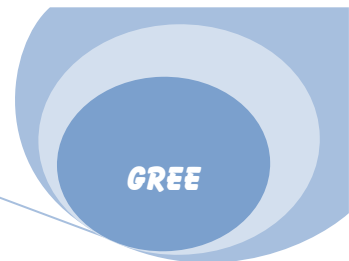


جدول تشخیص عیب دستگاههای سبک مارک

GREE



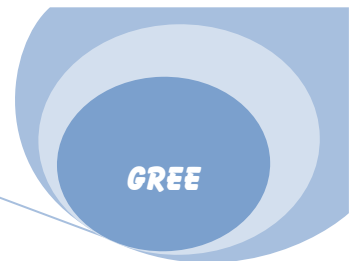
جداول عیب یابی دستگاههای اسپلیت مدل دیواری

ADMIRAL..

ADMIRAL-09H1 (GWH09JE-K1NNA2A)
ADMIRAL-12H1 (GWH12JE-K1NNA2A)
ADMIRAL-18H1 (GWH18JF-K1NNA2A)

9.2 Malfunction Code Table

| Code | Malfunction name | Display method of indoor unit | | | Air conditioner state | Possible results for malfunction |
|------|---|-------------------------------|---|--------------------------|-----------------------|--|
| | | Dual-8 code display | Indicator lamp display (indicator lamp is 0.5s on and 0.5 off when it blinks) | Operation indicator lamp | | |
| 1 | The indoor ambient temperature sensor is open and short circuit. | F1 | | | | <p>The unit is stopped due to reach to the temperature point. Compressor and outdoor fan stop. Cooling, dry, fan: indoor fan runs at preset state. Heating: indoor fan runs after blow residual heat.</p> <p>1.The connection terminal of indoor ambient temperature sensor and control plate is loosened or bad contact. 2.The indoor ambient temperature sensor is damaged. (Check it refer to resistance table of temperature sensor) 3.Control plate is damaged.</p> |
| 2 | The indoor evaporator temperature sensor is open and short circuit. | F2 | | | | <p>The unit is stopped due to reach to the temperature point. Compressor and outdoor fan stop. Cooling, dry, fan: indoor fan runs at preset state. Heating: indoor fan runs after blow residual heat.</p> <p>1.The connection terminal of indoor evaporator temperature sensor and control plate is loosened or bad contact. 2.The indoor evaporator temperature sensor is damaged. (Check it refer to resistance table of temperature sensor) 3.Control plate is damaged.</p> |
| 3 | DC motor (indoor fan) doesn't run | H6 | 3s off and blinks 11 times | | | <p>The indoor and outdoor fan, compressor, electric heating pipe stop,4-way valve stops 22 min later, air deflector stops at the current position</p> <p>1.The control terminal of DC motor is bad contact. 2.The fan isn't correct installed. 3.The motor doesn't install correctly. 4.The motor is damaged. 5.The control plate is damaged.</p> |
| 4 | Protection for jump cap malfunction | C5 | | | | <p>The receiving of remote control and button are valid, but no control dealing for detailed object</p> <p>1.There is no jump cap on the controller. 2.The jump cap is wrong inserted. 3.The jump cap is damaged. 4.The control plate is damaged.</p> |
| 5 | Malfunction for detection plate | FP | | | | <p>It doesn't influence the operation of air conditioner.</p> <p>1.The connection terminal of sensor and control plate is loosened or bad contact. 2.The detection plate is damaged. 3.The controller is damaged.</p> |
| 6 | Alarm due to the concentration of CO2 is too high | Cd | | | | <p>The buzzer gives out a alarm continuously, the air function is turned on forcibly</p> <p>1.The detection plate is damaged. 2.The controller is damaged.</p> |



جداول عیب یابی دستگاههای اسپلیت مدل دیواری

AZURE..

| Code | Name of malfunction | Display of indoor unit | | | | Status of air conditioner | Reasons |
|------|---|------------------------|--|------------------------|------------------------|--|--|
| | | Dual-8 code display | Indicator lamp display(indicator lamp blink 0.5S on, 0.5S off) | | | | |
| | | | Operation indicator lamp | Cooling indicator lamp | Heating indicator lamp | | |
| 1 | Indoor environment temperature sensor open circuit and short circuit | F1 | | 3S off, blink once | | Stop disposal by reach to temperature point. Cooling, humidity: indoor fan runs, other overloads stop Heating: unit stops | <ol style="list-style-type: none"> 1.The terminal connect indoor environment temperature sensor and control plate is loosen and bad connection 2. Device is felled on the control panel which leads short circuit. 3. The indoor environment temperature sensor is damaged. (Check it with temperature sensor resistance value table) 4. The mainboard is damaged. |
| 2 | Indoor evaporator temperature sensor open circuit and short circuit | F2 | | 3S off, blink twice | | Stop disposal by reach to temperature point. Cooling, humidity: indoor fan runs, other overloads stop Heating: unit stops | <ol style="list-style-type: none"> 1.The terminal connect indoor evaporator temperature sensor and control plate is loosen and bad connection 2. Device is felled on the control panel which leads short circuit. 3. The indoor evaporator temperature sensor is damaged. (Check it with temperature sensor resistance value table) 4. The mainboard is damaged. |
| 3 | Outdoor environment temperature sensor open circuit and short circuit | F3 | | 3S off, blink 3 times | | Stop disposal by reach to temperature point. Cooling, humidity: indoor fan runs, other overloads stop Heating: unit stops | <ol style="list-style-type: none"> 1.The terminal connect outdoor environment temperature sensor and control plate is loosen and bad connection 2. Device is felled on the control panel which leads short circuit. 3. The outdoor environment temperature sensor is damaged. (Check it with temperature sensor resistance value table) 4. The mainboard is damaged. |
| 4 | PG motor (indoor fan) doesn't run | H6 | 3S off, blink 11 times | | | Indoor fan, outdoor fan, compressor and electric heating pipe stops, 4-way valve stops 2min later, air deflector stops in the current position | <ol style="list-style-type: none"> 1. Feedback from PG motor that the terminal is bad connection. 2. The control terminal of PG motor is bad connection. 3. Wrong installation for louver and bad rotary. 4. Wrong installation for motor. 5. Motor is damaged. 6. The control plate is damaged. |
| 5 | Malfunction protection of jump cap | C5 | 3S off, blink 15 times | | | Receive with remote control, the button is valid and no control deal for detailed objective | <ol style="list-style-type: none"> 1. No jump cap on the controller. 2. The jump cap is wrong fixed and inserting. 3. The jump cap is damaged. 4. The control plate is damaged. |
| 6 | Malfunction of PG motor (indoor fan)zero-cross detecting | U8 | 3S off, blink 17 times | | | Receive with remote control, the button is valid and no control deal for detailed objective | <ol style="list-style-type: none"> 1. The control plate is damaged. |

