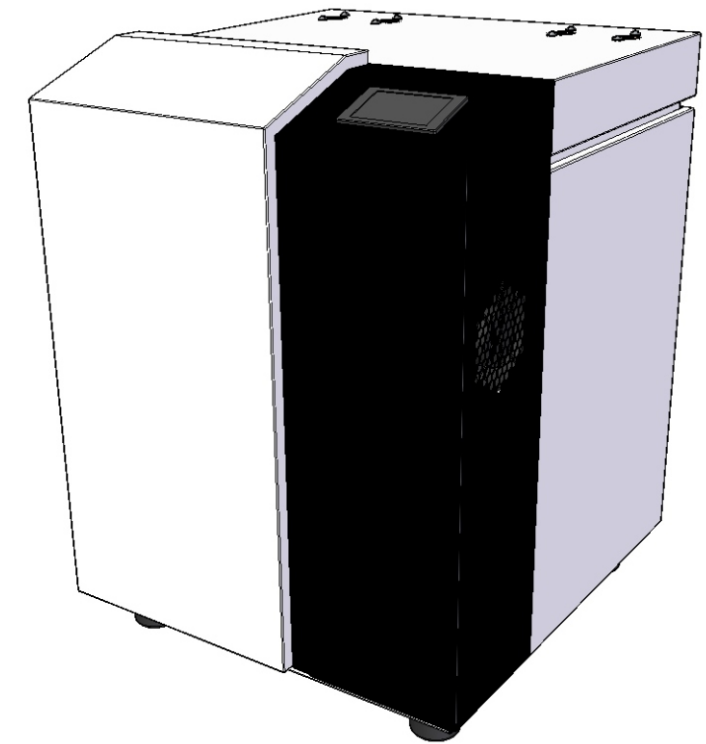


R32

DC Inverter Ground Source Heat Pump User Manual



Please properly keep this manual.
Please read this manual carefully before using the machine.

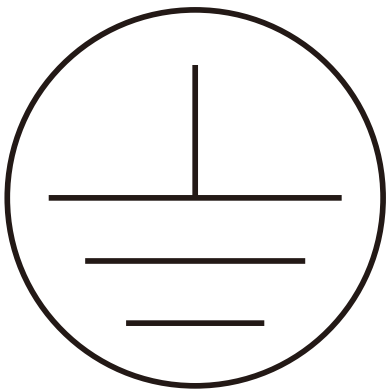
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Warning

The safety of you and your families is the most important !

This machine belongs to class I equipment.
Please ensure the reliable grounding before using it.



Note: Please don't use this machine if there is no grounding or the grounding is not reliable
If you are not sure if the grounding is reliable, please let the professional to check.

Please carefully read the safety precautions and notes about the machine before using it.

All the important notes and warning have the corresponding marks,the following is the meaning of the marks.

 Attention ! There is potential risk to cause the physical injury.

 Warning ! Please strictly obey the instructions, otherwise there would be life danger and serious injury.

1. Safety Precautions

⚠ Warning

Requirements for the installation environment

The installation location must be ventilated, waterproof, sun-proof, and requires a convenient power supply, water supply and drainage channels.
Customer's electrical environment must be in accordance with local electrical safety regulations.
The power supply specifications conform to the requirements of the local rating. There must be reliable grounding, leakage protector and give the machine power supply directly by the leakage switch wiring way.

The wall or stand must meet the bearing requirements

The installation, maintenance and renovation must be done by the designated dealer and professionals.

If the operator does not have relevant professional knowledge and authorization, but install and repair to result in the damage on furniture and decoration, injury or electric shock, and even serious accidents such as fire, we'll not assume legal responsibility.

The requirement on installation accessories

Please use the accessories in the packing according to the requirement, do not replace them with any other similar.

The purchased parts must be the designated model or specification, if the parts beyond the specified are used and result in the accidents, we'll not take the responsibility.

⚠ Attention

The household power supply, circuit to comply with relevant standards

The power circuit should be equipped with leakage protector.

Check whether the socket is qualified, after the unit runs for half an hour, remove the plug, if the pin is hot, that means the plug has more than 50 °C and must be replaced by another qualified one.

The location of the power supply should be not less than 1.8 meters from the ground, and be water-proof well and far from children.

The power lines have no damage. If there is any damage, please contact the relevant dealer or professional staff for replacement.

The unit should be installed firmly to run without vibration and the noise will not affect the neighbors.

Drainage piping can smoothly drain and will not lead to leakage or make the furniture wet.

The installation space is well ventilated, once there is refrigerant leakage, the gas will not gather, so there is no combustible gas leak near the installation location.
If there is such risk, please change the installation environment, otherwise, it's easy to cause poisoning, fire accident, etc.

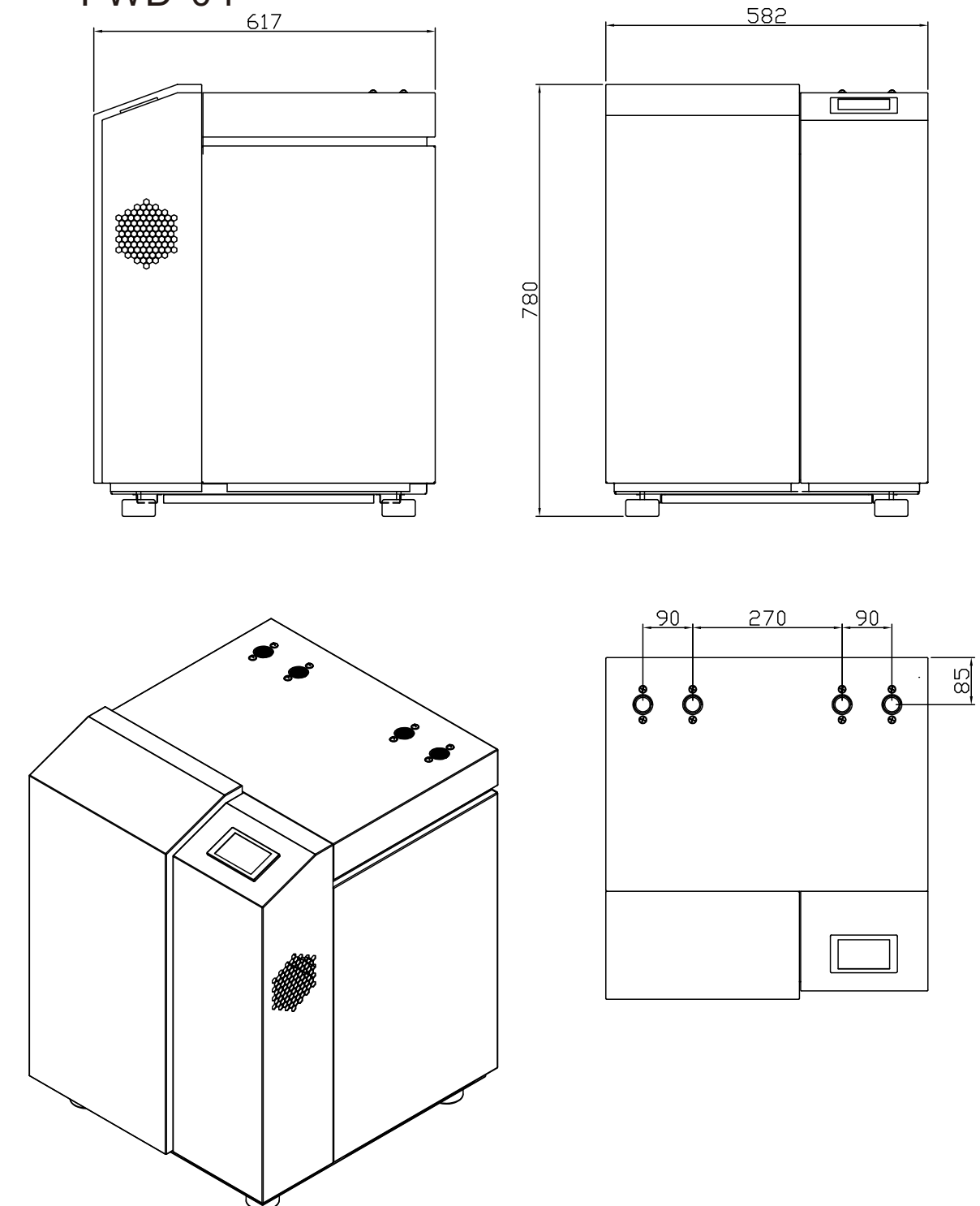
Do not keep the unit in the humid environment or exposed to the rain, otherwise it's easy to damage the unit.

If there is refrigerant leak during the installation, ventilation measures must be taken immediately. Otherwise, if the leaked refrigerant meets fire, such as heater, stove or electric rice cooker, etc., poisonous gas maybe produced.

2. Structure

2-1 Outer Structure

FWD-04



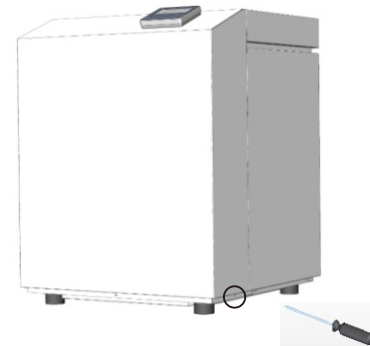
The photo in this manual is only for explanations purpose. If the appearance, function are not in accordance with the real one, please in kind prevail.

2. Structure

2-2. Wiring connection



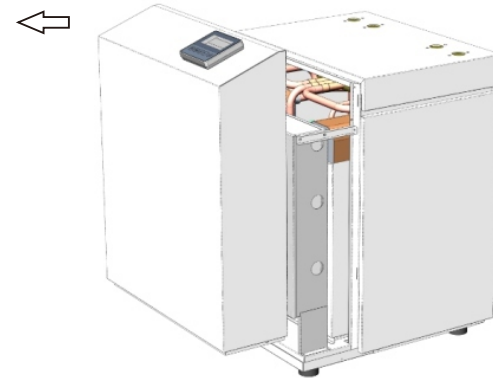
1. Remove the screw from the left side of the front panel.



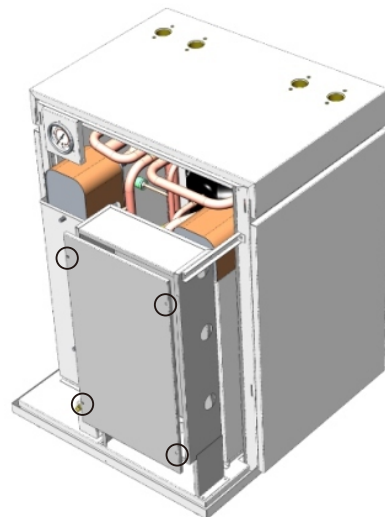
1. Remove the screw from the right side of the front panel.



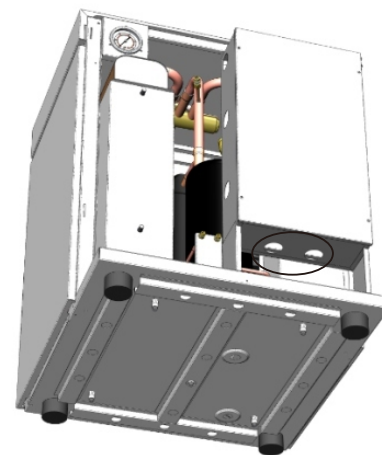
3. Push up the front panel.



4. Pull upward the front panel, pay attention on the controller wires.

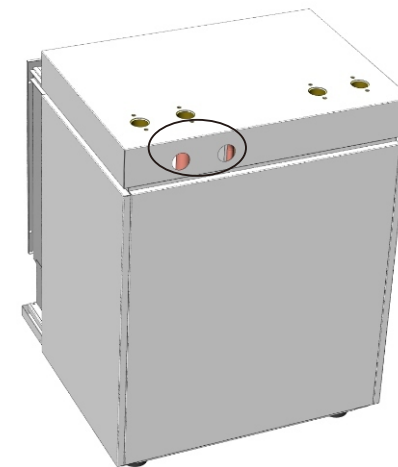


5. Remove the 4 screws from the unit to open the electric box cover.

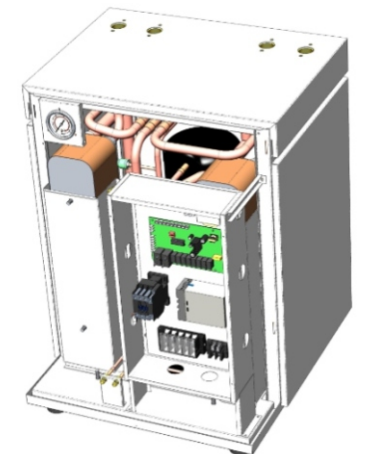


6. Power cables, water pump power cables, sensor cables should go through the 2 holes on the electric box bottom.

2. Structure



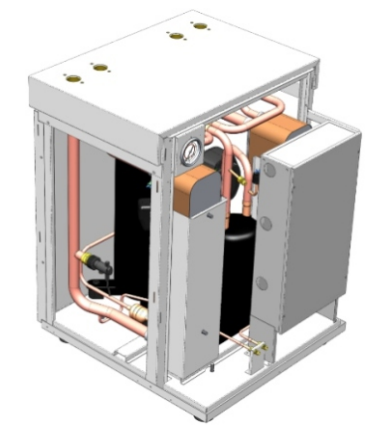
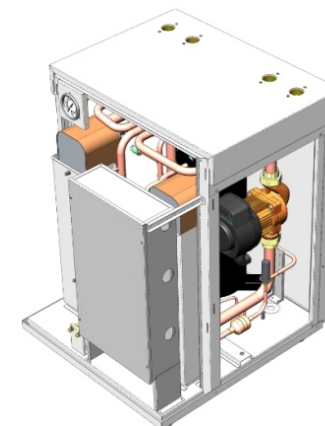
7. Power cables, water pump power cables, sensor cables should go through the 2 holes on the back panels.



