Touchscreen wired controller

Installation and operation manual

Please read this manual carefully before use and keep it properly.
The cover renderings are for reference only, and the specific model is subject to the actual product.

Catalog

Acronyms	Content
IDU	Indoor unit
ODU	Outdoor unit
DHW	Domestic hot water
EWT	Entering water temperature
LWT	Leaving water temperature
IAT	Indoor ambient temperature
OAT	Outdoor ambient temperature
EHs	Electrical heater
BPHE	Brazed Plate Heat Exchanger

Installation of Wire Controller

1 Safety Precautions

Read the safety precautions carefully before installation.
The following is the important content to be paid for the safety, be sure to follow it.

[Attention]

• Please do not install the wire controller in damp or direct sunlight places.
• Please do not hit, throw and frequently disassemble the wire controller.
• Please do not operate the wire controller with wet hands; don't make any fluid into the wire controller .
• Please do not disassemble the wire controller without authorization. Please consult after-sales maintenance personnel if you have a problem .
• During indoor decoration and maintenance, remove the wired controller to prevent water and dust from entering and affecting the normal use of the wired controller.

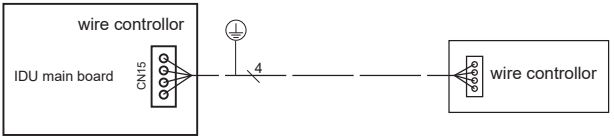
2 Installation of the wire controller

Installation position and requirements of the wire controller

1)Please do not install the wire controller in damp or direct sunlight places.
2)Please do not install the wire controller in a place near the high temperature or places where water is likely to splash.
3)Before installation, please cut off the power which is buried in the wall mounting holes. The whole installation process does not allow operation with power.
4)In order to avoid the unit from electromagnetic interference and abnormal work, when wiring, please pay attention to the following matters.
a. Ensure that the communication line is connected properly, otherwise it may result in a communication failure.
b. If the unit is installed on a place susceptible to electromagnetic interference, the communication cable must use the shielded twisted-pair cable
5)Standard accessories needing to prepare for installation: junction box, wired controller hanger, screws M4 x 25, wired controller.

Installation of the wire controller

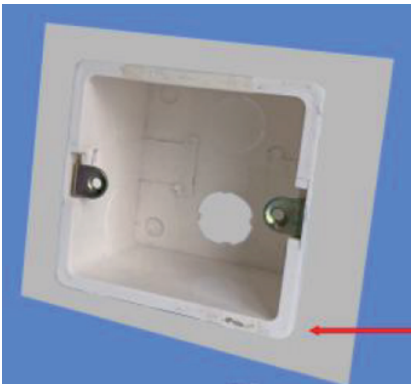
Brief description of the installation process is as follows:
1)Connect the signal line of short through the rectangle hole of the wire controller bottom plate, and then pull out the five core twisted pair from the wall installation hole. Finally connect the line and the other end.
2)Use screws M4 x 25 to fix the controller base plate on the mounting holes of the wall.
3)Put the wire controller panel and floor buttons together, and this installation is complete. During the installation, please reserve a certain length of the line at the bottom of box, to facilitate maintenance later
Connect the wire controller in the way as shown in the figure below:



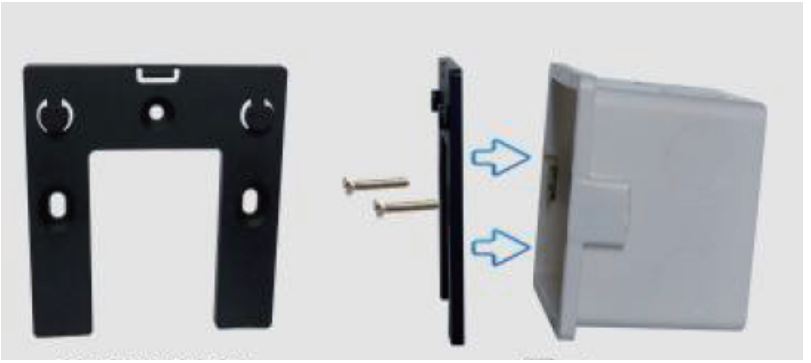
In this case, please use the shielded communication cable in the accessory bag.

The installation steps of the wire controller are shown in the following figure:

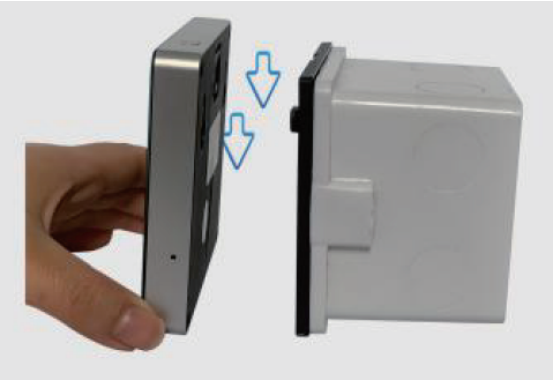
① The junction box (86*86mm) is buried in the wall.



② The wire controller hanger is fixed in the junction box.



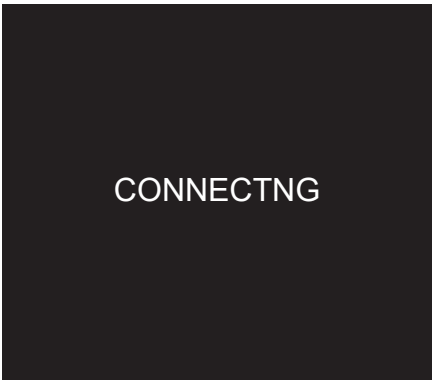
③ The wire controller is fastened by snap clips



Function description

1 Communication interface

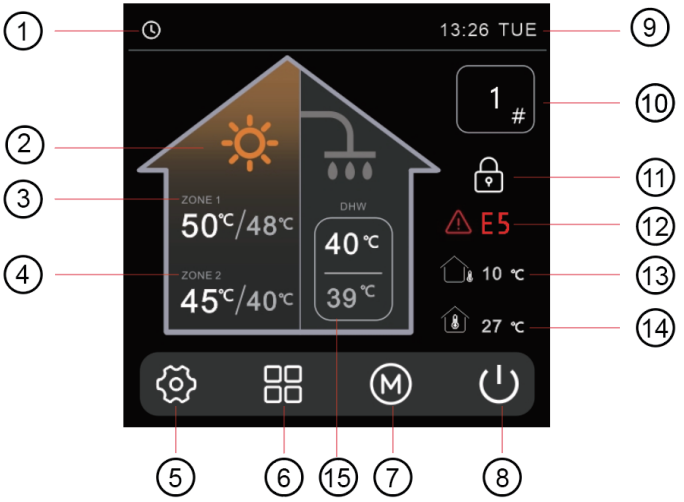
The connecting interface is displayed when unit is powered on, and the main interface is displayed when the communication is successful, and the communication takes at least 30s. If the communication does not go to the main interface for one minute, the F9 fault will be reported. The unit needs to be re-powered on if it shows F9.



⚠ [Attention]

When the wired controller is powered on for the first time, and the communication is successful, it will enter the language selection interface. After confirming the language, you can choose to enter the system configuration interface or exit to enter the main interface.

