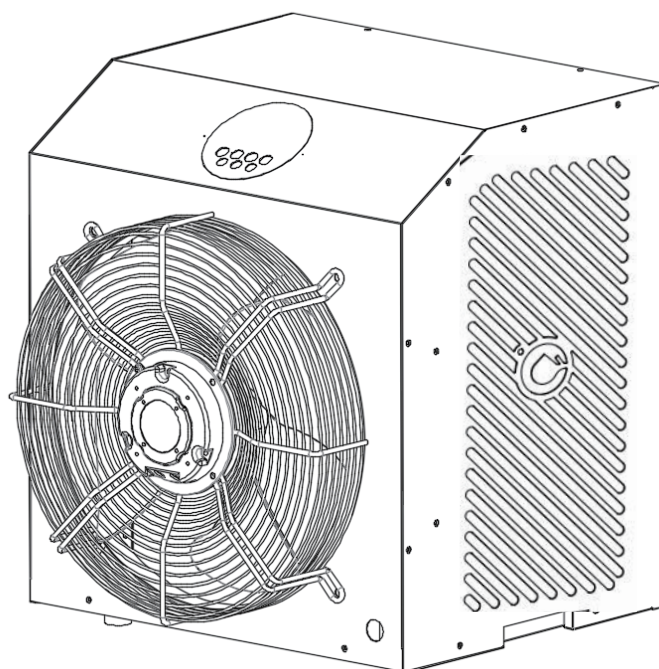




COOLING UNIT

Installation and Instruction Manual



Please read this manual carefully
before installation, operation or maintenance.

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1. PREFACE

Thank you very much for purchasing our cooling unit. We sincerely hope that the product can provide you with a comfortable user experience. by starting, please read this manual thoroughly and keep it carefully for future usage and maintenance.

1.1. Symbol

Listed below are some important symbols that should be strictly followed.

	The refrigerant used in this equipment is flammable. Refrigerant exposure to an external source of ignition is possible to cause a fire hazard.
	Carefully read this manual before any operation.
	This manual comes with critical information on installation, operation, and maintenance.
	Service personnel should refer strictly to this manual for the installation, operation, or maintenance of the equipment.

1.2. Safety

- Please keep the main power switch away from children and avoid children's contact.
- Please turn off the main power in thunderstorm weather to avoid equipment damage or short circuit.
- It is forbidden to light an ignition source near the equipment during its operation.
- If the refrigerant leakage occurs during installation or usage, any operation should be stopped immediately and a service man should be called for inspection.
- Do not put your fingers into the air vent. The fan running at high speed will cause serious injury.
- Do not touch the edges and fins to prevent from being cut.
- Do not operate this equipment with wet hands to prevent electric shock.
- For the safety of the user, it must be properly connected to the ground to prevent the risk of electric shock in case of leakage of electricity.
- Do not touch the refrigerant pipeline with your hands to avoid scald.

- j. If high-temperature work is to be performed on this product, appropriate fire extinguishing device, such as dry powder or carbon dioxide fire extinguishers, should be available.
- k. Do not clean the cooling unit while the power is on. Please turn off the power before cleaning. Otherwise, it may cause injury due to the high-speed fan or electric shock.

1.3. Warning

- a. For repairs please contact a service man. The repair process must be done in strict accordance with this manual. All maintenance operations by non-professional personnel are prohibited.
- b. Misoperation may result in injury to personnel or damage to equipment.
- c. Please make sure that water flow is built up before starting the cooling unit. It is forbidden to start this equipment before the water flow has been established. Otherwise, there is a risk of damage to this equipment.
- d. In winter or when the ambient temperature drops below 0°C, be sure to empty the water from the cooling unit if it is not in use. Otherwise, the cooling unit will be damaged by freezing, in which case your warranty will be voided.
- e. When there is a need to cut the power for repair, wait for 1 minute after power is off before touching the circuit board, to avoid capacitor discharge resulting in electric shock.
- f. The cooling unit must be stored and transferred vertically in its original packaging. If this is not feasible, it cannot be operated immediately after it has been properly placed and must wait at least 24 hours before being powered on.
- g. This equipment is not intended for direct use by children. Children must be supervised by an adult while using it to ensure their safety.
- h. The correct power supply, voltage, and frequency must be confirmed before installation.
- i. Please connect the power cord accurately according to the wiring diagram in this manual to avoid burning the cooling unit or catching fire.
- j. Improper installation may result in fire, electric shock, equipment falling, or water leakage.
- k. Make sure no water penetrates the electrical components.
- l. It is forbidden to store flammable, explosive, and toxic substances in the place where the cooling unit is used to prevent accidents such as fire or explosion.
- m. Please do not place objects that will obstruct the airflow near the air inlet and outlet. Otherwise, it will affect the efficiency of the equipment and even cause the equipment to report malfunction and stop operation.
- n. Do not use any method to speed up the defrosting process or to clean the frosted parts, as this will cause risk of damage to the cooling unit.

