Control panel

Simplified operation instruction

LS-40H/S3N8-BP1

Please read carefully !
Please read this instruction carefully before using the appliance and retain it for future reference.

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1.Foreword

1.1 Important information

Please read carefully!

Please read this instruction carefully before using the appliance and retain it for future reference.

Attention!

During transporting the water chiller, please ensure that it is not tilted more than 45。

(in any direction).

Attention!

Do not restrict or block up the air inlet or exhaust air outlet of the unit.

Do not use the product in a closed room.

Attention!

Never use cleaning agents containing sand, soda, acid or chloride because these could damage surfaces.

Attention !

Before opening the device, ensure that all circuits are isolated from the power supply.

Attention !

Any work on the water chiller may only be performed by authorised and qualified after-sales

service technicians.

Risk of injury !

Where children or person with limited physical, sensory or mental capabilities are to be allowed to control this appliance, ensure that this will only happen under the supervision or after appropriate instructions by a person who is responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

1.2 Safety instructions

Observe the following informations and instructions:

① The electrical installation and the installation of the heating circuit can be only carried out by qualified installers or technicians;

② Observe all local regulations and standards for water supply and electrical installations;

③ Operate this appliance only if it is fully installed and all safety equipments is fitted;

④ Before using the product, the heat pump condensate pipe must be connected to the drainage pipe or discharged to the outside ground。

⑤ The appliance is used in environments with temperatures ranging from -0.4℉ (-18℃) to 104℉(40℃) .

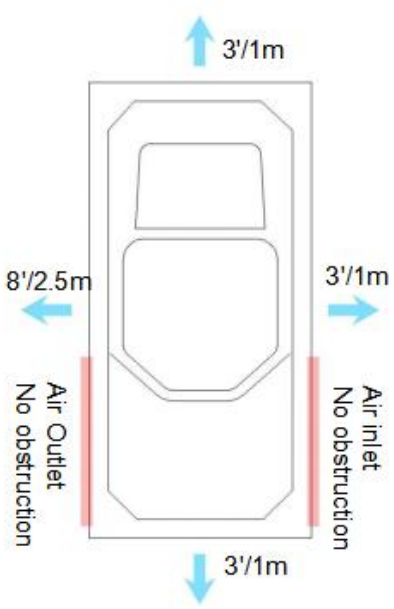
⑥ When the ambient temperature is below -0.4℉(-18 ℃) , please drain the internal water;

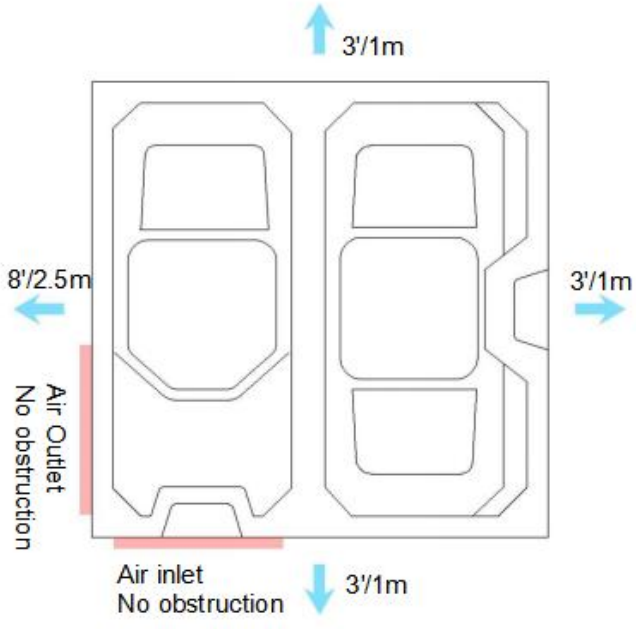
⑦The appliance must be installed on a horizontal, level, solid and permanent substrate;

⑧To make sure sufficient air flow and maintenance space, minimum clearance around the appliance should be kept as below:

Maintain an open space of 3'/1 meter for the air inlet and 8'/2.5 meters for the air outlet without obstacles.

Device performance may be impacted when below the recommended space.


3'/1m
8'/2.5m
3'/1m
Air Outlet
No obstruction
Air inlet
No obstruction
3'/1m


3'/1m
8'/2.5m
3'/1m
Air Outlet
No obstruction
Air inlet
No obstruction
3'/1m

2. Pre-use operations

2.1 Product placement location and space

Please comply with the following rules concerning the choice of product location：

①The unit’s future location must be easily accessible for convenient operation and maintenance.

②It must be installed on the ground, fixed ideally on a level concrete floor. Ensure that the floor is sufficiently stable and can support the weight of the unit.

③A water drainage device must be provided close to the unit in order to protect the area where it is installed.

④ The product has smooth ventilation, with an open space of 3’/1 meter for the air inlet and 8’/2.5 meter for the air outlet; Do not place anything in this spatial area. Do not place enclosed rooms. When using the cold water bathtub cooling mode, hot air will be emitted during the cooling process, and sufficient airflow is required. Narrow spaces will reduce the output of cooling/heating.

2.2 Electrical Installation

To function safely and maintain the integrity of your electrical system, the unit must be connected to a general electricity supply in accordance with the following regulations

①All electrical operations must be carried out by qualified and certified electricians. Electrical damage caused by improper operation is not covered by the warranty

②The installation of electrical equipment shall be carried out in accordance with the current standards and regulations of the country where it is located.

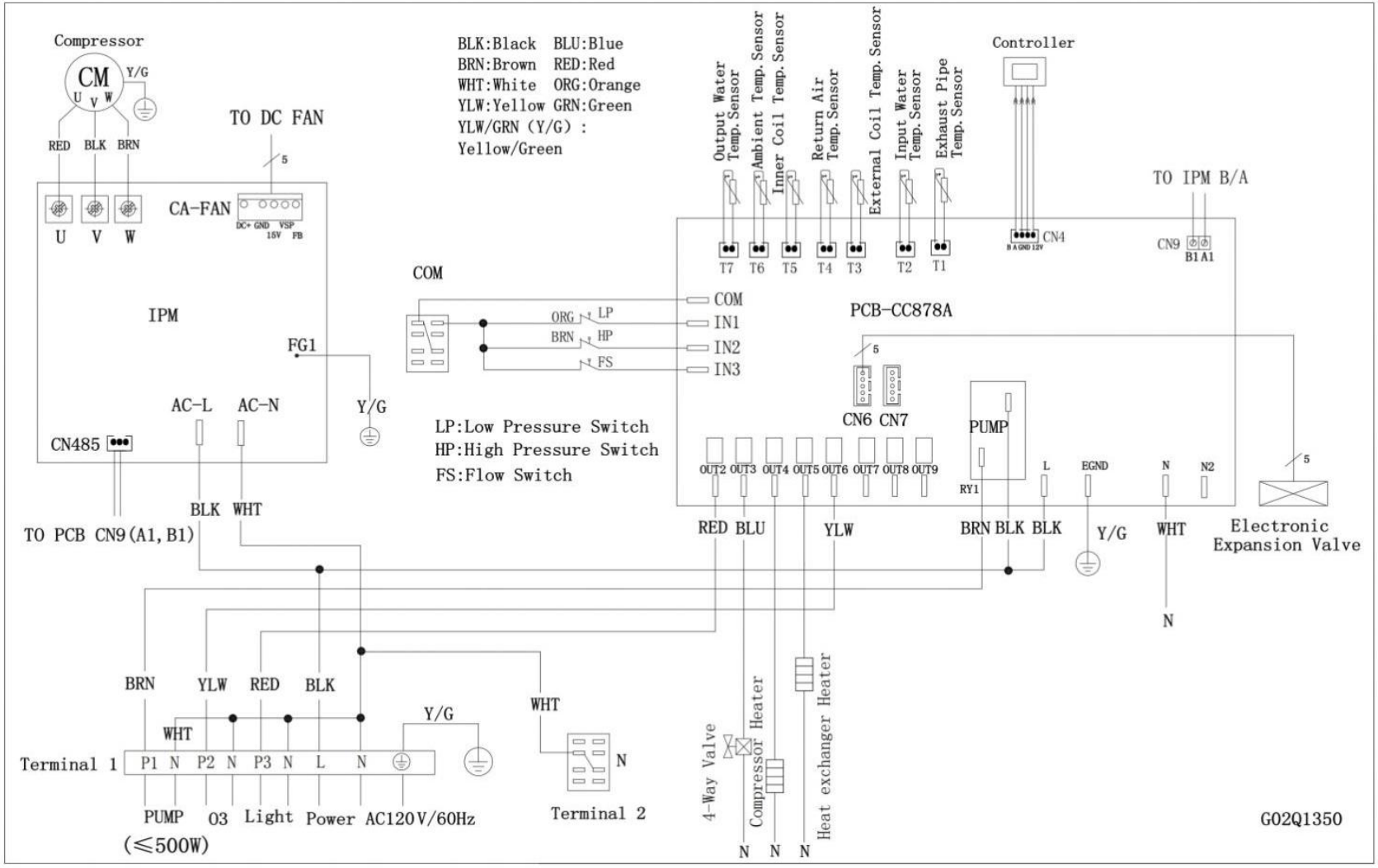
③The electricity supply cable must be adapted to match the unit’s rated power and the length of wiring required by the installation. The cable must be suitable for outdoor use.

