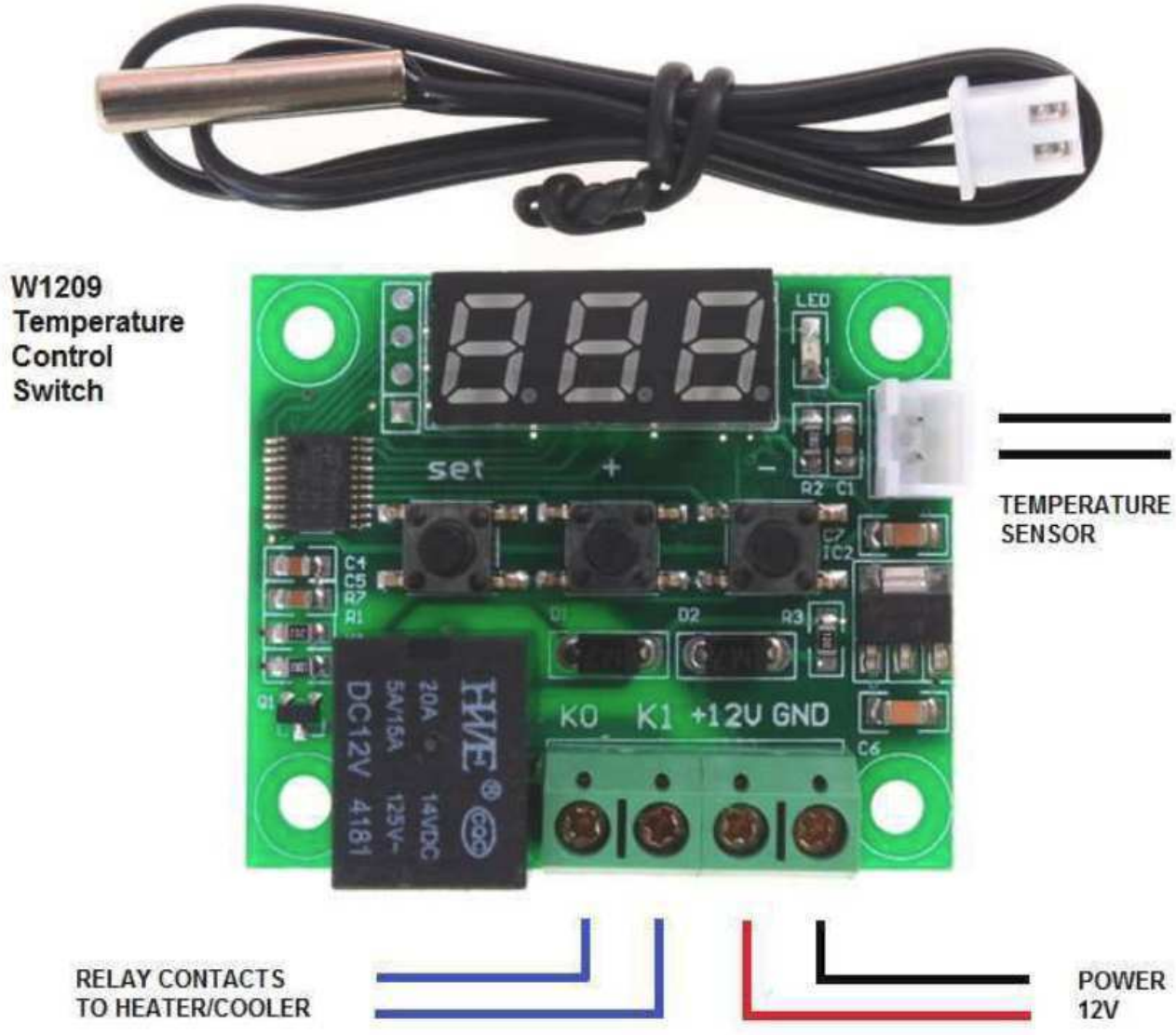
W1209 Temperature Control Switch



DESCRIPTION:

The W1209 is an incredibly low cost yet highly functional thermostat controller. With this module you can intelligently control power to most types of electrical device based on the temperature sensed by the included high accuracy NTC temperature sensor. Although this module has an embedded microcontroller no programming knowledge is required. 3 tactile switches allow for configuring various parameters including on & off trigger temperatures. The on board relay can switch up to a maximum of 250V AC at 5A or 16V DC at 5A. The current temperature is displayed in degrees Centigrade via its 3 digit seven segment display and the current relay state by an on board LED.

