R32
DC INVERTER

Dream
Air to Water
Heat Pump

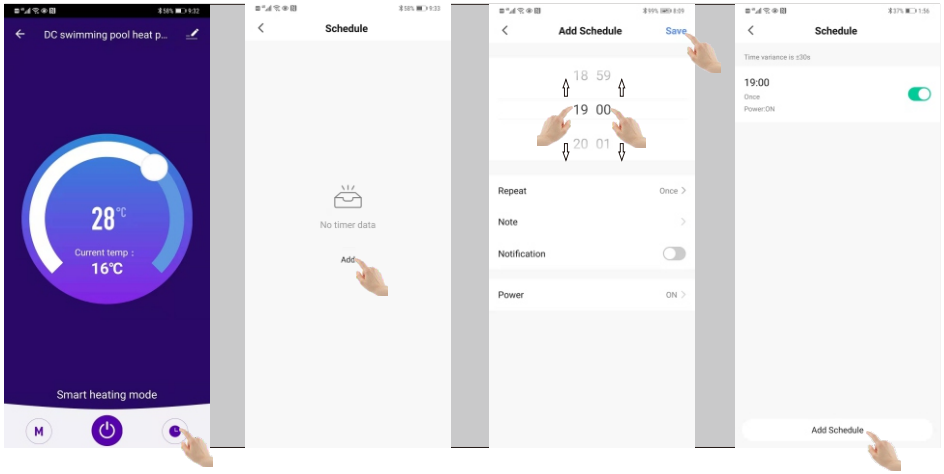
USER MANUAL

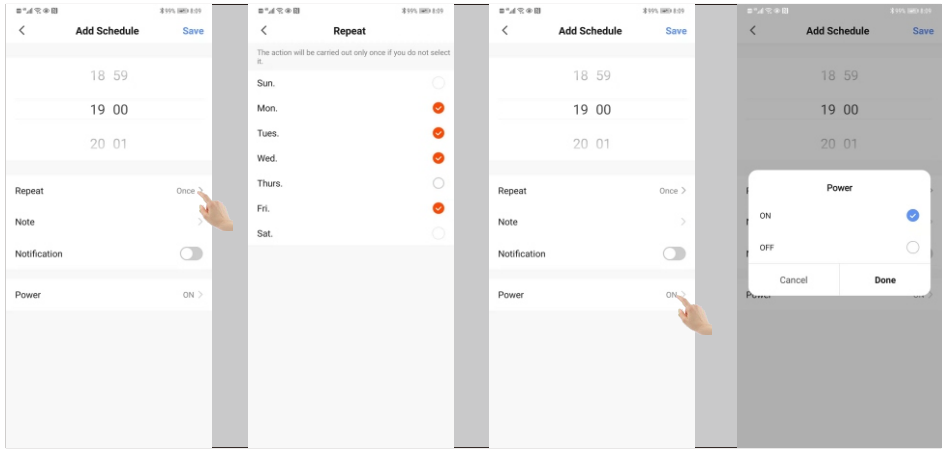
MODEL: ESDAW-22KH-1DC

Content

11-7-6. Timer setting

1. Click “timer” button on the right bottom.
2. Click “Add” in the middle of the page.
3. Slide the hour and minute column numbers up or down to adjust the math to the time required, then click “Save” on the right top.
4. Now we have one timer setting, if you want another timer, click “ Add schedule” on the bottom of the page, you can set another timer.
5. Click “Repeat” , you can choose the timer to set the repetition time.
6. Click “Power” button, you can choose to turn on or off at certain times.





1.Safety Precautions

This heat pump contains flammable and explosive refrigerant R32.

Maintenance must be in the open air and there must not be fire!

ELECTRICAL POWER MUST BE SWITCHED OFF BEFORE STARTING ANY WORK ON JUNCTION BOXES

The aim of this manual is to provide instructions for installation, commissioning, operation.

WARNING!

The installation, commissioning and maintenance of these machines should be performed by qualified personnel having a good knowledge of standards and local regulations, as well as experience of this type of equipment.

WARNING!

Any wiring produced on site must comply with local electrical regulations.

WARNING!

Ensure that the electrical supply corresponds to the specification indicated on the unit’ s maker’ s plate before proceeding with the connection in accordance with the wiring diagram supplied.

WARNING!

The unit must be EARTHED to avoid any risks caused by insulation defects.

WARNING!

No wiring must come in contact with the heat source or the fan rotating parts.

WARNING!

Preparation for shutting down the unit for a prolonged period if the installation does not contain glycol, the evaporator and the chilled water pipes need to be carefully and completely drained of water

TAKE CARE!

The unit should be handled using lifting and handing equipment appropriate to the unit’ s size and weight.

TAKE CARE!

It is forbidden to start any work on the electrical components without switching off the electrical supply to the unit.

TAKE CARE!

It is forbidden to start any work on the electrical components if water or high humidity is present on the installation site.

TAKE CARE!

When the unit is being connected, ensure that no impurities are introduced into the pipe work and the water circuits.

TAKE CARE!

A mesh filer must be provided on the hydraulic pump and in exchanger water inlets.

The manufacturers warranty will not apply if the installation recommendations listed in this manual are not followed.

2.Packing list

Please verify that the following listed accessories are included in the packaging.
If they are damaged or lost, please contact your local distributor or agent immediately.

+

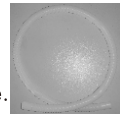
Installation & instruction manual:

It includes basic product information guidance of proper usage methods and maintenance.

X1

Water drainage pipe（1m）

Only horizontal discharge units have water drainage pipe to drain out the condensed water from the bottom plate.



X1

Expansion screws:

Install it on the four points of the bottom plate to fix the unit to the foundation.

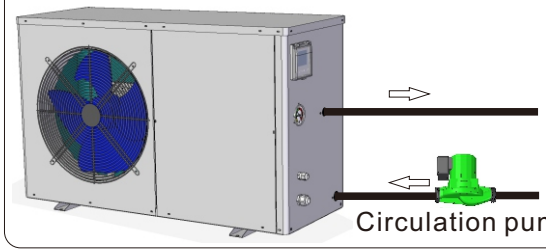
X4

Anti-vibration rubber pads:

Put it under the four installation points to reduce the vibration and noise produced during operation.

X4

Heat pump

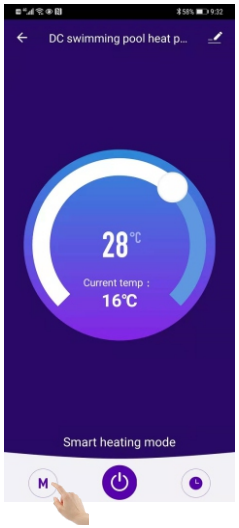


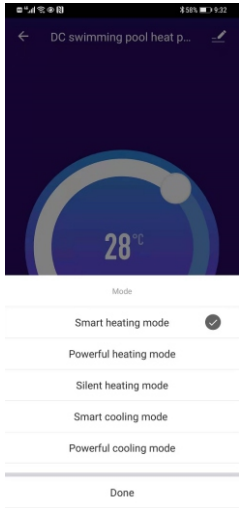
Note:
You need to install one circulation pump outside the heat pump to ensure the circulation of the water system.

Circulation pump

11-7-4. Mode setting

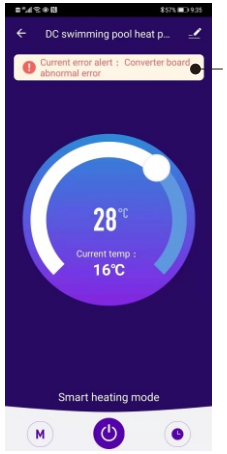
Click “M” button on the left bottom, then choose the running mode you want.





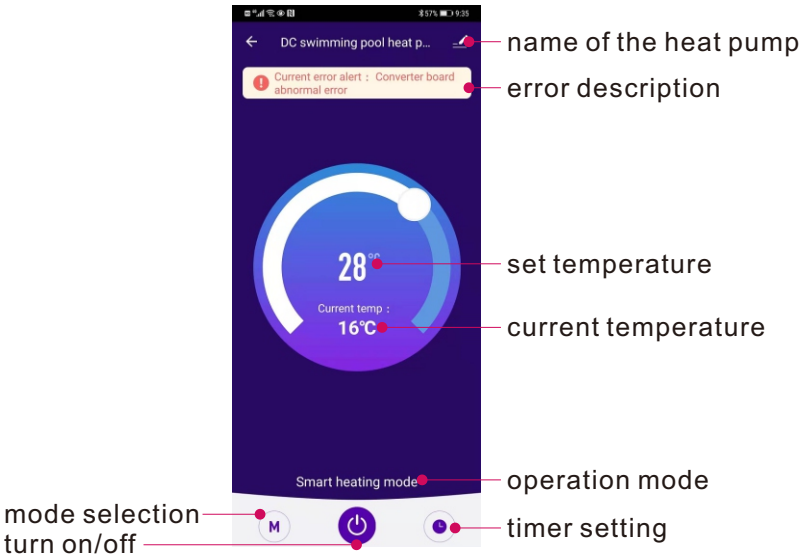
11-7-5. Error record

When the heat pump fails, the fault description will appear on the main interface.



