# 1. OPTION LIST

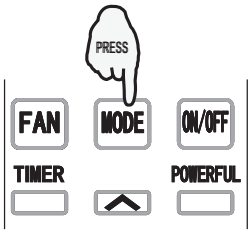
◆ ***What you can do in AUTO mode?***

| Your feeling | Button | Adjust |
|---|---|---|
| Uncomfortable because of unsuitable air flow volume. | FAN | Indoor fan speed alternates among Auto, Low, Medium and High each time this button is pressed. |
| Uncomfortable because of unsuitable flow direction. | LEFT/RIGHT<br>UP/DOWN | Press it once, the horizontal adjustment louver(vertical adjustment louver) swings to change vertical airflow direction(horizontal airflow direction). Press it again, swings stops. |

◆ ***How to cancel the AUTO mode?***

Press the MODE button.

**Result :** The AUTO mode will be cancelled.




## POWERFUL mode

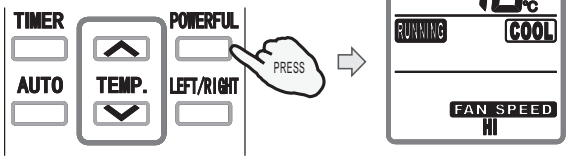
**POWERFUL** mode is used to start or stop fast cooling or heating only when the unit is on.

In **POWERFUL** mode, you can set temperature, airflow direction or timer.

◆ ***How to set POWERFUL mode?***

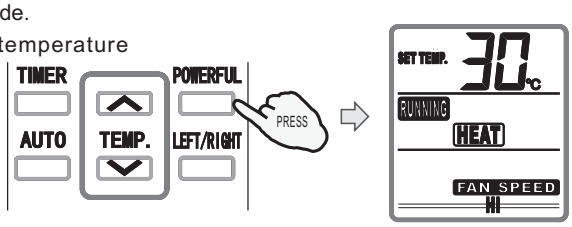
Press **POWERFUL** button at the cool, dry and fan mode.

**Result :** At high fan speed, the set temperature automatically to 16℃.




Press **POWERFUL** button at the heat mode.

**Result :** At high fan speed, the set temperature automatically to 30℃.




◆ ***How to cancel POWERFUL mode?***

Press POWERFUL, MODE, FAN, ON/OFF button.

**Result :** The display return to the original mode.
Escape from POWERFUL mode.

***Note:***
***POWERFUL button is not available in AUTO mode.***

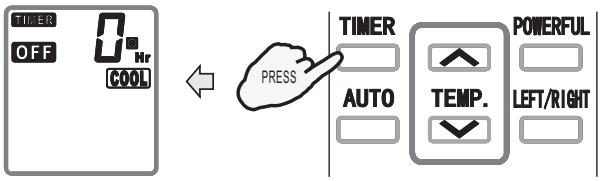

## Timer mode

It is convenient to set the timer on with **TIMER** button when you go out in the morning to achieve a comfortable room temperature at the time you get home. You can also set timer off at night to enjoy a good sleep.

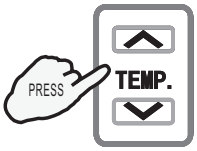
# 1. OPTION LIST

◆ ***How to set TIMER ON ?***

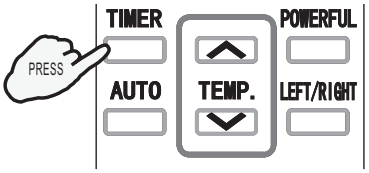
1. Press **TIMER** button when the unit is off.
   **Result :** TIMER and Hr flash on the LCD.




2. Press the ^ or v button.
   **Result :** Once to increase or decrease the time setting by 1 hour.




3. When your desired time displayed on LCD, press the TIMER button and confirm it.
   **Result :** TIMER and Hr stop flashing.

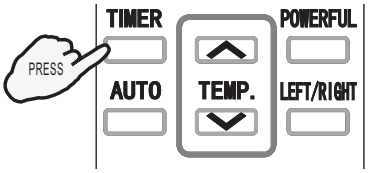



◆ ***How to cancel TIMER ON ?***

Press the **TIMER** button.

**Result :** The indicator disappears, the timer on mode has been canceled.

***Note: It is similar to set TIMER OFF , you can make the appliance switch off automatically at your desired time.***



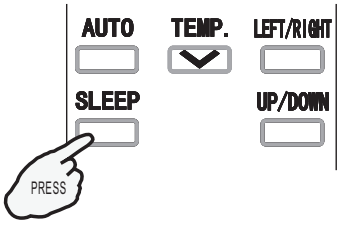

## SLEEP mode

**SLEEP** mode can be set in **COOLING, HEATING** or **DRYING** mode.
This function gives you a more comfortable environment for sleep.

- The appliance will stop operation automatically after operating for 8 hours.
- Fan speed is automatically set at low speed.

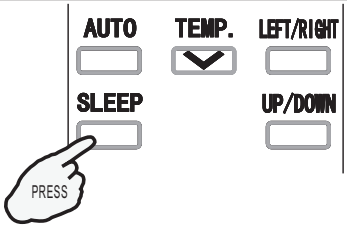
◆ ***How to set SLEEP mode ?***

Each time **SLEEP** button is pressed.
**Result :** SLEEP function will be started.




◆ ***How to cancel SLEEP mode ?***

Press AUTO, MODE, SLEEP, ON/OFF or FAN button.
**Result :** Escape from SLEEP mode.



# 1. OPTION LIST

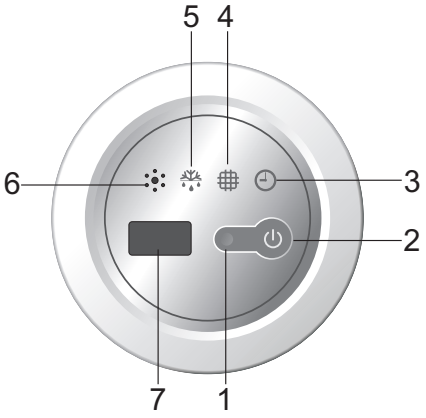
## 3. IR Receiver (Model : HRBA31NEGH)

### ❶ Important Notice

Please carefully read the Installation Manual supplied with the signal receiver, and perform installation in accordance with these instructions properly.

### ❷ Parts Introduction

Install the receiver onto the wall or ceiling near the indoor unit. Connect it with the indoor unit by the connect wire.It should be used with the wireless remote controller.
The wireless remote controller can send commands to the wireless receiver .Name of part is shown as follows:




**1** Run indicator (Red)
It lights on during operation. It lights off during SLEEP mode.
**2** Emergency switch
The filter clean indicator when the switch is pressed. The unit will stop operation if pressing the button, if pressing for more than 5s, the unit will operate in cooling mode.
**3** Timer indicator (Green)
It lights on when timer is in use. It lights off when timer finishes.
**4** Filter clean (Yellow)
It lights on when the filter should be cleaned.
**5** Defrost indicator (Green)
It lights on during defrosting. It lights off when defrosting is finished.
**6** Buzzer
It rings when the signal from remote controller is received.
**7** Infrared receiver
Receives signal from the remote controller.

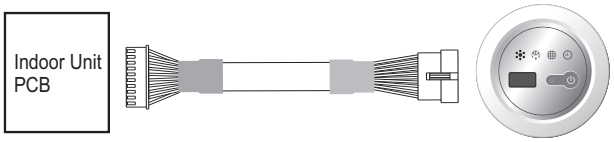
### ❸ How to Install

**1. Selecting the installation location.**

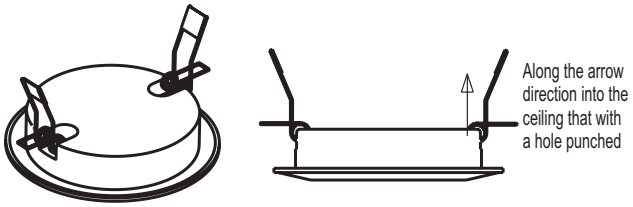
Please install it in the ceiling and close to the electronic control box of indoor unit.

**2. Installation.**

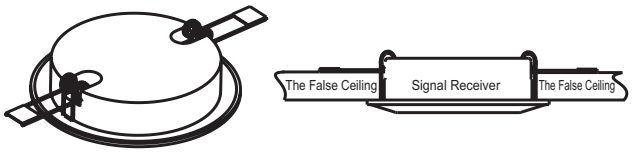
●Cut out a hole at the suitable place of the false ceiling with a diameter of 95mm.
●Place the connecting wire on the false ceiling.
●Incert the connecting wire into the indoor unit . Connect the wires with the indoor PCB.
●Connect the other terminal with the receiver, details please see the indoor unit wiring diagram.
●Adjust the spring of the receiver and install the receiver into the hole that have punched . After installation, the appearance as showed in the figure below.
●Avoid installing it close to the fluorescent lamp.