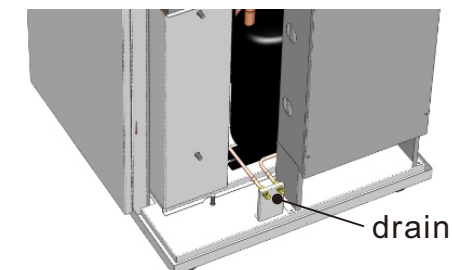
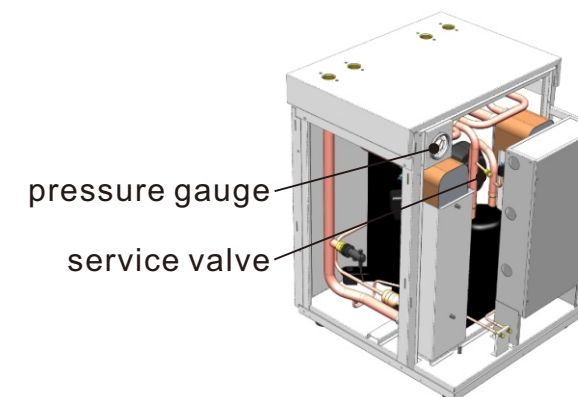
8. The main power terminal is just at the bottom of the electric box.

2-3. Convenient maintenance

1. All of the panels can be removed for the repair or the replacement.



2. You can check the low pressure of the unit from this service valve conveniently (You should connect a pressure gauge with this check valve). You can check the high pressure of the unit from the high pressure gauge.



3. If you don't use the unit for a long time, you should clean all the water in the system from the drainage valve to prevent the system from freezing.

3.Introduction

3-1 Why choose ground source heat pump

1. High efficient and saving energy

Compared with the air source heat pump, the temperature of the heating source of the ground source heat pump is very stable, and the COP is much better. Generally speaking, the ground source heat pump consumes 1kW, it can supply more than 4kW heating or cooling energy. Compared with the boiler (electricity, fuel), it can save 2/3 energy than the electric boiler, and save 1/2 energy than the fuel boiler, because the boiler just can transfer the 90% electricity or the 70%-90% fuel to the users.

2. Environmental-friendly and healthy

Ground source heat pump system can be applied without boiler house in winter, without cooling tower in summer, without coal, fuel, and gas. It don't pollute the underground water resource and air, and discharge no exhaust gas, which make it environmental-friendly and healthy.

3. Renewable resource

Ground source heat pump is an air conditioning system, which makes use of the heat from the shallow surface of ground as the cooling or heating source to exchange energy. The shallow surface of ground is a giant solar collector, it collects the 47% energy which the sun gives, which is 400 times more than the energy the human used every year. This kind of energy which can be gained anywhere is a renewable energy not subject to the geographical area and other resources, and can be gained anywhere.

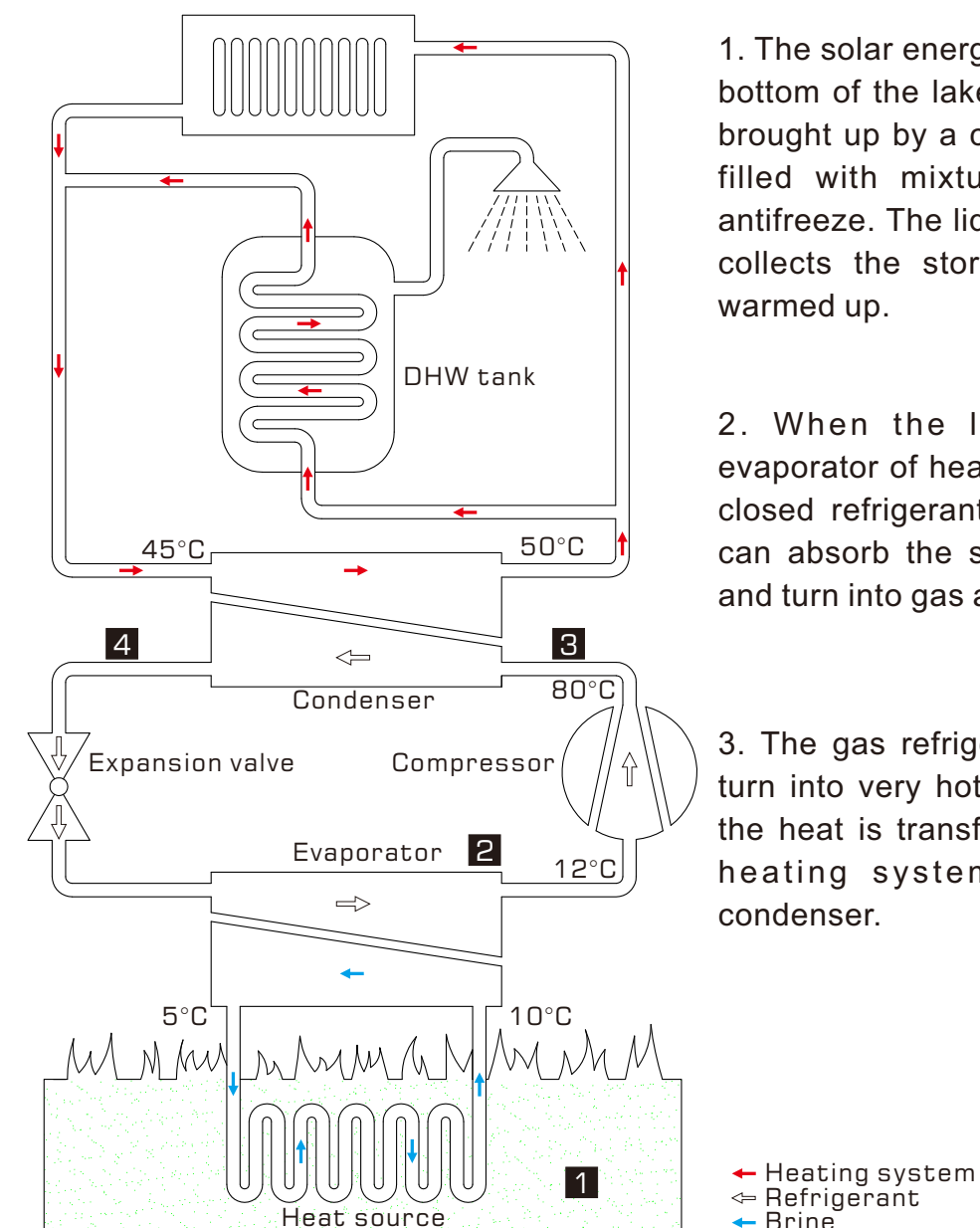
3-2 How do ground source heat pump works?

The earth absorbs and stores heat from the sun year after year so that it can provide us with a constant source of naturally renewed energy. Just a few distance under the ground, there is a constant average temperature of 4°C to 12°C. This stored energy is ideal heat source for your daily domestic heating demand.

The ground source heat pump collects heat from the solar energy stored underground, rock, ground water, lake, etc. The heat is transferred from ground to heat pump by the secondary refrigerant which consists of water and an environmentally-friendly anti-freeze solution. It circulates through the closed loop, collecting heat from the ground and transferring to the heat pump.

The refrigerant circulates in the heat pump, absorbing the heat from the ground stored in the secondary refrigerant and converts it into high grade heat to be released to your house by under-floor heater or radiator and into your domestic hot water tank.

3.Introduction



1. The solar energy stored in the rock at the bottom of the lake or ground water can be brought up by a collector which is a house filled with mixture liquid of water and antifreeze. The liquid circulates in the hose collects the stored solar energy and is warmed up.

2. When the liquid go through the evaporator of heat pump, it seems another closed refrigerant system. The refrigerant can absorb the solar energy in the liquid and turn into gas at very low temperature.

3. The gas refrigerant is compressed and turn into very hot and high pressure, then the heat is transferred to the water-based heating system in the house by a condenser.

3-3. Four kinds of ground source energy

“Ground source” covers four different heat sources such as rock, surface soil, ground water and lake.

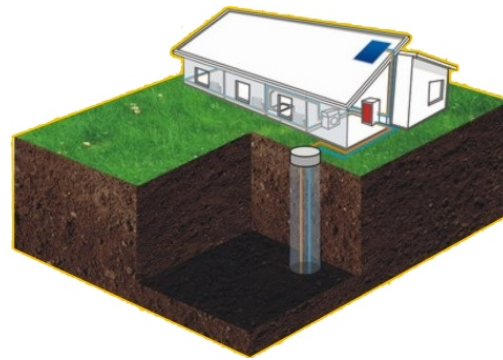
You can consult your installer before installation to choose the most suitable method for you.

3. Introduction

Rock

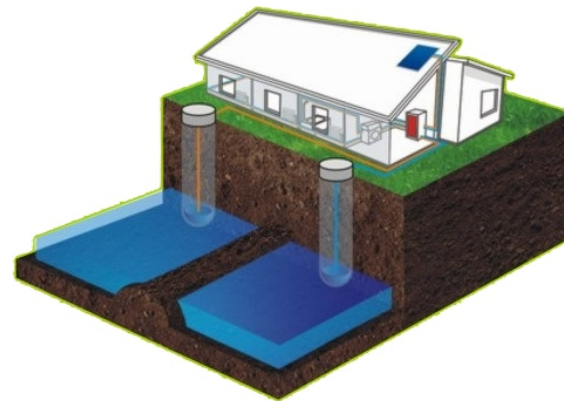
There is a heat source with almost constant temperature in the lower subsoil. It is an idea heat source that can be used for heating your house and domestic hot water all year around. The heat pump collects stored heat from a collector in a hole drilled into the rock. The hole can be from 90~200 meters depth depending on the heating capacity of heat pump selected and local regulations.

This type of system require little space since the ground probe can be even drilled in the smallest gardens. So it can be used for all kinds of buildings, large or small, public or private.



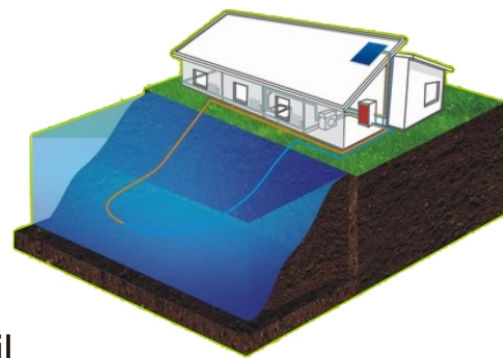
Ground water

Ground water is also an ideal heat source for heat pump since it has a constant temperature between 4°C and 12°C all year around. Normally, the heat pump collects stored energy from the ground water in one well and return the ground water in another.



Lake

Heat stored in the lake water can be also be used as heat source for heat pump if your home is built near to the lake. The heat is extracted by a collector anchored to the bottom of the lake.



Surface Soil

The solar energy is stored in the surface soil in the summer time. It is directly absorbed by soil from the sun or the heat from the rain and air. The heat pump collects this stored energy by a buried collector which is a house filled with anti-freeze. It is buried at depth of 80~100cm with length between 250 and 400 meters depending on the size of heat pump selected.



4. Installation

4-1. The unit installation instruction

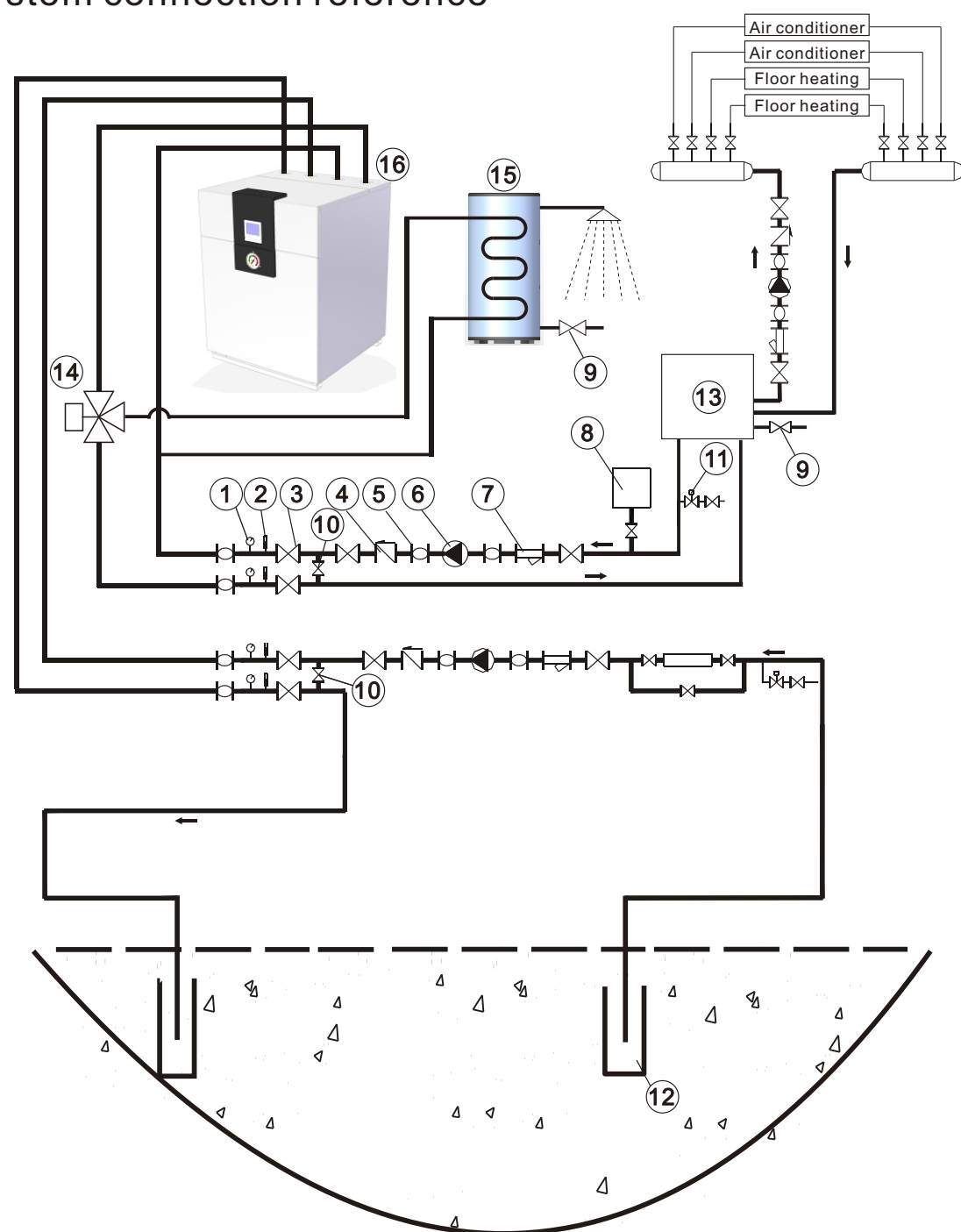
1. Please read the manual carefully before installation;
2. The installation location should be convenient for adjusting and repairing. Enough space should be left to check and repair;
3. The installation location should be far away from the place affected by artificial strong electricity, magnetic field;
4. The unit should be installed in the indoor environment, if it is installed outside environment, it is a must to build a cover for it.
5. The vibration damping device should be installed to prevent the vibration from the building;
6. Flexible connection must be used on water inlet and outlet, water system supply and returned pipe. So is the recycle water pump, which prevents vibration from spreading to the building;
7. Y-style filter should be installed on the water pump inlet of evaporator and condenser to prevent the welding slag and the impurity from destroying the unit.
8. The steel pipes in main heat pump house should be hold by spring to avoid the vibration spread into the building.
9. An air discharge valve must be connected at the top of the water system and drainage valve must be installed at the bottom of the water pipe of the unit.
10. Please install the water pressure gauge and thermometer to make car and maintenance easy.
11. The water pipe should be insulated well in order to prevent the energy from losing and forming condensed water.