fault description

11-7-2. Interface description

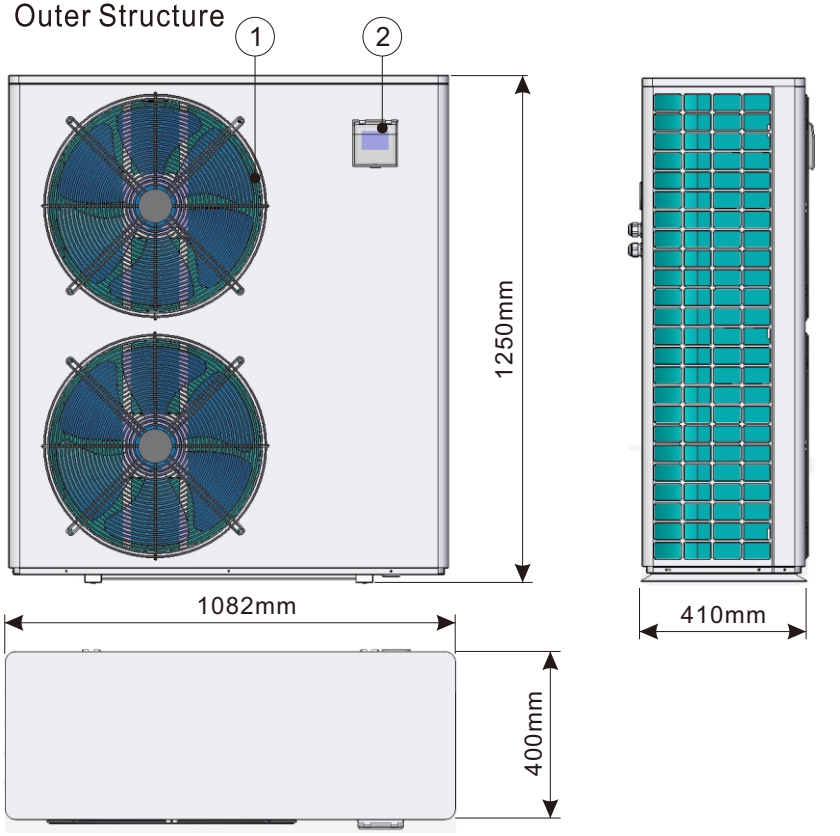


11-7-3. Adjust the temperature

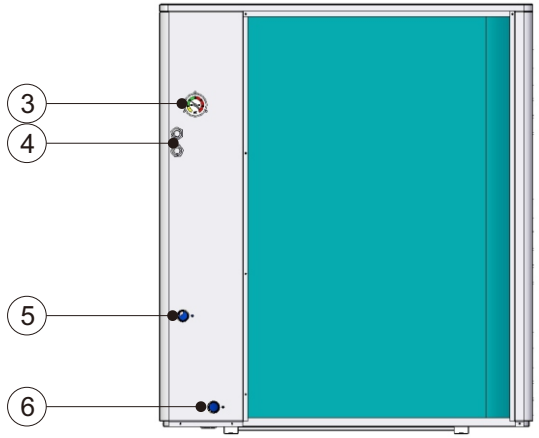
Click any part of the temperature ring with your finger to set the temperature to the corresponding value, or pull the head of the temperature ring with your finger to adjust the set temperature smoothly.

3.Structure

● Outer Structure



1. Fan and motor
2. Wire controller
3. High pressure gauge
4. Power supply
5. Water outlet
6. Water inlet



4.Specifications

AIR TO WATER HEAT PUMP SPECIFICATIONS	
Model	**ESDAW-22KH-1DC**
ELECTRICAL INPUT	
Voltage/Phase/Frequency	220-240V/1PH/50HZ
Amps Per Phase	25Amps
Running Current	32.5Amps
Wire Size	10AWG
Circuit Breaker Size	36Amps
PERFORMANCE	
Heating Capacity	22KW
Heating Power Input	5.1KW
Heating COP※	4.3
Heating COP※※	4.6
Sound Level	58dB(A)@3m
TECHNICAL DATA	
Compressor	
Type	Rotary (DC inverter)
Number Per Unit	1
FLA (Full Load Amp)	27.6Amps
Voltage/Phase	220-240V/1PH
Fan	
Type	Propeller
Number Per Unit	2
Power Input	0.12*2KW
Voltage/Phase	220~240V/1PH
Fan Speed	850Rpm
HEAT EXCHANGER (Water Side)	
Type	Tube in shell heat exchanger
Water Flow Rate (m^3/h)	3.2
Max. Outlet Water Temp	55℃
Water Connections	1 Inch
Hot Water Supply (L/h)	471
GENERAL INFORMATION	
Refrigerant	R32
Defrost	Automatic Hot Gas Injection
Min. Operating Temperature	-15℃
Shipping Weight	155 kg
Dimensions L x W x H (mm)	1082 x 410 x 1250
※Heating: Outdoor Air Temp:7℃ DB ,6℃WB, Water Temp: 40℃	
※※Heating: Outdoor Air Temp:15℃ DB ,11℃WB, Water Temp: 35℃	

11-7. Control the heat pump through WIFI

11-7-1. Turn on/off the heat pump

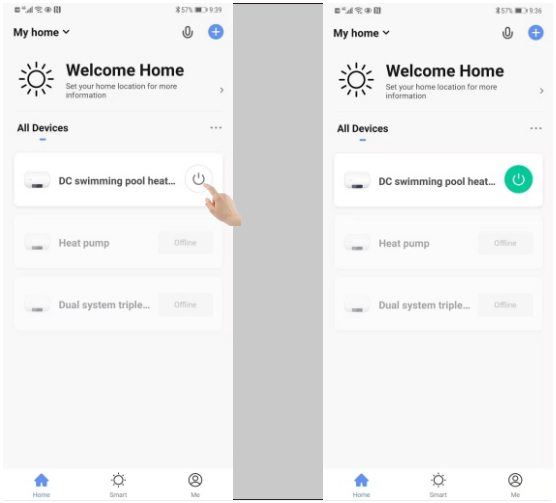
Method 1:

Press the “on/off” button in the main interface, when the icon become green, that means the heat pump turn on.

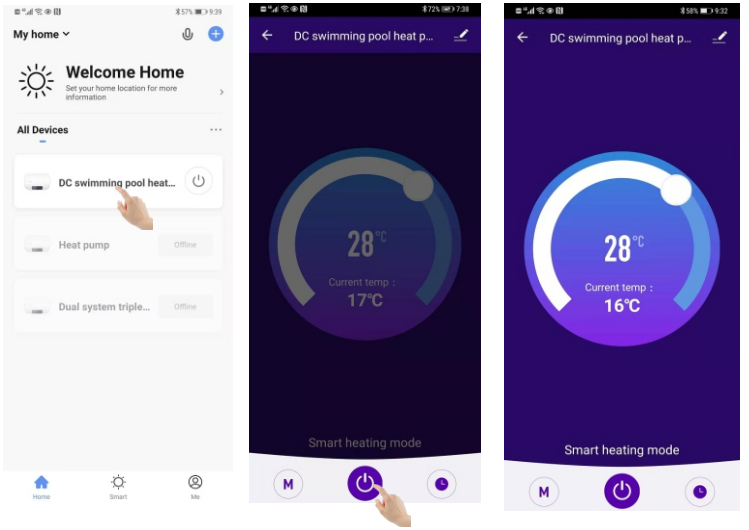
Method 2:

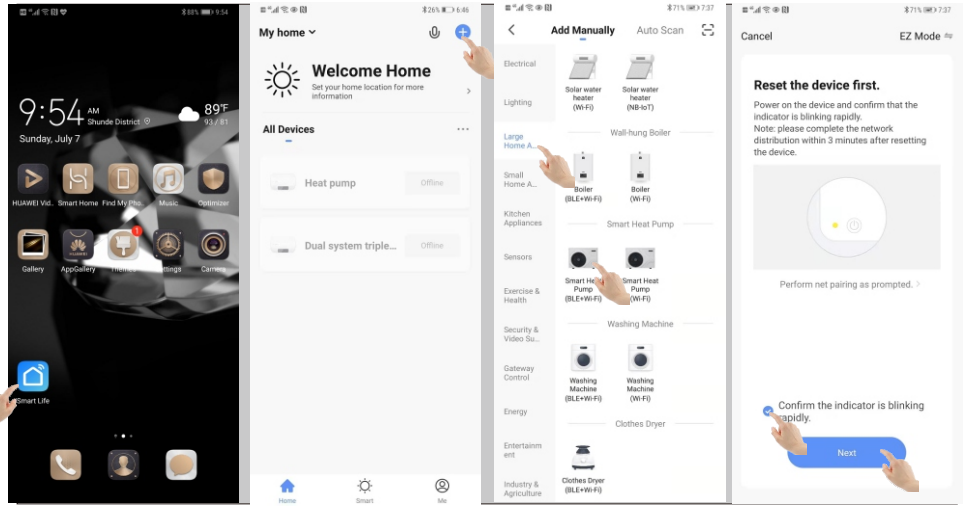
Press the name of the heat pump, enter into the control interface, then press the “on/off” button on the bottom, the heat pump will turn on.