9. 2 Malfunction Code and Troubleshooting

| No. | Malfunction Name | Display Method of Indoor Unit | | | A/C Status | Possible Reasons | |
|-----|--|-------------------------------|--|--------------------------|------------|--|-----------|
| | | Error Code | Indicator lamp (During blinking, ON 0.5S and OFF 0.5 S) | | | | |
| | | | Operation Lamp | COOL Lamp | | | HEAT Lamp |
| 1 | Communication malfunction | E6 | OFF 3S and blink 6 times | | | <p>During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.</p> <p>1. Is the communication line is connected tightly or poorly contacted? Poor contact of any line may cause the communication malfunction. 2. Check whether the match between main board and display panel is correct? Whether the indoor and outdoor unit boards are matched correctly? 3. Whether there's wrong wire connection? 4. Controller was damaged.</p> | |
| 2 | Indoor ambient temperature sensor is open/short-circuited | F1 | | OFF 3S and blink once | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops</p> <p>1. The wiring terminal between indoor ambient temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.</p> | |
| 3 | Indoor evaporator temperature sensor is open/short-circuited | F2 | | OFF 3S and blink twice | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads stop operation; During heating operation, the complete unit stops operation.</p> <p>1. The wiring terminal between indoor evaporator temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.</p> | |
| 4 | Outdoor condenser temperature sensor is open/short-circuited | F4 | | OFF 3S and blink 4 times | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.</p> <p>1. The wiring terminal between outdoor condenser temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor condenser temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.</p> | |

| | | | | | | |
|---|--------------------------|----|--------------------------|--|---|---|
| 5 | High pressure protection | E1 | OFF 3S and blink once | | <p>During cooling and drying operation, except indoor fan operates all loads stop operation.</p> <p>During heating operation, if it is inverter unit, the complete unit stops; if it is floor standing unit, the complete unit stops and operation of remote controller or controller is unavailable.</p> | <ol style="list-style-type: none"> 1. Check whether the main board and the display panel are connected well? 2. Check whether the OVC terminal on main board is connected well with the high pressure switch on the complete unit? 3. Whether the wiring of high pressure switch was loosened? 4. Refrigerant was superabundant; 5. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); 6. Ambient temperature is too high; (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 7. Check whether the supply voltage is normal (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 8. Check whether the air intake and air discharge at indoor / outdoor heat exchanger is smooth? Whether the air cycle is short circuited? 9. Check whether there's filth blockage of the filter and heat exchange fin of indoor/outdoor units? 10. The system pipeline is blocked. 11. Check whether the gas valve and liquid valve for outdoor unit are opened completely? 12. Check whether the high-pressure signal is high level? |
| 6 | freezing protection | E2 | OFF 3S and blink twice | | <p>During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates.</p> | <ol style="list-style-type: none"> 1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty; 4. System is normal, but the indoor tube temperature sensor is abnormal, or the tube temperature sensor was not connected well. |
| 7 | Overcurrent protection | E5 | OFF 3S and blink 5 times | | <p>During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.</p> | <ol style="list-style-type: none"> 1. Supply voltage is unstable. The normal fluctuation is within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller . 4. Whether the indoor and outdoor heat exchanger is too dirty, or the air inlet and air outlet are blocked? 5. Whether the fan motor is run? Fan speed is abnormal, fan speed is too low or it doesn't run 6. Whether the compressor runs normally? Whether there's abnormal sound, oil leakage and whether the temperature of the shell is too high, etc. 7. There's blockage in the system (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely) |

9. Troubleshooting

9.1 Precautions before Performing Inspection or Repair

Be cautious during installation and maintenance. Do operation following the regulations to avoid electric shock and casualty or even death due to drop from high attitude.

* Static maintenance is the maintenance during de-energization of the air conditioner.

For static maintenance, make sure that the unit is de-energized and the plug is disconnected.

*dynamic maintenance is the maintenance during energization of the unit.

Before dynamic maintenance, check the electricity and ensure that there is ground wire on the site. Check if there is electricity on the housing and connection copper pipe of the air conditioner with voltage tester. After ensure insulation place and the safety, the maintenance can be performed.

Take sufficient care to avoid directly touching any of the circuit parts without first turning off the power.

At times such as when the circuit board is to be replaced, place the circuit board assembly in a vertical position.

Normally,diagnose troubles according to the trouble diagnosis procedure as described below.(Refer to the check points in servicing written on the wiring diagrams attached to the indoor/outdoor units.)

| No. | Troubleshooting procedure |
|-----|--|
| 1 | Confirmation |
| 2 | Judgement by Flashing LED of Indoor/Outdoor Unit |
| 3 | How to Check simply the main part |

9.2 Confirmation

(1)Confirmation of Power Supply

Confirm that the power breaker operates(ON) normally;

(2)Confirmation of Power Voltage

Confirm that power voltage is AC 220–230–240 ± 10%.

If power voltage is not in this range, the unit may not operate normally.