The connection of the connecting wire



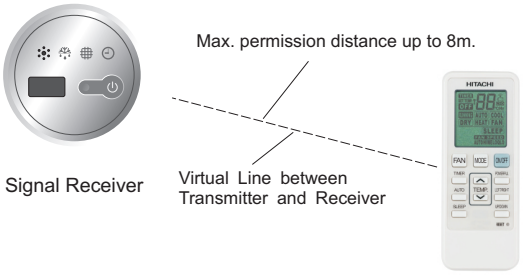

The Installation of the Receiver




After the Installation is completed

### ❹ Operation

Sending Commands from Controller
The operation commands are sent by pressing the required operation switch by aiming the transmitter of the controller at the receiver of the indoor unit.
When the commands are sent correctly, the buzzer on the wireless receiver goes off once. In case that the buzzer does not go off although the commands are sent, the commands are not received by the indoor unit. In such a case, sent the commands again.
Sometimes the buzzer does not be heard in case of the noise.
In some special cases, the indoor unit does not response to the commands of the wireless remote controller. The buzzer beeps 3 times.




Wireless Remote Controller

☑ • ***The figures in this manual are based on the external view of a standard model. Consequently, the shape may differ from that of the air conditioner you have selected.***
* ***It can be set or canceled by professional after-sale staff.***

# 2. TROUBLESHOOTING

## 2.Troubleshooting

### 2.1Trouble guide

When the air conditioner failure occurs, the fault code will displays on control board , wire remote controller or display panel.

**How to check fault codes**

**Indoor Unit**

(1)Fault codes indicated by wired remote controller (see figure below)

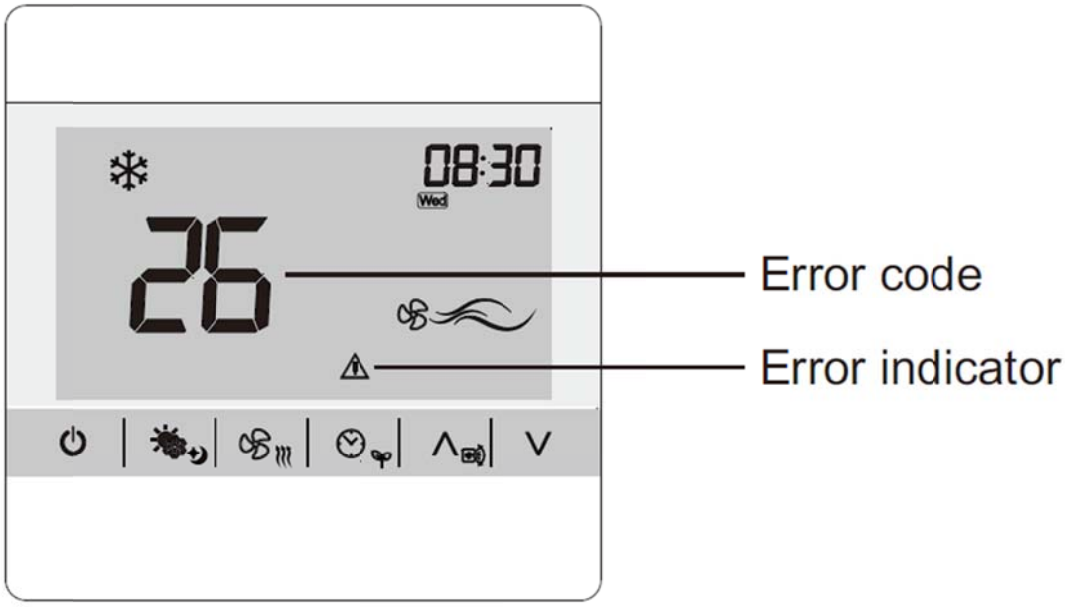



FIG.1 FAULT CODE DISPLAY ON WIRE REMOT CONTROLLER

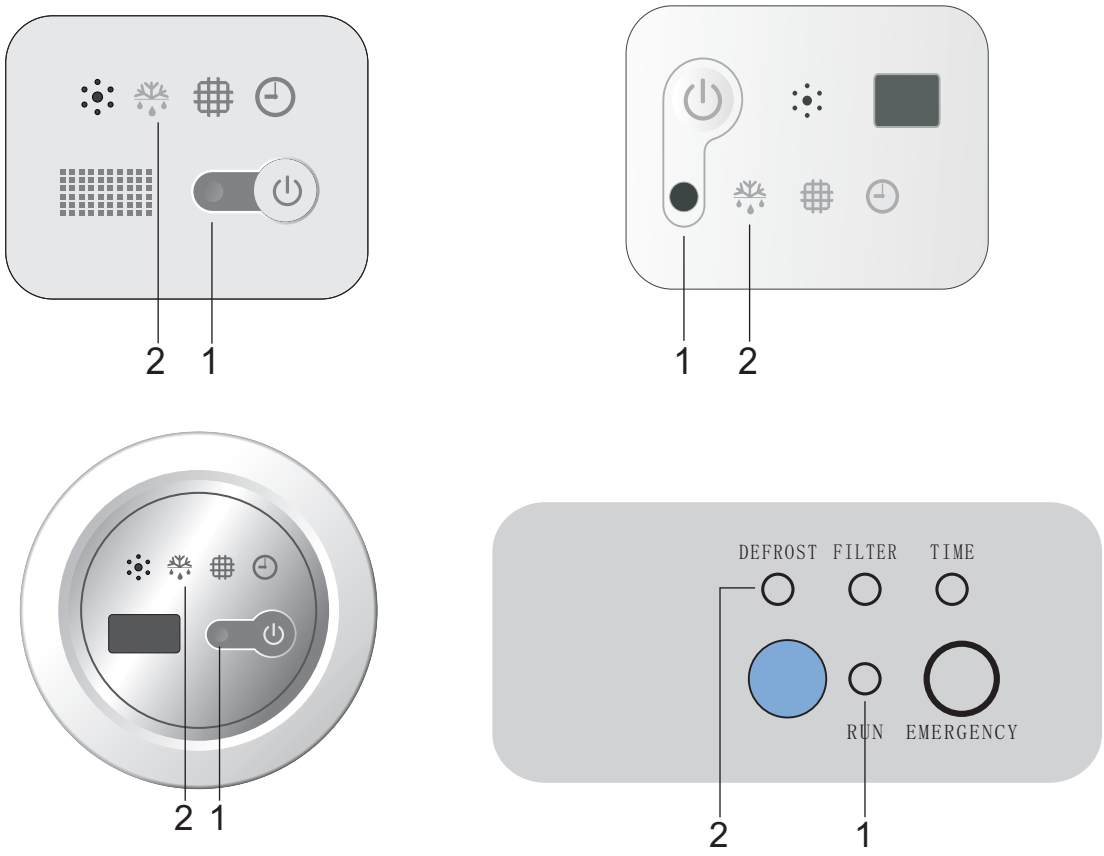
(2)Fault codes indicated by LED lamps on display panel

Lamp RUN(LED2 ,red) and Lamp DEFROST（LED5 ,green）flashing，Lamp RUN display fault code ten digit number, lamp DEFROST display fault code single digit number (as shown fig. below).

For example，fault code 36: led RUN& defrost flash 3 times at the same time, and led DEFROST continue flash 3 times,reports No. 36 fault.

## 2. TROUBLESHOOTING

Display panel




**1** Run indicator (Red)
Indicates the fault code ten digital number.
**2** Defrost indicator (Green)
Indicates the fault code singal digital number.

LED FALSH CONTROL：flash 300mS(T1)，off 300mS(T2)，after 2000mS(T3)fault code repeat displays. (as shown below)

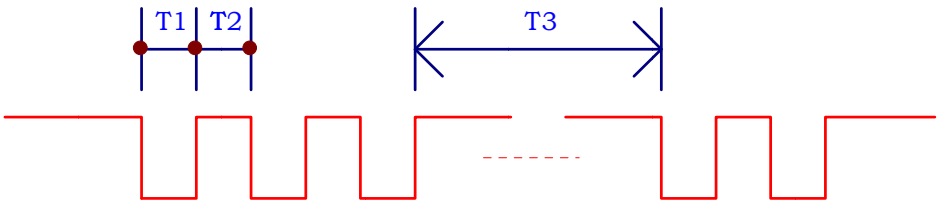



Fig.2 LED ALSH CONTROL

# 2. TROUBLESHOOTING

## Outdoor Unit

**DC-Inverter split airconditoner 1.0/1.5/2.0/3.0Hp(Main control board upside-down)**

Fault code displays by LED lamps on outdoor main control board.