④In places open to the public, it is mandatory to install an emergency stop button close to the bath chiller.

2.3 Electric circuit drawing

Please connect power strictly according to the power data plate.

LS-40H/S3N8-BP1



3.Trial After Installation

WARNING:Please check all the wiring carefully before turning on the bath chiller.

3.1 Inspection Before Trial Running

Before running test, confirm below items and write √ in block;

☐	Correct unit installation
☐	Power supply voltage is the same as unit rated voltage
☐	Correct piping and wiring
☐	Air inlet & outlet port of unit is unblocked
☐	Drainage and venting is unblocked and no water leaking
☐	Leakage protector is working
☐	Piping insulation is working
☐	Ground wire is connected correctly

3.2 Trial Running

Step 1:Running test can begin after completing all installation;

Step 2:All wiring and piping should be connected well and carefully checked, then fill water tank with water before power is switched on (Water injection: Inject water into the skimmer port as required until the water level line is reached);

Step 3:Press the "on-off " button on the control panel to operate the unit at the set temperature;

Step 4:Items need to be checked during running test:

① During the first running, unit current is normal or not;

② Each function button on control panel is normal or not;

③ Display screen is normal or not;

④ Are there any leakage in the whole heating circulation system;

⑤ Condensate drain is normal or not;

⑥ Are there any abnormal sound or vibration during running?

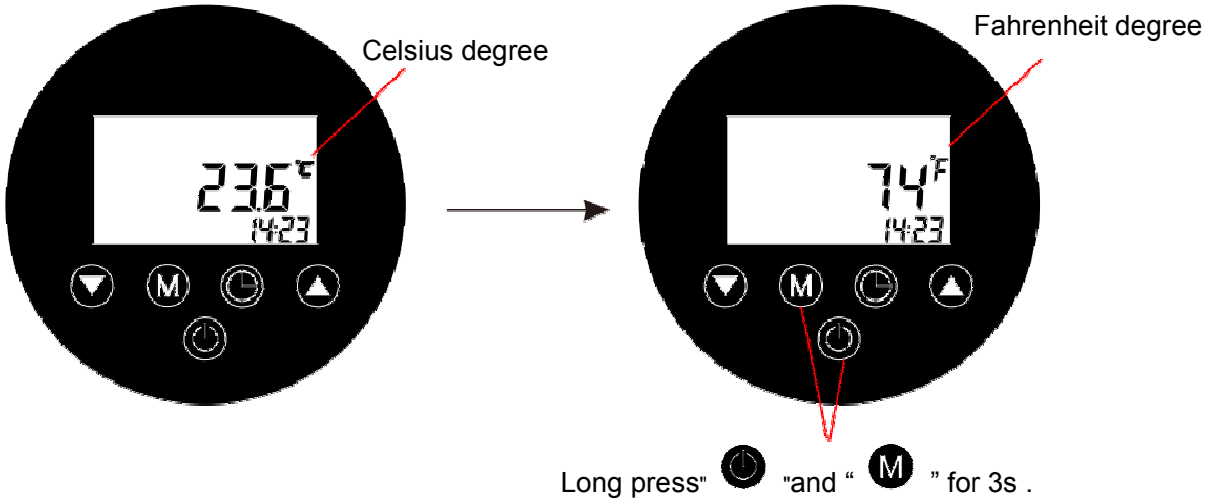
4. Control panel

No.	Item	Button	Icon	No.	Item	Button	Icon
1	" -"key/temp down			12	Water temperature or set temp		
2	check parameters （Long press 3s）			13	Defrosting		
3	Light（Solo only)			14	Ozone/UV		
4	Time			15	Pair Wi-Fi		
5	" + " key/ temp up			16	Children lock （Long press 3s）		
6	Turn on/off pump（Long press 3s）			17	Alarm		
7	ON/OFF/Confirm key			18	Fan		FAN
8	Auto mode			19	Compressor		
9	Silent auto mode			20	F to C （Long press 3s）		℉/℃
10	Smart auto mode						
11	Powerful auto mode						

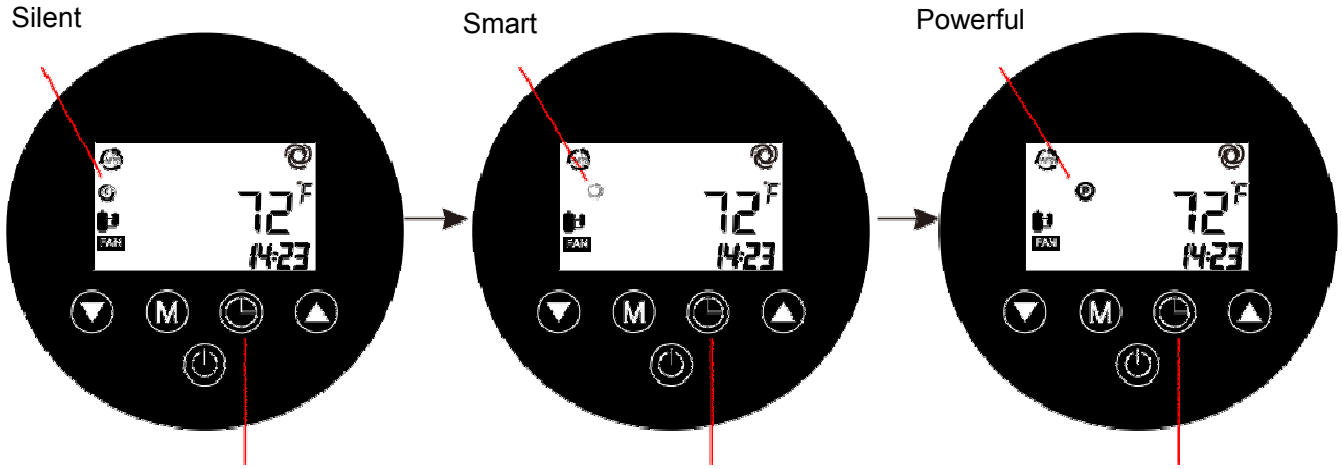
5. Key Operation Instruction

5.1 Temperature unit

When the system is turn off, long press “ ⏻ ”and “ M ”on the main interface for 3 seconds to switch the temperature unit (℃ or ℉), The system will automatically stre the value after changing.



5.2 Frequency mode



At the startup interface, press“ ” to switch modes: Silent, Smart, and Powerful.

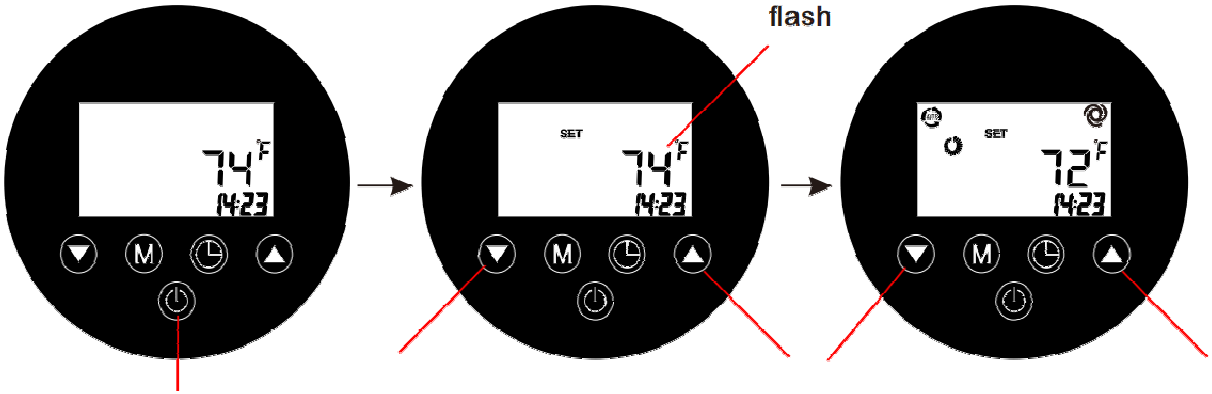
Silent mode：Low power (low frequency) operation, low equipment noise, slow cooling/heating speed；

smart mode：Medium power (medium frequency), equipment operating noise, moderate cooling/heating speed, more energy-efficient；

Powerful mode：Full power (high frequency) operation, high equipment operating noise, fast cooling/heating speed；

5.3 Temperature setting

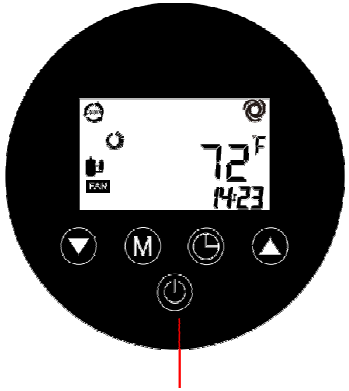
In the main interface, press" ▼ "or " ▲ "to adjust the set temperature.



