EXINDA

DC Inverter Air to Water Heat Pump

Owner's manual

Version: 1.0

Thank you very much for purchasing our product.

Before using your unit, please read this manual carefully and Keep it for future reference.

Contents

◆ This manual gives detailed description of the precautions that should be brought to your attention during operation.

◆ In order to ensure correct service of the wire controller please read this manual carefully before using the unit.

◆ For convenience of future reference, keep this manual after reading it.

1. Precautions for safety

The product and Operation and Installation Instructions record the following content, including the operation method, how to prevent harms to others and property losses, and how to use the product correctly and safely. Read the text after understanding the content (identification and marker maps) below carefully, and observe the precautions below.

Indication	Meaning of indication
⚠ WARNING	Text set off in this manner indicates that failure to adhere to the directions in the warning could result in serious bodily harm (*1) or loss of life if the product is handled improperly.
⚠ CAUTION	Text set off in this manner indicates that failure to adhere to the directions in the caution could result in minor bodily injury (*2) or damage (*3) to property if the product is handled improperly.

*1: Serious bodily harm indicates loss of eyesight, injury, burns, electric shock, bone fracture, poisoning, and other injuries which leave aftereffect and require hospitalization or long-term treatment as an outpatient.

*2: Bodily injury indicates injury, burns, electric shock, and other injuries which do not require hospitalization or longterm treatment as an outpatient.

*3: Damage to property indicates damage extending to buildings, household effects, domestic livestock, and pets.

Symbol	Meaning of Symbol
🚫	It indicates "prohibited". The specific content of prohibition is provided using graphics or text in the icon or nearby.
❗	It indicates "mandatory". The specific mandatory content is provided using graphics or text in the icon or nearby.

⚠ Warning	Entrusted installation	Entrust your distributor or a professional to install the product. The installation operator must have acquired the relevant professional knowledge. In case of independent installation, wrong operations will lead to a fire, electric shock, or injury.
🚫 Caution in use	Prohibited	Do not spray combustible spray to the wired controller directly; otherwise a fire may be caused.
	Prohibited	Do not perform operations with a wet hand or allow water to enter the wired controller; otherwise the wired controller will be damaged.

2. Overview of Wired Controller

Basic using conditions:

1) Power range: power input: AC 8V ~ 12V;

2) Operating temperature: -20°C~60°C;

Operating humidity: RH40%~RH90%;

2.1 Operation Interface Description
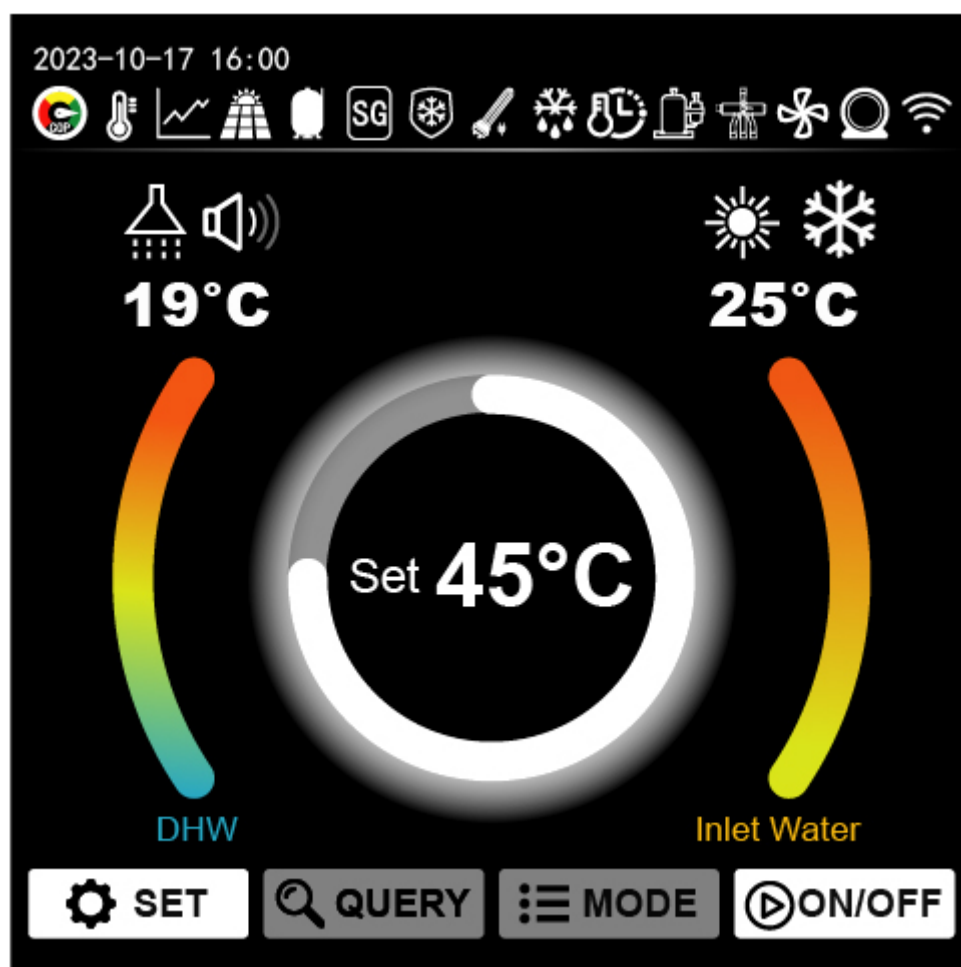
Index	Icon	description
1	2023-10-17 16:00	Date and time

