

DIGITAL TEMPERATURE CONTROLLER-USERS GUIDE

SPECIFICATIONS:

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|-----------------------------|--|
| Temperature control range: | -50 ~ 110°C |
| Resolution: | 0.1°C |
| Measurement Accuracy: | 0.1°C |
| Control accuracy: | 0.1°C |
| Hysteresis accuracy: | 0.1°C |
| Refresh rate: | 0.5 Seconds |
| Input voltage: | DC 12V |
| Measuring inputs: | NTC (10K 0.5%) Waterproof sensor, 0.5m cable |
| Output: | Relay output capacity = 10A |
| Environmental requirements: | -10 ~ 60°C , Humidity 20% - 85% |
| Dimensions: | 48 (L) x 40 (W) x 14 (D) mm |
| Power consumption: | |
| | Static current: <=35MA |
| | Attract current : <=65MA |



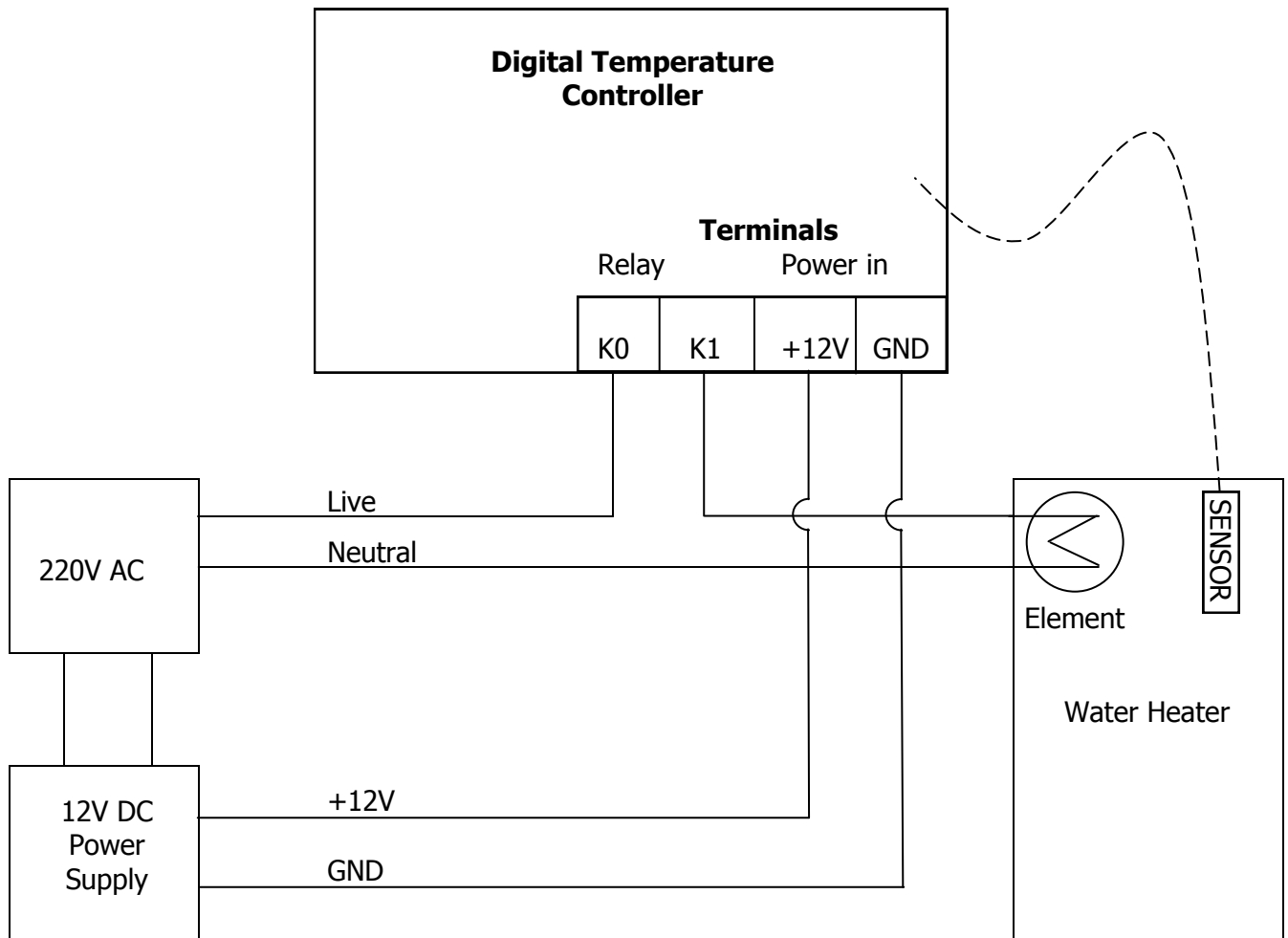
Installation

The digital thermostat module has terminal blocks to ensure a easy installation.

Terminals:

- 1) K0 : Connected in series to load that will be switched on or off (Relay Terminal)
- 2) K1 : Connected in series to load that will be switched on or off (Relay Terminal)
- 3) +12V : Positive voltage input to power module from power supply
- 4) GND : Ground input to power module from power supply

Connect the unit as depicted below. Simple water heater example.



Programming

If you press the "SET" button and hold for more than 5 seconds, the thermostat switches to the settings. The available settings are:

- P0 - selection of the heater or cooler.
- P1 - hysteresis (0.1-15 ° C, the default 2 ° C)
- P2 - the task of the upper working temperature limit (default 110 ° C)
- P3 - the task of the lower working temperature limit (default -50 ° C)
- P4 - temperature correction (-7 + 7 ° C, default 0)
- P5 - the delay on / off switch (0-10 sec., Default 0)
- P6 - over temperature alarm signal (0 +110 ° C, the default is off)

Use the "+" or "-" buttons to select between P0 and P6.
Use the "Set" button to enter a desired field.

If you are intending to use the module for heating applications ensure that P0 = H
Once all the settings have been made. You may use the "+" or "-" buttons to change the set point.

Definitions:

Hysteresis - The temperature difference that is needed between the set point and actual reading, to switch the relay on again after switching off. Thus meaning if our set point is 65°C and our Hysteresis is 2°C and our process medium is 50°C the following steps will occur.

- 1) Relay = ON
- 2) Temperature rises to 65°C
- 3) Relay = OFF
- 4) Process medium cools down to 63°C (2°C lower than Set Point)
- 5) Relay = ON
- 6) Return to step 1

Delay - Time taken for the relay to respond to a change in the process.

Applications

The digital temperature controller has many applications:

- Water heating for Geysers, aquariums, brewing and Pools.
- Cooling applications for air-cons and aquariums.
- Safety applications for overheating of power supply systems, compressors and pumps.