



# Instruction Manual

## All in One Heat Pump Water Heater

For model: GT-SKR010200-VC  
GT-SKR010250-VC  
GT-SKR010300-VC

- ◆ Please read the manual carefully before installation and maintenance.
- ◆ Please keep this manual well for future use.

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# Part I: General Information

## 1. Function description

Air source heat pump water heater is used to heat water for domestic hot water or commercial hot water, etc.

## 2. Important Information

- For your own security, and to ensure proper operation of the unit, this heat pump unit must be installed and repaired by qualified technician.
- A leakage protection switch must be installed near the heat pump in an accessible place.
- Do not use any damaged wires and switches, if found (to be damaged), replace it immediately.
- Do not open the electrical box without shutting off all power sources to the heat pump.
- When transporting the heat pump, ensure that it keeps upwards and not tilted more than 45° in any direction.
- Before performing any maintenance on the unit you must turn it off first and shut off the power to the unit.
- Do not install the unit in places where there are any inflammable or explosive materials.
- Do not restrict or block the air intake or outlet of the unit.

When the unit is not used for a long time, please switch it off and disconnect the power supply.

Drain the unit when ambient temperature is lower than 0°C

- When power failure occurs and lasts for more than 5 hours with the ambient temperature lower than 2°C, please drain the unit to prevent the formulation of ice in it.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Respect safety distance between the unit and other equipment or structures.
- Guarantee adequate space for access to the unit for maintenance and/or service operations.
- Power supply: the cross section of the electrical cables must be adequate for the power of the unit, the power supply voltage must correspond with the value indicated on the respective units.

All units must be earthed in conformity with legislation in force in the country concerned.

## 1.3 About heat pump

Heat Pump unit is a new technology and is regarded as the latest generation among the various water heating/cooling methods. It surpasses coal, electrical, gas and solar water heating, offering a better solution for energy saving and environmental protection.

With the advantage of high energy efficiency ratio and pollution-free, heat pump is widely used all over the world. Compared to electrical heating, consuming the same quantity of electricity, heat pump water heater makes as 3~5 times of hot water as the former does.

## 1.4 Features of all in one heat pump water heater

### 1. More Safety

Water and electricity are completely isolated, No electric shock problem, more secure than traditional electrical water heaters.

No fuel tubes and storage, no potential danger from oil leakage, fire, explosion etc.

A full range of protection including compressor delay protection, water-pressure check switch, high & low pressure protection, super heating protection, Anti-phase and open-phase protection, high temperature protection, etc.

### 2. Energy-saving

Provide the same amount of hot water at 1/4 cost of electrical water heaters, heat pump water heater can save your bill every day.

### 3. Super-Sized evaporator coil

Hydrophilic aluminum fin and rifled copper coil, it has higher performance in cold weather.

### 4. World famous Compressor

Adopt the world-famous brand compressor, unmatched reliability, quiet operation, energy-saving and environmental-friendly.

### 5. Monoblock design, convenient installation, nice appearance.

### 6. All-weather running

It provides hot water no matter in a rainy day, snowy day or at night.

### 7. Running automatically

Microcomputer controlled, with timer function, it can automatically start up and stop according to the water temperature and other running conditions you set, no need for a supervisor.

### 8. Environmental-friendly

Environment-friendly, free of pollutions, it reduces the global green house effect.

# Part II Installation & Application

## 1. Transportation

When transporting the heat pump, ensure that it keeps upwards and not tilted more than 45° in any direction.

## 2. Installation Location Selection

Do not install the unit in an enclosed area.



It is very important to select a proper position for the unit, you should consider the followings:

- The space for installation should be well ventilated
- The installation position should be close to drainage channel or vent to facilitate water discharge.
- Choose a smooth, horizontal position where it can stand the weight of the unit, and it won't increase noise and vibration as well,
- Do not install the unit in place where there is pollution, accumulation of dirt or fallen leaves.
- There should not be inflammable or explosive materials close to the unit.

Note:

1. Make sure to install **a wye strainer** before water inlet of the unit to avoid clogging of the system.  
It's an essential requirement to install **a relief valve** onto the water tank.
2. Install mixing valve in user's hot water system to increase the utilization rate of hot water.

