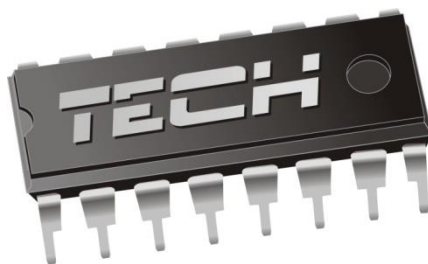


Controllers

User's manual EU-21 BUFFER

EN





EU Declaration of conformity

Hereby, we declare under our sole responsibility that **EU-21 BUFFER** 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 February 26, 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 Journal of Laws L 96, of 29.03.2014, p. 357)**,
- Directive 2014/30/EU of the European Parliament and of the Council of February 26, 2014 on the harmonisation of the laws of Member States relating to **electromagnetic compatibility** (EU Journal of Laws 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,
- the regulation by the Ministry of Economy of May 8, 2013 concerning the essential requirements as regards *the restriction of the use of certain hazardous substances in electrical and electronic equipment*, implementing provisions of **ROHS directive 2011/65/EU**.

For compliance assessment, harmonized standards were used:
PN-EN 60730-2-9:2011, PN-EN 60730-1:2016-10.


PAWEŁ JURA


JANUSZ MASTER

WŁAŚCICIELE TECH SP.J.

Wieprz. 06. 07. 2017

1. 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 and device 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 device. If the device is to be sold or put in a different place, make sure that the user's manual is kept 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 (connecting cables, installing the device etc.)
- The device should be installed by a qualified electrician.
- Before starting the controller, the user should measure the earthing resistance of the electric motors as well as the insulation resistance of the cables.
- The regulator should not be operated by children.

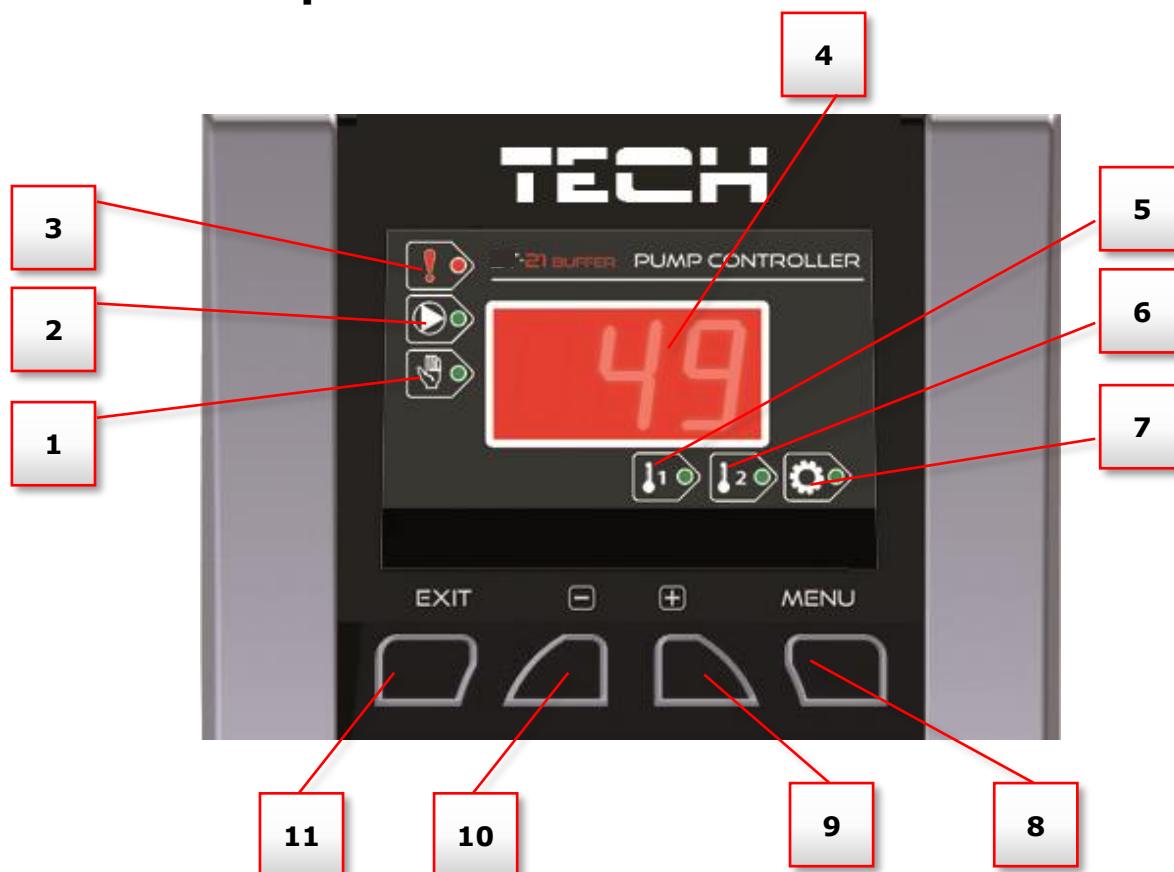
NOTE

- The controller may be damaged if struck by 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 the condition of its cables. The user should also check if the controller is properly mounted and clean it if dusty or dirty.



