Operation Manual

Wire Controller

IMPORTANT NOTE:

Thank you very much for purchasing our product. Before using your unit, please read this manual carefully and keep it for future reference.

CONTENT

1. GENERAL

1.1 About Manual

The original documentation is written in English. All other languages are translations. The precautions described in this document cover very important topics, follow them carefully. All activities described in the installation manual must be performed by an authorized installer.

⚠ **WARNING**

- **WARNING:** Indicates a situation that could result in death or serious injury.
- **CAUTION:** Indicates a situation that could result in minor or moderate injury.
- **DANGER:** Indicates a situation that results in death or serious injury.
- **DANGER: RISK OF ELECTROCUTION:** Indicates a situation that could result in electrocution.
- **DANGER: RISK OF BURNING:** Indicates a situation that could result in burning because of extreme hot or cold temperatures.
- **NOTE:** Indicates a situation that could result in equipment or property damage.
- **INFORMATION:** Indicates useful tips or additional information.

1.2 For User

- If you are not sure how to operate the unit, contact your installer.
- The appliance is not intended for use by persons, including children, with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children must be supervised to ensure that they do not play with the product.
- Unit are marked with the following symbol:
- This means that electrical and electronic products cannot be mixed with unsorted household waste. **Do NOT** try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, of oil and of other parts must be done by an authorized installer and must comply with applicable legislation. Units must be treated at a specialized treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. For more information, contact your installer or local authority.
- Placed in a location away from radiation.

2. WIRE CCONTROLLER GUIDANCE

2.1 Main page

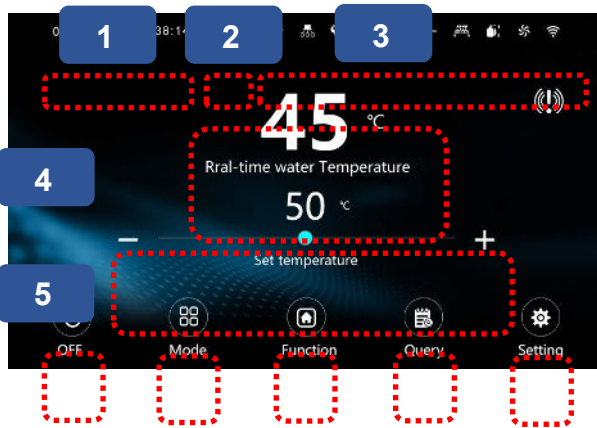| NO.	Description	NO.	Description
1	Date & Time	8	Function Settings
2	Ambient temperature	9	
3	Operation Status Bar	10	Language
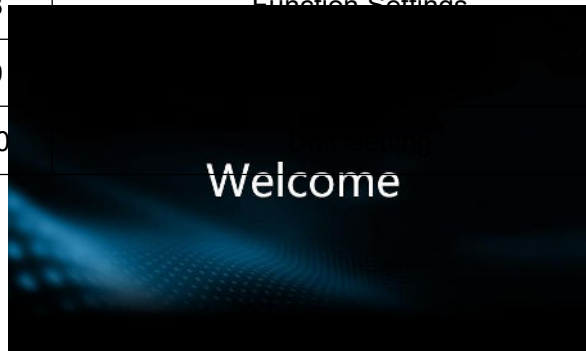
2.1.1 Star Page

①After connecting the power, the controller will enter the language selection interface, after selecting the language, click "NEXT" to enter the welcome page；If you don't operate it after entering the language selection interface, the first language will be selected by default after 2 minutes to enter the welcome page.

②3 seconds after entering the welcome page the wire controller will go to the home page; no operation for 2 minutes the screen will turn off and click on the screen to turn it back on; (if there is a communication failure, it will stay on the welcome page)

2.1.2 Home Page

Single Mode
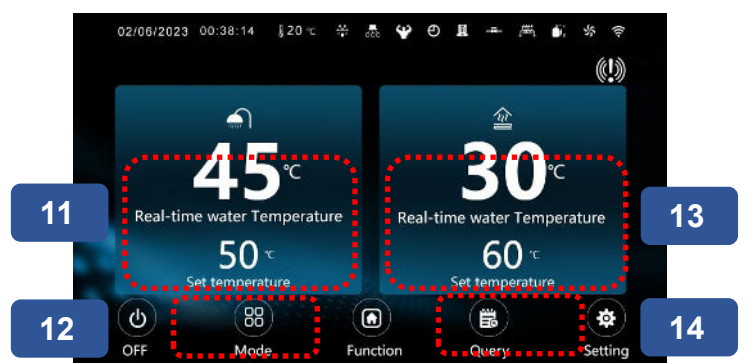
Multi-Mode

NO.	Description	NO.	Description
1	Date & Time	8	Function Settings
2	Ambient Temperature	9	Query Information
3	Operation Status Bar	10	Unit Setting
4	Current Temperature	11	DHW Tank Current Temperature
5	Setting Temperature	12	DHW Tank Setting Temperature
6	ON/OFF	13	Heating & Cooling Current Temperature
7	Running Mode Switching	14	Heating & Cooling Setting Temperature

2.1.3 Icon status

Icon	Status	Description	Icon	Status	Description
	Underfloor Heating	Run underfloor heating		Mute Mode	Open silent mode
	Hot Water	Run Hot water mode		Boost Mode	Open powerful mode
	Heating	Run heating mode		Timer	Timing enabled
	Cooling	Run cooling mode		Water Pump	Water pump is running
	Hot Water + Heating	Run heating mode&hot water mode		Compressor	Compressor is running
	Hot Water + Underfloor Heating	Run floor heating mode&hot water mode		Fan Motor	Fan is running
	Hot Water + Cooling	Run cooling mode&hot water mode		WI-FI	WI-FI connected
	Fault	Failure occurred, click to view error message		Cascade	Running in cascade
	Defrosting	When the unit enters defrosting，will always display; When the refrigerant recovery is running, will blinks;			
	Electric Heater	When electric heating is running，icon will always display; when electric heating is not running but fast heat is enabled, icon will blinks at the frequency of 1Hz. When electric heating is not running but germicidal is enabled, icon will blinks at the frequency of 0.5Hz.			
	Return Water Pump	When return valve is running， will always display； when return valve is not running but set return water timer, will blink;			

2.2 Operating Instruction

2.2.1   ON/OFF

Touch" "to power on or power off the unit

2.2.2   Temperature Setting

- Single Mode

This page is displayed when the unit is using the single operating mode.

