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 of 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.**

Wieprz, 26.10.2020

  
**PAWEŁ JURA**

  
**JANUSZ MASTER**

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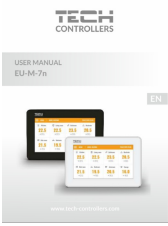
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## Documents / Resources

	<p><a href="#">TECH CONTROLLERS EU-M-7n Master Controller</a> [pdf] User Manual EU-M-7n Master Controller, EU-M-7n, EU-M-7n Controller, Master Controller, Controller</p>
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## References

- [TECH Sterowniki - Ciepło w Twoim domu](#)

Manuals+.