

Intelligent Temperature Control Relay Controller with Voltage Detection / Time Control Function

Description:

This controller is compatible with a variety of operating modes, each mode can work independently or together. It use LED digital tube to display. It features in controlling relay by temperature control function, time control function and voltage control function, applies to automatic control field, product testing, DIY etc.

Technical Parameter:

Working Voltage: DC 10~15V

Standby Current: ≤10mA

Dimension: 50mm x 40mm

Relay contact Mode: normally open and normally closed

Relay contact Current: 10A

Operating Temperature: -30 ~ +85°C

Waterproof temperature sensor (with 1M wire)

Temperature Measuring Range: -55 ~ +99.9°C

Temperature Measuring Accuracy: ±0.5°C

Temperature Display Resolution: 0.1°C

Timing Range: 0-999 seconds or 0-999 minutes

Voltage Detection Range: DC 0~99.9 V (±0.1V)

In time control mode, can set the relay contact on and off time

In voltage control mode, can preset upper and lower limit of voltage value

In Temperature control mode, can preset upper and lower limit of Temperature value

The pre-set parameters can be saved after power cut down

Working modes:

P-1: Time control mode (1-999 S / 1-999 Min)

P-2: Voltage control mode (pre-set upper / lower limit of voltage detection, control relay open / close)

P-3 Mixed mode: Voltage control and Time control mode

P-4: Temperature control mode (pre-set upper / lower limit of temperature, control relay open / close)

P-5 Mixed mode: Temperature control and Time control mode

P-6 Mixed mode: Temperature control and Voltage control mode

P-7 Mixed mode: Temperature control, Voltage control and Time control mode

P-8: Temperature overrun alarm mode

Operation:

The option of P1 ~ P8 modes:

Press and hold "ENTER" button for 3 seconds, enter into the options of P1 ~ P8 modes, the digital tubes show "P-0". And press "SET" button to choose P1 ~ P8 modes. When selects a mode then press "ENTER" button, enter into the corresponding mode. Press and hold "ENTER" button for 3 seconds in any mode, return to options of P1 ~ P8 modes.

1. P-1: Time control mode (1-999 S / 1-999 Min)

1) When the digital tubes show "P-0", press "SET" button, the digital tubes show "P-1", then press "ENTER" button to enter P-1 mode.

2) When enter P-1 mode, you can press "SET" button and "ENTER" button to set the closed time (T1) of relay, the open time (T2) of relay, and cycle times (Max 999 times).

For example, set T1 as 125 seconds, T2 as 38 seconds, cycle 50 times. The relay will be closed for 125 seconds and open for 38 seconds, cycle 50 times then stop.

Set the closed time (T1) to 125 : Press "SET" button, the first number flash, then press "ENTER" button to set this number to 1. Press "SET" button again, the second number flash, then press "ENTER" button to set this number to 2. Press "SET" button again, the third number flash, then press "ENTER" button to set this number to 5.

Set the open time (T2) to 38 : Press "SET" button, the first number flash, then press "SET" button again, the second number flash, then press "ENTER" button to set this number to 3. Press "SET" button again, the third number flash, then press "ENTER" button to set this number to 8.

Set cycle times to 50 : Press "SET" button and "ENTER" button to set this number to 50.

3) Run: Press "ENTER" button to run, the relay will be closed for 125 seconds and open for 38 seconds, cycle 50 times then stop.

Note:

A. When runing, you can press "ENTER" button to pause.

B. When runing, you can press and hold "SET" button for 3 seconds to swap timing time or cycle times on digital tubes.

C. When set time, you can press and hold "SET" button for 3 seconds to swap second timing or minute timing. If the third point shine, it means minute timing; if the third point does not shine, it means second timing.

D. If you set T1 as 30 seconds, T2 as 0 second, you cannot set cycle times. The relay will be closed for 30 seconds then stop.

E. If you set T1 as 0 second, you cannot set T2 and cycle times. The relay will not work.

2. P-2: Voltage control mode (pre-set upper / lower limit of voltage detection, control relay open / close)

- 1) When the digital tubes show "P-0", press "SET" button twice, the digital tubes show "P-2", then press "ENTER" button to enter P-2 mode.
- 2) When enter P-2 mode, you can press "SET" button and "ENTER" button to set the upper limit value of voltage, lower limit value of voltage, and the correct value of voltage (The value range is -0.3~+0.3V).
- 3) Run: After you set three values, the digital tubes will not flash. It will collect and show external output voltage value. When the voltage is above the upper limit value, the relay will be open. The relay changes to be closed until the voltage is under the lower limit.

Note:

- A. The lower limit value cannot exceed the upper limit value.
- B. Do not set the upper limit and lower limit as same value.

3. P-3 Mixed mode: Voltage control and Time control mode

The relay will work with pre-set voltage control and time control.

4. P-4: Temperature control mode (pre-set upper / lower limit of temperature, control relay open / close)

- 1) When the digital tubes show "P-0", press "SET" button 4 times, the digital tubes show "P-4", then press "ENTER" button to enter P-4 mode.
- 2) When enter P-4 mode, you can press "SET" button and "ENTER" button to set the upper limit value of temperature, lower limit value of temperature.
- 3) Run: After you set these two values, the digital tubes will not flash. Temperature sensor will collect and show temperature value. When the temperature is above the upper limit value, the relay will be open. The relay changes to be closed until the temperature is under the lower limit. When running, you can press and hold "SET" button for 3 seconds to swap relay closed when temperature is above the upper limit value, or relay closed when temperature is under the lower limit value.

Note:

- A. The lower limit value cannot exceed the upper limit value.
- B. Do not set the upper limit and lower limit as same value.
- C. When set temperature, you can press and hold "SET" button for 3 seconds to swap minus values. If the third point shine, it mean minus temperature value, such as -22.5°C.

5. P-5 Mixed mode: Temperature control and Time control mode

The relay will work with pre-set temperature control and time control.

6. P-6 Mixed mode: Temperature control and Voltage control mode

The relay will work with pre-set temperature control and voltage control.

7. P-7 Mixed mode: Temperature control, Voltage control and Time control mode

The relay will work with pre-set temperature control, voltage control and time control.

8. P-8: Temperature overrun alarm mode

- 1) When enter P-8 mode, you can press "SET" button and "ENTER" button to set the upper limit value of temperature, lower limit value of temperature.
- 2) Run: After you set these two values, the digital tubes will not flash. Temperature sensor will collect and show temperature value. When the temperature is above the upper limit value and when the temperature is under the lower limit, the relay will be closed.
- 3) When running, you can press and hold "SET" button for 3 seconds to swap relay closed or open when the temperature is above the upper limit value and when the temperature is under the lower limit.