2		COP icon
3		Sterilize icon
4		weather curve icon
5		PV active icon
6		boiler active icon
7		SG Ready Icon
8		Anti-freezing icon
9		Electric heating icon
10		Defrost icons
11		Timer icon
12		Compressor icon
13		Four-way valve icon
14		Fan motor icon
15		Water Pump icon
16		WIFI icon
17		Heating mode is activated
18		Heating mode is not activated
19		Domestic Hot water mode is activated
20		Domestic Hot water mode is not activated
21		Cooling mode is activated
22		Cooling mode is not activated
23		Silent mode is activated

24	**⚙ SET**	Menu button, click to enter the main menu interface
25	**🔍 QUERY**	Query button, click to enter the unit status query interface
26	**☰ MODE**	Mode button, click to enter the mode select interface
27	**▷ON/OFF**	ON/OFF button, click to switch ON/OFF status
28	🔒	Screen locked, click the icon to unlock screen
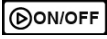
3. Function Introduction

3.1. Unlocking/Locking Operation

When the wired controller is locked, press the🔒icon which displayed in the middle of the scream to unlock it. Then the lock icon is not displayed and the wired controller can be operated.
When there is no operation for continuous 60s on any page, the wired controller returns to the home page and automatically locks, displaying the lock icon.

3.2. Power On/Off

When the wired controller is unlocked, ON/OFF icon ▷ON/OFF which displayed on the bottom right corner of the home page screen can be pressed to power on or off the unit.

3.3. Mode Setting

Unlock (if locked) the wired controller and click icon ☰ MODE to enter the mode select interface.

icon[ON]⬤ which under a mode icon would be displayed while that mode is activated, otherwise it would

be display ⬤OFF. one of the following mode can be selected by click the ON/OFF icon

[Cooling]

[DHW]

[Heating]

[DHW + Cooling]

[DHW + Heating]

Meanwhile, "Silent Mode" could be activated by click icon ⬤OFF🔊 which located in the top right corner of the screen.

After select a mode ,click the mode icon "Cooling/DHW/Heating" and enter the temperature setting page. And the target temperature will be set by press "+/-"
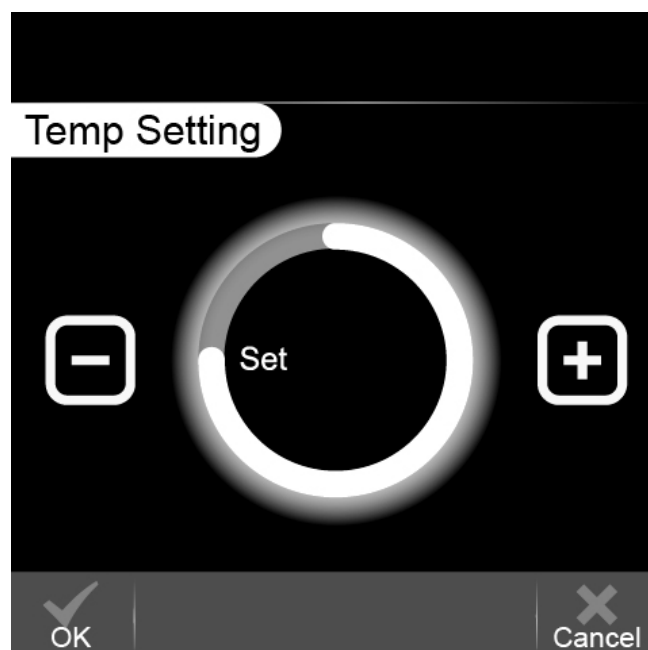
3.4. Parameters Query

Unlock (if locked) the wired controller and click icon $\boxed{\text{Q QUERY}}$ on the main interface to enter the query interface
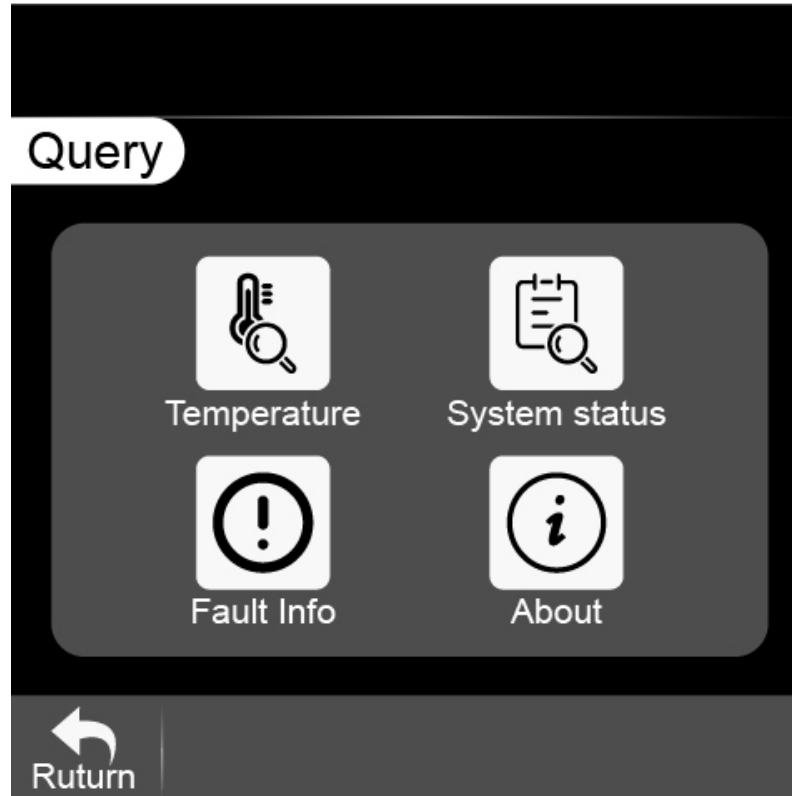
Click on the corresponding icon to query the corresponding content

Temperature : unit temperature status

System Status: unit system status

Fault Info: historical fault reported by the machine

About: the unit program version number

3.5. Parameters Setting

Unlock (if locked) the wired controller and click icon $\boxed{\text{⚙ SET}}$ on the main interface, enter the **SETTING** menu interface.