9.3 Judgement by Flashing LED of Indoor/Outdoor Unit

| No. | Malfunction Name | Error Code | Display Method of Indoor Unit | | | A/C Status | Possible Causes |
|-----|--|------------|--|---------------------------|-----------|---|---|
| | | | Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S) | Operation Lamp | COOL Lamp | | |
| 1 | Indoor ambient temperature sensor is open/short-circuited | F1 | | OFF 3S and blinks once | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation. | 1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 2 | Indoor evaporator temperature sensor is open/short-circuited | F2 | | OFF 3S and blinks twice | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation. | 1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 3 | Outdoor ambient temperature sensor is open/short-circuited | F3 | | OFF 3S and blinks 3 times | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation. | 1. The wiring terminal between outdoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Outdoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |

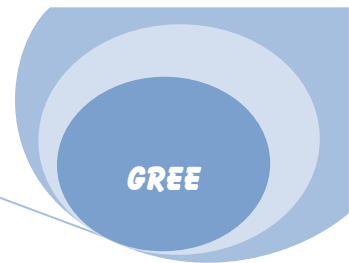
Troubleshooting

| | | | | | | | |
|----|--|----|--|----------------------------|--|---|---|
| 4 | Outdoor condenser temperature sensor is open/short-circuited | F4 | | OFF 3S and blinks 4 times | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between outdoor condenser temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor condenser temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 5 | Outdoor discharge temperature sensor is open/short-circuited | F5 | | OFF 3S and blinks 5 times | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between outdoor discharge temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor discharge temperature sensor is damaged. (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 6 | High pressure protection | E1 | | OFF 3S and blinks once | | During cooling and drying operation, except indoor fan operates, all loads stop operation. During heating operation, the complete unit stops; if it is floor standing unit | <ol style="list-style-type: none"> 1. The main board and the display panel are not connected well. 2. The OVC terminal on main board is not connected well with the high pressure switch on the complete unit. 3. The wiring of high pressure switch is loosened. 4. Refrigerant is superabundant; 5. Poor heat exchange (including blocked heat exchanger and bad radiating environment); 6. Ambient temperature is too high; (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 7. The supply voltage is abnormal (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 8. The air intake and air discharge at indoor / outdoor heat exchanger are not smooth. The air cycle is short circuited. 9. Filter and heat exchange fins of indoor/outdoor units are blocked. 10. The system pipeline is blocked. |
| 7 | Freeze protection | E2 | | OFF 3S and blinks twice. | | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. | <ol style="list-style-type: none"> 1. Poor air-return in indoor unit; 2. Abnormal fan speed; 3. Dirty evaporator; 4. System is normal, but the indoor tube temperature sensor is abnormal, or the tube temperature sensor is not connected well. |
| 8 | Low pressure protection of compressor | E3 | | OFF 3S and blinks 3 times. | | The complete unit stops | <ol style="list-style-type: none"> 1. The main board and display panel are not connected well. 2. The LPP terminal on the main board is not connected well with the high pressure switch on the complete unit. 3. The wiring of the high pressure switch is loosened. High pressure switch is damaged or poorly contacted. 4. Insufficient or leaking out refrigerant. 5. Check whether LPP input is high level. |
| 9 | High discharge temperature protection of compressor | E4 | | OFF 3S and blinks 4 times | | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop. | <ol style="list-style-type: none"> 1. Abnormal system (e.g.: blockage, etc) 2. Abnormal rotation speed of outdoor motor (cooling) 3. Abnormal air intake (cooling) 4. System is normal, but the compressor discharge temperature sensor is abnormal or poorly contacted. |
| 10 | Communication malfunction | E6 | | OFF 3S and blinks 6 times | | During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops. | <ol style="list-style-type: none"> 1. The communication line is not connected tightly or poorly contacted. Poor contact of any line may cause communication malfunction. 2. The match between main board and display panel is incorrect. Indoor and outdoor unit boards are matched incorrectly. 3. Incorrect wire connection. 4. Controller is damaged. |

| No. | Malfunction Name | Display Method of Indoor Unit | | | A/C Status | Possible Reasons |
|-----|--|-------------------------------|----------------|--------------------------|------------|---|
| | | Error Code | Operation Lamp | COOL Lamp | | |
| 1 | Indoor ambient temperature sensor is open/short-circuited | F1 | | OFF 3S and blink once | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads stop operation; During heating operation, the complete unit stops operation.</p> <ol style="list-style-type: none"> 1. The wiring terminal between indoor ambient temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken. |
| 2 | Indoor evaporator temperature sensor is open/short-circuited | F2 | | OFF 3S and blink twice | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads stop operation; During heating operation, the complete unit stops operation.</p> <ol style="list-style-type: none"> 1. The wiring terminal between indoor evaporator temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken. |
| 3 | Outdoor ambient temperature sensor is open/short-circuited | F3 | | OFF 3S and blink 3 times | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.</p> <ol style="list-style-type: none"> 1. The wiring terminal between outdoor ambient temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor ambient temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken. |
| 4 | Outdoor condenser temperature sensor is open/short-circuited | F4 | | OFF 3S and blink 4 times | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.</p> <ol style="list-style-type: none"> 1. The wiring terminal between outdoor condenser temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor condenser temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken. |
| 5 | Outdoor discharge temperature sensor is open/short-circuited | F5 | | OFF 3S and blink 5 times | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.</p> <ol style="list-style-type: none"> 1. The wiring terminal between outdoor discharge temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor discharge temperature sensor was damaged. (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken. |