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 a selected collection point for recycling of waste generated from electronic and electrical equipment..

I. Description Of The Controller



1. Diode – signals active manual operation
2. Diode – signals the device's operation
3. Diode – signals an alarm
4. Current temperature of sensor T1 or T2
5. Diode – signals the reading of the current temperature value on the bottom sensor of buffer 1
6. Diode – signals the reading of the current temperature value on the bottom sensor of buffer 2
7. Diode – signals the review of the menu's options
8. Menu button – allows the user to enter the controller's menu, accept settings
9. PLUS button
10. MINUS button
11. EXIT button – allows the user to exit the controller's menu, cancel settings.

II. Principle Of Operation

The controller's task is to activate the device after the temperature drops below the insufficient heating threshold measured at the top part of the buffer (sensor T2), as well as to deactivate it after the reheating threshold measured in the bottom part of the buffer is reached (sensor T1). This prevents an unnecessary operation of the device, which allows the user to save electricity and extend the device's lifespan. As a result, its reliability increases and costs related to its operation are reduced.

The EU -21 BUFFER regulator is equipped with a system preventing too long pauses in the pump's operation during a longer stopover. The pump is activated for 1 minute approx. every 10 days.

III. Operating The Regulator

The user may change the sensors' temperatures view by pressing **the PLUS** button (temperature T1) and **the MINUS** button (temperature T2). After pressing **the MENU** button, the regulator will display the user's menu which may be navigated by pressing **PLUS** or **MINUS**. In order to select the marked function or the accept a change of setting, the user should confirm the selection by pressing **MENU**. In order to cancel the change of settings or leave the menu, the user should use **the EXIT** button. If the user holds **the EXIT** button on the main screen for 5 seconds, the stand-by mode is activated and the pump's power supply is disconnected.

The controller's user's **MENU** contains the following functions:

1. **Manual Operation**

In this function, the user may check whether the selected device is functional.



2. **Reheating Threshold**

This option is used to adjust the reheating threshold, measured in the bottom part of the buffer, the regulator will deactivate the device if it is reached.



3. **Insufficient Heating Threshold**

This option is used to adjust the insufficient heating threshold, measured at the top part of the buffer, the regulator will activate the device if it is reached.



4. **Factory Settings**

After this option is activated, all the controller's own settings adjusted by the user are lost and replaced by the settings saved by the manufacturer. From that moment, the user may adjust their own parameters once again.



Signaled alarms

☒ - Error of top sensor (T2),

☒ - Error of bottom sensor (T1)

NOTE:

If any of the alarms takes place, the controller will deactivate the device.

IV. Contact Output (additional device)

The controller may also cooperate with any external device activated on the basis of a contact/opening. The output of the additional device, when the pump is not operating, is in the open position, while the contact closes when the pump is activated.

V. Method Of Installation

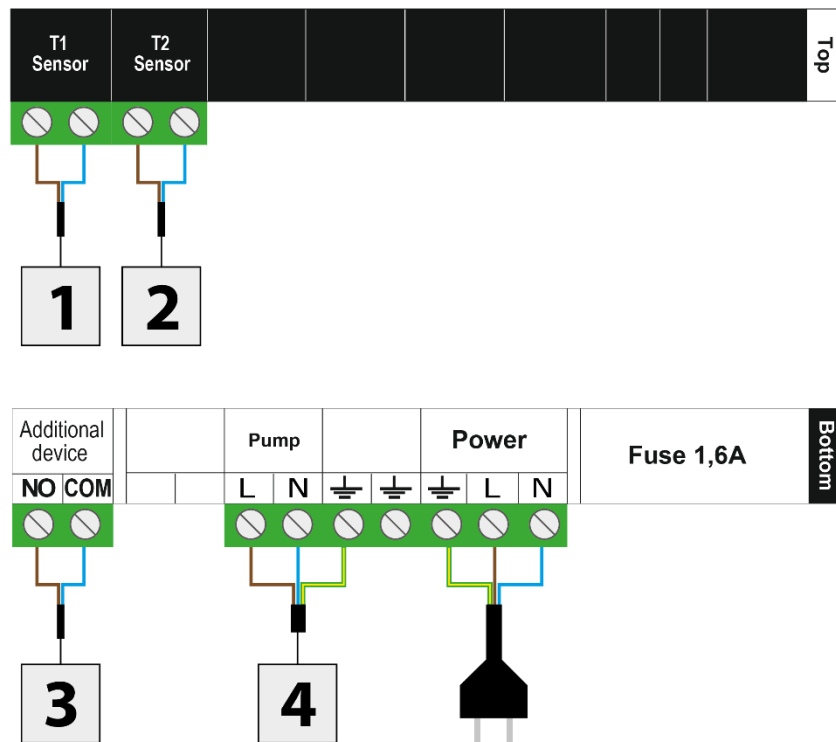
The device should be installed by a qualified electrician. The sensor should be mounted with the use of a cable tie and separated from external factors with the use of electrical tape. The device's power supply cable should be connected as follows: blue and brown - 230V, yellow - green (protective) should be connected to the mass.