2 Main interface



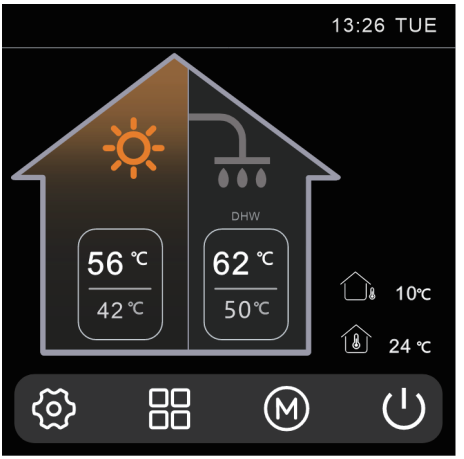
Description of the main interface and function keys

①	Small icon bar, small icons display up to 10 icons, if there are more than 10 icons, they will be scrolled. including:  Climate curve  DHW EHs ON  Loop EHs ON  Boiler on  Solar energy ON  Away mode  Eco mode  Defrost  Anti-frozen  Air purge  WiFi  Daily timer  DHW weekly timer  Anti-legionella ON  Anti-legionella timer  Mute mode  Mute mode timer  Buzzer OFF  Air setpoint control  Heating with 2 zones  Cooling&heating with 2 zones
②	Mode display, the lit icon indicates that the mode in which the unit is running. Example:heating+DHW mode, operating heating mode.
③	Zone 1 setting/actual water temperature，click on the zone to set the target water temperature.
④	Zone 2 setting/actual water temperature，click on the zone to set the target water temperature.
⑤	Settig icon. Click on this icon to settings interface，See 6 [Settings interface].
⑥	Shortcuts. Click on this icon to quick operation interface，See 5 [Quick operation interface].
⑦	Mode icon.Click on this icon to change the mode: heating - DHW - cooling - cooling+DHW - heating+DHW - heating.
⑧	ON/OFF icon. Click on this icon to turn on and turn off the unit.
⑨	Display time, day of the week.
⑩	Indicates that multiple units are online and the address of the unit is currently controlled (displayed). When there is no such icon displayed, it means that only one unit is online. Click to enter the parallel interface,see 4 [Group control interface].
⑪	It means that the main interface is locked and does not respond to the operation, click this lock icon to unlock it.
⑫	Displays the current faults or protections, click on this area to view more faults (up to 6) and fault code analysis; It is not displayed when there is no fault.
⑬	Outdoor ambient temperature
⑭	Indoor ambient temperature. Note: If -30°C is displayed or not displayed, it means that the T6 indoor ambient temperature sensor on the IDU main board is faulty or not connected.
⑮	Setting/actual DHW temperature，click on the zone to set the target water temperature.

3 Temperature setting

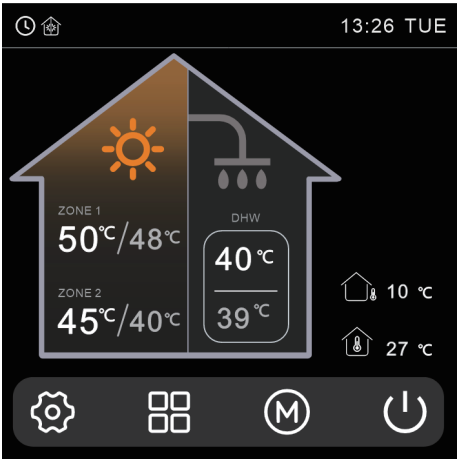
1) Water setpoint control and 1 zone：

Click on the temperature display area on the left to set value of LWT(Ts1), the heating setting range is 25~62°C, and the cooling range is 5~25°C; Click on the temperature display area on the right to set value of DHW(Ts2), and the DHW setting range is 40~62°C.



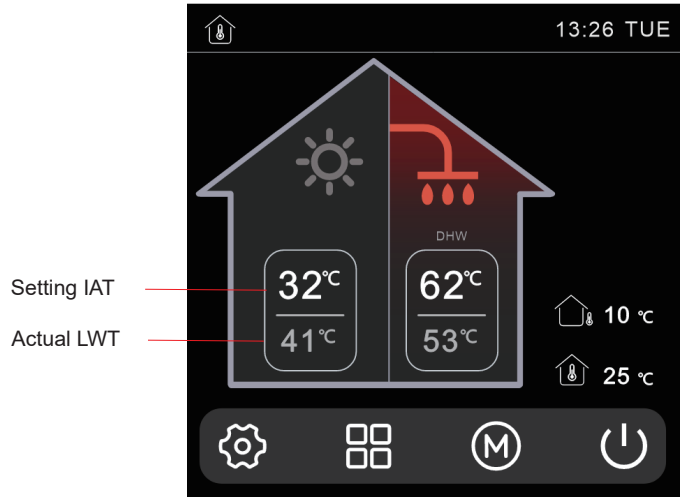
2) Water setpoint control and 2 zones

Click on the temperature display area of the zone 1 to set value of zone 1 LWT(Ts1) , the heating setting range is 25~62°C, and the cooling range is 5~25°C; Click on the temperature display area of the zone 2 to set value of zone 2 LWT(Ts1-2) , the heating setting range is 25~Ts1 (and less than 60 °C), and the cooling range is Ts1~25 °C; Click on the temperature display area of the DHW to set value of DHW(Ts2) , and the DHW temperature setting range is 40~62°C;

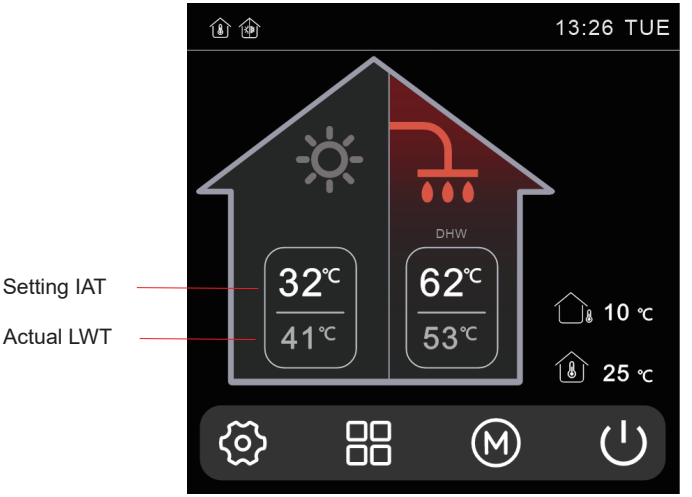


3)Air setpoint control:

Click on the temperature display area on the left to change the value of air setpoint, and the setting range is 16~32°C.If zone 2 is enabled, the setting value of zone 2 LWT can be set in technical setting interface, see [Setting interface-Technical setting-Control type]; Click on the temperature display area on the right to set value of DHW(Ts2), and the DHW setting range is 40~62°C.



Air setpoint control + 1 zone

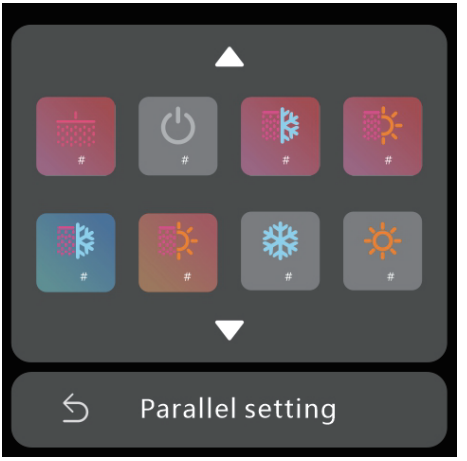


Air setpoint control + Cooling&heating with 2 zones

4 Group control interface

Click on the unit address on the main interface to view the status of multiple units; If it is in group control mode, No. 1 unit is displayed as setting mode + operation mode, and other addresses display unit operation mode; If it is in the single control, all units are displayed as setting mode + operation mode. If a unit is faulty, click the fault icon to view the fault code.Appendix 1 provides a detailed list of fault codes.

The icon indicates the setting mode, and the background color indicates the operating mode.



Icon annotation

icon	illustrate
	OFF

Icon	setting	operating
	DHW	Non
	DHW	DHW

icon	illustrate
	Disconnected

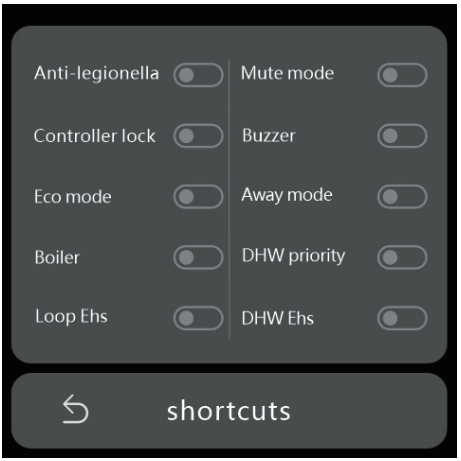
Icon	setting	operating
	Heating	Non
	Heating +DHW	Non
	Heating +DHW	DHW
	Heating +DHW	Heating
	Heating	Heating

icon	illustrate
	Fault

Icon	setting	operating
	Cooling	Non
	Cooling +DHW	Non
	Cooling +DHW	DHW
	Cooling +DHW	Cooling
	Cooling	Cooling

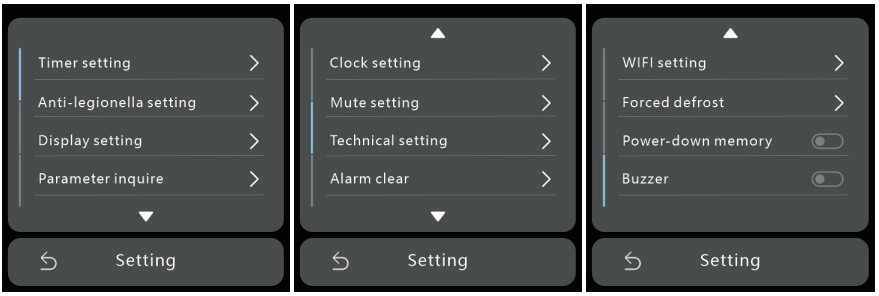
5 Quick operation interface

Click the shortcuts for quick access to some user settings. The eco mode and the away mode are mutually exclusive choices. The boiler, loop EHs, and DHW EHs are turned on to indicate manual control, and off means automatic control (refer to unit manual.).



