CSHP200 Manual

Main Function

☆Temperature measuring and display
☆Circulating and antifreeze function
☆Auto defrost function
☆Auxiliary heating function
☆Compressor delay production
☆Output temperature protection
☆Water flowing warning
☆Sensor default warning

Technical Specification

☆Sensor: NTC 10K/3470
☆Storage temperature:-10～60℃
☆Setting range:20～60℃
☆Humidity:20～85%RH (No Dewing)
☆Display Range:-40～130℃
☆Power Supply:220VAC ±10% 50HZ
☆Working temperature:0～50℃
☆Load current: Compressor 15A;Heating 8A; Other output 3A

☞ **Failure Code**

No.	Code	Failure	No.	Code	Fault
1	E01	Cabinet sensor failure	5	E05	Water sensor
2	E02	Fan coil sensor failure	6	E06	High low pressure input warning
3	E03	Exhaust sensor failure	7	E07	Store data failure
4	E04	Outdoor sensor failure	8	E08	Communication failure

☞ **Display code indication**

Icon	Display	Not display	Icon	Display	Not display
	On	Off		Compressor start	Stop compressor
	Heating	Stop heating		Pump start	Stop pump
	Electric heating on	Stop electric heating		Four valves on	Four valves off
	Outdoor fan start	Outdoor fan off		Locked	Unlocked
	Defrost	Stop defrost			

Keys

Power Clock Mode Set Up Down

☞ Inquire

Press “SET” inquire all sensor temperature in cycle. The order is Cabinet temp.->Fan coil temp.->Exhaust temp.->Outdoor temp. No key operation after 3 secs return cabinet temp.

☞ **On/Off**

Keep pressing Power for 3 seconds to turn off/on. Turn on controller control water temp., turn off controller stop control water temp.

☞ **Set water temp.**

Press SET button once to enter into the temperature setting state. The LCD blinks show the set temperature, use the UP/Down button to adjust the temperature value (Depress it continuously， it will adjust quickly.) After the adjusting, press SET button to confirm the set temperature currently.

☞ **Parameter code setting**

◇Use the password to enter into the system parameter setting state, the factory password is "11". Depress the SET button for 3 seconds, the LCD shows "POO". Press UP/DOWN to input the password, then press SET button to confirm. If the password is error, the buzzer will beep 3 times then return to the temperature measurement state.

◇Press UP/Down button to select the parameter code, then press SET button, it will show the setting parameter value. Press UP/DOWN button again to set the parameter, then press SET button, it will return to the parameter code showing state after finish the setting.

◇After finish setting, depress SET button for 3 seconds, the system will exit the parameter setting state then return to the temperature measurement state. This time the setting will be saved. If you do not press any button within 15 seconds, the system will exit the parameter setting state. This time the parameter setting is invalid, the controller will work with the parameter before.

☞ **Working Code:**

No.	Code	Setting function	Setting range	Indication	Default
1	U01	Temperature difference	2～10℃	Reference temp. control	5
2	U30	Defrost start time	10～90min		45
3	U31	Defrost start temperature	-9～0℃		-5
4	U32	Defrost stop temperature	2～30℃		10
5	U33	Maximum defrost time	2～15 min		8
6	U34	Defrost four-way valve mode	0～1	0：heat off, defrost on 1：heat on, defrost off	0
7	U50	Exhaust protection temperature	50～125℃		110
8	U51	High low pressure warning mode	0～2	0：Disable 1：on, off warning 2：off, on warning	0
9	U52	Flowing switch code	0～2	0：Disable 1：on 2：off	0
10	U80	Auto restart function	0～1	0：off；1：off	0
11	U81	Lock parameters setting	0～1	0：off；1：on	0
12	U90	passwords	00～99		11

Working mode

◇Press "Mode" modes can be switched between "Auto"and "Economic". "Auto"mode heating start according setting temperature. "Economic"mode heating start on three time periods.

◇When auto-restart function stop, power on will enter "Auto"mode.