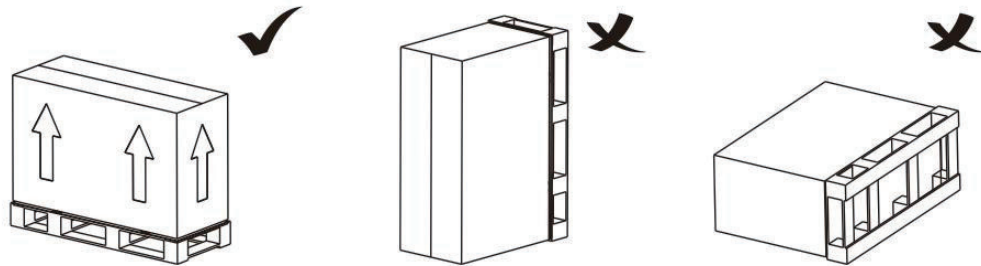
1.4. Attention

- a. Please examine the cooling unit carefully and confirm whether the product has arrived in a good shape, with fixed screws, and a full range of accessories after you receive the product.
- b. Unpack the cooling unit before formally installation by cutting the packing tape, taking off the packaging, and removing the bottom wooden pallet. Plastic packing bags and tapes should be properly handled, and do not let children play with them.
- c. If you suspect a refrigerant leakage, remove or extinguish all open flames around the equipment.
- d. Installation and maintenance of this product must be carried out in a well-ventilated area.
- e. Please install this equipment under local laws, regulations and standards.
- f. A circuit breaker must be installed between the equipment and the user's power supply.
- g. Check the surroundings of the cable to ensure that it is not exposed to abrasion, corrosion, crushing, sharp edges or any other adverse environment. The cable needs to be firmly connected to avoid loosening from constant vibration of compressor or fan, etc.
- h. It should be ensured that the equipment is firmly installed.
- i. If a leakage is found in the pipeline connected to the water inlet and outlet, the equipment needs to be shut down immediately.
- j. Set the proper temperature for a comfortable experience, either overheating or overcooling shall be avoided.
- k. To optimize the cooling effect, please install thermal insulation on the water pipes.
- l. A pool insulation cover can be used during the cooling unit cooling process, which can help improve the cooling efficiency of the cooling unit.
- m. If a power failure occurs during operation, the cooling unit will automatically restart when power is restored.
- n. When the cooling unit does not operate properly or reports a fault code, stop operation and contact service personnel.
- o. Only use manufacturer-specified parts for replacement of components.

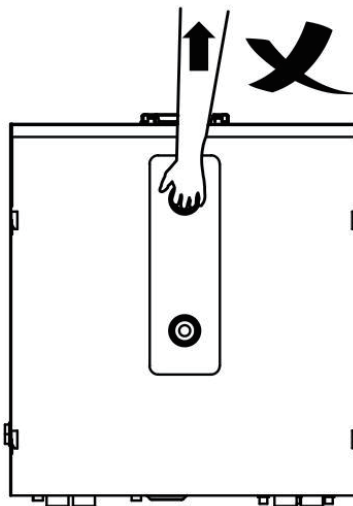
2. OVERVIEW OF THE COOLING UNIT

2.1. Transportation

a. When storing or moving the cooling unit, always keep it in an upright position.



b. Do not lift up the water union when there is a need to move the cooling unit, as it will damage the internal titanium heat exchanger.