4-2. The unit installation precaution

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

4.Installation

4-3. System connection reference



- | | | |
|------------------------------|---------------------------|-----------------|
| 1. Pressure gauge (0-2.5MPa) | 2. Thermometer (0-100°C) | 3. Valve |
| 4. Check valve | 5. Soft connection | 6. Water pump |
| 7. Y-style filter | 8. Expansion water tank | 9. Sewage valve |
| 10. Bypass sewage valve | 11. Automatic drain valve | 12. Well |
| 13. Water tank | 14. 3-way valve | 15. DHW tank |
| 16. Ground source heat pump | | |

4.Installation

4-4. Run the unit

1. Check it before start the unit

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

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

Check whether ground line is connected well.

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

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

Connect the pressure gauge to the freon connection in order to measure the system pressure when running the unit.

2. Try to run the unit

Turn on the unit, the compressor will start. Check whether the unit sounds unregularly by hearing, switch off and check if it has. If it doesn't have, keep it running, at the same time pay attention to whether the cooling system pressure is regular.

And then check whether the power input and current corresponds to the performance data in user manual. If not, please stop to check it.

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

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

3. Running

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

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

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

4.Installation

4-5. Anti freezing measures

- 1) When the ambient is lower than minus 5°C, please make sure the unit is energized.
- 2)The unit is set with anti-freeze protection program, in the state of power on, when the ambient temp gets to the protection value, the unit will run the water pump automatically and even start the heating to prevent the freeze of the water circuit, in order to make sure the normal operation of the system.
- 3)If the unit can't be energized for a long time, please make sure the water in the buffer tank and water circuit system is totally drained to prevent from the freezing of the water system and the damage on the unit.
- 4) If the power failure or power off happen, and the water is not timely drained from the water circuit system, then cause the damage on the unit and crack of the water system, our company will not take the responsibility of the maintenance.

Warning

In the situation of the power failure or power off, if the water circuit is not timely drained, it will cause the crack of the water pipe system, even damage the heat exchanger and compressor, and then the whole system will scrap, so please strictly obey the anti-freeze requirements.

Attentions

Choose one of the water supply valves to install.
The temp of the water supply to the buffer tank needs to be less than 50°C.
The water quality needs to meet the requirements in the following table, otherwise, the heat exchanger and the floor heating pipes will scaling after a period of using. It will affect the heat exchange efficiency and cause the unit fault.

Ph value	total hardness	conductivity	sulfide	chlorid ion	ammonia ion
6.5-8.0	200 μV/cm(25°C)	<50ppm	No	<50ppm	No
sulfate ions	silicon	iron content	sodion	calcium ion	
<50ppm	<30ppm	<0.3ppm	no requirement	<50ppm	

5.User instruction

The unit can be pre-programmed by the wire controller and will then be run automatically.

5-1 Controller description



- 1. Current date and time.
Display the current date, time and week, click this area to adjust the current time parameters.
- 2. Unit status icon.
Display the current status information of the heat pump, including defrosting, sterilization, WIFI status, energy-saving mode, fault information, etc.
- 3. Components operation status
Display the current operating status of each component. When the component is powered on and running, the corresponding icon lights up, and the icons indicate in sequence: circulation pump, compressor, elec. heater 1, elec. heater 2, elec. heater 3, remote control, fan motor and ground source pump (only when the unit is set as a ground source heat pump).
- 4. Current operation mode.
Display the current operation mode, heating, cooling and DHW.

5.User instruction

5. Current temperature.

Display the corresponding water temperature in the current operating mode.

6. Setting temperature.

The set water temperature under the current operation mode. Click this area to adjust the set water temperature.

7. ON/OFF key

Press this key to switch the heat pump on and off.

8. MODE key

Press this key to switch between the operating mode.

9. PARAMETER key

Press this key can check and adjust various operating parameters of the heat pump.

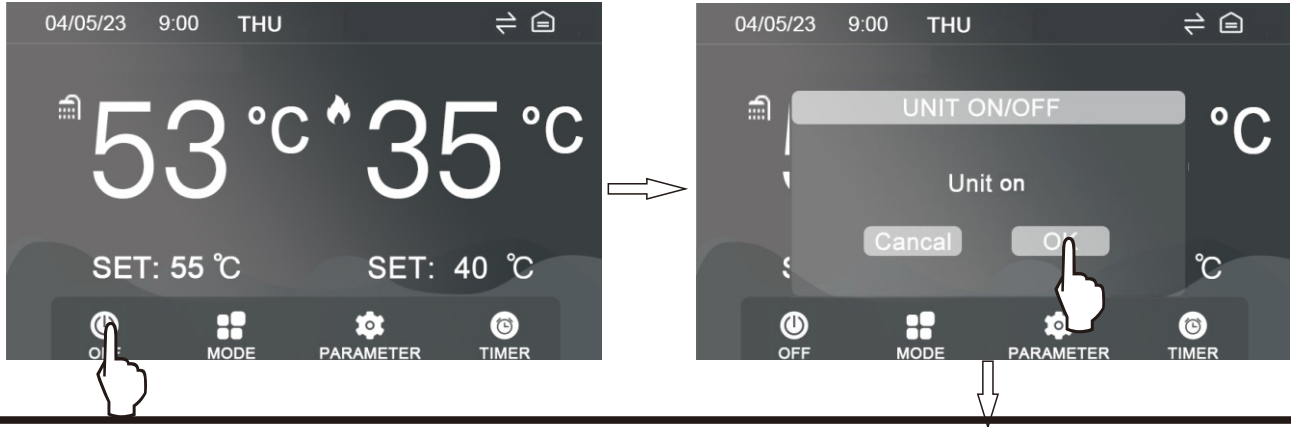
TIMER key

10. Press this key to set the timed on/off time.

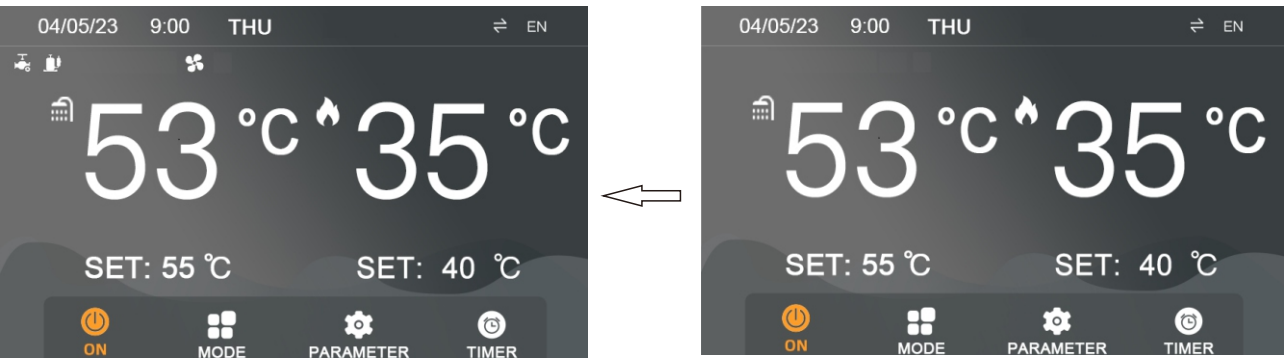
5-2 Controller operation

5-2-1 Turn on/off

- Press “ON/OFF” key to switch the heat pump on and off.
- In standby mode, press “ON/OFF” key to pop up the menu “Unit on”, click “OK”, the key color changes to orange and displays “ON”, the heat pump turn on.
- After the unit is turned on, the circulation pump, fan motor and compressor start in sequence, and the icon of the starting accessories will be displayed in the corresponding area of the controller.

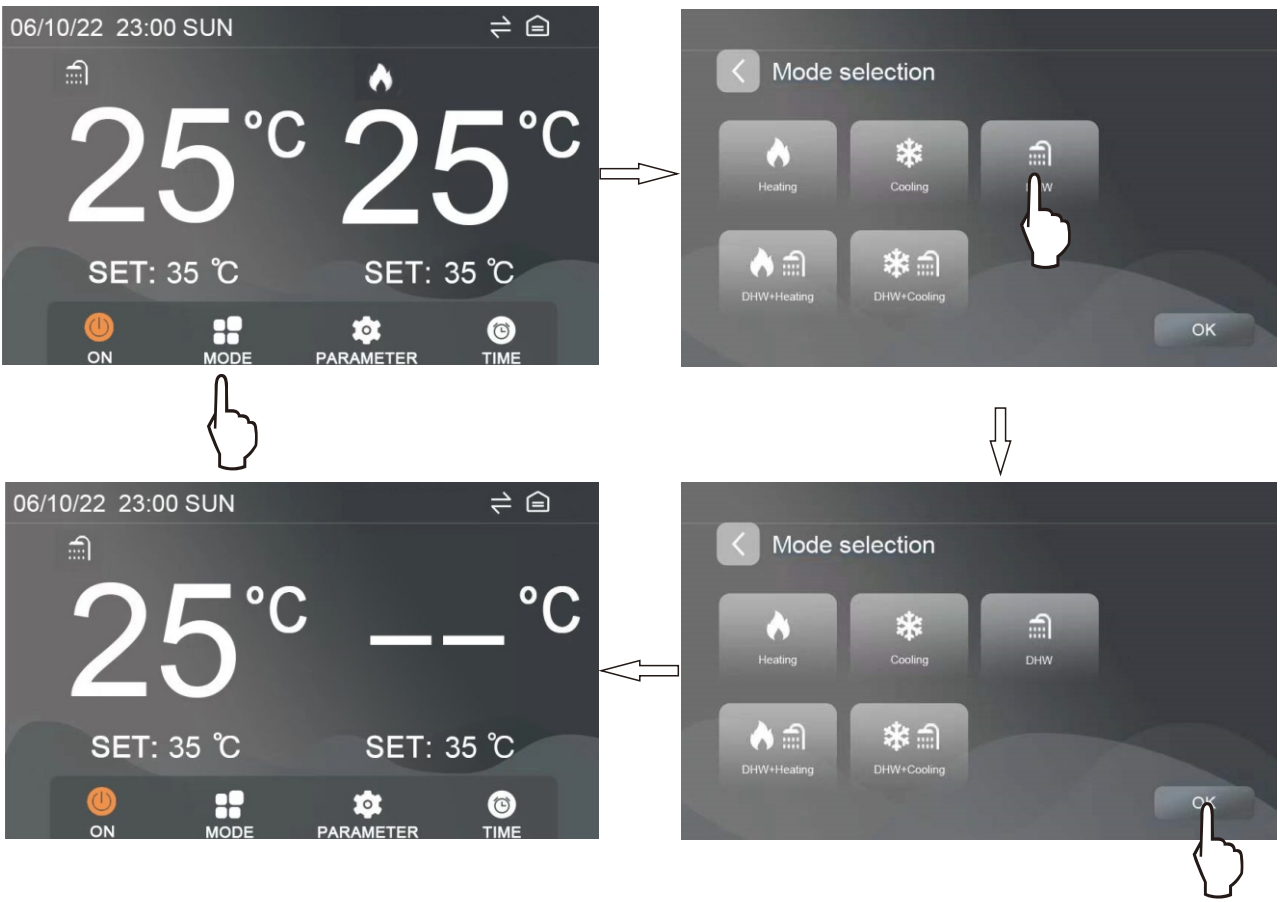


5.User instruction



5-2-2 Mode setting

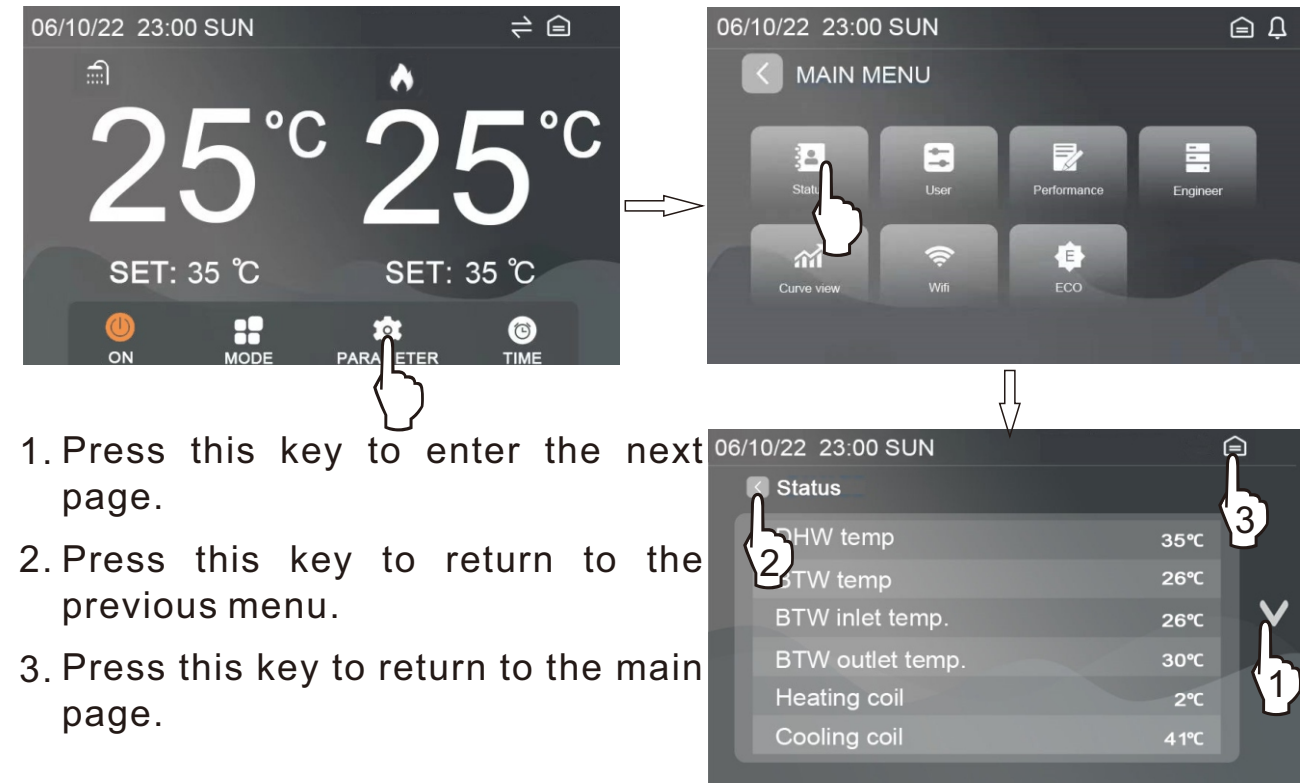
- Press “MODE” key.
- Wire controller display “Mode selection” interface, there are five operating modes to choose from, namely, heating, cooling, DHW, DHW+heating, DHW+cooling. Select the mode you want and click.
- Press “OK” button, the heat pump will switch to the mode you selected.