## 2.3 Trial Operation

- To ensure that start-up is performed correctly, it should only be operated by qualified technician.
- The heat pump water heater is designed according to the conditions as follows: the range of ambient temperature is -7°C~43°C and the range of water pressure is 0.15~0.8Mpa.  
The range of water outlet temp. is 28 to 75°C
- Make sure the piping system and water tank is filled up before commissioning, Do not press  before filling up the water tank. When there is water flowing out of the hot water outlet, that means the tank is full of water.
- After the tank is full of water, connect the power of the unit, then press  to turn it on.  
Observe if it works normally.

- Adjust hot water temperature and other parameters according to the Manual.

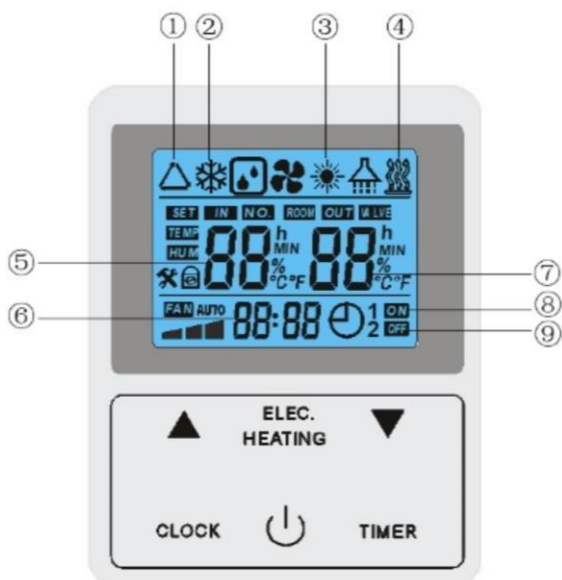
## 2.4 Caution

If something occurs as follows, please stop it immediately and cut the power off. You should contact with our authorized agent or maintenance personnel, don't repair it by yourselves. Without professional technology, it may cause fire and you may get hurt.

- Fuse blown or protection activated frequently.
- The wire and switches are heated abnormally.
- Abnormal sounds coming from the unit.
- Abnormal smell comes out of the unit.
- Electricity leakage.