①Click "+" and "-" to adjust the set temperature；

②Drag the dot to adjust the set temperature；

③Click the set temperature value, enter the set temperature on the keyboard, press "Enter" to confirm；
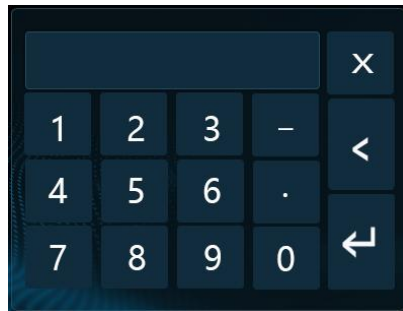
- Multi – Mode

This page is displayed when the unit is using the multiple operating mode.
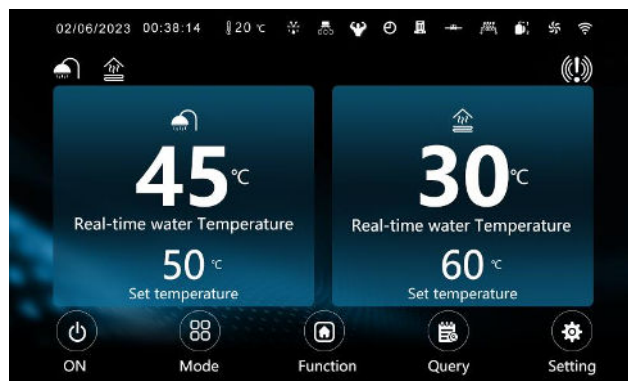
①Click the set temperature value, enter the set temperature on the keyboard, press "Enter" to confirm；
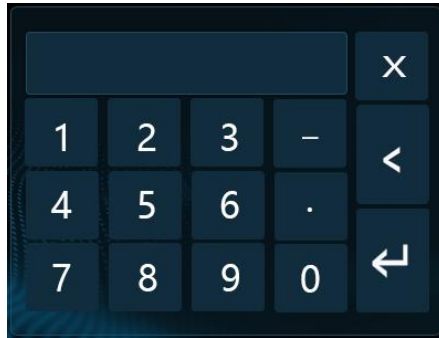
2.2.3 Mode Setting

Touch" "to enter the unit mode selection

2.2.4 Function

Touch" "to enter the function page. Under this page, press "<" ">" to switch pages.

● User Setting

Touch "User functions" to enter user function page. This page allows you to set up different functions for the use of the unit

①Quiet mode: The unit will operate at low noise levels. At the same time the capacity of the unit will be reduced.

②Boost mode: The unit will operate with increased power

③Germicidal: Unit enters operational sterilization mode (required to run heat mode and enable hot water mode)

④Forced defrosting: When the current mode is not in the cooling mode，touch"Forced frosting"to activate or deactivate forced defrosting；When the defrost is activated, the unit determines whether to enter defrost according to the current working conditions.

⑤Fast heat: The unit will turn on the electric heater, auxiliary heat source to achieve rapid heating.

⑥Waterway emptying air: When the unit is turned off and this function is turned on, the unit will automatically run each pump to achieve air evacuation in the water circuit.

- Timer Setting

Touch "Timer Setting "to enter the page of timer setting. You can set different time periods to run the unit.
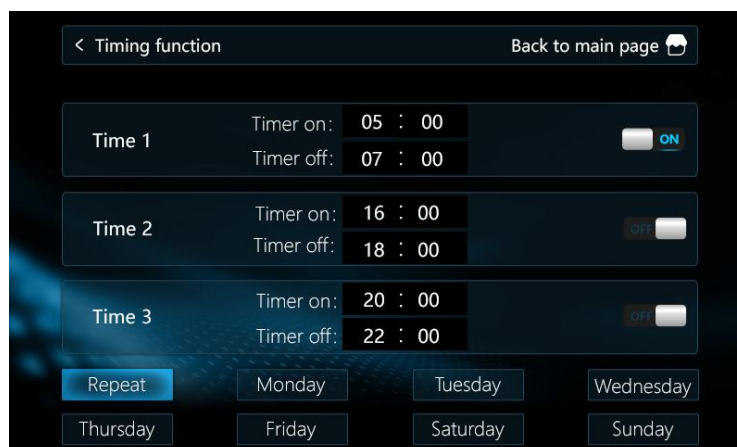
①Repeat: the unit operates on a set timer every day.

②Monday-Sunday: Select the date when the unit needs to be operated according to the set timer.

- WI-FI Connection

   In the function selection page, touch "WIFI distribution" to enter WIFI operation page.

①Intelligent Mode: Unit enters intelligent distribution mode.
②AP Mode: Unit enters AP distribution mode.

- DHW Return Water Setting

   Touch "Return water function" to enter return water timer setting. You can set different time periods to run the return water pump.
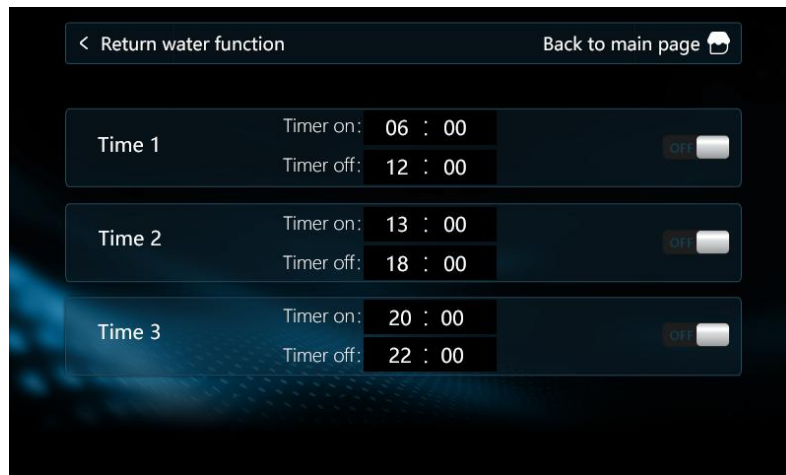
If return water timer is set, the water return pump will only turn on at the set time.
If return water timer is not set, the pump will turn on automatically on demand.

- Factory Setting

   For factory or installer use only

● Scene Setting

Touch "Scene settings "to enter scene setting page. You can run different operating modes and different set temperatures for different time periods.

①Repeat: the unit operates on a set timer every day.

②Monday-Sunday: Select the date when the unit needs to be operated according to the set timer.