5.User instruction

5-2-3 Operating parameters query

- Press “PARAMETER” key.
- The controller enter “MAIN MENU” page, press the first icon “Status”.
- The controller enter “Status” page, you can check all the operating parameters here.
- The operating parameters are the operating status of each temperature point, compressor, expansion valve, etc. during the operation of the heat pump. We can determine whether the unit is operating normally based on these parameters.
- Please refer to table 4.1 for the meanings of each parameter.

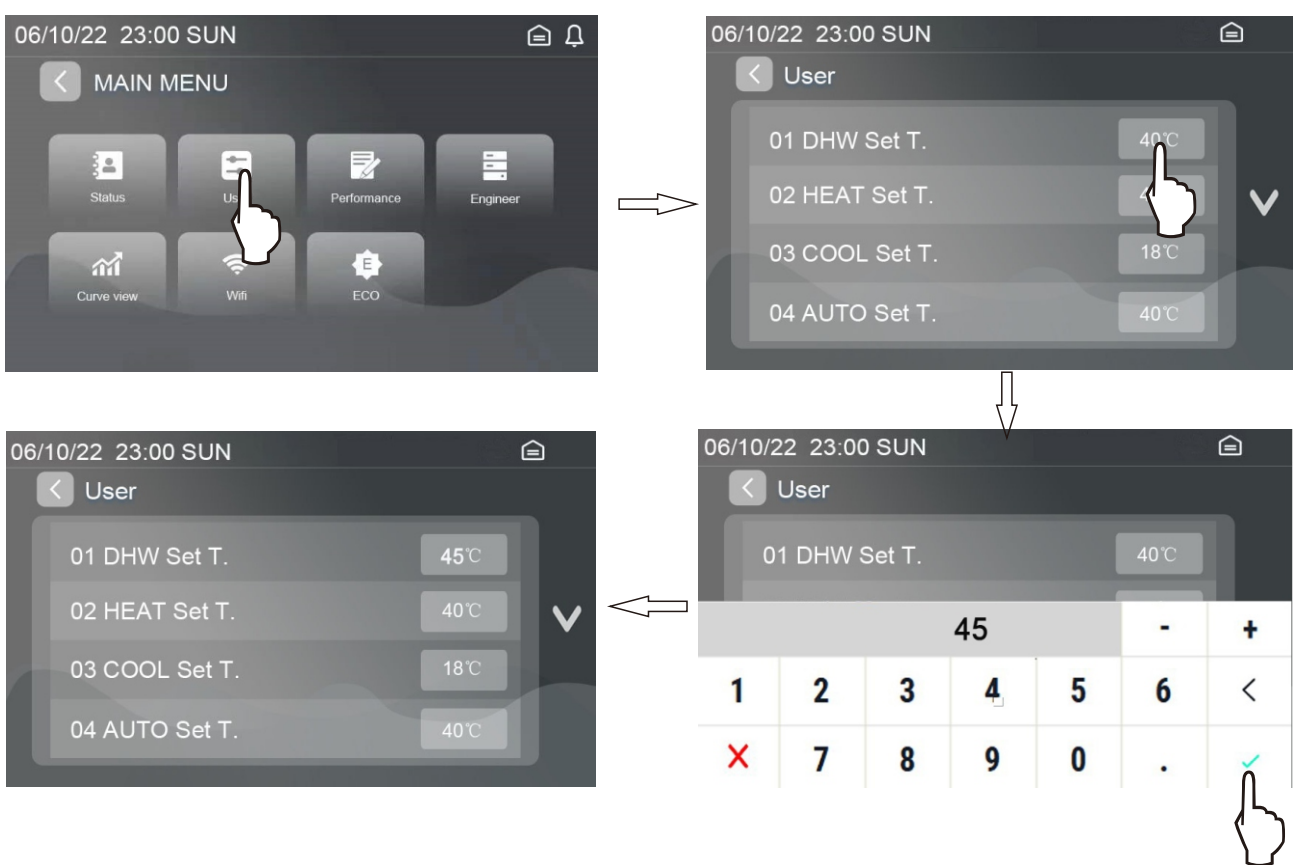


1. Press this key to enter the next page.
2. Press this key to return to the previous menu.
3. Press this key to return to the main page.

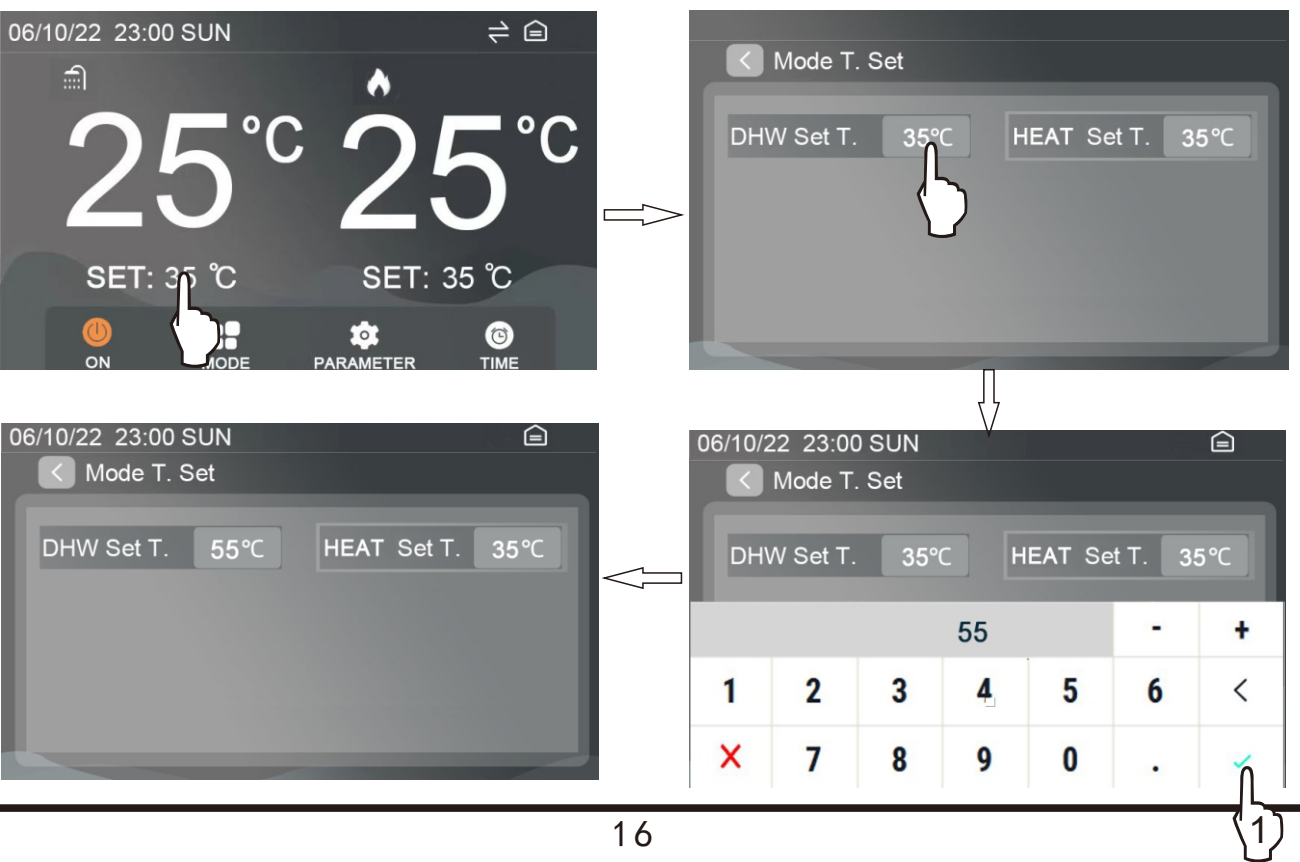
5-2-4 User parameters adjustment

- Press “User” key in the “MAIN MENU” page.
- Click on the parameter box on the right, an input menu will pop up.
- Enter the value you need, click the checkmark in the bottom right corner to confirm, then complete the user parameter setting.
- Alternatively, click on the cross in the bottom left corner to cancel the input.
- Please refer to table 1 for the meanings of each parameter.

5.User instruction



You can also change the set temperature by directly clicking on the set temperature icon on the main interface.



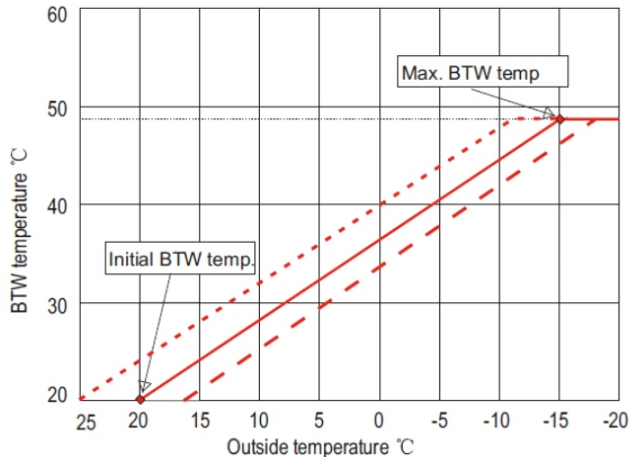
5.User instruction

5-2-5 ECO mode (Energy-saving mode)

- When you choose the “ECO mode”, the unit can adjust the water inlet temperature intelligently according to the ambient temperature, and make the unit work in the most energy saving way.
- There are two energy saving options for the ECO mode:

1. Curve heating (ECO1):

Dynamically controlling water temperature according to heating curve:



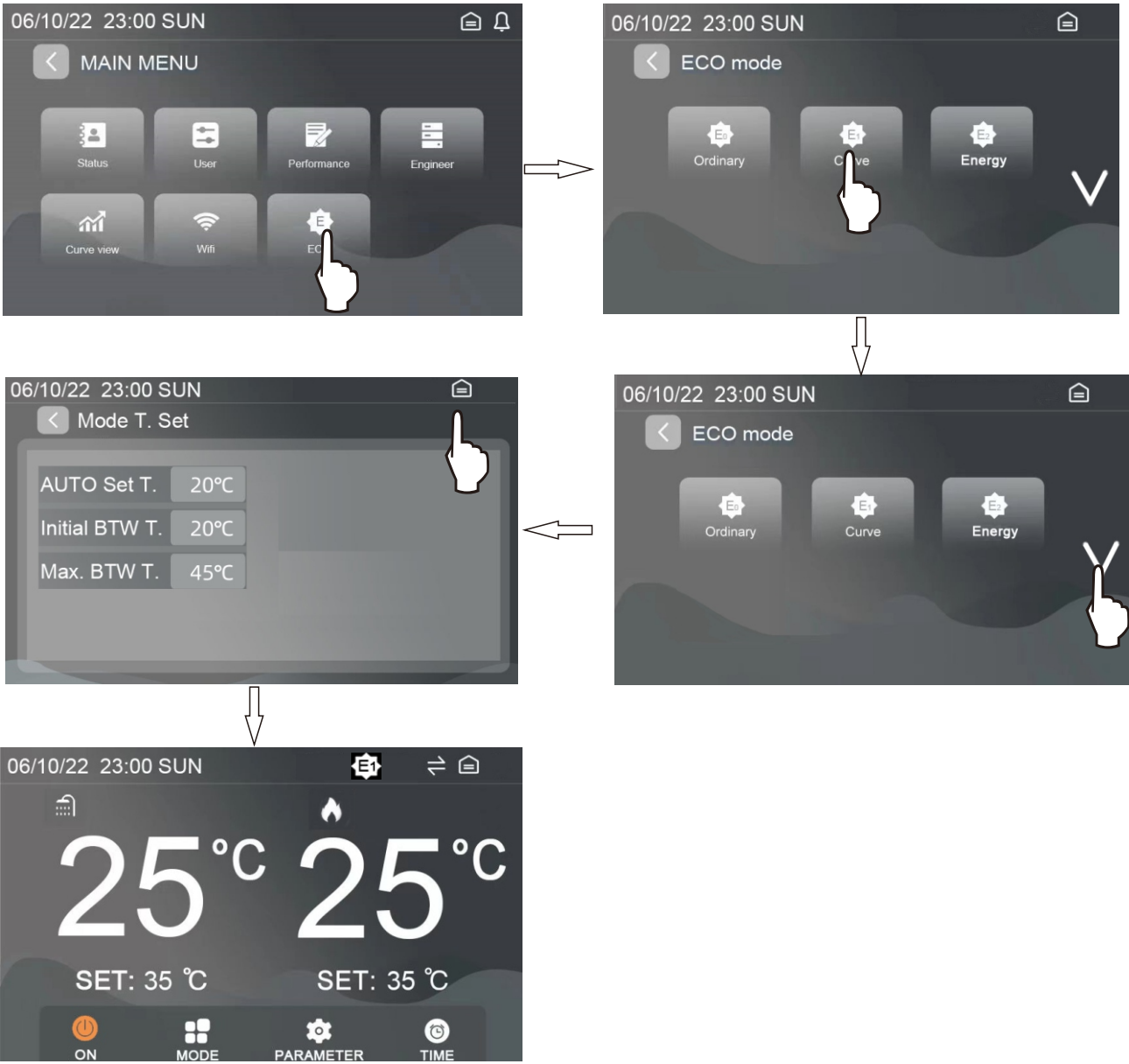
Max. BTW T. and Initial BTW T. are used to control the slope of the curve, while AUTO set T. is used to control the translation of the curve.