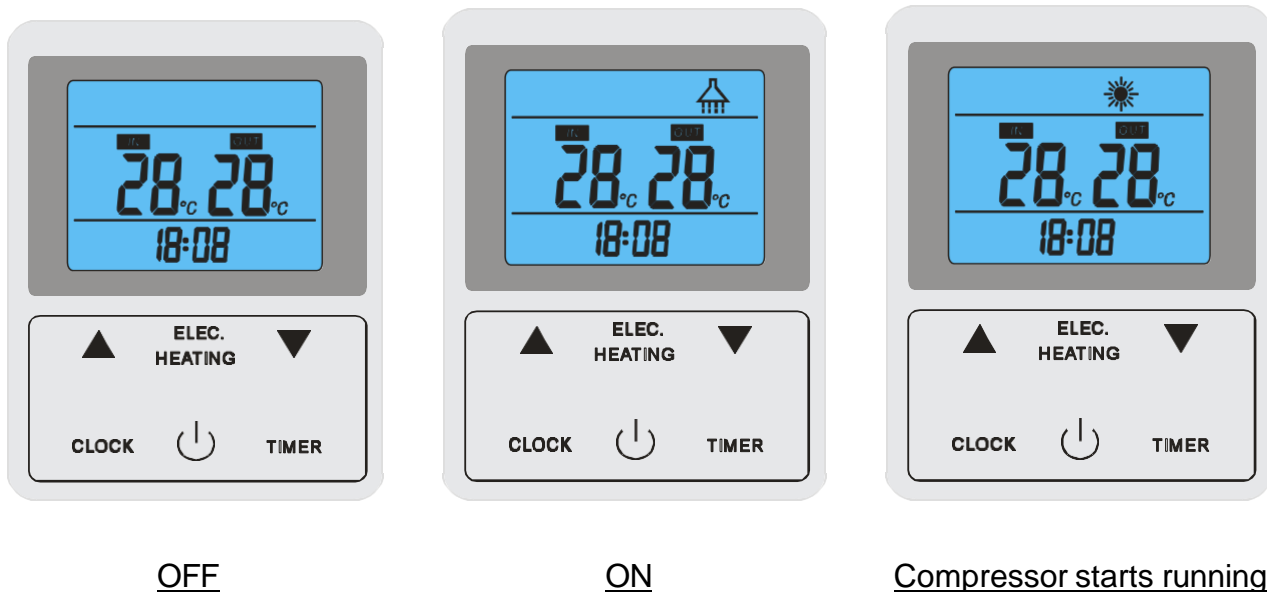
# Part III Control System

## 3.1 Description of Icons





- ① Flashing when compressor starts running
- ② Defrosting indication
- ③ Showing when the compressor starts running
- ④ Auxiliary electrical heating indication
- ⑤ The desired temperature
- ⑥ Clock
- ⑦ Measured water tank temperature
- ⑧ Timer of turning-on the unit



## 3.2 Operation Instruction




### A. Lock/Unlock the buttons

1. Lock the buttons: Under ON or OFF status, extended press ▲ and ▼ button simultaneously for 5 seconds, buttons are locked, and  icon is shown on the screen.
2. Unlock the buttons: Repeat the above step to unlock the buttons,  icon disappears.

### B. On/Off the unit

1. When the buttons are locked,  icon is shown on the screen, extended press ▲ and ▼ button simultaneously for 5 seconds to unlock the screen;
2. In unlock status, press  button to switch on/off the unit;

### C. Set the clock (Note: it will exit the interface when no operation for 10 seconds)

1. In main menu, press CLOCK button to enter clock setting menu.
2. In clock setting menu, press CLOCK button, the hour flashes, press button to set the hour.
3. After the hour is set, press CLOCK button again, the minute flashes, press ▲ or ▼ button to set the minute.
4. After the minute is set, press CLOCK button again to save the clock setting and back to main menu.
5. In clock setting menu, if there is no operation for 10 seconds, will automatically save clock setting and back to main menu.
6. In clock setting menu, press  button to exit clock setting.

**D. Set/Cancel the timer of On/Off (Note: it will exit the interface when no operation for 10 seconds)**

1. In main menu, press TIMER button to enter timer setting.
2. In timer setting, press TIMER button again, hour of timer ON flashes, press ▲ or ▼ button to set the hour of timer ON.
3. After the hour of timer ON is set, press TIMER button again, the minute flashes, press ▲ or ▼ button to set the minute of timer ON.
4. After the minute of timer ON is set, press TIMER button again to enter hour setting of timer OFF, setting as timer ON.
5. After the timer OFF is set, press TIMER button again to save the timer.
6. In timer setting menu, press CLOCK button to cancel the current setting of timer ON/OFF.
7. In timer setting menu, if there is no operation for 10 seconds, will automatically save timer setting and back to main menu.
8. In timer setting menu, press ⏻ button to exit timer setting.

**E. Check / Set the parameters (for technician only)**

1. In main menu, press ▲ button enter parameter checking menu, press ▲ or ▼ button to check the parameters as below table, press ⏻ button to exit parameter checking.
2. In parameter checking menu, press ELEC. HEATING button, the value of parameter flashes, press ▲ or ▼ button to set the parameters, press ELEC. HEATING button to save the setting, press ⏻ button to exit parameter setting.

