Service Manual

CHIGO DC Inverter Split type A/C

(EU products)

Remark: there can be a little difference between the unit you purchase and the universal version.

Content

1. Special precautions for installation ····· P1

2. Wiring diagrams ····· P2

3. Software functions ····· P4

4. Indoor common malfunction / protection function ····· P14

Appendix: malfunction and protection display ·····P16

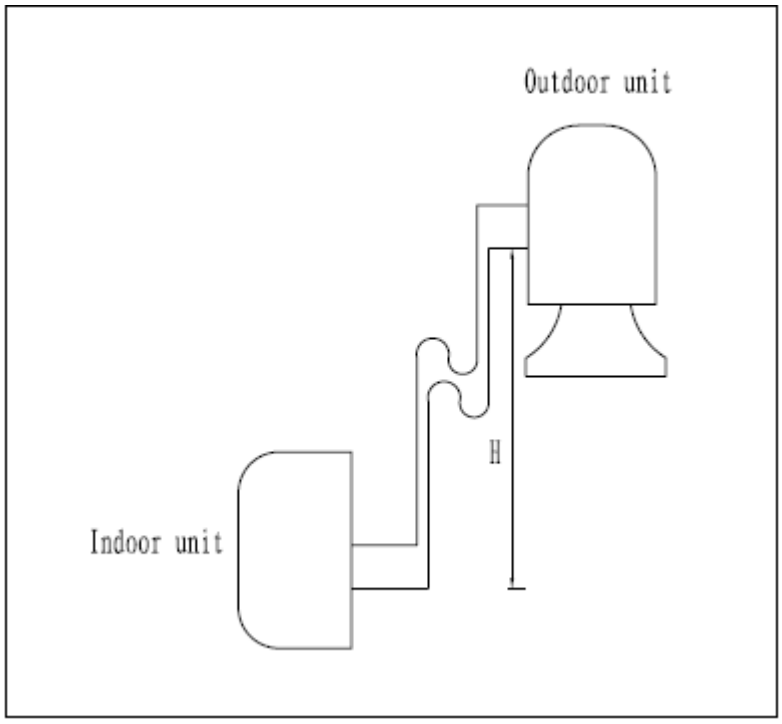
Comparison Table of Sensor Temperature and Resistance Values ····· P28

Exploded View and Parts List ····· P32

1. Special precautions for installation

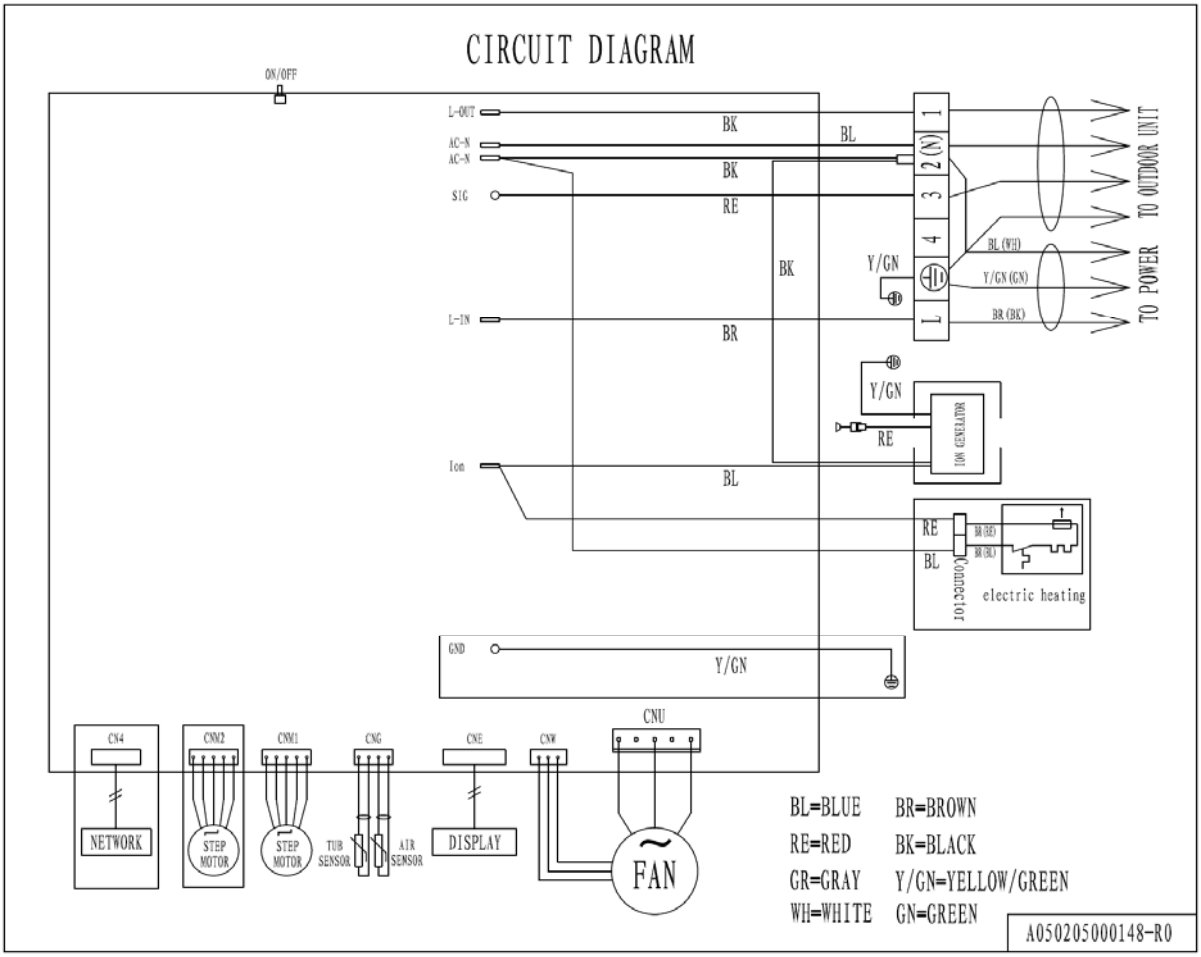
Content about adding oil trap.

Note: The oil trap should be added when the outdoor unit located at a certain height higher than the indoor unit. Our suggestion for this is, the height should be more than 5m. And for every another 5m, one oil trap should be added. See pic attached below:

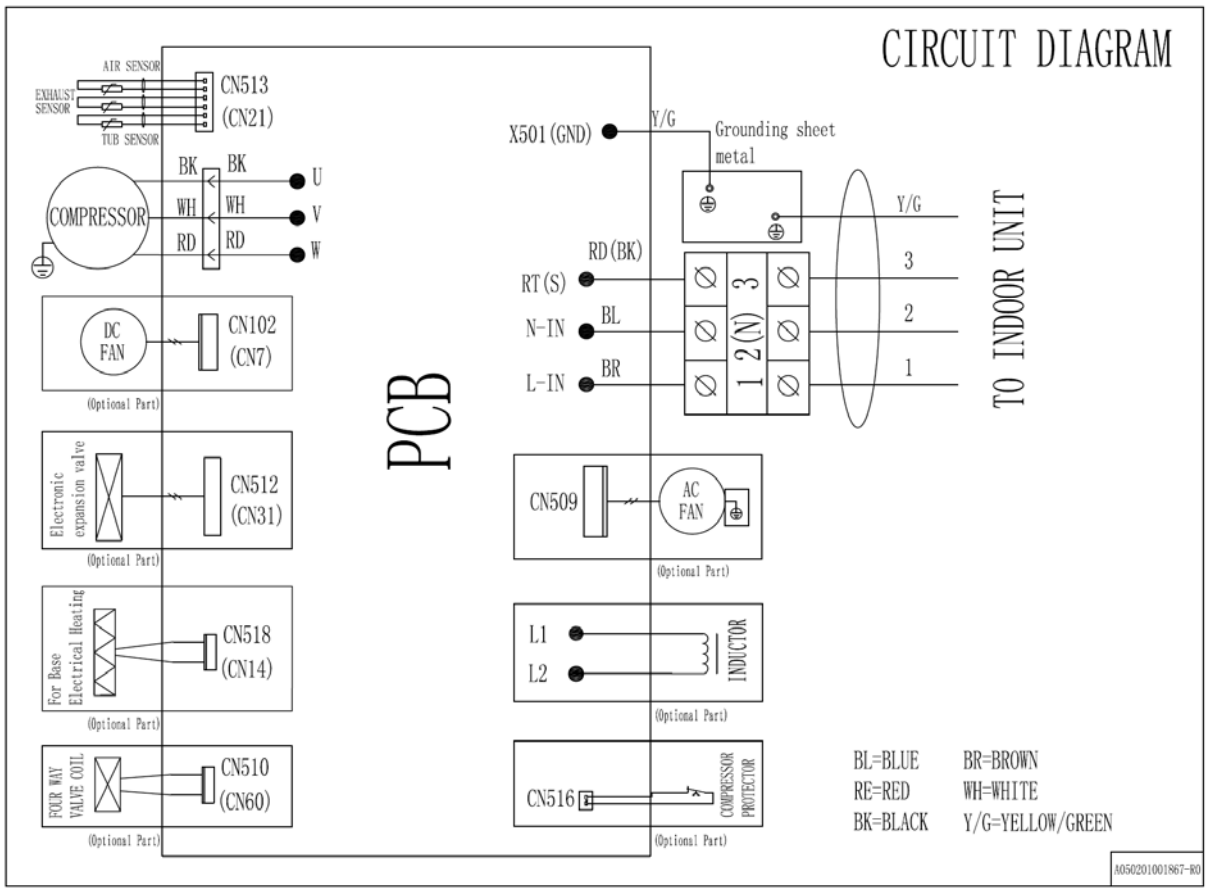


2. Wiring diagrams (outdoor and indoor, zoom in when reading please)

9K-24K Btu indoor unit



9K-24K Btu outdoor unit



3. The specifications on common software functions for inverter A/C

3.1. Universal basic requirement

The power voltage's sphere of application:Alternating current..50/60Hz are compatible,to permit the voltage wave range:145V～265V

The ambient temperature and humidity of using the PCB:-20℃～70℃,φ=30%～95%;

3.2. Software function

3.2.1. The symbol and wind speed's definitions

(a) The symbol definition

Ts: the setting temp.

Tr: the indoor temp.

Tp: the indoor coil pipe temp.

Tout: the outdoor ambient temperature

$_{D}$T: Tr－Ts

(b) The wind speed definition

The indoor fan（PG motor）wind speed definition. Please refer to the following **form 2-1.**

Form 2-1

model	mode	Super high winds	High winds	Mid winds	Low winds	Slightly winds
Any model	cooling	FS5	FS4	FS3	FS2	FS1
	heating	FS10	FS9	FS8	FS7	FS6

NOTE :（1）The FS1～FS10 are programmable dates,and they are in the EEPROM;

（2）The motor rotate-speed should refer to the motor parameter, if the indoor motor uses the tapped control.

3.2.2. basic mode

The AUTO mode

1. the models with the universal remote controller

(1) The set temperature in AUTO mode depends on the remote control.

(2) If press the "emergency switch" button on standby or use the remote controller to set the AUTO mode, the air-conditioner will enter the automatic operating mode.

(3) when enter the AUTO mode, the system will decide the corresponding running mode according to $_{D}$T, please refer to **form 2-3:**

Form 2-3

Indoor temp.	$_{D}$T＜-4℃	-4℃≤$_{D}$T≤1℃	1℃＜$_{D}$T
Running mode	HEAT (fan for cooling only air conditioner)	FAN	COOL

(4) once the running mode is confirmed:

a) The mode doesn't automatically change any more with Tr. If the user modifies Ts, the operation mode will be determined again

b) The user operates the "mode" key to switch to the AUTO mode:

b.1) If the current operation mode is FAN or DRY, enter and re-determine the operation mode.

b.2) If the current operation mode is COOL or HEAT, then the operation mode will not be determined again.

c) when the user makes remote controller or emergency switch turn off the unit, and enter the AUTO mote again, the indoor software will judge the running mode once more.

d) if different modes switching brings about the compressor's stop, but 3 min protect is still effective.

3.2.3. COOL mode

1. the setting temperature's range depends on the remote controller and APP

2. the processing of turning on and turning off the unit:

In COOL mode, the compressor start/stop curve determined by the electric control program is shown in chart 2-1:

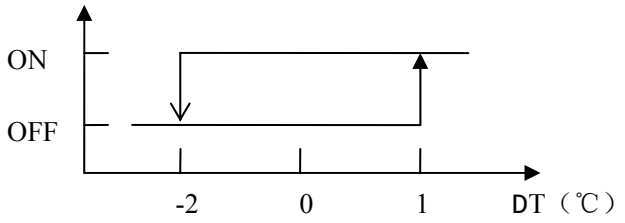


Chart 2-1

Specific instructions: When $_{D}T \geqslant 1℃$ is detected for 5 seconds continuously, a compressor start command is sent; When $_{D}T \leqslant -2℃$ is detected for 30 seconds continuously, a compressor shutdown command is sent.

3. working condition of the indoor fan motor:

The indoor fan's speed can be chosen in Auto, Hi, Med, Low condition; and runs at high fan, med fan or low fan speed.

When choose the Auto fan, the indoor fan's work is shown as the following chart 2-2:

Specific instructions:

① $_{D}T$ from high to low: When $_{D}T \geqslant 3℃$, the operating fan speed of the indoor fan is Hi fan; When $1℃ \leqslant {}_{D}T < 3℃$, the operating fan speed of the indoor fan is Med fan; When $_{D}T < 1℃$, the operating fan speed of the indoor fan is Low fan.

② $_{D}T$ from low to high: When $_{D}T<3℃$, the operating fan speed of the indoor fan is Low fan; when $3℃\leqslant{}_{D}T<5℃$, the operating fan speed of the indoor fan is Med fan; When $_{D}T\geqslant5℃$, the operating fan speed of the indoor fan is Hi fan.