2.2. Technical Parameter

Model No.		FPMC5S2	FPMC5S
Performance Condition: Air Temperature: (DB/WB)20°C/19°C, Inlet Water Temperature: 20°C, Humidity90%			
Cooling capacity	kW	3.17	3.17
Power consumption	kW	1.07	1.07
Performance Condition: Air Temperature: (DB/WB)35°C/25°C, Inlet Water Temperature: 20°C, Humidity 50%			
Cooling Capacity	kW	2.18	2.18
Power Consumption	kW	1.35	1.35
Power Supply	/	220V~/50Hz	110V~/60Hz
Operating Air Temperature	°C	-7 ~ 43	-7 ~ 43
Refrigerant	/	R32	R32
Ozonator's ozone output	ppm	200-300	200-300
Flow rate of water pump	L /min	55	55
Noise Level (1m)	dB(A)	60	60
Max. Power Input	kW	1.7kW	1.7kW
Max. Current	A	7.5A	14.5A
Advised Water Flow	m³/h	2	2
Water Pressure Drop	kPa	14	14

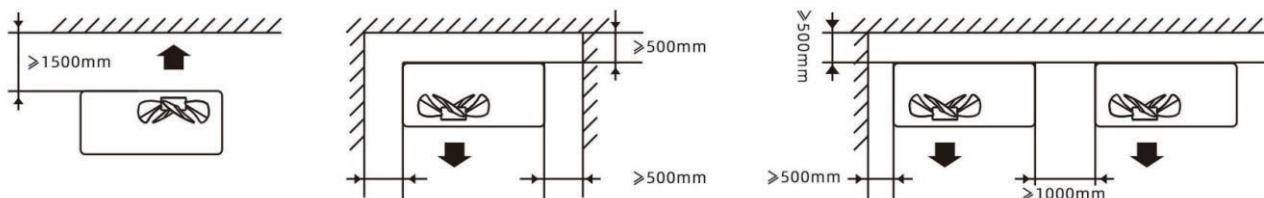
* The above data are subject to modify based on continuous improvement without advance notice.
Please refer to those on real unit, and thanks for your attention to the latest version.



3. INSTALLATION INSTRUCTION

3.1. Installation Distance

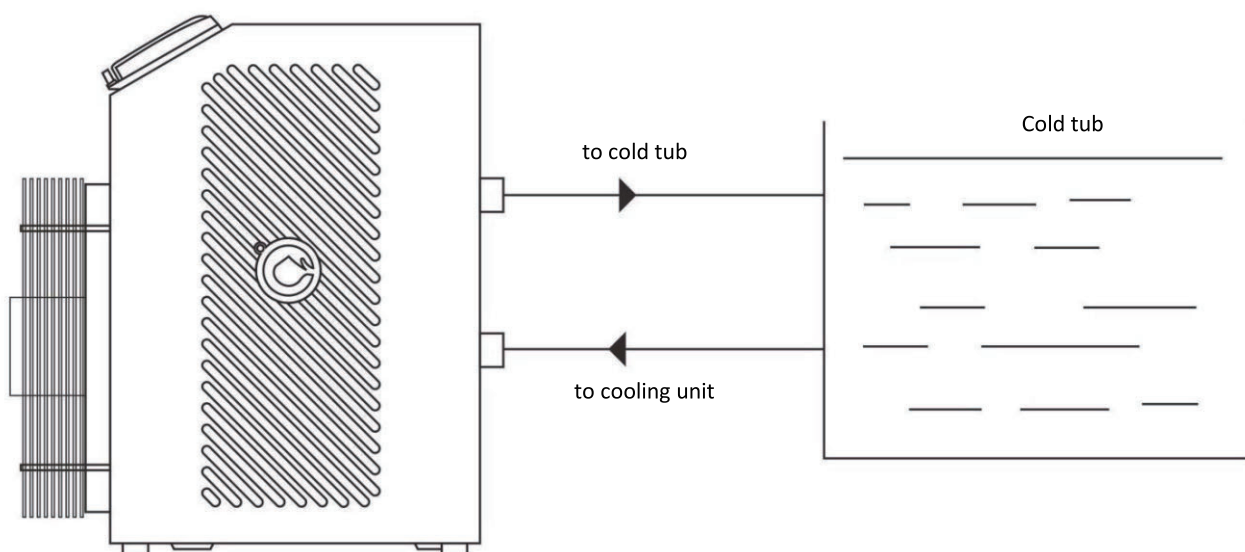
The cooling unit should be installed in a well-ventilated area. It should be installed in the place greater than the following distances:



3.2. Layout of Water System

The filter must be routinely cleansed to keep the water in the system clean and to avoid filter clogging.

