

Microcomputer Thermostat Serial

《Directions of EW-310》

Welcome to choice our instrument. It is applicable to 2-in-1 unit control and multilevel system control. This product is easy-to-use and characterized by stable temperature control, high accuracy, high anti-jamming capability, and alarm of ultrahigh temperature, ultra-low temperature or sensor error. Each function parameter can be set independently to meet the needs of different control.

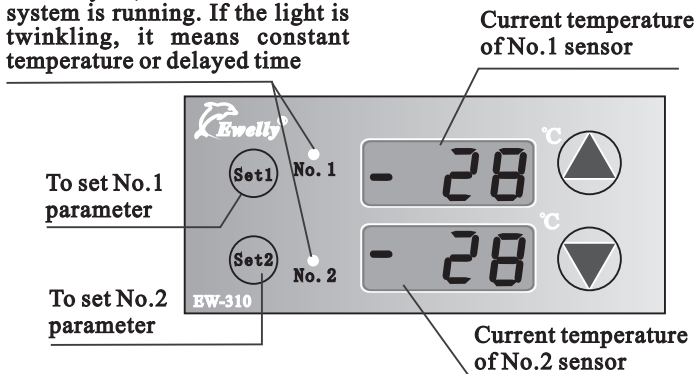
Our sensor is precisely made and sealed. It is moisture-proof, therefore its performances are more stable and reliable.

Technical Specifications

1. Operating voltage: AC220V±10% 50Hz/60Hz
2. Load current: 5A/220V/AC
3. Power Consumption: ≤3W
4. Working environment: -10°C~50°C RH≤90%
5. Controlled Output: two-way temperature control, One-way alarm
6. Control Range: -24°C~98°C
7. Resolving Power: 0.1°C Accuracy: ±0.5°C
8. Input signal: two-way NTC sensor
9. Overall Dimension: 100mm(width)×51mm(height)×84mm(depth)
10. Starter Size: 92mm(width)×44mm(height)

Control Panel

If No. 1 or No.2 indicator light is normally on, it indicates that the system is running. If the light is twinkling, it means constant temperature or delayed time



E1 It indicates that, the temperature sensor is burn-out or installed improperly; closed circuit or open circuit. The system will start intermittent running and give an alarm automatically.

E2 It indicates that, the temperature is higher than the preset upper limit; the output load is stopped running and the system will give an alarm.

E3 It indicates that, the temperature is lower than the preset lower limit; the output load is stopped and the system will give an alarm.

Control Program

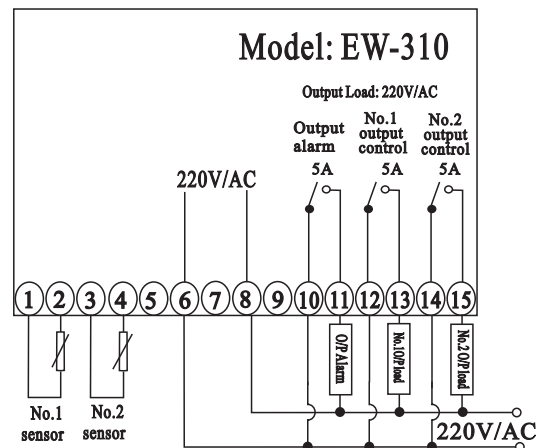
After power-on, the upper and lower digital displays on the panel represent current temperature values of No.1 and No.2 sensors respectively. To reset the control parameter of No.1 sensor, please press (Set1). To reset the control parameter of No.2 sensor, please press (Set2). If two sensors are controlling the same temperature point but the temperature of return difference is different, please carry out double-level auto control for two sensors according to their temperature value of return difference.

For example: If two sensors are controlling the same temperature zone and the temperature of No.1 sensor and No.2 sensor is 12°C, the temperature of return difference of No.1 and No.2 sensors is 2°C and 5°C respectively: when the temperature is higher than 17°C, two sensors will work simultaneously; when the temperature is lower than 17°C, only No.1 sensor is working; when the temperature is 12°C, both sensors will stop working and the temperature will be constant. Either No.1 sensor or No.2 sensor is capable of independent temperature control.

Program Parameters

Code	Functions	Setting range	Default setting	Unit
HC	Heating /cooling	H/C	C	—
St	Temperature setting	-24~98	12	°C
d	Temperature of return difference	0.5~15	2	°C
HS	Upper limit	controlled temperature+1 to 99	99	°C
LS	Lower limit	-25 to controlled temperature-1	0	°C
Pt	Delayed time	0~3	1	Min
CA	Temperature regulation	-15~15	00	°C

Electrical Diagram



Installation instructions

1. Make sure the supply voltage is consistent to the voltage required and labeled on the machine. The supply voltage shall be equivalent to the rated voltage ±5%.
2. Keep the sensor line away from the power lead.
3. Please clearly mark the interfaces of sensor line, power lead and output relay.