● Dual Zone Temperature Setting

Enable dual zone temperature control to set different temperatures for the radiator and underfloor heating at the same time.
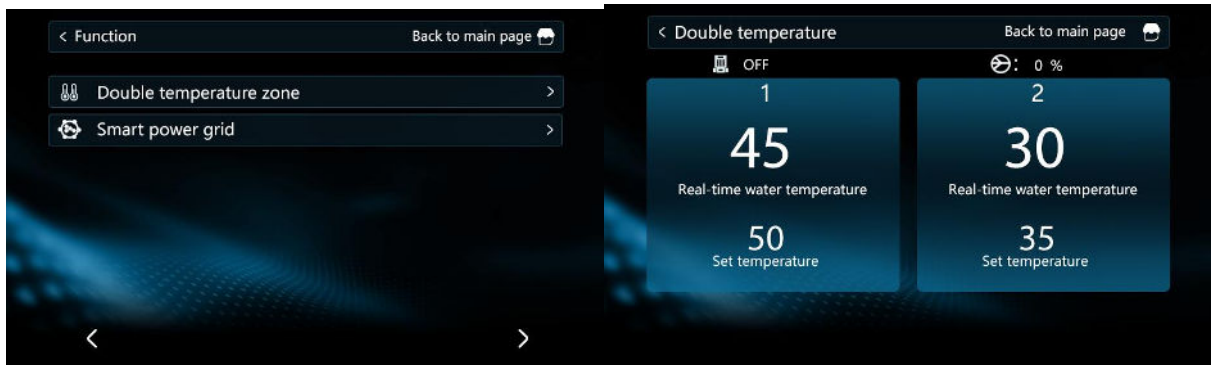
This option is disabled by default, if you need to enable it, please refer to "Factor Parameter Setting" in 2.2.6.

● SG Ready Setting

This option is disabled by default, if you need to enable it, please refer to "Factor Parameter Setting" in 2.2.6.

2.2.5 Query

In the main interface when the screen is on, press ""to enter parameters query page.

- User Parameter

Touch "User Parameters "to enter the user parameter list and press "<" ">" to switch pages. Click on a value to modify it.

- Running Parameter

Touch" System Parameters" to enter the operating parameters to view. Press "<" ">" to switch pages.

Number	Parameter	Value	Unit
1	Compressor operating frequency	0	Hz
2	Fan running frequency/speed	0	Hz
3	Electronic expansion valve steps	0	P
4	EVI valve steps	0	P
5	AC input voltage	0	V

When the units are in cascade, click "System Parameters" and select the units you want to view. Grey icon means the unit is not connected.
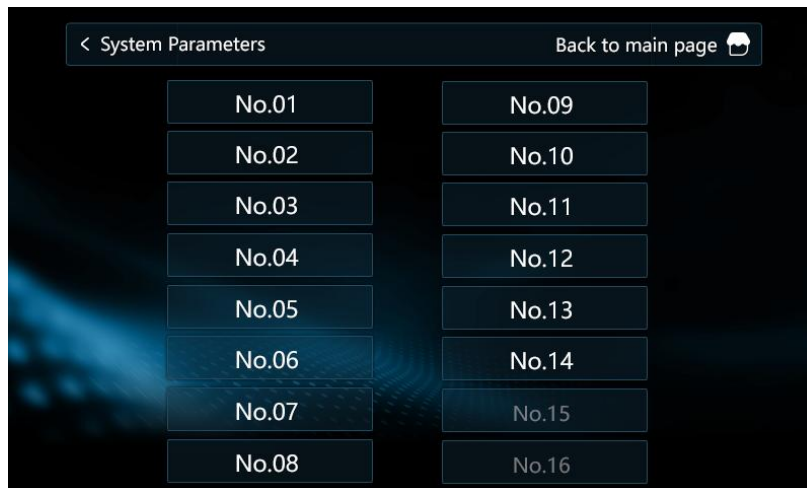
- Failure Information

   Touch "Notification information" checking fault messages.

   Touch "Delete "can clear history of failure.
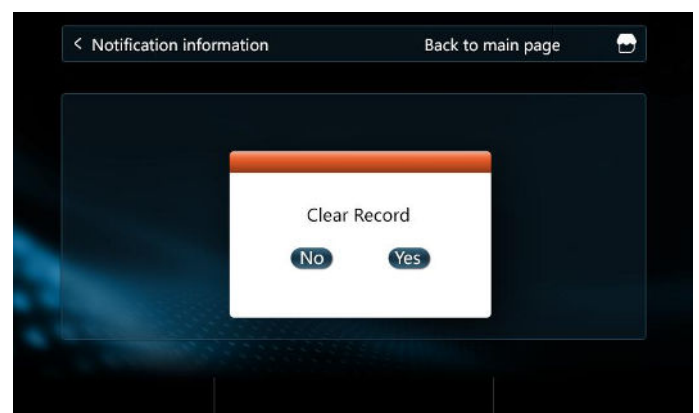
In the home page, when the unit has a failure, the " " icon will flashes, then click the icon to enter the fault query page.

- **Power Statistics**

    When the unit is connected to a power module, you can check the unit's power statistics, including total power consumption, current power, voltage, and other data.
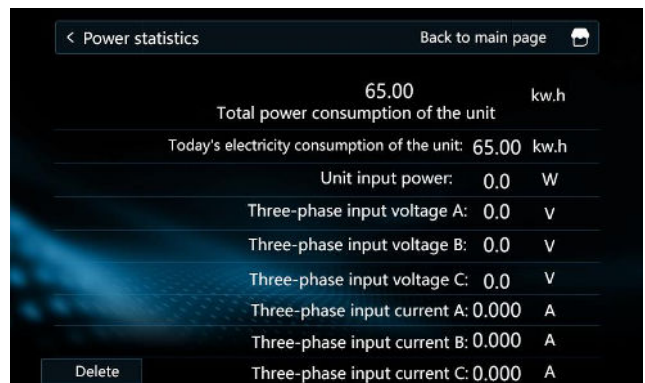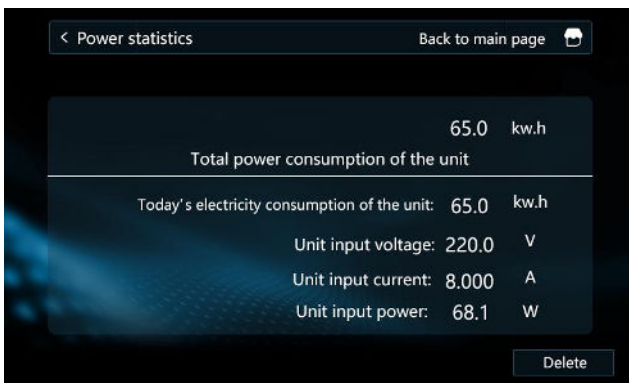
Click "Delete" to reset the power statistics.