1.Long press 3s to turn on.

2.Press " ▼ "or " ▲ ".

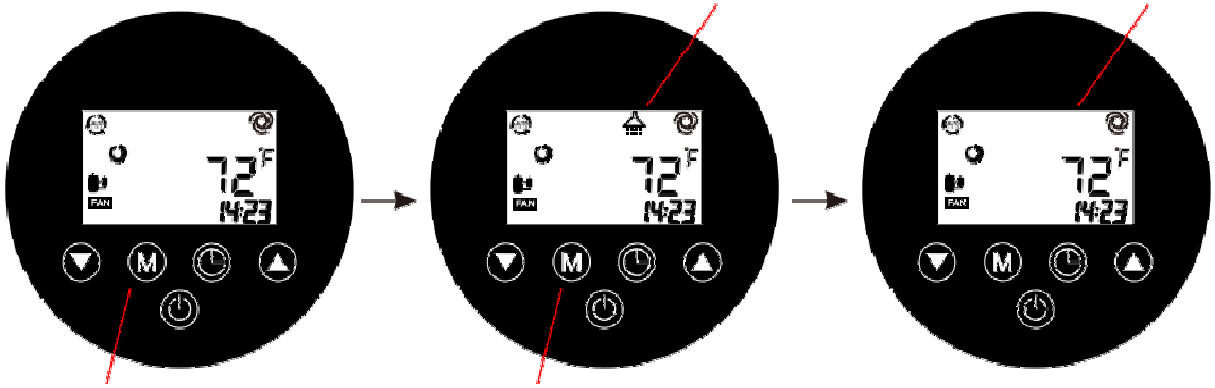
3.Press " ▼ "or " ▲ " adjust temperature.



4.Confirm the value and return.
start cooling or heating.

5.4 Light

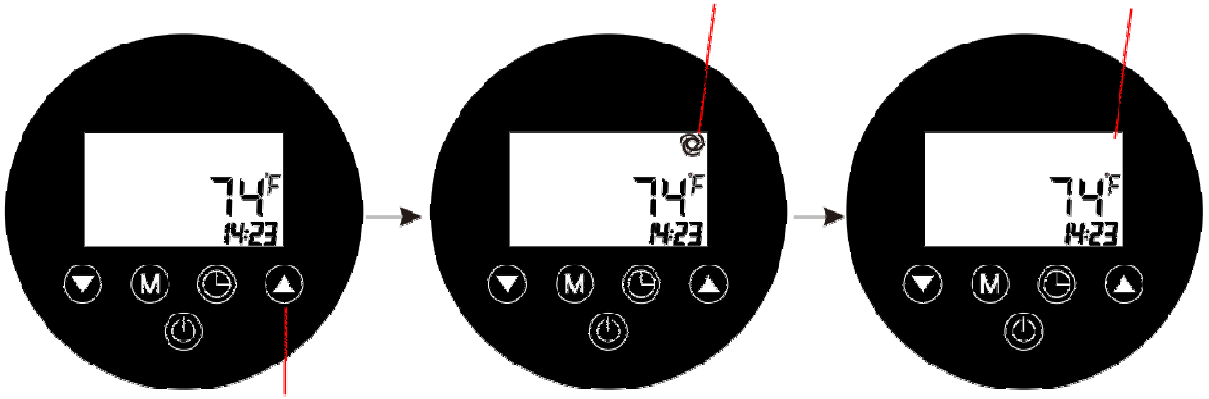
At the startup interface, short press" M " to turn on the light, then press again to turn off the light.



5.5 Cycle Pump

Press and hold " ▲ " for 3 seconds to manually turn on/off the water pump when shutting down, reaching the temperature set, or shutting down due to malfunction.

Cycle pump will turn off automatically after running for 15 minutes.



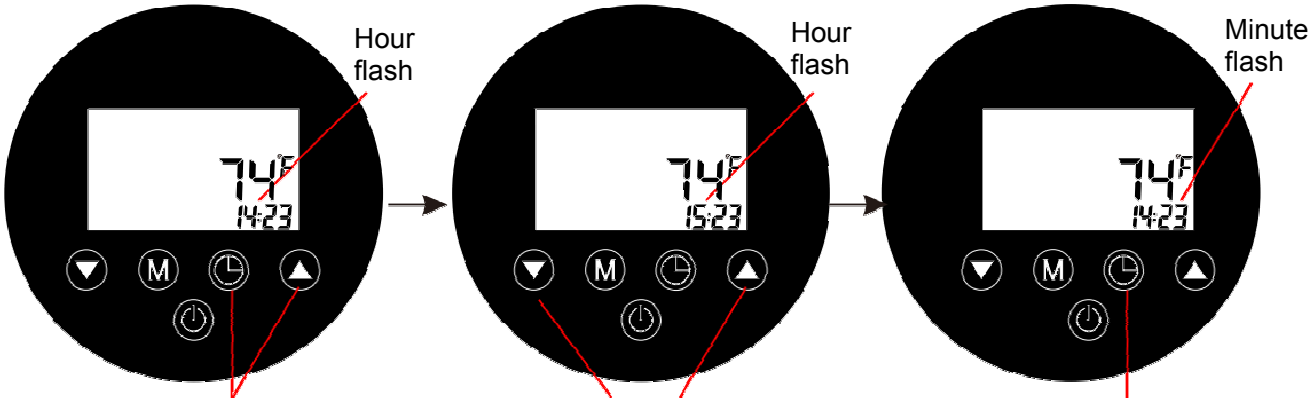
1.Long press" ▲ " 3s to turn on pump.

2.Long press" ▲ " 3s again to turn off pump.

Regular cycle cleaning of heat pump: stop the machine after reaching temperature or power on for 12 hours, and run the circulation pump for 30 minutes.

5.6 Clock setting

In the startup state, press the "+ " composite key for 3 seconds on the main interface to enter the time setting. Press "" or "" to adjust the hour, press "" to switch to minute adjustment, press "" or "" to adjust the minute, and then press "" to confirm or exit



1.Long press" " and" "3s.

2.Press " "or" " adjust the hour.

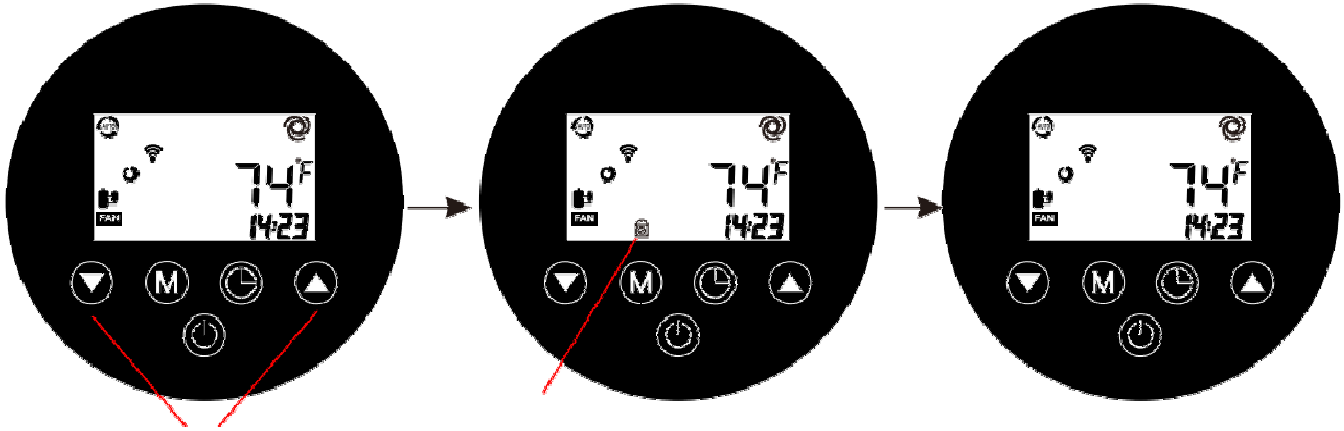
3.Press " " to switch to minute adjustment,

press " "or" "adjust the minute.

press " "confirm the value and return.

