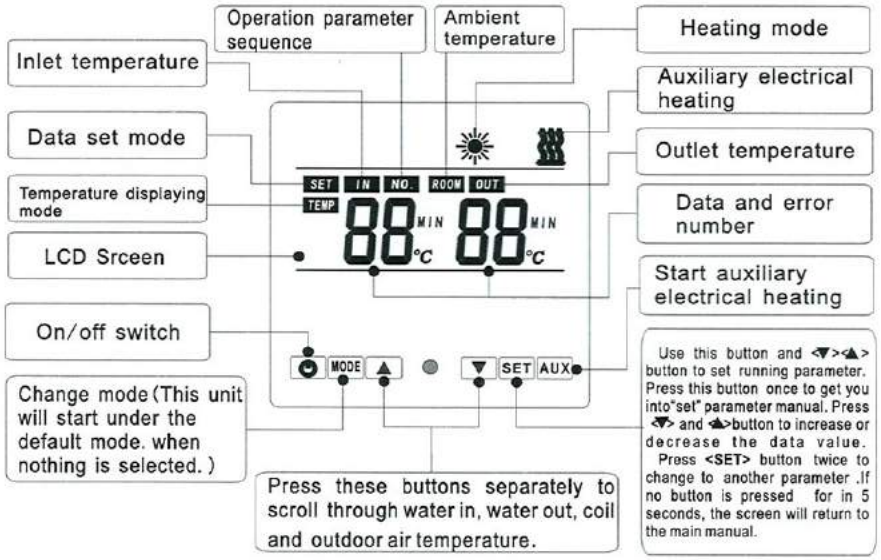
7.Controller

The unit can be pre-programmed by the wire controller and will then be run automatically.

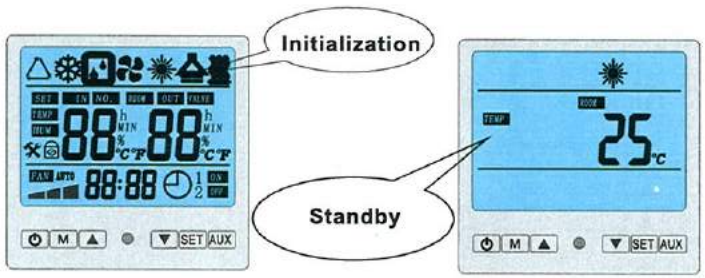
6.1 The appearance of wire controller and its key functions



6.2 Application range.

This intelligent wire controller can be used to control the air-cooled heat pump series. By using it, you can choose single compressor system or two compressors system.

6.3 Initialization and standby state.

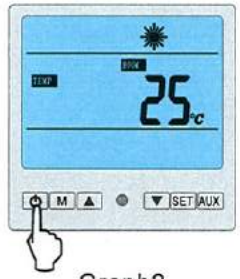


Graph1-1 Graph1-2

a. When you turn on wire controller, it will display the data full screen. Meanwhile, the wire controller will get a communication connection with the heat pump. If the connection can not be successful within ten seconds, that is to say, the connection failed. The heat pump can only be control by its own emergency switch. On the contrary, if the connection can be successful within ten seconds, the wire controller can also work as well as the heat pump's own emergency switch.

b. In the standby state, the wire controller displays the environmental temperature and the current running mode.

7.4 Press ON/OFF button to turn on/off the heat pump.



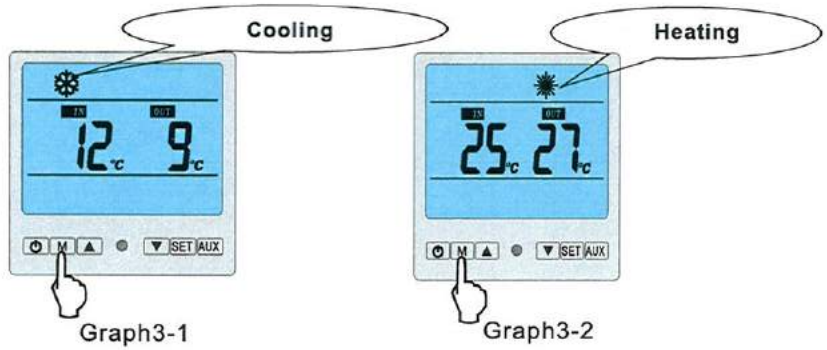
Graph2

7.5 Mode selection.

a. In the ON or standby state, press"MODE"button to choose the heating or cooling mode as the graph3-1 and 3-2 shows.

b. In the ON state the wire controller can display water inlet temperature, water outlet temperature and its running mode

c. In the OFF state, the wire controller environmental temperature and current running mode.