| | | | | | | | |
|----|---|----|---|--|--|---|--|
| 6 | High pressure protection of system | E1 | OFF 3S and blink once (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement. | | | During cooling and drying operation, except indoor fan operates all loads stop operation. During heating operation, if it is inverter unit, the complete unit stops; if it is floor standing unit, the complete unit stops and operation of remote controller or controller is unavailable. | <ol style="list-style-type: none"> 1. Check whether the main board and the display panel are connected well? 2. Check whether the OVC terminal on main board is connected well with the high pressure switch on the complete unit? 3. Whether the wiring of high pressure switch was loosened? Whether the high pressure switch is broken or poorly connected? 4. Refrigerant was superabundant; 5. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); 6. Ambient temperature is too high; (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 7. Check whether the supply voltage is normal (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 8. Check whether the air intake and air discharge at indoor / outdoor heat exchanger is smooth? Whether the air cycle is short circuited? 9. Check whether there's filth blockage of the filter and heat exchange fin of indoor/outdoor units? 10. The system pipeline is blocked. |
| 7 | Antifreezing protection | E2 | OFF 3S and blink twice (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement. | | | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. | <ol style="list-style-type: none"> 1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty; 4. System is normal, but the indoor tube temperature sensor is abnormal, or the tube temperature sensor was not connected well. |
| 8 | Low pressure protection of compressor | E3 | OFF 3S and blink 3 times (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement. | | | The complete unit stops | <ol style="list-style-type: none"> 1. Check whether the main board and display panel is connected well? 2. Check whether the LPP terminal on the main board was connected well with the high pressure switch on the complete unit? 3. Whether the wiring of the high pressure switch was loosened? Whether high pressure switch was damaged or poorly contacted. 4. Refrigerant is insufficient or leaked out. 5. Check whether the LPP input is high level? |
| 9 | High discharge temperature protection of compressor | E4 | OFF 3S and blink 4 times (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement. | | | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop. | <ol style="list-style-type: none"> 1. System is abnormal (e.g.: blockage, etc) 2. Rotation speed of outdoor motor is abnormal (cooling) 3. Air intake is abnormal (cooling) 4. System is normal, but the compressor discharge temperature sensor is abnormal or poorly contacted. |
| 10 | Communication malfunction | E6 | OFF 3S and blink 6 times (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement. | | | During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops. | <ol style="list-style-type: none"> 1. Is the communication line is connected tightly or poorly contacted? Poor contact of any line may cause the communication malfunction. 2. Check whether the match between main board and display panel is correct? Whether the indoor and outdoor unit boards are matched correctly? 3. Whether there's wrong wire connection? 4. Controller was damaged. |

| No. | Malfunction Name | Display Method of Indoor Unit | | | A/C Status | Possible Causes | |
|-----|---|-------------------------------|---|---|---|---|-----------|
| | | Error Code | Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S) | | | | |
| | | | Operation Lamp | COOL Lamp | | | HEAT Lamp |
| 1 | Indoor ambient temperature sensor is open/short-circuited | F1 | | OFF 3S and blinks once | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation.</p> <ol style="list-style-type: none"> 1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. | |
| 2 | Indoor evaporator temperature sensor is open/short-circuited | F2 | | OFF 3S and blinks twice | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.</p> <ol style="list-style-type: none"> 1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. | |
| 3 | PG motor (indoor fan motor) does not operate | H6 | | OFF 3S and blinks 11 times | Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position. | <ol style="list-style-type: none"> 1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged. | |
| 4 | Malfunction protection of jumper cap | C5 | | OFF 3S and blinks 15 times | Operation of remote controller or control panel is available, but the unit won't act. | <ol style="list-style-type: none"> 1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged. 4. Controller is damaged. | |
| 5 | PG motor (indoor fan) circuit malfunction by zero cross detection | U8 | | OFF 3S and blinks 17 times | Operation of remote controller or control panel is available, but the unit won't act. | <ol style="list-style-type: none"> 1. Controller is damaged. | |
| 6 | Overcurrent protection | E5 | | OFF 3S and blinks 5 times (inverter unit); running indicator blinks (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement. | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop. | <ol style="list-style-type: none"> 1. Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller. 4. The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked. 5. The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run 6. The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc. 7. There's blockage in the system (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely) | |



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9. Troubleshooting

9.1 Error Code List

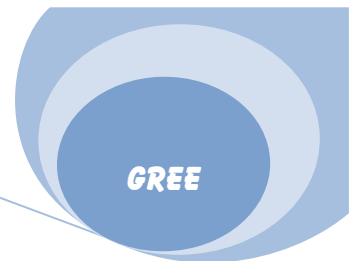
| No. | Malfunction Name | Error Code | Display Method of Indoor Unit | | | A/C Status | Possible Causes |
|-----|---|------------|---|-------------------------|-----------|--|--|
| | | | Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S) | | | | |
| | | | Operation Lamp | COOL Lamp | HEAT Lamp | | |
| 1 | Indoor ambient temperature sensor is open/ short-circuited | F1 | | OFF 3S and blinks once | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 2 | Indoor evaporator temperature sensor is open/ short-circuited | F2 | | OFF 3S and blinks twice | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 3 | PG motor (indoor fan motor) does not operate | H6 | OFF 3S and blinks 11 times | | | Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position. | <ol style="list-style-type: none"> 1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged. |
| 4 | Malfunction protection of jumper cap | C5 | OFF 3S and blinks 15 times | | | Operation of remote controller or control panel is available, but the unit won't act. | <ol style="list-style-type: none"> 1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged. 4. Controller is damaged. |
| 5 | PG motor (indoor fan) circuit malfunction by zero cross detection | U8 | OFF 3S and blinks 17 times | | | Operation of remote controller or control panel is available, but the unit won't act. | <ol style="list-style-type: none"> 1. Controller is damaged. |

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9. Troubleshooting

9.1 Judgement by Flashing LED of Indoor/Outdoor Unit

| No. | Malfunction Name | Display Method of Indoor Unit | | | | A/C Status | Possible Causes |
|-----|---|-------------------------------|--|-------------------------|-----------|--|---|
| | | Error Code | Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S) | | | | |
| | | | Operation Lamp | COOL Lamp | HEAT Lamp | | |
| 1 | Indoor ambient temperature sensor is open/short-circuited | F1 | | OFF 3S and blinks once | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 2 | Indoor evaporator temperature sensor is open/short-circuited | F2 | | OFF 3S and blinks twice | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 3 | PG motor (indoor fan motor) does not operate | H6 | OFF 3S and blinks 11 times | | | Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position. | <ol style="list-style-type: none"> 1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged. |
| 4 | Malfunction protection of jumper cap | C5 | OFF 3S and blinks 15 times | | | Operation of remote controller or control panel is available, but the unit won't act. | <ol style="list-style-type: none"> 1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged 4. Controller is damaged. |
| 5 | PG motor (indoor fan) circuit malfunction by zero cross detection | U8 | OFF 3S and blinks 17 times | | | Operation of remote controller or control panel is available, but the unit won't act. | <ol style="list-style-type: none"> 1. Controller is damaged. |
| 6 | Overcurrent protection | E5 | OFF 3S and blinks 5 times | | | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop | <ol style="list-style-type: none"> 1. Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller. 4. The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked. 5. The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run. 6. The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc. 7. There's blockage in the system (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely). |