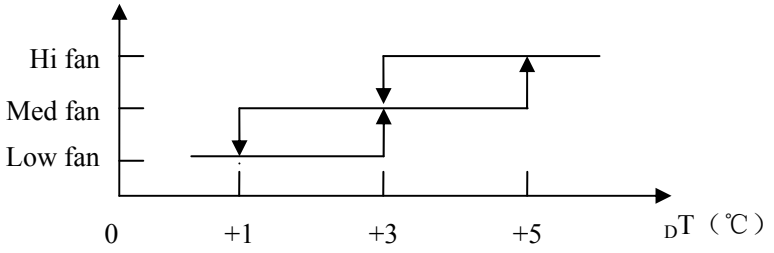


Chart 2-2

4. remain cool dissipate function: when turning off the unit with the remote controller or emergency switch, the indoor fan is at low fan speed, and be turned off after time lag 30 seconds; the indoor wind swing times lag 35 seconds and be turned off, thus that can blowout the remaining cold energy and ensure the indoor unit dry.

5. working condition of the louver in cooling:

The swing position of the louver is shown in Chart 2-3, and the position definition is shown in Form 2-4

Pch1	Pch2	Pc1	Pc2	Pc3
full open	full close	swing starting point	startup fixed point	swing end point

Form 2-4

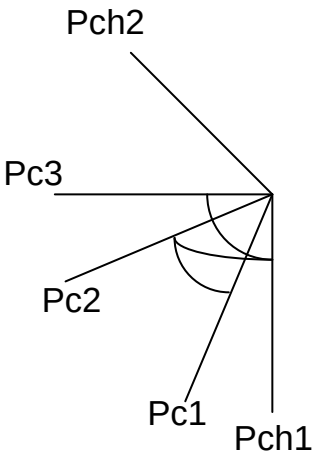


Chart 2-3

① When the unit is electrified, the louver first swing to Pch1 and then returns to Pch2.

② When the unit is turning off, the louver stops at the current position and returns to Pch2 after the remain cool dissipate action is completed..

③ When the unit is turning on, the louver should first arrive at Pch1 and then operate according to ④.

④ Operating condition of the louver during remote control operation of the "Swing" key:

A. Set to the "swing" state, and the louver operates between Pc1 and Pc3.

B. Switched to the "fixed wind" state, and the louver stops at the current position.

C. Turning on the unit in the "fixed air" state, the louver will stop at Pc2 position.

3.2.4. DRY mode

1. The range to the setting temperature is unadjustable, the display screen displays "— —".

2. In DRY mode, the speed of the indoor fan is low, and cannot be adjusted.

3. In DRY mode, the louver is at a dry angle and cannot be adjusted.

4. There are not TURBO/ECO functions in the DRY mode.

5. The evaporator anti freezing function is still effective in the DRY mode.

6. When turn off the unit in the DRY mode, the indoor fan and the louver's running are the same as that in COOL mode.

7. When indoor temperature≤10℃, the system prohibits dehumidification, and the indoor fan is turned off after 30 seconds of operation. When indoor temperature≥13℃, the system begins dehumidification.

3.2.5. HEAT mode

(Note: For cooling only air conditioner, the HEAT mode operates in FAN mode.)

1. The setting temperature's range depends on the remote controller and APP

2. working condition of the compressor:

In the HEAT mode, it is necessary to add a compensation temperature value (T_{offset}) to the indoor ambient temperature data sent to outdoor unit and the APP (default: -5℃; when the set temperature is 16℃, -3℃). The compressor start/stop curve determined by the electric control program is shown in chart 2-4:

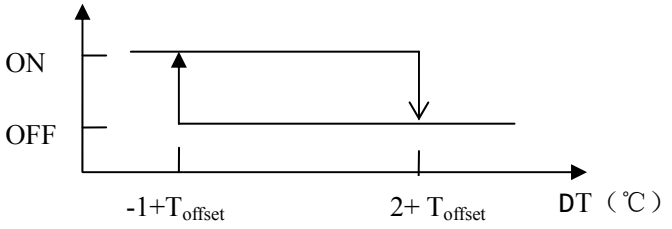


Chart 2-4

Specific instructions: When ${}_{D}T\leqslant(-1+T_{offset})$℃ is detected for 5 seconds continuously, a compressor start command is sent; when ${}_{D}T\geqslant(2+T_{offset})$℃ is detected for 30 seconds continuously, a compressor shutdown command is sent.

3. working condition of the indoor fan motor:

The indoor fan's speed can be chosen in Auto, Hi, Med, Low condition; and runs at high fan, med fan or low fan speed.

① When choose the Auto fan and meets the conditions of Tp>36℃ in ②, the relationship curve between the operating fan speed and ${}_{D}T$ of the indoor fan is shown in chart 2-5:

Specific instructions:

A. ${}_{D}T$ from high to low: When ${}_{D}T\geqslant0$℃, the operating fan speed of the indoor fan is Low fan; When -4℃＜${}_{D}T$＜0℃, the operating fan speed of the indoor fan is Med fan; When ${}_{D}T\leqslant-4$℃, the operating fan

speed of the indoor fan is Hi fan.

B. $_{D}T$ from low to high: When $_{D}T \leqslant -2℃$, the operating fan speed of the indoor fan is Hi fan; when $-2℃ < _{D}T \leqslant 2℃$, the operating fan speed of the indoor fan is Med fan; When $_{D}T > 2℃$, the operating fan speed of the indoor fan is Low fan.

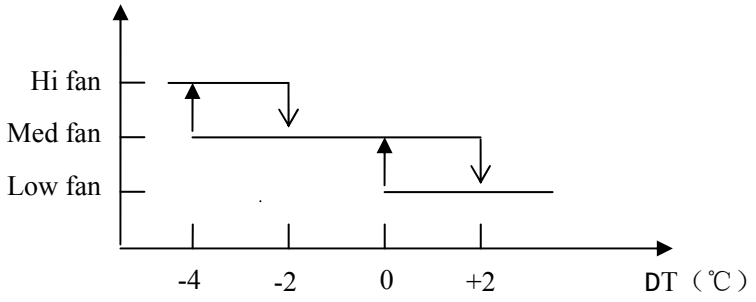


Chart 2-5

② Under operating state, the relationship curve between the indoor fan speed and Tp is shown in chart 2-6:

Specific instructions:

A. Tp from low to high: when $Tp \leqslant 25℃$, the indoor fan stops running, the louver is in the anti cold wind position; when $25℃ < Tp < 30℃$, the operating fan speed of the indoor fan is slight breeze, the louver is in the anti cold wind position; when $30℃ \leqslant Tp \leqslant 36℃$, the operating fan speed of the indoor fan is Low fan, the louver returns to normal; when $Tp > 36℃$, the indoor fan operates at the set fan speed.

B. Tp from high to low: when $Tp \geqslant 30℃$, the indoor fan operates at the set fan speed; when $25℃ < Tp < 30℃$, the operating fan speed of the indoor fan is Low fan, the louver is in the anti cold wind position; when $Tp \leqslant 25℃$, the indoor fan stops running, the louver is in the anti cold wind position.

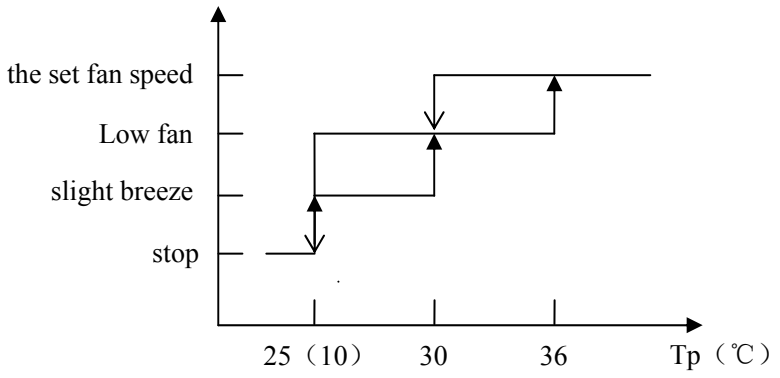


Chart 2-6

Note:

a) When the compressor is turned on, if the system has ever entered the anti cold air state and the indoor fan has started blowing, the fan will not be shut down again.

b) If the compressor has ever stopped, it will enter the anti cold air for the first time after resuming

normal startup.

c) When defrosting, the fan immediately stops running. it will enter the anti cold air for the first time after end of defrosting.

d) Three minutes after the compressor is started or the electric auxiliary heating is turned on, a slight breeze or a Low fan (tap motor) or above is forced to blow.

4. Anti cold wind indication function:

When the louver is in the anti cold wind position and the indoor fan is stopped or running slight breeze, the running indicator flashes at a frequency of 1Hz to indicate that the indoor fan is in the "anti cold wind" stop or slight breeze state.

5. remain heat dissipate function:

After the air conditioner is turned off, the indoor fan blows low fan to blow out the remain heat. Stop operation after 30 seconds.

6. working condition of the louver:

The swing position of the louver is shown in Chart 2-7, and the position definition is shown in Form 2-5

Pch1	Pch2	Ph1	Ph2	Ph3	Ph4
full open	full close	swing starting point	startup fixed point	swing end point	anti cold wind

Form 2-5

① When the unit is electrified, the louver first swing to Pch1 and then returns to Pch2.

② When the unit is turning off, the louver stops at Ph4 and returns to Pch2 after the remain heat dissipate action is completed..

③ When the unit is turning on, the louver should first arrive at Pch1 and then operate according to ④. If the enter anti cold wind or defrosting conditions during operation, the louver will stop at Ph4, and after exiting the anti cold wind condition, the previous state will be restored.

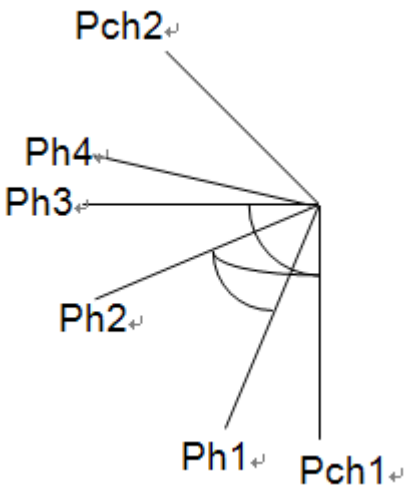


Chart 2-7

④ Operating condition of the louver during remote control operation of the "Swing" key:

A. Set to the "swing" state, and the louver operates between Ph1 and Ph3.

B. Switched to the "fixed wind" state, and the louver stops at the current position.

C. Turning on the unit in the "fixed air" state, the louver will stop at Ph2 position.

3.2.6. FAN mode

1. Ts range: 25 ℃, not adjustable.

2. The outdoor unit does not work, has no remain cool or remain heat dissipate function, does not detect communication faults, has no coil protection function, and the display screen displays "— —".

3. Working condition of indoor fan:

The working state is the same as the COOL mode, and indoor fan will stop immediately after shutdown.

4. Working condition of the louver:

After remote control setting or pressing the emergency switch to shut down, the louver will first open to Pch1 and then return to Pch2, and the rest of the working conditions will be the same as the COOL mode.

3.2.7. SLEEP function

(1) Press the "SLEEP" button on the remote controller to enter the SLEEP function, press the "SLEEP" button again to cancel sleep function. After entering SLEEP function, the operating fan speed of the indoor fan is Low fan, while other settings remain unchanged.

(2) After setting SLEEP function:

① The indoor fan is switched to Low fan, fan speed is adjustable, except for DRY mode.

② The nixie tube and other function indicator light will close after 5 seconds.(sleep screen shutdown)

③ If there are other operations during the SLEEP function process (such as adjusting temperature, swing, timing, etc.), the display screen will resume displaying, and if there are no operations within 10 seconds, execute "sleep screen shutdown" again.

(3) The SLEEP function is cancelled after the A/C shutdown.

(4) Under each basic mode, the curve of Ts changes during SLEEP function:

① COOL mode

If Ts≥29℃ before sleep, Ts will not change after entering sleep.

If Ts<29℃ before sleep: Ts+1℃ after 1 hour, Ts+2℃ after 2 hours, and remains unchanged thereafter (Ts does not exceed 29℃)

② HEAT mode

After 1 hour, Ts -1℃; after 2 hours, Ts -3℃; after 3 hours, Ts -5℃; and remain unchanged thereafter (Ts not less than 16℃).

Note: After modifying the set temperature, Ts is set to the temperature of the remote control, and the change curve is timed again.

③ DRY mode: Ts remains unchanged, only "sleep screen off" is performed, and the indoor fan speed is not adjustable.

④ FAN mode: Ts remains unchanged, only "sleep screen off" is performed.

⑤ AUTO mode: In which mode the AUTO mode enters, Ts changes according to the corresponding mode.

(5) There is no TURBO function when executing SLEEP function.

3.2.8. ECO(energy saving) function

(1) Only when the COOL mode is running, press the ECO button on the remote controller to enter. The indoor fan defaults to Hi fan operation and the fan speed is adjustable; Press the ECO button again to exit this function.

(2) When performing this function:

① The protection functions of the indoor unit are effective.

② After switching the operation mode, this function is automatically cancelled.

3.2.9. Three-dimensional air flow function (optional function)

(1) The so-called three-dimensional air flow refers to the combination of the vertical swing of the louver and the air flow left and the horizontal swing of the swing louver, enable air flow to blow in any direction. The horizontal swing of the swing louver can operate independently

(2) The starting and ending angle range of the swing louver are stored in indoor EEPROM, and it swings back and forth during operation. Press the "AIR FLOW" button to start running from the current position, and then press the button again to stop the swing louver at the current position.

(3) When powered on, the swing louver swings towards the maximum angle and then resets to the center position. After shutting down, reset the swing louver to the center position;

3.2.10. TURBO function

(1) The TURBO function is only applicable in two modes: COOL and HEAT.