3.5.1. User Parameters Setting

click [User Para] and enter the password "**1234"** to enter the **User Para** interface;

Parameter serial number	The parameter name	Justification range	Factory default value
L0	Set the return water Temperature to start heating	2□～18□	5□
L1	Set the target temperature for heating	20□～55□	40□
L2	Set the return water Temperature to start cooling	2□～18□	2□
L3	Set the target temperature for cooling	8□～30□	12□
L4	Engineering parameters	-30□～35□	5□
L5	Engineering parameters	ON: have OF: without	OF
L6	Set the return water Temperature to start domestic hot water	2□～18□	5□
L7	Set the target temperature for hot water	20□～50□	45□

3.5.2. Factory Parameters Setting

In the setting menu interface, click ![Factory Para] enter the password 1688 to enter the **Factory Para** interface

Parameter serial number	Parameter Name (Definition)	Parameter setting range	Factory default value	Remarks
H0	Set the cumulative heating running time	1～120	45min	
H1	Set the maximum defrost time when defrosting	1～25	12min	
H2	Set the temperature to exit the defrosting	1～25	12□	
H3	Set the defrost temperature T1	-20～20	-1□	
H4	Set the defrost temperature T2	-20～20	-2□	
H5	Set the defrost temperature T3	-20～20	-4□	
H6	Set the defrost temperature T4	-20～20	-6□	
H7	Set the defrost temperature difference T1	-20～20	-7□	
H8	Set the defrost temperature difference T2	-20～20	-8□	
H9	Set the defrost temperature difference T3	-20～20	-8□	
H10	Set the defrost temperature difference T4	-20～20	-8□	
H11	Set the defrost temperature difference T5	-20～20	-8□	
P0	The maximum compressor operating frequency for heating	30～100	90Hz	
P1	The minimum compressor operating frequency for heating	30～60	30Hz	
P2	The maximum compressor operating frequency for cooling	30～100	80Hz	
P3	The minimum compressor operating frequency for cooling	30～60	30Hz	
P4	The Maximum opening of the main electronic expansion valve	50～480	480P	
P5	The Minimum opening of the main electronic expansion valve	50～480	52P	With spray enthalpy generator
P5	The Minimum opening of the main	50～480	80P	No liquid

	electronic expansion valve			injection enthalpy generator
P6	The maximum opening of the auxiliary electronic expansion valve	50～480	480P	
P7	The minimum opening of the auxiliary electronic expansion valve	50～480	80P	
P8	Set ambient temperature to start the EVI solenoid valve	[-25～25]	25□	
P9	Set frequency to start the EVI solenoid valve	30～100	50Hz	
P10	Operation mode of water pump	0: The water pump is always running 1: The pump runs intermittently, on for 6 seconds and off for 10 seconds 2: The water pump stops operation	0	Adjust the main control to set the pump on for 6 seconds and off for 10 seconds, stop the water pump when reach the set temperature
P11	Auxiliary electric heating	0: Invalid 1: valid	0	
P12	Set the target return air superheat in heating SHr (ambient temperature> 5□)	[-5～5]	3	
P13	Adjust the temperature deviation of exhaust superheat in high frequency heating	40～90□	80□	With spray enthalpy generator
P13	Adjust the temperature deviation of exhaust superheat in high frequency heating	40～90□	45□	No liquid injection enthalpy generator
P14	Set the target superheat of Economizer in high frequency heating	[-5～5]	2	
P15	Set the target superheat of Economizer in low frequency heating	[-5～5]	-1	
P16	Set regulation period of Economizer superheat	From 30 to 200 seconds	60 Seconds	
P17	Set the running time of compressor when EVI solenoid valve started	5~30 Minutes	12 Minutes	

P18	Mandatory defrost	0: Close 1: Open	0	
P19	Mandatory fluoride collection	0: Close 1: Open	0	
P20	Manual electric heating (Actual: Test mode automatic / manual) (Note: this parameter is not recorded when power failure)	0～100	4	For P20 <5, automatically press square E P20> =5 for manual adjustment
P21	Upper limit of exhausting for enthalpy electron expansion valve	70～90□	80□	8P model
P22	Lower limit of exhausting for enthalpy electron expansion valve	40～70□	60□	8P model
P23	Mode selection	0: Cooling and heating 1: Triple supply 2: only cooling 3: only heating	0	
P24	Maximum heating temperature setting	30～60□	55	
P25	Minimum Heating temperature setting	5～30□	20	
P26	Maximum cooling temperature setting	15～30□	30	
P27	Minimum cooling temperature setting	5～15□	10	
P28	Maximum temperature of hot water setting	30～60□	50	
P29	Minimum temperature of hot water setting	5～30□	20	
P30	Set the number of cascade units	1-16: This parameter is valid when the centralized controller is selected	1	
C5	the Ki coefficient capability calculate	0.3～1	0.8	E square 576
C6	Set the target return air superheat in heating SHr 2 (ambient temperature -7□ ~5□)	-5□～5□	-2□	E square 608
C7	Set the target return air superheat in heating SHr 3 (ambient	-5□～5□	-2□	E square 609

	temperature <-7□)			
C8	Minimum heating frequency in ambient temperature (-3□ ~4□)	30Hz~70Hz	38Hz	
C9	Minimum heating frequency in ambient temperature (-8□ ~ -3□)	30Hz~70Hz	42Hz	
C10	Minimum heating frequency in ambient temperature (-17□ ~ -8□)	30Hz~70Hz	48Hz	
C11	Minimum heating frequency in ambient temperature <-17□	30Hz~70Hz	58Hz	