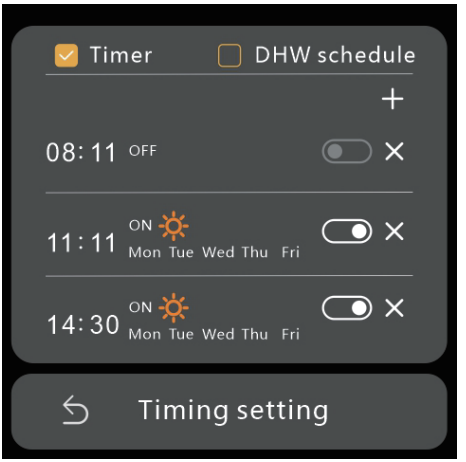
6 Settings interface

Click the setting button to enter the user settings, and you can click ▼ ▲ to scroll up and down.

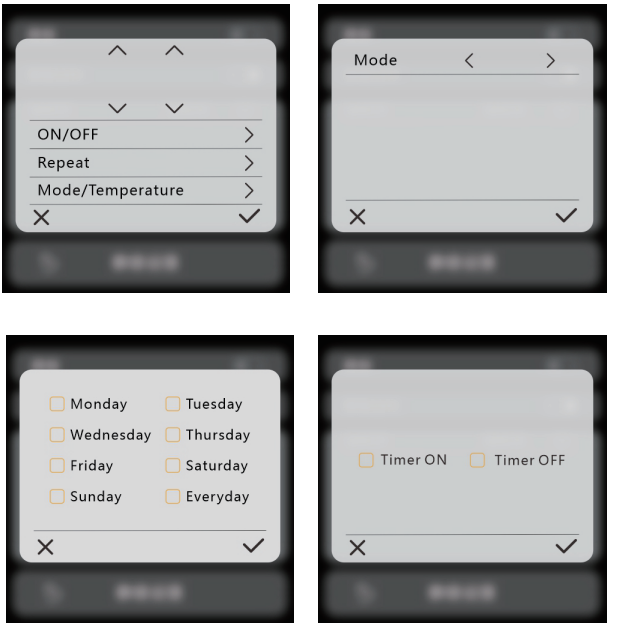


Timer setting

There are two modes of timer: timer and DHW schedule.
If you select timer, as shown in the following figure.

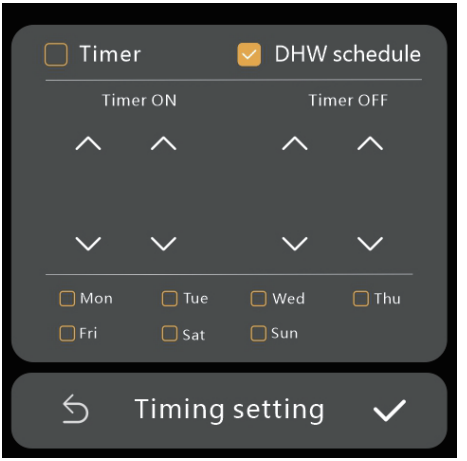


Click to select whether to enable the timer Click to delete the timer; Click to add a timer or click 08:11 OFF to set the timer, Set the time, mode, temperature, repetition and ON/OFF status as desired. The timer settings are included in the power-down memory of wired controller.



Timer setting interface

If you select the DHW schedule, you can directly set the timer on, timer off , and recurrence date (day of the week).



DHW schedule interface

Anti-legionella timer

The anti-legionella timer interface can set the anti-legionella ON/OFF, anti-legionella temperature, anti-legionella timer ON, and repeat time.

anti-legionella timer interface

Display setting

The display setting interface can adjust the backlight brightness, constant lighting setting, screen off time, language selection, and key lock on the main interface. Among them, the settings of first power-on, backlight brightness, constant lighting setting, screen off time, language selection, key lock, and buzzer are fixed with power-down memory. After the lock of the main interface button takes effect, the lock will be released when you click on the main interface.

Display setting interface

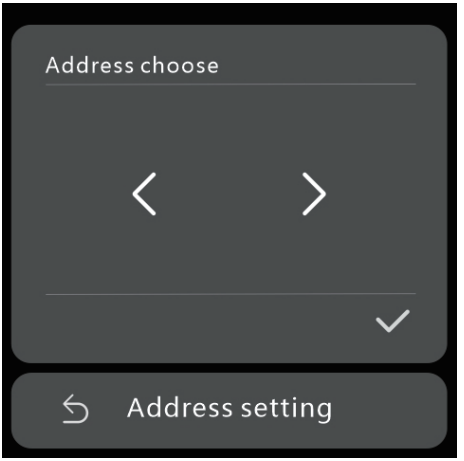
After selecting the language, click to confirm and take effect, and exit to the main interface.

Language selection interface

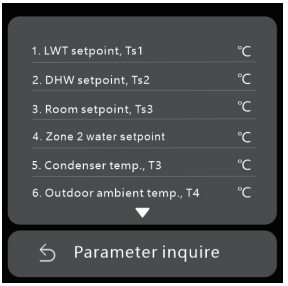
Parameter inquire

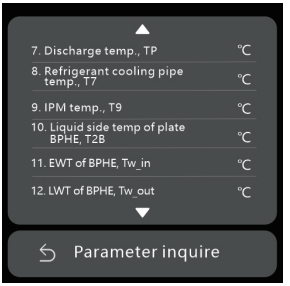
The wire controller can check the data of the connected units. If there is more than one online unit, it will first jump to the address setting interface , select the address of the online unit to be queried, and then jump to the query page.

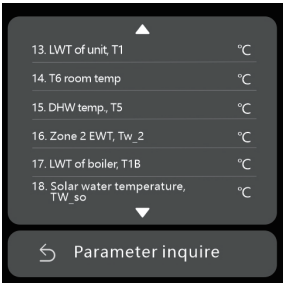
Note: capacity output and COP/EER are for informational purposes only.