(2) Press the TRUBO button on the remote controller to enter. In COOL mode, the compressor start and stop are not affected by Tr; In HEAT mode, the compressor start and stop still meet the start and stop curve; Press the TRUBO button again or when the time set by the system is reached (10 minutes) , TURBO function will exit.

(3) The operating fan speed of the indoor fan is Hi fan and cannot be adjusted. Maintain Hi fan after exiting TURBO function.

(4) During TURBO function operation, when the user presses other buttons (excluding "ON/OFF" and "MODE") to adjust the operating status, cause the system receives the TURBO signal again, the system does not refresh the TURBO function running time.

(5) When performing the TURBO function, all restrictions and protections remain in effect.

(6) When the remote control is set to be on, the TURBO function can be set. Wait for the scheduled time to arrive, and then execute the TURBO function after the air conditioner is turned on.

Auxiliary function

3.3. Self-check function

(1) Entry method: keep pressing the emergency switch button and then power on, thus enter the self-check state.

(2) During self-check state, the louver and swing louver swing cyclically. After self-check is completed, the indoor unit maintains FAN mode operation.

(3) All the external equipment output the relevant information in turn:

Power on -- the buzzer beep once -- turn on the main relay -- turn off the main relay, turn on the auxiliary heat relay (if any), turn on the anion relay (if any) -- turn on the main relay -- display the model code (nixie tube display) -- turn off the auxiliary heat relay (if any), turn off the anion relay (if any) -- fault detection -- switch to FAN mode (if there is a fault, a fault code will be displayed) - the buzzer beep twice - A/C on (CHIGO Cloud A/C registration code cycle display, non cloud A/C display "——") - End.

(4) model code: “25” stands for 25GW, “35” stands for 35GW, the rest may be deduced by analogy.

(5) Fault display: if there is a fault, a fault code will be displayed. When the display screen does not display a fault, the cloud icon does not light up, indicating a communication fault with the network module.

(6) When there is no fault in self-check, the registration code is displayed in a circular manner, with the "——" mark as the start of the display of the serial number (registration code). The Nixie tube displays 2 digits each time, and then displays the 14 digit registration code in sequence.

For example, if the registration code of an air conditioner is "14101700100001", the display lamp panel will make the following cyclic display after fault detection until receiving the command of the remote controller or emergency switch (■ means that the nixie tube is not lit):

"——" (2 seconds) - "14" (1 second) - "■■" (0.5 second) - "10" (1 second) - "■■" (0.5 second) - "17" (1 second) - "■■" (0.5 second) - "00" (1 second) - "■■" (0.5 second) - "12" (1 second) - "■■" (0.5 second) - "00" (1 second) - "■■" (0.5 second) - "01" (1 second)

3.4. Power outage memory function

(1) The A/C may lose power during operation. In order to maintain the operating state of the A/C before power outage after power restoration, a power outage memory function is added. The EEPROM in the indoor control chip will store some parameters of the A/C before power outage.

(2) When the indoor controller detects remote controller or emergency switch operation, it will store the current operating parameters in the indoor EEPROM.

(3) The time of TIMER function is refreshed every 1 hour and stored in the EEPROM. When power

restoration after power outage, the unit will run according to the TIMER time which stored before the power outage.

(4) Power outage memory function store operation mode, do not store the operating parameters of some auxiliary functions, such as TURBO, ECO, and SLEEP.

3.5. Emergency switch function

When the remote controller is not working or lost, users can turn on/off the A/C through the emergency switch. Press the emergency switch button when the A/C is turned on, the A/C will be turned off; Press the emergency switch button in standby state, the A/C will start in AUTO mode.

3.6. Sound and light prompt function

(1) When the system receives instructions from the remote controller, when powered on, and when the emergency switch is operated, the buzzer "beeps" once. If the remote controller enters the test mode, the buzzer will keep beeping for 2 seconds.

(2) In case of fault or protection, the nixie tube and LED light will indicate the fault or protection code.

(3) There are many types of display screens, the display screens of different styles may contain different prompt logo patterns.

4. Indoor common malfunction / protection function

4.1. sensor malfunction protection

1.when indoor ambient temp. sensor and outdoor temp. sensor are short circuit or open circuit, the unit displays malfunction code, the total units stop running;

2.when inlet and outlet temp. sensor of indoor evaporator appears malfunction for DC inverter single-split series, the unit runs with fault and sends the middle part of indoor coil temperature to outdoor unit;

3.when inlet and outlet temp. sensor of indoor evaporator appears malfunction for DC Inverter Multi-Split Air-Conditioner Unit, the current indoor unit will shut down and display the relevant malfunction code.

4.2. communication error protection

If the communication is abnormal for continuous 3min, the system will stop the compressor and display the relevant malfunction code. When the communication is normal and fault code disappears for 1 minute, the system will automatically start.

4.3. PG motor protection function

If the system checks the PG motor has not the feedback signal for continuous 20 seconds in the PG motor running, the PG motor will enter the running within fault; if the system checks the speed of PG motor is lower than 200rpm for continuous 60 seconds, thus the system considers PG motor faulty, and then the total units stop running and report the relevant malfunction code.

The following is the setting motor speed during operation within fault:

(1) the system will break-over controlled silicon after zero passage 1mS in the high wind;

(2) the system will break-over controlled silicon after zero passage 2mS in the mid wind;

(3) the system will break-over controlled silicon after zero passage 2.5mS in the low wind;

(4) the system will break-over controlled silicon after zero passage 3mS in the slightly wind;

if the feedback signal returns to be normal during PG motor operation within fault, the PG motor still runs within fault, until the system starts again next time.

remark: there is not PG motor protection function in producing self-check.

4.4. indoor coil pipe antifreeze protection in cooling

(1) when indoor coil pipe temperature is less than 6℃ in cooling,the compressor doesn't run.

(2) when indoor coil pipe temperature is less than 1℃, the system stops compressor and displays indoor coil pipe overcooling/overheating protecting code;

(3) when indoor coil pipe temperature is less than 3℃, the compressor's frequency will drop, until lowest running frequency, thus the compressor stops running and the system displays indoor coil pipe overcooling/ overheating protecting code;

(4) when indoor coil pipe temperature is greater than or equal to 3℃, but is less than 6℃, compressor

frequency forbids rising;

(5) when indoor coil pipe temperature is greater than or equal to 6℃, the system runs normally;

(7)after this protection code appears for 1 minute, the system could start automatically.

4.5. indoor coil pipe overheating protection in heating

(1) when indoor coil pipe temperature is greater than or equal to 48℃ in heating,the compressor doesn't run;

(2) when indoor coil pipe temperature is greater than or equal to 73℃, the compressor stops running and the system displays indoor coil pipe overcooling/overheating protecting code;

(3) when indoor coil pipe temperature is greater than or equal to 63℃, the compressor's frequency will drop, until lowest running frequency,thus the compressor stops running and the system displays indoor coil pipe overcooling/ overheating protecting code ;

(4) when indoor coil pipe temperature is greater than or equal to 52℃, but is less than 63℃, compressor frequency forbids rising;

(5) when indoor coil pipe temperature is less than 52℃, the system runs normally;

(6) after this protection code appears for 1 minute, the system could start automatically.

4.6. system lacking refrigerant or 4-way valve fault

(1) during cooling:

After the compressor has operated for five minutes (which has been set in the EEPROM), if the temperature of the indoor coil can not be 5℃ lower than the room temperature, the indoor fan will automatically turns to the breeze operation, 13 minutes later, if above requirements can not been met with, the compressor will be stopped to display the fault code; it can only operate again after switching off..

(2) during heating:

When the temperature of the indoor coil is lower than 20℃ (which is set in the EEPROM) for 20 minutes, the compressor will be stopped to display the fault code; it can only operate again after switching off.

The system fault can only be determined within 20 minutes after the compressor is switched on, after that the faults will not be determined. After stopping in remote controlling or emergency or power off, the system fault should be determined within 20 minutes after starting on again. After the system fault occurs, the indoor fan will not work, and the flap will not be closed..

Appendix: malfunction and protection display

1．Indoor fault and protection explanation

(1) when the indoor unit has not the nixietube, the malfunction and protection can display by LED lamp: firstly light 3 seconds, then flicker n at 1Hz,looping execution;

(2)when the indoor unit has the nixietube:

a) the nixietube shows “dF” code in defrosting;

b) under normal circumstances, the nixietube only shows the latest malfunction code or protection code;

(3) when malfunction and protection exist at the same time, the unit will shut down, but the system is priority to showing malfunction code.

Explanations for each error are introduced as below：

A、F1：The communication fault



1．Descriptions for preconditions, actions, and elimination conditions:

（1）Protection Preconditions: For a constant 3mins, no data’s got from the indoor unit or no communicational data’s got from the outdoor unit.

（2）Protection Actions: The compressor shuts down, the indoor digital tube shows F1, and the outdoor LED flickers 15 times at 1 HZ.

（3）Elimination conditions: The communication data becomes normal, and after the error disappeared for 1min, the model can restart automatically.

2．How to make a quick judgement, whether it’s indoor PCB or outdoor PCB problem that cause the communication fault? The methods are showed as below:

If the A/C shows F1, pls connect the outdoor commercial detection box with the outdoor PCB (make sure the wiring is correct), then start the commercial detection box. If the compressor can start normally, the outdoor PCB is OK. Then check the indoor PCB. However, if the comppressor cannot start, the outdoor PCB should be damaged.

Main causes:

（1）The wires between the indoor and outdoor units are misconnected,

（2）The communication line is loose, or the voltage regulator is broken.

（3）If all above reasons are OK, please directly replace the outdoor PCB.

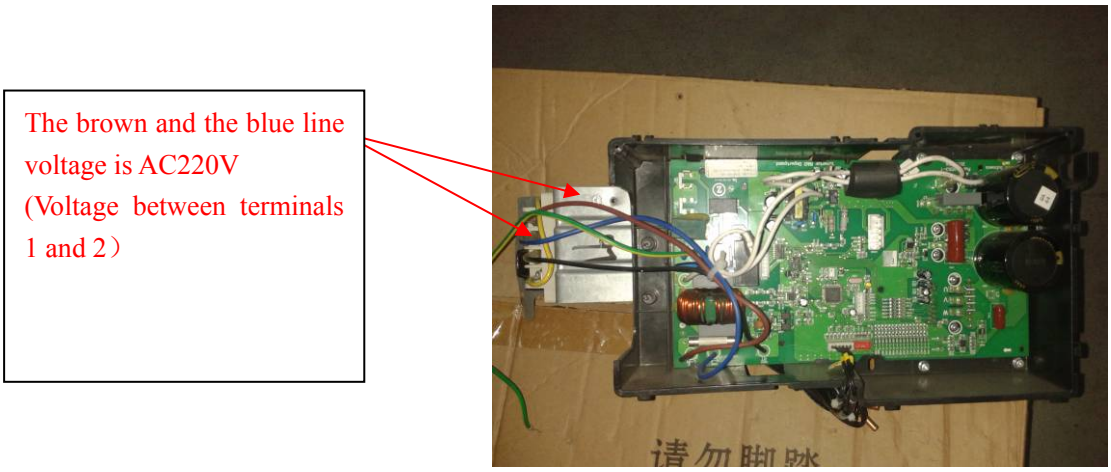
Checking methods:

（1） Check whether the connection of the indoor and outdoor units is correct. If not, please adjust and

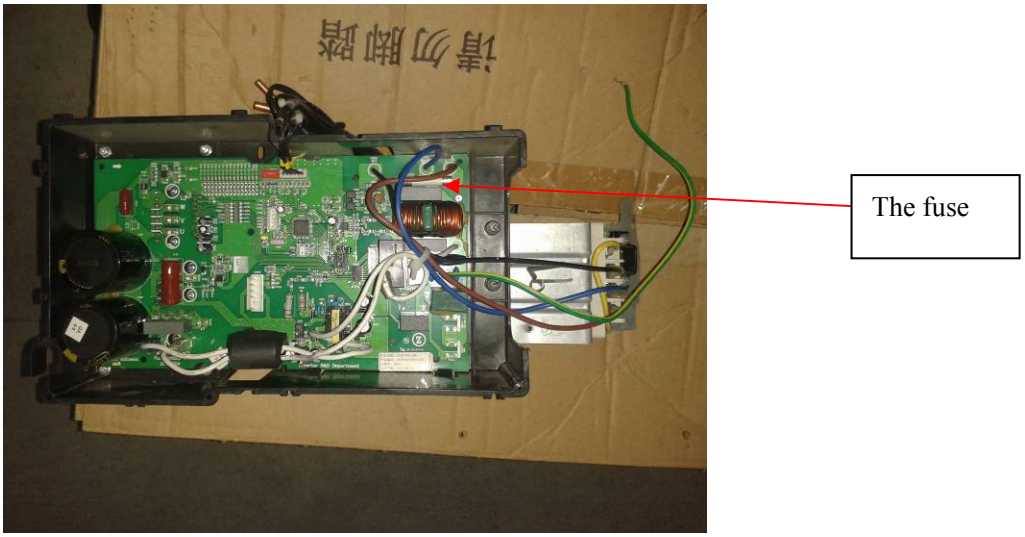
confirm again.

（2）Check whether the inserter part of the PCB is loose, if it is, please fix and confirm again.

（3）Check whether the alternating current(voltage) of the outdoor PCB is normal, or whether the fuse is loosened or blew out.