There are 3 LED laamps on control board, LEED1,LED2 aand LED3.

LED1 indicate fault code ten digit number, LED2 indicate fault code single digit number and LED3 indicate outdoor drive control fault .

When LED3 is off, LED1 and LED 2 indicate main control failure code.

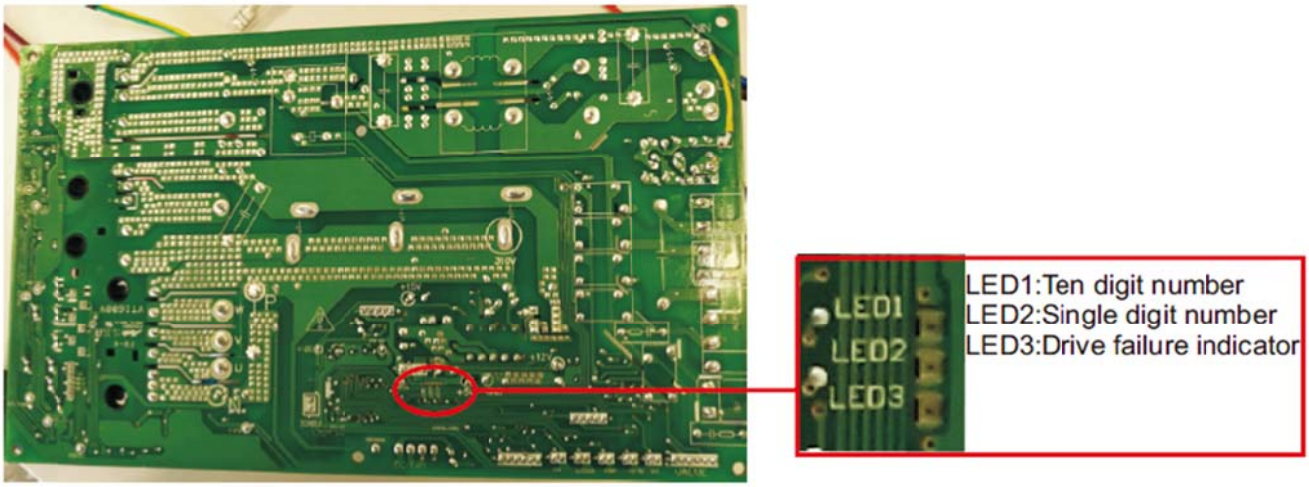
When LED3 is on, LED1 and LED 2 indicate drive control failure code.

When LED3 is flickering and LED1,LED 2 are all off, indicate compressor is preheating .

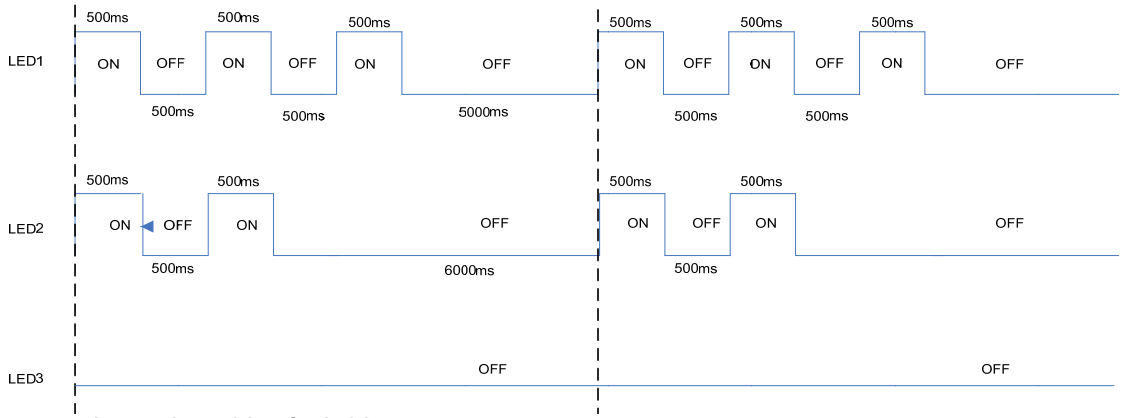
Failures display with 5s interval .It means LED will off 5s to report next failure code .

System protect codes display method is the same with main control failure code .

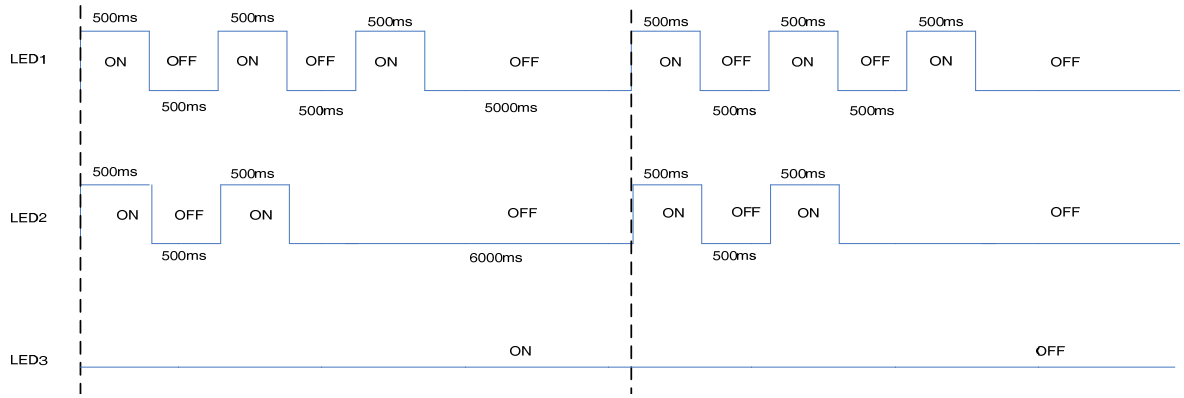
LED lamps will off when there is no failure ,protect or preheating.



For example, outdoor main control fault 32:

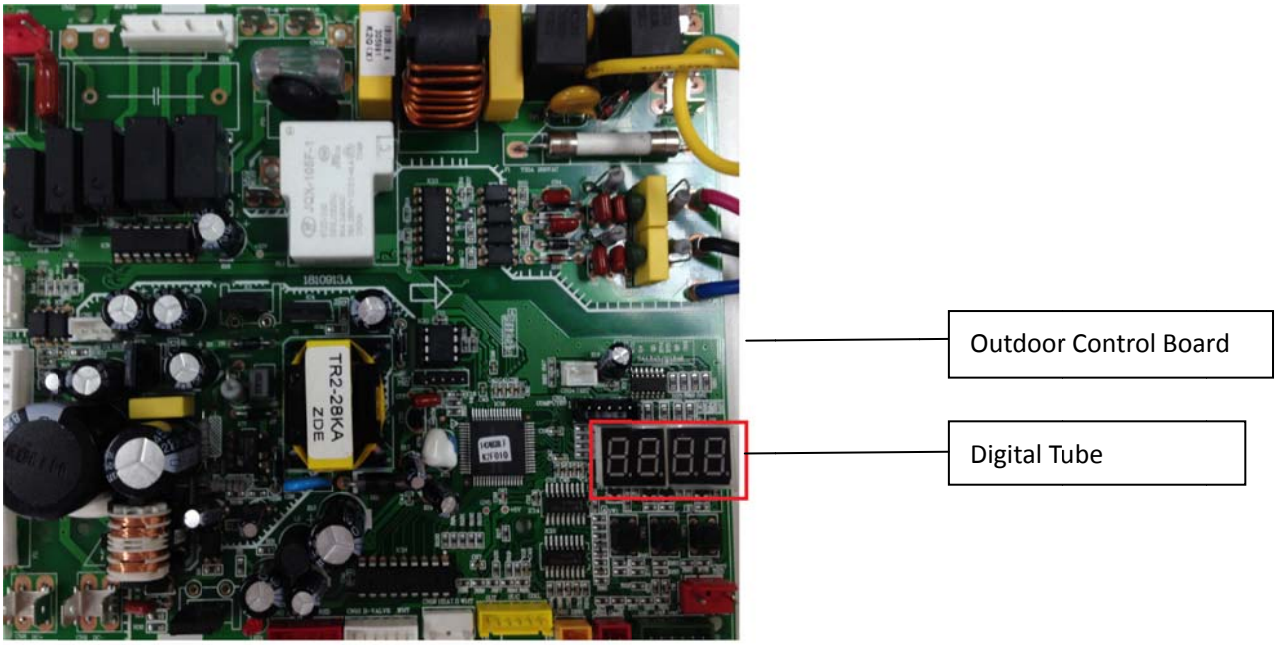



For example, outdoor drive fault 32:

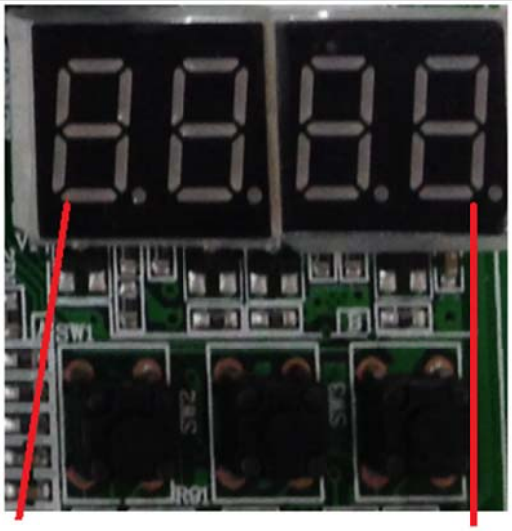



## （2）INVERTER SPLIT AIR CONDITIONER(4.0/5.0/6.0/6.5HP)：

Fault code will display on digital tube board.