The installation schematic is shown below:



3.3. Electric Installation

a. Attention

For safe operation and to maintain the integrity of the electrical system, the equipment must be connected to a common power supply in accordance with the following provisions:

- 1 The cooling unit must be connected to a suitable circuit breaker according to the standards and regulations in force in the country/region where the system is installed.
- 2 The supply cable must be adapted to the rated power of the equipment and the wiring length required for the installation. The cable must be suitable for outdoor use.
- 3 In places open to the public, an emergency stop switch must be installed near the cooling unit.

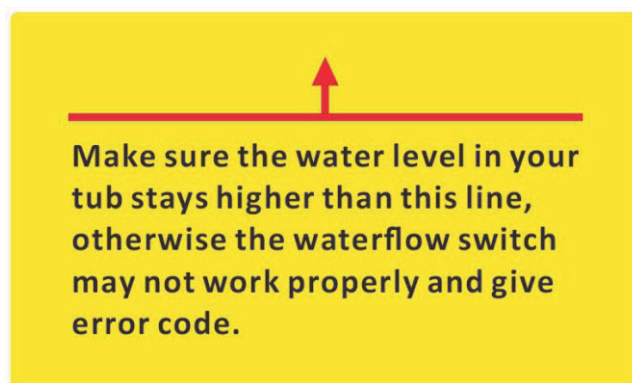
Model	Power Supply	Cable Specification
FPMC5S2	220V~/50Hz	14AWG
FPMC5S	110V~/60Hz	14AWG

3.4 Instruction of air release

Due to the limited structure space, no self-absorption type water pump can be adopted inside of your cooling unit, so users have to release the air manually, and then ensure the water pump runs correctly.

Please follow below instructions to make air release:

3.4.1. Make sure water level in your cold tub stays higher compared to the instructed red line, you can refer to the sticker at back side of your cooling unit:



3.4.2. Methods of air release

- 1 Make sure water loop is well connected, switch on the cooling unit, normally it will start in below sequence:

Water pump → Fan motor → Compressor

2 If the cooling unit doesn't start correctly and give "P01" error code on the display, you have to release the air in water loop manually, and you can follow below 2 different methods.

Method (1): By loosening the outlet water hose

- Gently loosen outlet water hose a little, make some water flows out and takes the air away, reconnect the hose and see if there's water flowing out at outlet of your cold tub;
- Repeat above process till there's water flowing out at outlet of your cold tub;
- Reset your cooling unit, "P01" error code eliminates and it runs correctly.
- You can refer to below sketch for better understanding.

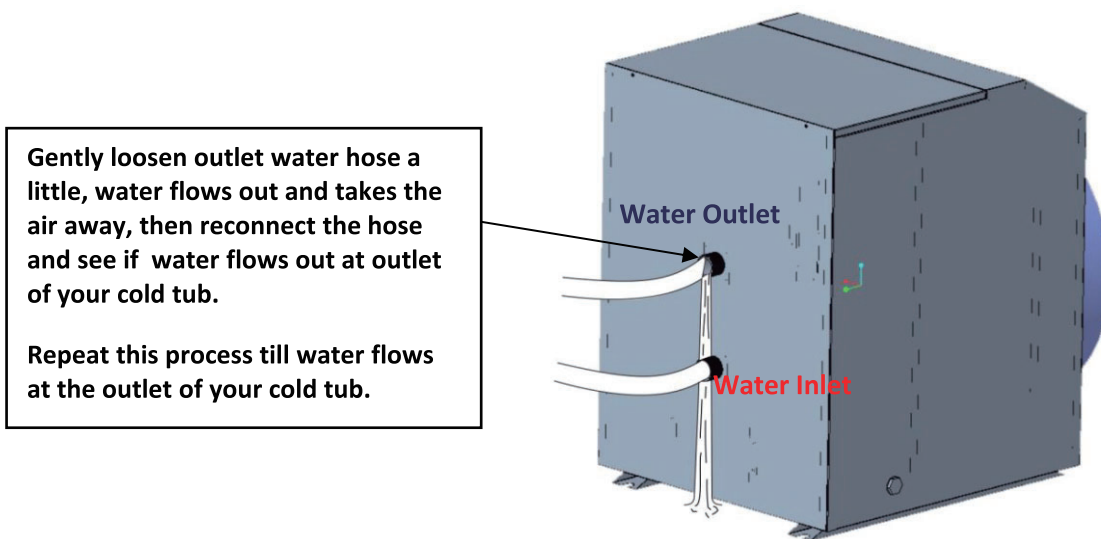


Figure 1: advised solution of manual air release, method (1).