- **Running Curve**

    Touch "Temperature Curves" to enter curve query. This page records 5 parameters including water inlet temperature, water outlet temperature, compressor frequency, ambient temperature, and fan motor frequency within 24 hours.

    xh: indicates the state of x hours ago.
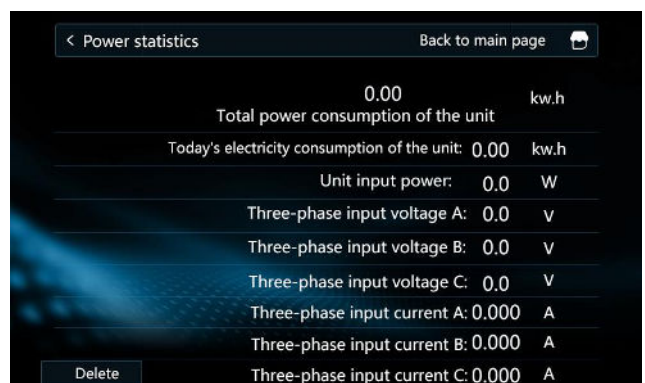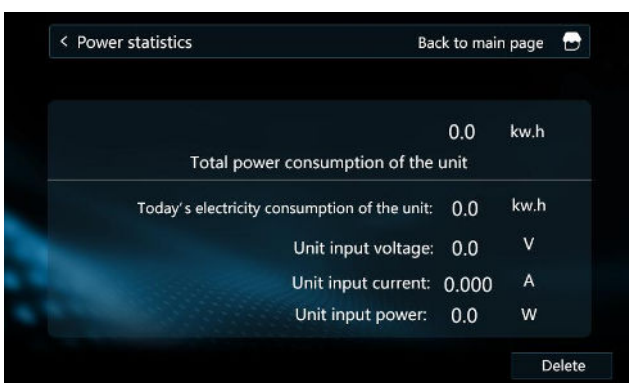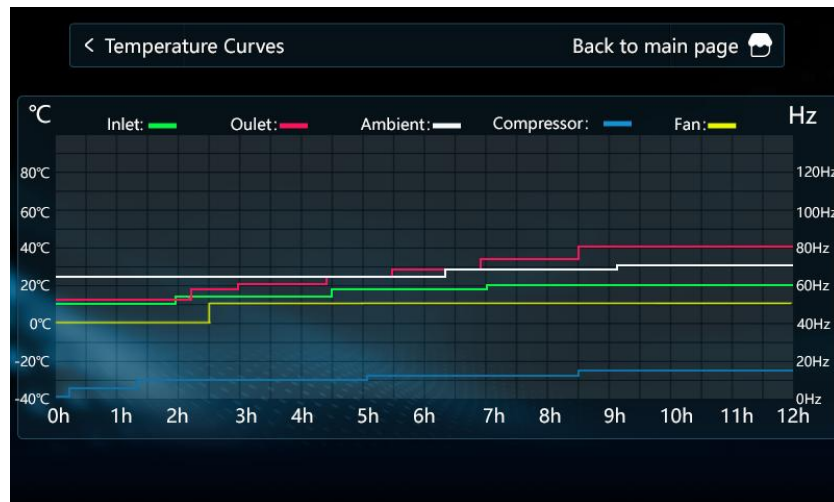
- Temperature Curve Setting

Touch "Set Temperature Curves "to enter query setting. Press "<" ">" to switch the curve settings in different modes.

After setting the curve, the unit will automatically adjust the water temperature according to the ambient temperature, you can set different temperature curves according to the demand.

Refer to 4.2 "Temperature Curve Tables" for curve tables.

2.2.6   Setting

Touch " " to enter setting page.

- Date Time Setting

In setting page, touch "Date & Time" to enter time setting page. Touch Day-Month-Year-Time press "√" to save the setting.
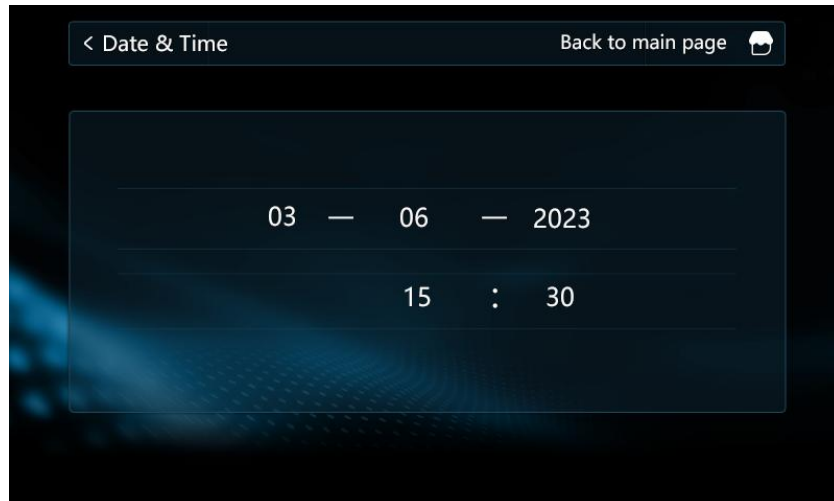
- **Display Setting**

  Touch "Display and sound "to enter the brightness and sound setting interface.

  ①Drag the spot to set different brightness

  ②Click "OFF/ON" to turn off/on the sound

  ③Click "<" ">" to switch different languages
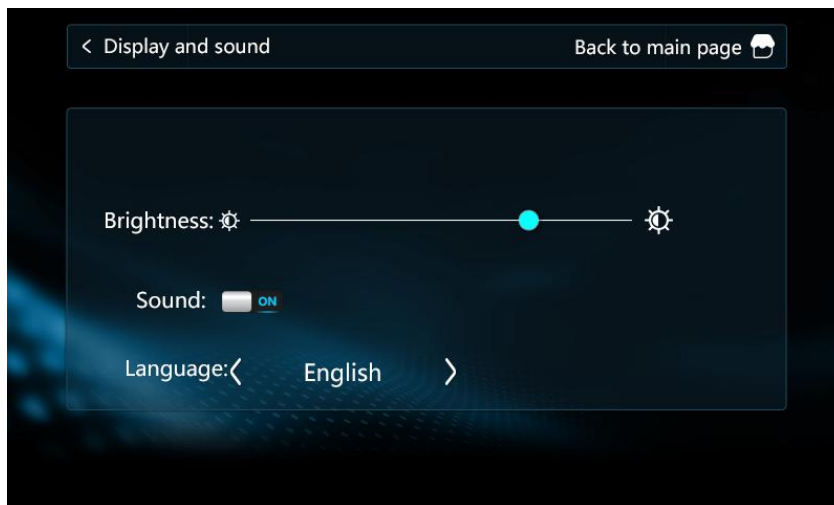
- ~~Temperature Unit Setting~~

  ~~This feature is not available yet.~~

- **Factory Parameter Setting**

  Touch "Factory Parameters "and enter password "2345" to enter the parameters setting page.

  At this page, you can press "<" ">" to check the value of each parameter.

  Click the parameter value to modify the parameter or click "<" ">" to modify the parameters directly.

①Dual Zone Temperature Setting

Touch "<"">"to check the parameter of P257 and modify to "0", then enable dual-zone temperature

②SG Ready Setting

Press "<" ">" to query the parameter P255, and modify to "0", then enable SG-Ready.

- Restore Setting

  Touch "Restore factory settings" to enter the page of resetting to factory setting.

- About

  Touch "About "to check the version of the motherboard and wire controller.

3. APP GUIDANCE

3.1 APP Installation

Search for "Smart Life" in the app store or scan the QR code below.