## 2. TROUBLESHOOTING



E shows failure occur

Display ERROR Code

# 2. TROUBLESHOOTING

## 2.2 Fault codes

The following is the fault code table of outdoor.

Sheet 1 Outdoor Fault code

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With | Remarks |
|---|---|---|---|---|
| 1 | Outdoor ambient temperature sensor fault | 1.The outdoor ambient temperature sensor connect loose;<br>2.The outdoor ambient temperature sensor is failure;<br>3.The sampling circuit is failure | 1.Reconnect the outdoor ambient temperature sensor;<br>2.Replace the outdoor ambient temperature sensor omponents;<br>3.Replace the outdoor control board components. | |
| 2 | Outdoor coil temperature sensor fault | 1.The outdoor coil temperature sensor connect loose;<br>2.The outdoor coil temperature sensor is failure;<br>3.The sampling circuit is failure | 1.Reconnect the outdoor coil temperature sensor;<br>2.Replace the outdoor coil temperature sensor components;<br>3.Replace the outdoor control board components. | |
| 3 | The unit over-current turn off fault | 1.Control board current sampling circuit is failure;<br>2.The current is over high because of the supply voltage is too low;<br>3.The compressor is blocked;<br>4. Overload in cooling mode;<br>5.Overload in heating mode. | 1. Replace the electrical control board components;<br>2. Normally protection;<br>3. Replace the compressor;<br>4. Please see the Note 3;<br>5. Please see the Note 4. | |
| 4 | EEprom Data error | 1.EE components is failure; 2.EE components control circuit failure;<br>3.EE components insert incorrect | 1.Replace the EE components;<br>2.Replace the outdoor control board components;<br>3.Reassembly the EE components. | |
| 5 | Cooling freezing protection(the indoor coil temperature is too low) or heating overload(indoor coil temperature is too high) | 1.The indoor unit can not blow air normally;<br>2.The room temperature is too low in cooling mode or the room temperature is too high in heating;<br>3.The filter is dirty;<br>4.The duct resistance is too high to result in low air flow;<br>5.The setting fan speed is too low;<br>6. The indoor unit is not standard installed, air inlet is too near with air outlet . | 1.Check the indoor fan, indoor fan motor and evaporator whether normally;<br>2. Normally protection;<br>3.Clean the filter;<br>4.Check the volume control valve,duct length etc;<br>5.Set the speed with high speed;<br>6.Reinstall the indoor unit refer to the user manual to change the distance between the indoor unit and the wall or ceiling. | |

## 2. TROUBLESHOOTING

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With | Remarks |
|---|---|---|---|---|
| 7 | The communication fault between the indoor unit and outdoor unit | 1.The connection cable connect wrong between the indoor unit and outdoor unit;<br>2.The communication cable connect loose;<br>3.The communication cable is fault;<br>4.The indoor control board is fault;<br>5.The outdoor control board is fault;<br>6.Communication circuit fuse open;<br>7.The specification of communication cable is incorrect. | 1.Reconnect the connection cable refer to the wiring diagram;<br>2.Reconnect the communication cable;<br>3.Replace the communication cable;<br>4.Replace the indoor control board;<br>5.Replace the outdoor control board;<br>6.Check the communication circuit, adjust the DIP switch and the short-circuit fuse.<br>7.Choose suitable communication cable refer to the user manual | |
| 12 | voltage absent phase | 1.Three-phase power is abnormal;<br>2.The outdoor wiring connect wrong;<br>3.The outdoor control board is failure. | 1. Normally protection<br>2. Check the wiring connection refer to the wiring diagram;<br>3. Replace the outdoor control board | Application of three-phase power supply models |
| 13 | Compressor overheat protector device | 1.The wiring of the overload protector connect loose.<br>2. The overload protector is failure .<br>3. The refrigerant is not enough;<br>4. The installation pipe is too long than normal, but not add the enough refrigerant;<br>5. The expansion valve is failure;<br>6. The outdoor control board is failure | 1. Reconnect the wiring of the overload protector;<br>2. Replace the overload protector;<br>3. Check the welding point of the unit to confirm whether it is leakage, and then recharge the refrigerant;<br>4. Add the refrigerant;<br>5. Replace expansion valve;<br>6. Replace the outdoor control board. | |
| 14 | the high pressure switch operate or the unit turn off for high pressure protection | 1.The wiring of the high pressure protector connect loose;<br>2.The high pressure protector is failure;<br>3.The outdoor control board is abnormal;<br>4. Overload in cooling;<br>5. Overload in heating. | 1.Reconnect the wiring the high pressure protector;<br>2. Replace the high pressure protector;<br>3. Replace the outdoor control board;<br>4. Please refer to the Note 3;<br>5. Please refer to the Note 4. | Applied to models with high pressure switch or pressure sensor |
| 15 | the low pressure switch protection or the unit turn off for low pressure protection | 1.The wiring of the low pressure switch connect loose ;<br>2.The low pressure switch is failure;<br>3.The refrigerant is not enough;<br>4.The expansion valve failure in heating mode;<br>5.The outdoor control board is abnormal. | 1. Reconnect the wiring of the low pressure switch;<br>2. Replace the low pressure switch;<br>3.Check the welding point to confirm whether the unit is leakage, and then add some refrigerant;<br>4. Replace the expansion valve;<br>5. Replace the outdoor control board. | Applied to models with low pressure switch or pressure sensor |
| 16 | overload protection in cooling mode | System overload | Please refer to the Note 3. | |
| 17 | Discharge temperature sensor fault | 1.The wiring of the discharge temperature sensor connect loose;<br>2.The discharge temperature sensor is failure;<br>3.The sampling circuit is abnormal. | 1.Reconnect the wiring of the discharge temperature sensor;<br>2.Replace the discharge temperature sensor;<br>3.Replace the outdoor control board. | |