- The target water temperature is controlled according to the heating curve, which is jointly determined by “Auto set T.”, “Initial BTW T.”, “Max. BTW T.” and ambient temperature.
- The calculation formula is as follows:
$$\text{Target BTW T.} = \text{Initial BTW T.} + (\text{Max. BTW T.} - \text{Initial BTW T.}) / 35 * (\text{AUTO set T.} - \text{ambient T.})$$

Target BTW T range: 15~60°C
AUTO set T. setting range: 15~25°C
Initial BTW T. setting range: 15~25°C
Max. BTW T. setting range: 24~50°C
- For example:
AUTO set T. = 20°C
Initial BTW T. = 20°C
Max. BTW T. = 48°C
At the following ambient temperature, the target BTW temperature are:
Ambient T.= 20°C, Target BTW T. = 20+(48-20)/35*(20-20)=20°C
Ambient T.=0°C, Target BTW T. =20+(48-20)/35*(20-0)=36°C
Ambient T.=-15°C, Target BTW T.=20+(48-20)/35*(20+15)=48°C

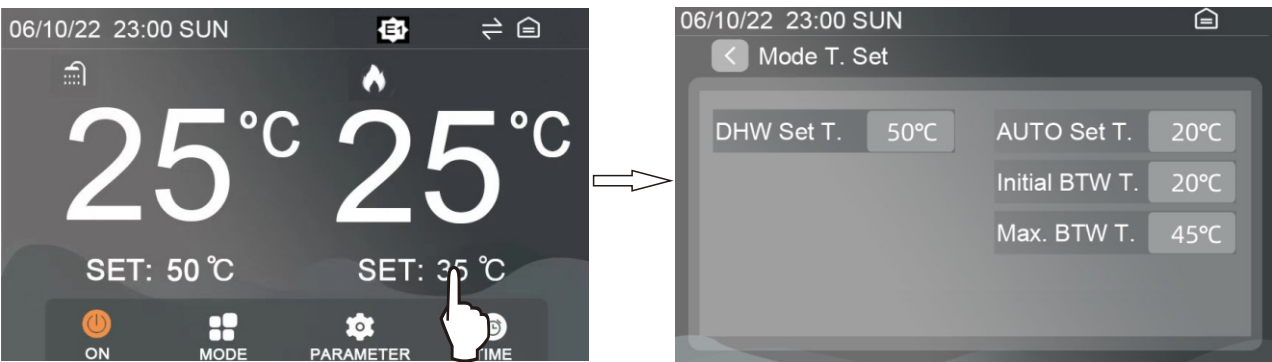
5.User instruction

- Press “ECO” icon on the “MAIN MENU”.
- Choose the ECO mode you need, you can select “Curve” or “Energy” mode, click on the corresponding icon.
- Click on the arrow icon on the right of the screen to enter the parameter setting page.
- Click the return icon on the top right of the screen.
- At the top of the main interface, the corresponding ECO mode icon will be displayed, E1 for Curve mode and E2 for Energy mode.
- If you want to turn off ECO mode, please select “Ordinary”.



5.User instruction

- You can also set the parameters through the following method.
- After setting the ECO mode, click on the settings bar on the main page and the corresponding parameter menu will pop up.



2. Energy (Timer heating)/ (ECO2):

- According to the user's daily habits, the water temperature can be adjusted flexibly according to four timing periods, so as to achieve the most comprehensive use of energy saving:
- You can set 8 parameters in the menu, including Energy time 1 to 4 and Energy set 1 to 4.
- As long as the clock runs between Energy time 1 and time 2, the set inlet water temperature will automatically change to Energy set 1.
- As long as the clock runs between Energy time 2 and time 3, the set inlet water temperature will automatically change to Energy set 2.
- As long as the clock runs between Energy time 3 and time 4, the set inlet water temperature will automatically change to Energy set 3.
- As long as the clock runs between Energy time 4 and time 1, the set inlet water temperature will automatically change to Energy set 4.

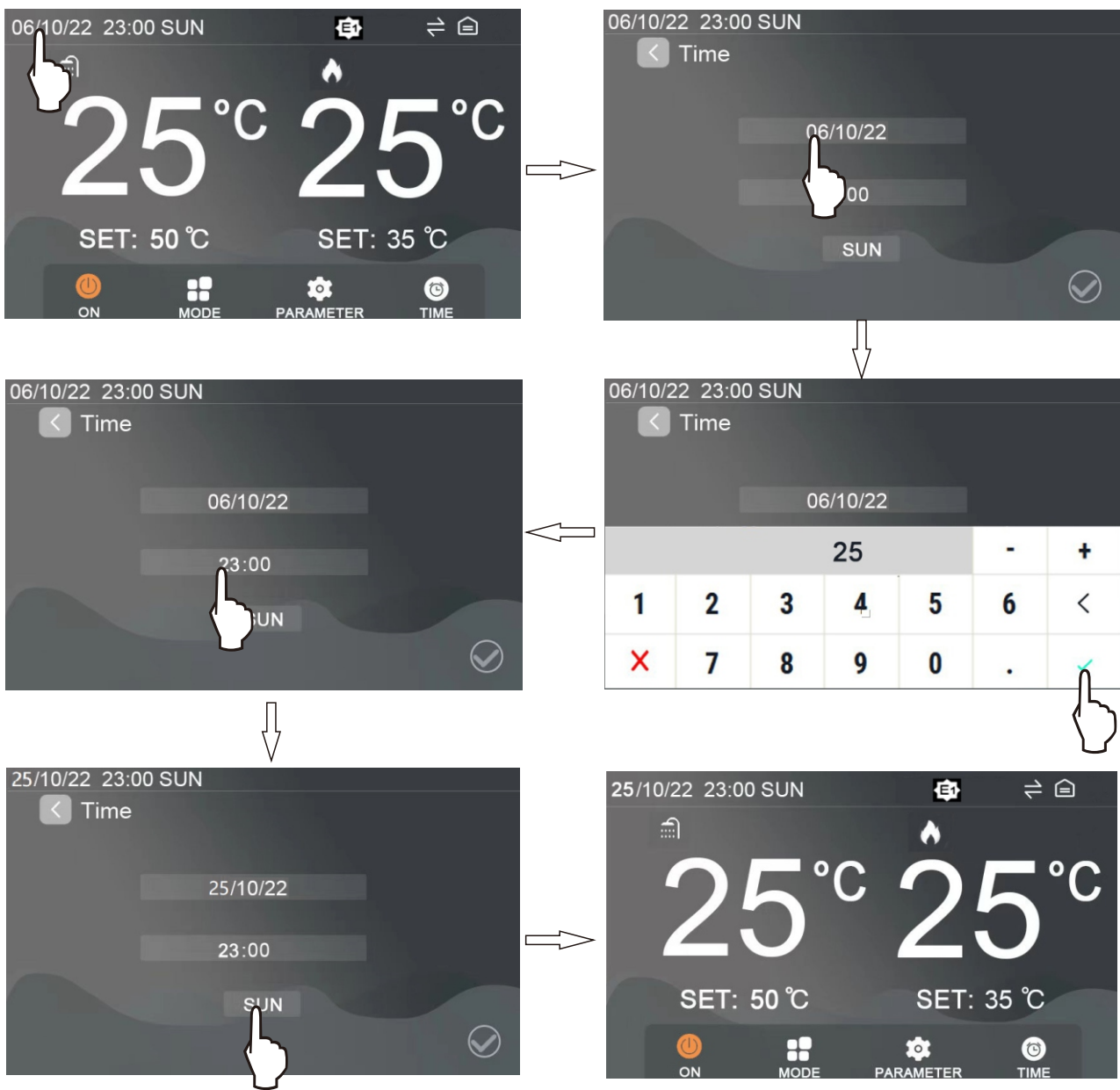
5-2-6 Performance menu and Engineer menu

- The “Performance” menu and “Engineer” menu are only for professional use and require password access.
- If you need to adjust them, please contact your dealer or after-sales service personnel.

5.User instruction

5-2-7 Current date and time settings

- Click on the date box in the upper left corner of the main page.
- Enter the time setting page, there are three lines for setting parameters.
- The first line is set for date/ month/ year.
- The second line is set for hour/ minute.
- The third line is set for the week.
- Click on the area that needs to be changed, and an input box will pop up, enter the time you need, and click the checkmark to confirm the change.

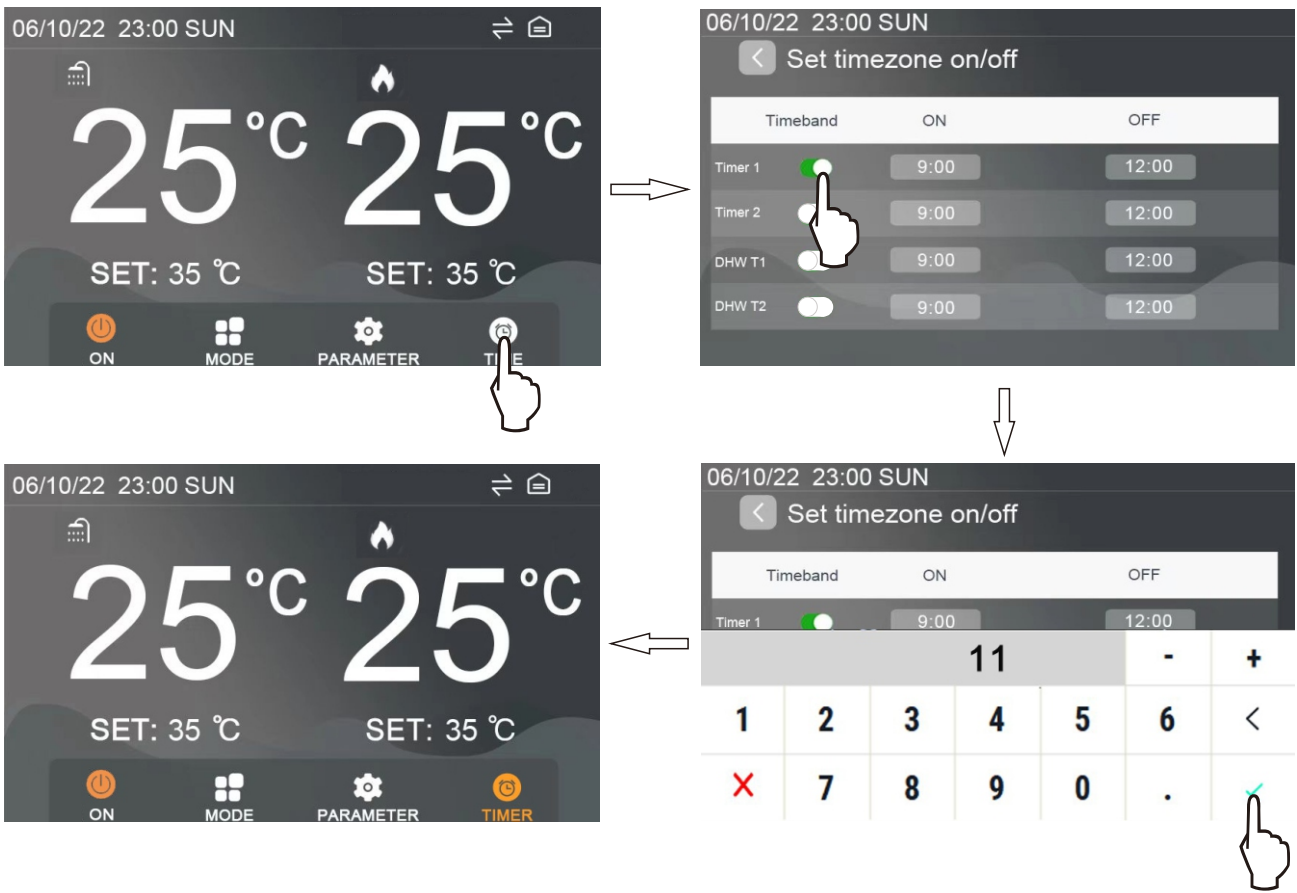


5.User instruction

5-2-8 Timer settings

- Press “Timer” key to enter timer menu.
- There are four options in the menu, the top two are unit timing, and the bottom two are DHW timing (only valid for DHW mode).
- Click the button after “Timer 1”, and the switch will move to the right and turn green, at this time, the timer 1 time can be set.
- Click on the hour position in the timed start time box, and an input menu will pop up, enter the hour time you want to start the heat pump, click on the checkmark to confirm the input, and enter the minute time in the same way.
- In the same way, the timer off time can be set.

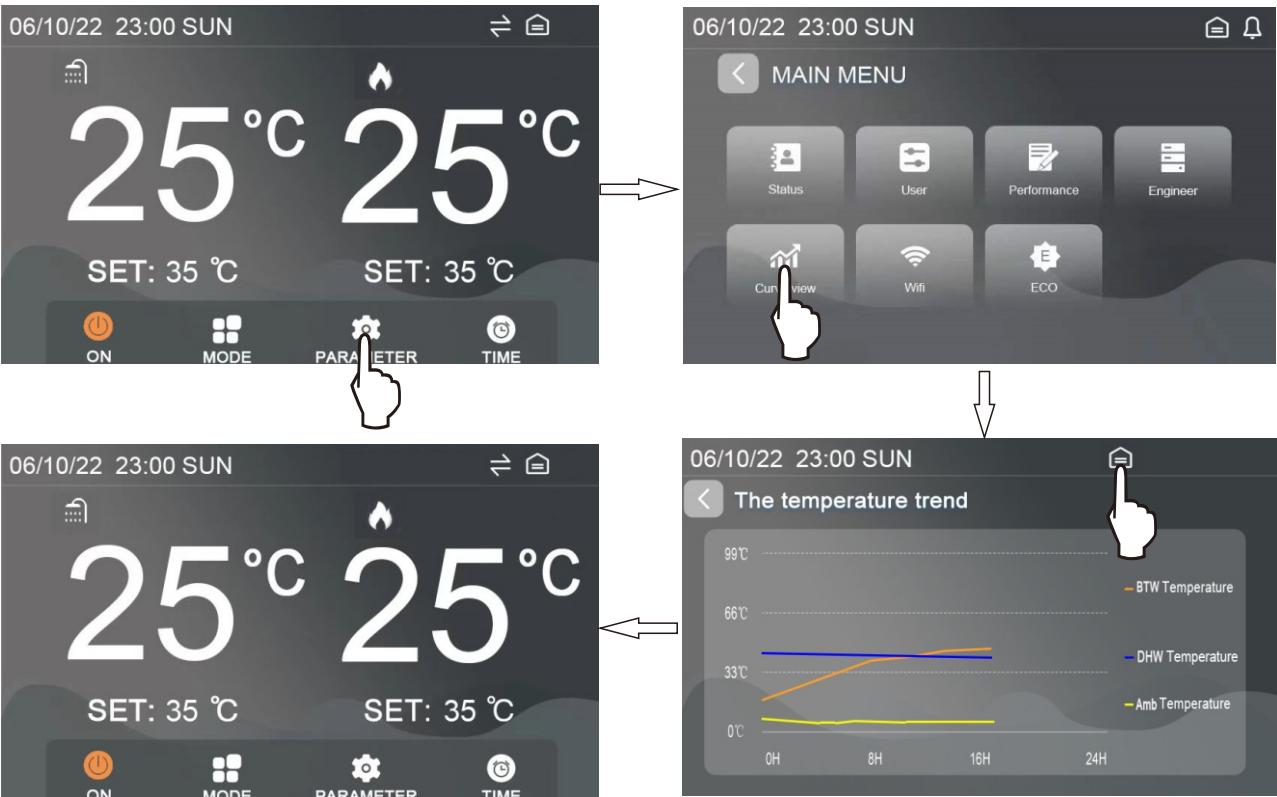
After activating the timer function, the timer icon on the main page changes to orange.