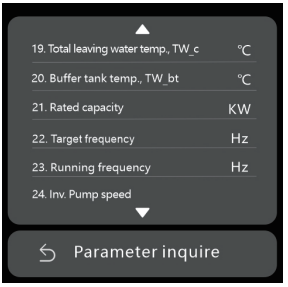


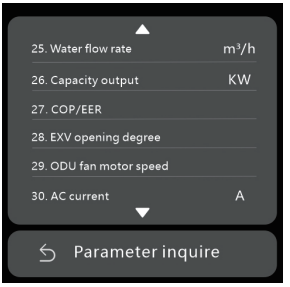
Address setting interface

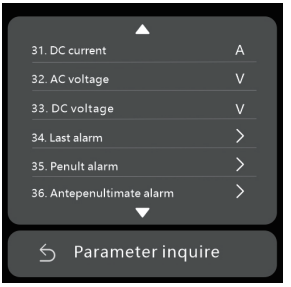


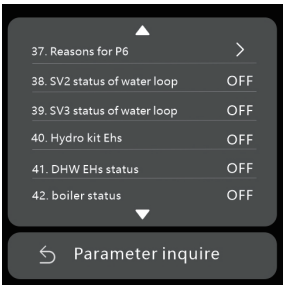


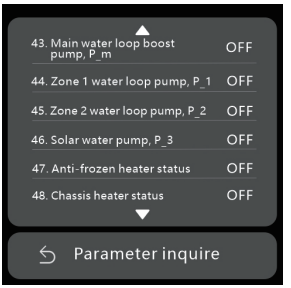


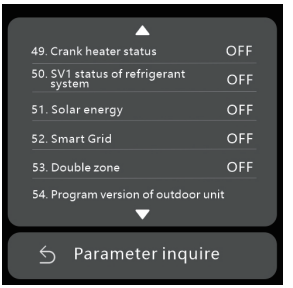


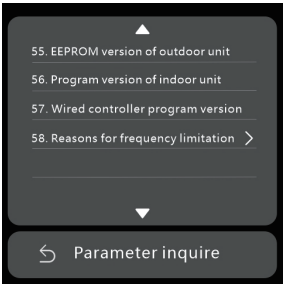






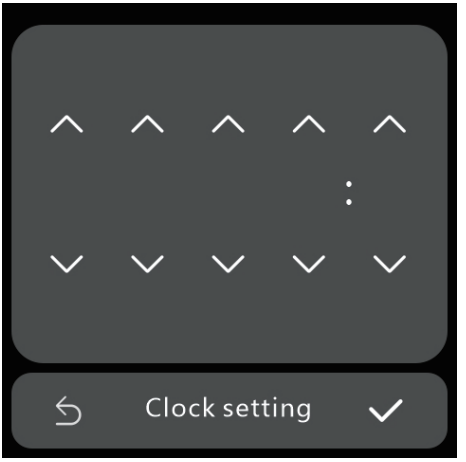






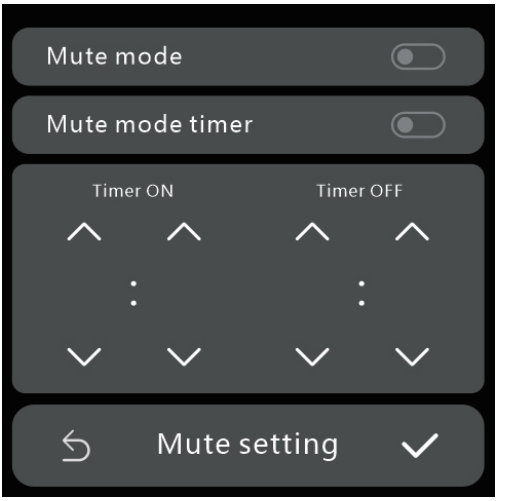
Clock setting

The clock setting can be set to the year, month, day, hour and minute, and each time the modification is confirmed, the second will automatically return to 0, and the week will be automatically completed. If the time setting is abnormal, the date will be modified forward. (e.g., if you set April 31 (exceptional) to April 30). Click ✓ to confirm.



Mute mode timer

The mute setting interface can set the mute switch, mute timer switch, mute on time, and mute off time. The mute switch and the mute timer switch are mutually exclusive choices. Click ✓ to confirm.

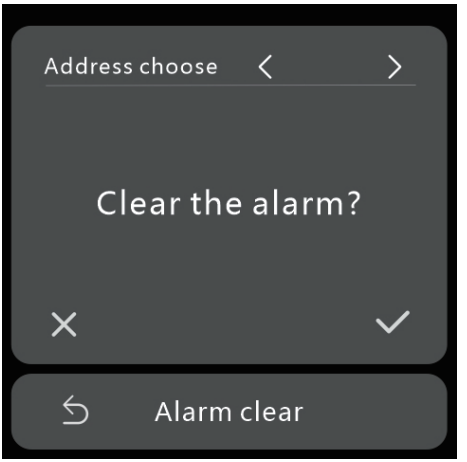


Mute mode timer interface

Alarm clear

Select the address corresponding to the alarm that needs to be cleared, and click ✓ to confirm the fault clearance operation.

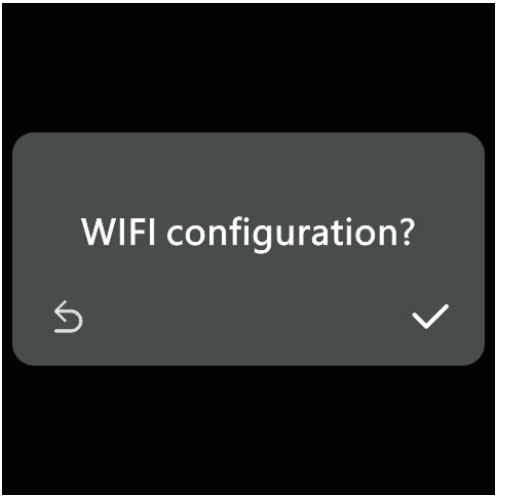
Note:If the fault is not solved, click Clear and the fault will be reported again.



Alarm clear interface

WiFi setting

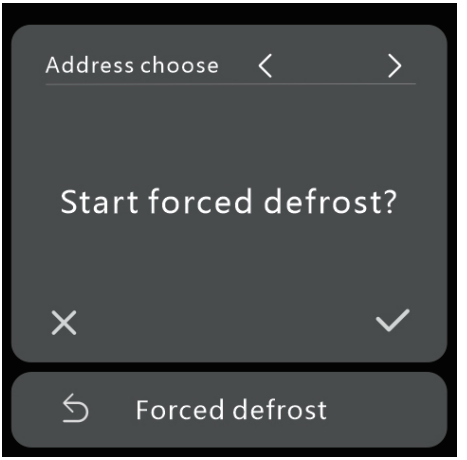
Reset the WiFi and re-find the network, see Appendix 2 for details of WiFi network configuration.



WiFi reset interface

Forced defrost

Select the address that needs to be forcibly defrosted, and click ✓ to confirm the forced defrost operation.

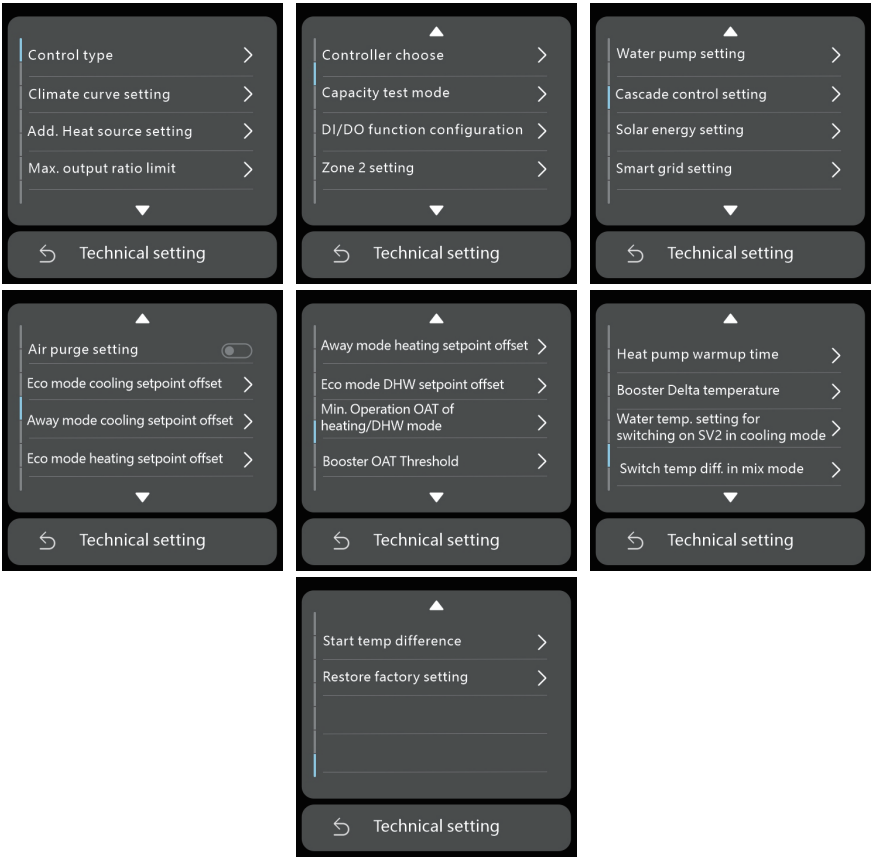


Forced defrost interface

Technical setting

The technical settings are operated by technicians, and they can only be operated after entering the password.