## 2. TROUBLESHOOTING

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With | Remarks |
|---|---|---|---|---|
| 18 | AC voltage is abnormal | 1.The AC voltage>275V or <160V.<br>2.The AC voltage of sampling circuit on the driver board is abnormally | 1. Normally protection, please check the supply power;<br>2. Replace the driver board. | |
| 19 | Suction temperature sensor fault | 1.The wiring of the suction temperature sensor connect loose;<br>2. The suction temperature sensor is failure;<br>3. The sampling circuit is abnormally. | 1.Reconnect the wiring of the suction temperature sensor;<br>2.Replace the suction temperature sensor;<br>3.Replace the outdoor control board. | |
| 22 | The defrosting sensor fault | 1.The wiring of the defrosting sensor connect loose;<br>2.The defrosting sensor is failure;<br>3.The sampling circuit is abnormally | 1. Reconnect the wiring of the defrosting sensor;<br>2. Replace the defrosting sensor;<br>3. Replace the outdoor control board. | |
| 45 | IPM fault | There are many reasons for this failure, If you need further analysis, fault code of the driver board is needed by watching the driver board fault led. Analysis can be further to know why and how to operate. Specific see table 5, table 6. | See attached "analysis of the driving board fault". | |
| 46 | IPM and control board communication fault | 1.The cable between the control board and the driver board connect loose;<br>2.The cable between the control board and the driver board is failure;<br>3.The driver board is failure<br>4.The control board is failure | 1.Reconnect the cable between the control board and the driver board;<br>2.Replace the communication cable between the control board and the driver board;<br>3.Replace the driver board;<br>4.Replace the control board. | |
| 47 | Discharge temperature too high fault | 1. The refrigerant of the unit is not enough;<br>2.The refrigerant of the unit is not enough due to add the length of the installation pipe<br>3.Throttling service is failure;<br>4.The outdoor ambient temperature is too high. | 1.Check the welding point to confirm whether the unit has exist leakage point, and then add some refrigerant.<br>2.Add some refrigerant refer to the installation user manual;<br>3.Replace the throttling service(such as capillary, expansion valve)<br>4. Normally protection. | |
| 48 | the outdoor DC fan motor fault (upper fan motor) | 1.The wiring of the up DC fan motor connect loose;<br>2. The cord of the up DC fan motor is failure;<br>3.The up DC fan motor is failure;<br>4.The drive circuit of the up DC fan motor is failure;<br>5. The outdoor fan has been blocked. | 1.Reconnect the wiring of the up DC fan motor;<br>2.Replace the up DC fan motor;<br>3. Replace the up DC fan motor;<br>4.Replace the driver board of the fan motor;<br>5. Check the outdoor fan and ensure the outdoor fan can run normally. | |
| 49 | the outdoor DC fan motor fault (down fan motor) | 1.The wiring of the down DC fan motor connect loose;<br>2.The cord of the down DC fan motor is failure;<br>3. The down DC fan motor is failure;<br>4. The drive circuit of the down DC fan motor is failure;<br>5. The outdoor fan has been blocked. | 1. Reconnect the wiring of the down DC fan motor;<br>2. Replace the down DC fan motor;<br>3.Replace the down DC fan motor;<br>4.Replace the driver board of the fan motor;<br>5. Check the outdoor fan and ensure the outdoor fan can run normally. | |
| 91 | The unit turn off due to the IPM board over heating fault | 1.The outdoor ambient is too high;<br>2. The speed of the out fan motor is too low if the fan motor is AC fan motor;<br>3.The outdoor unit has been installed without standard;<br>4.The supply power is too low. | 1. Normally protection;<br>2. Check the fan capacitor, and replace the fan capacitor if it is failure;<br>3. Reinstalled the outdoor unit refer to the installation user manual;<br>4.Normally protection. | |

## 2. TROUBLESHOOTING

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With | Remarks |
|---|---|---|---|---|
| 96 | the refrigerant of the unit is not enough fault | The refrigerant of the unit is not enough | Discharge the refrigerant and charge the refrigerant refer to the rating label | |
| 97 | 4-way valve commutation failure fault | 1.The wiring of the 4-way valve coil connect loose;<br>2.The 4-way valve coil is failure;<br>3.The 4-way valve is failure;<br>4.The driver board of the 4-way valve is failure | 1. Reconnect the wiring of the 4-way valve;<br>2. Replace the 4-way valve coil;<br>3. Replace the 4-way valve;<br>4.Replace the driver board of the 4-way valve. | |

# 2. TROUBLESHOOTING

The following is the fault code table of indoor.

**Sheet 2 Indoor fault code**

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With | Remarks |
|---|---|---|---|---|
| 51 | Drainage protection | 1. The water level of the drain pan exceed safe level;<br>2. The cable of the water level switch connect loose;<br>3.The water level switch is failure;<br>4. The control board is failure. | 1.1 Check whether there are something to block the drain hose or the height of the drain hose is too high;<br>1.2 Check the water pump and replace the water pump if the water pump is failure;<br>2. Reconnect the cable of the water level switch refer to the wiring diagram;<br>3. Replace the water level switch;<br>4. Replace the control board. | |
| 64 | Communication between Indoor & Outdoor unit Fault | 1. The connection cable between the indoor unit and the outdoor unit connect wrong;<br>2.The communication cable connect loose;<br>3.The communication cable between the indoor unit and the outdoor unit is failure or the cable between the indoor control board to terminal is failure or the cable between the outdoor control board to the terminal is failure;<br>4. The indoor control board is failure;<br>5. The outdoor control board is failure. | 1. Reconnect the connection cable refer to the indoor and outdoor wiring diagram;<br>2. Reconnect the communication cable refer to the indoor and outdoor wiring diagram;<br>3. Replace the communication cable refer to the indoor and outdoor wiring diagram;<br>4. Replace the indoor control board;<br>5. Replace the outdoor control board. | |
| 72 | Indoor fan motor fault | 1. The cable of the indoor fan motor connect loose;<br>2. The cable of the indoor fan motor is failure;<br>3.The indoor fan motor is failure;<br>4. The indoor control board is failure. | 1. Reconnect the cable of the fan motor;<br>2. Replace the cable of the fan motor;<br>3. Replace the fan motor;<br>4. Replace the indoor control board;<br>5. Check the indoor fan and ensure the indoor fan can run normally. | |
| 73 | Indoor EEPROM Data 1 fault | 1.Indoor EE components is failure;<br>2.The control circuit of the EE components is failure;<br>3.The EE components has been inserted with opposite direction. | 1. Replace the EE components;<br>2. Replace the indoor control board;<br>3. Reassembly the EE components of the indoor control board. | |
| 74 | Indoor EEPROM Data 2 error | EE in MCU is failure,the unit can run ,but the function user has set is ineffective. | Replace EE data in MCU. | |
| 81 | Indoor ambient Temperature Sensor Fault | 1. The cable of the room temperature sensor connect loose;<br>2. The room temperature sensor is failure;<br>3. The sampling circuit is abnormally. | 1.Reconnect the cable of the room temperature sensor;<br>2. Replace the room temperature sensor;<br>3. Replace the indoor control board. | |

# 2. TROUBLESHOOTING

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With | Remarks |
|---|---|---|---|---|
| 83 | Evaporator Middle Temperature Sensor Fault | 1.The cable of the coil temperature sensor of the evaporator is failure;<br>2. The coil temperature sensor of the evaporator is failure;<br>3. The sampling circuit is abnormally | 1. Reconnect the cable of the coil temperature sensor of the evaporator;<br>2. Replace the coil temperature sensor of the evaporator;<br>3. Replace the indoor control board. | |
| FE (254) | Communication between main control board &Wiring remote controller Fault ( display on wiring remote controller ) | 1. The wiring between the wiring controller to the indoor control board connect loose;<br>2. The sequence of the wiring between the wiring controller to the indoor control board is wrong;<br>3. The wiring between the wiring controller to the indoor control board is failure;<br>4.The wiring controller is failure;<br>5. The indoor control board is abnormally | 1.Reconnect the wiring between the wiring controller to the indoor control board;<br>2.Replace the wiring between the wiring controller to the indoor control board;<br>3.Replace the wiring between the wiring controller to the indoor control board;<br>4. Replace the wiring controller;<br>5. Replace the indoor control board | |
| ER | Communication between main control board &display board Fault ( displays on display board ) | 1.The wiring between the display board to the indoor control board connect loose;<br>2.The sequence of the wiring between the display board to the indoor control board is wrong;<br>3.The wiring between the display board to the indoor control board is failure;<br>4. The display board is failure;<br>5. The indoor control board is failure. | 1. Reconnect the between the display board to the indoor control board;<br>2. Replace the wiring between the display board to the indoor control board;<br>3. Replace the wiring between the display board to the indoor control board;<br>4. Replace the display board;<br>5. Replace the indoor control board. | |

**NOTE 1:**

If the indoor unit can not turn on or the indoor unit turn off itself after 30s, at the same time the unit do not display the fault code, please check the fire and the socket of the control board.

**Note 2:**

If the indoor unit display the 75,76,77,78 fault code after you turn on the unit, please check the TEST seat of the indoor control board or the TEST detection circuit whether exists short circuit.

