

## XH-W1504 manual

### Feature:

Model: XH-W1504

Size(L\*W\*H): 77 x 55 x 25 mm

Control range: -50 to +100°C

Temperature control precision: 0.1

Refresh frequency: 4 times/second

Input voltage: DC 12V

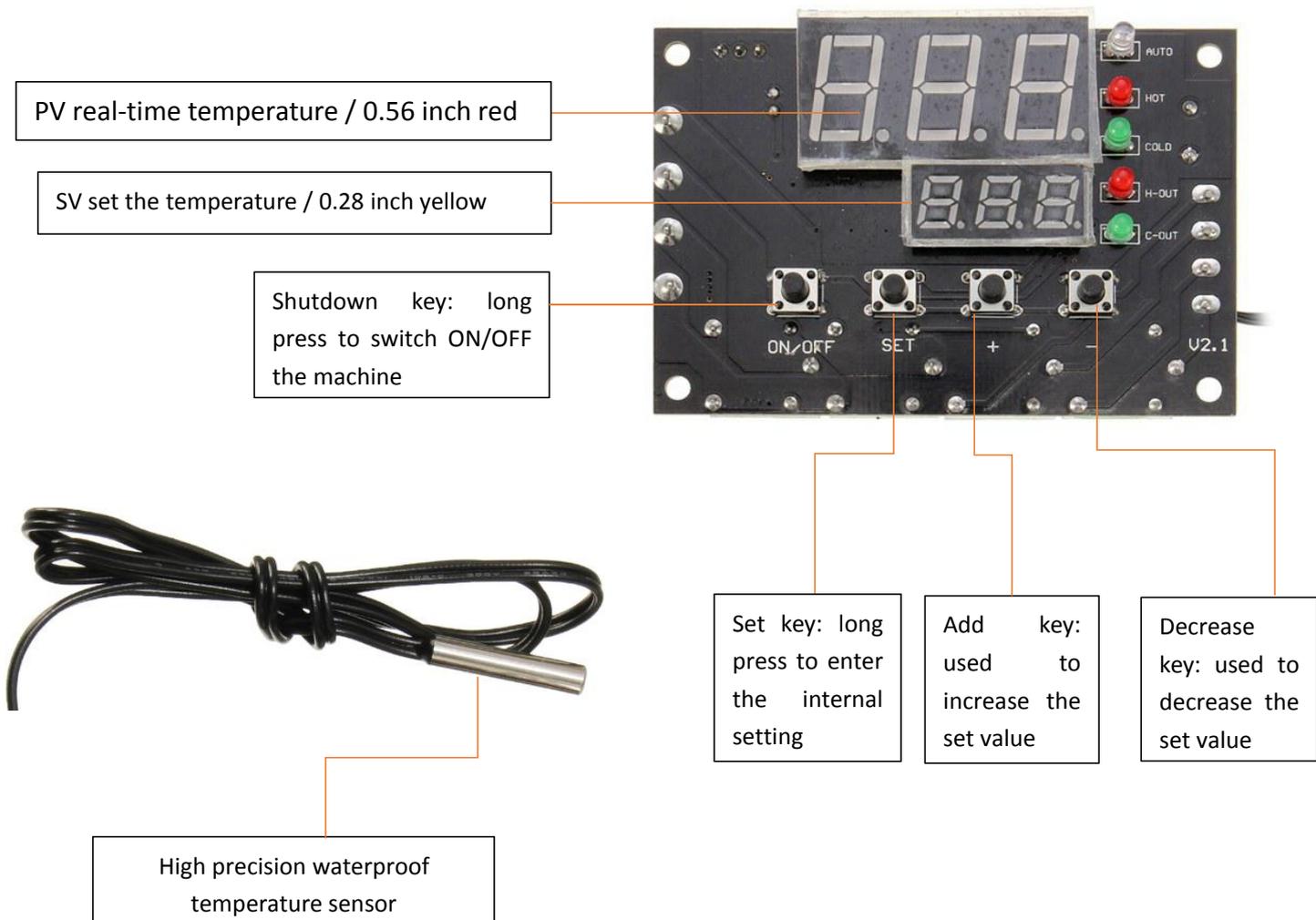
Static current: <120mA/1.5W

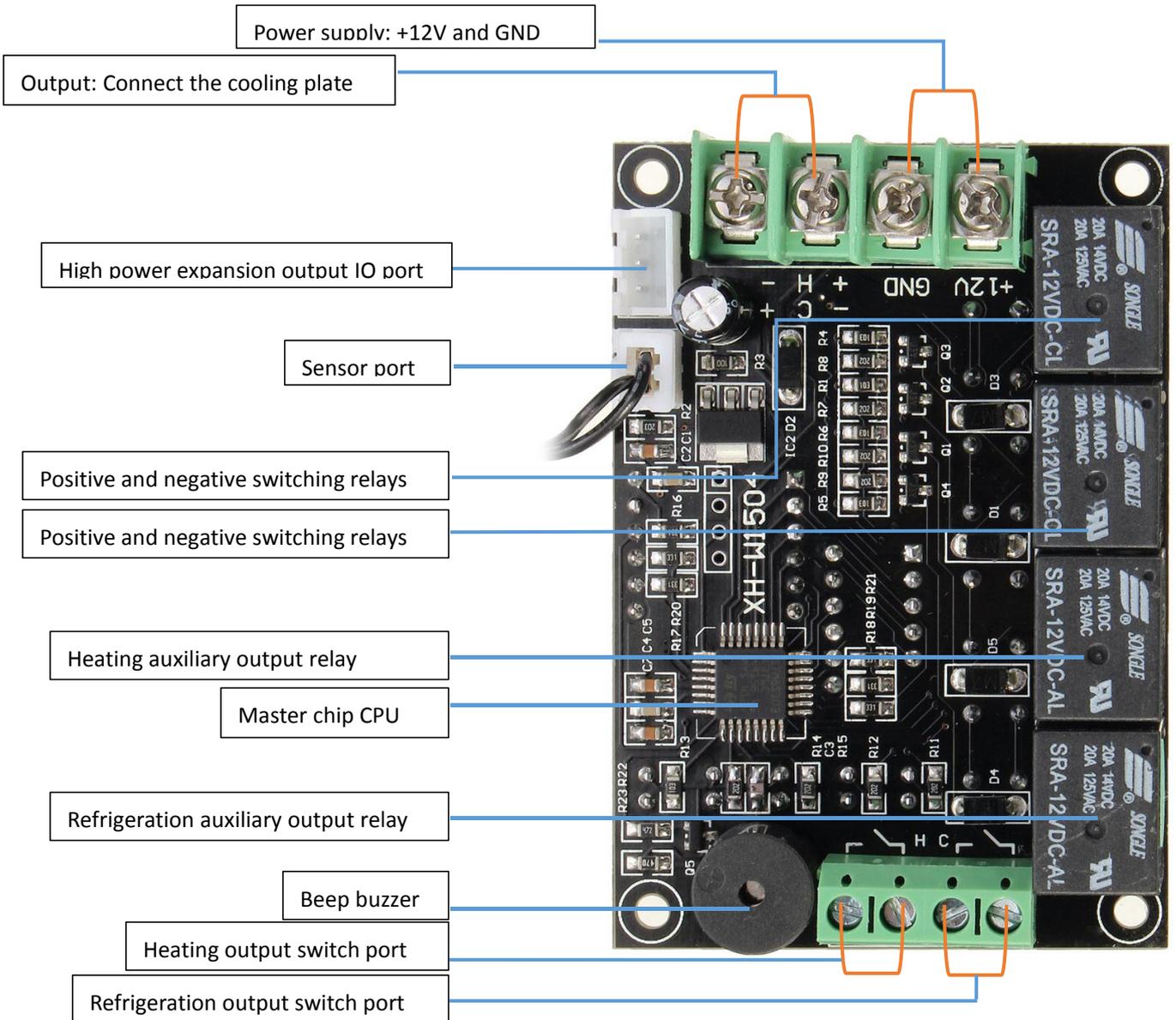
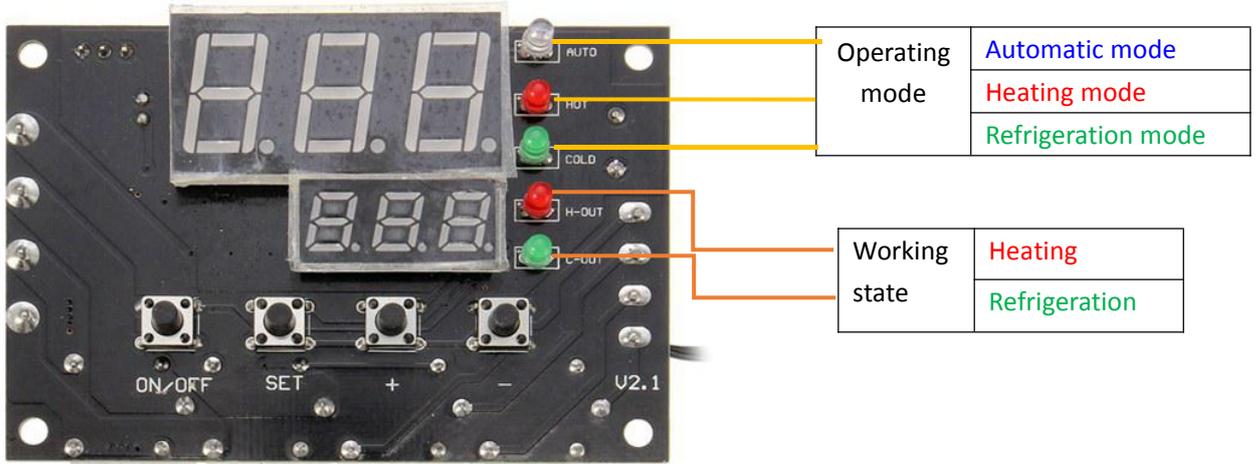
Max output power: 12V 15A 180W