☞ **Time setting**

◇Press〖time〗,"Hour"will blinking, Use〖UP〗or〖Down〗to adjust hour. Than press〖time〗again to adjust "minute". Press again to exist time setting.

◇No time data when power on, default is 12:00.

☞ **Economic mode working time setting**

◇Keep press〖Time〗for 3 seconds to enter heating time setting, than press〖Time〗 to select object in circle, use〖UP〗or〖Down〗to adjust value. After setting press 〖Time〗 for 3 seconds to save and exist. If no key operation in 15 seconds, no data will be saved. ◇You can set up three slots, each including the "on" time and "off" time, if the "on" time and "off" times are set to 0, the period closed.

◇If a period of "off" time is earlier than the "on" time, is considered the "off" time is the next day.

☞ Parameter setting locked

Parameter lock feature is turned on, in addition to the on / off and system parameter settings, the other function is turned off all settings.

Control function:

☞ Temperature control

◇When cabinet temp.≤【Setting temp.】-【temperature difference】, controller start heating.

◇When cabinet temp.≥【Setting temp.】, controller stop heating.

Compressor working process:

When cabinet temp.≤【Setting temp.】-【temperature difference】, pump start after 30 seconds delay outdoor fan start. Four way valve working, with another 30 seconds delay compressor start heating.

When cabinet temp.≥【Setting temp.】, compressor stop, after 30 seconds outdoor fan stop, four way valve working. After another 30 seconds pump stop.

Note: four way valve working follow "U34"

☞ **Electrical heating control**

◇If outdoor temp.≤10℃ and water temp.≤33℃, compressor is working, than start electrical heating.

◇Outdoor temp.≥12℃ or water temp.≥35℃, stop electrical heating.

◇During defrosting, compressor working and electrical heating start.

☞ **Circle pump control**

◇On heating pump working, start 60 seconds earlier than compressor and close 60 seconds delay than compressor. On defrosting pump keep working.

◇Pump start 10 seconds test water switch not working, enter warning mode, system stop working. If water switch is working system working normal.

☞ **Solar linkage control**

◇When cabinet temp.≤【Setting temp.】-5℃, and solar heating collector temp.≥cabinet temp.+10℃, than start solar linkage control.

◇When cabinet temp.≥【Setting temp.】, or solar heating collector temp.≤cabinet temp.+2℃, than stop solar linkage control.

◇When solar linkage control start, pump is working.

☞ **No freezing in winter**

On standby mode, when outdoor temp.≤2℃, pump working, pump will running 3 minutes in 30 minutes circle. When outdoor temp.≥3℃, cancel antifreeze function.

☞ **Auto defrost running**

◇Enter defrost: compressor keep working time≥【Defrost time】, and fan coil temp.≤【Defrost time】start defrost, turn off compressor and outdoor fan at the same time, four way valve working 55seconds delay, more 5 seconds delay, than start compressor.

◇Exist defrost: fan coil temp.≥【Defrost stop temp.】, or defrost running time≥【Max defrost time】, stop compressor, four way valve working 55seconds delay, more 5 seconds delay, than enter heating control.

◇Power on defrost: when power on if fan coil temp.≤【Defrost running temp.】, do defrost at once.

◇During defrost for way valve acts follow "U34".

☞ Period defrost

◇If fan coil temp. Sensor, compressor keep running time≥【Defrost start time】, and outdoor temp.≤【Defrost start temp.】enter defrost mode. If outdoor sensor broken too, controller will enter defrost mode directly.

☞ **Exhaust temp. protection**

◇Compressor start, if exhaust temp.≥【Exhaust protection temp.】, stop compress to enter protect mode.

◇If exhaust temp. ≤【Exhaust protection temp.】-10℃, exist protected mode back to normal working.

☞ **High low pressure warning**

◇Compressor keep working for 15 seconds. Test high pressure warning, system will stop working(follow compressor process). High and low signal normal, system working normal.

