Technical data:

1. Operating Voltage： AC110V ±10%　50HZ.
2. Output Load:： 220V/5A
3. Power Consumed： ≤3W
4. Operating environment： -10℃~50℃　Rh ≤ 95%.
   Input Signal： One way for temperature sensor,

6. Output Control： One way for temperature control
7. Control Range： Heating control range： 0~120℃;
   　　　　　　　　Cooling control range： -45~50℃.
8. Resolving Power： 1℃　Precision： ±1℃.
9. Dimensions of the whole machine： 76 (W) x 34 (H) x 62 (D)(mm).
10. Dimensions of the hole： 71 (W) x 29 (H) (mm).

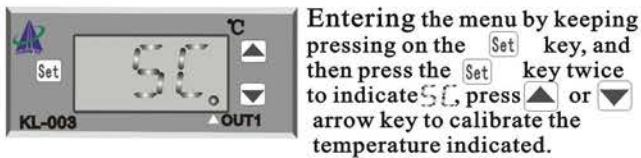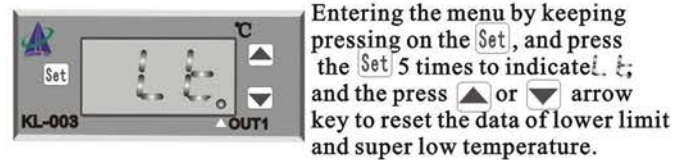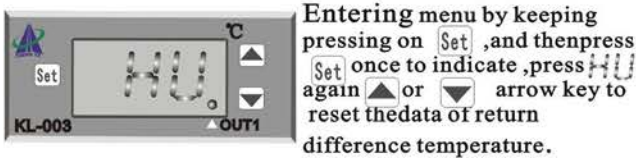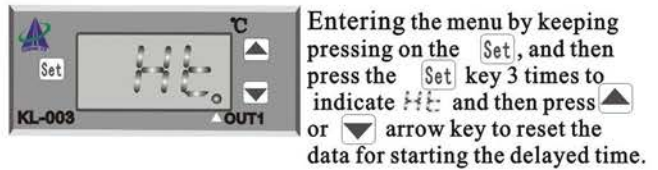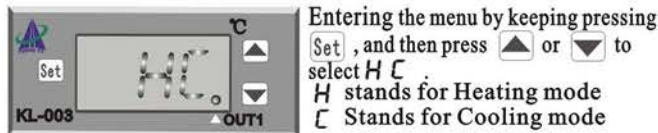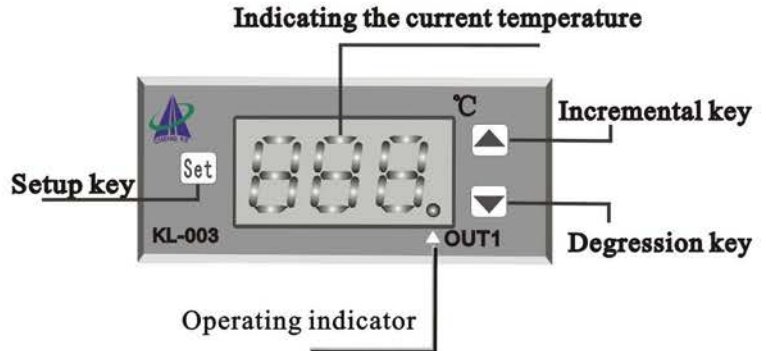### Operating principle Control temperature setup

The first step: Slightly press Set to indicate the temperature control

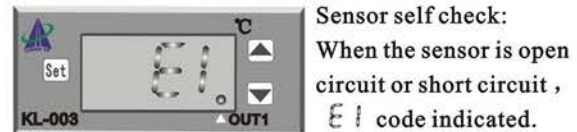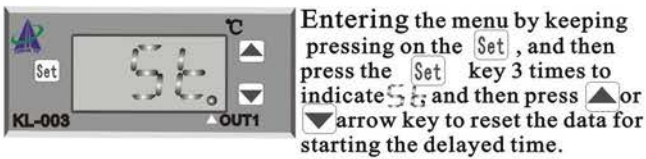**The second step:** Press ▲ or ▼ to modify the temperature control. After the setup is set, it will return to the original status and indicate the current temperature, and operate according to the newly set up data.
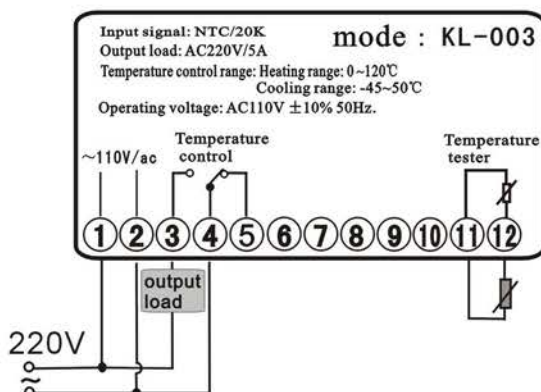
Introduction to the control procedure

Enter the set up procedure by pressing the Set key for 6 seconds, when entering the set procedure, it will indicate HC. Pressing Set key can select various menus, when the menu is chosen, pressing ▲ or ▼ key can reset the data from HC-HU-SC-St-Ht-Lt 。

Indicating the current temperature
Incremental key
Setup key
Degression key
Operating indicator
OUT1
KL-003

Entering the menu by keeping pressing Set , and then press ▲ or ▼ to select H C .
H stands for Heating mode
C Stands for Cooling mode

Entering menu by keeping pressing on Set , and then press Set once to indicate, press HU again ▲ or ▼ arrow key to reset the data of return difference temperature.

