

HK-10_01 User's Guider

1 Technical data sheet

1.1 Temperature measurement range and accuracy: $-50^{\circ}\text{C}\sim 99^{\circ}\text{C}$, $\pm 1^{\circ}\text{C}$ ($-40^{\circ}\text{C}\sim 50^{\circ}\text{C}$), $\pm 2^{\circ}\text{C}$ (others)
 $-58^{\circ}\text{F}\sim 210^{\circ}\text{F}$, $\pm 2^{\circ}\text{F}$ ($-40^{\circ}\text{F}\sim 122^{\circ}\text{F}$), $\pm 4^{\circ}\text{F}$ (others)

1.2 Resolution: 0.1°C or 1°F

1.3 Power supply: 12VDC

1.4 Relay outputs: Refrigeration equipment: 5A/12VDC
Heater: 10A/240VAC

1.5 Operating temperature: $0^{\circ}\text{C}\sim 55^{\circ}\text{C}$

1.6 Storage temperature: $-25^{\circ}\text{C}\sim 75^{\circ}\text{C}$

1.7 Relative humidity: 20%~85% (no condensing)

2 Panel and Operation



3 Indicator light description

3.1 The cool indicator lights up when the refrigeration equipment is working, flashes during the startup delay time.

3.2 The heat indicator lights up when the heater is working, flashes during the startup delay time.

4 Key function

4.1 Edit the value of set point

Press and hold the up key for 3 seconds to display the value of set temperature and flash, then press the up key or down key to adjust the set temperature, there is no key operation for more than 5 seconds, the controller will automatically save the changed temperature and exit the temperature change operation.

4.2 Turn on or off

In the on state, press the down key for 3 seconds to turn off the controller.

In the off state, press the down key for 3 seconds to turn on the controller.

4.3 Cancel alarm sound

When the buzzer gives an alarm, press any key to cancel the alarm sound.

4.4 Edit the value of other parameters

Press the up key and down key at the same time for 3 seconds to display "F0" and flash, then press the up key and down key at the same time to switch the parameter and the menu item, press the up key or down key to adjust the value of the parameters or select the menu "F0~F12", there is no key operation for more than 30 seconds or press the up key and down key at the same time for 3 seconds the controller will save the changed value and exit the parameters change operation.

5 Parameter table

Label	Name	Range	Default	Unit
F0	Set point	F1~F2	59°F	°C/°F
F1	Min. set point	-40°C~F0; -40°F~F0;	-40°F	°C/°F
F2	Max. set point	F0~90.0°C; F0~194°F	194°F	°C/°F
F3	Differential of temp. for the refrigeration equipment start	0.1°C~10.0°C; 0.2°F~18.0°F	0.9°F	°C/°F
F4	Differential of temp. for the heater start	0.1°C~10.0°C; 0.2°F~18.0°F	0.9°F	°C/°F
F5	Temperature probe calibration	-10°C~10.0°C; -18°F~18.0°F	0.0°F	°C/°F
F6	Min. time between successive the refrigeration equipment starts	1~10	1	Minute
F7	The refrigeration equipment start delay after power on	0~300	10	Second
F8	Min. time between successive the heater starts	1~10	1	Minute
F9	The heater start delay after power on	0~300	10	Second
F10	Higher temperature alarm	F11~99.9°C; F11~212°F	212°F	°C/°F
F11	Lower temperature alarm	-50.0°C~F10; -58°C~F10;	-40°F	°C/°F
F12	Temperature alarm delay	1~120	1	Minute
F13	Unit	0: celsius; 1: fahrenheit	1	/

6 Control output

6.1 Temperature control:

When the temperature is higher than the set point(F0) + the differential (F3), and finish the Min. time between successive the refrigeration equipment starts, the refrigeration equipment will start;

When the temperature lower than the set point(F0), the refrigeration equipment will close;

When the temperature is lower than the set point(F0) - the differential (F4), and finish the Min. time between successive the heater starts, the heater will start;

When the temperature higher than the set point(F0), the heater will close;

6.2 Alarm

When the temperature is higher than the the value of high temperature alarm, and the duration exceeds the temperature alarm delay, the digital tube flashes HHH, and the buzzer rings

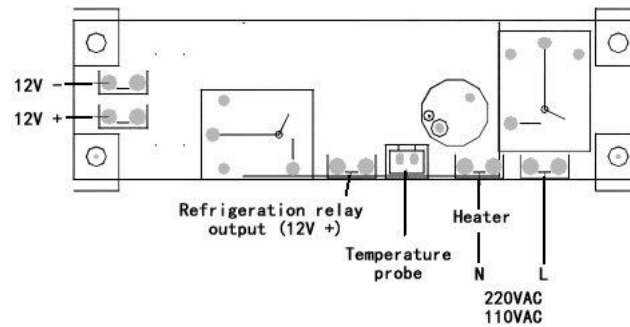
When the temperature is lower than the the value of low temperature alarm, and the duration exceeds the temperature alarm delay, the digital tube flashes LLL, and the buzzer rings

When the sensor fails, the digital tube flashes EEE, the buzzer rings, and all relays are disconnected.

6.3 Turn off

In the off state, the digital tube does not display, the buzzer does not sound, and all relays are disconnected.

7 Connects



8 Safety rules:

★Danger:

1. Strictly distinguish the power wire, relay output, sensor down-lead and data line, and the relay could not be overloaded.
2. Prohibit connecting the wire terminals without electricity cut-off.

★Warning:

Prohibit using this unit under the environment of over damp, high temp., strong electromagnetism interference or strong corrosion.

★Notice:

1. The power supply should conform to the voltage value indicated in the instruction, and make sure a steady power supply.
2. To avoid the possible interference, the sensor down-lead/data line and power wire should be kept in a proper distance.