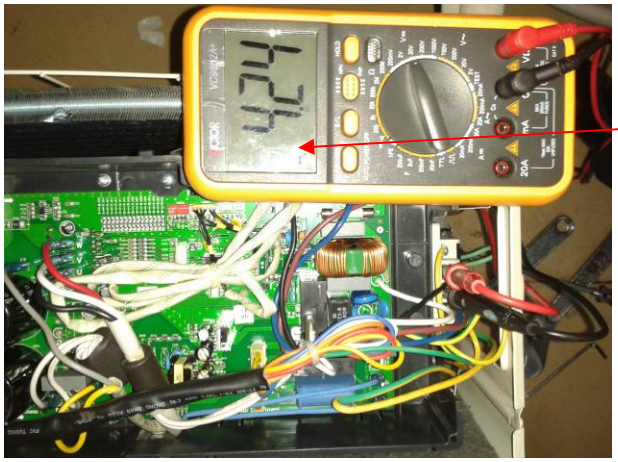


(the input voltage of the outdoor terminal)



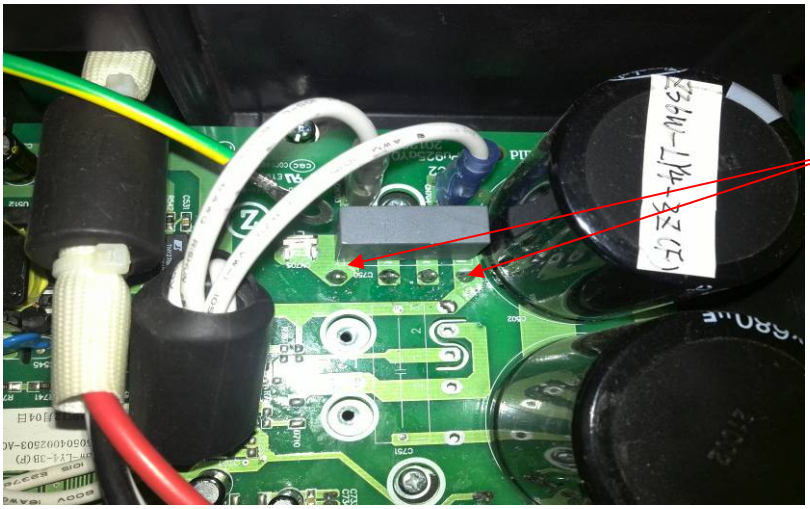
(the fuse can be gotten through under the normal situation. Change the fuse if it is open circuit.)

(4): With the DC pattern of the multimeter, please measure whether the voltage between the terminals S and N is 3-16V, if it's out of the range, please cut off the diode (30V) and test again. If the voltage keeps abnormal, replace the outdoor PCB



Normally, the voltage ranges from 3V to 15VDC.
(Volatge between terminals 2 and 3)

(5). check whether the voltage of the DC PN is normal. The normal voltage should be around 310V.

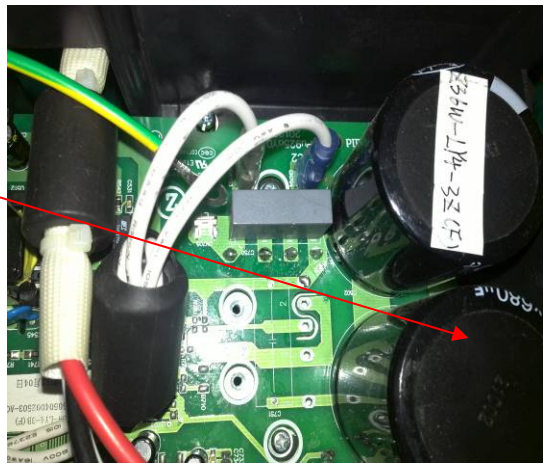


The two point voltage is DC310V

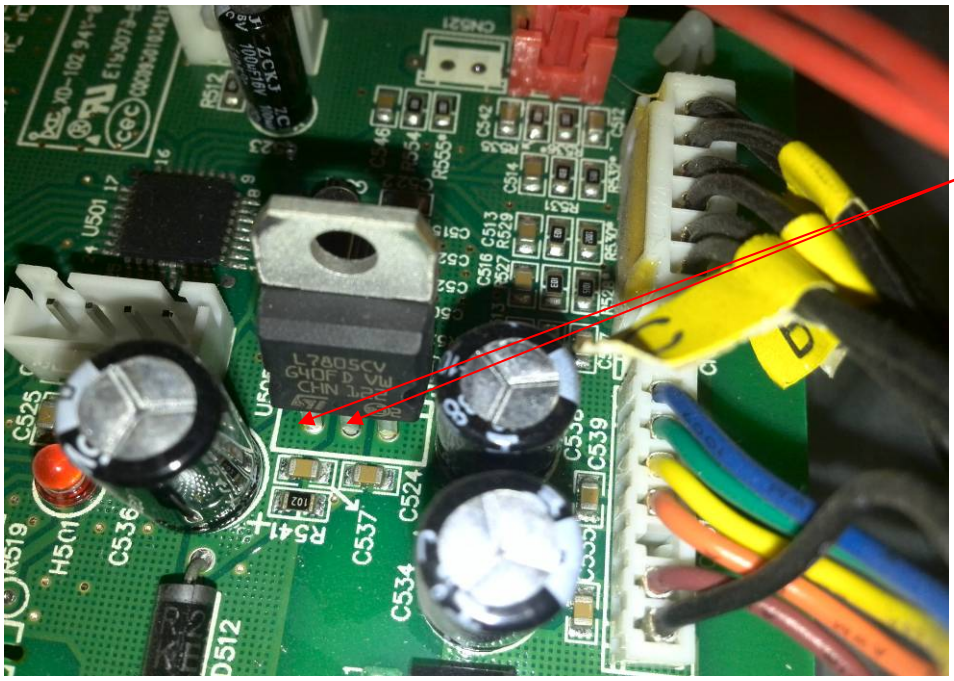
(the output voltage of the Bridge rectifier)

(6). check whether the electrolytic capacitor is convex or burned out.

Cracking and Convex?



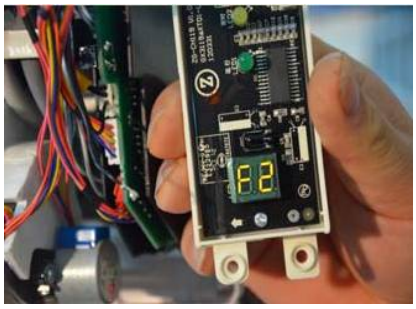
(7). Check whether the 7805 is damaged



(8). Check whether the relative electronic components are burned out or loose weld by eyeballing.

(9). If the problem can't be solved by above procedures, please change the outdoor PCB.

B、F2: Indoor ambient temp. sensor fault



1．Main causes: The sensor wire is loose or bad contacted, or the temp sensor is damaged. When make sure the sensor is OK, please check whether the corresponding integrity circuit has any components missing or damaged.

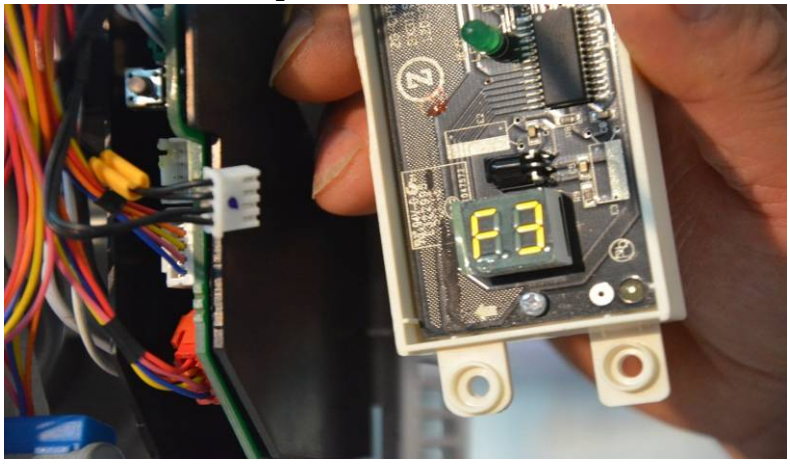
2．Checking methods:

（1）Check whether the sensor wire is short circuit or open circuit, and whether the plug is well contacted, whether there is welding off or rosin joint on the electric control board, repair it if there is any above.

（2）Check whether the sensor component on the indoor PCB is welding off or rosin joint, if there's any, it should be repaired.

（3）When the 1 and 2 are both normal, then the components or integrated circuit is damaged, the electric control board should be replaced

C、F3: Indoor coil temp. sensor fault:



1.Main causes: The sensor wire is loose or bad contacted, or the temp sensor is broken. When make sure the sensor is ok, please check whether the corresponding integrity circuit has any components missing or damaged.

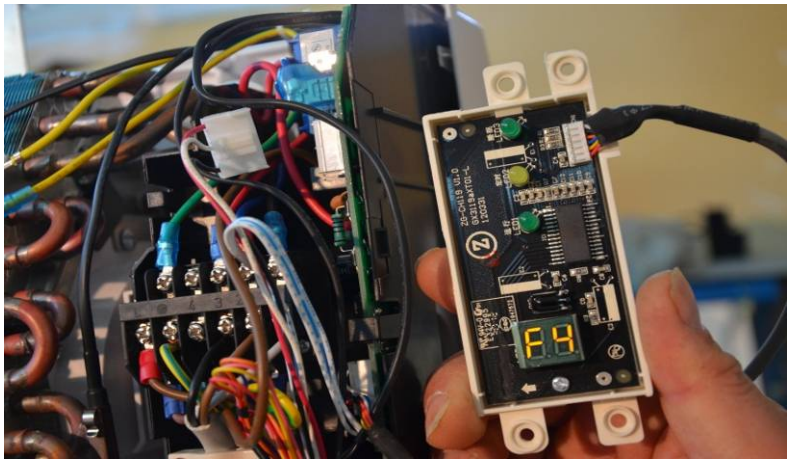
2. Checking methods:

(1) Check whether the sensor wire is short circuit or open circuit, and whether the plug is well contacted, whether there is welding off or rosin joint on the electric control board, repair it if there is any above.

(2) Check whether the sensor component on the indoor PCB is welding off or rosin joint, if there's any, it should be repaired.

(3) When the 1 and 2 are both normal, then the components or integrated circuit is damaged, the electric control board should be replaced.

D、F4: Indoor fan fault:



1. Main causes: No feedback pulse signal's come from the indoor fan. After 30s, the indoor displayer shows F4 and the indoor fan stops.

2. Checking methods:

(1)、Check whether the contact of the plug of the motor wire and socket is well, making sure well contact.

(2)、Check whether the indoor motor has damaged, the motor should be replaced when it is damaged.

(3)、Check whether the connections between the indoor motor bearings and the axial flow fan are reliable, or the empty running speed of the motor would be lower than 200r/min. If there's any problem about the connection, pls mend it.

(4)、Check whether the indoor fan is half-jammed or half-blocked. If so, mend it.

(5)、Check whether the indoor PCB has any electrical component broken, if so, replace the indoor PCB.

E、F5: Outdoor module fault:

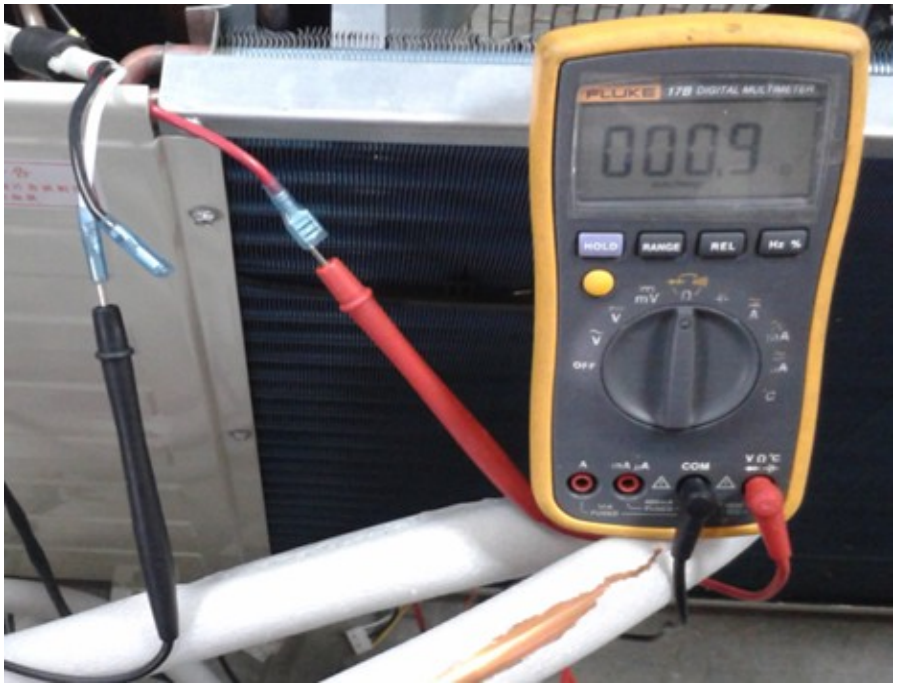
1. Main causes: The key point is to check the outdoor PCB and the drive circuit.

2. Checking methods:

(1)、Check whether the connections of the compressor are correct and reliable, otherwise it should be changed and reconnected firmly.

(2)、Check whether the fixation between the IPM module and the radiator is firm.

(3)、Check whether the compressor is OK. (Normally, the resistance of each couple windings between U,V,W should be around 1 to 2Ω), or the compressor must be changed.



(4)、Check whether the outdoor PCB is normally, if there's any abnormal, the outdoor PCB must be replaced.

F、F6：Outdoor ambient temp. sensor fault



Checking methods:

1、Check whether the sensor wire is short circuit or open circuit, and whether the plug is well contacted, whether there is welding off or rosin joint on the electric control board, repair it if there is any above.

2、Check whether the sensor component on the outdoor PCB is welding off or rosin joint, if there's any,

mend it.

3、When the 1 and 2 are both normal, then the components or integrated circuit is damaged, the electric control board should be replaced.

G、 F7：Outdoor coil temp. sensor fault



Checking methods:

1、Check whether the sensor wire is short circuit or open circuit, and whether the plug is well contacted, whether there is welding off or rosin joint on the electric control board, repair it if there is any above.

2、Check whether the sensor component on the outdoor PCB is welding off or rosin joint, if there's any, mend it.

3、When the 1 and 2 are both normal, then the components or integrated circuit is damaged, the electric control board should be replaced.