# 2. TROUBLESHOOTING

## Note 3:Overload in cooling mode

**Sheet 3 Overload in cooling mode**

| overload in cooling mode | | |
|---|---|---|
| sr. | The root cause | Corrective measure |
| 1 | The refrigerant is excessive | Discharge the refrigerant, and recharge the refrigerant refer to the rating label |
| 2 | The outdoor ambient temperature is too high | Please use within allowable temperature range |
| 3 | The air outlet and air inlet of the outdoor unit is short-circuit | Adjust the installation of the outdoor unit refer to the user manual |
| 4 | The outdoor heat exchanger is dirty, such as condenser | Clean the heat exchanger of the outdoor unit, such as condenser |
| 5 | The speed of the outdoor fan motor is too low | Check the outdoor fan motor and fan capacitor |
| 6 | The outdoor fan is broken or the outdoor fan is blocked | Check the outdoor fan |
| 7 | The air inlet and outlet has been blocked | Remove the blocked thing |
| 8 | The expansion valve or the capillary is failure | Replace the expansion valve or the capillary |

## Note 4:Over load in heating mode

**Sheet 4 Overload in heating mode**

| Overload in heating mode | | |
|---|---|---|
| sr. | The root cause | Corrective measure |
| 1 | The refrigerant is excessive | Discharge the refrigerant, and recharge the refrigerant refer to the rating label |
| 2 | The indoor ambient temperature is too high | Please use within allowable temperature range |
| 3 | The air outlet and air inlet of the indoor unit is short-circuit | Adjust the installation of the indoor unit refer to the user manual |
| 4 | The indoor filter is dirty | Clean the indoor filter |
| 5 | The speed of the indoor fan motor is too low | Check the indoor fan motor and fan capacitor |
| 6 | The indoor fan is broken or the outdoor fan is blocked | Check the indoor fan |
| 7 | The air inlet and outlet has been blocked | Remove the blocked thing |
| 8 | The expansion valve or the capillary is failure | Replace the expansion valve or the capillary |

# 2. TROUBLESHOOTING

**Sheet 5 Drive Fault code(1.0/1.5/2.0/3.0HP)**

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With |
|---|---|---|---|
| 1 | Inverter DC voltage overload fault | 1.Power supply input too high or too low;<br>2.Driver board fault. | 1.Check power supply<br>2.Change driver board. |
| 2 | Inverter DC low voltage fault | | |
| 3 | Inverter AC current overload fault | | |
| 4 | Out-of-step detection | 1.Compressor phase lost ;<br>2.Bad driver board components ;<br>3.The compressor insulation fault | 1.Check compressor wire connect ;<br>2.Change driver board ;<br>3.Change compressor. |
| 5 | Loss phase detection fault (speed pulsation) | | |
| 6 | Loss phase detection fault (current imbalance) | | |
| 7 | Inverter IPM fault (edge) | 1.System overload or current overload;<br>2.Driver board fault.<br>3.Compressor oil shortage, serious wear of crankshaft ;<br>4.The compressor insulation fault | 1.Check the system .<br>2.Change driver board;<br>3.Change the compressor;<br>4.Change the compressor. |
| 8 | Inverter IPM fault (level) | | |
| 9 | PFC_IPM IPM fault (edge) | | |
| 10 | PFC_IPM IPM fault (level) | | |
| 11 | PFC power detection of failure | 1.The power supply is not stable ;<br>2.The instantaneous power failure ;<br>3.Driver board failure. | 1.Check the power supply.<br>2.Not abnormal.<br>3.Change the driver board. |
| 12 | PFC overload current detection of failure. | 1.System overload, current too high;<br>2.Driver board failure ;<br>3.PFC failure ; | 1.Check the system;<br>2.Change the driver board;<br>3.Change the PFC. |
| 13 | DC voltage detected abnormal . | 1.Input voltage is too high or too low;<br>2.Driver board failure ; | 1.Check the power supply.<br>2.Change the driver board; |
| 14 | PFC LOW voltage detected failure. | | |
| 15 | AD offset abnormal detected failure. | Driver board failure. | Change the driver board. |
| 16 | Inverter PWM logic set fault. | | |
| 17 | Inverter PWM initialization failure | | |
| 18 | PFC_PWM logic set fault. | | |
| 19 | PFC_PWM initialization fault. | | |
| 20 | Temperature abnormal. | | |
| 21 | Shunt resistance unbalance adjustment fault | | |
| 22 | Communication failure. | 1.Communication wire connect not well.<br>2.Driver board failure.<br>3.Control board failure. | 1.Check the wiring.<br>2.Change the driver board.<br>3.Change the control board. |
| 23 | Motor parameters setting of failure | Initialization abnormal. | Reset the power supply. |
| 25 | EE data abnormal | Driver board EEPROM abnormal | 1.Change EEPROM ;<br>2.Change driver board. |
| 26 | DC voltage mutation error | 1.Power input changes suddenly<br>2.Driver board failure | 1.Check power supply , to provide stable power supply ;<br>2. Change driver board. |
| 27 | D axis current control error | 1.System overload , phase current is too high;<br>2.Driver board failure | 1.Check system if normally.<br>2.Check stop valve if is open;<br>3. Change driver board. |
| 28 | q axis current control error | 1.System overload , phase current is too high ;<br>2.Driver board failure | 1.Check system if normally.<br>2.Check stop valve if is open;<br>3. Change driver board. |
| 29 | Saturation error of d axis current control integral | 1. System overload suddenly;<br>2. Compressor parameter not suitable;<br>3. Driver board failure | 1.Check system if normally.<br>2.Check stop valve if is open;<br>3. Change driver board. |
| 30 | Saturation error of q axis current control integral | 1. System overload suddenly;<br>2. Compressor parameter not suitable;<br>3. Driver board failure | 1.Check system if normally.<br>2.Check stop valve if is open;<br>3. Change driver board. |

# 2. TROUBLESHOOTING

Sheet 6 Drive Fault code (4.0/5.0/6.0/6.5HP)

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With |
|---|---|---|---|
| 1 | Q axis current detection, step out of failure | 1. compressor wire connect not well;<br>2. Bad driver board components;<br>3. Compressor start load is too large;<br>4.Compressor demagnetization;<br>5.Compressor oil shortage, serious wear of crankshaft.;<br>6.The compressor insulation fault | 1. Check compressor wire;<br>2. Change driver board ;<br>3.Turn on the machine after pressure balance again;<br>4. Change Compressor;<br>5. Change the Compressor;<br>6. Change the Compressor. |
| 2 | Phase current detection, out of step | 1.Compressor voltage default phase;<br>2.Bad driver board components;<br>3.The compressor insulation fault | 1.Check compressor wire connection;<br>2.Change the driver board;<br>3.Change the Compressor. |
| 3 | Initialization, phase current imbalance | Bad driver board components. | Change driver board . |
| 4 | Speed estimation, step out of failure | 1.Bad driver board components;<br>2.Compressor shaft clamping;<br>3.The compressor insulation fault. | 1.Change driver board ;<br>2.Change the Compressor ;<br>3.Change the Compressor . |
| 5 | IPM FO output fault | 1.System overload or current overload.<br>2.Driver board fault;<br>3. Compressor oil shortage,serious wear of crankshaft;<br>4.The compressor insulation fault. | 1.Check the air-conditioner system;<br>2.Change the driver board;<br>3.Change the Compressor;<br>4. Change the Compressor. |
| 6 | Communication between driver board and control board fault | 1.Communication wire connect not well;<br>2.Driver board fault;<br>3.Control board fault; | 1.Check compressor wire connect.<br>2.Change the driver board;<br>3.Change the control board ; |
| 7 | AC voltage,overload voltage | 1.Supply voltage input too high or too low;<br>2.Driver board fault; | 1.Check power supply;<br>2.Change the driver board; |
| 8 | DC voltage,overload voltage | 1.Supply voltage input too high ;<br>2.Driver board fault; | 1.Check power supply;<br>2.Change the driver board; |
| 9 | AC voltage imbalance | Driver board fault; | Change the driver board; |
| 10 | The PFC current detection circuit fault before compressor is ON | Bad driver board components; | Change the driver board |
| 11 | AC voltage supply in outrange | 1.Power supply abnormal, power frequency out of range;<br>2.Driver board fault; | 1.Check the system;<br>2.Change the driver board; |
| 12 | Products of single-phase PFC over-current, FO output low level | 1.System overload, current too large;<br>2.Driver board fault;<br>3.PFC fault. | 1.Check the system;<br>2.Change the driver board;<br>3.Change PFC. |
| | Inverter over current (3-phase power supply air conditioners) | 1.System overload, current too large;<br>2.Driver board fault;<br>3.Compressor oil shortage, serious wear of crankshaft;<br>4.The compressor insulation fault. | 1.Check the system;<br>2.Change the driver board;<br>3.Change the Compressor;<br>4.Change the Compressor. |
| 13 | Inverter over current | 1.System overload, current too large;<br>2.Driver board fault;<br>3.Compressor oil shortage,serious wear of crankshaft;<br>4.The compressor insulation fault. | 1.Check the system;<br>2.Change the driver board;<br>3.Change the Compressor;<br>4.Change the Compressor. |
| 14 | PFC over current(single-phase air-conditioner) | 1.System overload, current too large;<br>2.Driver board fault;<br>3.PFC fault. | 1.Check the system;<br>2.Change the driver board;<br>3.Change PFC. |
| | Phase imbalance or phase lacks or the instantaneous power failure (only for 3-phase power supply air conditioners) | 1.3-Phase voltage imbalance;<br>2.The 3-phase power supply phase lost;<br>3.Power supply wiring wrong;<br>4.Driver board fault. | 1,Check the power supply;<br>2.Check the power supply;<br>3.Check the power supply wiring connect;<br>4.Change the driver board. |
| 15 | The instantaneous power failure detection | 1.The power supply is not stable ;<br>2.The instantaneous power failure ;<br>3.Driver board fault; | 1.Check the power supply.<br>2.Not fault.<br>3.Change the driver board; |

## 2. TROUBLESHOOTING

| Fault code | Fault Description | Possible Reason of Abnormality | How to Deal With |
|---|---|---|---|
| 16 | Low DC voltage 200V | 1.Voltage input too low ;<br>2.Driver board fault. | 1.Check the power supply.<br>2.Change the driver board. |
| 18 | Driver board read EE data error | 1.EEPROM has no data or data error;<br>2.EEPROM circuit fault. | 1,Change EEPROM component;<br>2,Change the driver board. |
| 19 | PFC chip receive data fault | Abnormal communication loop | Change the drive board. |
| 20 | PFC soft start abnormal | Abnormal PFC drive loop | Change the drive board. |
| 21 | The compressor drive chip could not receive data from PFC chip. | Communication loop fault. | Change the drive board. |

# 3. Checking components

## 3.1 Check refrigerant system

TEST SYSTEM FLOW

Conditions: ① Compressor is running.

