COMPUTHERM WPR-100GC

Pump controller with wired temperature sensor

Operating Instructions

GENERAL DESCRIPTION OF THE PUMP CONTROLLER

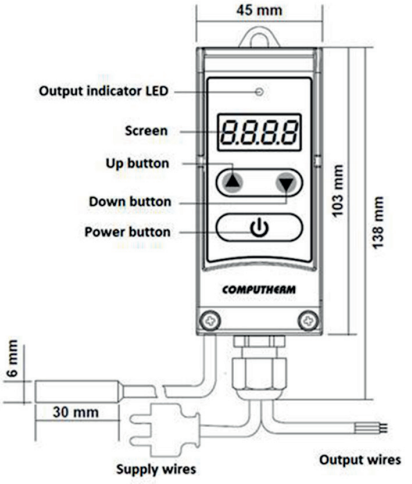
The pump controller uses its wired heat sensor and the pipe sleeve immersed into the pipeline/boiler to detect the temperature of the standing or flowing medium in it, switches the 230 V at the output at the set temperature. By the pre-mounted wires any circulating pump with a voltage of 230 V or other electrical appliance within the load capacity limits can be easily controlled.

The pump controller is responsible for turning the pump on and off at the set and measured temperature, so it only operates when it is necessary. Intermittent operation saves significant energy and increases pump life and reduces operating costs. Its digital display allows easier and more accurate temperature measurement and adjustment than simple, traditional pipe thermostats, and makes it easier to change modes and settings.

The controller has several modes that makes it possible to use for manual and temperature-based control of the circulating pumps in heating and cooling systems. In case of temperature-based control the connected pump switches on/off according to set temperature and the switching sensitivity.

1. LOCATION OF THE DEVICE

It is recommended to place the pump controller near the heating / cooling pipe or boiler on which the control is based so that it is as close as possible to a maximum of 1.5 m from the pump to be controlled and the 230 V supply and at a maximum distance of 0.9 m from the selected temperature measuring point. Do not use a wet, chemically aggressive or dusty environment.



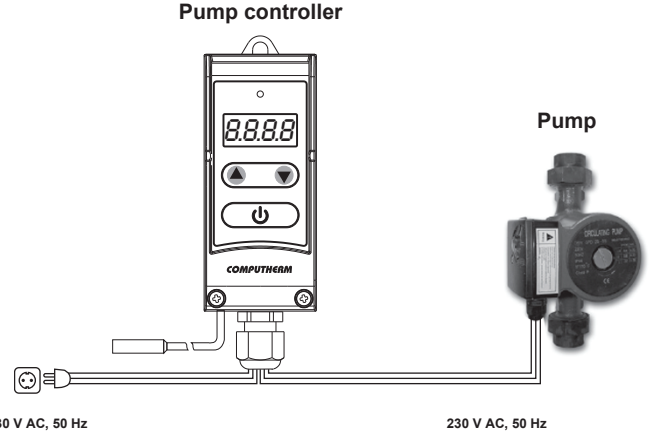
2. INSTALLATION OF THE DEVICE

Warning! The device must be installed/put into service by a competent person! Before commissioning make sure that neither the thermostat nor the appliance you want to connect to is connected to the 230 V mains. Modifying the device can cause electric shock or product failure.

Caution! The voltage 230 V is displayed when the output of the appliance is switched on. Make sure that the wires are properly connected and that that there is no risk of electric shock or short circuit!

Connect your device as follows:

- After placing the included immersion sleeve, place the heat sensor probe of the pump controller in it.
- Connect the 3 wires to the pump you want to control. The marking of the wires are based on the EU standard: brown - phase, blue - zero, green-yellow - earth.
- Connect the pump controller to the 230 V mains using the pre-mounted connector



Warning! *Always take into account the loadability of the controller relay when connecting (10 A (3 Inductive load)) and follow the instructions of the manufacturer of the pump which you would like to control.*

3. BASIC SETTINGS

After the appliance is connected, the measured temperature is shown on the display when the appliance is switched on. You can change the default settings as written below.

3.1. Change the mode of control (F1/F2/F3)

The device can be used in three modes, which are detailed as follows:

- **F1 (factory default) - Control of a heating system's circulating pump:** the output is turned on if the measured temperature is higher than the set temperature. The switching sensitivity is taken into account when switching.
- **F2 - Control of a cooling system's circulating pump:** the output is turned on if the measured temperature is lower than the set temperature. The switching sensitivity is taken into account when switching.
- **F3 - Manual mode:** regardless of the measured temperature, the output is permanently switched on/off according to the setting.

To switch between modes, press and hold the ⏻ button for 4 seconds. The currently selected F1, F2, or F3 value is displayed.

It is possible to switch between the modes By pressing the ▲ or ▼ buttons. To save this setting, wait after the last key press approx. 6 seconds. The display will then return to the state (on/off) from which you entered the mode selection menu after a few flashes and the settings will be saved.