3.5.3. Timer Setting

Click icon can navigate to Timer setting interface.
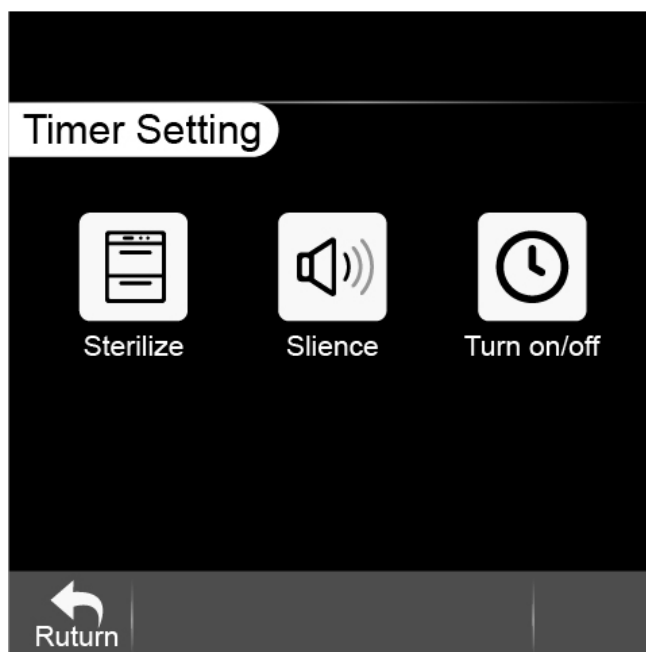
The Sterilization Timer function is used to kill the legionella. In the Sterilization function, the water tank's temperature will be heat to 65~70℃ forcedly.

Sterilization function can be executed immediately or with a timer by click the ON/OFF icon. If select Scheduled execute, please click the number to edit execute time. Sterilize would be automatically execute after the heat pump has been running for 7 days (can be modify by installer).

for example, if the execute time had been set to 01:10, sterilization would be execute at 01:10 AM after running for 7 days of the heat pump.

If a sterilization timer is activated, icon would be displayed on the home page

Sterilize Setting

Execute sterilization immediately   OFF

Scheduled execute   OFF
00:00
execute time

Ruturn   Cancel

The silence function is used to decrease the sound of the unit. However, it also decreases the heating/cooling capacity of the system.

Press the time string and navigate to the timer edit interface. Press the time string to edit the start/end time in the timer edit page. In the repeat page multiple or single date can be selected.

4 silence timers can be started at most.

If a silence timer is activated, icon ◀️)) would be displayed on the home page

Slience Mode
00:00 - 00:00   ON
Mon. Tues. Wed. Thurs. Fri. Sat. Sun.
00:00 - 00:00   OFF
every day
00:00 - 00:00   OFF
Mon. Tues. Wed.
00:00 - 00:00   OFF

Ruturn   Next   Cancel

Edit Timing
Start: 00:00
End: 00:00

Repeat   never   >

Ruturn   Cancel

Repeat
Every Monday   ○
Every Tuesday   ○
Every Wednesday   ○
Every Thursday   ○
Every Friday   ○
Every Saturday   ○
Every Sunday   ○

Ruturn
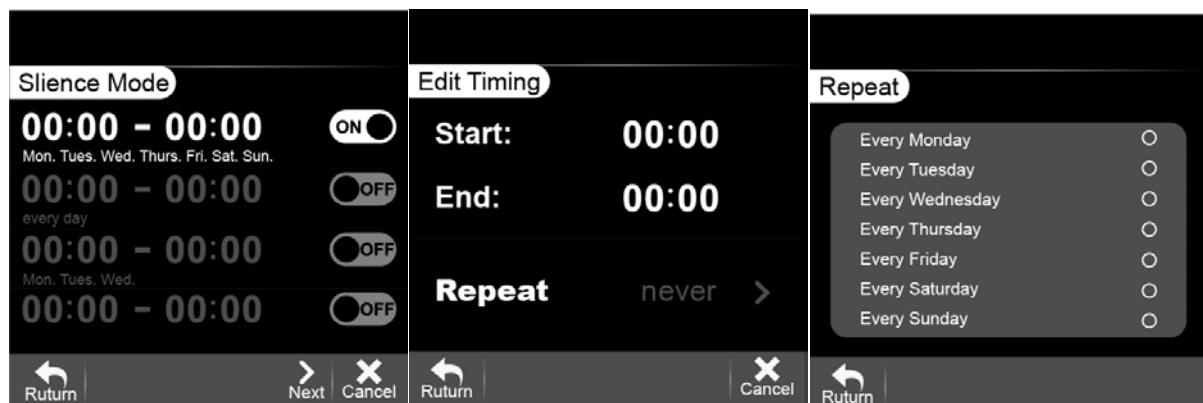
Turn On/Off timer is a daily schedule, can specify the turn on/off time, running mode and the target temperature. Press the time string to navigate to the timer detail edit page, modify the turn on/off time, press </> to select the running mode and the target temperature.

4 timers could be be started at most.

