Through customer feedback, we understand market behavior imitation of our products, they are illegal to use our LOGO and company name, we will correct product photos posted here, if you buy the product is fake, please ensure that you actively complaints interests, and contact us
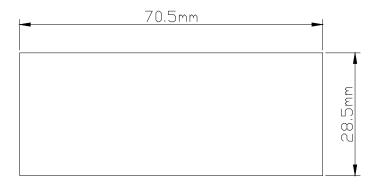

Shenzhen Willhi Electronics Co., Ltd.
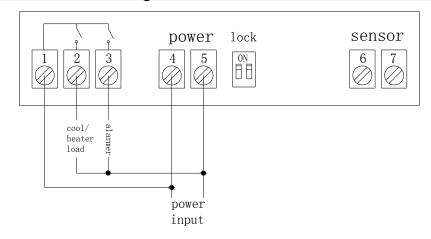Tel :0755 -29539385   Fax :86-0755 -2953 9395
Technical support: Engineer Tian

① Installation opening size:

70.5mm

28.5mm

② Wiring diagram：

Dual-output connection diagram

power lock sensor

1 2 3 4 5 ON 6 7

cool/ heater load

alarmer

power input

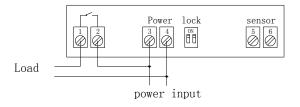Terminals 1 and 2: Connect the cooler or heater
Terminals 1 and 3: Connect alarm
Terminals 4 and 5: Connect the power
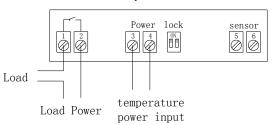Terminals 6 and 7: Connect temperature sensor
Lock switch: If the 1 or 2 is switched to the ON position, can lock the settled control parameters.
Single output connection diagram

Load and temperature control use the same power

Power lock sensor

1 2 3 4 ON 5 6

Load

power input

Load and temperature control use the different power

Power lock sensor

1 2 3 4 ON 5 6

Load

Load Power

temperature power input

Terminals 1 and 2: The output of cooling and heating.

Terminals 3 and 4: Connect the power

Terminals 5 and 6: Connect temperature sensor

Lock switch: If the 1 or 2 is switched to the ON position, can lock the settled control parameters.

◆LED Status Description:

The **WORK** light is used as working indicator lights, flashing is to indicate the delay of cooling or heating, if the LED is always on, it indicates it is on the status of cooling or heating .

The **SET** light is used as setting indicator lights, if the LED is always on, it indicates it is on the status of setting.

◆Turn on or off the thermostat:

When it is wired up, the state of being acquiescent is power on.

Press RST key to switch on and off, press the RST key once on the power-off state to turn it on. On the power-on state, press the RST key and hold on for three seconds, then it will be off.

◆temperature control setting：

In the Standby mode, press the SET key once to enter the temperature control setting, press ▲ or ▼ button to adjust, press ▲ or ▼ button and hold on for three seconds to enter the fast adjusting mode, press the SET key again and back to the standby mode.

※ Startup and shutdown timing: (optional function)

Press the RST key once in the standby mode to start the timing out -put. After entering the constant temperature status, screen alternat ely displays the remaining time and the current temperature; re-press the RST key once to turn off the timing output, screen alternately di splays OFF and the current temperature.

◆system menu settings：

Press SET key and hold on for three seconds to enter the controlled-parameters setting, press the ▲ or ▼ key to select the adjustment menu, press SET key once to enter the appropriate parameter settings, press ▲ or ▼ to adjust the parameters needed to be modified. After being adjusted, press the RST key to exit, or exit as the system delay for 5 seconds.

◆ Menu code statement:

Symbol	Details	Remark
HC	Heating / cooling	H= Heating C= cooling
D	Hysteresis	
LS	The minimum set limit	
HS	The maximum set limit	
CA	Temperature calibration	
PT	Delay time	Minutes
AH	High temperature alarm settings	
AL	low temperature alarm settings	
AT	Timer off	Minutes

◆Cooling, heating function:

Cooling Mode: When the measured temperature is higher than or equal to the set value + hysteresis, the relay picks up to start the output; When the measured temperature below the set value, the relay off and close the output.

Heating mode: When the measured temperature is higher than or equal to the set value, the relay off, turn off the output; When the measured temperature below the set value - hysteresis, the relay picks up to start the output.

Example for Setting: If it is set to heating mode, set the temperature to 25 degrees, hysteresis is set to 5, then when the measured temperature is higher than or equal to 25 degrees, the relay is off, close the output. When the temperature is below 20 degrees, pick up the relay again, to start the output.
Example for Setting: If it is set to cooling mode, set the temperature to 25 degrees, hysteresis is set to 5, then when the measured temperature is below 25 degrees, the relay is off, close the output. When the temperature is higher than or equal to 30 degrees, pick up the relay again, to start the output.

◆ Cooling, heating mode setting:

Press "SET" key and hold more than 3 seconds to enter the menu display, the screen appears "HC" code, press the "SET" key to display the working mode, press the "▲" or "▼" to adjust the display, C means cooling mode; H means heating mode.

◆ Hysteresis function:

Hysteresis setting limits the maximum interval between the opening and stopping.

◆ Hysteresis settings:

Press "SET" key and hold more than 3 seconds to enter the menu display, with "▲" or "▼" key adjusted to the screen, appearing "D" code, press the "SET" key to display the hysteresis set value, press "▲ "Or"▼"key to adjust the parameters.

