

W1209 Digital Temperature Controller Thermostat Module

W1209 thermostat module has a temperature sensor, keys, LED display, relay and requires DC 12V power supply. It is an affordable, good quality thermostat controller. Thermostats are devices that sense the temperature of a system so that the temperature is maintained at the desired set point or near to it. NTC temperature sensor allows the module to intelligently control varied electrical devices based on the temperature. NTC thermistor has a negative temperature coefficient, which means the resistance decreases with increasing temperature. W1209 has an inbuilt embedded micro-controller, thus not much programming knowledge is required. The module consists of three switches to configure the various parameters including ON and OFF trigger temperatures. The relay can operate at voltages up to a maximum of 240V AC at 5A or 14V DC at 10A to power on. The temperature is displayed in degree centigrade and with the help of 7-segment display and the relay, the state is displayed with the help of the LED present on the W1209 module.

W1209 Module SPECIFICATIONS:-

- 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: 10A



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

Working:-

Current temperature will be displayed on the module in degree Celsius by default. When switched to a different mode, inactivity for approximately 5 seconds would lead to restoring the value of the module to the default temperature display.

Setting Modes:-

Trigger Temperature: Press "SET" button on the module and current temperature will be displayed on the screen. Using "+" and "-" button, one can set the temperature in 0.1 degrees (Celsius) increments. No activity for 2 seconds will result in setting and storing the trigger temperature and then the screen will display the current temperature.

Parameters Setting:-

Pressing the "SET" button for a minimum of 5 seconds will lead to the setting of the parameter present in the module. The seven segment display will start with the display of first parameter "P0". Pressing '+' or '-' buttons will help to go to parameters (P0-P6). Pressing "SET" button midst the parameters will let you change the value for that parameter. After setting the required parameter, press set button to exit that option. If no button is pressed for 5 seconds the thermostat will exit the parameter option and will return back to the default temperature.

Heating Parameter P0: P0 has two settings, C and H. The default setting C can be used to connect to an air-conditioner as the relay energizes when the temperature is reached. Setting H leads to de-energizing the relay when the required temperature is detected. It can be used to control any heating device.

Hysteresis Parameter P1: This parameter sets the range of change in temperature that must occur before relay will change state.

Parameter P2 (Upper Limit Temperature): P2 limits the maximum trigger temperature that can be set. It acts as a safety feature that stops the user to set an extremely high trigger temperature.

Parameter P3 (Lower Limit Temperature): P3 limits the minimum trigger temperature that can be set. It also acts as a safety feature that stops the user to set a low triggering temperature.

Offset Correction Parameter P4: Changes can be made if there is a difference between the displayed temperature and actual temperature reading with this parameter.

Delay Parameter P5: Delay in the switching of the relay when the trigger temperature has reached, can be set by the help of delay parameter P5. It can be set in one-minute increments up to a maximum of 10 minutes.

Alarm Parameter P6: This parameter causes the relay to switch off when the temperature reaches its settings. The display will show '---' to indicate an alarm condition. The relay will not re-energize until the temperature falls below this value