5.User instruction

5-2-9 Temperature curve

- During the operation of the heat pump, the change curve of the DHW temperature (domestic hot water temperature), BTW temperature (buffer tank water temperature) and ambient temperature within 24 hours can be record and queried.
- Click on the “Curve view” icon on the “MAIN MENU”.
- The wire controller will display three temperature curves, which can check the trend of changes in these three temperatures within 24 hours and real-time temperature values.

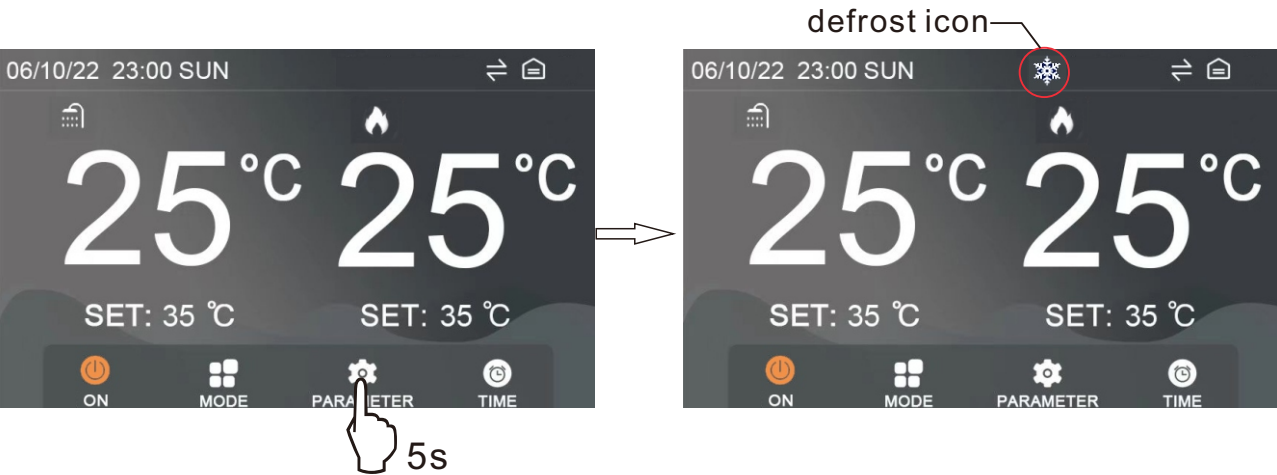


5-2-10 Defrost and forced defrost

- When the unit operates at low ambient temperature, a white frost layer will appear on the evaporator fins, which is caused by the heat exchange between the refrigerant and the air.
- When the frost layer gradually thickens, the capacity and COP of the unit will decrease, affecting the operating performance of the unit, so after frost occurs, the system will automatically run the defrosting program.

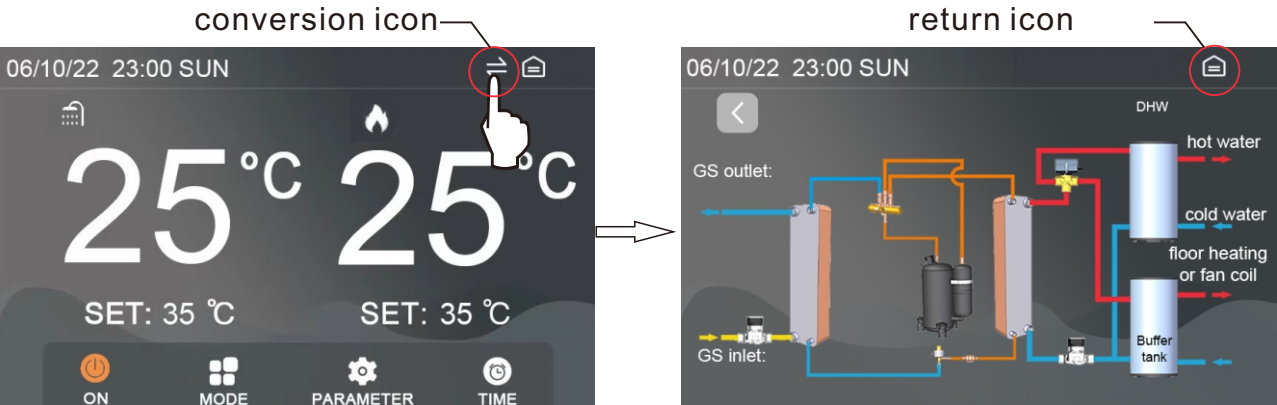
5.User instruction

- After the defrost starts, you may hear a loud air flow sound from the unit, and there may be white mist rising from the evaporator fins, which is a normal phenomenon of defrosting, and will disappear after the defrosting is completed.
- Sometimes, defrosting may be delayed or even not defrosted due to temperature sensor deviation or parameter setting. At this time, forced defrosting can be used.
- In the main interface, press and hold “PARAMETER” icon for 5S to start the forced defrost. The defrost icon will display.



5-2-11 View system operation diagram

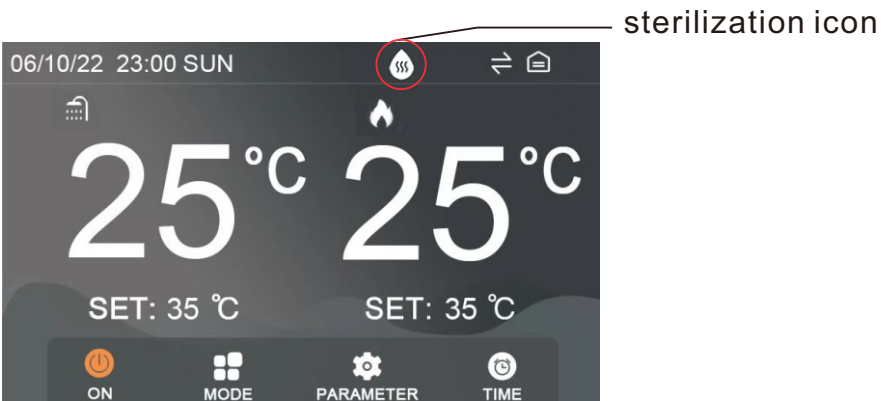
- Click on the conversion icon above the wire controller to bring up the system operation diagram, where the temperature and pressure values of each operation point can be visually checked to determine whether the heat pump is operating normally.



5.User instruction

5-2-12 Forced sterilization

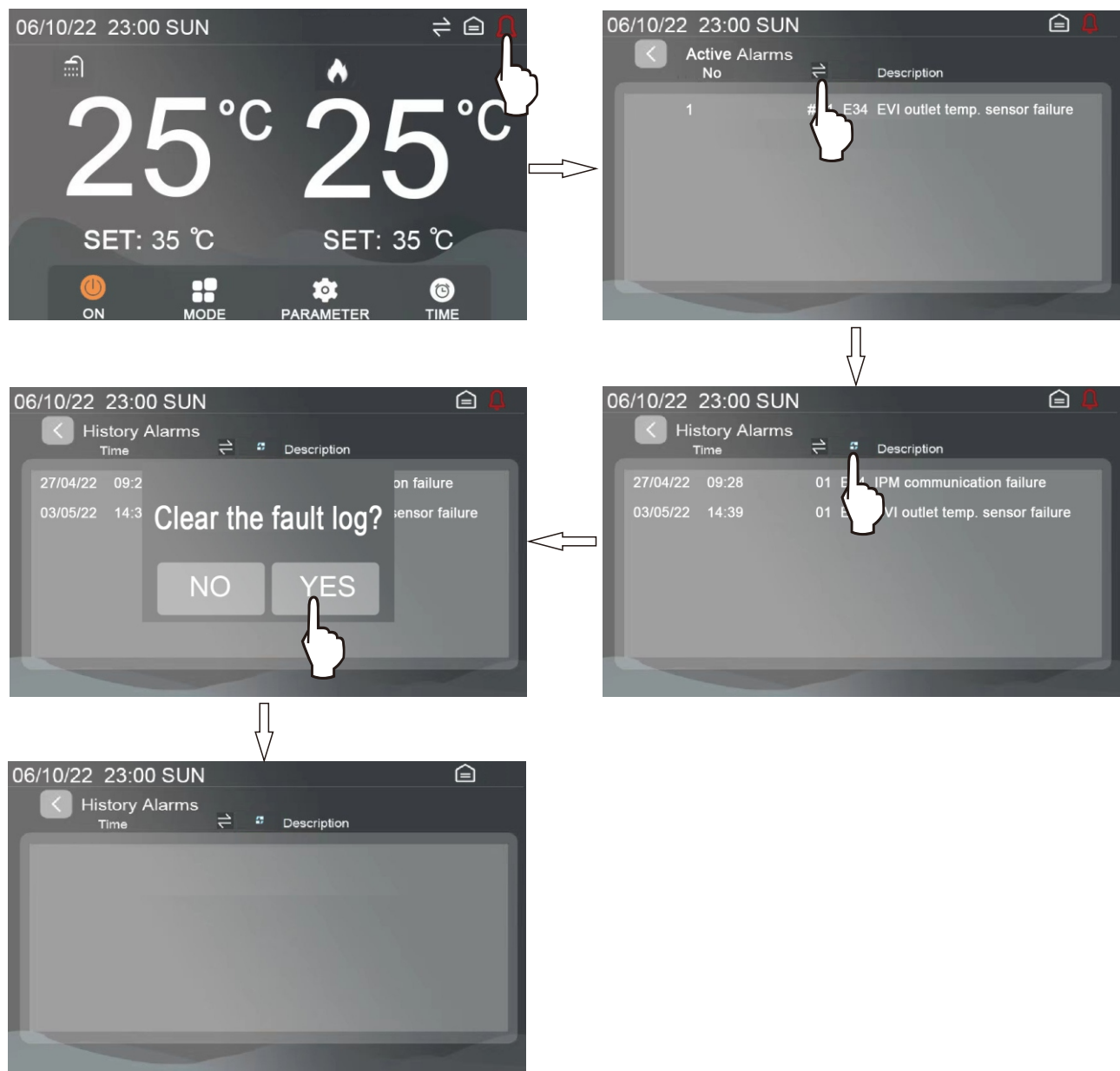
- The high temperature disinfection cycle is once every 7 days.
- When entering high temperature sterilization, the unit is forced to open the hot water tank for electric heating.
- When the temperature of the hot water tank is greater than or equal to 65°C and the protection temperature lasts for 15 minutes or greater than 65°C, exit the high temperature disinfection.
- If the temperature of the hot water tank does not reach 65°C for 3 consecutive hours after entering high temperature disinfection, it will be forced to exit high temperature disinfection.
- The forced sterilization icon will display on the top of the screen when the heat pump enter the sterilization mode.



5-2-13 History failure records

- When the heat pump malfunctions or is protected, the alarm icon on the upper display screen will display in red.
- Click on the alarm icon, the screen will display current fault alarm information.
- Click on the exchange icon in the middle of the screen, the history alarm information will display.
- A total of six historical fault messages can be recorded in this menu.
- Click on the clear icon in the middle of the screen, a dialog box will pop up titled “Clear the fault log?”, select “No” to exit the dialog box, and select “Yes” to clear all fault information records.

5.User instruction



6.Maintenance and trouble shooting

6-1 Fault code table

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

Error code	Error description	Error code	Error description
E00	communication fail	E21	coil sensor failure
E01	water inlet temperature sensor failure	E22	cooling coil sensor failure
E02	water outlet temperature sensor failure	E23	ambient temperature too high
E03	water flow switch protection	E24	Module communication failure
E04	Power phase sequence failure	E25	Module abnormal protection
E05	The temperature difference between the inlet and outlet water is too large	E26	Module heat sink high temperature protection
E07	Tube overtemperature protection	E27	Compressor overcurrent protection
E08	hot water tank temperature sensor failure	E28	module temperature sensor failure
E09	heating buffer tank temperature sensor failure	E29	Compressor overload protection
E10	high pressure protection	E30	Defrosting water temperature is too low
E11	low pressure protection	E31	ambient temperature too low
E12	Outlet water temperature is too high	E32	PCB board communication failure
E13	Outlet water temperature is too low	E33	EVI inlet temperature sensor failure
E14	suction sensor failure	E34	EVI outlet temperature sensor failure
E15	discharge sensor failure	E35	solar temperature sensor failure
E16	discharge temperature too high	E37	DC fan 1 failure
E18	hot water mode secondary antifreeze	E38	DC fan 2 failure
E19	heating mode secondary antifreeze	E39	high pressure sensor failure
E20	ambient sensor failure	E40	low pressure sensor failure

6.Maintenance and trouble shooting

6-2 Malfunctions and treatment

Warning

If any fault occurs and the unit stops running, please contact your dealer or after-sales technician to solve the problem. Please do not dismantle the unit and do repair by your own in order to avoid any unnecessary injury.

When the unit has abnormal fault, please immediately cut off the power supply, do not force it to run, otherwise there will be more damage.

6-3 Cleaning

Warning

For the sake of safety, the unit much be turned off and the power supply is cut off before the cleaning.

Please take care to not damage the temp sensors during the cleaning.

- 1) Please be careful of those sharp metal edges and evaporator fins during the clearing to avoid the injury caused by improper operation.
- 2) Regularly check the air inlet and air out and see if there is any blockage.

