SKU:200368

Product name: digital temperature controller
Model: XY-T01
Power supply: DC6.0~30V
Temperature control range: -50℃~110℃
Temperature control precision: 0.1℃
Measuring input: NTC10K/B3950
Refresh rate: 0.5 second
Output type: relay output 10A
Probe type: waterproof probe, L: 0.5m
Dimension: 68*42*15mm

Product Function:

1. Heating code: "**H**"
When the detected temperature ≤ set temperature - hysteresis temperature, the relay is switched on and the heating device starts to work.
When the detected temperature ≥ set temperature, the relay is turned off and the heating device stops working.

2. Cooling code: "**C**"
When the detected temperature ≥ set temperature + hysteresis temperature, the relay is switched on and the cooling device starts to work.
When the detected temperature ≤ set temperature, the relay is turned off and the cooling device stops working.

3. Real-time temperature reporting
If the real-time temperature reporting function is turned on, the product will detect the temperature at intervals of 1 second, and transmit to the terminal through UART for data collection.

4. Parameter remote reading and setting
Parameters such as starting temperature, stopping temperature, and temperature correction can be set by UART.

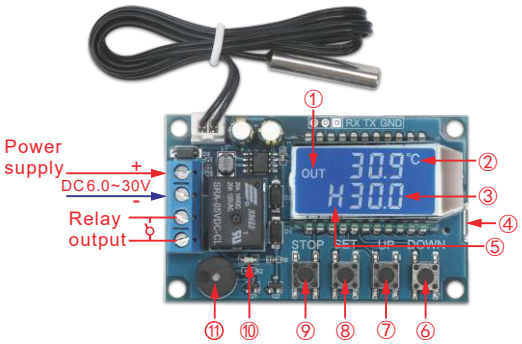
5. High-temperature alarm and emergency stop ALA: sound-light alarm
When the actual temperature ≥ alarm temperature, the system turns on the sound-light alarm and turns off the relay. At this time, press any key to stop the sound-light.

6. Delay starting OPH: 0~9999 minutes
When a normal heating or cooling operation is completed, the system starts timing T. Only when T ≥ OPH can the system perform the next round of heating or cooling.

7. Temperature correction function OFE: -10.0~10.0℃
If the system worked for a long time, there may be deviations. Can use correct function at this time, actual temperature = measured temperature + calibration value.

8. Relay Enable (default ON):
If the relay enable is turned off, the relay remains off.

9. Restore factory setting
Hold press STOP and SET buttons at the same time for more than 3 seconds to restore the factory settings.



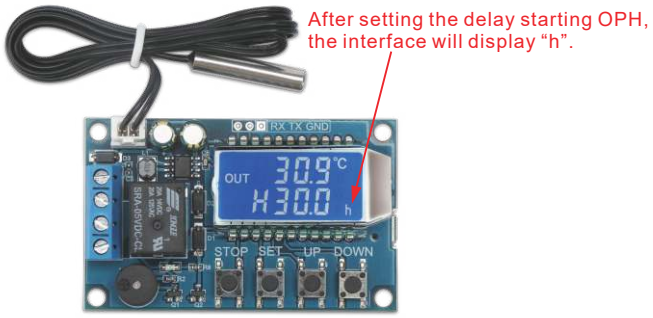
1	Relay closure indication
2	Detected temperature
3	Set temperature
4	Can be powered by micro USB 5.0V
5	Current mode (Heating: H, Cooling: C)
6	DOWN button
7	UP button
8	SET button
9	Emergency stop button
10	Relay closure indicator light
11	High temperature alarm

Working mode / setting temperature / hysteresis temperature setting:
1. In the running interface, short press the "**SET**" button to enter the quick setting interface.
2. After entering the quick setting interface, switch the parameter to be set (working mode/setting temperature/ hysteresis temperature) by short pressing the "**SET**" button.
3. Use the "**UP**" "**DOWN**" button to change the parameter.
4. Hold press "**SET**" button for more than 3 seconds or have no any button operation for 6 seconds, it will save the parameters and exit the quick setting interface automatically.

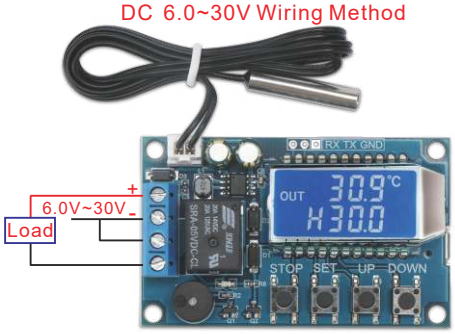
Alarm temperature / delay starting setting / temperature correction:
1. In the running interface, hold press the "**SET**" button for more than 3 seconds, enter the parameter setting interface.
2. After entering the parameter setting interface, switch the parameter to be set (alarm temperature/delay starting setting/temperature correction) by short pressing the "**SET**" button.
3. Use the "**UP**" "**DOWN**" button to change the parameter.
4. Hold press "**SET**" button for more than 3 seconds or have no any button operation for 6 seconds, it will save the parameters and exit the parameter setting interface automatically.

Way to turn on the high-temperature alarm function (OFF by default):
Enter the parameter setting interface, switch to the alarm parameter **ALA** interface, turn on or turn off the high-temperature alarm function by short pressing the "**STOP**" button.
If the high-temperature function is off, **ALA** displays "----" as a reminder.

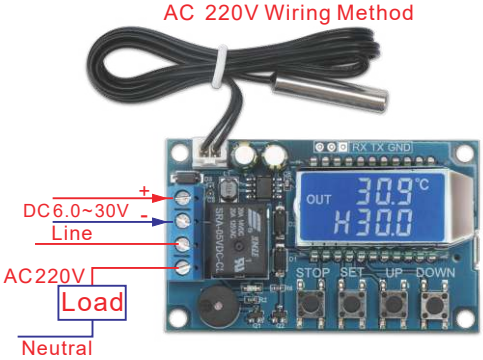
Way to turn on the delay starting function (OFF by default):
Enter the parameter setting interface, switch to the alarm parameter **OPH** interface, turn on or turn off the high-temperature alarm function by short pressing the "**STOP**" button.
If the high-temperature function is off, **OPH** displays "----" as a reminder.



DC 6.0~30V Wiring Method



AC 220V Wiring Method



Serial Interface control (microcontroller TTL communication)
Communication standard: 9600bps
Data position: 8
Stop bit: 1
Check digit: none
Flow control: none

Serial Interface Command	Description
start	Start temperature report
stop	Stop temperature report
read	Read setting parameters
ON	Relay enable function will be on
OFF	Relay enable function will be off
S:XXX	Desired temperature setting -50 ~ -01 00.0~99.9 100~110
B:XX.X	Hysteresis temperature setting (00.0~30.0)
OFE:XX.X	Temperature correction (-10.0 ~ 10.0)
ALA:XX.X	Alarm temperature (-50.0 ~ 110.0)
OPH:XXXX	Delay starting time (0 ~ 9999)