H、 F9：Compressor discharge temp. sensor fault



Checking methods:

1、Check whether the sensor wire is short circuit or open circuit, and whether the plug is well contacted, whether there is welding off or rosin joint on the electric control board, repair it if there is any above.

2. Check whether the sensor components on the outdoor PCB is welding off or rosin joint, if there's any, mend it.

3、When the 1 and 2 are both normal, then the components or integrated circuit is damaged, the electric control board should be replaced.

I、F0：PG motor zero crossing fault

Checking methods:

Replace the indoor PCB

J、 FC：Compressor drive abnormal fault:



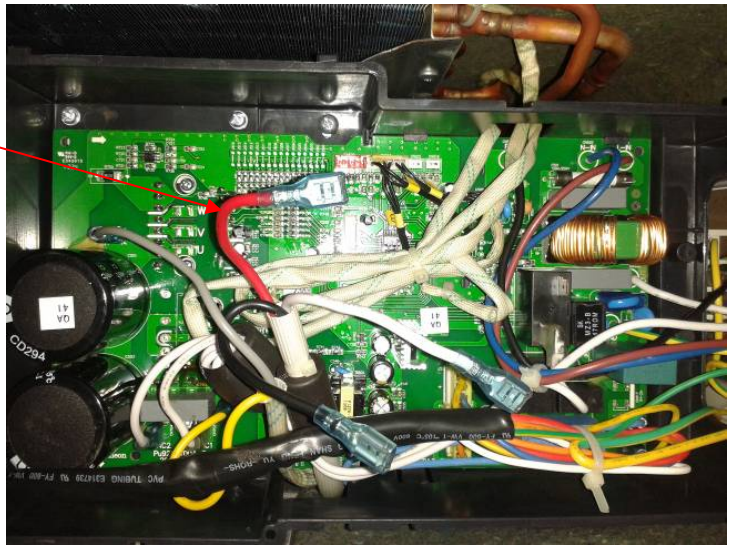
Checking methods:

1、Check whether the connections of the compressor are correct and reliable, otherwise correct and connect them firmly.

2、Check whether the compressor is OK. (Normally, the resistance of each couple of windings between U,V,W should be around 1~2Ω) , if it's abnormal, the compressor should be replaced.

3、If step 1 and 2 both are OK, then the outdoor PCB should be replaced.

If no connection between the compressor and the PCB, it will show FC.



K、 FH：Outdoor DC motor fault

Checking methods:

1、Check whether the outdoor DC motor is self-damaged, normally, the windings P and N shouldn't be short circuit. If so, the outdoor motor should be replaced.

2、Check whether the outdoor PCB is damaged, if so, the outdoor PCB should be replaced.

Descriptions for the protection code are as below:

A、P1: Evaporator temp. protection



Checking methods:

1、Check whether the filter of indoor unit is too dirty, and it should be cleaned when it is too dirty.

2、Check whether it has barrier around indoor unit, it should be remove if it has.

3、Check whether the indoor motor is damaged, if damaged, it should be replaced.

4、Check whether the indoor fan is blocked or jammed.

5、Check whether the indoor PCB is damaged, if so, the indoor PCB should be replaced.

B、P2:overheat, over current protection of inverter module

Protection preconditions: When the current is larger than 10A and the module temp is overheat. The outdoor LED flickers 10 times at 1HZ and the indoor digital tube shows P2.

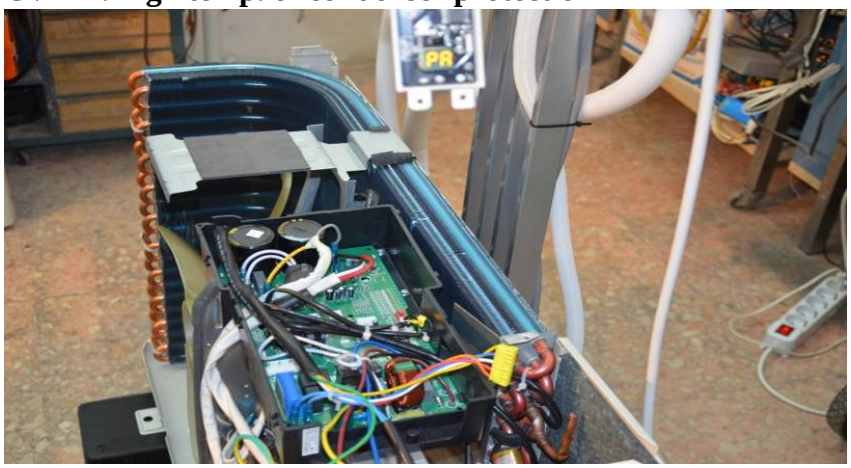
Checking methods:

1、Check whether the fixation between the IPM module and the radiator is firm.

2、Check whether the compressor is well, otherwise replace it.

3、Check whether the IPM module is abnormal, otherwise replace it.

C、PA: high temp. of condenser protection



Checking methods:

1、Check whether the condenser of outdoor unit is too dirty, and it should be cleaned when it is too dirty.

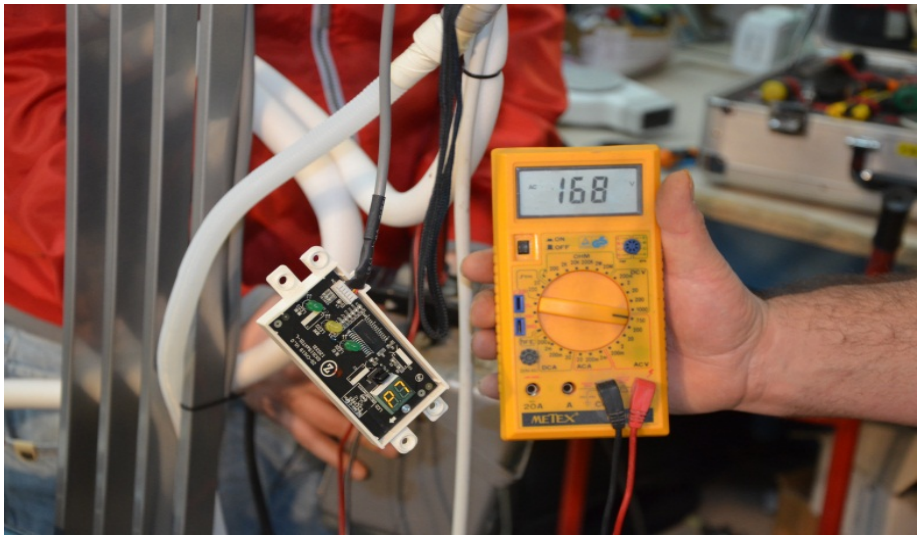
2、Check whether it is running at bad condition long time.

3、Check whether senors and wire are normal.

4、Check whether the outdoor motor fails to run due to self-damage, if so, the outdoor motor should be replaced.

5、Check whether the outdoor PCB is damaged, if so, the outdoor PCB should be replaced.

D、P7: power supply over less / over voltage protection



Checking methods:

1、Check whether the voltage of the power supply is out of the range 170~265V, if so, pls adjust the voltage into the normal range.

2、Check whether the outdoor PCB is damaged, if so, the outdoor PCB should be replaced.

E、PC: high temp. of outdoor ambient protection



Checking methods:

1、Check whether the outdoor ambient temp is too high or too low.

2、Check whether the sensor and its wirings are OK, if there's any abormal, the sensor should be replaced.

3、Check whether the outdoor PCB is damaged, if so, the outdoor PCB should be replaced.

F、88 error code:



Checking methods:

1、 Check whether the emergent button on the PCB is being pressed to a deadpoint, if so, open the cover of the electric box and shut down the power, then power on again and restart the unit.

2、 Check whether the emergent botton on the indoor PCB is damaged, if there's any abnormal, the indoor PCB should be replaced.

G、P4：Discharge temp of compressor protection



1. Check whether there's gas missing according to the pressure of the system. If so, pls charge enough refrigerant.

2. Check whether the discharging temp is super high because of poor ventilation. Such as the condenser is dirty, the outdoor unit is bad ventilated or the hot sunshine etc. Under this case, pls take necessary steps to guarantee a good ventilation.

Common contrast table for the temperature of the sensor and the value of the resistance----indoor Tr & Tp sensor(3274)

Temperature °c	Resistance Min (KΩ)	Standard (KΩ)	Resistance Max (KΩ)	Value of the voltage 5V、4.3K		Temperature °c	Resistance Min (KΩ)	Standard (KΩ)	Resistance Max (KΩ)	Value of the voltage 5V、4.3K	
				Drop down	Pull up					Drop down	Pull up
-30	51.195	52.840	54.521	0.38	4.62	**26**	4.771	4.821	4.871	2.36	2.64
-29	48.659	50.232	51.805	0.39	4.61	**27**	4.599	4.649	4.699	2.40	2.60
-28	46.299	47.772	49.248	0.41	4.59	**28**	4.434	4.485	4.535	2.45	2.55
-27	44.071	45.452	46.832	0.43	4.57	**29**	4.277	4.327	4.377	2.49	2.51
-26	41.968	43.261	44.554	0.45	4.55	**30**	4.126	4.176	4.226	2.54	2.46
-25	39.981	41.193	42.405	0.47	4.53	**31**	3.981	4.031	4.081	2.58	2.42
-24	38.102	39.238	40.375	0.49	4.51	**32**	3.842	3.892	3.942	2.62	2.38
-23	36.326	37.391	38.457	0.52	4.48	**33**	3.709	3.759	3.808	2.67	2.34
-22	34.646	35.645	36.645	0.54	4.46	**34**	3.581	3.631	3.680	2.71	2.29
-21	33.055	33.993	34.931	0.56	4.44	**35**	3.495	3.508	3.557	2.77	2.23
-20	31.550	32.430	34.310	0.59	4.41	**36**	3.340	3.389	3.438	2.80	2.20
-19	30.097	30.923	31.748	0.61	4.39	**37**	3.226	3.275	3.323	2.84	2.16
-18	28.722	29.497	30.271	0.64	4.36	**38**	3.117	3.165	3.213	2.88	2.12
-17	27.420	28.147	28.873	0.66	4.34	**39**	3.012	3.06	3.107	2.92	2.08
-16	26.186	26.868	27.55	0.69	4.31	**40**	2.912	2.959	3.006	2.96	2.04
-15	25.017	25.657	26.297	0.72	4.28	**41**	2.815	2.861	2.908	3.00	2.00
-14	23.908	24.509	25.11	0.75	4.25	**42**	2.722	2.768	2.814	3.04	1.96
13	22.857	23.421	23.98	0.78	4.22	**43**	2.633	2.678	2.724	3.08	1.92
-12	21.859	22.389	22.918	0.81	4.19	**44**	2.547	2.529	2.637	3.12	1.88
-11	20.912	21.409	21.907	0.84	4.16	**45**	2.464	2.509	2.553	3.16	1.84
-10	20.013	20.48	20.917	0.87	4.13	**46**	2.385	2.429	2.473	3.20	1.80
-9	19.116	19.584	20.023	0.90	4.10	**47**	2.308	2.352	2.395	3.23	1.77
-8	18.322	18.734	19.146	0.93	4.07	**48**	2.235	2.278	2.231	3.27	1.73
-7	17.540	17.927	18.314	0.97	4.03	**49**	2.164	2.207	2.249	3.30	1.70
-6	16.797	17.160	17.524	1.00	4.00	**50**	2.096	2.138	2.180	3.34	1.66
-5	16.090	16.431	16.733	1.04	3.96	**51**	2.030	2.071	2.112	3.37	1.63
-4	15.418	15.739	16.060	1.07	3.93	**52**	1.966	2.006	2.047	3.41	1.59
-3	14.779	15.080	15.382	1.11	3.89	**53**	1.904	1.944	1.984	3.44	1.54
-2	14.170	14.454	14.737	1.15	3.85	**54**	1.844	1.884	1.923	3.48	1.52
-1	13.591	13.857	14.124	1.18	3.82	**55**	1.787	1.826	1.865	3.51	1.49
0	13.040	13.290	13.54	1.22	3.78	**56**	1.732	1.770	1.809	3.54	1.16
1	12.505	12.739	12.974	1.26	3.74	**57**	1.679	1.717	1.754	3.57	1.43
2	11.995	12.215	12.436	1.30	3.70	**58**	1.628	1.665	1.702	3.60	1.40
3	11.509	11.717	11.924	1.34	3.66	**59**	1.579	1.615	1.652	3.63	1.37
4	11.047	11.241	11.436	1.38	3.62	**60**	1.531	1.567	1.603	3.66	1.34
5	10.606	10.789	10.971	1.42	3.58	**61**	1.485	1.521	1.556	3.69	1.31
6	10.186	10.357	10.529	1.47	3.53	**62**	1.441	1.476	1.511	3.72	1.28
7	9.785	9.945	10.107	1.51	3.49	**63**	1.399	1.433	1.467	3.75	1.25
8	9.403	9.554	9.705	1.55	3.45	**64**	1.357	1.391	1.425	3.78	1.22
9	9.038	9.180	9.322	1.59	3.41	**65**	1.318	1.351	1.384	3.80	1.20
10	8.690	8.823	8.956	1.64	3.36	**66**	1.279	1.312	1.344	3.83	1.17
11	8.357	8.482	8.607	1.68	3.32	**67**	1.242	1.274	1.306	3.86	1.14