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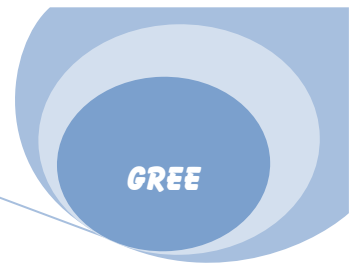
Troubleshooting

| No. | Malfunction Name | Display Method of Indoor Unit | | A/C Status | Possible Causes |
|-----|--|-------------------------------|--|--|---|
| | | Error Code | Indicator lamp | | |
| | | | Operation Lamp | | |
| 1 | Indoor ambient temperature sensor is open/short-circuited | F1 | (During blinking, ON for 0.5S and OFF for 0.5 S) OFF 3S and blinks once | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation. | 1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 2 | Indoor evaporator temperature sensor is open/short-circuited | F2 | OFF 3S and blinks twice | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation. | 1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 3 | PG motor (indoor fan motor) does not operate | H6 | OFF 3S and blinks 11 times | Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position. | 1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged. |
| 4 | Malfunction protection of jumper cap | C5 | OFF 3S and blinks 15 times | Operation of remote controller or control panel is available, but the unit won't act. | 1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged. 4. Controller is damaged. |
| 5 | Defrosting in heating mode | H1 | | OFF 3S and blinks once | The unit is defrosting in heating mode; 4-way valve, indoor and outdoor fan stop. |
| 6 | Overcurrent protection | E5 | OFF 3S and blinks 5 times | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop. | 1. Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller. 4. The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked. 5. The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run 6. The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc. 7. There's blockage in the system (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely) |

9. 2 Malfunction Code and Troubleshooting

| No. | Malfunction Name | Display Method of Indoor Unit | | | A/C Status | Possible Reasons | |
|-----|--|-------------------------------|---|--------------------------|------------|---|-----------|
| | | Error Code | Indicator lamp (During blinking, ON 0.5S and OFF 0.5 S) | | | | |
| | | | Operation Lamp | COOL Lamp | | | HEAT Lamp |
| 1 | Communication malfunction | E6 | OFF 3S and blink 6 times | | | <p>During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.</p> <p>1. Is the communication line is connected tightly or poorly contacted? Poor contact of any line may cause the communication malfunction. 2. Check whether the match between main board and display panel is correct? Whether the indoor and outdoor unit boards are matched correctly? 3. Whether there's wrong wire connection? 4. Controller was damaged.</p> | |
| 2 | Indoor ambient temperature sensor is open/short-circuited | F1 | | OFF 3S and blink once | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops</p> <p>1. The wiring terminal between indoor ambient temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.</p> | |
| 3 | Indoor evaporator temperature sensor is open/short-circuited | F2 | | OFF 3S and blink twice | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads stop operation; During heating operation, the complete unit stops operation.</p> <p>1. The wiring terminal between indoor evaporator temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.</p> | |
| 4 | Outdoor condenser temperature sensor is open/short-circuited | F4 | | OFF 3S and blink 4 times | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.</p> <p>1. The wiring terminal between outdoor condenser temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor condenser temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.</p> | |

| | | | | | | |
|---|--------------------------|----|--------------------------|--|---|---|
| 5 | High pressure protection | E1 | OFF 3S and blink once | | <p>During cooling and drying operation, except indoor fan operates all loads stop operation.</p> <p>During heating operation, if it is inverter unit, the complete unit stops; if it is floor standing unit, the complete unit stops and operation of remote controller or controller is unavailable.</p> | <ol style="list-style-type: none"> 1. Check whether the main board and the display panel are connected well? 2. Check whether the OVC terminal on main board is connected well with the high pressure switch on the complete unit? 3. Whether the wiring of high pressure switch was loosened? 4. Refrigerant was superabundant; 5. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); 6. Ambient temperature is too high; (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 7. Check whether the supply voltage is normal (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 8. Check whether the air intake and air discharge at indoor / outdoor heat exchanger is smooth? Whether the air cycle is short circuited? 9. Check whether there's filth blockage of the filter and heat exchange fin of indoor/outdoor units? 10. The system pipeline is blocked. 11. Check whether the gas valve and liquid valve for outdoor unit are opened completely? 12. Check whether the high-pressure signal is high level? |
| 6 | freezing protection | E2 | OFF 3S and blink twice | | <p>During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates.</p> | <ol style="list-style-type: none"> 1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty; 4. System is normal, but the indoor tube temperature sensor is abnormal, or the tube temperature sensor was not connected well. |
| 7 | Overcurrent protection | E5 | OFF 3S and blink 5 times | | <p>During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.</p> | <ol style="list-style-type: none"> 1. Supply voltage is unstable. The normal fluctuation is within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller . 4. Whether the indoor and outdoor heat exchanger is too dirty, or the air inlet and air outlet are blocked? 5. Whether the fan motor is run? Fan speed is abnormal, fan speed is too low or it doesn't run 6. Whether the compressor runs normally? Whether there's abnormal sound, oil leakage and whether the temperature of the shell is too high, etc. 7. There's blockage in the system (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely) |