3.2 Login/Register
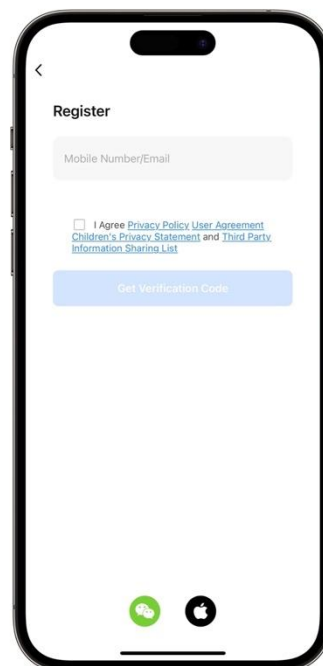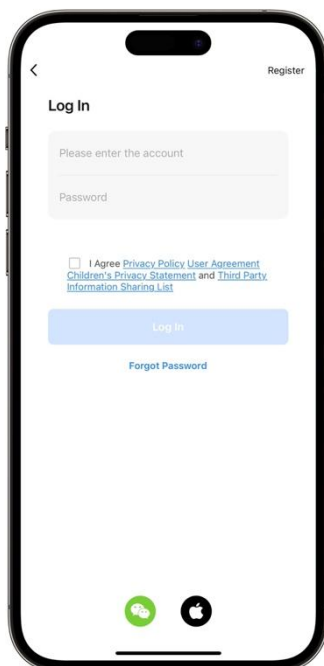
①Open the APP and enter your account password to log in.

②The first installation needs to be registered, enter the phone or e-mail address, enter the verification code, and then register

③ After successful registration, enter the APP homepage

3.3 Binding Unit
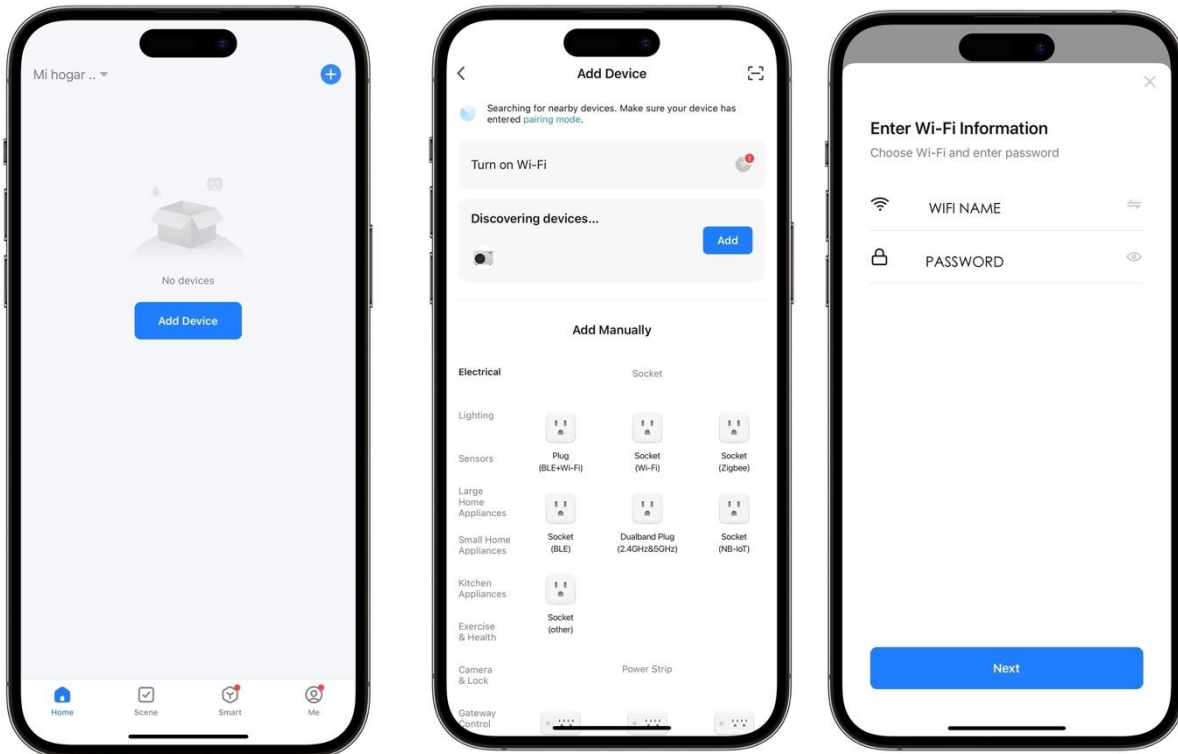
①Make sure the wire controller and cell phone are in the same network, the cell phone needs to be connected to WIFI, and then open the Bluetooth and authorize the APP to use, click "Add Device";

②Wait for the device to be searched, click "Add";

③ Enter the WI-FI password.

④ Bind successfully；

3.4 Home Page

3.4.1   ON/OFF

Click "   " for unit ON/OFF
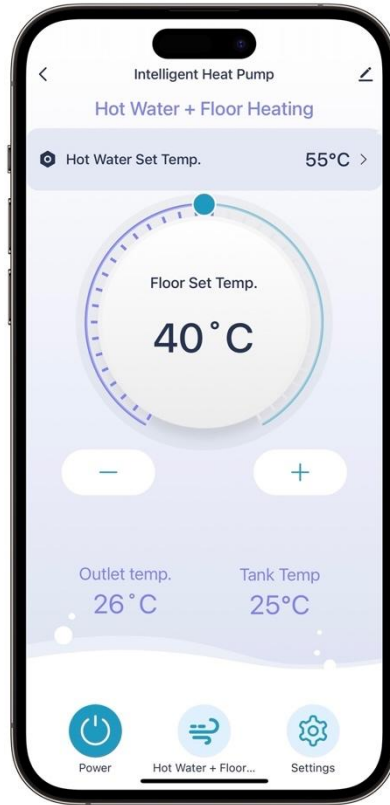
3.4.2   Mode Setting

Click " " to switch the unit operation mode.
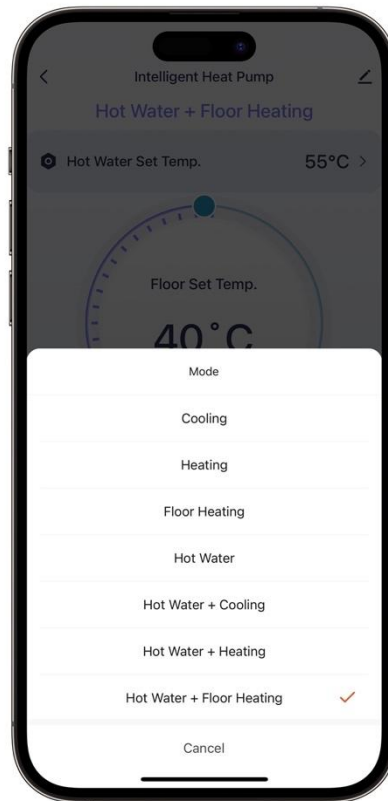
3.4.3   Rename Unit

①Click " ✎ › " to go to the unit information.