SPECIFICATION:

Temperature Control Range: -50 ~ 110 C
Resolution at -9.9 to 99.9: 0.1 C
Resolution at all other temperatures: 1 C
Measurement Accuracy: 0.1 C
Control Accuracy: 0.1 C
Refresh Rate: 0.5 Seconds
Input Power (DC): 12V
Measuring Inputs: NTC (10K 0.5%)
Waterproof Sensor: 0.5M
Output: 1 Channel Relay Output, Capacity: 250V AC/5A or 16V DC/20A (Depends on the relay)

Power Consumption
Static Current: <=35mA
Current: <=65mA

Environmental Requirements
Temperature: -10 ~ 60 C
Humidity: 20-85%

Dimensions
48mm x 40mm x 14mm

Settings Chart
Long press the “SET” button to activate the menu.

Code Description Range Default Value
P0 Heat C/H C
P1 Backlash Set 0.1-15 2
P2 Upper Limit 110 110
P3 Lower Limit -50 -50
P4 Correction -7.0 ~ 7.0 0
P5 Delay Start Time 0-10 mins 0
P6 High Temperature Alarm 0-110 OFF

Long pressing +- will reset all values to their default

Displaying the current temperature:
The thermostat will display the current temperature in oC by default. When in any other mode making no input for approximately 5 seconds will cause the thermostat to return to this default display.

Setting the trigger temperature:
To set the trigger temperature press the button marked 'SET'. The seven segment display will flash. You can now set a trigger temperature (in oC) using the '+' and '-' buttons in 0.1 degree increments. If no buttons are pressed for approximately 2 seconds the trigger temperature will be stored and the display will return back to the current temperature.

Setting the parameters:
To set any parameter first long press the 'SET' button for at least 5 seconds. The seven segment display should now display 'P0'. This represents parameter P0. Pressing the '+' or '-' buttons will cycle though the various parameters (P0 to P6). Pressing the 'SET' button whilst any of there parameters are displayed will allow you to change the value for that parameter using the '+' and '-' buttons (see below). When finished setting a parameter press the set button to exit that option. If no buttons are pressed for approximately 5 seconds the thermostat will exit the parameter options and will return back to the default temperature display.

Setting the cooling or heating parameter P0:
The parameter P0 has two settings, C and H. When set to C (default) the relay will energise when the temperature is reached. Use this setting if connecting to an air-conditioning system. When set to H the relay will de-energise when the temperature is reached. Use this setting if controlling a heating device.

Setting the hysteresis parameter P1:
This sets how much change in temperature must occur before the relay will change state. For example if set to the default 2oC and the the trigger temperature has been set to 25oC, it will not de-energise until the temperature falls back below below 23oC. Setting this hysteresis helps stop the thermostat from continually triggering when the temperature drifts around the trip temperature.

Setting the upper limit of the thermostat parameter P2:
This parameter limits the maximum trigger temperature that can be set. It can be used as a safety to stop an excessively high trigger temperature from accidentally being set by the user.

Setting the lower limit of the thermostat parameter P3:
This parameter limits the minimum trigger temperature that can be set. It can be used as a safety to stop an excessively low trigger temperature from accidentally being set by the user.

Setting temperature offset correction parameter P4:
Should you find there is a difference between the displayed temperature and the actual temperature (for instance if the temperature probe is on a long run of cable) you can make minor corrections to the temperature reading with this parameter.

Setting the trigger delay parameter P5:
This parameter allows for delaying switching of the relay when the trigger temperature has be reached. The parameter can be set in one minute increments up to a maximum of 10 minutes.

Setting the high temperature alarm parameter P6:
When the set temperature is reached, the seven-segment display shows "---" as an indication the alarm status. The default setting is OFF.