**Table 1**

Item	Description	Range	Default Value	Remark
0	Water tank temp. setting TS1	10~75℃	60℃	
1	Temp. difference setting TS6	2~15℃	5℃	
2	Water tank temp. TS2 to start electrical heating HT1	10~75℃	55℃	
3	Electrical heating HT1 start delay	0~90	30	t*5min
4	Electrical heating HT1 weekly starting temp. TS3	50~70℃	70℃	



5	High temperature disinfection maintenance time t2	0~90min	30min	
6	Time interval of defrosting t3	30~90min	45min	
7	Coil temperature to enter defrosting TS4	-30~0°C	-3°C	
8	Coil temperature to exit defrosting TS5	2~30°C	13°C	
9	Running time of defrosting	1~12min	8min	
10	Control of EEV	0/1	1	0-manual, 1-automatic
11	Target overheat	-20~20°C	5	
12	EEV step of manual control	10~50	35	N*10 (valid if parameter 10=0)
13	Min. operating temperature	-9~5	-7	
A	Exhaust temp. T1*	9~99°C	Measured value. It will display P01 if there is a fault.	
B	Water tank temp. T2*	9~99°C	Measured value. It will display P02 if there is a fault.	
C	Coil temp. T3*	9~99°C	Measured value. It will display P03 if there is a fault.	
D	Reserved	9~99°C	Measured value. It will display P04 if there is a fault.	
E	Ambient temp.	9~99°C	Measured value. It will display P05 if there is a fault.	
F	Opening of EEV	0~50	N*10	

Note:

1. Set the temperature difference between measured water temperature and purpose water temperature
2. By setting the temperature difference to control the unit to start up/stop automatically.
3. For example, the default value is 5°C, when the measured temperature is lower than target water temperature by 5°C, the unit will run automatically. The unit will not stop until the measured temperature reaches the target water temperature you set.

## F. Wi-Fi control

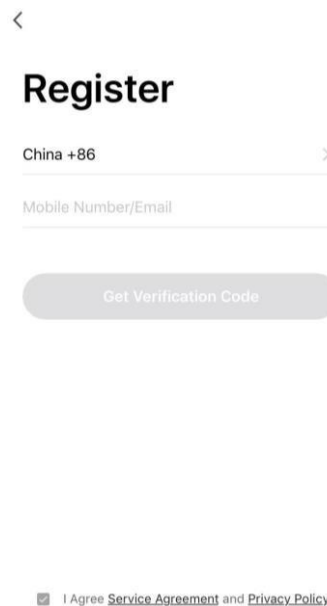
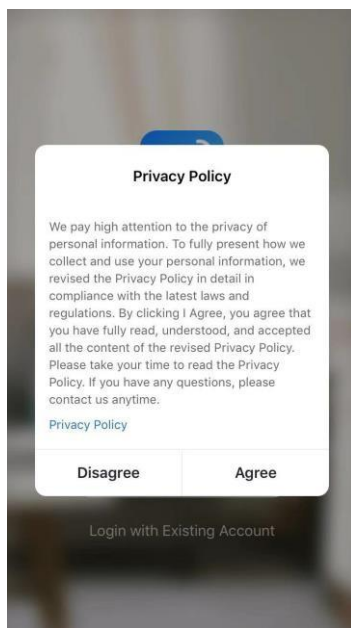
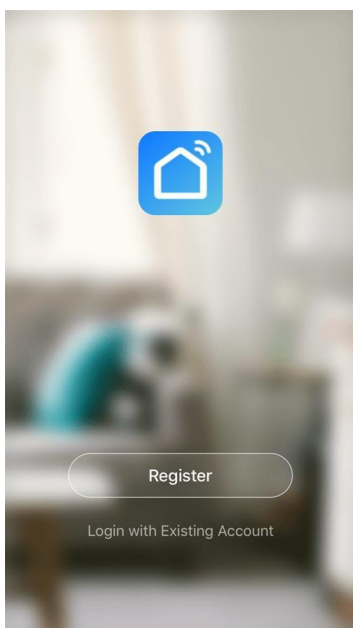
Search APP of “Smart Life” at APP store of the mobile phone, download and install the APP.

After installing the APP, the software  will display on your mobile phone.