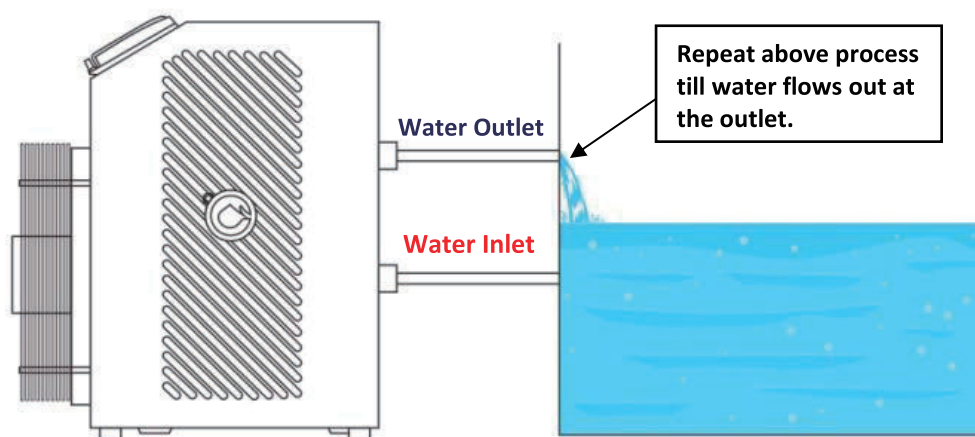


Figure 2: repeat the process at Figure 1, till there's water flowing out at your cold tub. Then reset your cooling unit.

Method (2): By loosening the drainage outlet nut

- Gently loosen drainage outlet nut a little, make some water flows out and takes the air away, reconnect the nut and see if there's water flowing out at outlet of your cold tub;
- Repeat above process till there's water flowing out at outlet of your cold tub;
- Reset your cooling unit, "P01" error code eliminates and it runs correctly.
- You can refer to below sketch for better understanding.

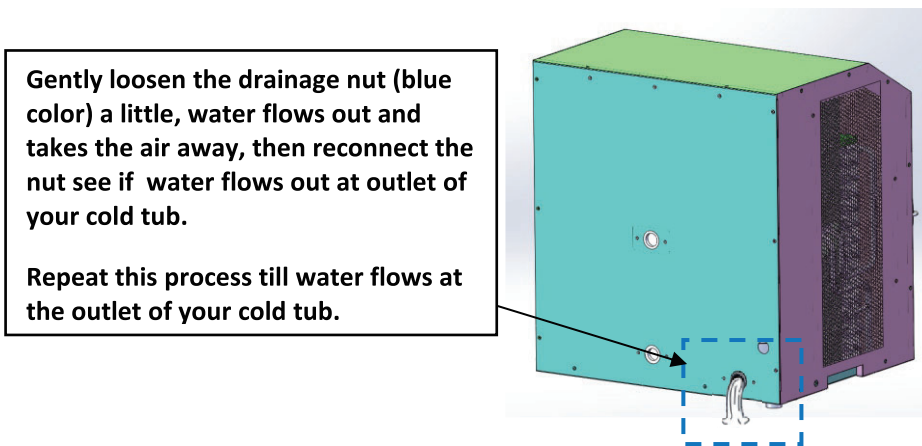


Figure 3: advised solution of manual air release, method (2).