5.7 Children lock protection setting

On the main interface, press the "▼+▲" compound key for 3 seconds to lock the screen, and long press again for 3 seconds to unlock the screen.



1.Long press"▼"and"▲"keys for 3s on the main interface.

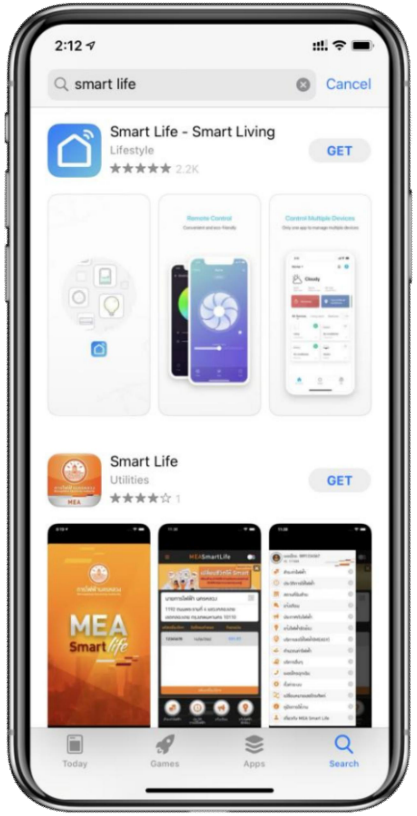
2.Children lock protection enable.

3.Long press"▼"and"▲"keys for 3s again.Children lock protection disable.

6. Wi-Fi settings

6.1 Software Installation

Method 1:Search “Smart Life” in Apple App Store or Google App Store.



Method 2:Scan the QR code below.

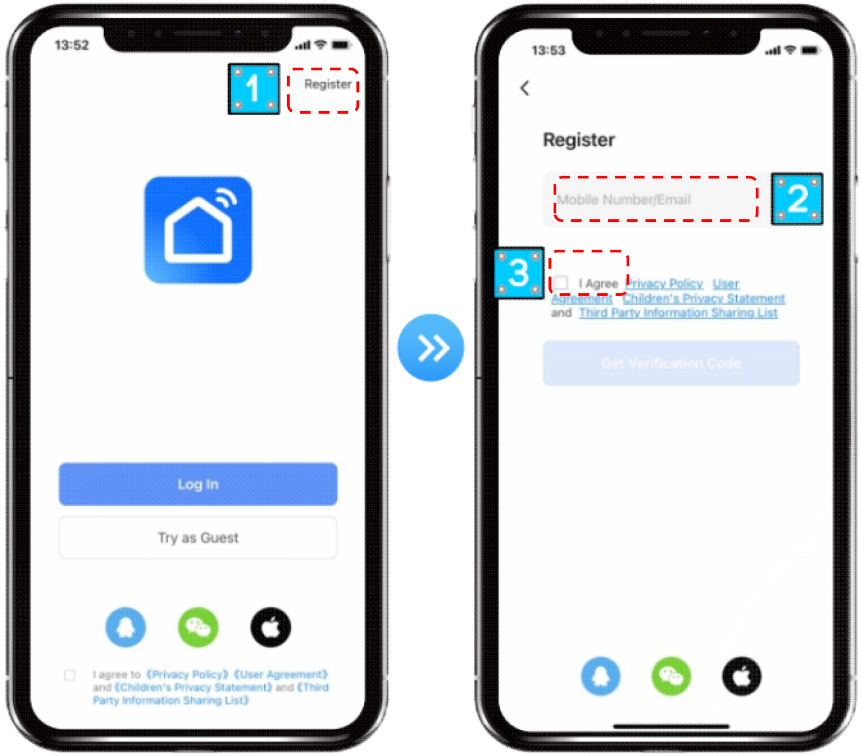
6.2 Software Startup

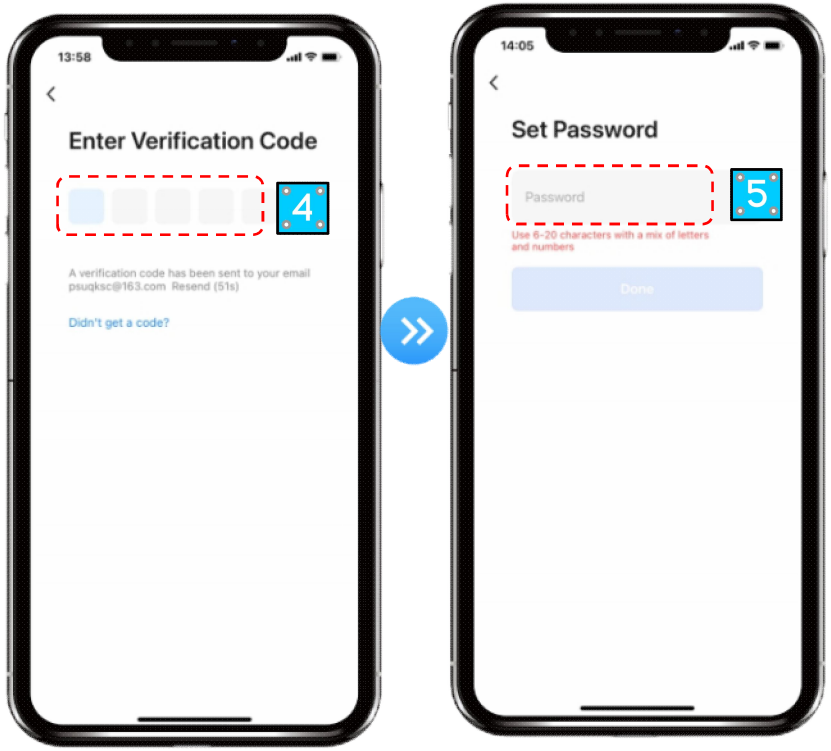
After installation,click “” on your desktop to start up Smart Life.

6.3 Software Registration and Configuration

1. Registration

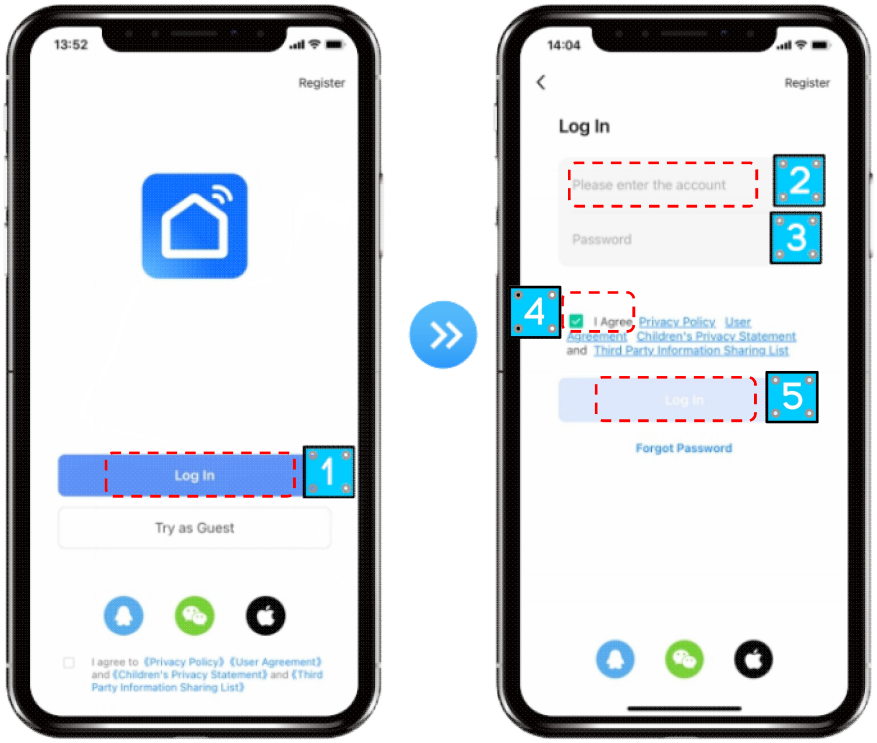
① Users don’t have account can click “Register” to create an account: Register → Enter your phone number → Get Verification Code → Enter Verification Code → Set Code.