◆ Temperature calibration function:

When there is deviation between the measuring temperature and standard temperature, use the temperature calibration function, make the machine measurements value consistent with the standard temperature, the after calibration temperature= the before calibration temperature + calibration value (calibration value can be positive number, negative number, and 0) .

◆ Temperature calibration settings:

Press "SET" key and hold more than 3 seconds to enter the menu display, with "▲" or "▼" key adjusted to the screen, appearing "CA" code, press the "SET" key to display the temperature calibration settings, press "▲ "Or"▼"key to adjust the parameters.

For example: When we measure the probe temperature was 25 degrees, it displays 25 degrees as the CA is 0, it displays 26 degrees as the CA is 1, it displays 24 degrees as the CA is -1. This function is generally applied when the probe can not measure directly the measured object. For example, we place the probe at the outside of a cup to measure its water temperature, we need to adjust the CA parameters because of the heat loss of the cup, so that the display temperature can be in accordance with the one of the cup.

◆ Delay Protection Function:

In the cooling mode, the first power on, when the measured value above the set value + hysteresis value, the machine will not immediately start cooling, it needs to set the delay time, then the machine can run to start cooling; once the interval between two cooling is larger than the delay time, the machine immediately starts cooling, once the interval between two cooling is less than

the delay time, the machine must run the remaining delay time to start cooling. The delay time is started to calculate from stopping the machine. The delay time of heating mode is as same as the cooling mode.

Note: It is recommended that only the device that use compressor cooling can use the delay start function, the user who don't need delay start function please set this parameter to 0.

◆ Delay Protection Setting:

Press "SET" key and hold more than 3 seconds to enter the menu display, with "▲" or "▼" key adjusted to the screen, appearing "PT" code, press the "SET" key to display the delay setting value, then press the "▲ "or "▼"key to adjust the parameters.

◆ Upper and lower limit functions:

The setting of HS and LS limit the set range of control temperature point , for example: HS is set to +15, LS is set to -10, the control temperature can only be adjusted between -10 and +15, when the control temperature to -10 then press "▼" key, the display will remain on the status of -10 and not decrease; when the control temperature to +15 then press "▲" key, the display will on the status of 15 and not increase. If the set point outside this range, it needs to firstly change the value of HS and LS, then it can be achieved.

◆Upper and lower limit settings:

Press "SET" key and hold more than 3 seconds to enter the menu display, with "▲" or "▼" key adjusted to the screen, appearing "HS" or "LS" code, press the "SET" key to display the upper or lower limit set value, Then press "▲" or "▼" key to adjust the parameters. HS means upper limit. LS means lower limit.

For example: the upper and lower limits are used to limit the range of control temperature that can be set, such as: LS is 10, HS 20, then press the SET key to adjust the temperature control, it can only be varied between 10 and 20.

◆High temperature alarm:

If the measured temperature≥ set temperature + AH alarm output relay. Thermostat alarm will sound, the display alternately shows H and the current temperature. Alarm, press any key to stop the alarm and relay output.

◆ High temperature alarm settings:

Press "SET" button and hold more than 3 seconds to enter the menu display, with "▲" or "▼" button transferred to the screen appears "AH" code, press the "SET" key to display the high-temperature alarm settings, press "▲ "or" ▼ "key to adjust the parameters

◆ Low temperature alarm function:

If the measured temperature ＜set temperature-AL when the alarm output relay. Thermostat alarm will sound, the display alternately shows L and the current temperature. Alarm, press any key to stop the alarm and relay output.

◆ low temperature alarm settings:

Press "SET" button and hold more than 3 seconds to enter the menu display, with "▲" or "▼" button transferred to the screen appears "AL" code, press the "SET" key to display the low temperature alarm settings, press "▲ "or" ▼ "key to adjust the parameters

※ Timing off function: (optional feature)

In standby mode, the screen alternately displays OFF and the current -temperature, the output is shut down;
Start the thermostat, when into the constant temperature, it displays alternately the remaining time and the current temperature. The output is controlled by temperature, when the countdown is 0:00 close the output into standby mode. When AT is set to 0, the timing off function will be invalid. The output is controlled only by the temperature.

※ **Timing off setting: (optional function, users who don't select this function do not have this menu code.)**

Press "SET" button and hold more than 3 seconds to enter the menu display, with "▲" or "▼" button transferred to the screen appears "AT" code, press the "SET" key to display the low temperature alarm settings, press "▲ "or" ▼ "key to adjust the parameters

⑥ **Errors indications:**

 1) When the sensor disconnected, the screen displays --- ,

 2) When the sensor detects the temperature is below the lowest temperature that could be detected, the screen displays LLL.

 3) When the sensor detects a temperature higher than the Maximum temperature that could be detected, the screen displays HHH.

⑦ **Caution for using:**

 ◆ Please connect the correct operating voltage, the machine normally works under the standard input voltage within range of ± 10%.

◆ The load power should not exceed the maximum thermostat control power, when exceeding please connect external AC contactor.

◆ Please connect the power load correctly and the sensor, or it will damage the thermostat, when connect the wrong line .

◆ Please do not put the sensor lines and power lines in parallel, power line noise affects the accuracy of the measurement.