Entering the menu by keeping pressing on the Set key, and then press the Set key twice to indicate SC, press ▲ or ▼ arrow key to calibrate the temperature indicated.

Entering the menu by keeping pressing on the Set , and then press the Set key 3 times to indicate St, and then press ▲ or ▼ arrow key to reset the data for starting the delayed time.

Entering the menu by keeping pressing on the Set , and then press the Set key 3 times to indicate Ht and then press ▲ or ▼ arrow key to reset the data for starting the delayed time.

Entering the menu by keeping pressing on the Set , and press the Set 5 times to indicate Lt, and the press ▲ or ▼ arrow key to reset the data of lower limit and super low temperature.

Malfunction code

Sensor self check:
When the sensor is open circuit or short circuit , E1 code indicated.

Temperature controller wiring diagram

Input signal: NTC/20K
Output load: AC220V/5A
Temperature control range: Heating range: 0~120℃
　　　　　　　　　　　　Cooling range: -45~50℃
Operating voltage: AC110V ±10% 50Hz.

mode : KL-003

~110V/ac
Temperature control
Temperature tester
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
output load
220V

Procedure data diagram

Symbol	Function	Setup range	Original setup	Unit
HC	Heating/cooling	H/C	C	
HU	Temperature return difference	1~30	2	℃
SC	Temperature calibration	-10~10	0	℃
St	Delay time	0~5	1	Minute
Ht	upper limit	Setup value The highest measure range	100	℃
Lt	lower limit	Setup value The lowest measure range	-45	℃

Parameter Setting Operation:

Setting of temperature control: under condition of current temperature display, press the key [Set], then press [▼] or [▲] key, new temperature parameter may be reset. Upon setting, it will be automatically memorized and reset, current temperature will be displayed. (while the temperature reaches the setting value, machine will stop operation).

HC cool/heat mode selection: press the [Set] key for seconds, while the digital-display HC, then press [▲] or [▼] key again to change the control mode of cooling or heating. (press [▲] key to select heating mode H as well as press [▼] key to select cooling mode C).

HU temperature return difference: press the [Set] key for seconds, while the digital-display HC , press the [Set] key one time, while HU code being display, then press [▲] or [▼] key to set new temperature return difference parameter, Upon setting, the system will operate according to your setting scope, (it means the temperature reach the setting value, machine will stop operation, at the C cooling mode, while the temperature reach the setting value plus return difference value, it will start operation. at the H heating mode, while the temperature reach the setting value minus return difference value, it will start operation.)

SC temperature correction: press the set key for seconds, while the digital-displaying [Set] , press the HC key twice and the SC code being displayed, then press [▲] or [▼] key to correct measured temperature.

St delay time: the [Set] key for seconds , while HC code being display, press the [Set] key three times, while the digital-display St code, then press [▲] or [▼] key to delay protection parameter setting, this function can prevent the machine from sudden or overfrequency Upon setting, the system will operate according to your setting scope, (it means the temperature reach the setting value, machine will stop operation, at the C cooling mode, while the temperature reach the setting value plus return difference value, it will start operation. at the H cooling mode, while the temperature reach the setting value minus return difference value, it will start operation.)

Ht upper limit: press the [Set] key for seconds while HC being display, press the [Set] key four times, while Ht code being display, then press [▼] or [▲] key to set upper temperature limit and parameter.

Lt lower limit: Press the [Set] key long and then while HC code being display, press the [Set] key five times, while Lt code being display, then press [▲] or [▼] key to set lower temperature limit and parameter.

Notes

1. While cooling, upper limit and parameter are setting, which shall more than total of setting temperature plus return difference value. (e.g. while the setting temperature is 20℃ centigrade, return difference is 5℃ centigrade, upper limit and ultratemperature alarm parameter shall be more than 26℃ centigrade.)

2. While heating, upper limit and parameter being setting, which shall more than setting temperature value. (e.g. while the setting temperature is 20℃ centigrade, upper limit and ultratemperature alarm parameter shall be more than 21℃ centigrade.)

3. While use the upper and lower limit function menu, upon changing upper and lower limit parameter. Setting parameter of control temperature shall merely change within upper and lower limit scope.

4. In the process of installation, sense line shall be required to prolong, part of the prolong line shall be need of shielded wire.

Installation Notes:

1. Please read the instruction of this Product in detail, connect the 110V/AC power, sensor and control line to the respondent port according to indicated wiring map strictly, and check without inerrability tighten all connected screws terminal up, then power on for operation. Otherwise, crossed line will affect the operation and control, seriously, it might burn out the temperature control or chip.

2. While using this product, it shall be away from damp environment corrosive gas and strong magnetic field, otherwise, it will affect the normal use of this product.

3. Before putting into Market, this products have been strictly inspected, the quality will have one year warranty, the warranty only limit to the sales-product, in the event that the damaged is due to separate by yourself or improper use, which is out of warranty.

Our manufacturer produce a series of speciality electronic temperature and dampness control, please contact with sales agency with any problem, we would warmly offer you superior quality after-sale service.