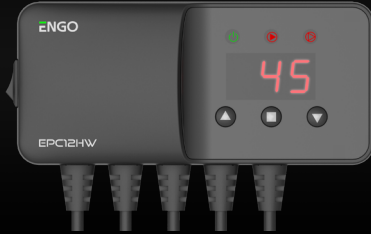


EPC12HW | Controller for CH pump and HW pump



Quick Guide



Ver. 5.3
Release date: VII 2024
Soft: v2.1

Producer:

Engo Controls sp. z o.o. sp. k.
4 Rolna St.
43-262 Kobielice
Poland

www.engocontrols.com

Introduction

The controller is designed to control CH and HW pumps. CH pump turns ON when boiler temperature exceeds user setpoint temperature. HW pump work depends on the temperature difference. HW pump turns on when boiler temperature exceeds the temperature of the tank by hysteresis value set by user. HW pump works until the temperature of the boiler and the temperature of the tank will be equal or setpoint temperature of the tank will be achieved.

Product Compliance

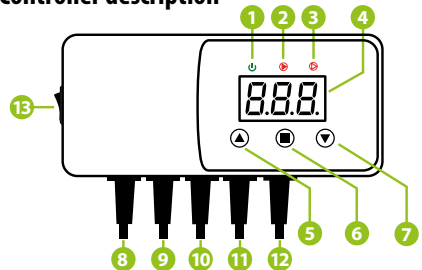
This product complies with the essential requirements and other relevant provisions of the following EU Directives: EMC 2014/30/EU, RoHS 2011/65/EU.

Safety Information

Use in accordance to national and EU regulations. Use the device as intended, keeping it in dry condition. Product for indoor use only. Installation must be carried out by a qualified person in accordance to national and EU regulations.

Before carrying out any activities related to the power supply (connecting wires, device installing etc.), make sure that main power is not connected to the controller! Incorrect wiring connections may cause device damage.

Controller description

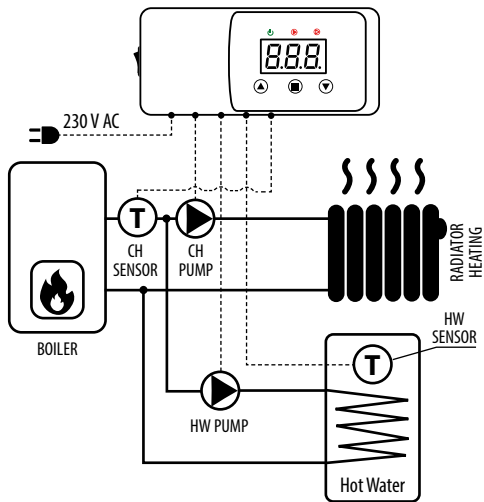


- | | |
|---------------------------------------------|---------------------------------------------|
| 1. Power supply indicator | 7. Decreasing setpoint temperature or value |
| 2. CH pump operation indicator | 8. Controller power supply |
| 3. HW pump operation indicator | 9. CH pump power supply |
| 4. Display | 10. HW pump power supply |
| 5. Increasing setpoint temperature or value | 11. HW temperature sensor |
| 6. Menu button | 12. CH temperature sensor |
| | 13. ON/OFF power supply switch |

Technical specification

Power supply	230 V / 50Hz
Max load of the CH pump output	3 (1) A
Max load of the DHW pump output	3 (1) A
Temp. measurement range	0 – 99°C
Setpoint temp. range for CH	5 – 80°C
Setpoint temp. range for DHW	20 – 80°C
Sensor temp. range	-10 – 120°C
CH sensor cable lenght	1,5m
DHW sensor cable lenght	3m
Dimension [mm]	155 x 70 x 39

Wiring diagram



Controller operation

Hysteresis and setpoint temperatures for CH and HW pumps can be changed by pressing the **■** button (menu option). On the display will appear flashing letter „C“, „U“, or „H“ and at this point we can change the desired setpoint temperatures using **▲** or **▼** buttons. After few seconds controller will go itself into operating mode and display the current temperature.

C – activation temperature of the CH pump above the set value (setting range 5-80°C).

U – maximum reservoir temperature

(deactivates the DHW pump above the set value, setting range 20-80°C).

H - hysteresis of switching on the HW pump (setting range 5-30°C).

P Function (priority)

With the priority enabled, the pumps are prioritized. HW pump turns on firstly and then, after reaching setpoint temperature of the HW tank - CH pump starts to work. With the priority turned off pumps are working independently without priority for the HW pump.

To activate priority, press and hold **■** button until the „P“ and „L“ letters will appear on the display. Use **▲** or **▼** buttons to select „P“ and then confirm your selection with **■** button. Use **▲** or **▼** buttons to activate (ON) or deactivate (OFF) priority function. Confirm the selection with **■** button.

L function (summer mode)

This function deactivates CH pump. Only HW pump is running and CH pump will turn on only when boiler reaches 90°C temperature - protecting function will protect boiler against overheating.

To activate summer mode, press and hold **■** button until the „P“ and „L“ letters will appear on the display. Use **▲** or **▼** buttons to select „L“ and then confirm your selection with **■** button. Use **▲** or **▼** buttons to activate (ON) or deactivate (OFF) summer mode. Confirm the selection with **■** button.

Manual mode

Manual control of the CH and HW pump depends on the operation mode and safety rules in the central heating phase (overheating). Holding down the **■** and **▲** buttons will enable / disable the central heating pump for continuous operation. Holding down the **■** and **▼** buttons will enable / disable the hot water pump for continuous operation. The hot utility water pump turns off always after reaching the maximum temperature of the reservoir or until the temperatures are equal.

Tank temperature preview

Tank temperature preview is available on pressing the **▼** button. After a few seconds, the controller will return to displaying the boiler temperature.

Histeresis

This is the difference between setpoint temperature of the pump start and setpoint temperature of the pump stop. For example:

1. For the central heating system, the controller has a constant 2°C hysteresis. After setting the temperature in the „C“ parameter, eg at 30 °C, the pump will be turned on after exceeding 30 °C, and it will be turned off when the temperature drops below 28 °C.
2. In the HW system, after setting the temperature in the „U“ parameter to 50 °C, the H.W pump will be turned off when the temperature exceeds 50 °C. However, it will be activated when the temperature drops below the „U-H“ value.

Additional functions

Controller has an „anti-stop“ function which protects pump against lime scale when there is no heating season. Pump is turned on every 14 days for 15 seconds.

An additional protection is the frost protection function, which runs pump permanently when temperature on the sensor drops below 5°C.

Alarm

The controller is equipped with an acoustic alarm signaling:

- Too high temperature on the boiler 90 °C.
- Short circuit in the CH sensor

Error Code

- E1 - short circuit in the CH sensor
- E2 - broken CH sensor
- E3 - short circuit in HW sensor
- E4 - broken HW sensor

PLEASE NOTE!

If the E1 or E2 error is displayed, the CH pump works all the time until the fault is removed.