Password entry interface

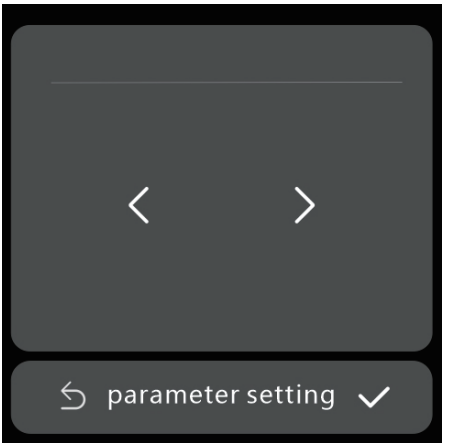


Technical seting interface

parameter setting

Parameter setting	Parameter adjustment range	Default
Max. output ratio limit	40%~100%	100%
Eco mode cooling setpoint offset	0~10℃	2℃
Away mode cooling setpoint offset	0~10℃	4℃
Eco mode heating setpoint offset	-20~0℃	-2℃
Away mode heating setpoint offset	-20~0℃	-4℃
Eco mode DHW setpoint offset	-10~0℃	-5℃
Minimum OAT for heat pump	-26~10℃	-26℃
Booster OAT Threshold	-20~15℃	-14℃
Heat pump warmup time	0~120min	60min
Booster Delta temperature	1~20℃	10℃
Water temp. setting for switching on SV2 in cooling mode	11~25℃	18℃

Adjustments, confirmations, and returns can be made on the parameter setting interface.



Parameter setting interface

Control type

Here are two setpoint control:

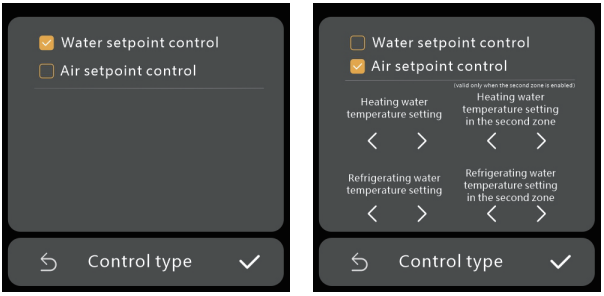
1.Water setpoint control; the unit is controlled by water setpoint.

2.Air setpoint control: the unit is controlled by the air setpoint, and it requests to install the IAT sensor(T6) in the room. Note: The temperature of only one room can be controlled.

If you choose Air setpoint control, you need to set a separate target water temperature for cooling and heating.

Zone 1: The heating setting range is 25~62°C, and the cooling range is 5~25°C;

Zone 2: The heating setting range is 25~Ts1 (and less than 60 °C), and the cooling range is Ts1~25 °C.



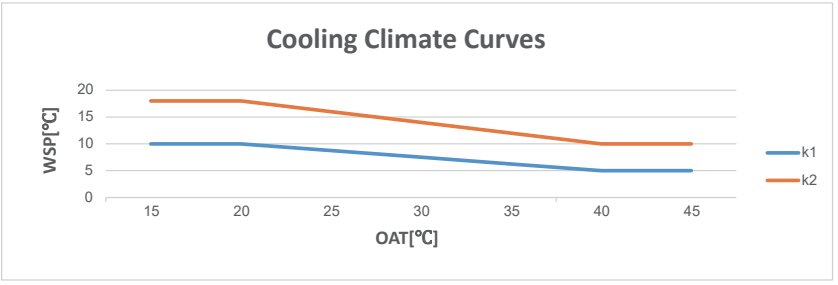
Control type interface

Climate curves

In the climate curves setting interface, you can set the climate curves of cooling and heating. You can select a preset curve or you can also set a custom curve within the allowable range. The temperature compensation value can be adjusted. If you set the curve to 0, the climate curve function is turned off. Click ✓ to confirm.

Cooling climate curves setting:

1) Select the cooling climate curve 1/2 corresponding to the following K1/K2 curve. After selecting the cooling climatic curve, the water setpoint runs with reference to the following curve.



The corresponding parameters in the figure are shown in the following table:

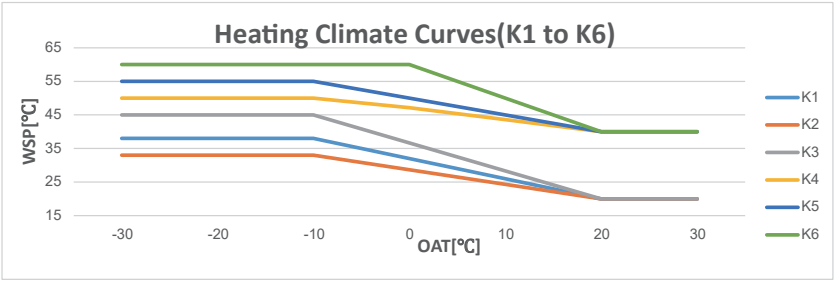
Curve	Min OAT(T4) [℃]	Max OAT(T4) [℃]	Min WSP(TS1)[℃]	Max WSP(TS1)[℃]
K1	20	40	5	10
K2	20	40	10	18

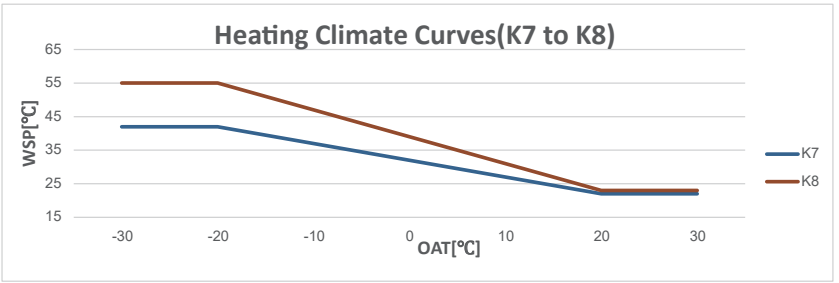
Select the cooling climae curve 3 corresponding to cooling custom curve.You can set the value of the curve parameter. The parameter range is shown in the following table.

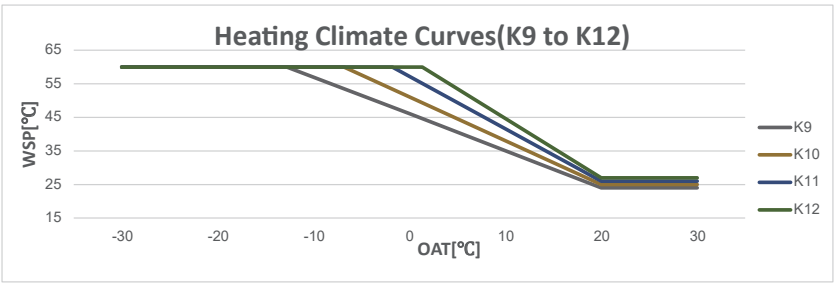
Curve	Min OAT(T4) [℃]	Max OAT(T4) [℃]	Min WSP(TS1)[℃]	Max WSP(TS1)[℃]
K3	0 ～ 30	24 ～ 50	5 ～ 20	5 ～ 20

Heatling climate curves setting:

1)Select the heating climatic curve 1/2/3/.../12 corresponding to the following K1/K2/K3/.../K12 curve. After selecting the heating climate curve, the water setpoint runs with reference to the following curve.







The corresponding parameters in the figure are shown in the following table:

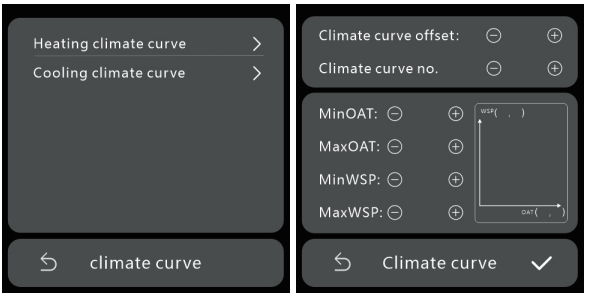
Curve	Min OAT(T4) [℃]	Max OAT(T4) [℃]	Min WSP(TS1)[℃]	Max WSP(TS1)[℃]
K1	-7	20	20	38
K2	-5	20	20	33
K3	-9	20	20	45
K4	-8	20	40	50
K5	-5	20	40	55
K6	0	20	40	60
K7	-20	20	22	42
K8	-20	20	23	55

(Continued)

Curve	Min OAT(T4) [℃]	Max OAT(T4) [℃]	Min WSP(TS1)[℃]	Max WSP(TS1)[℃]
K9	-12.5	20	24	60
K10	-6	20	25	60
K11	-1.5	20	26	60
K12	3.5	20	27	60

2) Select the heating climate curve 13 corresponding to heating custom curve.You can set the value of the curve parameter. The parameter range is shown in the following table.