If a turn on/off timer is activated, icon would be displayed on the home page
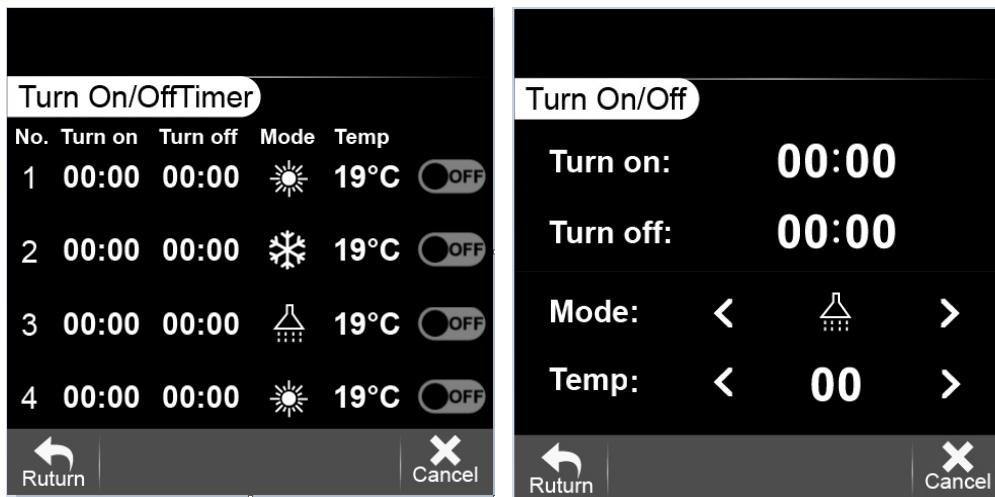
3.5.4. Special function Setting

In the setting menu interface, click enter the password 1688 and navigate to the **special function** setting page.

In the page user can on/off the defrosting/electric heater/refrigerant recovery by manually
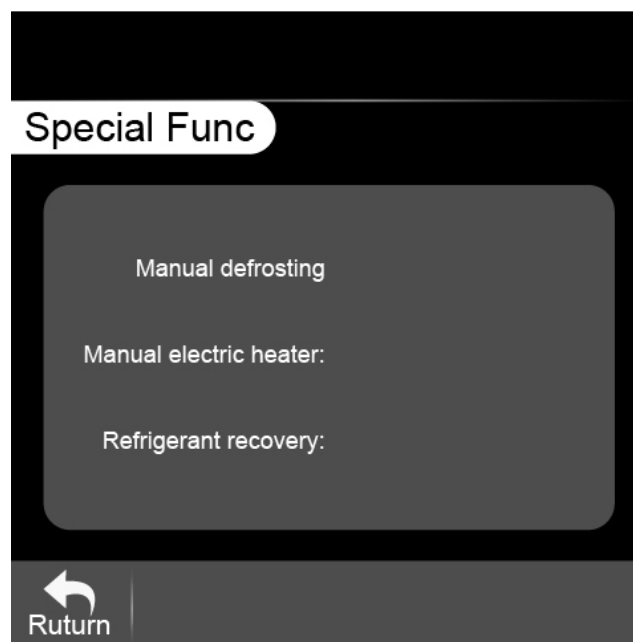
3.5.5. WIFI Setting

Users can setup WIFI connect in this section. Please refer the "Mobile app wifi connection.pdf" for details.

Mobile app wifi
connection.pdf
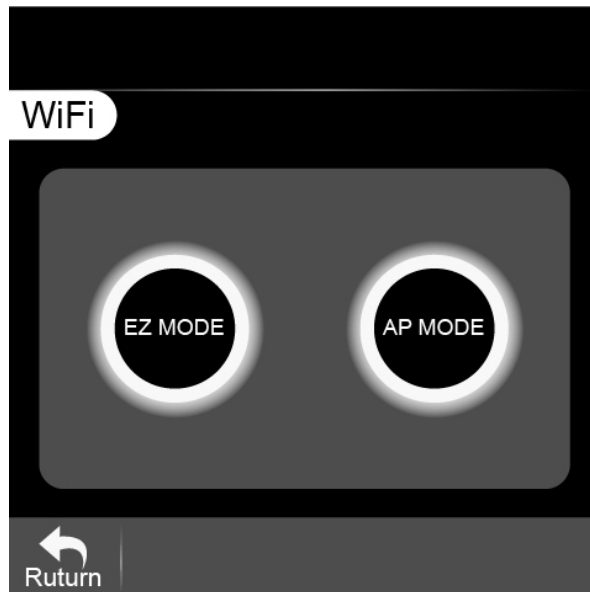
3.5.6. Debugging Setting

In the setting menu interface, click [icon] enter the password 1688 and navigate to the **debugging** setting page.
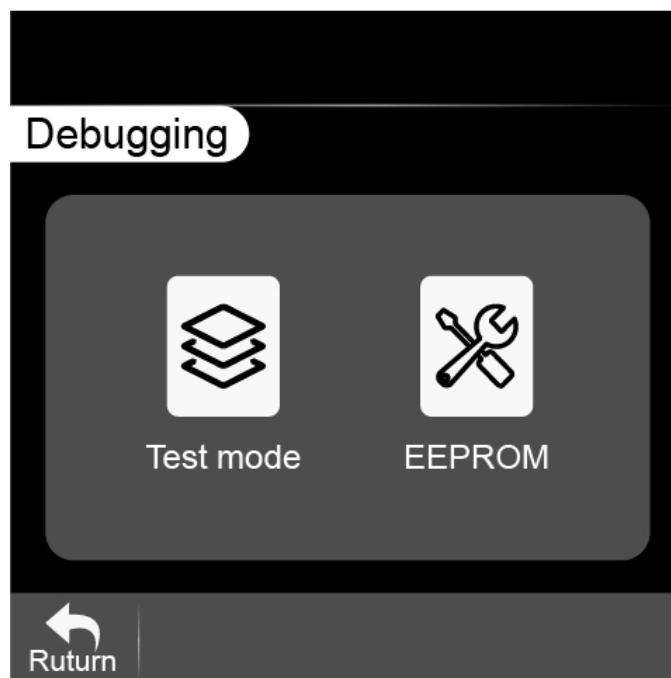
3.5.7. Time calibration interface