Working environment: - 20 to 65 °C (Humidity<80%)

Temperature measuring probe: 0.5M waterproof (10KB3950)

Output type: 1 road switch plus or minus + 1 road refrigeration + 1 road heating





## TEC implements thermostatic working process:

Suppose we set the temperature of 25° C, return difference is 0.5, that is 24.5 to 25.5 for the range of temperature, when the real-time temperature within the range, will not start heating and cooling, which is no current output, TEC does not work at this time.

When the temperature is lower than 24.5° C, start the heating mode, the output terminal output left negative right positive reverse voltage to power the refrigeration, make it work in the state of heating, H relay is closed at this time, used for the start-up necessary auxiliary accessories when heating.

When the temperature is higher than 25.5° C, start the cooling mode, the output terminal output left positive right negative forward voltage to power the refrigeration, make it work in the state of cooling, C relay is closed at this time, used for the start-up necessary auxiliary accessories when cooling.

Set the code operating instructions			
Code	Description	Setting range	Factory default
P1	Operating mode	A / H / C	A
P2	Hysteresis setting	0.1 - 15	2
P3	Temperature correction	-10 to +10	0
P4	Delay time	0 - 300S	0
P5	High temperature alarm	-45 to 110	OFF
P6	Low temperature alarm	-50 to 105	OFF

### XH-W1504 TEC semiconductor thermostat controller set code details

#### First long press the SET button to enter the main menu operation

**P1:** Mode setting, A is the automatic mode, which is according to the need to automatically switch TEC positive and negative to achieve heating and cooling. H is the heating mode and can only be used for heating without cooling. C is the cooling mode and can only be used for cooling without heating.

**P2:** Hysteresis setting, which is set the target value and interval temperature value, if we set the target temperature of 25° C, the hysteresis is 0.5, then 24.5-25.5 is the interval temperature, lower than the interval temperature to start heating, higher than the interval temperature to start cooling.

**P3:** Temperature correction, between the measured value and the actual value, when there is a deviation can use this function, the corrected value = measured value + setting value, if the current temperature is 25.8° , the correction value is set to -0.2° , then after return the actual display value = 25.8-0.2, which is 25.6° .