12	8.040	8.157	8.274	1.73	3.27	**68**	1.206	1.237	1.269	3.88	1.12
13	7.736	7.816	7.957	1.77	3.23	**69**	1.171	1.202	1.233	3.91	1.09
14	7.446	7.550	7.653	1.81	3.19	**70**	1.137	1.168	1.199	3.93	1.07
15	7.169	7.226	7.363	1.86	3.14	**71**	1.105	1.135	1.165	3.96	1.04
16	6.900	6.991	7.082	1.90	3.10	**72**	1.074	1.103	1.133	3.98	1.02
17	6.644	6.729	6.814	1.95	3.05	**73**	1.043	1.072	1.101	4.00	1.00
18	6.398	6.478	6.558	1.99	3.01	**74**	1.014	1.043	1.071	4.02	0.98
19	6.163	6.238	6.313	2.04	2.96	**75**	0.986	1.014	1.042	4.05	0.95
20	5.938	6.008	6.078	2.09	2.91	**76**	0.959	0.986	1.014	4.07	0.93
21	5.723	5.789	5.854	2.13	2.87	**77**	0.932	0.959	0.986	4.09	0.91
22	5.517	5.578	5.64	2.18	2.82	**78**	0.907	0.933	0.960	4.11	0.89
23	5.320	5.377	5.484	2.22	2.78	**79**	0.882	0.908	0.934	4.13	0.87
24	5.131	5.185	5.238	2.27	2.73	**80**	0.858	0.884	0.910	4.15	0.85
25	4.950	5	5.05	2.31	2.69	**81**					

Common contrast table for the temperature of the sensor and the value of the resistance----Discharge sensor(3950)

Contrast table for features of resistance and temp (R－T CONVERSION TABLE)----Discharge sensor RB25B=50KΩ±2% BB25/85 B=3950K±2% (T/℃ Rcen)

-40	1666.000	1	152.800	42	24.590	83	5.796
-39	1558.000	2	145.300	43	23.630	84	5.612
-38	1458.000	3	138.300	44	22.720	85	5.433
-37	1366.000	4	131.700	45	21.840	86	5.255
-36	1279.000	5	125.400	46	21.010	87	5.082
-35	1199.000	6	119.400	47	20.210	88	4.916
-34	1124.000	7	113.800	48	19.440	89	4.755
-33	1055.000	8	108.400	49	18.710	90	4.600
-32	989.900	9	103.400	50	18.010	91	4.451
-31	929.400	10	98.580	51	17.370	92	4.306
-30	873.000	11	94.040	52	16.750	93	4.167
-29	820.400	12	89.730	53	16.160	94	4.032
-28	771.300	13	85.640	54	15.590	95	3.902
-27	725.500	14	81.760	55	15.040	96	3.776
-26	682.700	15	78.080	56	14.520	97	3.655
-25	642.600	16	74.590	57	14.010	98	3.537
-24	605.200	17	71.270	58	13.520	99	3.424
-23	570.200	18	68.120	59	13.050	100	3.315
-22	537.400	19	65.120	60	12.600	101	3.209
-21	506.700	20	62.280	61	12.170	102	3.107

-20	477.900	21	59.570	62	11.750	103	3.009
-19	450.900	22	57.000	63	11.350	104	2.914
-18	425.600	23	54.550	64	10.960	105	2.822
-17	401.900	24	52.220	65	10.590	106	2.733
-16	379.600	25	50.000	66	10.230	107	2.647
-15	358.700	26	47.860	67	9.884	108	2.565
-14	339.100	27	45.830	68	9.551	109	2.484
-13	320.700	28	43.890	69	9.231	110	2.407
-12	303.500	29	42.040	70	8.922	111	2.332
-11	287.200	30	40.280	71	8.625	112	2.260
-10	271.900	31	38.610	72	8.339	113	2.190
-9	257.600	32	37.010	73	8.063	114	2.122
-8	244.100	33	35.490	74	7.797	115	2.057
-7	231.300	34	34.040	75	7.541	116	1.994
-6	219.400	35	32.660	76	7.294	117	1.933
-5	208.100	36	31.340	77	7.056	118	1.874
-4	197.400	37	30.080	78	6.826	119	1.817
-3	187.400	38	28.880	79	6.605	120	1.761
-2	178.000	39	27.730	80	6.329		
-1	169.100	40	26.630	81	6.186		
0	160.600	41	25.590	82	5.988		

Common contrast table for the temperature of the sensor and the value of the resistance----outdoor Tout & Tp sensor (3470)

Temperature (℃)	Resistance Min (KΩ)	Standard (KΩ)	Resistance Max (KΩ)	Temperature (℃)	Resistance Min (KΩ)	Standard (KΩ)	Resistance Max (KΩ)
-30	61.300	63.513	65.799	28	4.4076	4.4572	4.5070
-29	58.071	60.135	62.266	29	4.2422	4.2916	4.3412
-28	55.031	56.956	58.942	30	4.0840	4.1331	4.1824
-27	52.167	53.963	55.814	31	3.9326	3.9813	4.0303
-26	49.468	51.144	52.870	32	3.7875	3.8359	3.8846
-25	46.925	48.488	50.098	33	3.6486	3.6966	3.7449
-24	44.527	45.985	47.487	34	3.5156	3.5632	3.6110
-23	42.265	43.627	45.028	35	3.3881	3.4352	3.4826
-22	40.131	41.403	42.713	36	3.2659	3.3125	3.3595

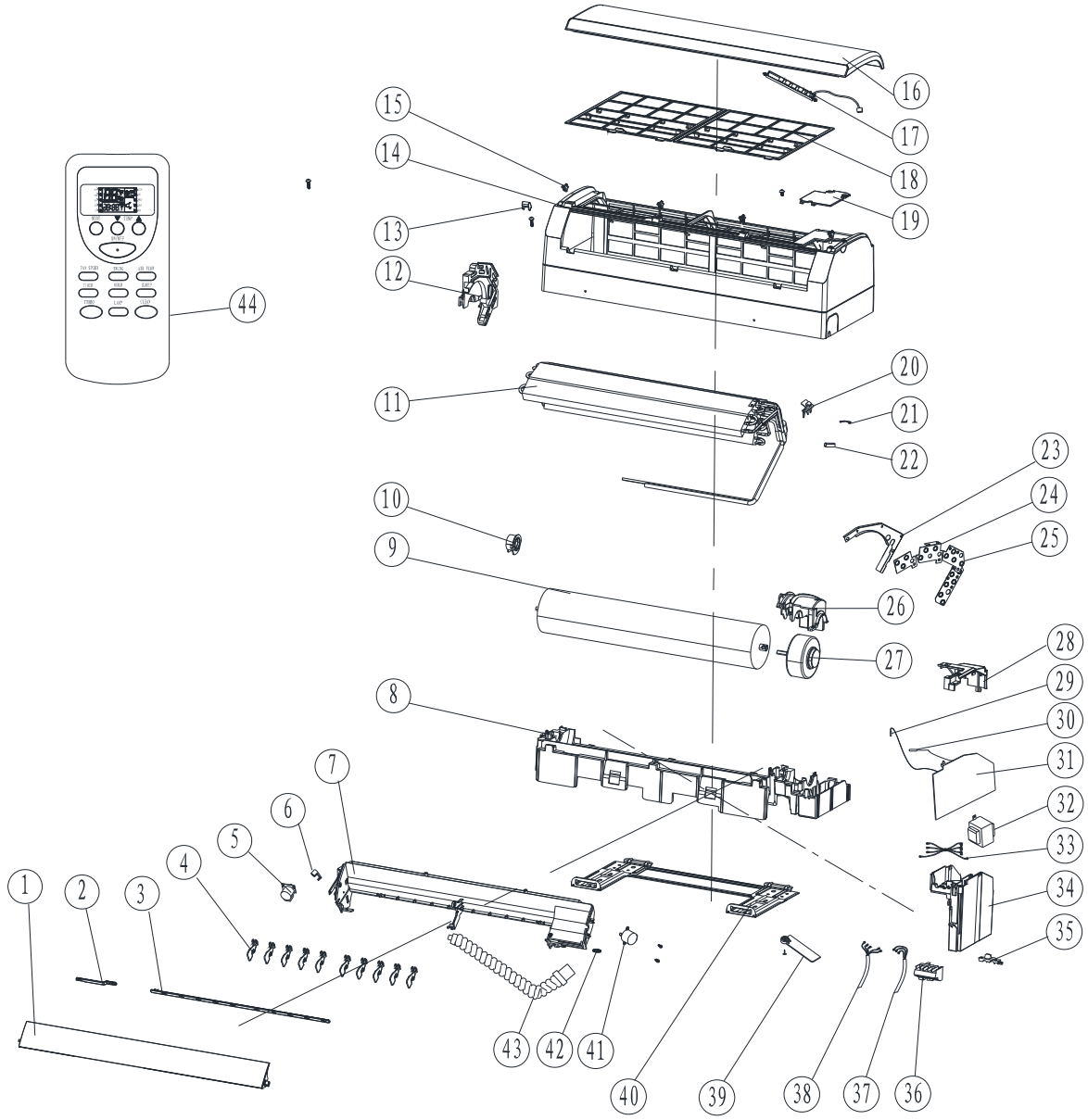
-21	38.118	39.305	40.525	37	3.1488	3.1949	3.2413
-20	36.217	37.326	38.465	38	3.0365	3.0821	3.1280
-19	34.423	35.458	36.521	39	2.9288	2.9738	3.0192
-18	32.728	33.695	34.688	40	2.8255	2.8699	2.9147
-17	31.127	32.030	32.957	41	2.7263	2.7702	2.8145
-16	29.613	30.458	31.323	42	2.6312	2.6744	2.7181
-15	28.183	29.780	29.972	43	2.5398	2.5825	2.6256
-14	26.830	27.567	28.322	44	2.4521	2.4942	2.5367
-13	25.550	26.239	26.945	45	2.3679	2.4093	2.4513
-12	24.339	24.984	25.643	46	2.2870	2.3278	2.3691
-11	23.193	23.796	24.411	47	2.2093	2.2495	2.2902
-10	22.108	22.671	23.246	48	2.1345	2.1741	2.2142
-9	21.080	21.606	22.144	49	2.0627	2.1017	2.1412
-8	20.106	20.598	21.101	50	1.9937	2.0321	2.0709
-7	19.183	19.644	20.113	51	1.9273	1.9651	2.0033
-6	18.308	18.739	19.178	52	1.8635	1.9006	1.9382
-5	17.478	17.881	18.292	53	1.8020	1.8385	1.8756
-4	16.691	17.068	17.452	54	1.7429	1.7788	1.8153
-3	15.944	16.297	16.655	55	1.6861	1.7213	1.7572
-2	15.236	15.565	15.900	56	1.6313	1.6660	1.7012
-1	14.562	14.871	15.184	57	1.5786	1.6127	1.6473
0	13.923	14.212	14.504	58	1.5278	1.5613	1.5954
1	13.316	13.586	13.859	59	1.4789	1.5119	1.5453
2	12.739	12.991	13.247	60	1.4318	1.4642	1.4971
3	12.190	12.426	12.665	61	1.3865	1.4182	1.4506
4	11.669	11.889	12.112	62	1.3427	1.3739	1.4057
5	11.172	11.378	11.587	63	1.3006	1.3312	1.3624
6	10.700	10.893	11.088	64	1.2600	1.2900	1.3207
7	10.251	10.431	10.613	65	1.2208	1.2503	1.2804
8	9.8231	9.9912	10.161	66	1.1830	1.2120	1.2416
9	9.4157	9.5727	9.7315	67	1.1465	1.1750	1.2041
10	9.0276	9.1743	9.3225	68	1.1114	1.1393	1.1679
11	8.6578	8.7948	8.9330	69	1.0775	1.1049	1.1329
12	8.3054	8.4372	8.5622	70	1.0447	1.0716	1.0992
13	7.9693	8.0886	8.2089	71	1.0131	1.0395	1.0666
14	7.6489	7.7602	7.8723	72	0.9826	1.0085	1.0351
15	7.3432	7.4470	7.5515	73	0.9531	0.9786	1.0046
16	7.0515	7.1482	7.2455	74	0.9247	0.9497	0.9752
17	6.7731	6.8632	6.9538	75	0.8792	0.9217	0.9468
18	6.5073	6.5912	6.6755	76	0.8707	0.8947	0.9194
19	6.2534	6.3315	6.4099	77	0.8450	0.8686	0.8928
20	6.0109	6.0836	6.1565	78	0.8202	0.8434	0.8671
21	5.7792	5.8467	5.9145	79	0.7963	0.8190	0.8423

22	5.5578	5.6205	5.6833	80	0.7731	0.7954	0.8183
23	5.3461	5.4043	5.4626	81	0.7508	0.7726	0.7951
24	5.1436	5.1976	5.2516	82	0.7291	0.7506	0.7726
25	4.9500	5.0000	5.0500	83	0.7082	0.7292	0.7509
26	4.7611	4.8110	4.8610	84	0.6879	0.7086	0.7298
27	4.5804	4.6302	4.6801	85	0.6684	0.6886	0.7094
28	4.4076	4.4572	4.5070	86	0.6494	0.6693	0.6897