### 1. Software registration

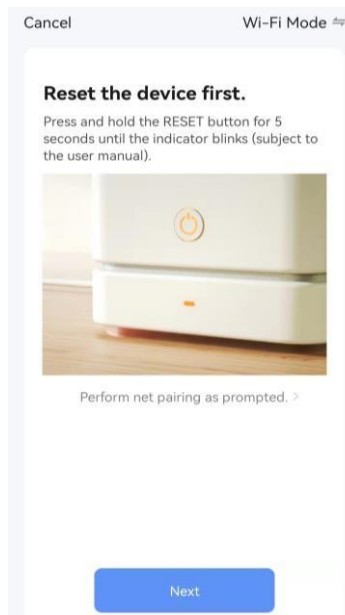
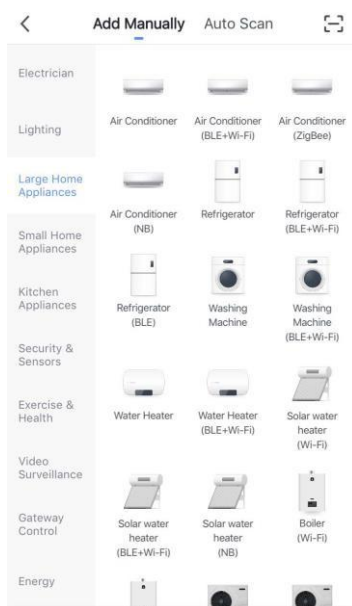
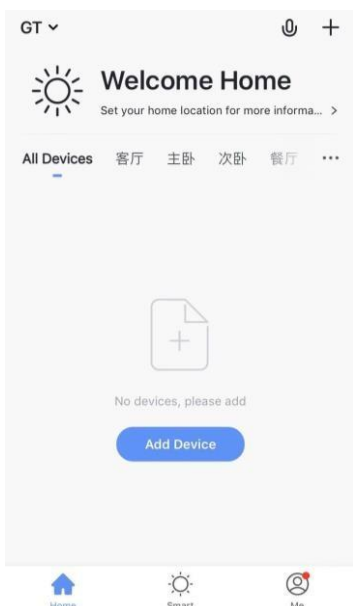
Ensure the unit and mobile phone connected to a Wi-Fi.

Please complete registration step by step if new user.



After registration is complete, please log in to the software by user name and password you have set, the heat pump and mobile phone should be connected to WIFI.

### 2. Click **Add Device** → **Large Home Appliances** → **Water Heater** → **Next**



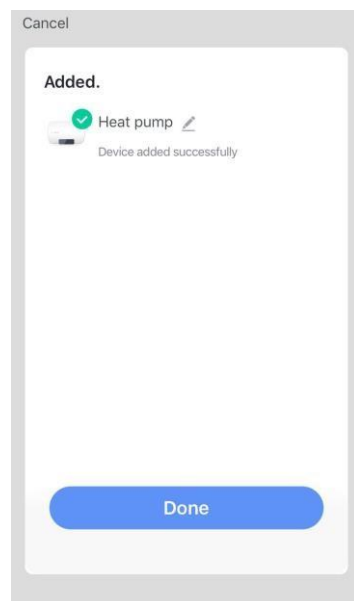
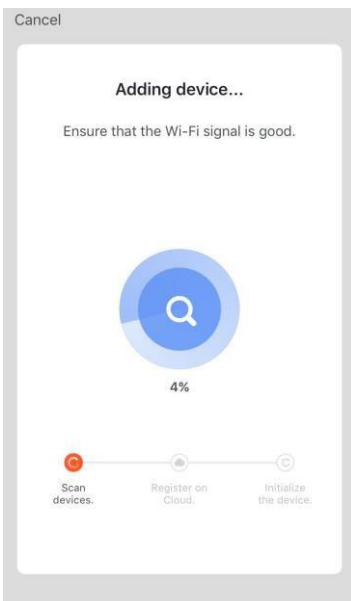
### 3. Connect the heat pump

On controller of heat pump, extended press ▲ and TIMER bottom simultaneously for 5 seconds, "VALUE" blink quickly on the screen.

On the App, choose **Blick Quickly**



### 4. Add device



After connecting to the heat pump by AAP, the unit can be turned on/off by APP, can be set water temperature by APP, can be choose working mode by APP, can set timer by APP.



