

Microcomputer Thermostat Series

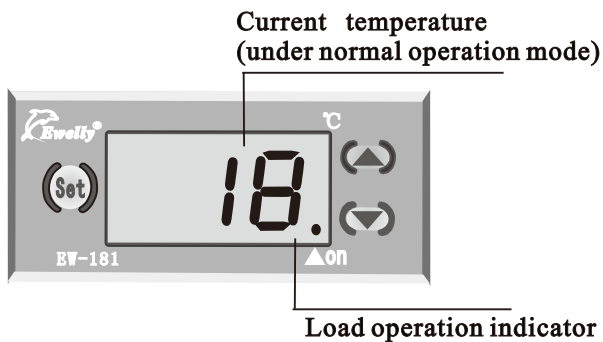
EW-181H Operation Manual

Thanks you for choosing Ewelly instruments. This product has features of simple operation, accurate temperature control and strong anti-interference ability. It is applicable for automatic intelligent control systems in refrigeration and heating equipment. Besides, our sensors are processed and encapsulated precisely, which are moisture-proof with better performance in its stability and reliability.

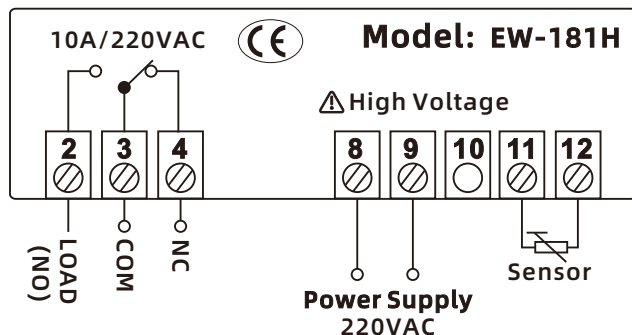
Technical Specification

- 1、Operating voltage: AC220V $\pm 10\%$ 50HZ/60HZ
- 2、Output Load :Compressor relay 10A/220V/AC
- 3、Power Consumption: $\leq 3W$
- 4、Working environment:-10℃ $\sim$ 50℃ R H $\leq 90\%$
- 5、Control Range: -45℃ $\sim$ 80℃
- 6、Resolution: 1℃; Accuracy: $\pm 1^\circ\text{C}$
- 7、Input signal : One Off NTC-sensor input.20K $\times$ 2m $\times$ 1
- 8、Overall Dimension: 78(W) $\times$ 34(H) $\times$ 74(D)mm
- 9、Mounting Size: 71(W) $\times$ 29(H)mm

Display Panel



Schematic diagram



Installation

1. Please make sure that the power supply voltage meets the required voltage of the instrument. The deviation should be less than $\pm 10\%$.
2. The sensor should be kept away from the power cable.
3. Strictly distinguish the interfaces of the sensor, power cable and the relay output.

Parameter Setting

1. Temperature setting: Press **set** to display control temperature. Press $\uparrow$ or $\downarrow$ to change the values.
2. Parameter setting: Press **set** for 6 seconds until **HC** turns on. Then press $\uparrow$ or $\downarrow$ to set the parameters of **HC-LS-HS-PL-CA-d**.



Hold **set**, then press $\downarrow$ or $\uparrow$ to choose H/C mode.
H represents Heating Mode.
C - Refrigerating Mode;
H - Heating Mode



Hold **set**, then press $\downarrow$ or $\uparrow$ alternatively. Choose lowest temperature limits:
-46℃ to Temperature control-1℃



Hold **set**, then press $\downarrow$ or $\uparrow$ alternatively. Choose highest temperature limits:
Temperature control+1℃ to 81℃



Hold **set**, then alternatively press $\downarrow$ or $\uparrow$ to set start-up delay from 0 to 5 minutes.