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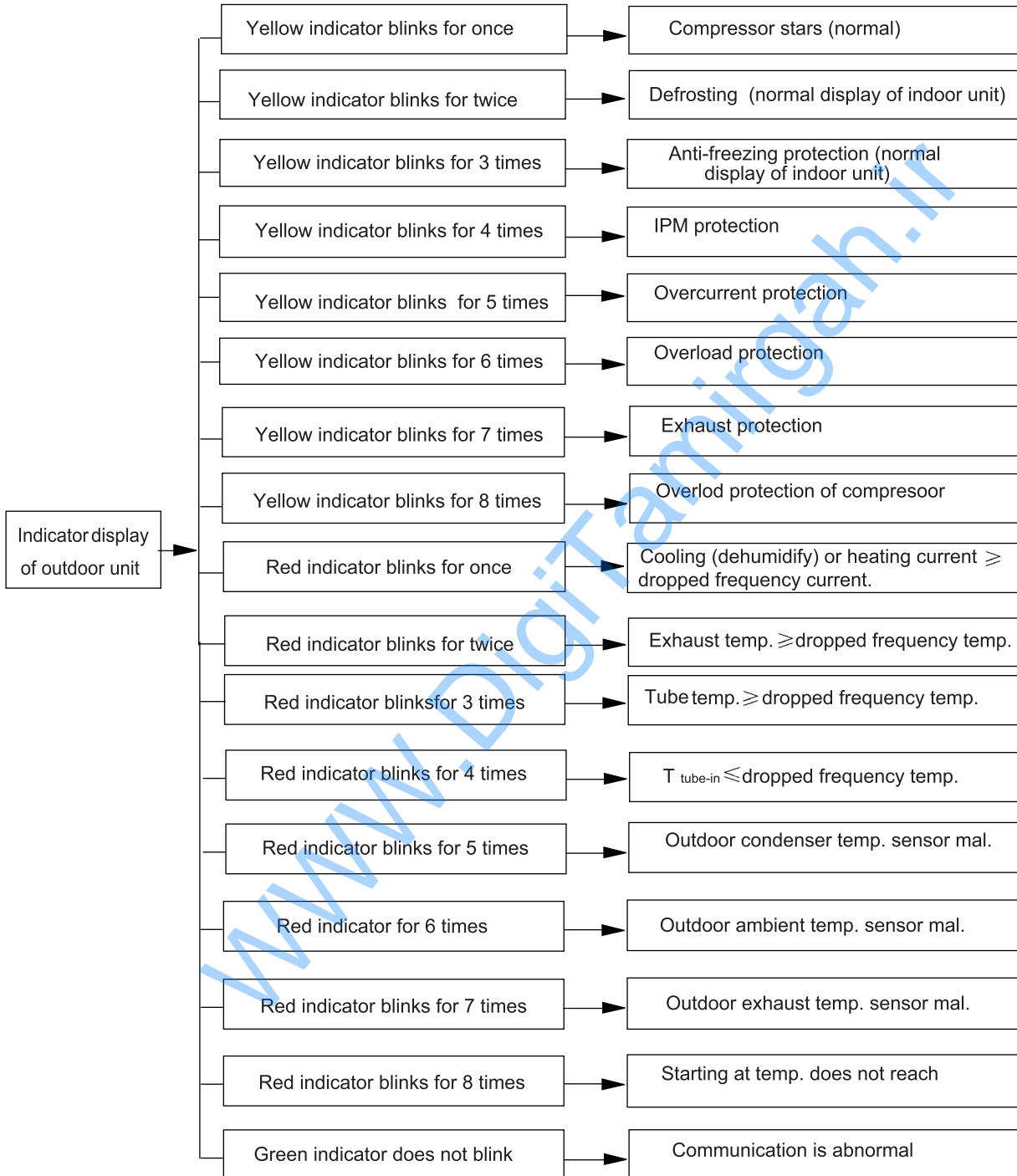
9.2 Malfunction Code

Flashing LED of Indoor/Outdoor Unit and Primary Judgement

| | Name of Operation Status | Yellow LED | Red LED | Green LED | Display on IDU |
|----|---|--------------------|--------------------|--------------------|--|
| 1 | Compressure operates | Blink once | | | |
| 2 | Defrosting | Blink twice | | | H1 |
| 3 | Freeze prevention protection | Blink for 3 times | | | E2 |
| 4 | IPM protection | Blink for 4 times | | | H5(displayed after it occurs for successively 6 times) |
| 5 | Overcurrent protection | Blink for 5 times | | | E5 |
| 6 | Overload protection | Blink for 6 times | | | H4 |
| 7 | Discharge protection | Blink for 7 times | | | E4 |
| 8 | Overload protection | Blink for 8 times | | | H3 |
| 9 | Capacity power protection | Blink for 9 times | | | L9 |
| 10 | Read-write malfunction of EEPROM | Blink for 11 times | | | |
| 11 | Low-voltage protection | Blink for 12 times | | | PL |
| 12 | High-voltage protection | Blink for 13 times | | | PH |
| 13 | PFC overcurrent protection | Blink for 14 times | | | HC |
| 14 | Models of IDU and ODU don't not match | Blink for 16 times | | | LP |
| 15 | Limit frequency(current) | | Blink once | | |
| 16 | Limit frequency(discharge) | | Blink twice | | |
| 17 | Limit frequency(overload) | | Blink for 3 times | | |
| 18 | Limit frequency(freeze prevention) | | Blink for 4 times | | |
| 19 | Malfunction of outdoor ambient temp sensor | | Blink for 6 times | | F3 |
| 20 | Malfunction of outdoor pipe temp sensor | | Blink for 5 times | | F4 |
| 21 | Malfunction of outdoor discharge temp sensor | | Blink for 7 times | | F5 |
| 22 | Temperature for operation of the unit is reached. | | Blink for 8 times | | |
| 23 | Limit frequency(power) | | Blink for 13 times | | |
| 24 | Protection of fan | | Blink for 14 times | | |
| 25 | Normal communication | | | Continuously blink | |
| 26 | Malfunction of communication | | | Off | E6 |
| 27 | Malfunction of indoor ambient temp sensor | | | | F1 |
| 28 | Malfunction of indoor pipe temp sensor | | | | F2 |

Malfunction Display

If malfunction occurs, corresponding code will display and the unit will resume normal until protection or malfunction disappears.



9.2 Confirmation

(1)Confirmation of Power Supply

Confirm that the power breaker operates(ON) normally;

(2)Confirmation of Power Voltage

Confirm that power voltage is AC 220-230-240 ±10%. If power voltage is not in this range, the unit may not operate normally.