: Turn on/off the unit



: Set working mode



: Set clock

### 3.3 Protection

- ◆ Compressor delay protection: the delay for the compressor to start/stop is three minute. The first time when it is power on, it starts up in one minute.
- ◆ High pressure protection: After compressor starts running and the high pressure switch interrupts for 10 seconds, the unit stops, “EE 1” flashing on the screen, and alarm sounds.
- ◆ Low pressure protection: After compressor starts running for 3 minutes and the low pressure switch interrupts for 10 seconds, the unit stops, “EE 2” flashing on the screen, and alarm sounds.
- ◆ Sensor fault: if the sensors fail, all parts stop working.

# Part IV Trouble Shooting

**Table 4.1**

Code	Fault	Possible Causes	Treatment
PP 1	Exhaust temp. sensor failure	<ul style="list-style-type: none"> <li>◇ The sensor open circuit</li> <li>◇ The probe of the sensor falls down</li> <li>◇ The sensor short circuit</li> </ul>	<ul style="list-style-type: none"> <li>◇ Reconnect the wirings of the sensor</li> <li>◇ Retighten the probe</li> <li>◇ Renovate wirings and remove faults</li> </ul>
PP 2	Water tank temp. sensor failure	<ul style="list-style-type: none"> <li>◇ The sensor open circuit</li> <li>◇ The probe of the sensor falls down</li> <li>◇ The sensor short circuit</li> </ul>	<ul style="list-style-type: none"> <li>◇ Reconnect the wirings of the sensor</li> <li>◇ Retighten the probe</li> <li>◇ Renovate wirings and remove faults</li> </ul>
PP 3	Coil temp. sensor failure	<ul style="list-style-type: none"> <li>◇ The sensor open circuit</li> <li>◇ The probe of the sensor falls down</li> <li>◇ The sensor short circuit</li> </ul>	<ul style="list-style-type: none"> <li>◇ Reconnect the wirings of the sensor</li> <li>◇ Retighten the probe</li> <li>◇ Renovate wirings and remove faults</li> </ul>
PP 4	Reserved	<ul style="list-style-type: none"> <li>◇ No short-circuit between 16 and 17 on PCB, or short-circuit connection is not well</li> </ul>	<ul style="list-style-type: none"> <li>◇ Check the short-circuit between 16 and 17 on PCB</li> </ul>
PP 5	Ambient temp. sensor failure	<ul style="list-style-type: none"> <li>◇ The sensor open circuit</li> <li>◇ The probe of the sensor falls down</li> <li>◇ The sensor short circuit</li> </ul>	<ul style="list-style-type: none"> <li>◇ Reconnect the wirings of the sensor</li> <li>◇ Retighten the probe</li> <li>◇ Renovate wirings and remove faults</li> </ul>
EE 1	High pressure protection	<ul style="list-style-type: none"> <li>◇ High pressure switch destroyed</li> <li>◇ Water tank lacks of water</li> <li>◇ The system is jammed, the probe of sensor falls down</li> <li>◇ Excessive refrigerant</li> <li>◇ Some un-condensable gas in the refrigerant system</li> </ul>	<ul style="list-style-type: none"> <li>◇ Replace high pressure switch</li> <li>◇ Refill water</li> <li>◇ Check and clean the system, retighten the probe</li> <li>◇ Drain out the superfluous refrigerant</li> <li>◇ Drain out the un-condensable gas</li> </ul>
EE 2	Low pressure protection	<ul style="list-style-type: none"> <li>◇ Low pressure switch destroyed</li> <li>◇ Inadequate refrigerant</li> <li>◇ The fins of the evaporator are dirty</li> </ul>	<ul style="list-style-type: none"> <li>◇ Replace low pressure switch</li> <li>◇ Leak hunting and fill in standard quantity of refrigerant</li> <li>◇ Clean the fins</li> </ul>