Method 1:



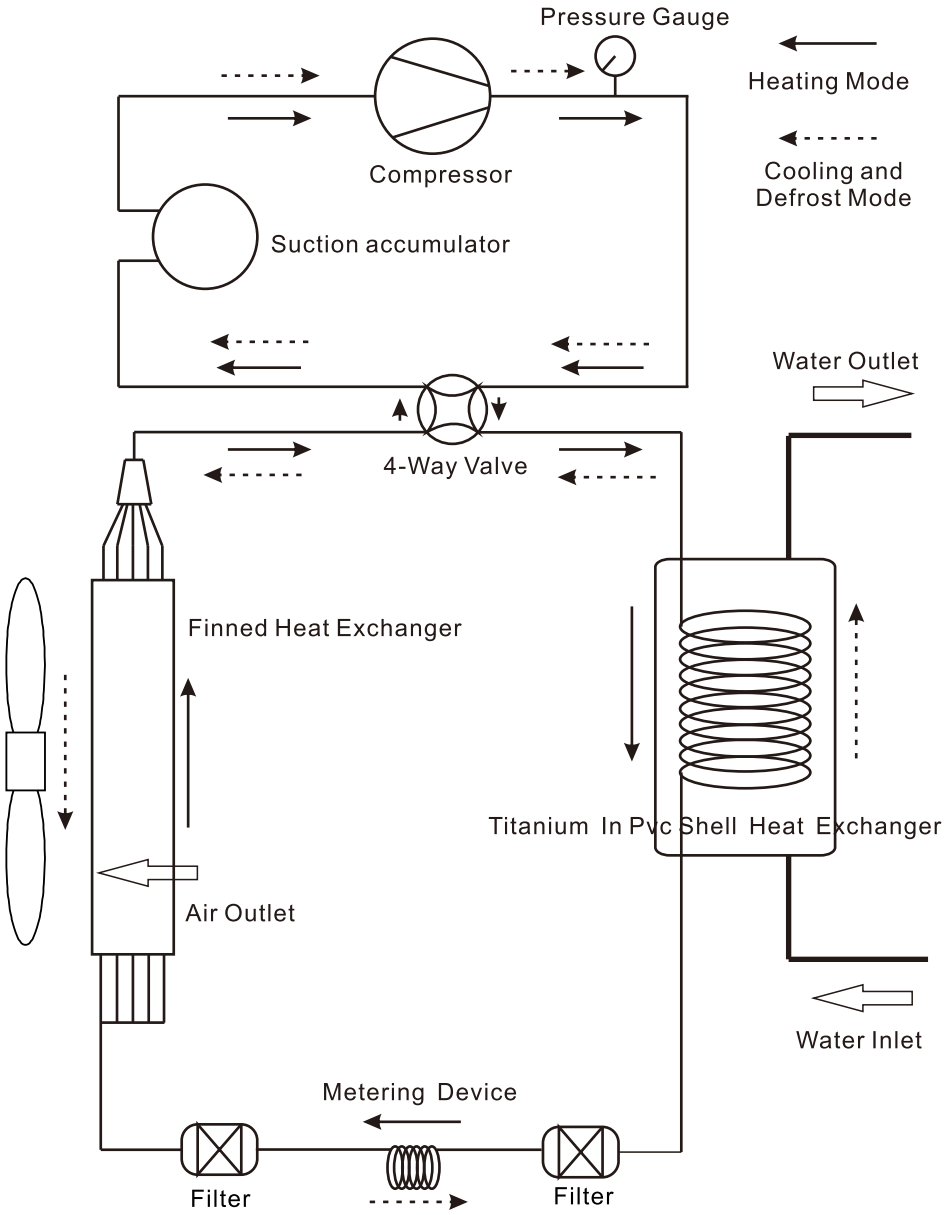
Method 2:





e. Enter into your WIFI name and password, click “Next”.
f. The advice start scan and connecting. If the blue checkmarks appear before each of the three items on the bottom, it means the device connection is complete.
g. When the connection complete, the name of heat pump will appear on the interface. Please click “Done” on the right top.
h. The main interface of heat pump control will appear.

5.System Drawing



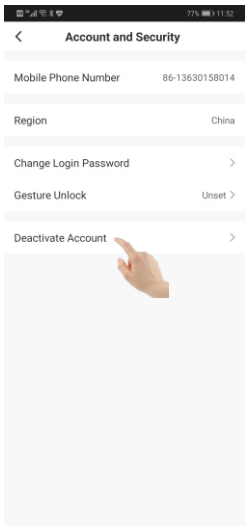
6.Installation

6. 1 The unit installation instruction

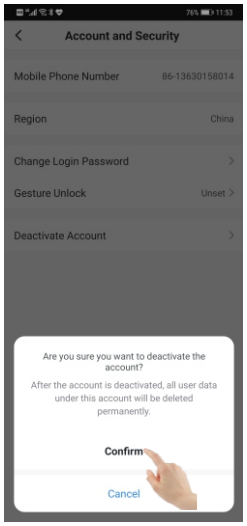
1. Please read the manual carefully before installation.
2. The installation location should be convenient for adjusting and repairing. Enough space should be left for checking and repairing the unit.
3. The installation location should be far away from the places affected by artificial strong electricity, magnetic field.
4. The unit should be installed in the indoor environment, if it is installed outside environment, it is a must to built a cover for it.
5. There is water flow switch built-in the unit when ex-works, when the circulation pump fails or the waterway is abnormal, the water flow alarm will be triggered.
6. The vibration damping device should be installed to prevent the vibration from the building.
7. Flexible connection must be used on water inlet and outlet, water system supply and returned pipe. So is the recycle water pump, which prevents vibration from spreading to the building.
8. Y-style filter should be installed on the water pump inlet of evaporator and condenser to prevent the welding slag and the impurity from destroying the unit.
9. An air discharge valve must be connected at the top of the water system and drainage valve must be installed at the bottom of the water pipe of the unit.
10. Please install the water pressure gauge and thermometer to make care and maintenance easy.
11. The water pipe should be insulated well in order to prevent the energy from losing and forming condensed water.

6. 2 The unit installation precaution

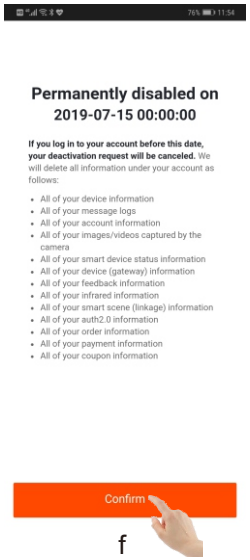
1. Please install the air discharge valve on the top of the water system.
2. Install the appropriate drainage valve at the bottom of the water system.
3. Be equipped with the expansion water tank to adapt the changing water volume because of the changing water temperature in water system.
4. It is better for recycled water to use the softening water tap.
5. The bypass pipe should be reserved on the water supply pipe and returned water pipe in order to wash the unit easily and avoid the melting slag and impurity going into heat exchanger.
6. When connecting the pipe, absolutely don't permit to interchange the outlet and inlet of the evaporator and condenser.
7. The water flow in evaporator and condenser should be the same as the marked, absolutely prohibit from exchange water outlet and inlet, or the unit will not run even will be destroyed.
8. The repairing and insulation of Y-style filter should made to be split one, which is convenient to wash and repair for the system.
9. Regarding to the water system, advise the client to check it every month.



d



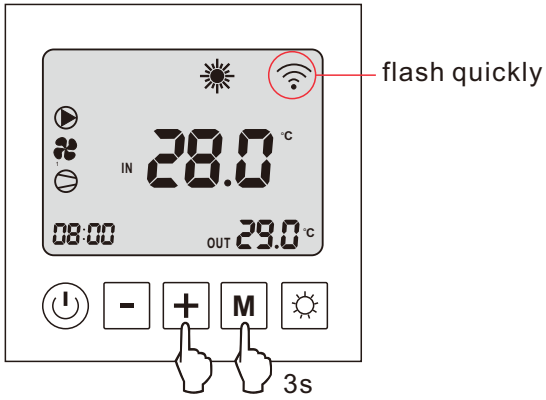
e



f

11-6. Add smart advice

Turn on the heat pump, press "up" and "M" buttons together for 3 seconds, after a drip, the system enter into the WIFI mode, the icon in the top right corner of the wire controller flashed quickly. It means the controller is scanning WIFI signal.

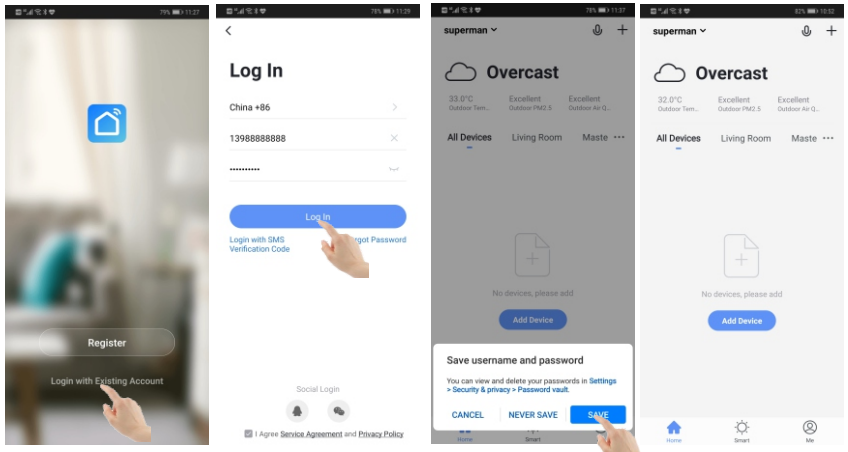


Open the "Smart life" on your phone:

a. Click "+" button on right top of the interface.
b. Choose "Large Home Appliance" and click it.
c. Choose "Smart heat pump" and click it.
d. Check "Confirm the indicator is blinking rapidly" and click "Next".