Graph3-1 Graph3-2

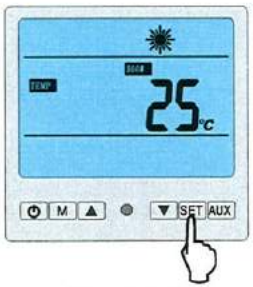
: this symbol is meant to be in a heating mode.

: this symbol is meant to be in a cooling mode.

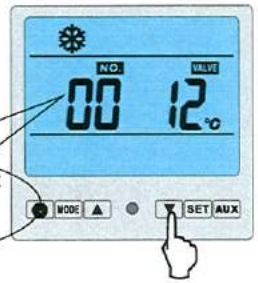
the swimming pool heat pump parameter default setting is in the single heating mode, so as long as you press the ⏻ button, the heating symbol will appear.

7.6 Temperature setting.

a. In the standby mode, press "SET" button to enter into the parameter setting page. (as graph 4-1 shows)
b. Press"▲"or"▼"button to set the parameters. "00" stands for the water inlet temperature setting in cooling mode. as the graph4-2 shows, "12 ℃ " is real water inlet temperature.
c. After setting the water inlet temperature, press "SET" button to turn to the next setting page. "01" stands for the water inlet temperature setting in heating mode. as the graph4-3 shows, "27 ℃ " is real water inlet temperature. And press"▲ "or" ▼ "button to choose parameter you want
d. The screen will return to main page if you don't press any button within five seconds and the screen display the water inlet temperature or water outlet temperature in the ON state or environmental temperature in the OFF state.
f. In the ON state, you can see the current data of all kinds of parameters, but you can not change it.



Graph4-1



Parameter 00: Water inlet temperature during cooling mode

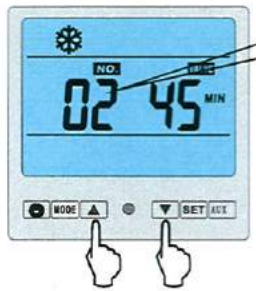
Graph4-2

Parameter01: Water inlet temperature during heating mode

Graph4-3

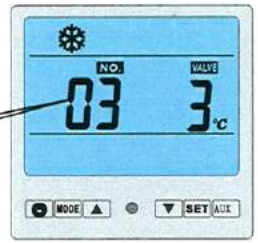
7.7 Other parameters setting.

a. In the standby state, press "SET" button to enter into parameters setting page as the graph 4-1 shows.
b. Press "▲ "and"▼ "button at the same time, when you hear "tick" sound, release the buttons and press " ▲ "or" ▼ "button again to set the current page parameter as graph 5-1 shows.
c. After setting it, press "SET" button to enter another parameters setting page, press " ▲ "or" ▼ "button to set the parameter of the current page.
d. Repeat the above steps to alter other parameter setting. The screen will return to main page if you don't press any button within five seconds and the screen display the water inlet temperature or water outlet temperature in the ON state or environmental temperature in the OFF state.
f. In the ON state, you can see the current data of all kinds of parameters, but you can not change it.