9.3 Flashing LED of Indoor/Outdoor Unit and Primary Judgement

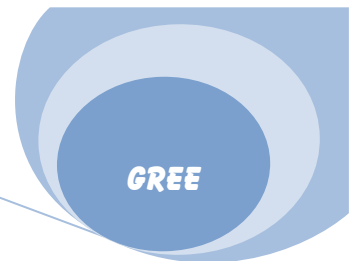
| No. | Malfunction Name | Display Method of Indoor Unit | | | | Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.) | | | | A/C status | Possible Causes |
|-----|---|-------------------------------|---|----------------|-------------------|--|-------------------------------------|-------------------------------------|-------------------------------------|---|---|
| | | Dual-8 Code Display | Indicator Display (during blinking, ON 0.5s and OFF 0.5s) | | | <input type="checkbox"/> OFF <input checked="" type="checkbox"/> Illuminated <input checked="" type="checkbox"/> Blink | | | | | |
| | | | Operation Indicator | Cool Indicator | Heating Indicator | D5 (D40) | D6 (D41) | D16 (D42) | D30 (D43) | | |
| 1 | High pressure protection of system | E1 | OFF 3s and blink once | | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, except indoor fan operates, all loads stop operation. During heating operation, the complete unit stops. | Possible causes: 1. Refrigerant was superabundant; 2. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); Ambient temperature is too high. |
| 2 | Antifreezing protection | E2 | OFF 3S and blink twice | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. | 1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty. |
| 3 | High discharge temperature protection of compressor | E4 | OFF 3S and blink 4 times | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop. | Please refer to the malfunction analysis (discharge protection, overload). |
| 4 | Overcurrent protection | E5 | OFF 3S and blink 5 times | | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop. | 1. Supply voltage is unstable; 2. Supply voltage is too low and load is too high; 3. Evaporator is dirty. |
| 5 | Communication Malfunction | E6 | OFF 3S and blink 6 times | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops. | Refer to the corresponding malfunction analysis. |
| 6 | High temperature resistant protection | E8 | OFF 3S and blink 8 times | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling operation: compressor will stop while indoor fan will operate. During heating operation, the complete unit stops. | Refer to the malfunction analysis (overload, high temperature resistant). |
| 7 | Indoor unit motor no feedback | H6 | off 3s blink 11 times | | | | | | | Whole unit will stop to run | 1.Poor insert for GPF 2.Indoor control board AP1 malfunction 3.Indoor motor M1 malfunction |

| No. | Malfunction Name | Display Method of Indoor Unit | | | | Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.) | | | | A/C status | Possible causes |
|-----|--|-------------------------------|---|------------------------------|-------------------------------------|--|-------------------------------------|-------------------------------------|-------------------------------------|--|--|
| | | Dual-8 Code Display | Indicator Display (during blinking, ON 0.5s and OFF 0.5s) | | | <input type="checkbox"/> OFF <input checked="" type="checkbox"/> Illuminated <input checked="" type="checkbox"/> Blink | | | | | |
| | | | Operation Indicator | Cool Indicator | Heating Indicator | D5 (D40) | D6 (D41) | D16 (D42) | D30 (D43) | | |
| 8 | Jump wire cap malfunction protection | C5 | off 3s blink 15 times | | | | | | | Whole unit will stop to run | Indoor control board AP1 jump cap poor connected please reinsert or replace the jump cap |
| 9 | Indoor ambient sensor open circuit, short circuit | F1 | | off 3s blink once | | | | | | Cooling dehumidifying: indoor fan motor is running other overloads will stop; heating whole unit will stop to run. | 1. Room temp sensor is not connected with the control panel AP1 2. Room temp sensor is damaged |
| 10 | Indoor evaporator temperature sensor is open/short circuited | F2 | | OFF 3S and blink twice | | | | | | During cooling and drying operation, indoor unit will operate while other loads will stop; During heating operation, the complete unit will stop operation. | 1. Room temperature sensor hasn't been connected well with indoor units control panel AP1 (refer to the wiring diagram for indoor unit); 2. Room temperature sensor is damaged (please refer to the resistance table of temperature sensor) |
| 11 | Outdoor ambient temperature sensor is open/short circuited | F3 | | OFF 3S and blink 3 times | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor stops while indoor fan operates; During heating operation, the complete unit will stop operation | Outdoor temperature sensor hasn't been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor) |
| 12 | Outdoor condenser temperature sensor is open/short circuited | F4 | | OFF 3S and blink 4 times | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor stops while indoor fan will operate; During heating operation, the complete unit will stop operation. | Outdoor temperature sensor hasn't been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor) |
| 13 | Outdoor discharge temperature sensor is open/short circuited | F5 | | OFF 3S and blink 5 times | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop after operating for about 3 mins, while indoor fan will operate; During heating operation, the complete unit will stop after operating for about 3 mins. | 1. Outdoor temperature sensor hasn't been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor) 2. The head of temperature sensor hasn't been inserted into the copper tube |
| 14 | Limit/decrease frequency due to overload | F6 | | OFF 3S and blink for 6 times | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | All loads operate normally, while operation frequency for compressor is decreased | Refer to the malfunction analysis (overload, high temperature resistant) |
| 15 | Decrease frequency due to overcurrent | F8 | | OFF 3S and blink 8 times | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | All loads operate normally, while operation frequency for compressor is decreased | The input supply voltage is too low; System pressure is too high and overload |
| 16 | Decrease frequency due to high air discharge | F9 | | OFF 3S and blink 9 times | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | All loads operate normally, while operation frequency for compressor is decreased | Overload or temperature is too high; Refrigerant is insufficient; Malfunction of electric expansion valve (EKV) |
| 17 | Malfunction of complete units current detection | U5 | | OFF 3S and blink 13 times | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, the compressor will stop while indoor fan will operate; During heating operating, the complete unit will stop operation. | There's circuit malfunction on outdoor units control panel AP1, please replace the outdoor units control panel AP1. |