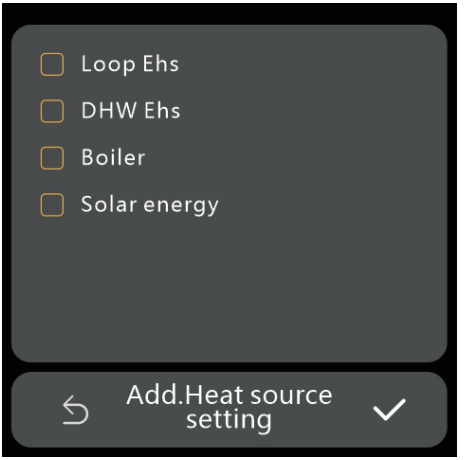
Curce	Min OAT(T4) [℃]	Max OAT(T4) [℃]	Min WSP(TS1)[℃]	Max WSP(TS1)[℃]
K13	-30 ~ 10	10 ~ 30	25 ~ 40	30 ~ 60



climatic curve setting interface

Additional heat source setting

You can choose loop Ehs, DHW Ehs, Boiler, solar energyas additional heat source. They are non-mutually exclusive options. Click ✓ to confirm.



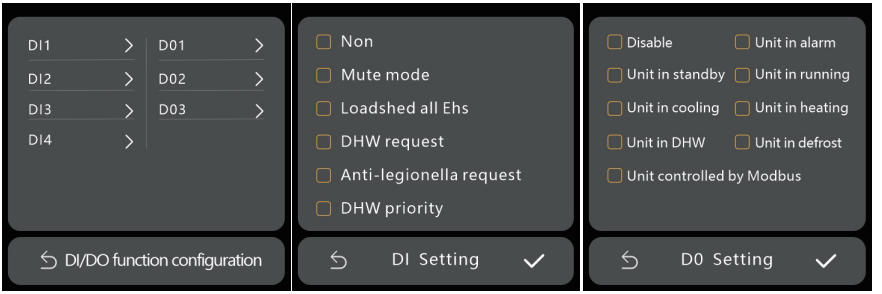
Controller choose

You can choose wired controller or dry contact, both of which are mutually exclusive. This option affects the effectiveness of the feature control. Click ☑ to confirm.

Controller choose interface

DI/DO function configuration

This setting contains 4 DI ports and 3 DO port settings, and this setting is a mutually exclusive setting. If set to same input or output, the one set first is valid. Click ☑ to confirm.

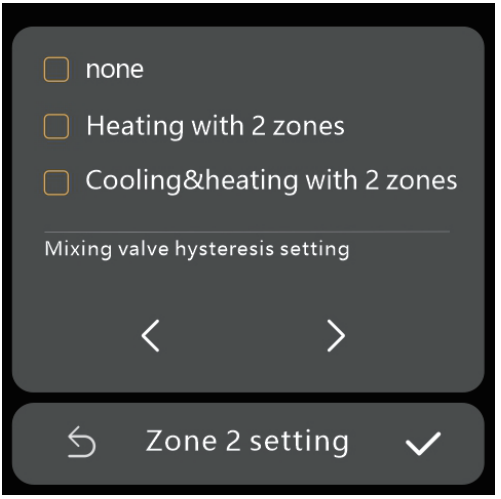


DI/DO function configuration interface

Zone 2 setting

They are mutually exclusive options. You can select "None (one zone) , heating with 2 zones, cooling&heating with 2 zones". Click ☑ to confirm.

The mixing valve hysteresis setting range: 1~5°C.



Zone 2 setting interface

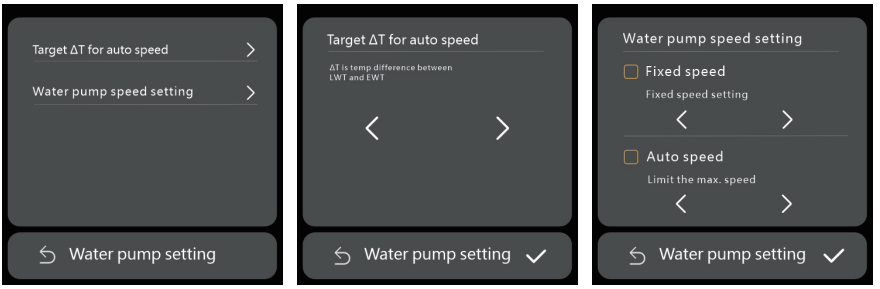
Water pump setting

In the water pump setting interface, you can set the target ΔT for auto speed and water pump speed. Click ☑ to confirm.

The range of target ΔT for auto speed: 3.5~8°C, default 5°C;

The range of fixed speed setting: 0~99 (effective when selecting fixed speed)

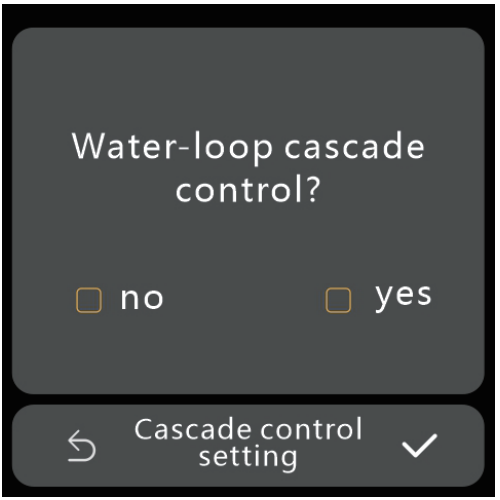
The range of limit the max. speed: 20~70 (effective when selecting auto speed)



Water pump setting interface

Cascade control setting

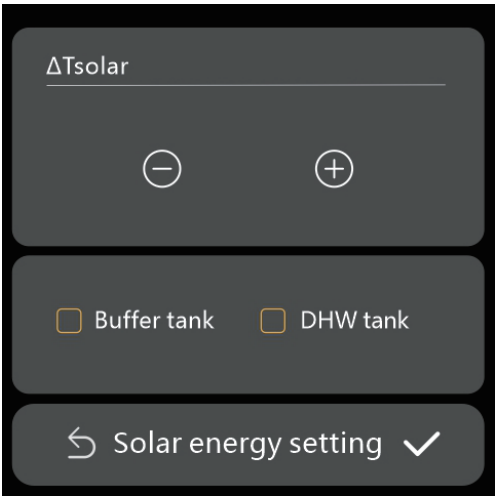
This setting is mutually exclusive and valid for multiple units. When selecting cascade control, you need to confirm the online status of No. 1 unit. Click ☑ to confirm.



cascade control setting interface

Solar energy setting

When configuring solar energy, you must choose the solar energy is connected to buffer tank or DHW tank. Click ☑ to confirm. Solar starting temperature difference: 1~20°C, default 10°C.

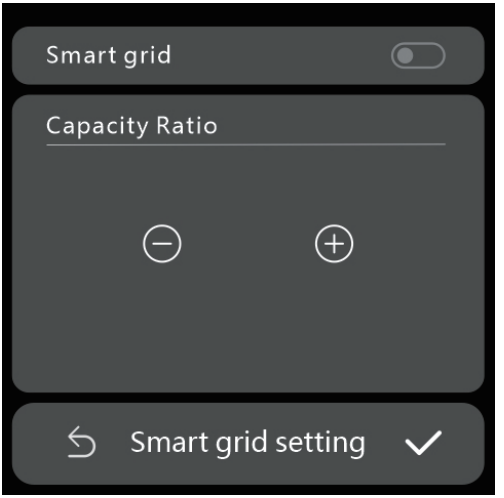


Solar energy setting interface

Smart grid setting

After the function is enabled, the corresponding interface between the smart grid module and the unit must be connected; Otherwise, the normal use of the unit will be affected. Click ✓ to confirm.