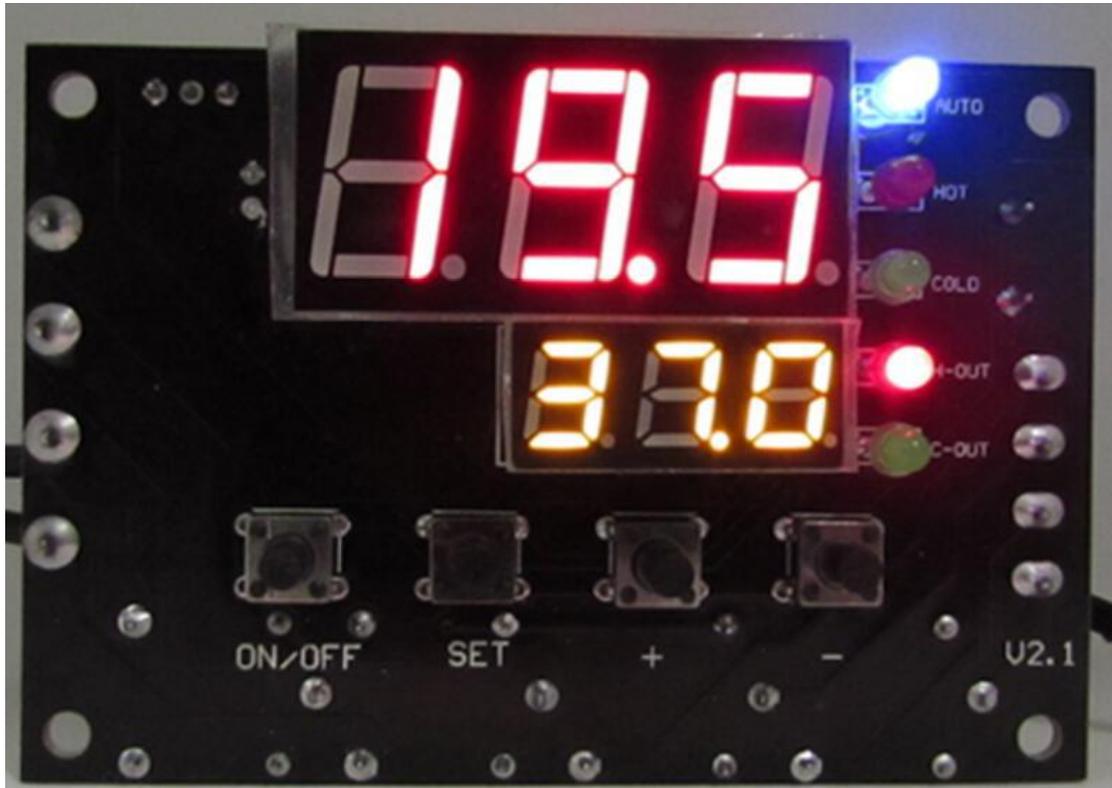
**P4:** Delay time, that is, TEC in normal work, due to the need to switch the positive and negative temperature, while the hardware temperature difference is bigger, you can use the delay function to be cooled at room temperature and then start the conversion to extend the TEC life.

**P5:** High temperature alarm, when the real-time temperature is higher than this value, the screen prompts the alarm, if not need you can turn off this function.

**P6:** Low temperature alarm, when the real-time temperature is lower than this value, the screen

prompts the alarm, if not need you can turn off this function.

### Testing effects:



The above picture shows the XH-W1504 TEC thermostat is working, set the mode to AUTO / real-time temperature is 19.5° C, set to 37° C, then H-OUT red light for the heating output.

The following figure shows the thermostat and professional thermometer temperature contrast, you can see there's basically no error.



**Function set detailed diagram:**



This is the setting state  
P1 is set the work mode  
A: Auto mode  
H: Heating mode  
C: Refrigeration mode



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This is the setting state  
P2 for setting hysteresis  
(interval)  
which is, set the value  
+ Hysteresis = start cooling  
- hysteresis = start heating

P2 is set a hysteresis to 2.0  
Set the target temperature to 20  
Practical work for  
 $20+2 = \text{start refrigeration}$   
 $20-2 = \text{start heating}$





P3 is temperature correction  
Corrected value = pre-correction  
+ correction value  
The correction value can be  
either plus or minus

The default is 0.0  
That is, no increase nor diminished  
If the measured temperature is high,  
subtract it from here  
If the measured temperature is low,  
increase it from here



P4 is the delay setting  
That is the state (positive and  
negative)  
Do not start the conversion  
immediately  
but run the delay time and then  
start 0-300 seconds



P5 is the high temperature alarm setting  
When this setting is reached, the screen and buzzer will alarm at the same time



P5 is the low temperature alarm setting  
When this setting is reached, the screen and buzzer will alarm at the same time

Display LLL means the sensor is not inserted well, the buzzer will alarm, too.  
The method is to re-plug the sensor  
If it is still the same that means the sensor is failure