3.2. Selection of switching sensitivity

The pump controller in modes F1 and F2 switches the output according to the measured temperature and switching sensitivity. In these modes, it is possible to change the switching sensitivity. By selecting this value, you can specify how much the device switches the connected pump on/off below/above the set temperature. The lower this value is, the more constant the temperature of the circulating fluid will be. The switching sensitivity can be set between ± 0.1 °C and ± 15.0 °C (in 0.1 °C steps). Except some special cases, we recommend setting ± 1.0 °C (factory default setting). See Chapter 4 for more information on switching sensitivity.

To change the switching sensitivity, when the pump control is switched ON, in F1 or F2 mode, press and hold the ▲ button for approximately 2 seconds until the „**d 1.0**" (factory default) appears on the display. By pressing the ▲ and ▼ buttons you can change this value in increments of 0,1 °C within the range of ±0,1 °C and ±15,0 °C.

To exit and save the setting, wait for approx. 4 seconds. The device then returns to its default state.

3.3. Pump protection function

ATTENTION! When using the pump protection function, it is recommended that the part of the heating system in which the pump to be controlled is installed has a heating circuit during the heating-free period in which the heating medium can flow freely at all times. Otherwise, using the pump protection function may damage the pump.

The pump protection function of the pump controller protects the pump from sticking during long periods of non-use. When the function is on, the output will turn on every 5 days for 15 seconds if the output has not been turned on in the last 5 days. During this time, „P ON" will appear on the display instead of the measured temperature.

To activate/deactivate the pump protection function, first switch off the appliance by pressing the button once (the display switches off), then press and hold the ⏻ button for 3 seconds. „POFF" (factory default setting) will appear on the display, indicating that the function is switched OFF. Press ▲ or ▼ to change between ON/OFF states. The ON status of the function is indicated by „P ON". To save the setting and exit the function setting, wait approx. 7 seconds. The device is then switched OFF.

3.4. Frost protection function

ATTENTION! The use of the frost protection function is only recommended if there is a heating circuit in the heating system in which the pump to be controlled is installed, even during the heating-free period, in which the heating medium can flow freely at all times. Otherwise, using the frost protection function may damage the pump.

The frost protection function of the pump controller, when switched ON, switches on the pump when the measured temperature drops below 5 °C and leaves it ON until the measured temperature reaches 5 °C again to protect the pump and the heating system. During this time, the display alternates between „FPON" and the measured temperature. When the frost protection function is activated, it operates in all three modes (F1, F2 and F3).

To switch the frost protection function ON/OFF, first switch off the appliance by pressing the button once (it switches OFF the display), then press and hold the ▼ button for 3 seconds. „FPOF" (factory default setting) will appear on the display, indicating that the function is deactivated. Press ▲ or ▼ to change between ON/OFF states. The ON status of the function is indicated by „FPON". To save the setting and exit the function setting, wait approx. 7 seconds. The device is then switched OFF.

4. OPERATION OF THE INSTALLED PUMP CONTROLLER

In operating modes F1 and F2, the pump controller controls the device connected to it (eg. a pump) based on the temperature it measures and the set temperature, taking into account the set switching sensitivity (factory default ±1.0 °C). This means that if the pump controller is set to F1 mode (heating system circulating pump control) and 40 °C, the 230 V will appear at the controller's output at a temperature above 41.0 °C at a switching sensitivity of ±1.0 °C (the pump connected to it switches ON) and at temperatures below 39.0 °C the output switches OFF (the pump connected to it switches OFF). In F2 mode, the output switches exactly the opposite way. You can adjust the set temperature with the ▲ and ▼ buttons.

In F3 mode, the output is permanently ON/OFF according to the setting, regardless of the measured temperature in F3 mode. You can change between ON and OFF by using the ▲ and ▼ keys.

During normal operation, the device always displays the currently measured temperature on its display in all three operating modes. The device indicates the ON/OFF status of its output by means of the LED above the display.

TECHNICAL DATA:

Adjustable temperature range:	5-90 °C (0.1 °C)
Temperature measurement range:	-19 to 99 °C (in 0.1 °C increments)
Switching sensitivity:	±0.1 to 15.0 °C (in of 0,1 °C increments)
Temperature measurement accuracy:	±1,0 °C
Power supply:	230 V AC; 50 Hz
Output voltage:	230 V AC; 50 Hz
Loadability:	max. 10 A (3 Inductive load)
Environmental protection:	IP40
Immersion sleeve connector size:	G=1/2”; Ø8x60 mm
Length of heat sensor wire:	approx. 0.9 m
Length of wires for electrical connection:	approx. 1.5 m
Max. ambient temperature:	80 °C (probe 100 °C)
Storage temperature:	-10 °C....+80 °C
Operating humidity:	5 % to 90 % without condensation

The ***COMPUTHERM WPR-100GC*** type pump controller complies with the requirements of standards EMC 2014/30/EU, LVD 2014/35/EU and RoHS 2011/65/EU.

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