11-4. Sign in

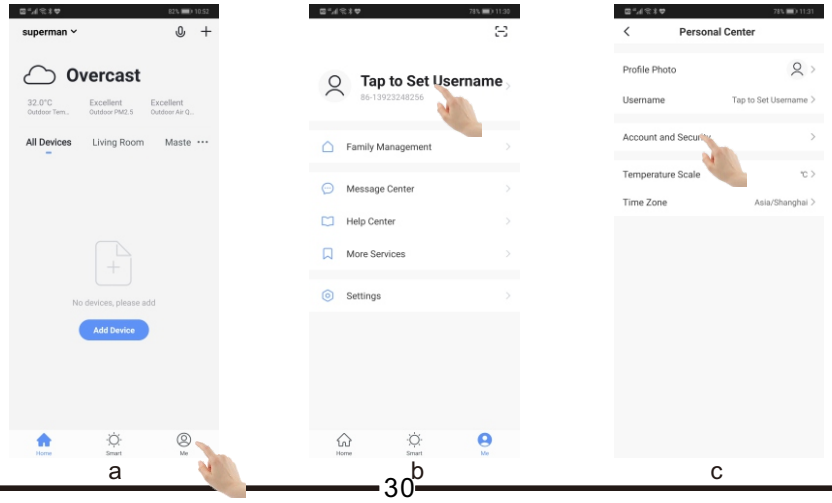
a. Run the app, click “Login with existing account”.
b. Enter your phone number and password, click “Log in”.
c. Click “save” button to saving your username and password.
d. You can add devices or set your family and manage it.



a b c d

11-5. Sign out

a. Click “Me” button on the right bottom.
b. Click “Tap to Set Username” on the top of interface.
c. Click “Account and Security”.
d. Click “Deactivate Account”.
e. Click “Confirm”.
f. Click “Confirm” to sign out.

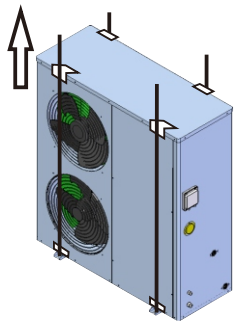


a b c

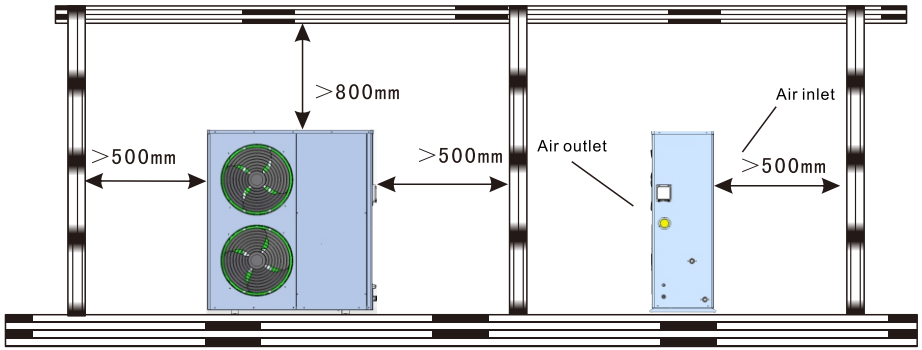
6.3 Lifting the unit

1. Please lift the unit by four steel wires (over 6mm).
2. Please carry or lift the unit as the following drawings.

Note: Please put sponge and cardboard between steel wire and surface of the unit in order to avoid scratch or distortion.



6.4 Space for installation



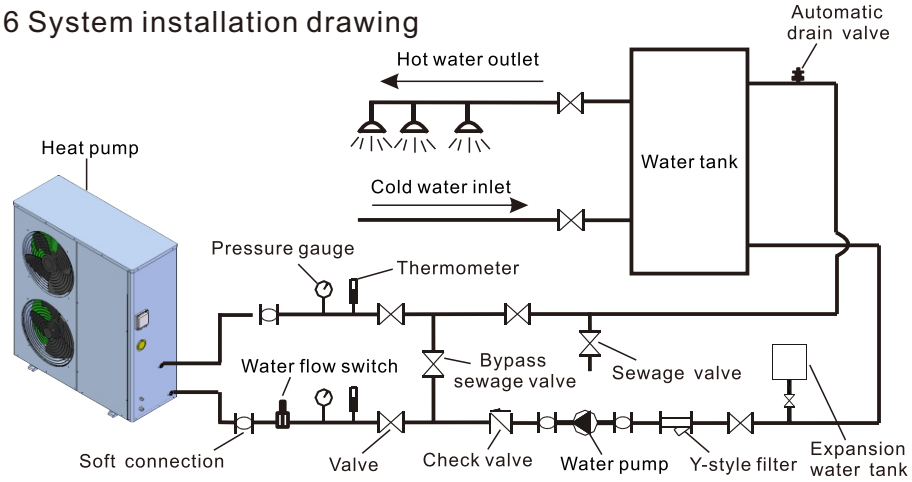
1. The outdoor unit can be installed beside the balcony, on the roof, on the ground or any other places where is convenient of installation and can bear the weight of the unit.
2. A ventilated place.
3. No heat radialization or other heat resource place.
4. Need to build a anti-snow shed.
5. Enough space should be left around the outdoor unit.
6. No barrier beside the air inlet and outlet.
7. No strong wind at the air inlet.
8. There should be drainage pipe for condensate draining.
9. Hot water tank should be install where running water is provided or near to using side.

Note: It should be installed where can bear the weight of the unit and can insulate noise and vibration.
If the unit is in a bad operating condition, such as in a place be of oil-resource or poor water quality, this may lead to breakdown.

6.5 Water pipe connection

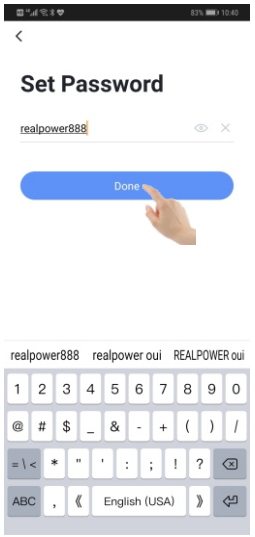
1. The resistance of water pipe should be decrease as possible as we can.
2. All the pipeline should be clean, no rust dreg, avoid blocking the pipe. When finished all the pipe and you should test all the water pipe work well. No leaking and then pack insulation material.
3. Note: ductwork pressure testing should be made alone, it is not allowed to test together with the unit.
4. Expansion tank should be installed at the top of ductwork, the water surface in the expansion tank need to be higher by 0.5m than the top of ductwork.
5. Water outlet outside the unit should install water flow switch, ensure that there is water in the pipe when the unit are running. There is a water flow switch build-in the unit when ex-work.
6. It should be avoided that air lies in the water pipe, at the top of the pipe, it should install a auto drain tap.
7. By the side of water inlet and water outlet, thermometer and pressure gauge should be installed, so that it will be check easily during the operation.

6.6 System installation drawing

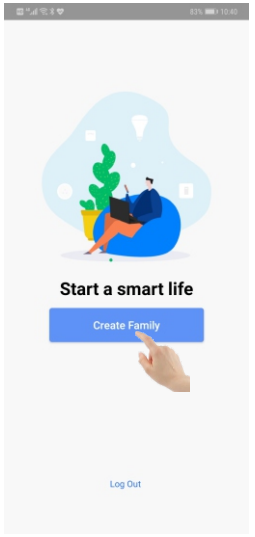


Attention: The pictures above is only for reference, the practical project must be carried out by professionals according to the standard and design requirement.

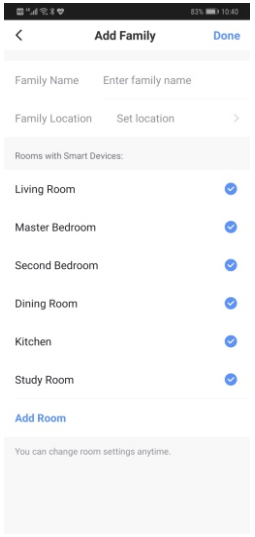
g. Click “Done” button.
h. Click “Create family” button.
I. Enter into the main interface.
j. Enter your “Family Name” and “Family Location”, Click “Done”.
k. Click “Done”, your family created successfully.
l. You can add devices or set your family and manage it.



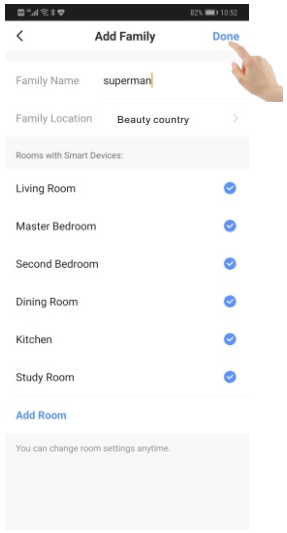
g



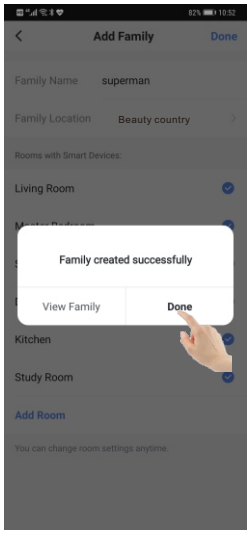
h



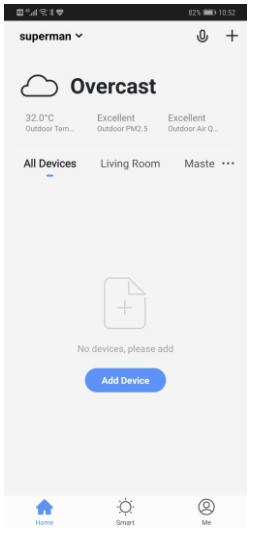
I



j



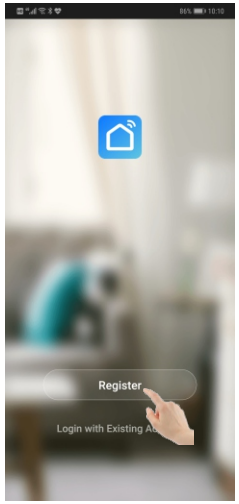
k



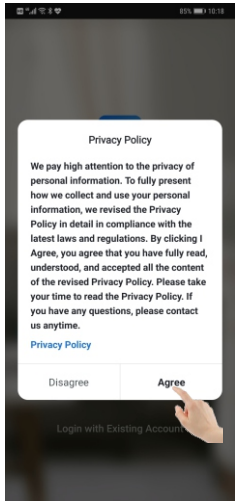
I

11-3. APP registration and configuration

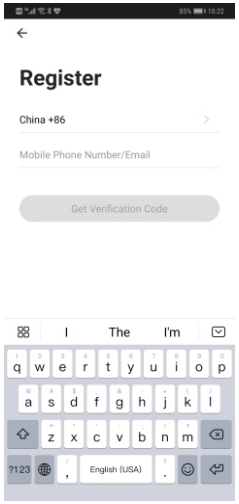
a. Click icon “Register”.
b. Click the “agree” button in the “privacy policy” interface that appears.
c. Enter your mobile phone number or your email address.
d. Enter your mobile phone number and click “Get Verification Code” button.
e. Enter verification code you received on your mobile phone.
f. Enter password you wish to set (6-20 characters, including letters and digits).