②Click " ✎ › " to view the unit name;

③ Click "Name" to rename the unit.

④ Enter the name you want to rename
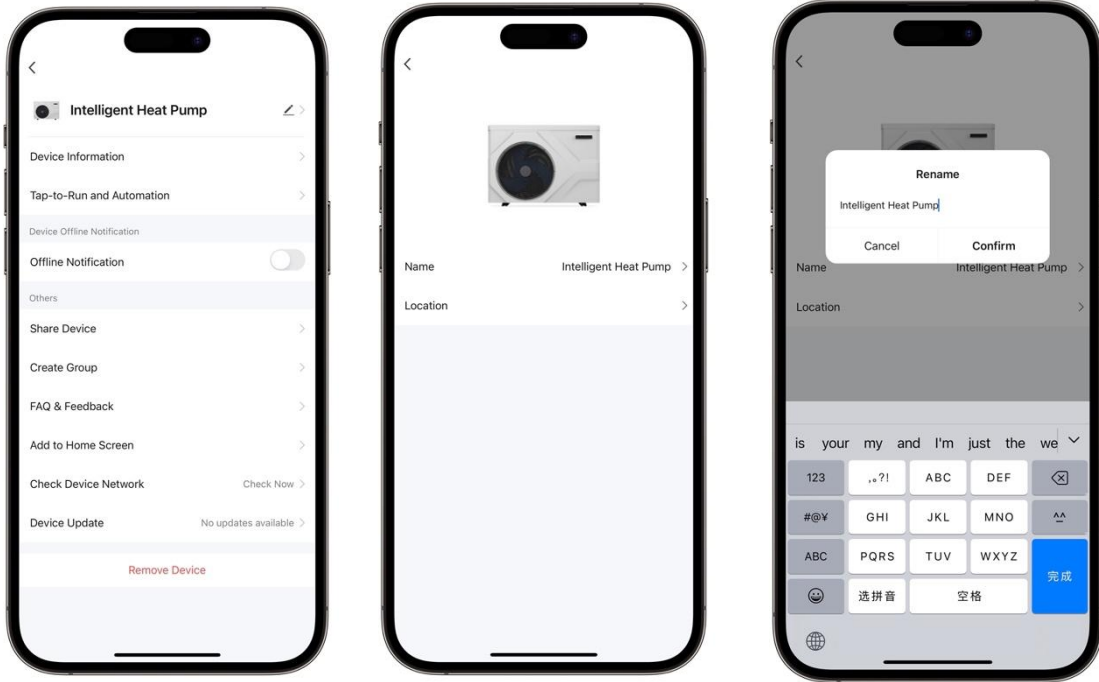
3.4.4　　Remove Unit

Click "Remove Device" to unbind the device.
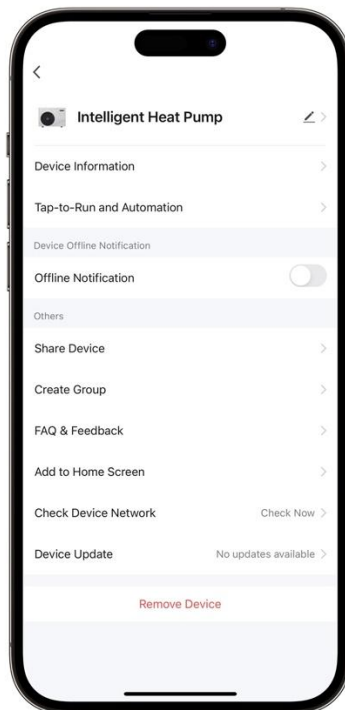
3.5 Timer Setting

①Click on "Settings" to enter the unit settings.

②Click "Timer" to set the timer.

③Select the time you want to set the timer
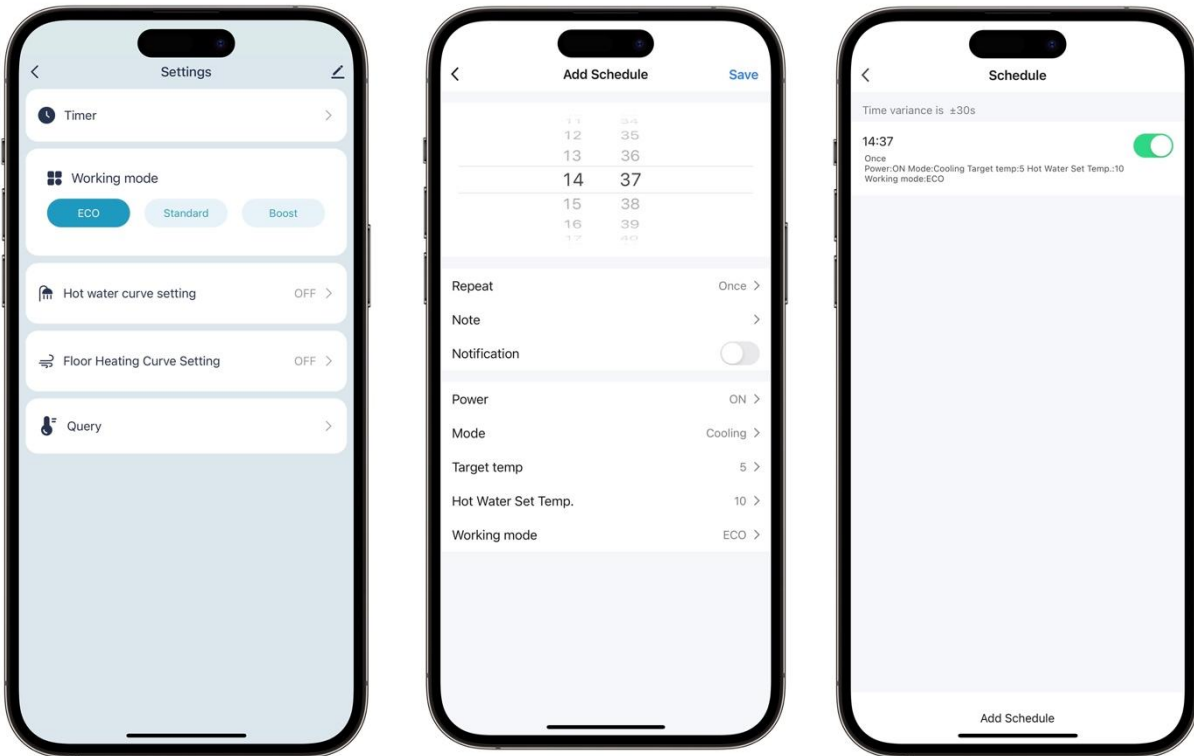
3.6 Status Query

①Click on "Settings" to enter the unit settings.