Control Program

HC Heating/cooling mode: When current temperature is displayed, Hold \triangle and ∇ for 6 seconds to enter a setting program. No. 1 digital will display **HC**; No. 2 digital will display "C" for cooling, "H" for Heating. Press \triangle and ∇ key can change parameters. After setting there will be automatic memory and reset. This model is two-way sharing.

St Temperature Setting: When current temperature is displayed, press set1 to set No.1 system and set2 to set No.2 system. After entry into the menu, press "Function", and there will be circular display: **St-d-HS-LS-PT-CA**. To set the parameter of No.1 system, simply press set1 . When No.2 digital displays **St**, press \triangle or ∇ to set corresponding parameter. After setting, there will be automatic memory and reset. Setting temperature is **ST, HS** (High limit) and **LS** (Low limit) is Control range.

d Temperature of return difference: After entry into the menu, if **d** is displayed, press \triangle or ∇ to reset the parameter. After setting, the system will run automatically within the set range (when the temperature rises to the set value, the system will stop; when the temperature reaches the value of return difference, the system will be started).

Feature Descriptions

When the controller is on cooling, Control temperature equal to or below the set temperature **ST**, relay contact is off. Higher than the set temperature **ST + d** and meet **PT**. The relay contact will be on. When the controller is on heating, testing temperature equal to or higher than the set temperature **ST**, the relay contact is off. Below the set temperature **ST - d** and meet **PT**. The relay contacts will be on.

Trouble shooting

Failure	Causes	Precautions
No display when power is on.	check to see if the power is broken or the thermostat is failed.	Check power supply and change fuse. Check if there is 220V power input or change thermostat with our distributor.
Display but machine does not work	The setting temperature is lower than the current temperature or delay time doesn't get.	Reset the controlling temperature or delay time.
Displayed temperature is unstable or there exists misplay	The sensor is interfered, poor wiring or is tied with other cables. The circuit is damaged.	Separate sensor cable to power cable or change shielded lines or check if the contact is tight or not.
Real temperature is much difference to thermostat display.	The locations for the sensors are not correct or sensor wiring is too long and its resistance is too big. The wiring contact is poor and the sensor is damaged.	All sensors should be corrected at their locations. Enlarge the cross section of the expanded wires. Make sure the wiring sealing, water-proof or Moisture-proof of performance is good. Change sensor.
Machine does not stop as soon as the temperature reaches	The running light is still on, means device fault. If both the running light has been off and the relay is off, means external fault.	Change the device and check the external circuit.
Cooler works with over-frequency	The setting temperature Return difference value is too small.	Reset and enlarge the temperature value of return difference. Adjust setting for pressure protection.
"EI" is displayed	The sensor circuit is opened or shorted.	Check to see if the sensor wiring has good contact with coupling end or not.
Temperature display flashes	Exceed the maximum temperature or minimum temperature limit.	Check the temperature setting is reasonable or whether the failure

Warning

1. Please read the product instruction carefully and connect the input/output lines of power supply and sensors to corresponding terminals according to the electrical diagram. Tighten all connecting terminals and screws and make sure all wiring is correct before power-on. Otherwise, wrong wiring would affect performance and control of the system, or even lead to damage or burn out of temperature control chip.

2. Keep this product away from moist, corrosive air and high magnetic field. Otherwise normal operation of this product would be affected.

HS Upper limit of temperature: After entry into the menu, if **HS** is displayed, press \triangle or ∇ to reset the upper limit of temperature. When the temperature measured is higher than the upper limit preset, the system will give an alarm and the digital will sparkle **E2**.

LS Upper limit of temperature: After entry into the menu, if **LS** is displayed, press \triangle or ∇ to reset the lower limit of temperature. When the temperature measured is lower than the lower limit preset, the system will give an alarm and the digital will sparkle **E3**.

PT Delayed time: After entry into the menu, if **PT** is displayed, the parameter of delayed time can be reset. This function helps prevent over-frequent operation of the machine.

CA Temperature regulation: After entry into the menu, if **CA** is displayed, the value of temperature measured can be regulated. The parameters of either system can be modified independently.

EI Display of self check: it indicates that the sensor is short-circuit or open-circuit, or the chip is damaged.

Attentions:

The upper value shall be larger than the set temperature plus the return difference; the lower value shall be smaller than the set temperature minus the return difference.

3. This product has been inspected rigidly before dispatch. We provide one-year warranty against any quality problem (of the product itself). This warranty will be void in case of any damage resulted from unauthorized dismantling of the product.

If you have any questions or problems concerning, please contact our distributors and we will provide you high-quality for sale services.

Guangzhou Eliweli Automatic Control Technology. Co., Ltd.

<http://www.eliweli.com>