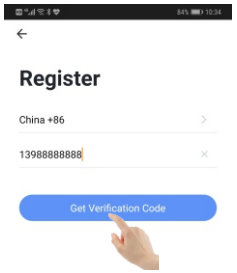
a



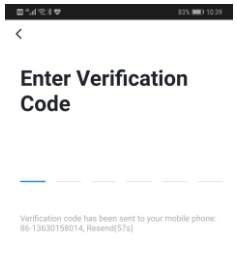
b



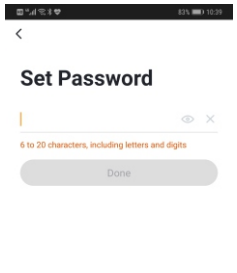
c



d



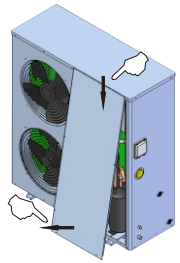
e



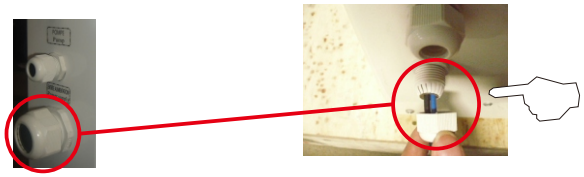
f

6.7 Electric circuit connection processure

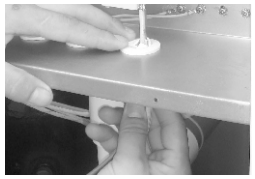
1. See the follow figure, take off four screws from the maintenance panel and then take off the panel as the instruction figure do.



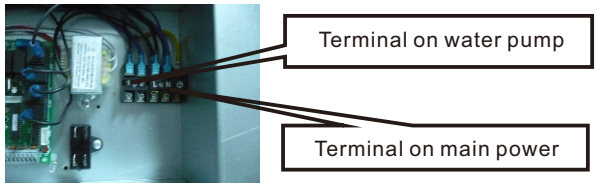
2. Go in for the operation of wiring connection. Wiring the connector of power line under the unit loosely, then thread the power line through the connector and enter into the unit. At last, wiring the connector tightly. See the follow figure.



3. Thread the power line through a rubber jacket under electrical box and to the inner electrical box. See the follow figure.



4. Connect the power lines to the terminals according to the fixed phase. Live line connect “L”, neutral line connect “N”, earth line connect “ ⏚ ”, see the follow figure.



5. If water pump is required, connect the water pump power line to the right terminal in the electrical box. (Note: water pump rated current <3A, if current ≥3A, must use AC contactor.)
6. After verifying the connection is right, the power can be on.

6.8 Run the unit

1. Check it before start the unit.

Check the piping system: check whether all the valve is open and valve of automatic control gorge is in a regularly range. Check whether the insulation of pipes is good.

Check the power supply system: check whether the voltage is regular, any parts are screwed tightly and the power is supplied as the wiring diagram.

Check whether ground line is connected well.

Check the unit: check whether all the screw on the unit is loose.

When switch on, check whether there are indicator malfunctions on main control.

2. Try to run the unit.

The compressor will start. Check whether the unit sounds unregularly by hearing, switch off and check if it has. If it doesn't have, keep it running, at the same time pay attention to whether the cooling system pressure is regular. And then check whether the power input and current corresponds to the performance data in user manual. If not, please stop to check it.

The remote controller parameter has been set when ex-factory, don't adjust it at random. And it should be adjusted by professional personnel if needed.

Regarding to the several connected modular units, the technical parameter should adjusted by professional construction personnel.

3. Running

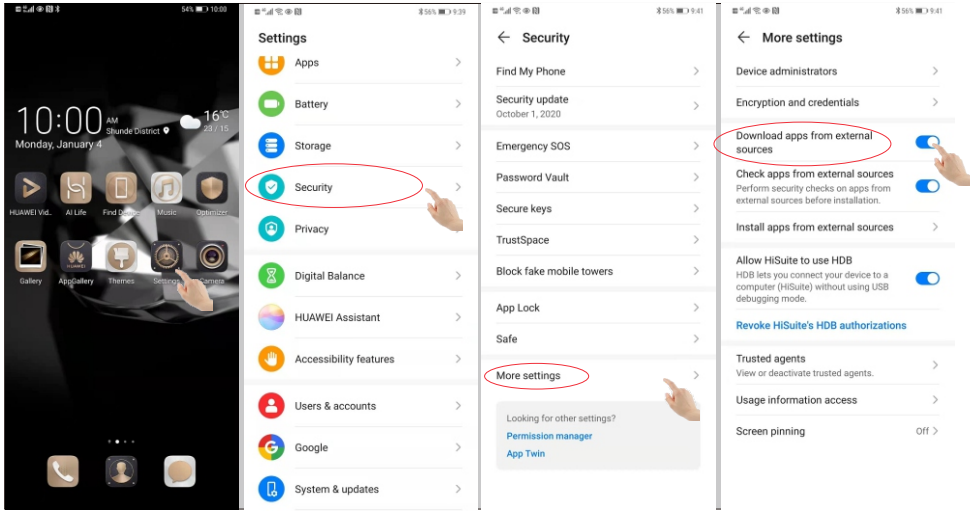
The following rules should be followed strictly when running the unit.

When the unit is running, keep the piping system and environment in a regular state.

The sudden change of system and the environment can cause the motor current change, when serious, it can exceed the rated current and can cause negative consequences.

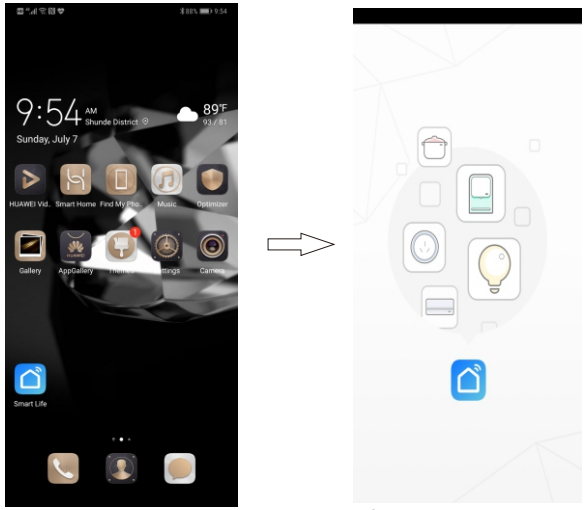
Before install the app, you should turn on the "Download apps from external sources" in the android version. Methods the following.

1. Press "Setting" button to enter into the settings page.
2. Press "Security" button.
3. Press "More settings" button.
4. Find "Download apps from external sources", turn on the switch.



11-2. Run the APP

Click icon "smart life", run the app.

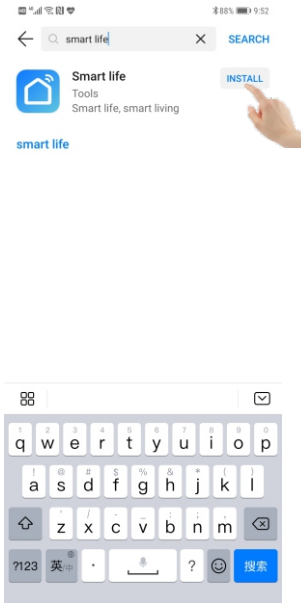


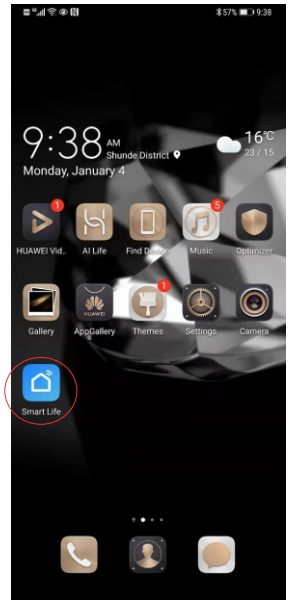
11. WIFI connect

11-1. Install the APP

Methods A:
Scan the QR code below and install the app follow the instructions.

Methods B:
Click “Appstore” (for IOS) or “AppGallery” (for android).
Enter “smart life” and install the app.