User can modify the running time of the unit here
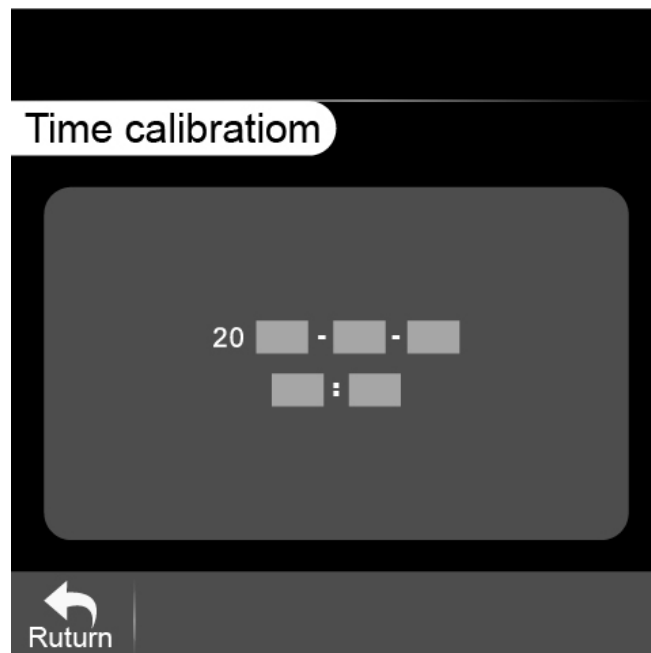
3.5.8. Brightness interface

User can modify the brightness of the screen here
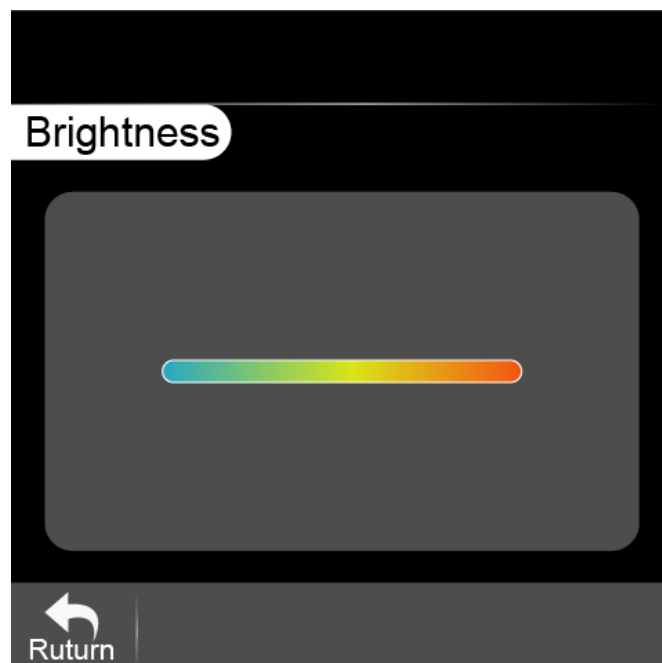
3.5.9. Reset Parameters

In the setting menu interface, click enter the password 1688 and navigate to the **Reset**

page.

3.5.10. Weather Curve

Weather curve function could make the system adjust their heating curve according to the ambient temperature, which can improve their efficiency.

End user can choose the system default setting curve or edit the curve manually. If choose the custom setting, just need to modify 4 temperature points to construct the curve. (Max outdoor temperature, Min outdoor temperature, Max target temperature and the Min target temperature). once choose a curve, the target temperature of heating / cooling will be calculated by the curve.

Table1 The environment temperature curve of the low temperature setting for heating

T4	≤-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0
1-T1S	38	38	38	38	38	37	37	37	37	37	37	36	36	36	36	36	36	35	35	35	35
2-T1S	37	37	37	37	37	36	36	36	36	36	36	35	35	35	35	35	35	34	34	34	34
3-T1S	36	36	36	35	35	35	35	35	35	34	34	34	34	34	34	33	33	33	33	33	33
4-T1S	35	35	35	34	34	34	34	34	34	33	33	33	33	33	33	32	32	32	32	32	32
5-T1S	34	34	34	33	33	33	33	33	33	32	32	32	32	32	32	31	31	31	31	31	31
6-T1S	32	32	32	32	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	29
7-T1S	31	31	31	31	30	30	30	30	30	30	30	30	29	29	29	29	29	29	29	29	28
8-T1S	29	29	29	29	28	28	28	28	28	28	28	28	27	27	27	27	27	27	27	27	26

T4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	≥20
1-T1S	35	35	34	34	34	34	34	34	33	33	33	33	33	33	32	32	32	32	32	32
2-T1S	34	34	33	33	33	33	33	33	32	32	32	32	32	32	31	31	31	31	31	31
3-T1S	32	32	32	32	32	32	31	31	31	31	31	31	30	30	30	30	30	30	29	29
4-T1S	31	31	31	31	31	31	30	30	30	30	30	30	29	29	29	29	29	29	28	28
5-T1S	30	30	30	30	30	30	29	29	29	29	29	29	28	28	28	28	28	28	27	27
6-T1S	29	29	29	29	29	29	28	28	28	28	28	28	27	27	27	27	27	27	26	26
7-T1S	28	28	28	28	28	28	27	27	27	27	27	27	26	26	26	26	26	26	25	25
8-T1S	26	26	26	26	26	26	26	25	25	25	25	25	25	25	25	24	24	24	24	24