EE 3	Overheating of the outlet water	<ul style="list-style-type: none"> <li>◇ Clogged water line</li> <li>◇ Water outlet temperature sensor fault</li> </ul>	<ul style="list-style-type: none"> <li>◇ Check the water system and the pump</li> <li>◇ Check the electric resistance of the sensor</li> </ul>
EE 4	Overheat protection of exhaust temp	<ul style="list-style-type: none"> <li>◇ Compressor overheat protection</li> <li>◇ The exhaust temp. sensor is damaged</li> <li>◇ The refrigerant is sufficient</li> <li>◇ The PCB is damaged</li> </ul>	<ul style="list-style-type: none"> <li>◇ Replace the exhaust temp. sensor</li> <li>◇ Check for leakage, and replenish refrigerant</li> <li>◇ Replace the PCB</li> </ul>
EE 8	Communication error (the control panel can't receive information from the PCB)	<ul style="list-style-type: none"> <li>◇ Open circuit or short circuit between the operation panel and PCB</li> </ul>	<ul style="list-style-type: none"> <li>◇ Renovate or Replace the wire between control panel and PCB</li> </ul>

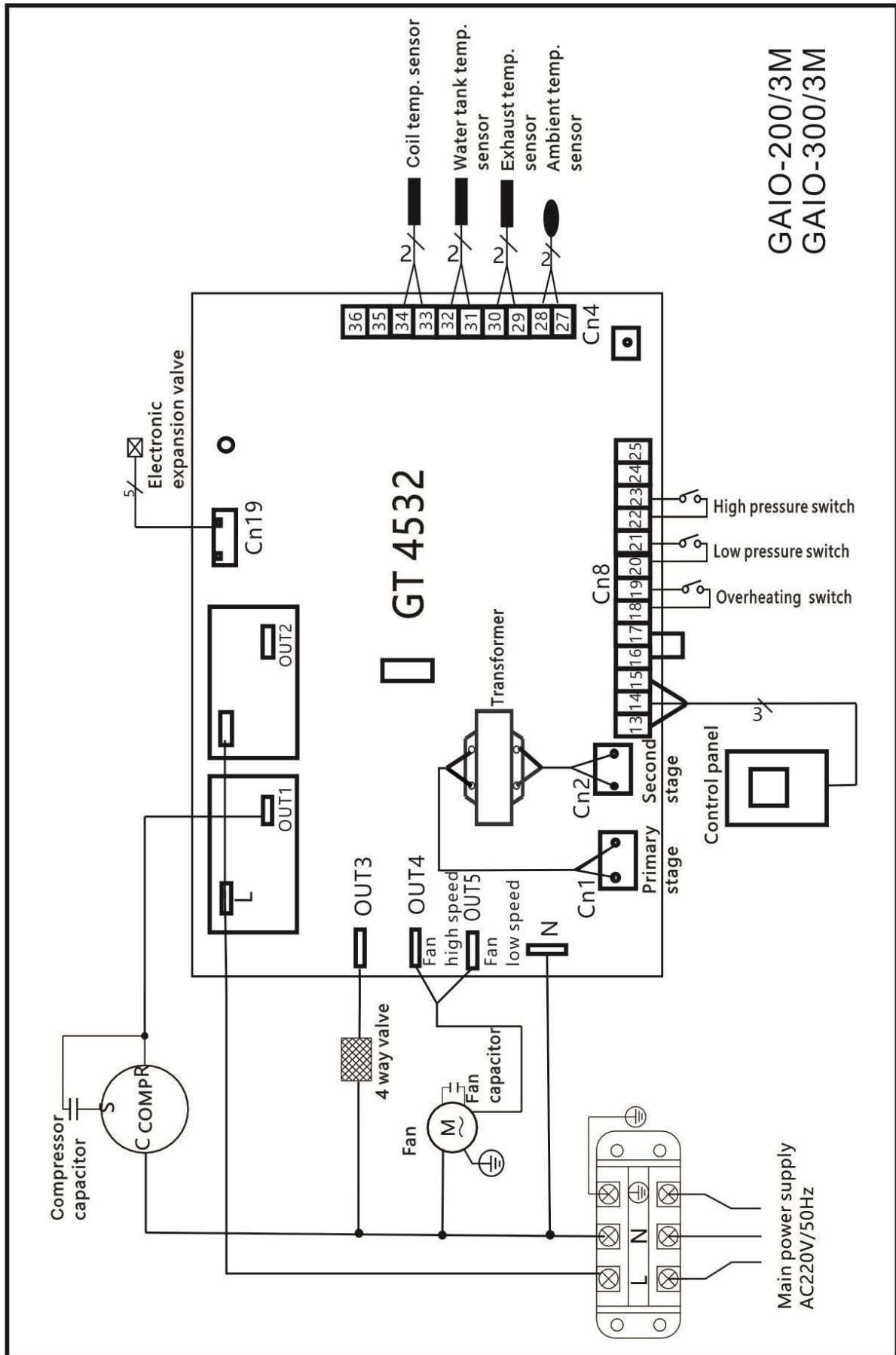
Note: when the fault arises, the correspondent fault code will be flashing on the screen and alarm sounds.