② The air condition should be installed in good ventilation.

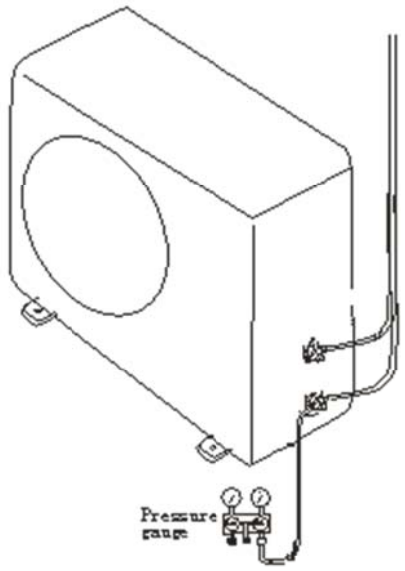
Tool: Pressure Gauge

Technique: ① see ② feel ③ test

SEE ----- Tube defrost.

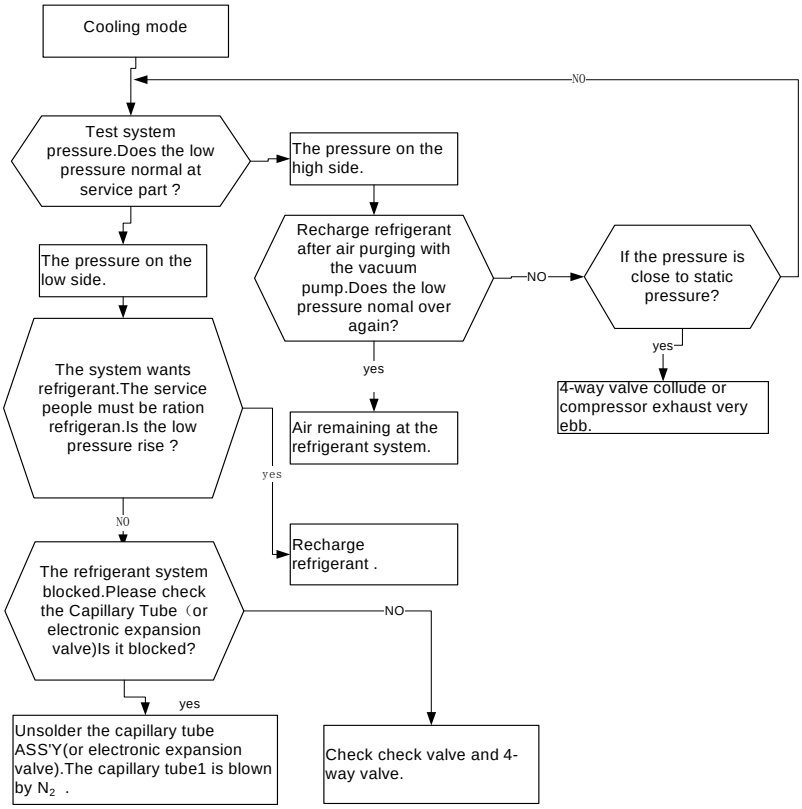
FEEL ----- The difference between tube's temperature.

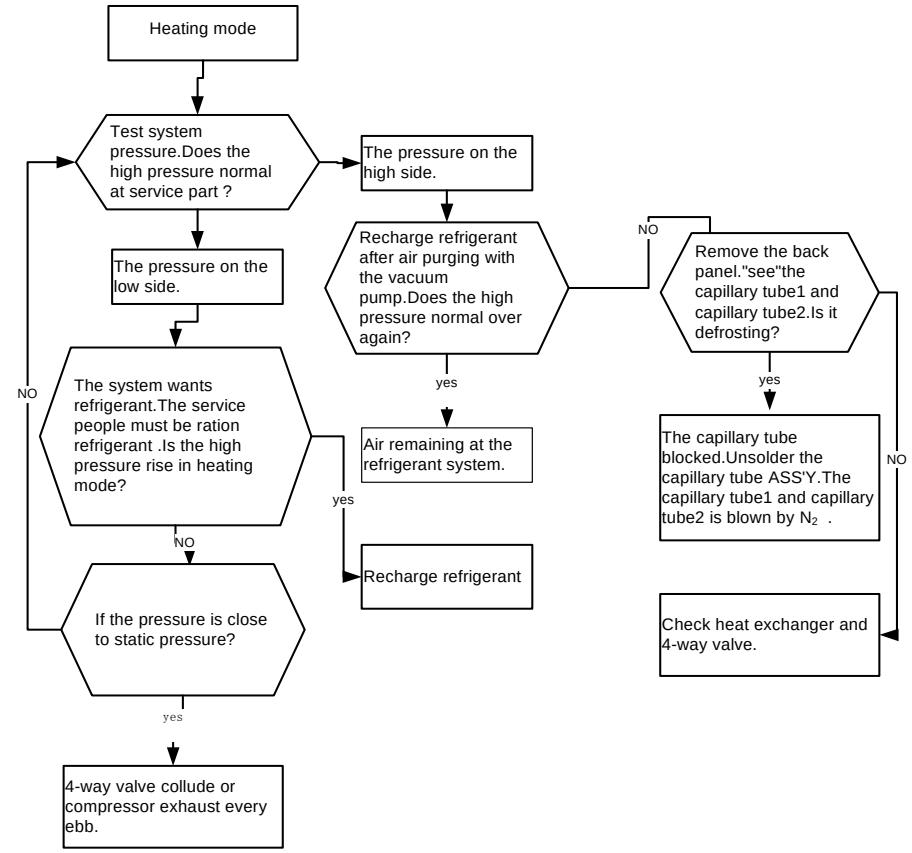
TEST ----- Test pressure.