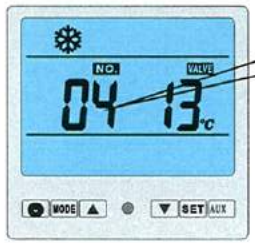
Parameter 02: Defrosting cycle

Parameter 03: Initial defrosting temperature



Graph5-1

Graph5-2



Parameter 04: Final defrosting temperature

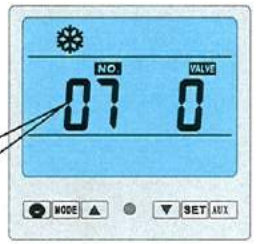
Parameter 05: End time of defrosting

Graph5-3

Graph5-4

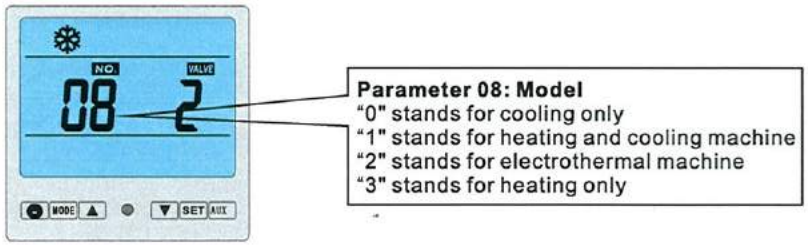
Parameter 06:
Electronic expansion valve control
"0" stands for manual
"1" stands for automatic

Parameter 07: Power down memory function:
"0" stands for on
"1" stands for yes



Graph5-5

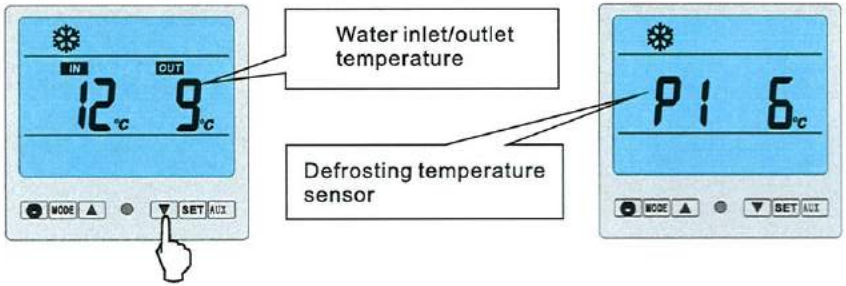
Graph5-6



Graph5-7

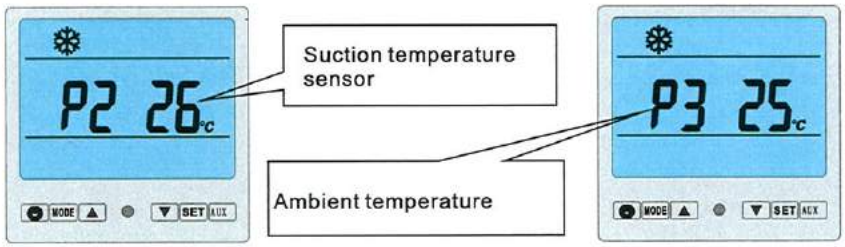
7.8 Parameters display.

a. In the "ON" or "OFF" state, press "▲"or"▼"button, you can see all kinds of temperature parameters.
b. You can see the water inlet/ outlet temperature, defrosting temperature sensor, suction temperature sensor and environmental temperature.
c. If you don't press any button within five seconds, screen will return to main page and display water inlet/outlet temperature in the "ON" and display the ambient temperature in the "OFF" state.



Graph6-1

Graph6-2

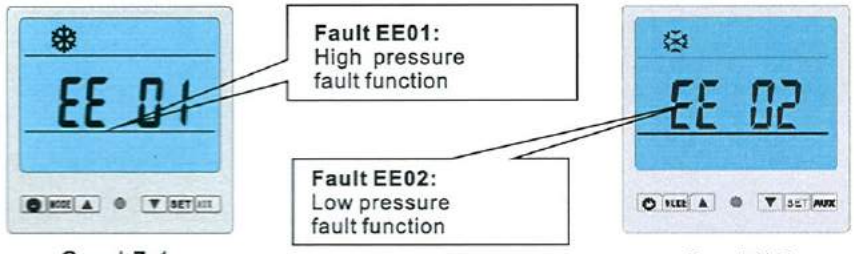


Graph6-3

Graph6-4

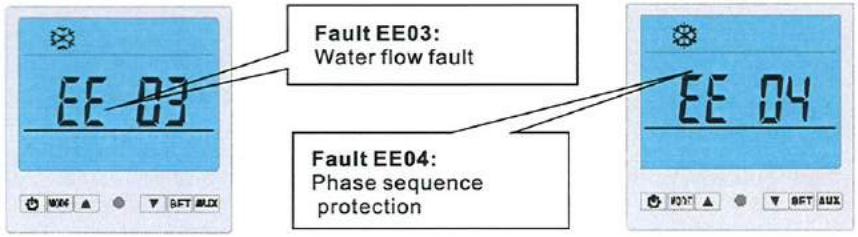
7.9 Fault and protection

a. When E1, E2, E3, E4, E8 faults happened, the wire controller will display fault code accordingly. As the graphs show:



Graph7-1

Graph7-2

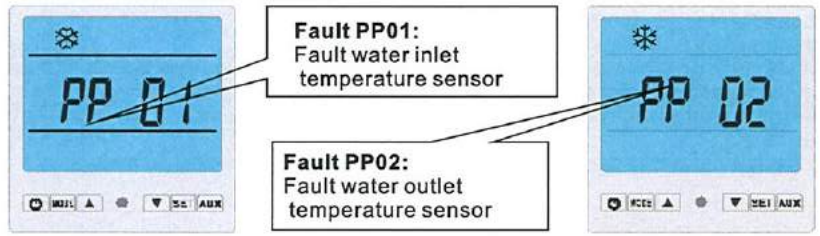


Graph7-3

Graph7-4

Graph7-5

b. When P1, P2, P3, P4, P5, P7 protection take place, wire controller will display the protection code accordingly. As the graphs show:



Graph8-1

Graph8-2

Fault PP03:
Fault in defrosting temperature sensor

Fault PP04:
Fault in suction temperature sensor

Graph8-3

Graph8-4

Fault PP05:
Fault in ambient temperature sensor

Graph8-5

7.10 Defrosting

1 The condition of the entrance to defrosting.
When the unit heating continuously for 40 minutes, and condenser is frosting, at that time, the defrosting system will run as long as Tp1(coil temperature) ≤-9℃. As the parameter 03 showed (Parameter 03 symbolizes coil temperature.

2. The condition to quit from defrosting.
When the Tp1 (coil temperature) >13℃ or defrosting time get to 8 minutes. The system will quit from defrosting.

7.11 Defrost process

1.The following process will happen when the defrosting condition is satisfied.

1) Compressor and outdoor fan stop.
2) 25 seconds later, four-way valve power off.
3) 30 seconds later, compressor will run
4) Water pump run normally..

2.When the exist condition of defrosting is satisfied, the following process will happen.

1) When the exist condition of defrosting is satisfied, defrosting stop, and compressor stop running accordingly, but the outdoor fan start to run, 5 seconds later, four- way valve power on.
2) After the fan run for 30 seconds, the system will recover to heating normally.

8. Maintenance

Before doing any maintenance cut off the power supply of the machine.

[1]Air Passage

To clean the air passage, take off the sound absorption hood and remove leaf and dirt from the evaporator and air way. Clean the evaporator from dust, to keep it`s performance high. There are two ways of cleaning the evaporator.

(1) Choose a detergent which is available in specialised trade and follow the instructions of it`s user manual. Spray the detergent between the fins of the evaporator, wait the stated time and wash it out with tap water.

(2) Use a pressure washer to clean the fins from dust.
Note: The fan can stand splash water. Be very cautious during washing the thin fins, they can be easily bend.

[2]Water Cycle

To assure sufficient water flow volume, wash (or change) the water filter regularly, depending on the pureness and the amount of the heating-circuit water. To wash the water circuit inside the machine, choose a specialist company to do the maintenance.

Avoid frozen water in the water cycle at any time, to prevent the water components from cracking. When the ambient temperature lowers to less than 2℃ the heat pump must be switched on, to avoid freezing.
If the machine is switched off or there is a electrical power outage, the water has to be drained to protect the system. There for open the drainage valves inside the building to drainage the connection pipes. Open the circulation water drainage at the heat pump. Open the drain screw below the water pump inside the heat pump. Close the drains after all water went out.

[3]Disposal

To dispose the heat pump refer to the local regulations. Especially take care for disposing the refrigerant and the compressor oil.