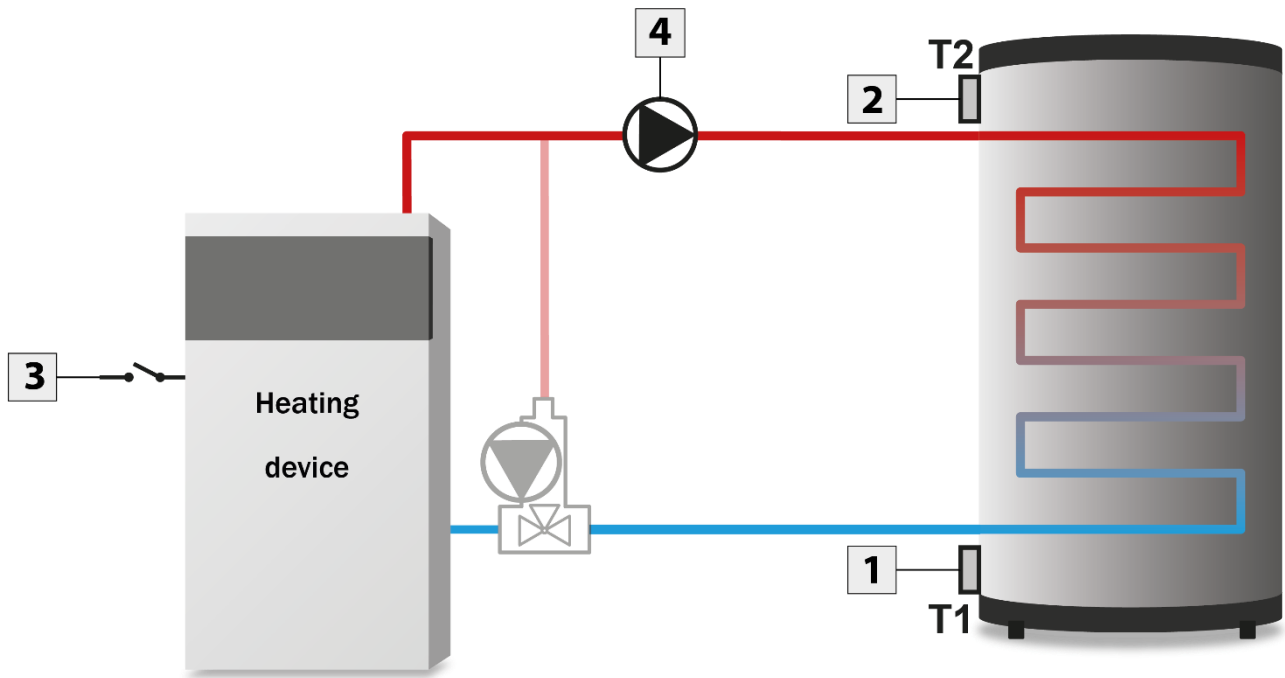
The distance between fixing openings is 86.5 mm.

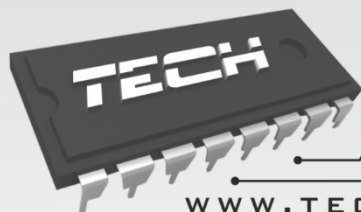
Item	Specification	
1	Power supply	230V ±10% /50Hz
2	Maximum power consumption	2W
3	Ambient temperature	5÷50
4	Pump max. output load	0,5A
5	Temperature measurement accuracy	1°C
6	Sensor thermal resistance	-30÷99°C
7	Fuse	1,6A

The regulator is protected with a tubular fuse insert, WT 1.6A.

Installation







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