7.Controller

7-1 Control Panel

figure 7.1

Buttons:

⏻	On/off switch	M	Mode button
+	Up button	⚙	Set button
−	Down button		

Symbols:

☀	Heating mode	1	Low wind
❄	Cooling mode	2	High wind
◔	Circulation pump is running	((·))	WIFI. It keeps on when WIFI connects successfully, flashes when connecting or disconnected
HIGH	Powerful mode	≋	Compressor heater is working
LOW	Silent mode	⌂	Bottom heater is working
◍	Compressor is running	🔒	Screen lock
❄	Defrosting	🔔	Error. It flashes when alarming

7-2 Button function

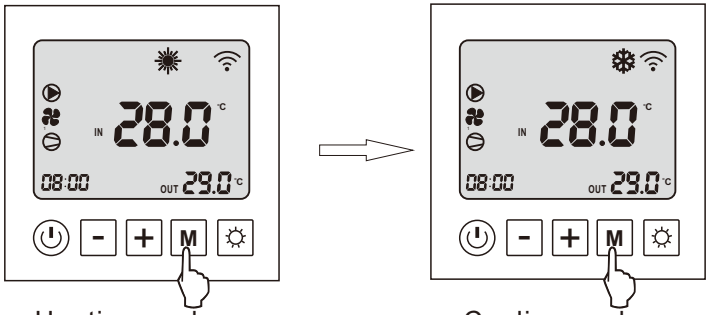
	WARNING: Before starting, ensure that the filtration on pump is working and that water is circulating through the heat pump.

⏻	On/off switch	1. In main interface, long press 3 seconds to on/off unit. 2. Short-press to return to main interface.
+	Up button	In the on state, on main interface, adjust the temperature of the current mode.
−	Down button	
M	Mode button	In the on state, long press 3 seconds to switch heating mode or cooling mode.
⚙	Setting button	For time and timer setting.

7-3 Operating mode selection

When the heat pump is on, long press “M” button 3 seconds to choose heating mode or cooling mode.

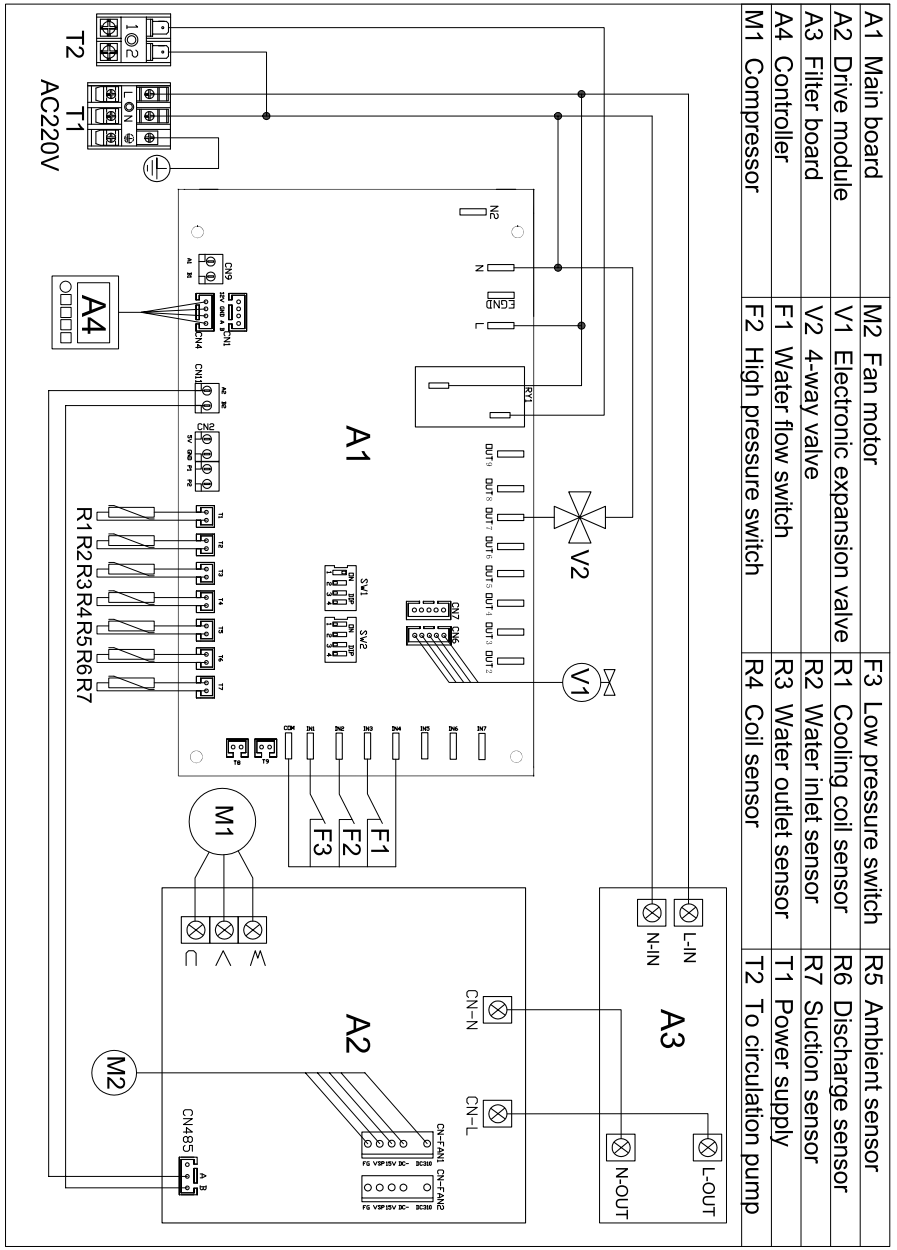
When switch from one mode to another mode, heat pump will restart after 10 minutes.



Heating mode　　Cooling mode

10. Wiring diagram

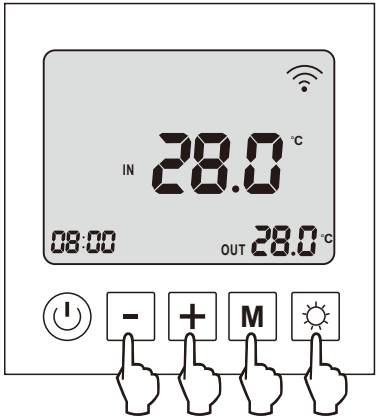
MODEL: ESDAW-22KH-1DC



A1 Main board	M2 Fan motor	F3 Low pressure switch	R5 Ambient sensor
A2 Drive module	V1 Electronic expansion valve	R1 Cooling coil sensor	R6 Discharge sensor
A3 Filter board	V2 4-way valve	R2 Water inlet sensor	R7 Suction sensor
A4 Controller	F1 Water flow switch	R3 Water outlet sensor	T1 Power supply
M1 Compressor	F2 High pressure switch	R4 Coil sensor	T2 To circulation pump

Failure	Possible causes	Solutions
High noise of compressor	1. Liquid refrigerant into the compressor	1. Check the cause and eliminate it
	2. compressor crash	2. change the compressor
No running of fan motors	1.Relay failure	1. change the relay
	2. fan motor destroyed	2. change the fan motor
The compressors are running, but the unit is not cooling/heating	1. completely leakage of refrigerant	1. examine leakage and supply refrigerant
	2. Tube-in-tube heat exchanger ruined	2. change the tube-in-tube heat exchanger
	3. Compressors fault	3. Change compressors
Low water temperature protection	1. water flow shortage	1. Wash the filter or discharge the air in the system
	2. Low setting value on temperature	2. Reset the temperature
Low water flow protection	1. water flow shortage	1. wash the filter or discharge the air in the system
	2. water switch damage	2. Change the switch

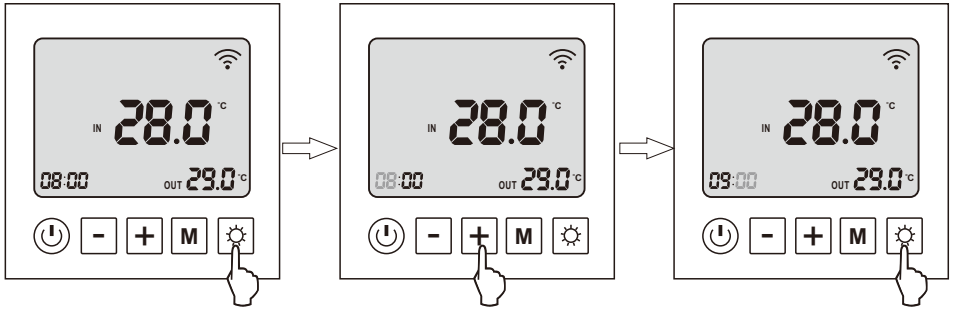
Note: Parameters reset



When the heat pump turn off, press “setting” and “M” and “up” and “down” buttons for 3 seconds at the same time, after 2 “di-di” sounds, the set parameters of the unit will reset factory setting.

7-4 Clock setting

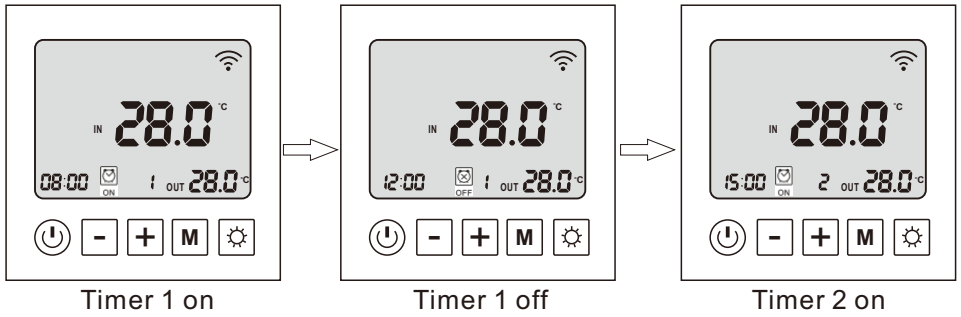
Step 1: Press “setting button” to set the time, the hours are blinking,
Step 2: Adjust the hours with “up” and “down”,
Step 3: Press “setting button” to switch minutes,
Step 4: Adjust the minutes with “up” and “down”,
Step 5: Press “setting button” to validate and return to main interface.