13:52
1
Register
Log In
Try as Guest
I agree to {Privacy Policy} {User Agreement} and {Children's Privacy Statement} and {Third Party Information Sharing List}
13:53
Register
Mobile Number/Email
2
3
I Agree Privacy Policy User Agreement Children's Privacy Statement and Third Party Information Sharing List
Get Verification Code



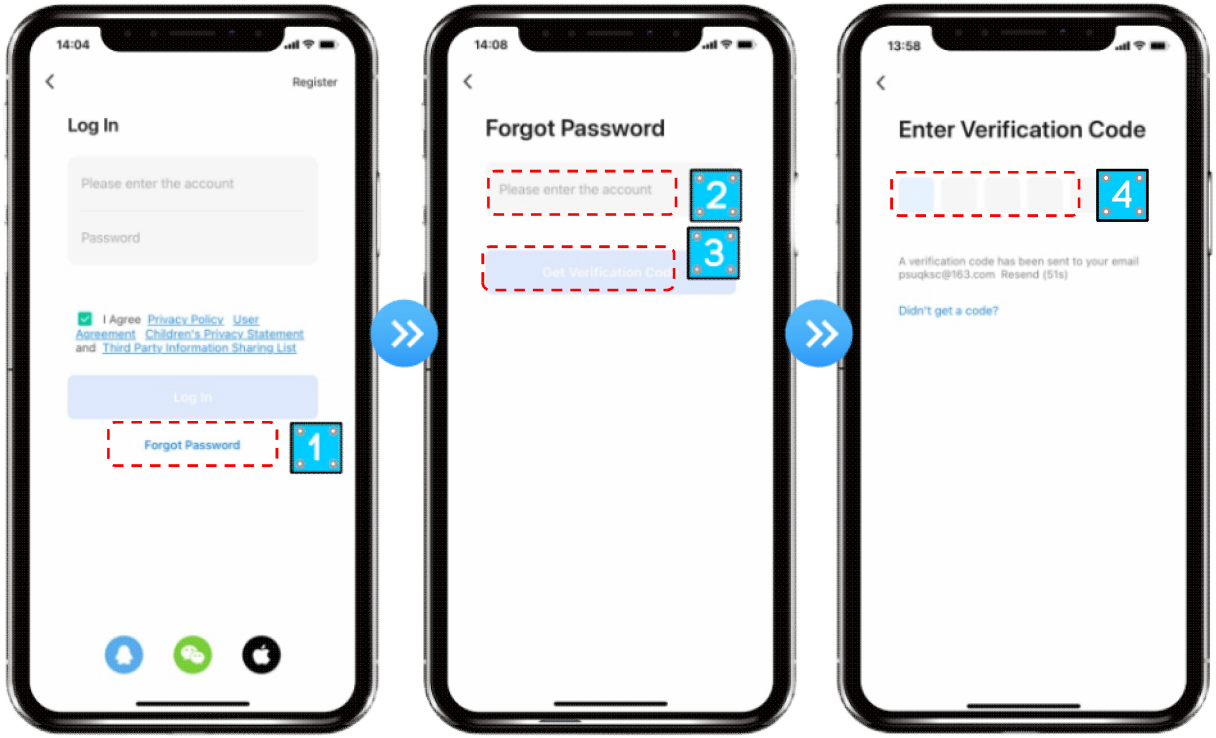
2. Account ID+ Password Login

① Existing accounts can be logged in directly, in the following order.



② If you forget your password you can choose to login with your verification code and select "Forget Password": Enter your phone number

➔ Get verification code.



③ After logged in,enter the main interface of APP.

Note:
Click the device to check the status, and you can set the operating mode, ON/OFF, timer.
Click “＋” to add devices.

3. Wi-Fi Module configuration steps:

Step 1:

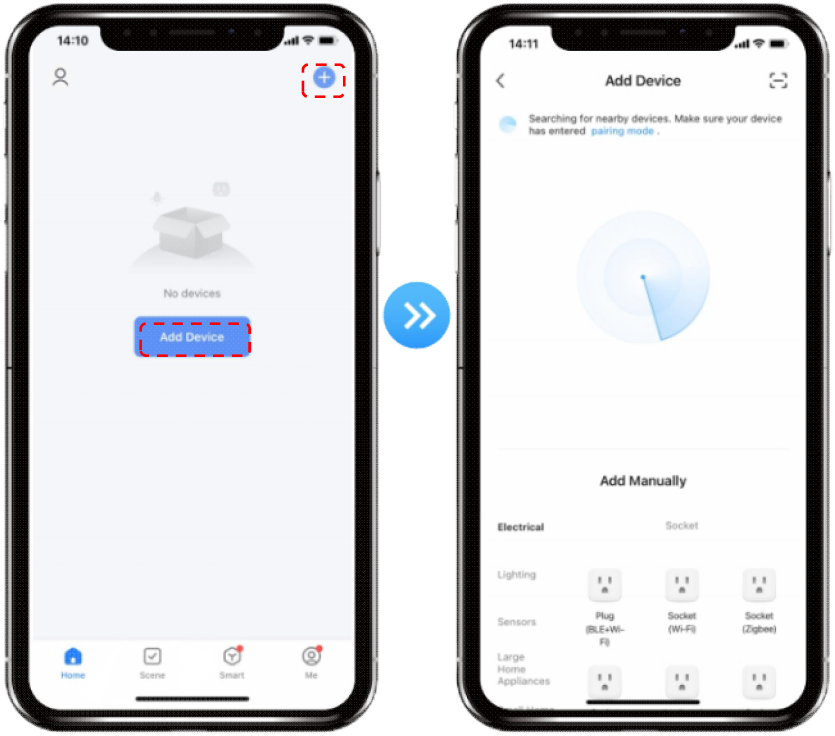
SMART Mode: When power is on, press and hold the "M" and "▲" keys at the same time for 5 seconds to enter the distribution network.

The " " icon will flash rapidly.

Step 2:

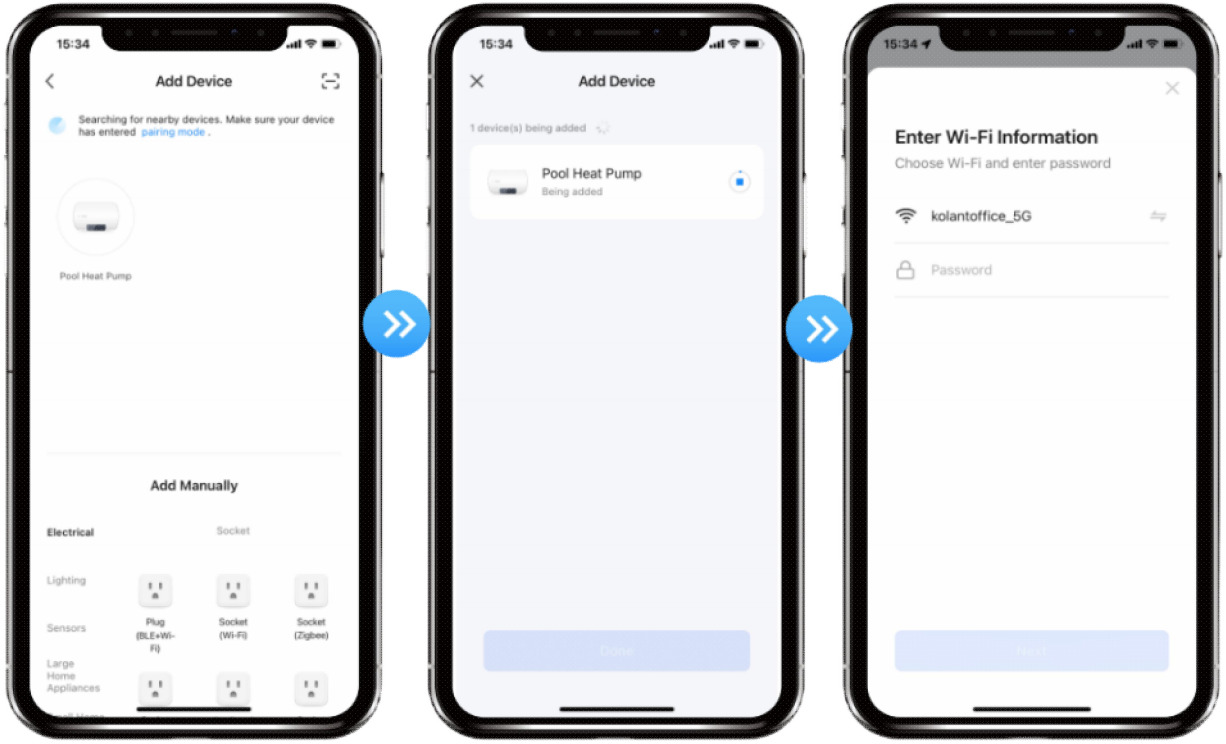
Turn on the phone's Wi-Fi function and connect to the Wi-Fi hot-spot. The Wi-Fi hot-spot must be able to connect to the Internet normally.