Table2 The environment temperature curve of the high temperature setting for heating

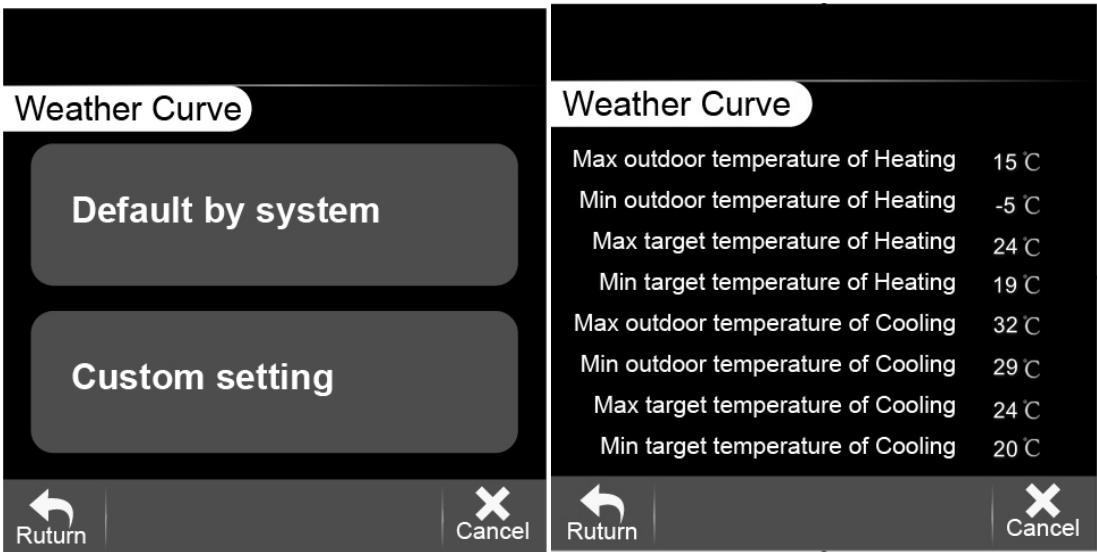| T4	≤-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0
1-T1S	55	55	55	55	54	54	54	54	54	54	54	54	53	53	53	53	53	53	53	53	52
2-T1S	53	53	53	53	52	52	52	52	52	52	52	52	51	51	51	51	51	51	51	51	50
3-T1S	52	52	52	52	51	51	51	51	51	51	51	51	50	50	50	50	50	50	50	50	49
4-T1S	50	50	50	50	49	49	49	49	49	49	49	49	48	48	48	48	48	48	48	48	47
5-T1S	48	48	48	48	47	47	47	47	47	47	47	47	46	46	46	46	46	46	46	46	45
6-T1S	45	45	45	45	44	44	44	44	44	44	44	44	43	43	43	43	43	43	43	43	42
7-T1S	43	43	43	43	42	42	42	42	42	42	42	42	41	41	41	41	41	41	41	41	40
8-T1S	40	40	40	40	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	37

T4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	≥20
1-T1S	52	52	52	52	52	52	52	51	51	51	51	51	51	51	51	50	50	50	50	50
2-T1S	50	50	50	50	50	50	50	49	49	49	49	49	49	49	49	48	48	48	48	48
3-T1S	49	49	49	49	49	49	49	48	48	48	48	48	48	48	48	47	47	47	47	47
4-T1S	47	47	47	47	47	47	47	46	46	46	46	46	46	46	46	45	45	45	45	45
5-T1S	45	45	45	45	45	45	45	44	44	44	44	44	44	44	44	43	43	43	43	43
6-T1S	42	42	42	42	42	42	42	41	41	41	41	41	41	41	41	40	40	40	40	40
7-T1S	40	40	40	40	40	40	40	39	39	39	39	39	39	39	39	38	38	38	38	38
8-T1S	37	37	37	37	37	37	37	36	36	36	36	36	36	36	36	35	35	35	35	35

Table3 The environment temperature curve of the low temperature setting for cooling

T4	-10≤ T4＜15	15≤ T4＜22	22≤ T4＜30	30≤ T4
1-T1S	16	11	8	5
2-T1S	17	12	9	6
3-T1S	18	13	10	7
4-T1S	19	14	11	8
5-T1S	20	15	12	9
6-T1S	21	16	13	10
7-T1S	22	17	14	11
8-T1S	23	18	15	12

Table4 The environment temperature curve of the high temperature setting for cooling

T4	- 10≤ T4＜15	15≤ T4＜22	22≤ T4＜30	30≤ T4
1- T1S	20	18	17	16
2- T1S	21	19	18	17
3- T1S	22	20	19	17
4- T1S	23	21	19	18
5- T1S	24	21	20	18
6- T1S	24	22	20	19
7- T1S	25	22	21	19
8- T1S	25	23	21	20

The automatic setting curve is the ninth curve,this is the calculation:
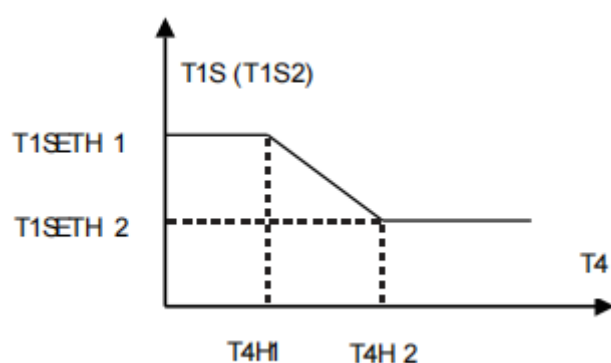
State:In the setting the wired controller, if T4H2<T4H1, then exchange their value; if T1SETH1<T1SETH2, then exchange their value.

