

Controller for C.H. pump and H.W. pump Model: PC12HW



Manual

PRODUCER:
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Introduction

The PC12HW controller is designed to control C.H. and H.W. pumps. C.H. pump turns ON when boiler temperature exceeds user setpoint temperature. H.W. pump work depends on the temperature difference. H.W. pump turns on when boiler temperature exceeds the temperature of the tank by hysteresis value set by user. H.W. 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

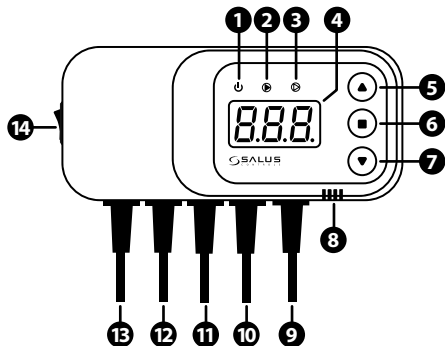
This product complies with the essential requirements and other relevant provisions of the following EU Directives: EMC 2014/30/EU, RoHS 2011/65/EU.

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.

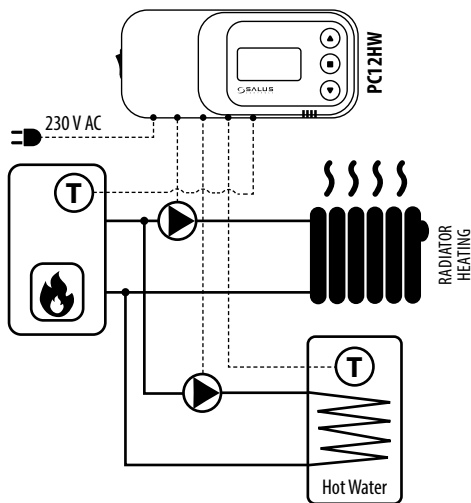
Before carrying out any activities related to the power supply (connecting wires, device installing etc.), make sure that main power is not connected to the controller! Incorrect wiring connections may cause device damage.

Controller description



- | | |
|---|--------------------------------|
| 1. Power supply indicator | 8. Sound alarm |
| 2. C.H. pump operation indicator | 9. C.H. temperature sensor |
| 3. H.W. pump operation indicator | 10. H.W. temperature sensor |
| 4. Display | 11. H.W. pump power supply |
| 5. Increasing setpoint temperature or value | 12. C.H. pump power supply |
| 6. Menu button | 13. Controller power supply |
| 7. Decreasing setpoint temperature or value | 14. ON/OFF power supply switch |

Wiring diagram



Controller operation

Hysteresis and setpoint temperatures for C.H. and H.W. pumps can be changed by pressing **⏸** 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** – above this temperature C.H. pump will be turned on
- U** – above this temperature H.W. pump will be turned off
- H** – H.W. pump will be turned on when H.W. sensor temperature will detect lower temperature than „U-H“

P Function (priority)

With the priority enabled, the pumps are prioritized. H.W. pump turns on firstly and then, after reaching setpoint temperature of the H.W. tank - C.H. pump starts to work. With the priority turned off pumps are working independently without priority for the H.W. 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 C.H. pump. Only H.W. pump is running and C.H. 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 C.H. and H.W. 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 is available on pressing the **⏪** button. After a few seconds, the controller will return to displaying the boiler temperature.

Histeresis

It is the temperature difference between turning the pump on and off. For example:

1. For the central heating system, the controller has a constant 2-step 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 H.W. 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.

Full error list:

- E1** - short circuit in the C.H. sensor circuit or the temperature exceeded 99 °C
- E2** - broken C.H. sensor
- E3** - short circuit in broken H.W. sensor
- E4** - broken H.W. sensor

E3 and E4 errors are visible after pressing the **⏪** button.

PLEASE NOTE!

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

Technical specification

Power supply	230 V / 50Hz ±10%	
Power consumption	2 W	
Ambient temperature	-10 to 50°C	
Max load of C.H. pump and H.W. pump	6 A each	
Temperature measurement range	0 to 99°C	
Setpoint temperature range	C.H.	5 to 80°C
	H.W.	20 to 80°C
Sensor temperature range	-10 to 120°C	
Sensor cable length	C.H.	1,2 m
	H.W.	3 m
Adjustable H.W. tank hysteresis	5 to 30°C	