6-4 Maintenance

Attention

When the unit is prepared to be put in use again after a period of leaving unused, please check the air nlet and air outlet to see if there is any blockage. If there is blockage, please clean up immediately.

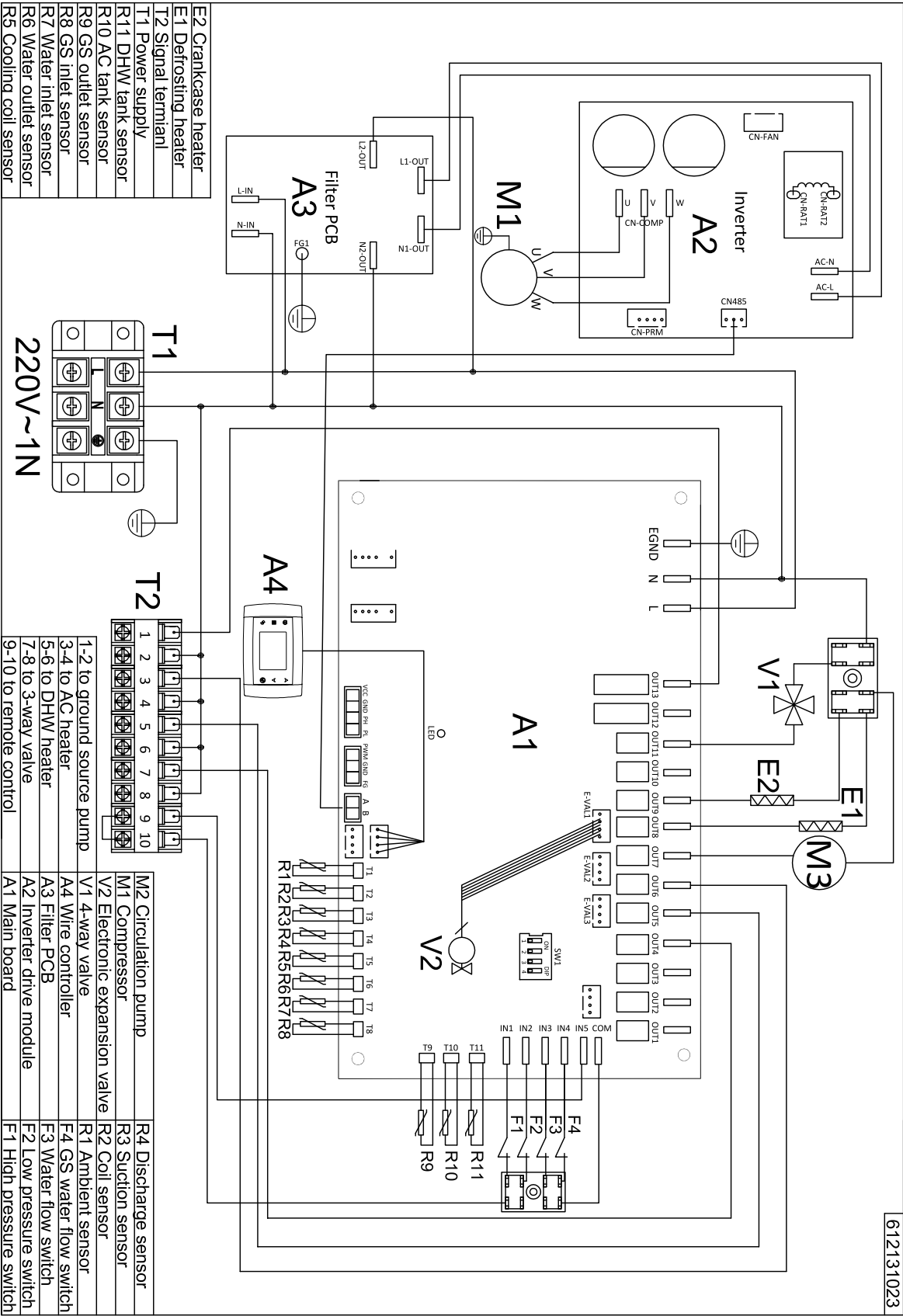
- 1)Before the use of the unit in each season, Please clean the filter on the water circuit system to make sure the smooth water flow
- 2)During the unit operation, when the water flow is mall and the water temp difference is too big, please check if the filter of the water circuit is clear.
- 3)Before the use of the unit in each season, please check if the heat exchanger surface is clean. If there is too much dirt or impurities, please contact your dealer or the after-sales serviceman to do the cleaning in order to make sure the good heat exchanging efficiency and using effect.
- 4)If there is plenty of snow in winter, please block up the unit before install it to avoid the blockage of the air outlet because of the deep snow.

6-5 After-sales service

When the unit can't work normally, please immediately turn off the unit and cut off the power supply, then contact the local dealer or professional technician to solve the problem.

7.Wiring diagram

Model: FWD-03 FWD-04



8.WIFI function

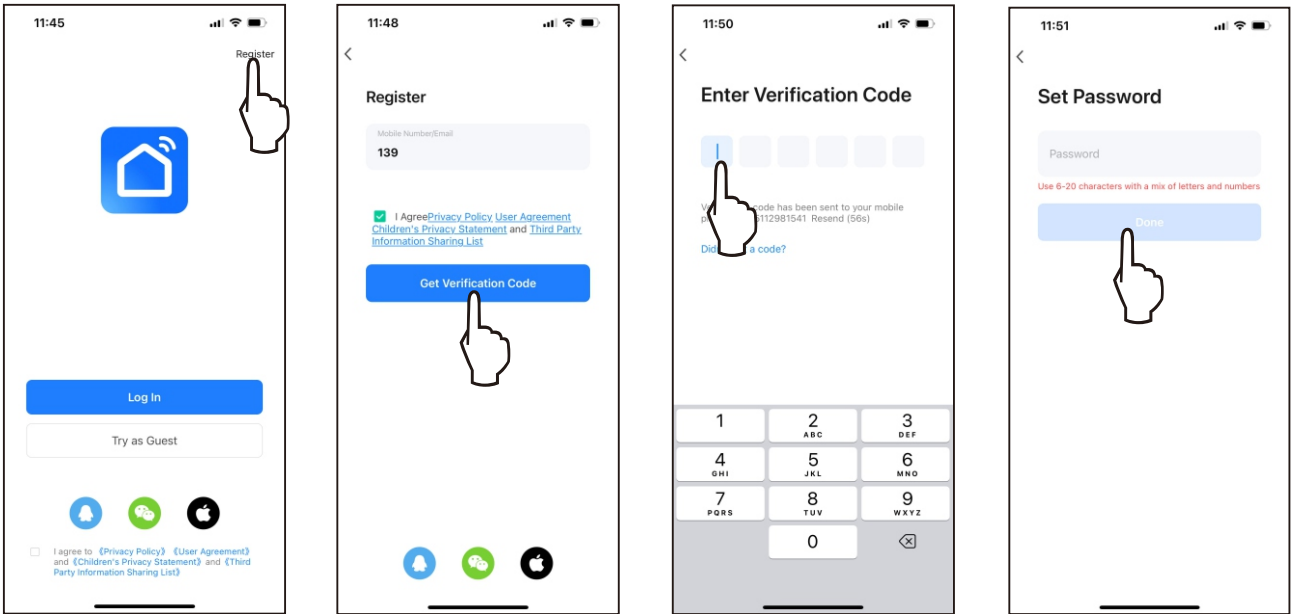
8-1 Software download and installation:

- Enter "Smart life" in Google Play or App Store, search for smart life APP, download and install.



8-2 User registration

- Click the icon“Smart life” to open the app.
- Click on the “Register” button on the upper right corner of the screen if it is your first login.
- Enter your mobile phone number and click “Get Verification Code”.
- Enter the verification code received on your phone.
- Follow the prompts to set your password and click “Done” button.



8.WIFI function

8-3 WIFI Connection

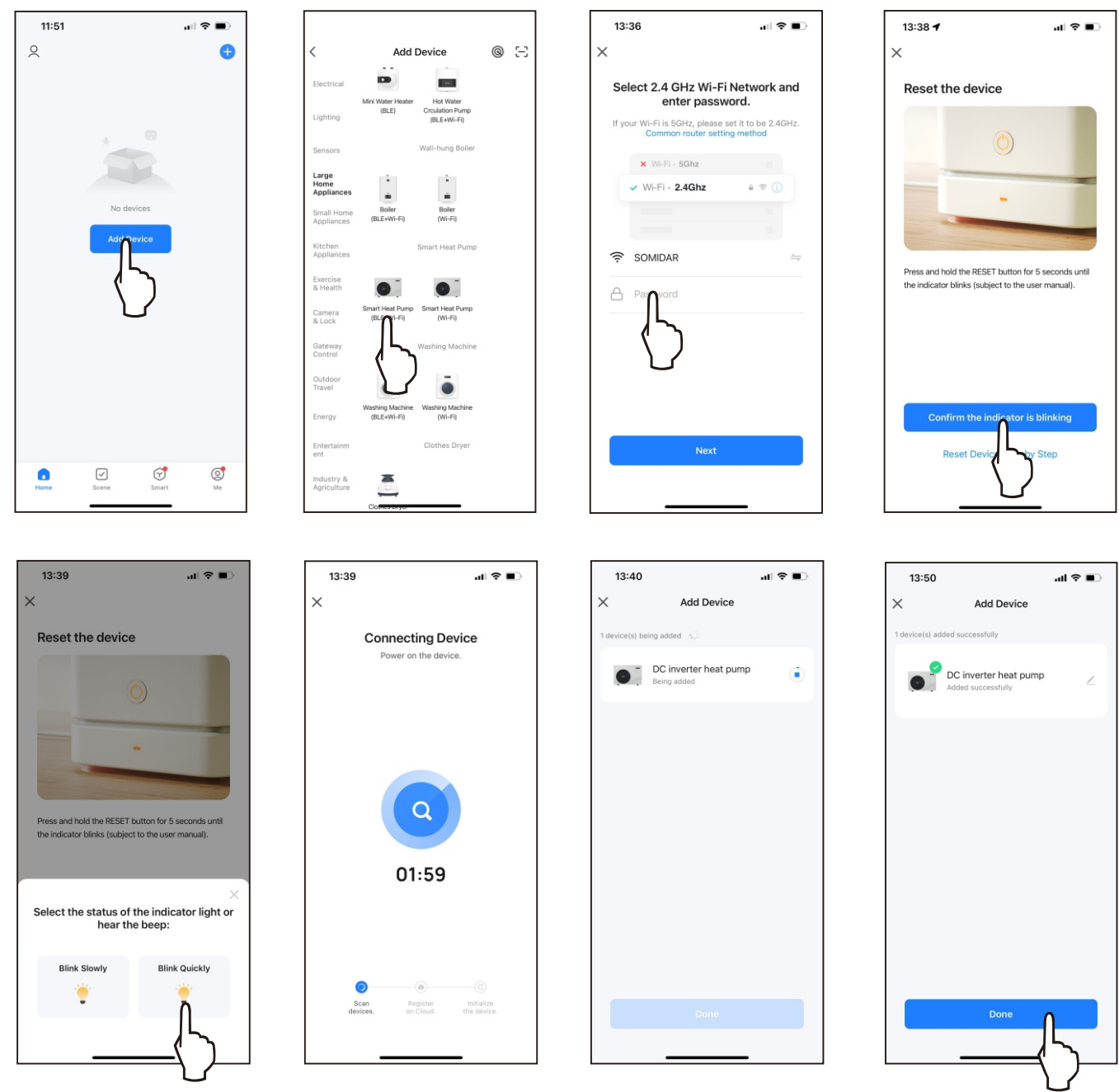
- Press “PARAMETER” button on the wire controller.
- Click on the “WIFI” icon on the “MAIN MENU” to enter the WIFI page.
- Click on the “WIFI Reset” button, the WIFI icon on the upper of the screen will quickly flash and the “State” line display “ In the distribution network (Smart)”.



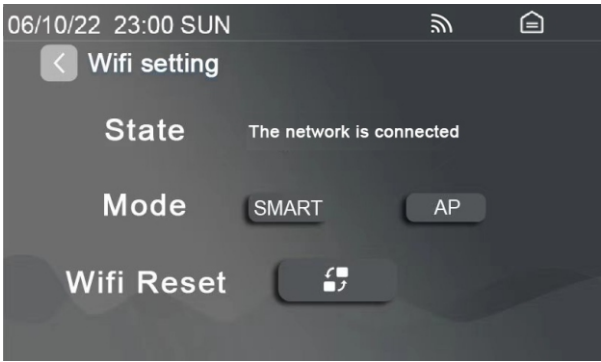
- Login your “Smart life” APP.
- Press the “Add Device” button.
- Select the “Large Home Appliances” – “Smart heat pump (BLE+Wi-Fi)” in the menu.
- Enter the password of WIFI and click “Next”.
Confirm that the WIFI icon on the screen of the heat pump wire controller is flashing quickly, click the “Confirm the indicator is blinking”.
Click on the “Blink Quickly”.

8.WIFI function

- The program starts searching for the WIFI device that needs to be connected.
- After the device is found, the device name and connection progress will be displayed on the phone screen.
- After successful connection, a green checkmark icon will appear on the device name and “Added successfully” will be displayed. Click the “Done”, the screen display the WIFI control interface.