4. Controller Menu Tree

Main Screen

- Power → On/Off `ON ●`
- MODE
  - ☀ Heating → Switch On/Off `ON ●` → Temperature setting −/+ → Save ✓ OK
  - DHW → Switch On/Off `ON ●` → Temperature setting −/+ → Save ✓ OK
  - ❄ Cooling → Switch On/Off `ON ●` → Temperature setting −/+ → Save ✓ OK
  - Heating & DHW → Combination Switch On/Off `ON ●` → Temperature setting −/+ → Save ✓ OK
  - Cooling & DHW → Combination Switch On/Off `ON ●` → Temperature setting −/+ → Save ✓ OK
  - 🔊 Silenc → Switch On/Off `ON ●` → Save ✓ OK
- QUERY
  - Temperature
  - System status
  - Fault info
  - About

Main Screen

- SET
  - 👤 User Para → PSW:1234 → Update Parameter → Save ✓ OK
  - 🏠 Factory Para → PSW:1688 → Update Parameter → Save ✓ OK
  - ⏰ Timer
    - Sterilize Timer
      - Immediately exec On/Off `ON ●`
      - Scheduled exec On/Off `ON ●` → Time edit → Return for save ↩ Return
    - 🔊 Silence Timer → Scheduled exec On/Off `ON ●`
      - Start/End time edit
      - Repeat day select → Return for save ↩ Return
    - 🕐 On/Off Timer → Scheduled exec On/Off `ON ●`
      - ☀ Heating
      - DHW → time edit
      - ❄ Cooling → Temperature setting → Return for save ↩ Return

```
⚙ SET
        ┌── ▦ Special Func ──→ PSW:1688 ──→ Manual Defrosting ──→ On/Off ON●
        │                                   Manual Electric Heating ──→ On/Off ON●
        │                                   Refrigerant Recovery ──→ On/Off ON●      Return for save ↰Return
        │
        ├── ⫯↕⬥ Debug ──→ PSW:1688 ──→ Test Mode ⬚ ──→ On/Off ON●   Update Parameter   Return for save ↰Return
        │                              EEPRom ✖     Update Parameter          Return for save ↰Return
        │
        ├── 🕐 Clock    Update date & time    Date/Time:yy/mm/dd hh:mm          Return for save ↰Return
        │
        ├── 📶 WIFI
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        ├── 🌡 Temp Scale
        │
        ├── ☀ Brightness
        │
        ├── ⌂ Reset para
        │
        └── ⬿ Weather Curve
```

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5. Failure Codes

Fault code	Fault description	Fault code	Fault description
E01	Exhaust temperature failure	P19	Compressor current protection
E05	Fault of coil temperature	P23	Protection for too low water outlet temperature when defrosting
E09	Return air temperature failure	P24	Fan overload protection
E13	Cooling coil temperature failure	P25	Protection for too low ambient temperature
E17	Solar energy / return water temperature failure	P 26	Protection for too high / too low water outlet temperature
E18	Water outlet temperature failure	P27	Shutdown protection for too high cooling outdoor coil pipe temperature
E19	Water inlet temperature failure	r01	Module board failure
E20	Hot water tank temperature failure	r02	Compressor startup failure
E21	Communication failure	r03	External DC fan A abnormal
E22	Ambient temperature failure	r04	External DC fan B abnormal
E23	Time-limited lock machine	r05	Overheat protection for the IPM module
E24	Indoor temperature failure	r06	Overcurrent protection
E25	Water flow switch failure	r07	U phase overcurrent protection
E26	Communication fault between the transfer plate and the outdoor board	r08	V phase overcurrent protection
E27	Communication fault between outdoor board and drive board	r09	W phase overcurrent protection
E28	EEPROM error indication for Conversion board / wire controller	r10	DC voltage overvoltage protection
P01	Water protection	r11	DC voltage undervoltage protection
P02	High pressure protection	r14	W phase error protection

P06	Low voltage protection	r15	U phase offset fault
P10	Phase sequence protection	r16	V phase offset fault
P11	Protection for too high exhaust air temperature	r17	W phase offset fault
P15	Protection for the large temperature difference between water inlet and outlet	r18	Compressor stall protection
P16	Subcooling protection in cooling	r19	Abnormal protection of the compressor speed
P17	Anti-freezing protection in Standby	r20	The compressor rotor is stuck
P18	Overheat protection for electric heating	r21	Partial PFC overcurrent protection
E29/r25	Lack of Fluorine	r22	Partial PFC overvoltage protection
E30/r26	Over limit of Fluoride	r23	Partial PFC underflow protection
E31/r27	Wrong selection for external dial machine	r24	Partial PFC check for AC voltage frequency error
E32/r28	Economizer outlet temperature sensor failure		
E33/r29	Economizer inlet temperature sensor failure		
E34/r30	High pressure sensor failure		

Thank you for choosing our quality product.Please read this manual carefully before use and follow the instructions to operate the unit in order to prevent damages on the device or injuries to staff.

Specifications are subject to change with product improvements without prior notice. Please refer to the specification sticker on the unit for upgraded specifications.