**Table 4.2**

Fault Condition	Possible Causes	Treatment
The unit doesn't work	<ul style="list-style-type: none"> <li>◇ Power failure</li> <li>◇ Bad connection to the power</li> <li>◇ Fuse blow</li> </ul>	<ul style="list-style-type: none"> <li>◇ Turn off the switch, check the Power source</li> <li>◇ Find the causes and renovate them</li> <li>◇ Replace the fuse</li> </ul>
Low heating capacity	<ul style="list-style-type: none"> <li>◇ Inadequate refrigerant</li> <li>◇ Drying filter stoppage</li> <li>◇ Air side heat exchanger is un-efficient</li> </ul>	<ul style="list-style-type: none"> <li>◇ Leak hunting and fill in standard quantity of refrigerant</li> <li>◇ Replace the drying filter</li> <li>◇ Clean the heat exchanger</li> </ul>
The compressor doesn't work	<ul style="list-style-type: none"> <li>◇ Power failure</li> <li>◇ Compressor relay destroyed</li> <li>◇ Poor connection</li> <li>◇ Overheating protection</li> </ul>	<ul style="list-style-type: none"> <li>◇ Check it and solve the problems</li> <li>◇ Replace the PCB</li> <li>◇ Check and renovate it</li> <li>◇ Check and solve the problems</li> </ul>

The compressor works but too noisy	<ul style="list-style-type: none"> <li>◇ Liquid refrigerant goes into the compressor</li> <li>◇ interior components destroyed</li> <li>◇ Inadequate refrigeration oil</li> </ul>	<ul style="list-style-type: none"> <li>◇ Check the expansion valve</li> <li>◇ Replace the compressor</li> <li>◇ Add in adequate refrigeration oil</li> </ul>
The fan doesn't work	<ul style="list-style-type: none"> <li>◇ Capacitor damaged</li> <li>◇ The fans are not fixed well</li> <li>◇ The electromotor burned out</li> <li>◇ Contactor destroyed</li> </ul>	<ul style="list-style-type: none"> <li>◇ Replace it</li> <li>◇ Fix it well again</li> <li>◇ Replace the electromotor</li> <li>◇ Replace the Contactor</li> </ul>
Compressor works but not heating	<ul style="list-style-type: none"> <li>◇ Refrigerant leakage</li> <li>◇ Compressor fault</li> </ul>	<ul style="list-style-type: none"> <li>◇ Leak hunting and fill in standard quantity of refrigerant</li> <li>◇ Replace the compressor</li> </ul>
Excessive discharge pressure	<ul style="list-style-type: none"> <li>◇ Too much refrigerant</li> <li>◇ Non-condensable gas in the Refrigeration cycle</li> </ul>	<ul style="list-style-type: none"> <li>◇ Draw off the superfluous refrigerant</li> <li>◇ Drive the gas out</li> </ul>
Low suction pressure	<ul style="list-style-type: none"> <li>◇ Drying filter stoppage</li> <li>◇ Lack of refrigerant</li> <li>◇ Excessive pressure drop in the heat exchanger</li> </ul>	<ul style="list-style-type: none"> <li>◇ Replace the filter</li> <li>◇ Leak hunting and fill in standard quantity of refrigerant</li> <li>◇ Check the opening of electronic expansion valve</li> </ul>

# Part V Wiring Diagram





## Disposal

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.



There won't be a further notice if anything changes as the unit improved.