Step 3:
Open the "smart life" APP, log in into the main interface, click on the top right corner "+" or "add equipment" of the interface, add equipment into the interface.

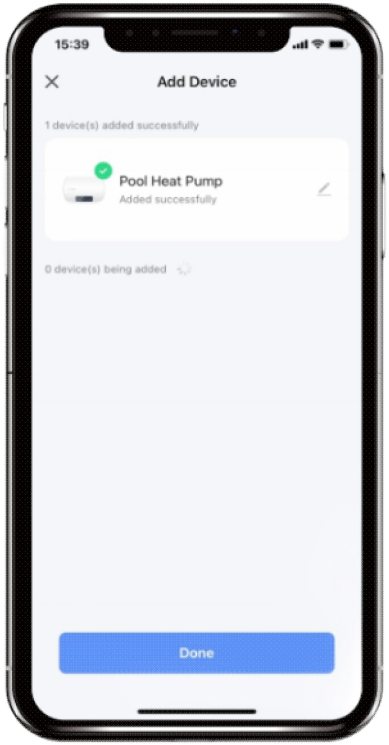


Step 4:

Enter the Wi-Fi connection interface, enter the Wi-Fi password of the mobile phone (it must be the same as the Wi-Fi of the mobile phone), click "Next", and then directly enter the connected status of the device.

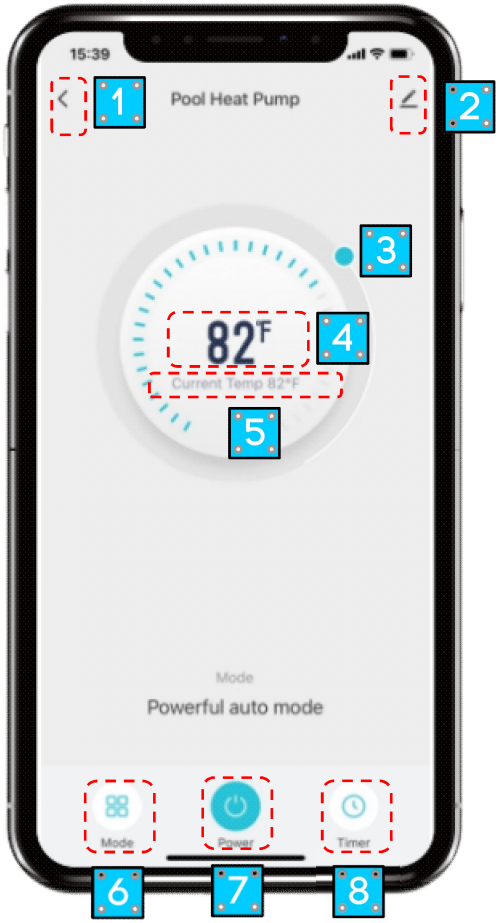


Step 5:
Connect succeeds.



6.4 Software Function Operation

- After the device is bound successfully, enter the operation interface of “Pool heat pump” (Device name, modifiable).
- In the main interface of “Smart Life”, click “Pool” to enter the operation interface.



① Back.

② More: You can change device name, select device installation location, check networking status, add Shared users, create device cluster, view device information, and more.

③ Setting temp. adjustment: The circle slides counterclockwise to reduce the temp., but clockwise to increase the temp.

④ Target temp.

⑤ Current temp.

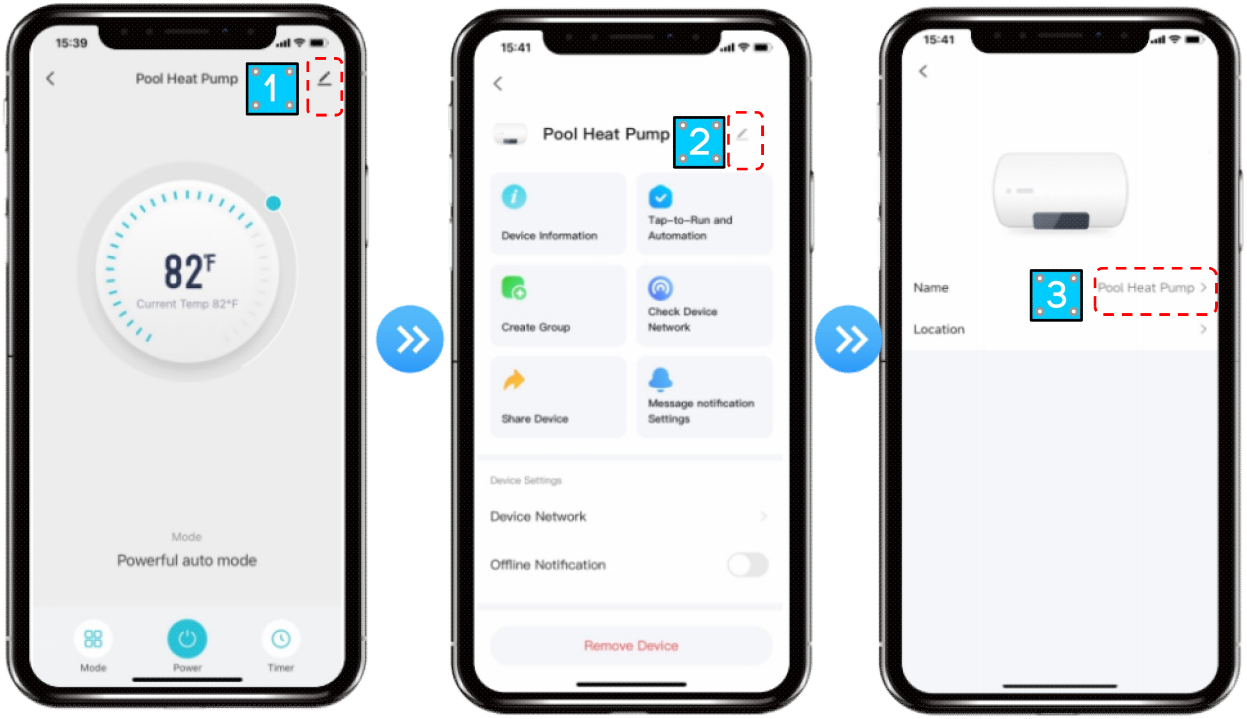
⑥ Mode switching: Click to select the mode to be switched.

⑦ ON/OFF.

⑧ Timing: Click to add timing off/on time.

● Modify device name

Click in the following order to enter device details, and click "Device Name" to rename the device.