Exploded View and Parts List

1. Indoor Unit

9K

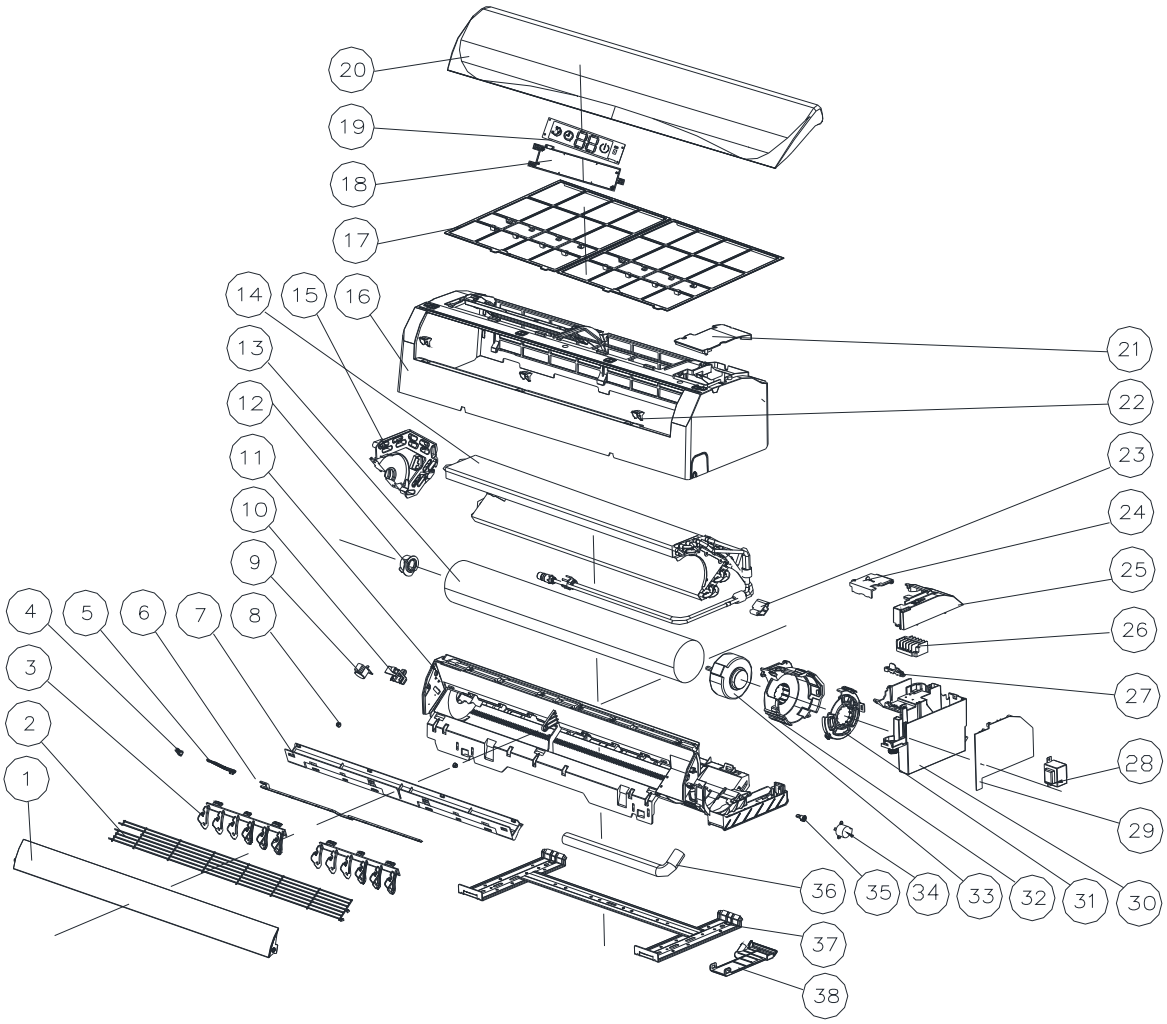


The component picture is only for reference; please refer to the actual product.

No.	model	9K indoor	Qty
	Part Name	**Part Code**	
44	Remote controller	A050505000520-R0	1
43	Thermal insulation pipe	389000030R	1
42	Waterproof loop	/	1
41	Step motor	320273012R	1
40	Wall-mounting frame	A050602000022-R0	1
39	Pipe Clamp	100430027R	1
38	Connecting Cable	A050508000112-R0	1
37	Power Wire	050010042R	1
36	Terminal Board	A050515000057-R0	1
35	Wire Clip	A050601001778-R0	1
34	Electric box	A050999000591-R0	1
33	Connecting Wire	348600065R	1
		348300033R	1
32	Transformer	/	1
31	Electric control plate	A050530000313-R0	1
30	Tube Temp. Sensor	清单未列出此物料	1
29	Room Temp. Sensor		
28	Electric box cover	A050601001218-R0	1
27	Motor	030020115R	1
26	Motor Clamp	A050999000424-R0	1
25	Evaporator right plate III	/	1
24	Evaporator right plate II	/	1
23	Evaporator right plate I	/	1
22	Sensor pipe	079990030R	1
21	Insert Block	079990240R	1
20	Room temp. Sensor Holder	A050698000151-R0	1
19	Middle frame coverplate	A050601001166-R0	1
18	air Filter	A050601001216-R0	2
17	Display box	A050519000011-R0	1
16	Front Panel	A050601003161-R0	1
15	Codjntant button	/	4
14	Middle frame	A050999000422-R0	1
13	Screw cover	A050601000558-R0	3
12	Evaporator left plate	/	1
11	Evaporator assembly	A050909000326-R0	1
10	Cross flow fan bearing seat	A050601000135-R0	1
9	Cross flow fan	A050999000423-R0	1
8	Base	A050958000048-R0	1
7	Outlet part	A050999000425-R0	1
6	Rocker	/	1
5	Step motor	Optional material	1
4	Swing Louver	/	10
3	Connecting lever	/	1
2	Connecting lever	/	1
1	Louver	A050616000283-R0	1

Above data is subject to change without notice.

12K

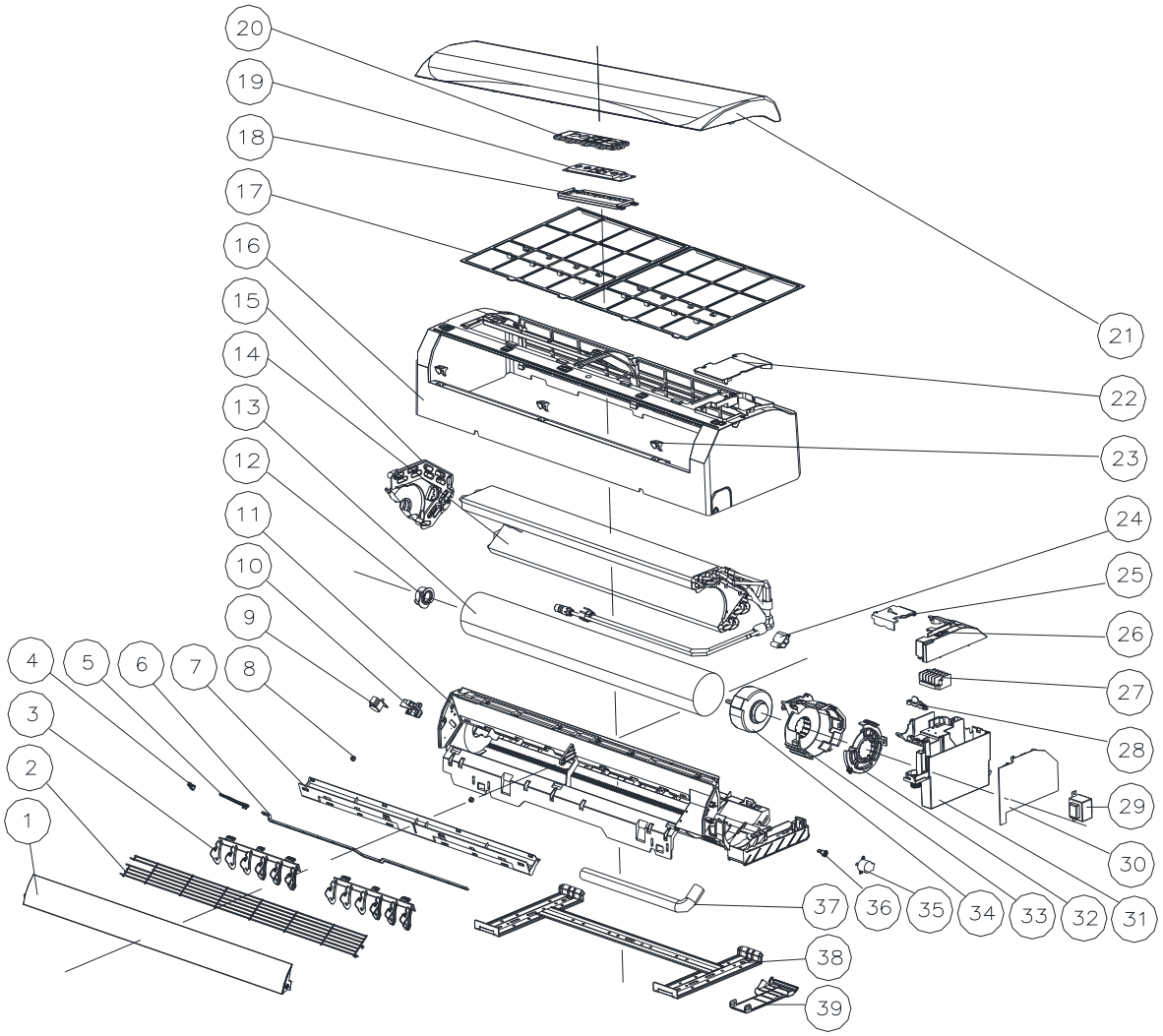


The component picture is only for reference; please refer to the actual product.

No.	model	12K indoor	Qty
	Part Name	**Part Code**	
38	Pipe Clamp	A050601002443-R0	1
37	Wall-mounting frame	A050915000022-R0	1
36	Theraml insulation pipe	A050698000133-R0	1
35	Louver shaft	A050601001644-R0	1
34	Louver motor	320273012R	1
33	motor	A050501000286-R0	1
32	motor block	A050601003314-R0	1
31	Motor Clamp	A050601003315-R0	1
30	Electric box	A050601002442-R0	1
29	Electric control plate_ass	A050530000314-R0	1
28	Transformer	/	1
27	Wire clip	A050601001778-R0	1
26	Terminal Board	030090267R	1
25	Electric box cover	A050601002446-R0	1
24	Active board of electric box cover	391110073R	1
23	Protecting pipe sleeve	A050601003400-R0	1
22	Screw cover	A050601002448-R0	3
21	Middle frame cover plate	A050601002489-R0	1
20	Front Panel	A050601003162-R0	1
19	Display lamp	A050519000010-R0	1
18	Display box		
17	Air Filter	A050601003110-R0	2
16	Middle frame	A050961000114-R0	1
15	Left plaste plate of Evaporator	/	1
14	Evaporator	A050901001341-R0	1
13	Cross flow fan	A050613000067-R0	1
12	Bearing block of flow fan	/	1
11	Base	A050958000208-R0	1
10	Third wind motor support	Optional material	1
9	Third wind motor	Optional material	1
8	Guide Bearing	/	2
7	Volute tongue	/	1
6	Connecting lever2	/	1
5	Connecting lever1	/	1
4	Connecting rod	/	1
3	Swing Louver	/	2
2	Air Outlet Grill	/	1
1	Louver	A050966000164-R0	1

Above data is subject to change without notice.

18K

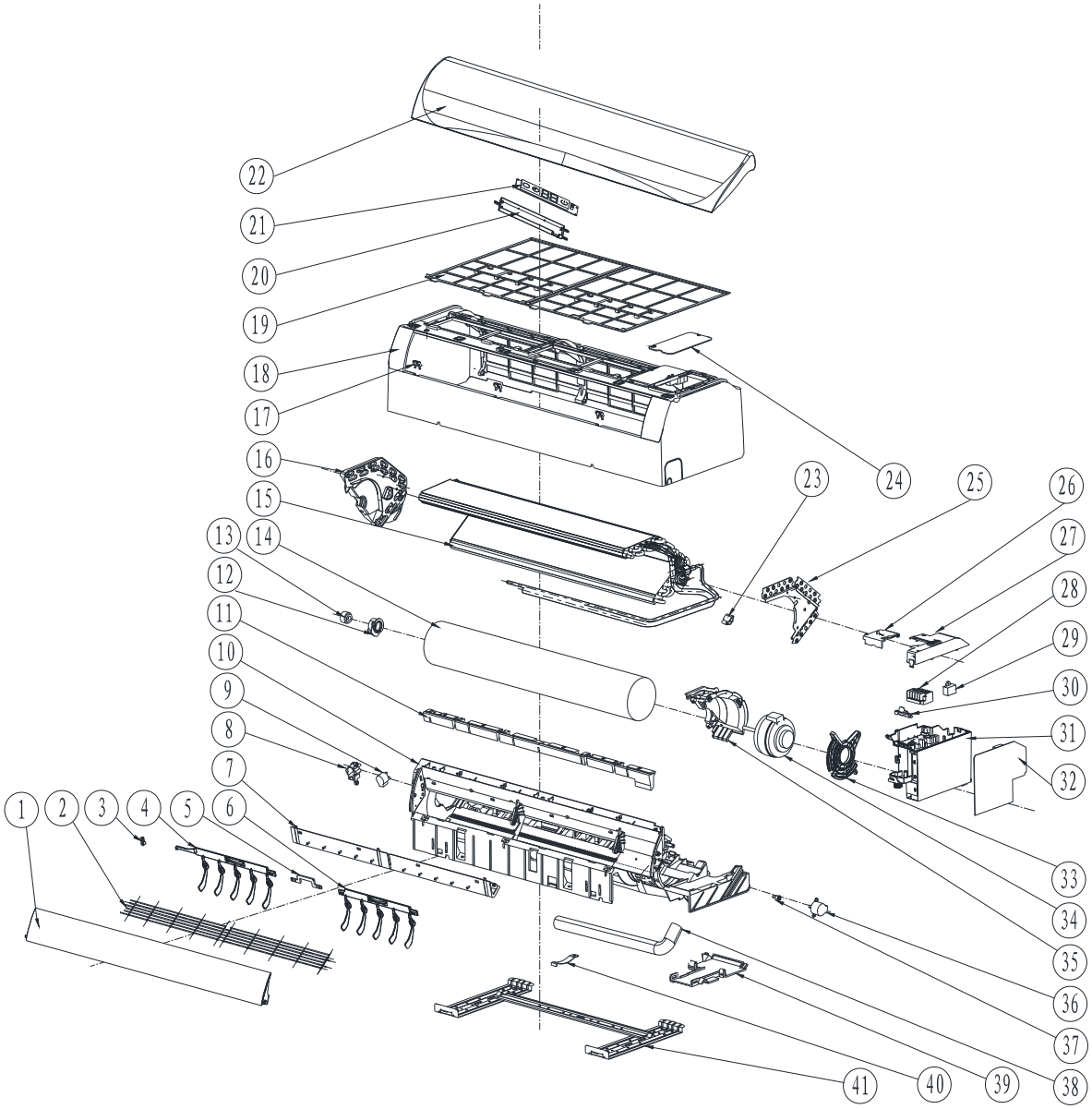


The component picture is only for reference; please refer to the actual product.