# 3. CHECKING COMPONENTS

Test system flow



## 3.CHECKING COMPONENTS

### 3.2 Check parts unit

1. INDOOOR FAN MOTOR

Ducted

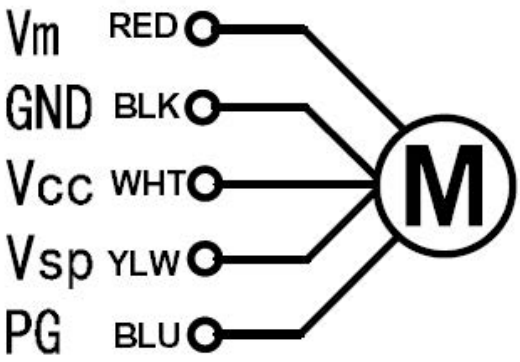
1.0/1.5/3.0/4.0/5.0/6.0/6.5HP--DC motor

2.0HP--- AC motor

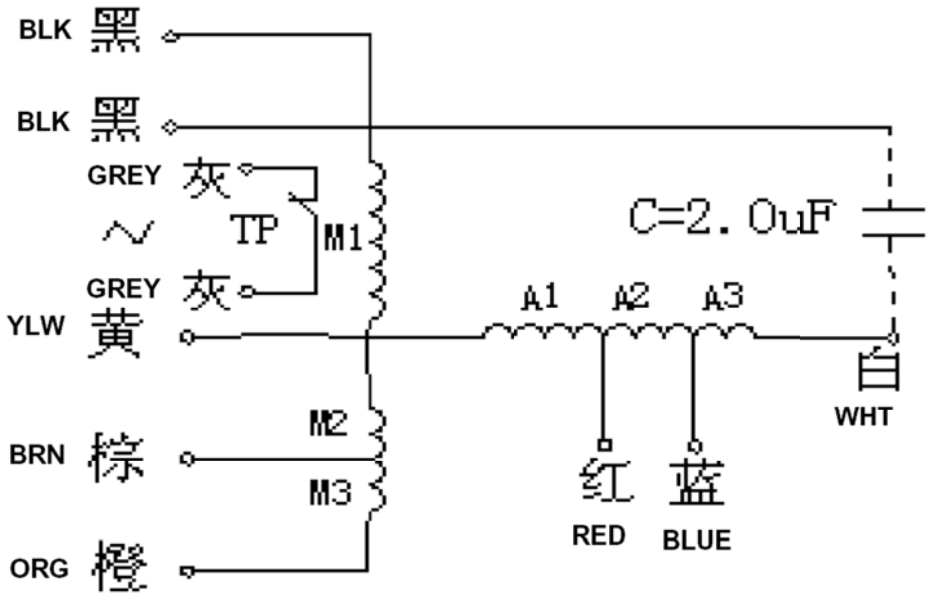
1.0/1.5HP Motor model：SIC-68CVL-F140-1

3.0HPMotor model：SIC-70CW-F195-1

4.0/5.06.0/6.5HP Motor model：SIC-101CW-F1250-4




2.0HP Motor model：YSK110-40-4-A



## 3.CHECKING COMPONENTS

BLACK-YELLOW:146±15% Ω

YELLOW-BROWN:33±15% Ω

BROWN-ORANGE: 43±15% Ω

YELLOW-RED: 63±15% Ω

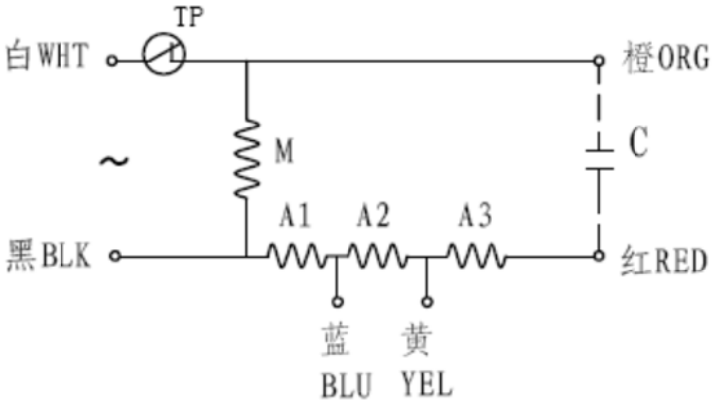
RED-BLUE: 63±15% Ω

BLUE-WHITE: 119±15% Ω

Cassette

1.5HP-DC MOTOR

2.0HP-AC MOTOR MODEL:YDK95-28-4-B




25℃

M 240[Ω] ±15%

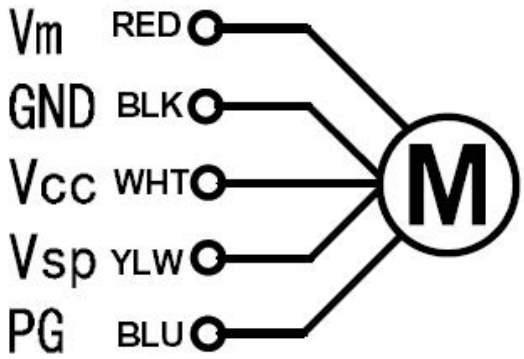
A1 60 [Ω] ±15% ; A2 33[Ω] ±15% ;

A3 143[Ω] ±15% ;

3.0/4.0HP DC-MOTOR MODEL:EHDS50AQH

5.0/6.0/6.5HP DC-MOTOR MODEL: SIC-72FW-D8124-2B

## 3.CHECKING COMPONENTS



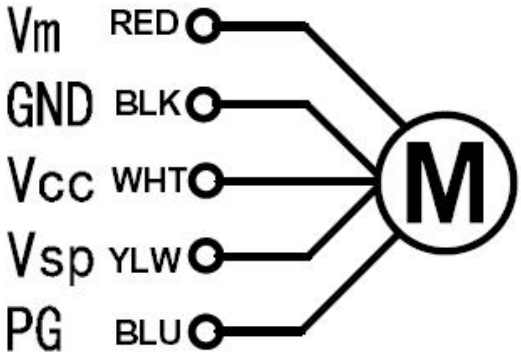

Floor ceiling

2.0HP DC MOTOR MODEL: SIC-52FV-F130-3

3.0HP DC MOTOR MODEL: SIC-70CW-F1100-**6**

4.0HP DC MOTOR MODEL: SIC-70CW-F1140-**3**

5.0/6.0/6.5HP DC MOTOR MODEL: SIC-101C**W**-F1181-2




Test in resistance.

TOOL: Multimeter.

Test the resistance of the main winding. The indoor fan motor is fault if the resistance of main winding 0(short circuit)or （open circuit）.

Test in voltage

## 3.CHECKING COMPONENTS

TOOL: Multimeter.

Insert screwdriver into to rotate indoor fan motor slowly for 1 revolution or over, and measure voltage "YELLOW" and "GND" on motor. The voltage repeat 0V DC and 5V DC.

Notes:

Please don't hold motor by lead wires.

Please don't plug IN/OUT the motor connecter while power ON.

Please don't drop hurl or dump motor against hard material. Malfunction may not be observed at early stage after such shock. But it may be found later, this type of mishandling void our warranty.

## 3.CHECKING COMPONENTS

### 2. OUTDOOR FAN MOTOR

DC MOTOR

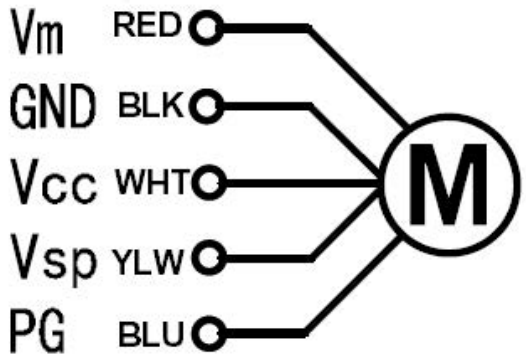
1.0/1.5HP--MOTOR MODEL: SIC-52FV-F130-3

2.0/3.0HP--MOTOR MODEL: SIC-61FV-F161-1

4.0HP—MOTOR MODEL:SIC-71FW-D8121-1

5.0HP—MOTOR MODEL:SIC-81FW-F1138-1

6.0/6.5HP:MOTOR MODEL:SIC-71FW-D8121-1+ SIC-71FW-D8121-2

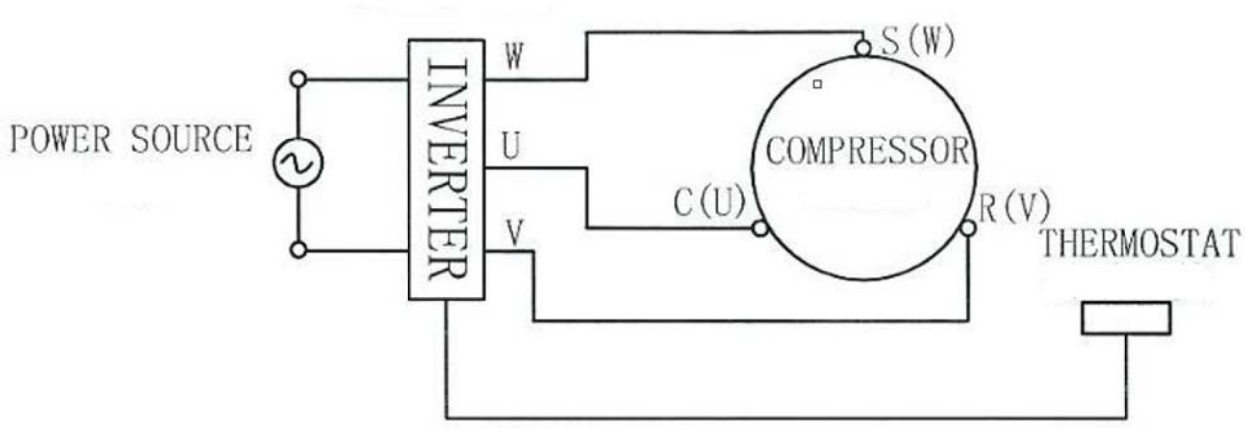



### 3. COMPRESSOR

COMPRESSOR EXAMINE AND REPAIR

1.0HP: ASD088SKNA8JT

1.5HP: ASN108D43UFZA




2.0HP: ATM150D23UFZ

3.0HP:ATF235D43UMT

4.0/5.0HP: ATF310D43UMT

6.0/6.5HP:ATH356SDPC9FL