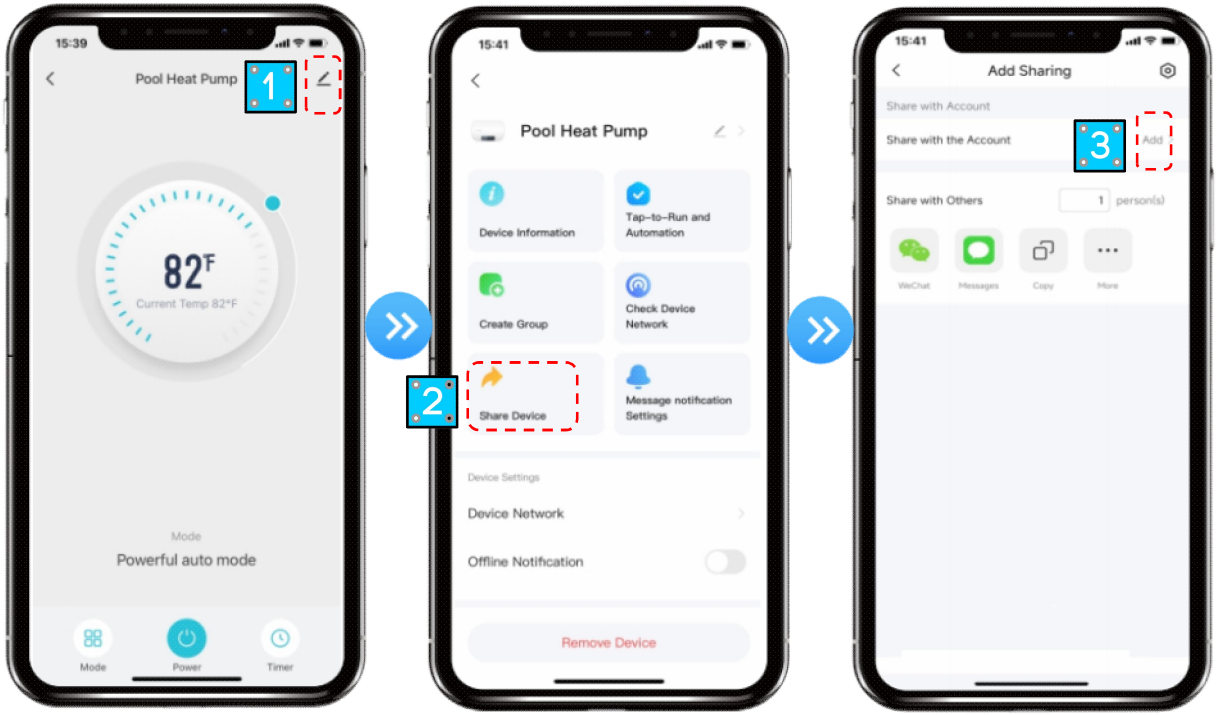
● Device sharing

To share a bound device, the user should do so in the following order.

After successful sharing, the list will be added to show the person shared.

If you want to delete the account you shared to, cross the selected account to the left,and delete it.

The user interface is as follows.

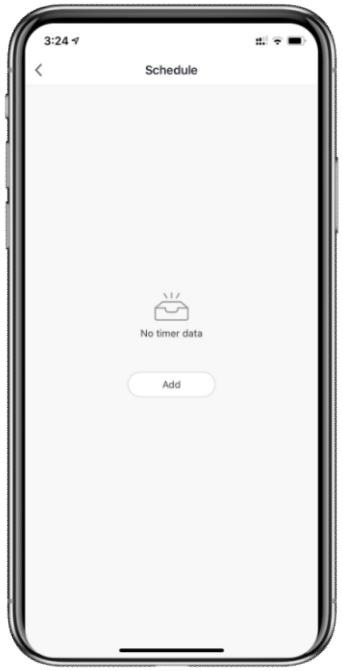


● Mode settings

Click “ ” on the main interface to switch modes,select what you need.

● Timer setting

1. Click “ ” on the main interface to enter timer setting interface, as shown below, click to add timer.



① After entering timer setting, swipe up/down to set timer,set up repeat weeks and on/off,then click “save” to Hours.

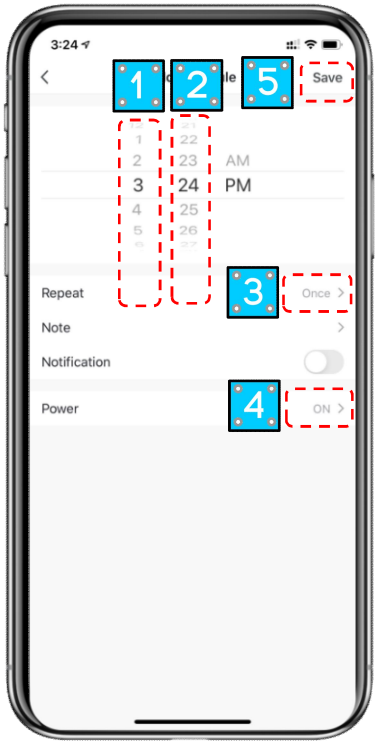
② Minutes.

③ Set the repeat.

④ Set power ON/OFF.

⑤ Save your modification.

save your settings as follows.



7. System antifreeze

During standby or shutdown protection:

When the ambient temperature is ≤ 41℉(5 ℃) it enters the first level of antifreeze protection, and the water pump starts for 30 seconds every 10 minutes and runs in a cycle; When the ambient temperature is ≥ 46℉(8 ℃), exit the first level antifreeze protection;

When the ambient temperature is ≤ 41℉(5 ℃) and the outlet water temperature is ≤ 34℉(1 ℃), enter the second level antifreeze protection and automatically start heating;

When the ambient temperature is ≥46℉(8 ℃) or the outlet water temperature is ≥ 37℉(3 ℃), exit the secondary antifreeze protection;

After entering the antifreeze mode, the wire controller displays fault code E04;

8. Malfunction table

Code	Error
Er 03	Water flow failure
Er 04	Winter antifreeze
Er 05	High pressure failure
Er 06	Low pressure failure
Er 09	Main board-wire control communication failure
Er 10	Communication failure of frequency conversion module
Er 12	High exhaust protection
Er 15	Inlet water temperature fault
Er 16	Outer coil temperature fault
Er 18	Exhaust temperature fault
Er 19	DC fan fault
Er 20	Abnormal protection of frequency conversion module
Er 21	Environmental temperature fault

Er 23	Cooling water outlet temperature low protection
Er 27	Water outlet temperature fault
Er 28	CT over current protection
Er 29	Return air temperature fault
Er 32	Protection against excessive temperature of heating water outlet
Er 33	Outdoor coil high temperature protection
Er 42	Inner coil temperature fault
Er 44	Protection against low ambient temperature in cooling mode
Er 45	Protection against low ambient temperature in heating mode

9.Trouble Shooting

NO.	Analysis	Solution
E03(Water Flow Failure)	1. No water flow. 1.1. Water pump not working. 1.2. Water pump fault. 1.3. Gate valve not open. 1.4. Air in the pump pipeline. 2. Low water flow.Filter element blocked. 3. Flow switch 3.1. Flow switch stuck and cannot be reset. 3.2. Incorrect installation of flow switch. 3.3. Poor connection between flow switch and main board. 4. Main board fault.	1.1. Start the water pump via the wire controller, and the water pump operation icon should be displayed; 1.2. Touch the water pump. If there is no vibration, check if the water pump power supply is loose or replace the water pump; 1.3. Confirm that the gate valve is in the open state; 1.4. Open the pump union to vent air; 2. Open the filter cover, check if the filter element is blocked, and replace it if blocked; 3.1. Unscrew the union, check if the flow switch plate is blocked, and clean it if blocked; 3.2. Open the heat pump upper cover, check if the installation direction of the flow switch is correct, and correct it if incorrect. 3.3. Unplug and re-plug the flow switch plug on the main board in place. (IN3). If the problem is not solved, refer to the "Flow Switch Maintenance" video for details. 4. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.
E04(Winter Anti-freezing)	Anti-freezing protection function (not a fault)l When the ambient temperature ≤ 5℃/41℉, enter the first-level anti-freezing protection, and the water pump will start for 30 seconds every 10 minutes and run cyclically; when the ambient temperature ≥ 8℃/46.4℉, exit the first-level anti-freezing protection;l When the ambient temperature ≤ 5℃/41℉ and the outlet water temperature ≤ 1℃, enter the second-level anti-freezing protection and automatically start heating;l Exit the second-level anti-freezing protection when the ambient temperature ≥ 8℃/46.4℉ or the outlet water temperature ≥ 3℃/37.4℉;l Cooling to the set temperature and stopping can enter the second-level anti-freezing, and cooling fault stopping can only enter the first-level anti-freezing;	If the outdoor temperature continues to drop below freezing and the water temperature continues to drop, take the following measures: 1. Switch to heating mode. 2. Manually heat the water (not higher than 40℃/104℉). 3. Use heating equipment such as a hot air blower to blow hot air into the pipeline to prevent the pipeline from freezing.

E05(High Pressure Fault)	1. Poor connection of high-pressure switch. 2. Poor condensation. 2.1. Water temperature too high (operation beyond range). 2.2. Low water flow. 2.2.1. Gate valve in the water system not open. 2.2.2. Waterway blockage, which may occur in the heat exchanger or gate valve. 2.2.3. Water pump fault. 3. Main board is broken. 4. High-pressure switch fault	1. Check if the high-pressure switch control wire is poorly connected to the main board interface, unplug and re-plug it in place (IN2); 2.1. Use the product within the 3-40℃ environment. 2.2.1. Confirm that the gate valve is fully open. 2.2.2. Clean or replace the blocked gate valve. 2.2.3. Clean or replace the filter element. 2.2.3. Touch the water pump. If there is no vibration, check if the water pump power supply is loose or replace the water pump; 3. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details. 4. Check if the refrigerant pressure gauge pointer reaches the red zone (4.4MPa). If so, the high-pressure switch is faulty, replace the heat pump.
E06(Low Pressure Fault)	1. Loose plug between low-pressure switch and main board. 2. No reading on pressure gauge. 3. Main board fault.	1. Check if the low-pressure switch control wire is poorly connected to the main board interface, unplug and re-plug it in place (IN1); 2. Check if the refrigerant pressure gauge pointer value is lower than 0.02MPa. If so, the low-pressure switch is faulty, replace the heat pump. 3. If method 1 fails to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.
E09(Main Board - Wire Controller Communication Fault)	1. Wire controller problem 1.1. Poor connection between wire controller and main board. 1.2. Poor internet connection with the app. 1.3. Wire controller line fault2. Main board fault.	1.1. Check if the panel control wire is poorly connected to the main board interface, unplug and re-plug it in place. (CN4)1.2.1 Re-establish the connection to the home Wifi.1.2.2 Stop using the app until you have a better WIFI connection. 1.3. Replace with a new wire controller of the same version program. If the code can be eliminated, replace the wire controller. 2. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.