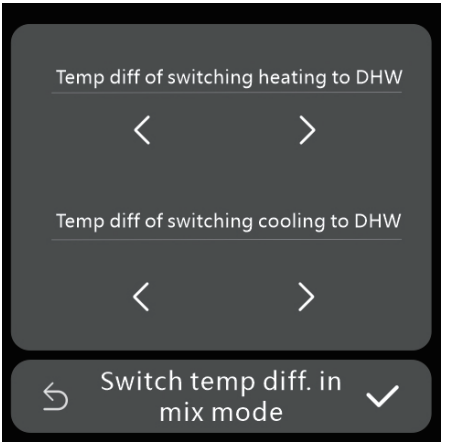
Capacity ratio:40 ～ 100%, default:100%。



Smart grid setting interface

Switch temp diff. in mix mode

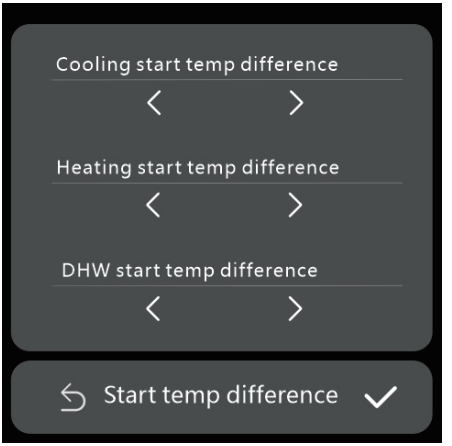
Temp diff of switching heating to DHW: 1~15°C
Temp diff of switching cooling to DHW: 1~15°C
Click ✓ to confirm.



Switch temp diff. in mix mode interface

Start temp difference

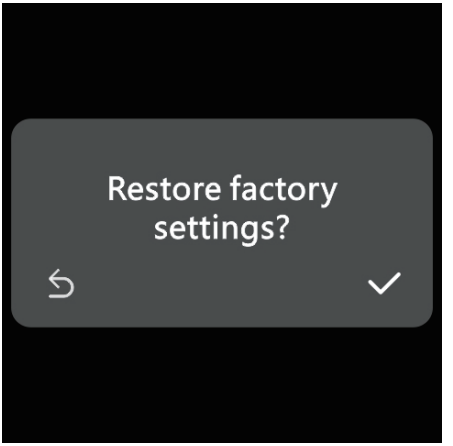
The range of cooling start temp difference: 1~8°C
The range of heating start temp difference: 1~8°C
The range of DHW start temp difference: 1~8°C
Click ✓ to confirm.



Start temp difference interface

Restore factory settings

After the factory reset is confirmed, need to re-select language and re-confirm whether needs to set the technical settings. If you don't set it, you will jump directly to the main interface. Click ✓ to confirm.



Restore factory settings interface

Appendix 1: Description of the fault of the wire controller

Code	Fault content	Remark
E1	Phase sequence fault(Reserved)	
E2	Hydronic box and ODU communication fault(Reserved)	
E6	ODU condenser temperature sensor (T3) fault	
EA	Condenser temperature sensor (T3B) fault(Reserved)	
E4	Outdoor ambient temperature sensor (T4) fault	
E8	Discharged temperature sensor (Tp) fault	
Ec	Refrigerant cooling outlet pipe temperature sensor (T7) fault	
E9	AC overvoltage/undervoltage fault	
E10	EEPROM fault	
H0	Communication fault between main PCB and IPM	
H1	Communication fault between ODU main board and display board	
H4	3 times P6 protection in 30 mins	It can only be restored by repowering the unit
H5	3 times P2protection in 30 mins	It can only be restored by repowering the unit
H6	3 times P4 protection in 100 mins	It can only be restored by repowering the unit
H7	The quantity of IDU is descresed(Reserved)	Reserved
H9	2 times P9 protection in 10 mins	It can only be restored by repowering the unit
H10	3 times P3 protection in 60 mins	It can only be restored by repowering the unit
H11	2 times P13 protection in 10 mins(Reserved)	It can only be restored by repowering the unit
H12	3 times Pb protection in 60 mins	It can only be restored by repowering the unit
P1	High pressure protection	
P2	Low pressure protection	3 times P2 protection in 30 mins and is then reported H5
P3	AC over-current protection	3 times P3 protection in 60 mins and is then reported H10
P4	Over-high discharge temperature protection	3 times P4 protection in 100 mins and is then reported H6
P5	High temperature protection of condenser	
P6	IPM module protection	3 times P6 protection in 30 mins and is then reported H4
P9	DC fan motor protection	2 times P9 protection in 10 mins and is then reported H9
P10	Anti typhoon protection(Reserved)	
P11	T2b low temperature protection	
P13	Current detection abnormal protection(Reserved)	
Pb	IPM module high temperature protection	3 times Pb protection in 10 mins and is then reported H12
F0	Water flow switch fault	
F1	Communication fault between IDU and ODU	only for Air-To-Water Split Type Heat Pump
F2	LWT of unit sensor (T1 sensor) fault	
F3	Solar water temp sensor (TW_so) fault	
F4	Liquid refrigerant temp sensor (T2B sensor) fault (reserved)	
F6	DHW sensor (T5 sensor) fault	
F7	EWT of BPHE sensor (TW_in sensor) fault	
F8	LWT of BPHE sensor (TW_out sensor) fault	
F9	Communication fault between wired controller and Hydronic box	
FA	Second zone LWT sensor (Tw_2 sensor) fault	Only valid after setting second zone function
Fb	External heat source LWT sensor (T1B sensor) fault	Only valid after setting the external heat source – boiler

(Continued)

Code	Fault content	Remark
Fc	Water pump fault	
Fd	Buffer tank temp sensor (TW_bt sensor) fault	
FE	Cascade total water outlet temp sensor (TW_c sensor) fault	
FF	Mode conflict	
U0	EEPROM fault of function board	
U1	Protection of huge different values between EWT and LWT	
U2	Protection of lack of water	
U3	Protection of abnormal difference between EWT and LWT	
U4	Water pump protection	
U5	Water pump shutdown protection	
U6	Protection of standard electrical heater over heat	

Appendix 2: Detailed description of WIFI function

APP download

Method 1:

Go to the App Store and Android app stores and search for "Smart Life" to download and install the APP.

Method 2:

Scan the code to download "Smart Life".

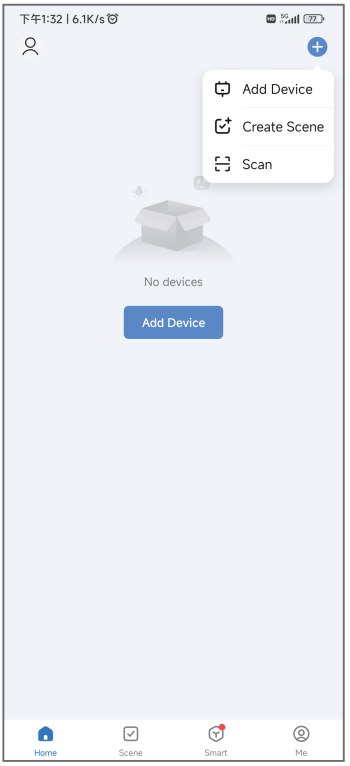
WIFI configuration

[Attention]

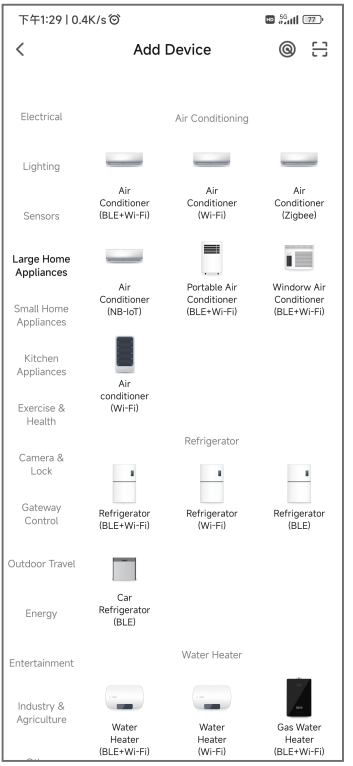
When configuring WIFI, make sure that the control phone and the wired controller are under the same WiFi coverage.

Follow the steps below to configure WIFI.