◇If high and low pressure signal test 3 times in an hour or 1 time warning last 1 hour.

◇High and low pressure warning signal will not test when compressor working normal and defrost.

◇High and low pressure warning signal test follow parameter "U51".

☞ **Compressor delay protection**

◇When system first time power on, compressor start after 3 minutes protection delay.

◇During running,compressor can be restart only after 3 minutes protection delay.

☞ **Cabinet temp. Sensor fault warning**

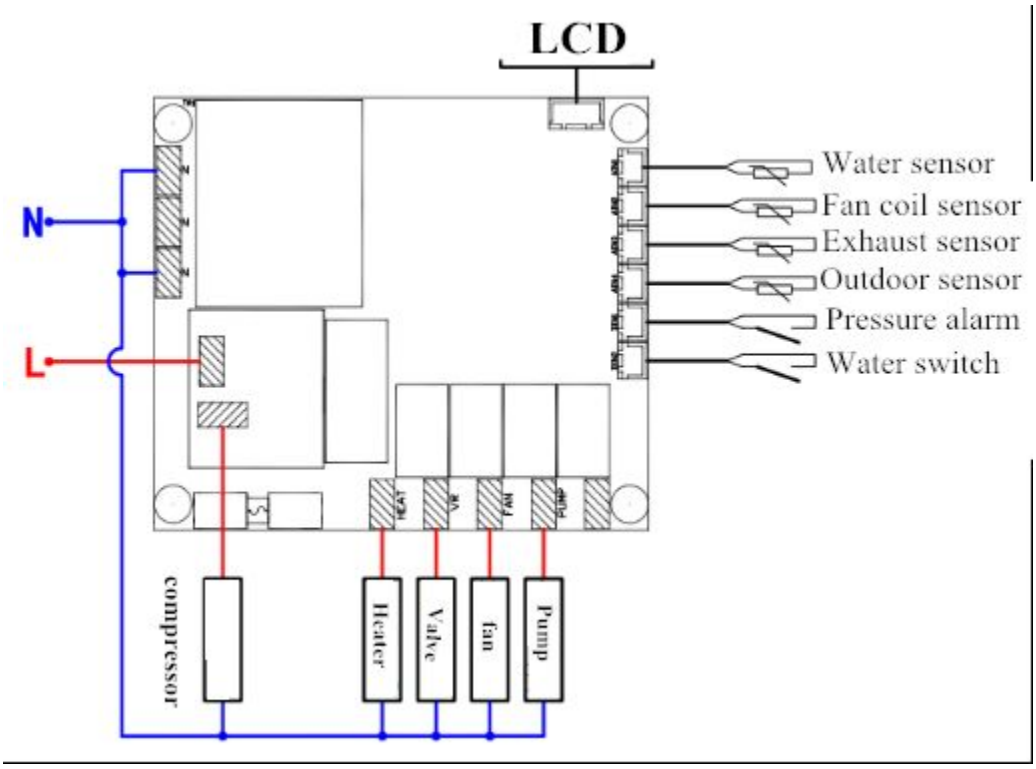
During controller running, when water sensor fault system will stop. It will be normal when the sensor is normal.

☞ **Auto restart function**

◇Turn off auto restart function, controller will off when the power is on again.

◇Turn on restart function, controller will be the same with the condition when the power is off.

Wiring Diagram:



Please note:

● Please set the parameter “F37” correctly, it needs to be the same with the direction of controlled four-way valve. Or the system will not work normally.

● The real clock in the controller supply power depends on the inside super capacitor when power off, only make sure the clock accurate within 72 hours. If power off more than 3 days, the clock will need to be readjusted.

● Water temperature sensor, outdoor machine sensor and exhaust sensor need to be installed on the right place.

● Be sure the outside board ground terminal and the outside ground terminal reliable connection.

● Do not pull the main board and the display when power on, it will lead to clock error.

● Please install the operation board in the room, and avoid direct sunshine.