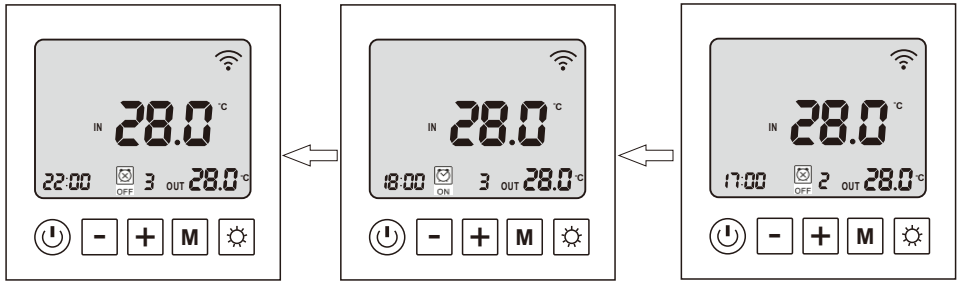
7-5 Timer setting

Step 1: Long press “setting button” 3 seconds to set the timer 1 on, the hours are blinking, “ ON “ appears.
Step 2: Adjust the hours with “up” and “down” button.
Step 3: Press “setting button” to switch to minutes.
Step 4: Adjust the minutes with “up” and “down” button.
Step 5: Press “setting button” to enter timer 1 off, the hours are blinking, “ OFF “ appears.
Step 6: Adjust the hours with “up” and “down” button.
Step 7: Press “setting button” to switch to minutes.
Step 8: Adjust the minutes with “up” and “down” button.
Step 9: Press “setting button” to timer 2 on.
The setting of other timer is analogically.
You can set at most 3 timers.

Finally, press “on/off” button to validate and return to main interface.

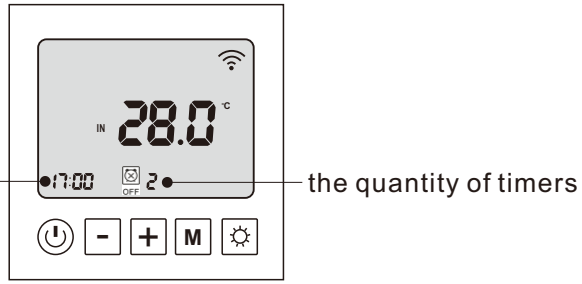


Timer 1 on　Timer 1 off　Timer 2 on



Timer 3 off　Timer 3 on　Timer 2 off

1. The quantity of timer will display on main interface.



2. Cancel the timer: when set the timer off as same as timer on, the timer is cancel.

9.Trouble Shooting

9.1 Please refer to the below diagram to judge and manage failures:

Failure	Possible causes	Solutions
No running of the unit	1. Power source failure	1. turn off the switch and check the power source
	2. Loosened wiring	2. find the caused and repair
	3. The power fuse has broke	3. change a new fuse
The pump is running without water recycling or with high noise	1. Water leakage of the water system	1. check the water supply device and inject water
	2. There is air in the system	2. Discharge the air
	3. the valves are not open entirely	3. open the valves completely
	4. Filter blockage	4. Wash the filter
Low refrigerant capacity while compressors are running	1. refrigerant shortage	1. check leakage and supply refrigerant
	2. bad water thermal insulation	2. Improve the insulation
	3. bad heat elimination of air heat exchanger	3. wash the heat exchanger and improve condensing
	4. Water flow shortage	4. Wash the filter
Over-high outlet pressure of compressors	1. Excessive refrigerant	1. discharge unwanted refrigerant
	2. Bad heat elimination of air heat exchanger	2. Wash the heat exchanger and improve condensing
Over-low inlet pressure of compressors	1. refrigerant shortage	1. check leakage and supply refrigerant
	2. filter or capillary blockage	2. change new filter or capillary
	3. water flow shortage	3. wash the filter or discharge the air in the system
	4. Capillary in the expansion valve cracks	4. change the expansion valve
No running of compressors	1. power source failure	1. examine the power source and eliminate the failure
	2. compressor contactor failure	2. change the contactor
	3. loosened wiring	3. check and repair it
	4. Compressor over loading protection	4. compressor over loading protection
	5. wrong setting for inlet water temperature	5. Reset it
	6. Water flow shortage	6. Wash the filter or discharge the air in the system

8. Maintenance

This heat pump contains flammable and explosive refrigerant R32.

Maintenance must be in the open air and there must not be

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.

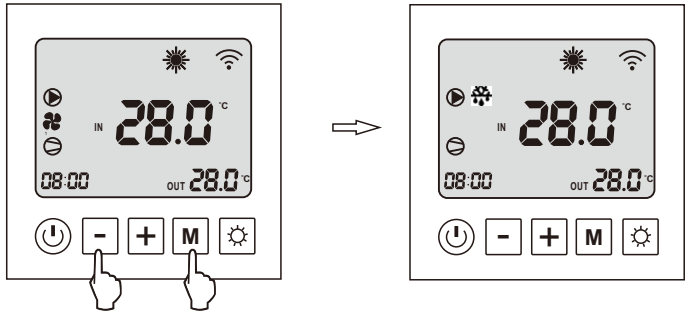
Avoid frozen water in the water cycle at any time, to prevent the water components from cracking. When the ambient temperature lowers to less than 2°C the heat pump must be switched on, to avoid freezing.
If the machine is switched off or there is a electrical power outage, the water has to be drained 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 disposal the heat pump refer to the local regulations. Especially take care for disposing the refrigerant and the compressor oil.

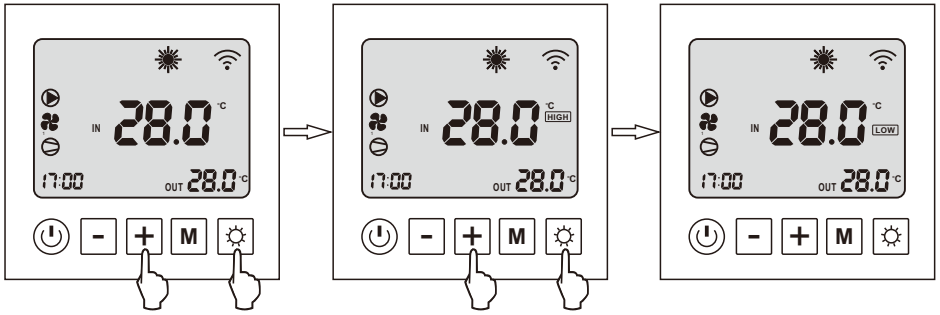
7-6. Forced defrosting function

Press "M" and "down" button to enter forced defrosting, " ❄ " appears.



7-7. Running mode selection

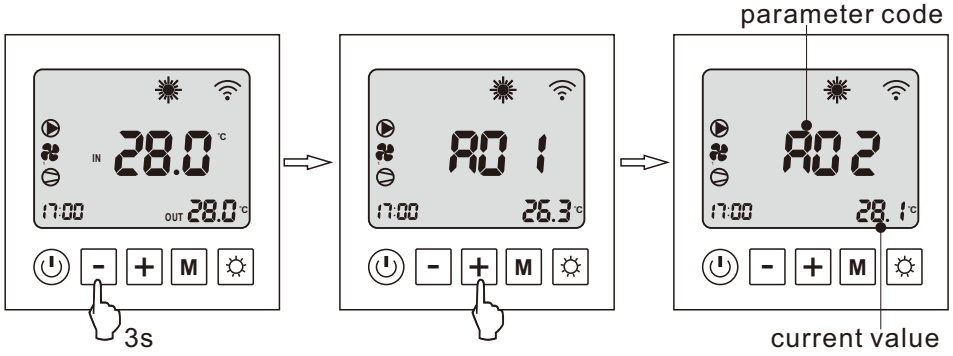
In main interface, long press "setting button" and "up" button to switch running mode. There are three running mode depend on different compressor running frequency: Powerful mode, smart mode and silent mode.
When heat pump is running powerful mode, display shows " HIGH ".
When it is running silent mode, display shows " LOW ".
When it is running smart mode, display shows nothing, neither " HIGH " nor " LOW ".



Smart mode　　Powerful mode　　Silent mode

7-8. System parameter

In main interface, long press “down” button 3 seconds to check system parameter, press “up” and “down” button to choose required parameter.



Code	Parameter name	Range
A01	Water inlet temperature	-20~99°C
A02	Water outlet temperature	-20~99°C
A03	Ambient temperature	-20~99°C
A04	Discharge temperature	0~125°C
A05	Suction temperature	-20~99°C
A06	Outdoor coil temperature	-20~99°C
A07	Indoor coil temperature	-20~99°C
A08	Opening of expansion valve	0~480
A09	Reserve	
A10	Current of compressor	
A11	Cooling fin temperature	
A12	Voltage value of DC bus	
A13	Running frequency of compressor	
A14	Running frequency of fan motor 1	
A15	Running frequency of fan motor 2	display "0" when single fan

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.

3. Parameter setting on the defrosting

Please refer to the parameter table on page 18.

Parameter 02 defrosting cycle, the default value is 45min. It means that the system runs in heating mode for 45min,then automatically to check if the condition to start the defrosting is satisfied. If the condition to start the defrosting is satisfied, the system will go to defrosting mode.

Parameter 03, the coil temp to start the defrosting, the default value is -9℃.

When the coil temperature (it can be check by parameter code P1) gets to -9℃, the system will enter into defrosting mode. In defrosting mode, the system is in cooling mode and will absorb heat from room /house to melt the ice. So in defrosting period, there is no heat to come to the house.