No.	model	18K indoor	Qty
	Part Name	**Part Code**	
39	Pipe Clamp	A050601002443-R0	1
38	Wall-mounting frame	A050915000020-R0	1
37	Theraml insulation pipe	A050698000133-R0	1
36	Louver shaft	A050601001644-R0	1
35	Louver motor	320273012R	1
34	motor	A050501000286-R0	1
33	motor block	A050601003314-R0	1
32	Motor Clamp	A050601003315-R0	1
31	Electric box	A050601002442-R0	1
30	Electric control plate_ass	A050530000301-R0	1
29	Transformer	/	1
28	Wire clip	A050601001778-R0	1
27	Terminal Board	030090267R	1
26	Electric box cover	A050601002446-R0	1
25	Active board of electric box cover	391110073R	1
24	Protecting pipe sleeve	A050601002067-R0	1
23	Screw cover	A050601002448-R0	3
22	Middle frame cover plate	A050601002489-R0	1
21	Front Panel	A050601003155-R0	1
20	Display box cover	A050519000010-R0	1
19	Display lamp		
18	Display box		
17	Air Filter	A050601002651-R0	2
16	Middle frame	A050961000105-R0	1
15	Left plate of Evaporator	/	1
14	Evaporator	A050901001143-R0	1
13	Cross flow fan	A050601003987-R0	1
12	Bearing block of flow fan	/	1
11	Base	A050958000205-R0	1
10	Third wind motor support	Optional material	1
9	Third wind motor	Optional material	1
8	Guide Bearing	/	2
7	Volute tongue	/	1
6	Connecting lever2	/	1
5	Connecting lever1	/	1
4	Connecting rod	/	1
3	Swing Louver	/	2
2	Air Outlet Grill	/	1
1	Louver	A050966000163-R0	1

Above data is subject to change without notice.

24K



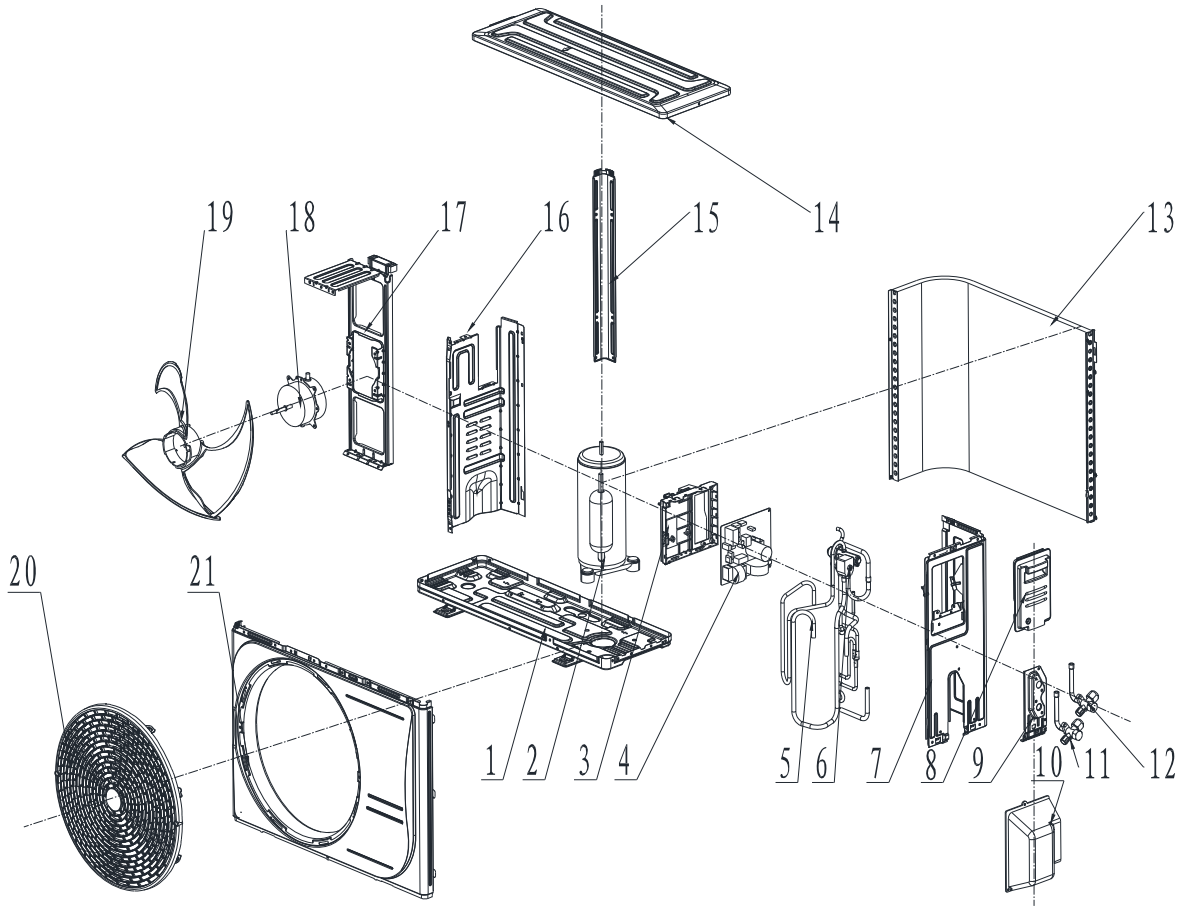
The component picture is only for reference; please refer to the actual product.

No.	model	24K indoor	Qty
	Part Name	**Part Code**	
41	Wall-mounting frame	A050915000028-R0	1
40	Sheet metal pressure tube sheet	029991901R	1
39	Plastic tube sheet pressure	A050601003212-R0	1
38	Theraml insulation pipe	A050699000415-R0	1
37	Louver shaft	A050601001644-R0	1
36	Louver motor	320273047R	1
35	Motor Clamp	A050601003248-R0	1
34	motor	A050501000328-R0	1
33	motor block	A050601003214-R0	1
32	Electric control plate_ass	A050530000316-R0	1
31	Electric box	A050601003226-R0	1
30	Wire clip	A050601001778-R0	1
29	capacitance	/	1
28	Terminal Board	030090267R	1
27	Electric box cover	A050601003213-R0	1
26	Active board of electric box cover	391110073R	1
25	Rigt plate of Evaporator	/	1
24	Middle frame cover plate	A050601001583-R0	1
23	Protecting pipe sleeve	A050601003401-R0	1
22	Front Panel Component	A050601003800-R0	1
21	Display lamp	A050519000013-R0	1
20	Display box		
19	Air Filter	A050601003653-R0	2
18	Middle frame	A050999001126-R0	1
17	Screw cover	A050601003211-R0	3
16	Left plate of Evaporator	/	1
15	Evaporator	A050901001141-R0	1
14	Cross flow fan	A050999001129-R0	1
13	Bearing block of flow fan		
12	The wind vane bearing installation	A050601000135-R0	1
11	Foam insulation	/	1
10	Base	A050935000289-R0	1
9	Third wind motor	Optional material	1
8	Third wind motor support	Optional material	1
7	Volute tongue	/	1
6	Swing Louver 2	/	1
5	Connecting lever	/	1
4	Swing Louver 1	/	1
3	Connecting rod	/	1
2	Air Outlet Grill	/	1
1	Louver	A050966000161-R0	1

Above data is subject to change without notice.

2. Outdoor Unit

9K & 12K



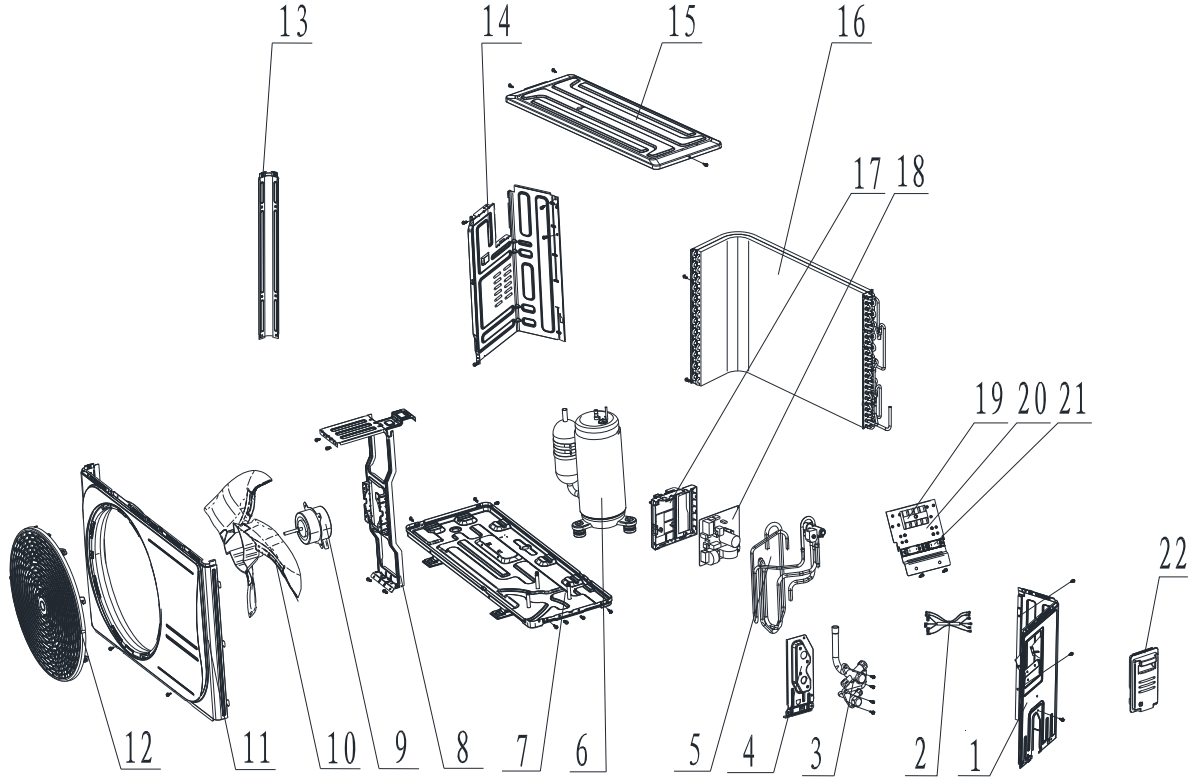
The component picture is only for reference; please refer to the actual product.

No.	model	9K oudoor	12K oudoor	Qty
	Part Name	**Part Code**	**Part Code**	
21	Front Plate	A050317000058-R0	A050317000058-R0	1
20	Front Grill	A050311000009-R0	A050311000009-R0	1
19	Axial flow fan	A050305000070-R0	A050305000070-R0	1
18	Motor	A050520000014-R0	A050520000014-R0	1
17	Motor support	A050317000053-R0	A050317000053-R0	1
16	Partition board	A050904000283-R0	A050904000283-R0	1
15	Pillar	A050317000054-R0	A050317000054-R0	1
14	Top panel	A050317000059-R0	A050317000059-R0	1
13	Condenser	A050402000166-R0	A050402000166-R0	1
12	Low-pressure valve	A050407000061-R0	A050407000061-R0	1
11	High-pressure valve	A050407000058-R0	A050407000058-R0	1
10	Valve cover	Optional material	Optional material	1
9	Valve installation plate	A050606000572-R0	A050606000572-R0	1
8	Large handle	A050311000006-R0	A050311000006-R0	1
7	Right panel	A050317000057-R0	A050317000057-R0	1
6	Four-way valve	A050407000019-R0	A050407000019-R0	1
5	Piping system	Many	Many	1
4	Electrical panels	A050902000814-R0	A050902000815-R0	1
3	Electrical box			
2	The compressor	A050901001271-R0	A050901001271-R0	1
1	base	A050903000261-R0	A050903000261-R0	1

Piping system including many pipes, not listed one by one

Above data is subject to change without notice.

18K & 24K



The component picture is only for reference; please refer to the actual product.

No.	model	18K oudoor	24K oudoor	Qty
	Part Name	**Part Code**	**Part Code**	
22	Large handle	A050311000006-R0	A050311000006-R0	1
21	Wire Clip	A050698000030-R0	A050698000030-R0	1
		A050698000035-R0	A050698000035-R0	1
20	Electrical panels	A050317000122-R0	A050317000122-R0	1
19	Terminal Board	A050518000015-R0	A050518000015-R0	1
18	Electrical Control panels	A050902000803-R0	A050902000805-R0	1
17	Electrical box			
16	Condenser	A050402000172-R0	A050402000176-R0	1
15	Top panel	A050317000050-R0	A050317000050-R0	1
14	Partition board	A050317000086-R0	A050317000086-R0	1
13	Pillar	A050317000045-R0	A050317000045-R0	1
12	Front Grill	A050311000008-R0	A050311000008-R0	1
11	Front Plate	A050317000049-R0	A050317000049-R0	1
10	Axial flow fan	A050699000500-R0	A050699000500-R0	1
9	Motor	A050520000024-R0	A050520000024-R0	1
8	Motor support	A050317000081-R0	A050317000081-R0	1
7	Base	A050903000279-R0	A050903000326-R0	1
6	Compressor	A050901001301-R0	A050401001672-R0	1
5	Pipe system	Many	Many	1
4	Valve installation plate	A050606000572-R0	A050606000572-R0	1
3	High/Low-pressure valve	A050407000058-R0	A050407000058-R0	1
		A050407000061-R0	A050407000088-R0	1
2	Power cord	348300010R	343100087R	1
1	Right panel	A050317000048-R0	A050317000048-R0	1

Piping system including many pipes, not listed one by one

Above data is subject to change without notice.