②Click "Query" to check the unit running parameter.
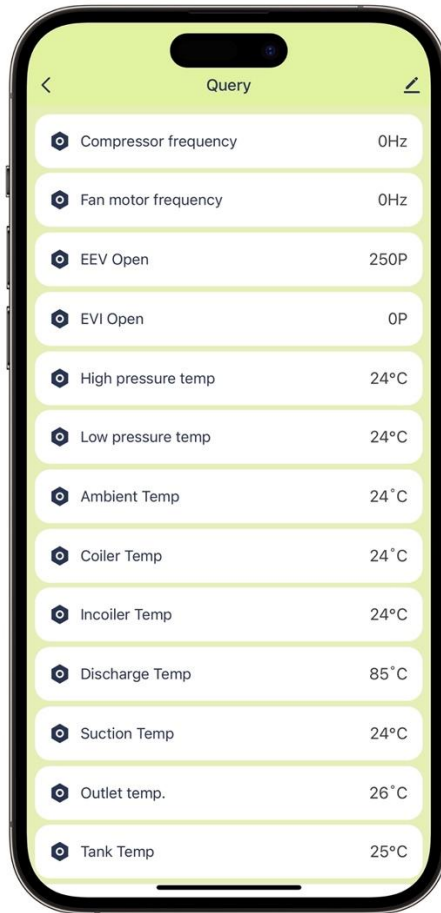
4. Appendix

4.1 Parameter Table

Table 1 Running state parameter.

Code	Parameters	Display range
1	Compressor operating frequency	0～150Hz
2	Fan running frequency/speed	0～999Hz
3	Electronic expansion valve steps	0～480P
4	EVI valve steps	0～480P
5	AC input voltage	0～500V
6	AC input current	0～50.0A
7	Compressor phase current	0～50.0A
8	Compressor IPM temperature AC input current	-40～140℃
9	High pressure saturation temperature	-50～200℃
10	Low pressure saturation temperature	-50～200℃
11	External ambient temperature T1	-40～140℃
12	Outer coil temperature T2	-40～140℃

13	Inner coil temperature T3	-40～140℃
14	Return air temperature T4	-40～140℃
15	Exhaust temperature T5	0～150℃
16	Return water temperature T6	-40～140℃
17	Discharge temperature T7	-40～140℃
18	Economizer inlet pipe temperature T8	-40～140℃
19	Economizer outlet pipe temperature T9	-40～140℃
20	Unit Tooling Number	0～120
21	Water tank temperature	-40～140℃
22	Fluorine circuit plate heat exchange out temperature	-40～140℃
23	Driver manufacturer	0～10
24	Water pump speed PWM	0～100%
25	Water flow rate	0～100L/min
26	User return water temperature	-40～140℃
51	Hot Water heat source temperature	-40～140℃
52	Heating heat source temperature	-40～140℃
53	Heating water tank temperature	-40～140℃
54	All outlet water temperature	-40～140℃

Table 2 Factory setting parameter.

NO.	Parameters	Range
P00	External ambient temperature sensor T1	0～1
P01	High voltage switch setting	0～1
P02	Low pressure switch setting	0～1
P03	Water flow switch setting	0～1
P04	Thermal overload protection switch setting	0～1
P05	Linkage switch setting	0～2
P06	Fan type setting	0～1
P07	High voltage protection lockout setting	0～1
P08	Low pressure protection lockout setting	0～1
P09	Exhaust protection lockout setting	0～1
P10	Water flow switch protection lockout setting	0～1
P11	High voltage protection value	40～70
P12	High-voltage frequency limit value	40～70
P13	Low-voltage protection value	-50～-10
P14	Low voltage frequency limit value	-50～-10
P15	Exhaust temperature protection value	100～120
P16	Exhaust temperature frequency limit value	90～120
P17	Cooling fan speed up value	0～60

P18	Cooling fan speed down value	0～60
P19	Heating fan speed down value	0～60
P20	Heating fan speed up value	0～60
P21	Unit forbidden to start low temperature value (host)	-40～-10
P22	Electric heating start ambient temperature (host)	-15～40
P23	Inlet and outlet water temperature difference excessive value (host machine)	10～30
P24	Return water temperature compensation value (host)	-10～10℃
P25	Outlet water temperature compensation value (host)	-10～10℃
P26	Air conditioning return difference value (host)	0～10℃
P27	Floor heating return difference value (host)	0～10℃
P28	Pump control when reaching temperature shutdown (host)	0～1
P29	Anti-freeze pump running time (every 10min)	0～10min
P30	Defrost mode selection	0～2
P31	Enter defrost cumulative run time threshold	0～120
P32	Enter defrost coil temperature value	-30～0
P33	Enter defrost temperature difference 1	0～20
P34	Enter defrost temperature difference 2	0～20
P35	Maximum defrost time	0～30
P36	Exit defrost coil temperature	0～30
P37	Temperature stop mode	0～2
P38	Heating main valve initial opening constant	-999～999
P39	Pressure sensor setting	0～1
P40	Refrigeration target superheat correction value	-5～10
P41	Heating high pressure protection and frequency limit correction value	-10～10
P42	Heating target superheat correction value	-5～10
P43	Medium pressure switch setting	0/1
P44	Water flow switch failure detection setting	0/1
P45	Communication address code	1～16
P46	Return difference of liquid injection solenoid valve opening	0～15
P47	EVI target superheat constant	0～12
P48	Tank temperature probe enabled or not	0～1
P49	Hot water frequency running percentage	30%～100%
P50	Refrigeration target frequency constants A,Y=9X/5+A	-100～100
P51	Refrigeration minimum frequency limit	15-60Hz
P52	Refrigeration target frequency upper limit	40-120Hz
P53	Refrigeration target frequency lower limit	15Hz-P52