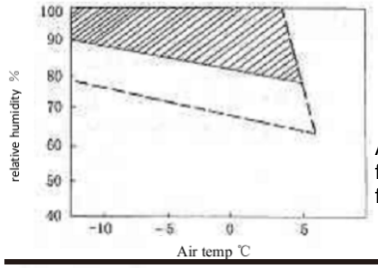
Parameter 04, coil temp to stop the defrosting, the default value is 13℃.When the coil temp gets to 13℃, the defrosting will stop.

Parameter 05, the time duration of defrosting, default value is 10 min. When the defrosting lasts for 10min, the defrosting will end.

For parameter 04 and parameter 05, any of them gets to the setting value, the defrosting will end.

All of the above parameters are adjustable according to the real needs.

As we know, when the air temp is below 0℃, the unit is easy to ice up. But when the air temp is above 0℃ and the air humidity is high, there is also the possibility that the unit ices up. Please refer to the below review.



As shown in the view, the dotted area is the possible frosting area, and the shadow part is inevitable/certain frosting area.

The faults' description

Temperature sensor fault:

When the fault code of the temperature sensor occurs, please check if the wiring of the sensor is loose, if the wiring is connected well and firm, possibly the sensor itself is broken, in this case, the sensor needs to be replaced by a new one.

E03: water flow fault

The possible reasons are as the below:

1. water flow rate in the system is not sufficient because of small flow rate of the water pump itself or any blockage inside the water circuit, such as filter blockage.
2. system is not air evacuated, so the flow rate is reduced.
3. small pipe size, or big resistance of the floor lines.
4. loose wiring of the water flow switch.
5. the water flow switch itself is broken.

E05: high pressure protection

It means that the pressure in the system is high, so the system stops for protecting the unit. The possible reason are as the below:

1. loose wiring of the high pressure switch.
2. water flow rate in the system is not enough, so the heat exchanging between the hot gas and water is not sufficient, which cause the high pressure. In this case, please check the water flow rate of the water pump and the flow rate of the whole water circuit system, to see if the water pump itself has weak flow and if there is any block inside the water circuit system, such as the filter blockage, blockage inside water pipings.
3. Air evacuation is not done before the system is running

If the system is not air evacuated, there is air resistence when water flow goes through the pipes, so the flow rate will be reduced. So before running the system, please make sure the air inside the system is evacuated.

E06: low pressure protection

It means that the pressure in the system is too low, so the system stops for protecting the unit. The possible reasons are as the below:

1. loose wiring of the low pressure switch.
2. low gas volume:

In this case, probably there is gas leak somewhere, then we need to check the following positions.

a) the charge port, where the gas is charged, check if the port cover fixed correctly and firmly.

b) pressure gauge connections.

c) copper connections, where there is welding points.

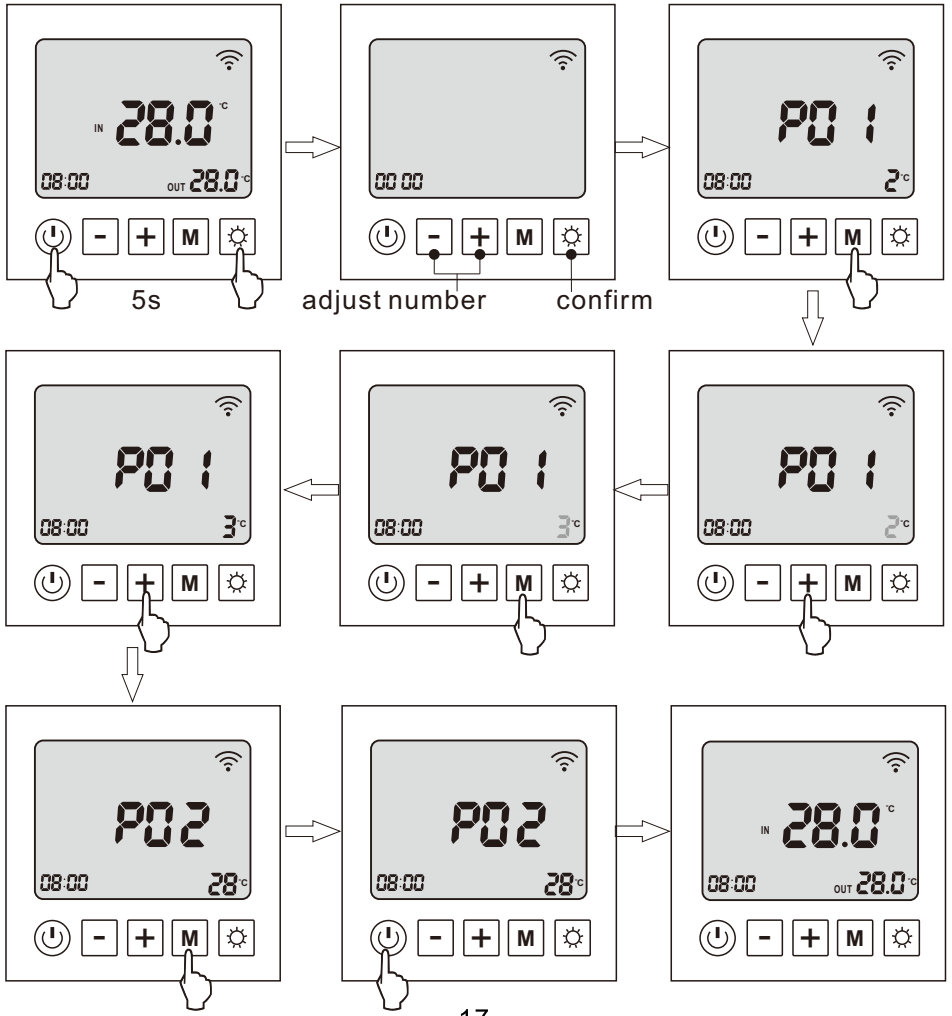
3. the low pressure switch itself is broken.

7-9. System parameter setting

In main interface, long press "on/off" button and "setting" button 5 seconds to enter into the password interface, press "up" and "down" button to change the number and press "setting" button to confirm the adjust.

Enter password "0814", you will enter the parameter setting interface.

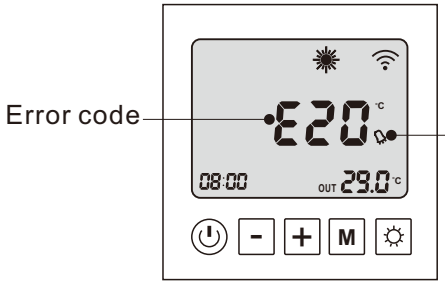
Press "up" and "down" button to select the parameter you want to change, then press "M" button to adjust the setting value of the parameter you choose, when every change finished, press "on/off" button to confirm the changes and exit to the main interface.



Code	Parameter name	Adjust range	Initial value
P1	Delta temperature setting	1~18℃（2~36℉）	1℃（2℉）
P2	Set temperature of the cooling mode	8℃~35℃（46~95℉）	27℃（81℉）
P3	Set temperature of the heating mode	5℃~40℃（41~104℉）	27℃（81℉）
P4		-5℃~15℃（-10~30℉）	0℃（0℉）
P5	Defrosting cycle	20~90min	45min
P6	The coil temperature to start the defrosting	-9℃~-1℃（16~30℉）	-3℃（27℉）
P7	Defrosting duration	5~20min	8min
P8	The coil temperature to exit the defrosting	1℃~40℃（33~104℉）	20℃（68℉）
P9	defrosting temperature difference of coil and ambient	0℃~15℃（0~30℉）	5℃（10℉）
P10	Ambient of defrosting	0℃~20℃（32~68℉）	17℃（63℉）
P11	Adjust duration of the expansion valve	20S~90S	30S
P12	Target superheat temperature of heating mode	-5℃~10℃（-10~20℉）	1
P13	Discharge temperature controlled by expansion valve	70℃~125℃（158~257℉）	95℃（203℉）
P14	Reserve	20~450	
P15	Minimum opening of expansion valve	5~15（actual value*10）	10
P16	Expansion valve control	0=manual 1=auto	1
P17	Manual adjustment of expansion valve	20~450	350
P18	Target superheat temperature of cooling mode	-5℃~10℃（-10~20℉）	0
P19	Reserve	2~45（actual value*10）	350
P20	Expansion valve control of cooling mode	0=water temperature 1=supercool	1
P21	Work mode of circulation pump	1=run when temp. reaches 2=stop when temp. reaches 3=intermittent operation	3
P22	DC fan motor control	0=Auto 1=Manual	0
P23	Manual speed of DC fan	0-99（actual speed*10）	80
P24	Ambient of electrical heater start	-20℃~20℃（-4~68℉）	0℃（32℉）
P25	Electrical heater start when defrosting	0-No 1-Yes	1
P26	Low ambient temperature protection	0~-30℃（-22~32℉）	-20℃

7-10 Fault code table

The unit will stop automatically if any fault happens during the operation, meanwhile, the fault code will display on the controller screen. Please contact the serviceman to check by referring to the flowing table and exclude the fault.



Error code	Error description
E03	Water flow protection
E04	Antifreeze protection
E05	High pressure protection
E06	Low pressure protection
E09	Communicationfailure
E10	Module communicationfailure
E12	Dischargetemp.toohighprotection
E15	Water inlet temp. sensor failure
E16	Outdoor coil temp. sensor failure
E18	Discharge temp. sensor failure
E19	DC fan motor 1 failure
E20	Module abnormal protection
E21	Ambient temp. sensor failure
E22	DC fan motor 2 failure
E23	Water outlet temp. too low protection in cooling
E27	Water outlet temp. sensor failure
E28	Over current protection
E29	Suction temp. sensor failure
E32	Water outlet temp. too high protection in heating
E33	Outdoor coil temp. too high protection
E42	Indoor coil temp. sensor failure