8.WIFI function

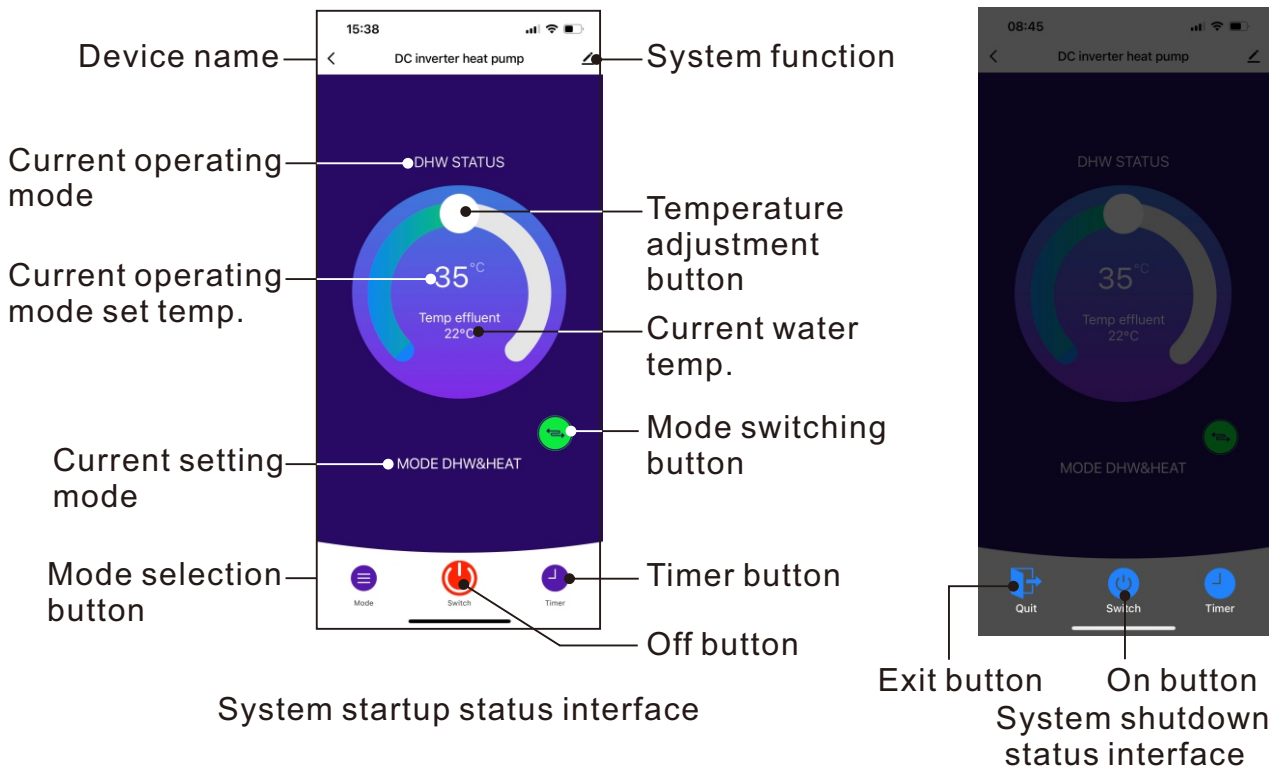


After successful connection, the WIFI page of the wire controller displays “The network is connected” and WIFI icon remains illuminated. Please refer to the left picture.

8-4 App user guide

8-4-1 Interface description

- Open the app, the functions of each part of the interface are shown in the following figure.



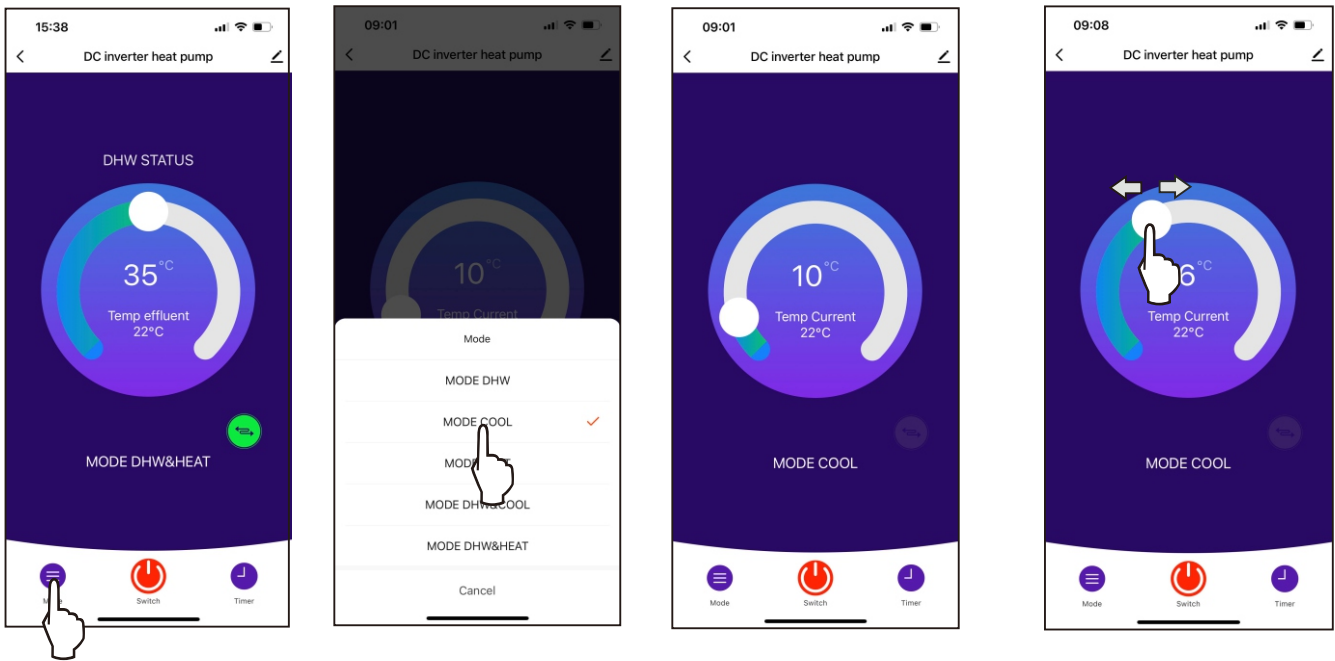
8-4-2 Turn on the heat pump

- In the shutdown state, press “Switch” button, the interface will light up, and the heat pump will start up.
- In the startup state, press the “Switch” button, the interface will darken and the heat pump will shut down.

8.WIFI function

8-4-3 Select run mode

- Press “Mode” button.
- Select the operation mode you need.



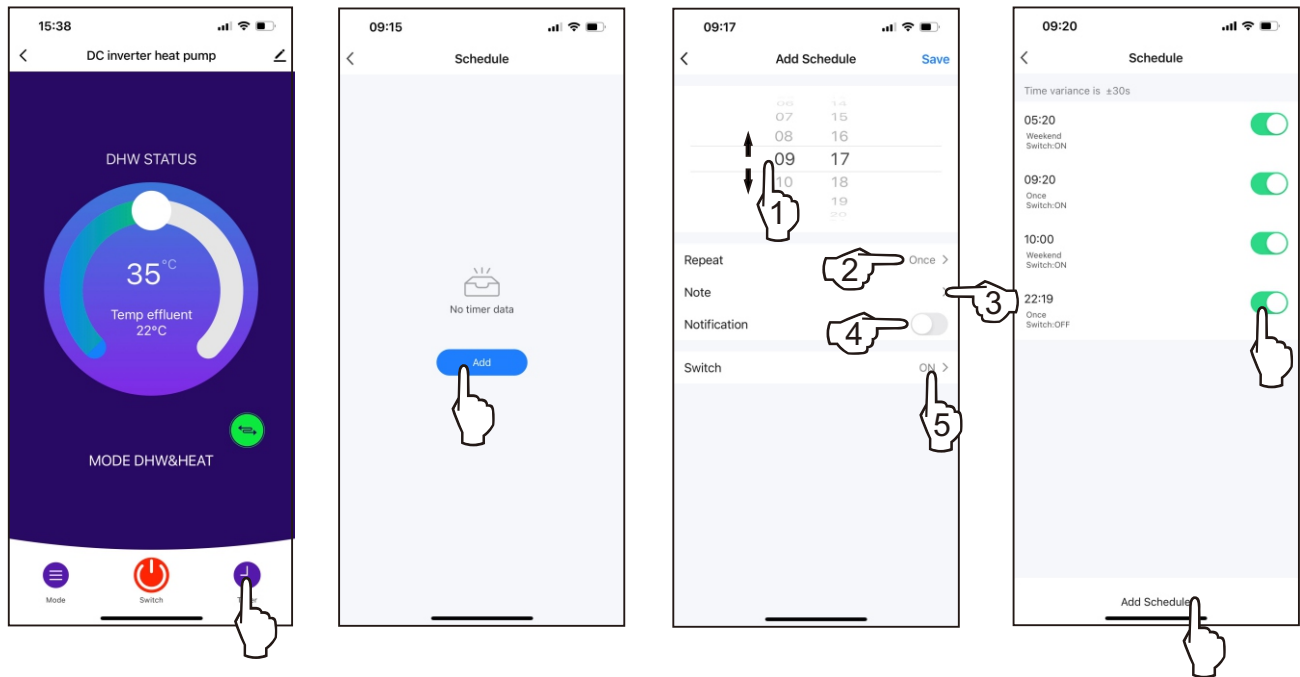
8-4-4 Adjusting the set temperature

- Pull the button on the temperature ring with your finger to adjust the set temperature.

8-4-5 Timer function

- Press the “Timer” button, enter the timer setting page.
- Press “Add” button to add the schedule time.
- Set the timing time on this page:
 1. Pull the hour and minute bars up or down to set the required on/off time.
 2. Click on this menu to set whether the timing needs to be repeated and when it needs to be run.
 3. Here, you can make notes on the scheduled time.
 4. Turning on this switch indicates that the timing is in effect.
 5. This menu is used to determine whether the timed time period is used for turning on or off.

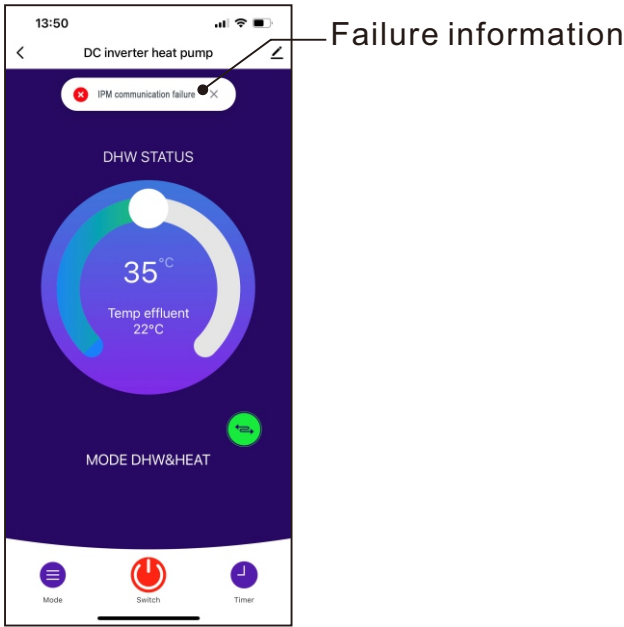
8.WIFI function



- On the timing menu page, click the button on the right side of the timing time to choose whether to enable this timing period.
Click the “Add Schedule” button at the bottom of the page to continue adding new timing plans.

8-4-6 Failure information

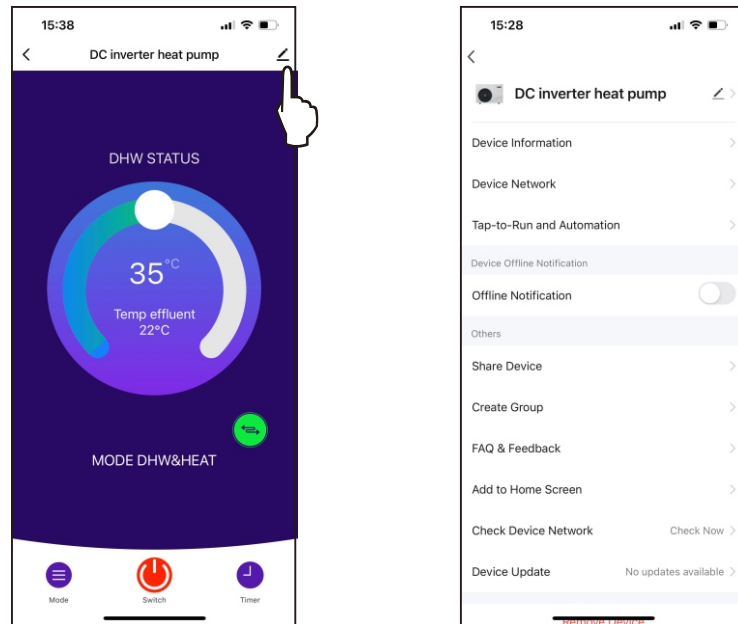
- If there is a fault or protection during the operation of the heat pump, the fault information will displayed on the main page of the app.



8.WIFI function

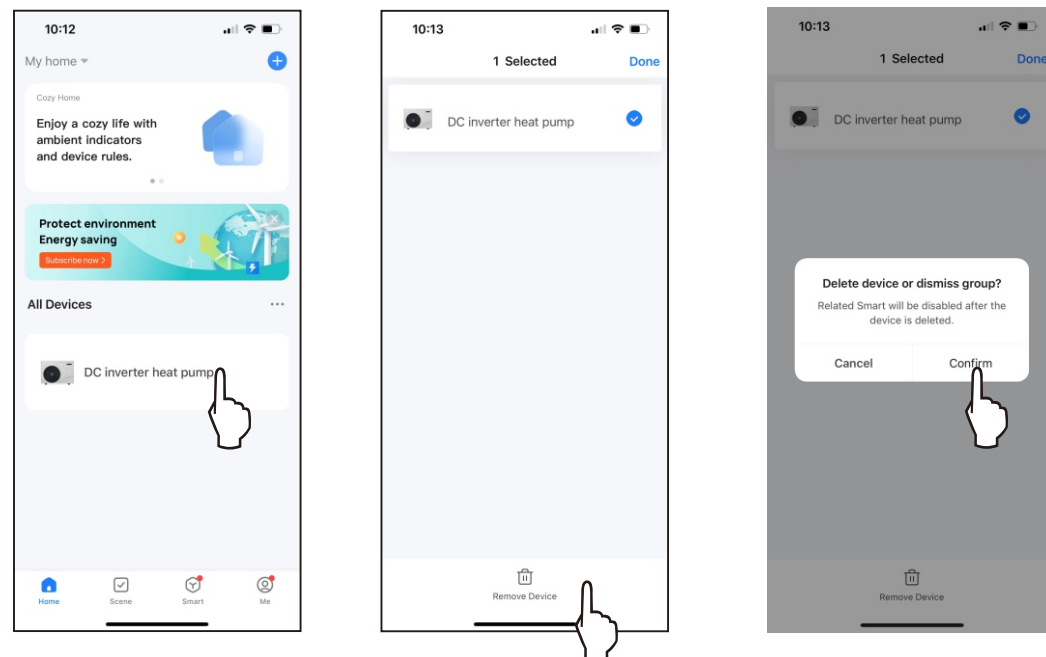
8-4-7 System information

- Click on the icon in the upper right of the main page, you can change the device name and check the system information.



8-4-8 Remove the device

- Open the app and long press the name bar of the device.
- Click the “Remove device” button at the bottom of the page.
- Click Confirm to remove the device from the app.



Note