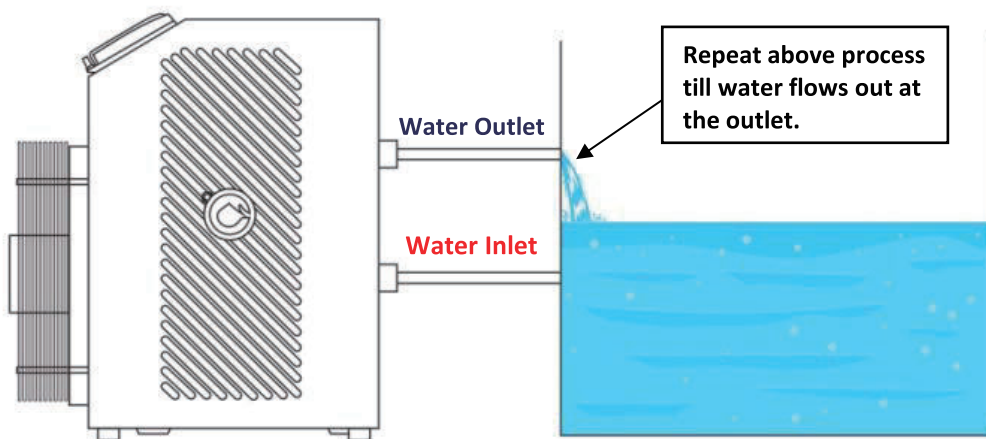


Figure 4: repeat the process at Figure 3, till there's water flowing out at your cold tub. Then reset your cooling unit.

3.4.3. For further information, please also read carefully the instruction sticker which is pasted on back side of your cooling unit.

SPECIAL NOTES

After installation with cold tub, at the first time of switching on this cooling unit, make sure to release the air inside of water side heat exchanger:

1. Switch on this cooling unit, and see if water goes out normally;
2. If not, gently loosen the outlet water tube, till air releases and water goes out normally;
3. Then reconnect the outlet water tube correctly;
4. If the cooling unit doesn't run and display PL error code, reset it's power supply and repeat above procedures.

4. TESTING

WARNING: Check all wiring carefully before turning on the cooling unit.

4.1. Inspection

Before trial running, verify that the following items are complied with.

- a. The cooling unit is installed properly.
- b. The power supply voltage is the same as the rated voltage of the cooling unit.
- c. Leakage protector is working normally.
- d. Piping and Wiring are connected correctly.
- e. The ground wire is connected correctly.
- f. The air inlet and outlet of the cooling unit are unobstructed.
- g. Smooth drainage and no water leakage.
- h. Pipe insulation is completed.
- i. Air in the water loop has been evacuated and built in water pump runs properly.

4.2. Trial Running

Step 1: Users must check if the water pump can start properly when turning on the cooling unit. If not, make sure to release the air inside of water loop (please refer to the content at “3.4”).

Otherwise the cooling unit will not start correctly and display “P01” error code.

Step 2: Before starting the cooling unit, check for any leaks of water and set the proper temperature, then turn on the power supply.

Step 3: Items to check during trial running.

- 1 Whether the electric current is normal.
- 2 Whether there's leakage of the whole gas system.
- 3 Whether the buttons of the controller are normal.
- 4 Whether the display screen is normal.
- 5 Whether there is abnormal noise or vibrations during operation.
- 6 Whether the condensate drainage is normal.

5. OPERATION

5.1. Wire Controller Interface

Symbol	Description
	Heating mode
	Cooling mode
	Automatic mode
	Defrost mode
	Networking function
	ozone icon



5.2. Operation Instruction of Wire Controller

5.2.1. Power and Screen Lock

Shortly press the “” key to turn the cooling unit on or off.

Long press the “”, the cooling unit will be self-locked. If locked, icon of lock “” is displayed;

For unlock, Long press the “” until a “beep” sound to unlock. Then the icon “” disappears.

5.2.2. Mode

When the cooling unit is on, shortly press “” key to select the operating modes.

The circular selecting sequence is cooling→heating→automatic...

Note: The icon “” will display when heating mode is on. The icon “” will display when cooling mode is on. The icon “” will display when automatic mode is on.

5.2.3. ozone function

The Ozone works in two ways parameter 22: The Ozone operation mode

The parameter 22 select 0: The ozone works in sync with the compressor, and when the
compressor starts, the ozone starts

The parameter 22 select 1: The ozonator starts with the compressor and after running for a period of time
(parameter 23: range 1-90 minutes, default 3 minutes), the ozonator closes

5.2.3. Timing:Set for the clock and timing

Press the button "" to enter the clock setting, and the flashing clock indicates entering the clock setting. If there is a need to set the clock, press the "" key to enter the hour setting of the clock setting. Combined with the "" and "" key to change the hour setting of the clock. After setting, press the "" key again to enter the minute setting of the clock setting. Combined with the "" and "" key to change the minute setting of the clock. After setting, click "" to complete the setting and return to the main interface.