E10(Inverter Module Communication Fault)	1. Poor internet connection with the app. 2. Voltage exceeds the rated range of the product nameplate. 3. Poor connection between IPM board and main board. 4. Faulty IPM board.5. Main board fault.	1.1. Re-establish the connection to the home Wifi. 1.2. Stop using the app until you have a better WIFI connection. 2.1. Use a multimeter to check if the power supply voltage meets the rated voltage on the product nameplate (CE: 230V, UL: 120V). If not, replace the power supply. 2.2. Reduce other electrical appliances on the same line. Check if the load is exceeded. 3. Confirm the cable connection between the main board and the IPM board, unplug and re-plug it in place. (CN9) 4. If the above methods fail to resolve the error code, replace the heat pump IPM control board. For replacement methods, refer to the "Heat Pump IPM Control Board Replacement" video for details.5. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.
E12（Exhaust Over-temperature Protection)	1. (Not a fault) External temperature exceeds the normal operating temperature of 104°F (40°C). 2. Poor heat exchange. 2.1. Water pump not turned on. 2.2. Gate valve not open. 2.3. Water pump not working. 3. Low water flow. 3.1 Water system blockage. 4. Insufficient air flow space.	1. It will return to normal operation once the external temperature is lower than 104°F (40°C). 2. Insufficient water flow. 2.1. Start the water pump via the wire controller, and the water pump operation icon should be displayed. 2.2. Confirm that the gate valve is fully open. 2.3. Touch the water pump. If there is no vibration, check if the water pump power supply is loose or replace the water pump; 3.1.1. Clean or replace the filter element. 3.1.2. Waterway blockage, which may occur in the heat exchanger or gate valve. 4. Confirm the minimum clearance required for the external air inlet and outlet:Maintain an unobstructed open space of 3 feet/1 meter (at least 30 cm) for the air inlet and 8 feet/2.5 meters (at least 150 cm) for the air outlet. Maintain an open space of 3 feet/1 meter (at least 30 cm) for the air inlet and an unobstructed air outlet of 8 feet/2.5 meters (at least 150 cm).

E15 (Inlet Water Temperature Fault)	1. Poor connection between temperature sensor (T2) and main board; loose sensor probe. 2. T2 temperature sensor fault. 3. Main board fault.	1. Unplug and re-plug the connection interface between the temperature sensor (T2) and the main board in place; re-install the sensor probe in place and fix it with a seal. 2. Check if the sensor is faulty: Put the thermometer and the T2 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced. 3. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.
E16 (External Coil Temperature Fault)	1. Poor connection between temperature sensor (T3) and main board; loose sensor probe. 2. T3 temperature sensor fault. 3. Main board fault.	1. Unplug and re-plug the connection interface between the temperature sensor (T3) and the main board in place; re-install the sensor probe in place and fix it with a seal. 2. Check if the sensor is faulty: Put the thermometer and the T3 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced. 3. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.
E18 (Exhaust Temperature Fault)	1. Poor connection between temperature sensor (T1) and main board; loose sensor probe. 2. T1 temperature sensor fault. 3. Main board fault.	1. Unplug and re-plug the connection interface between the temperature sensor (T1) and the main board in place; re-install the sensor probe in place and fix it with a seal. 2. Check if the sensor is faulty: Put the thermometer and the T1 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced. 3. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.

E19 (DC Fan 1 Fault)	1. Poor/loose connection between fan and IPM board. 2. Fan fault. 3. IPM board fault.	1. Unplug and re-plug the connection interface between the fan motor and the IPM board in place. 2. If the motor does not rotate or the speed is abnormal and E19 appears, it can be determined that the motor needs to be replaced: Remove the screws on the three sides and the top, take out the fan cover, and remove the screws of the original fan motor for replacement. 3. If the above methods fail to resolve the error code, replace the heat pump IPM control board. For replacement methods, refer to the "Heat Pump IPM Control Board Replacement" video for details.
E20 (Inverter Module Abnormal Protection)	1. Mismatched power supply voltage. 2. Loose connection between main board and IPM board. 3. IPM board fault.	1. Use a multimeter to check if the power supply voltage meets the rated voltage on the product nameplate (CE: 230V, UL: 120V). If not, replace the power connection. Minimize high-power electrical appliances at the power supply connected to the product. 2. Check if the connecting wire between the main board and the IPM board is faulty, unplug and re-plug it in place. (CN9) 3. If the above methods fail to resolve the error code, replace the heat pump IPM control board. For replacement methods, refer to the "Heat Pump IPM Control Board Replacement" video for details.
E21 (Ambient Temperature Fault)	1. Poor connection between temperature sensor (T6) and main board. 2. T6 temperature sensor fault. 3. Main board fault.	1. Unplug and re-plug the connection interface between the temperature sensor (T6) and the main board in place. 2. Check if the sensor is faulty: Put the thermometer and the T6 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced. 3. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.
E27 (Outlet Water Temperature Fault)	1. Poor connection between temperature sensor (T7) and main board; loose sensor probe. 2. T7 temperature sensor fault. 3. Main board fault.	1. Unplug and re-plug the connection interface between the temperature sensor (T7) and the main board in place; re-install the sensor probe in place and fix it with a seal. 2. Check if the sensor is faulty: Put the thermometer and the T7 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced. 3. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.

E29 (Suction Temperature Fault)	1. Poor connection between temperature sensor (T4) and main board; loose sensor probe. 2. T4 temperature sensor fault. 3. Main board fault.	1. Unplug and re-plug the connection interface between the temperature sensor (T4) and the main board in place; re-install the sensor probe in place and fix it with a seal. 2. Check if the sensor is faulty: Put the thermometer and the T4 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced. 3. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.
E42 (Internal Coil Temperature Fault)	1. Poor connection between temperature sensor (T5) and main board; loose sensor probe. 2. T5 temperature sensor fault. 3. Main board fault.	1. Unplug and re-plug the connection interface between the temperature sensor (T5) and the main board in place; re-install the sensor probe in place and fix it with a seal. 2. Check if the sensor is faulty: Put the thermometer and the T5 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced. 3. If the above methods fail to resolve the error code, replace the heat pump main board. For replacement methods, refer to the "Heat Pump Main Board Replacement" video for details.
E44 (Cooling Ambient Temperature Too Low Protection)	1. In cooling mode, the outdoor temperature is lower than the required operating temperature of -18°C. 2. Poor connection between temperature sensor (T6) and main board. 3. T6 temperature sensor fault.	1. Check the local temperature and safely increase the temperature in the equipment area, such as using a hot air blower, small light bulb or small space heater. Do not allow the heat source to come into direct contact with the equipment, pipelines or frame. Drain the product and take anti-freezing measures. 2. Unplug and re-plug the connection interface between the temperature sensor (T6) and the main board in place. 3. Check if the sensor is faulty: Put the thermometer and the T6 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced.

E45 (Heating Ambient Temperature Too Low Protection)	1. In heating mode, the outdoor temperature is lower than the required operating temperature of -18°C. 2. Poor connection between temperature sensor (T6) and main board. 3. T6 temperature sensor fault.	1. Check the local temperature and safely increase the temperature in the equipment area, such as using a hot air blower, small light bulb or small space heater. Do not allow the heat source to come into direct contact with the equipment, pipelines or frame. Drain the product and take anti-freezing measures. 2. Unplug and re-plug the connection interface between the temperature sensor (T6) and the main board in place. 3. Check if the sensor is faulty: Put the thermometer and the T6 temperature sensor probe into the same bottle of water, leave it for more than 5 minutes, use a multimeter to measure the two plugs of the sensor, and check if the resistance value corresponds to the temperature-resistance comparison table. If not, the sensor is faulty and needs to be replaced.