P54	Heating target frequency constant B,Y=B-X	-100～100
P55	Heating target frequency upper limit	50-120Hz
P56	Heating target frequency lower limit	20Hz-P55
P57	Heating minimum frequency1	15-60Hz
P58	Heating minimum frequency2	15-60Hz
P59	Heating minimum frequency3	15-60Hz
P60	Hot water target frequency constants B,Y=B-X	-100～100
P61	Hot water target frequency upper limit	50-120Hz
P62	Hot water target frequency lower limit	15Hz-P61
P63	Hot water minimum frequency 1	15-60Hz
P64	Hot water minimum frequency 2	15-60Hz
P65	Hot water minimum frequency 3	15-60Hz
P66	DC fan initial frequency	20-60Hz
P67	DC fan machine heating minimum frequency	20-60Hz
P68	DC blower heating max frequency	20-60Hz
P69	DC fan cooling minimum frequency	20-60Hz
P70	DC fan cooling maximum frequency	20-60Hz
P71	Turn on enthalpy control frequency	20-80Hz
P72	Stop enthalpy frequency	20-80Hz
P73	Refrigeration main valve initial opening 1	20～480
P74	Refrigeration main valve initial opening 2	20～480
P75	Refrigeration main valve initial opening 3	20～480
P76	Refrigeration main valve minimum opening	0～300
P77	Heating main valve minimum opening	0～300
P78	Main valve maximum opening	100～500
P79	Main valve initial opening constant c	50～300
P80	Main valve initial opening coefficient a	-999～999
P81	Main valve initial opening coefficient b	-999～999
P82	Max. opening of auxiliary valve	100～500
P83	Minimum opening of auxiliary valve	50～300
P84	Main valve adjustment period	10-120
P85	Initial opening constant of auxiliary valve c	-200～900
P86	Initial opening coefficient of auxiliary valve a	-999～999
P87	Initial opening coefficient of auxiliary valve b	-999～999
P88	Quiet mode compressor frequency	20-70Hz
P89	Quiet mode fan frequency	20-60Hz
P90	Enthalpy increase into the ambient temperature	0-45

P91	Prohibition of enthalpy entry time	0-30
P92	Enthalpy entry temperature difference	0-60
P93	Enthalpy entering press continuous operation time	0-20
P94	Auxiliary valve adjustment cycle	10-120
P95	Group network pump operation mode	0-1
P96	Hot water return difference value (host)	0～10℃
P97	Water tank temperature automatic compensation (host)	0～1
P98	Water tank temperature manual compensation value (host)	-10～10℃
P99	Water pump speed regulation temperature difference	2～10℃
P100	PWM pump minimum speed	20～80%
P101	Water pump control mode (host)	0～1
P102	Four-way valve control mode	0～1
P103	Mode switching minimum running time	0～10min
P104	Operating frequency percentage at mode switching	20-100%
P105	Cooling mode running loop temperature limit (host)	10～60℃
P106	Heating mode running ring temperature limit (host)	10～60℃
P107	Hot water mode operation ring temperature limit value (host)	10～60℃
P108	Hot water set temperature upper limit value (host)	30～80℃
P109	Hot water set temperature lower limit value (host)	10～30℃
P110	Heating setting temperature upper limit (host)	30～60℃
P111	Heating setting temperature lower limit (host)	15～30℃
P112	Refrigeration setting temperature upper limit (host)	20～40℃
P113	Refrigeration setting temperature lower limit value (host)	5～20℃
P114	Number of processors to choose	1～2℃
P115	Machine type selection (host)	0～5
P116	Unit temperature control mode (host)	0～1
P117	Anti-freeze entry ring temperature	0～10℃
P118	Anti-freeze entry outlet water temperature	0～20℃
P119	Refrigerant type	0～20
P120	Low temperature start limit	0～1
P121	Heating frequency shield 1 section low value	
P122	Heating frequency shield 1 high	
P123	Heating frequency shield 2 low	
P124	Heating frequency shield 2 high	0-120
P125	Heating frequency shield 3 low	
P126	Heating frequency shield 3 segment high value	
P127	Refrigeration frequency shield 1 segment low value	

P128	Refrigeration frequency shield 1 segment high value	
P129	Refrigeration frequency shield 2 low	
P130	Refrigeration frequency shielding 2-segment high value	
P131	Refrigeration frequency shield 3-segment low value	
P132	Refrigeration frequency shield 3-segment high value	
P133	Fan module	0～1
P134	Water flow rate too low protection value	0～100
P135	Anti-condensation starts temperature difference	0～50
P136	Throttle bypass valve opening loop temperature	-20～50
P137	Throttle bypass valve delay press	0～999
P138	Defrosting press frequency	40～120
P139	Air conditioning electric heating options	0/1
P140	Hot water electric heating options	
P141	Frost dew point duration	0～60
P142	Frosting dew point constant	
P143	Frost accessible water temperature	
P144	Frost-accessible ring temperature	-20～30
P145	Frost protection value of water outlet	-30～10
P146	Water pump range setting value	0～100
P147	Refrigeration anti-freeze mode	2000/1/2
P148	Refrigeration anti-freeze temperature value	-40
P149	Water out of the high limit frequency value	40-80
P150	Secondary heating pump selection	2
P151	Hot water heat source return difference	0
P152	Heating heat source return difference	0
P153	Combined hot water heat source upper temperature limit	70
P154	Combined heating heat source upper temperature limit	60
P155	Compressor code	0
P156	Auxiliary electronic expansion value selection	0
P157	Auxiliary electronic expansion value to reduce the temperature difference	0
P158	Heating limit water temperature, start the ambient temperature	-15
P159	Limit temperature constant P159	68
P160	Limit temperature coefficient P160	14
P161	Auxiliary pump selection	0
P162	Anti-freezing interval for hot water pipes	90
P163	Minimum feedback of pump speed regulation	30

P164	Level control	3
P165	Load return difference	3
P166	Lightening back to the poor	2
P167	Stop back to the poor	3
P168	Hot water mode start ratio	50
P169	Non-hot water mode start ratio	100
P170	Loading cycle	7
P171	Shield low voltage switch ring temperature	-30

4.2 Temperature Curve Tables

4.3 Error Code

Code	Description
E01	Wrong phase fault
E02	Out of phase fault
E03	Water flow switch fault
E04	Main board and 4G module communication fault
E05	High pressure switch protection
E06	Low pressure switch protection
E09	Line controller and motherboard communication failure
E11	Time limit protection
E12	Exhaust gas temperature too high fault
E14	Hot water tank temperature failure
E15	Water inlet temperature sensor failure
E16	Coil sensor failure
E18	Exhaust gas sensor failure
E21	Environmental sensor failure
E22	User return water sensor failure
E23	Cooling subcooling protection
E24	Plate heat exchanger out temperature fault
E26	Plate heat exchanger for anti-freeze sensor failure
E27	Out of the water sensor failure
E29	Return gas sensor failure
E33	High pressure sensor failure
E34	Low pressure sensor failure

E37	Inlet and outlet water temperature difference is too large protection
E38	DC fan 1 failure
E39	DC fan 2 failure
E42	Cooling Coil Sensor 1 failure
E47	Economizer inlet sensor failure
E49	Economizer outlet sensor failure
E51	High pressure over high protection
E52	Low pressure over low protection
E55	Expansion board communication failure
E80	Power supply error
E94	Water pump feedback failure
E96	Press 1 driver and main control board communication abnormal
E98	Fan 1 driver and main control board communication abnormal
E99	Fan 2 driver and main control board communication abnormal
EA0	Plate heat exchanger temperature failure
EA1	Network model error
EA2	Hot water heat source sensor failure
EA3	Heating heat source sensor failure
EA4	Heating water tank sensor failure
EA5	Total out of the water sensor failure