If the clock does not need to be set, or if the clock setting is completed, click the button " " to enter the timer setting and enter the first group of timer on/off time settings. Long press the "" key to select timer priority/invalid. When the timer is valid, the icon "" flashes, but when the timer is invalid, the icon "" does not light. After selecting timer validity, click the "" key to enter the timer on time hour setting, and press the "" and "" key to change the time. After the setting is completed, Click "" to enter the timed power on minute setting, press "" and "" to change the time, and after the setting is completed, click "" to enter the timed power off setting. The setting method is the same as timed power on. In the timed setting, click the button "" directly to enter the next set of settings, and so on.

5.2.4. Temperature Setting

Keys "" and "" : Press the "" or "" keys on the main interface of the startup to set the current mode setting temperature.

5.2.5. Parameter query and setting

Long press and hold the "" key to enter the parameter query status, click the "" and "" key to switch parameter serial numbers. In the query status, press the "" key to enter the parameter setting status. Combined with the "" and "" key, the parameter value can be changed, and then press the "" key to confirm the modification. In the parameter query status, press the "" key to return to the main interface; Leave in query state without action

System parameters and status

Parameter	Name	Range	Default	Note
0	With or without memory	0 (without) \1 (with)	1	Adjustable
1	Daily cycle flag	0 (without) \1 (with)	1	Adjustable
2	Return difference X	2-10℃	1	Adjustable
3	Return difference Y	0-3℃	0	Adjustable
4	Enter defrosting cycle when heating	30-90Min	40Min	Adjustable

5	Defrosting entering temperature point when heating	-30-0℃	-7℃	Adjustable
6	Exit defrosting temperature conditions when heating	2-30℃	20℃	Adjustable
7	Exit defrosting time conditions when heating	1-12Min	8Min	Adjustable
8	Compressor exhaust protection	95-120℃	118℃	Adjustable
9	Set the upper temperature limit	40~65	40	Adjustable
10	Water pump mode	0 (normal) \1 (special)	0	Adjustable
11	water pump stop time of constant temperature	3-20MIN	15	Adjustable
12	Reserve secondary antifreeze method	0 (heat pump) \1 (electric heater)	1	invalid
13	Model selection	0(cooling)\1 (heating and cooling) \2 (heating)	1	Adjustable
14	Electronic expansion valve action cycle setting	20s~90s	45	
15	Target overheat setting	-5℃~10℃	5℃	
16	Permissible exhaust temperature during expansion valve adjustment	80℃~110℃	95℃	
17	Defrost electronic expansion opening setting	2~45	40	Actual use * 10
18	Minimum opening setting of electronic expansion valve	5~20	10	Actual use * 10
19	Electronic expansion valve manual steps	2~45	35	Actual use * 10
20	Manual and automatic selection of electronic expansion valve	0/1	0	0: Manual/1: Automatic
21	Low ambient temperature PT	-20~15℃	-15	
22	The Ozone operation mode	0:Follow the compressor 1:After the compressor starts, the delay (parameter 23) time is turned off	0	
23	The delay time for the Ozone operation	1~90 min	3 min	
24~53	EEV system parameter			
54	Inlet water temperature	-9~99℃		Measured value
55	Outlet water temperature	-9~99℃		Measured value
56	Coil temperature	-9~99℃		Measured value
57	Discharge temperature	0~C5℃		Measured value
58	ambient temperature	-9~99℃		Measured value
59	Return air temperature	-9~99℃		Measured value
60	Display of expansion valve steps			Measured value
61	Cooling coil temperature (reserved)	-9~99℃		Measured value

5.3. Operation Instruction of Wi-Fi Function

5.3.1. APP Download

Search “Smart Life” to download the app.

 Smart Life	APPLE system download from:	ANDRIOD system download from:
		

Note: For Android mobiles, “Download apps from external sources” should be activated, as below shows:

Open the APP and enable the authorization of its positioning.