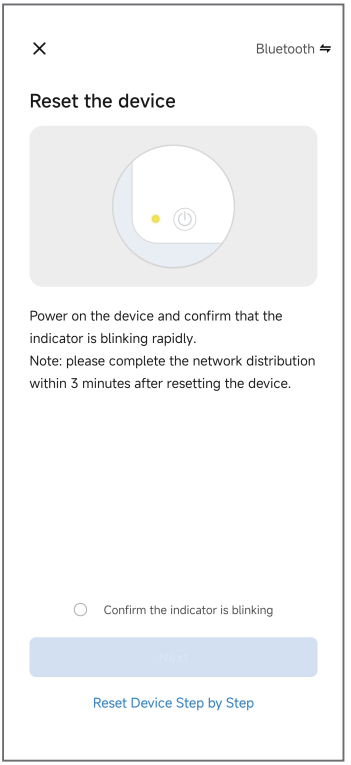
① Open "Smart Life" APP, Click "+" in the upper right corner to select Add Device.

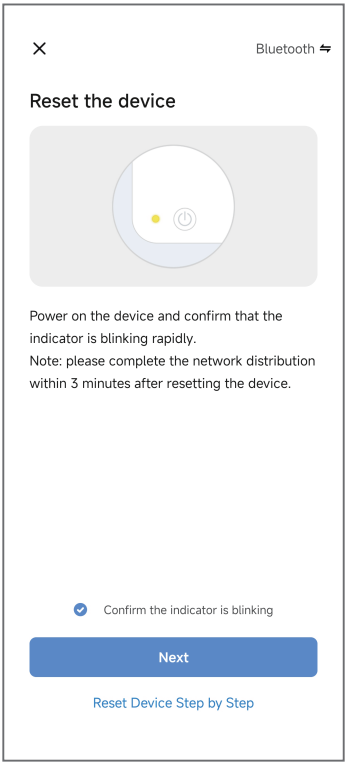


② Select Device Type to Large home Appliances - Air Conditioner (BLE + Wi-Fi).

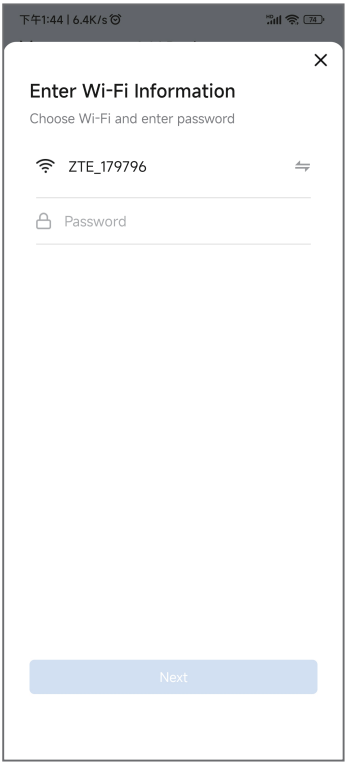


③ Click "Reset the device - Confirm the indicator is blinking - Next"





④ Fill in the name of the WiFi connected to the current mobile phone.

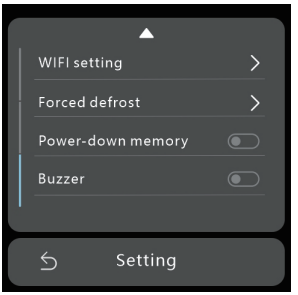


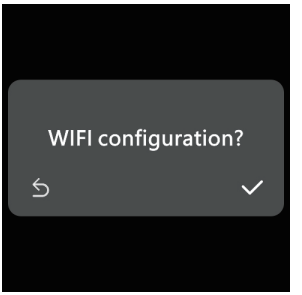
⑤ Click "WIFI setting" on the wired controller setting interface, and then click ✓ to reset WiFi

After the WiFi confirmation reset, there is a WiFi icon next to the "WIFI setting" to flash, and a number is displayed to indicate the WiFi status, 0: smartconfig configuration status; 1: AP configuration status; 2: WIFI configured but not connected to the router; 3: WIFI is configured and connected to the router; 4: connected to the router and connected to the cloud; 5: The WIFI device is in low-power mode. You can also know the WIFI status by flashing the WIFI icon.

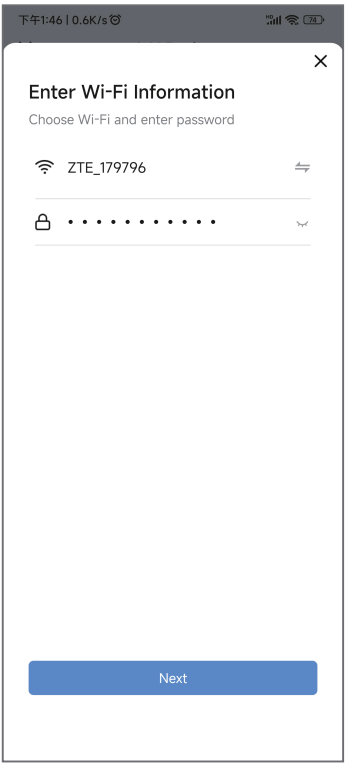
WIFI Icon	WIFI sate	Remark
Slow flash 3s	Press wifi connection button one time	3 times flashing within 3s, then off 3s
Fast flash	In wifi configuration state	2 times flashing with 1s
Double flash	In AP configuration state	2 times fast flashing within 1s then of 0.5s
Slow flash	Failed connect to wifi	1 time flashing within 2s
ON	Connect to wifi, and failed connect to cloud server	
Fast flash one time every 5s when it is ON	Normal, connect to wifi and cloud server	

When the wired controller is connected to the WIFI and server, the WiFi icon will be displayed on the main interface.

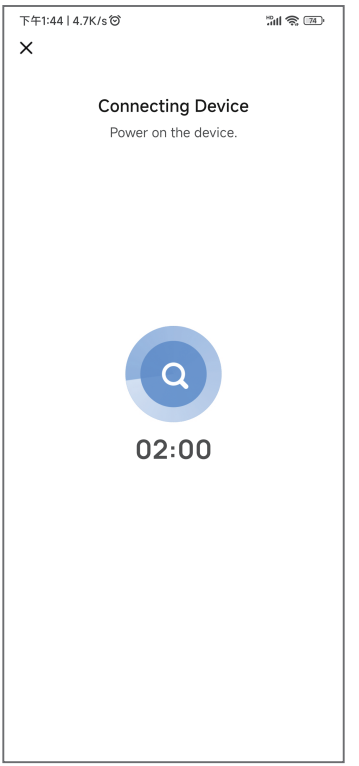




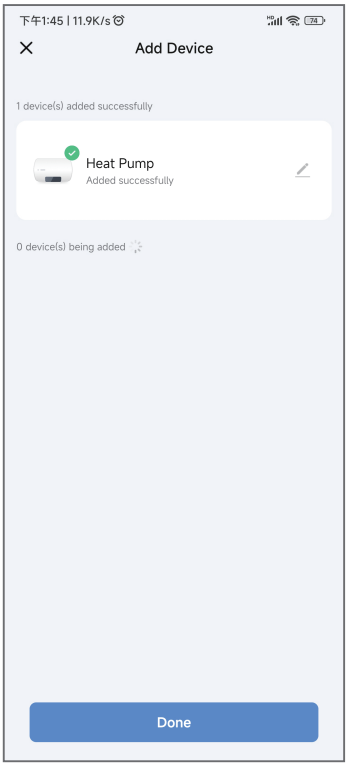
⑥ Fill in the password, and then click "Next".

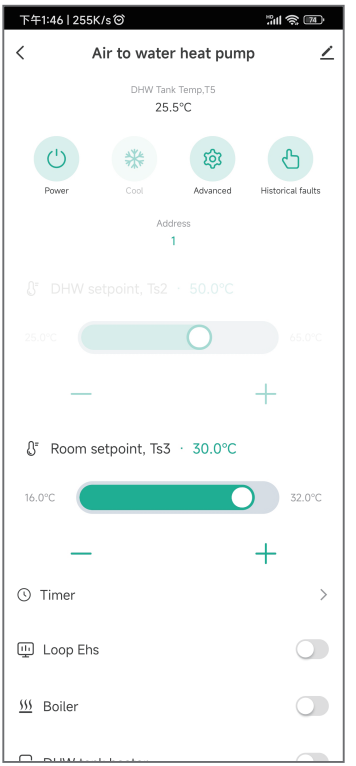


⑦ The system automatically searches for nearby devices.



⑧ Click Done when the connection is successful.





⚠ [attention]
Every time you change WiFi, you need to reconfigure the wired controller.

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