Hold **set**, then press $\downarrow$ or $\uparrow$ alternatively. Choose temperature calibration :
-15℃ to 15℃



Hold **set**, then press $\downarrow$ or $\uparrow$ alternatively. Choose temperature return difference:
1℃ to 15℃



Error symbol : when the sensor is opened or shorted circuit.
Code "E1" is displayed.

Features

Refrigeration: When current temperature $\geq$ set temp. + temp. return difference and the set “delay time” has been delayed. The load relay is On.

Stop cooling/refrigeration: When the real temp. $\leq$ set temp., the load relay is Off.

Heating: When the current temp. $\leq$ set temp. - temp. return difference and the set “delay time” has been delayed. The load relay is Off.

Stop heating : when the current temp. $\geq$ set temp., the load relay is disconnected.

Note: Switch refrigeration /heating modes in parameter setting under H/C menu selection. H is heating mode. C is refrigeration/cooling mode.

Parameter table

Code	Function	Setting Range	Factory Setting	Unit
HC	Refrigerating /Heating	H/C	C	—
LS	Temperature lower limit	-46℃ to Temperature control-1℃	-45	℃
HS	Temperature upper limit	Temperature control+1℃ to 81℃	80	℃
Pt	Delayed Time	0~5	1	Min
CA	Temperature Correction	-15~15	00	℃
d	Temperature Return Difference	1~15	2	℃

Attention: The temperature upper limit (HS) and the temperature lower limit (LS) have been locked. Please don't change them unless necessary.

Trouble shooting

Failure	Causes	Solutions
No display with power supply.	Check to see if the power is short circuit or the thermostat is faulty.	Check power supply and change fuse. Check if the input voltage is right or change the thermostat with our distributor.
Display but the load doesn't work	The setting temperature is higher than the current temperature. The heat protector is open circuit because the pressure is over loads.	Reset the necessary controlling temperature. Check the reasons for overload and overheating. After the trouble is solved, restart to work.
Displayed temperature is unstable or misoperation.	The sensor is interfered; or poor wiring; or together with other power cord bundle or cable damage.	Separate sensor wiring with power cables or change shielded lines or check if the contact is tight or not.
Measurement error between current temperature and displayed.	The installation position of the sensor is not correct; or the sensor's wiring is too long and its resistance is over; or the wiring connected poor; or the sensor is damaged	All sensors should be corrected at their locations. Enlarge the cross section of the expanded wires. Make sure the wires sealed is good. Or change the sensor.
Machine does not stop when the temperature reaches set value.	The sensor is not correctly installed and cannot measure the correct temperature. The relay of the compressor is malfunction.	Check if the sensor has accurately measured the temperature or not. Change compressor contactor.
Relay work with overload	Return difference value is too small or the setting for pressure protection is not correct.	Reset and enlarge return difference value. Adjust setting for pressure protection.
“E1” is displayed	The sensor is opened or shorted circuit.	Check to see if the sensor wiring has good contact with coupling end or not.

Supplementary

1. Please read this product instruction carefully and connect input/output plugs of power & sensor to the corresponding sockets strictly by following connection diagram, otherwise the usage & operations will be affected. Check again to make sure there is no mistake. Tighten all the screw of connection plugs again, and then connect it to the power for running.

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

3. All our products have passed strict quality inspections before leaving factory. We provide one-year warranty for this product which is limited to product itself, and our company is not responsible for any other joint and several liability.

If the products includes but not limited to the following damages caused by being used and installed in unsafe environment, being connected to the load exceeds the allowable range of the product, being disassembled and modified by the user, etc. Our company will not provide replacement or maintenance service within the warranty period. Meanwhile, we will not be liable for any direct or indirect damages caused.

The warranty certificate on the product is an important evidence for our product quality assurance. Any changes without authorization, damages, scratches and lose on the certificate, our company will not provide any replacement or maintenance service for theses products.

If you have any problem regarding to our products, please contact our dealers and we will provide you high-quality after-sale services. Thank you.



Official website

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<http://www.gzewelly.com>