| No. | Malfunction Name | Display Method of Indoor Unit | | | | Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.) | | | | A/C status | Possible causes |
|-----|---|-------------------------------|---|----------------|---------------------------|--|-------------------------------------|-------------------------------------|-------------------------------------|---|---|
| | | Dual-8 Code Display | Indicator Display (during blinking, ON 0.5s and OFF 0.5s) | | | <input type="checkbox"/> OFF <input checked="" type="checkbox"/> Illuminated <input checked="" type="checkbox"/> Blink | | | | | |
| | | | Operation Indicator | Cool Indicator | Heating Indicator | D5 (D40) | D6 (D41) | D16 (D42) | D30 (D43) | | |
| 18 | Defrosting | H1 | | | OFF 3S and blink once | | | | | Defrosting will occur in heating mode. Compressor will operate while indoor fan will stop operation. | Its the normal state |
| 19 | Static dedusting protection | H2 | | | OFF 3S and blink twice | | | | | | / |
| 20 | Overload protection for compressor | H3 | | | OFF 3S and blink 3 times | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation. | 1. Wiring terminal OVC-COMP is loosened. In normal state, the resistance for this terminal should be less than 1ohm. 2.Refer to the malfunction analysis (discharge protection, overload) |
| 21 | System is abnormal | H4 | | | OFF 3S and blink 4 times | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation. | Refer to the malfunction analysis (overload, high temperature resistant) |
| 22 | IPM protection | H5 | | | OFF 3S and blink 5 times | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation. | Refer to the malfunction analysis (IPM protection, loss of synchronism protection and overcurrent protection of phase current for compressor. |
| 23 | PFC protection | HC | | | OFF 3S and blink 6 times | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation. | Refer to the malfunction analysis |
| 24 | Decrease frequency due to high temperature resistant during heating operation | H0 | | | OFF 3S and blink 10 times | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | All loads operate normally, while operation frequency for compressor is decreased | Refer to the malfunction analysis (overload, high temperature resistant) |
| 25 | Failure start-up | LC | | | OFF 3S and blink 11 times | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation. | Refer to the malfunction analysis |
| 26 | Malfunction of phase current detection circuit for compressor | U1 | | | OFF 3S and blink 13 times | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop | Replace outdoor control panel AP1 |

Troubleshooting

| No. | Malfunction Name | Display Method of Indoor Unit | | | Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.) | | | | A/C status | Possible causes | |
|-----|--|-------------------------------|---|----------------|---|--|-------------------------------------|-------------------------------------|-------------------------------------|--|--|
| | | Dual-8 Code Display | Indicator Display (during blinking, ON 0.5s and OFF 0.5s) | | | <input type="checkbox"/> OFF <input checked="" type="checkbox"/> Illuminated <input checked="" type="checkbox"/> Blink | | | | | |
| | | | Operation Indicator | Cool Indicator | Heating Indicator | D5 (D40) | D6 (D41) | D16 (D42) | | | D30 (D43) |
| 28 | EEPROM malfunction | EE | | | OFF 3S and blink 15 times | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop | Replace outdoor control panel AP1 |
| 29 | Charging malfunction of capacitor | PU | | | OFF 3S and blink 17 times | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop | Refer to the part three—charging malfunction analysis of capacitor |
| 30 | Malfunction of module temperature sensor circuit | P7 | | | OFF 3S and blink 18 times | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop | Replace outdoor control panel AP1 |
| 31 | Module high temperature protection | P8 | | | OFF 3S and blink 19 times | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop | After the complete unit is de-energized for 20mins, check whether the thermal grease on IPM Module of outdoor control panel AP1 is sufficient and whether the radiator is inserted tightly. If its no use, please replace control panel AP1. |
| 32 | Malfunction of voltage dropping for DC bus-bar | U3 | | | OFF 3S and blink 20 times | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop | Supply voltage is unstable |
| 33 | Voltage of DC bus-bar is too low | PL | | | OFF 3S and blink 21 times | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop | 1. Measure the voltage of position L and N on wiring board (XT), if the voltage is higher than 150VAC, turn on the unit after the supply voltage is increased to the normal range. 2.If the AC input is normal, measure the voltage of electrolytic capacitor C on control panel (AP1), if its normal, theres malfunction for the circuit, please replace the control panel (AP1) |
| 34 | DC generatrix voltage is too high | PH | Off 3s blink 11times | | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Cooling,dehumidifying,com pressor stop running fanmotor works.Heating:all will stop | 1.Testing wire terminal Land N positionIf higher than 265VAC,please cut off the power supplyand restart until back to normal 2. If input voltage is normal, testingthe voltage of electrolytic capacitoron AP1 after turn on the unit.There may be some problem andreplace the AP1 if the electrolyticcapacitor voltage range at 200-280V |
| 35 | Compressor current overcurrent protection | P5 | Off 3sblink 15time | | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Cooling, dehumidifying;compressor stops running,indoor fan motor works.Heating: all will stoprunning | Please refer to troubleshooting(IPM protection, compressor lose steps, compressor current overcurrent protection) |



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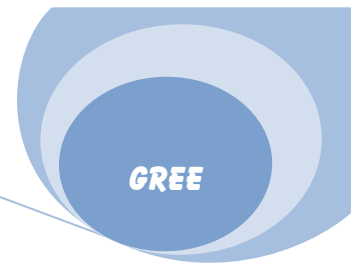
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9. Troubleshooting

9.1 Error Code List

| No. | Malfunction Name | Error Code | Display Method of Indoor Unit | | | A/C Status | Possible Causes |
|-----|---|------------|---|-------------------------|-----------|--|--|
| | | | Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S) | | | | |
| | | | Operation Lamp | COOL Lamp | HEAT Lamp | | |
| 1 | Indoor ambient temperature sensor is open/ short-circuited | F1 | | OFF 3S and blinks once | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 2 | Indoor evaporator temperature sensor is open/ short-circuited | F2 | | OFF 3S and blinks twice | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 3 | PG motor (indoor fan motor) does not operate | H6 | OFF 3S and blinks 11 times | | | Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position. | <ol style="list-style-type: none"> 1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged. |
| 4 | Malfunction protection of jumper cap | C5 | OFF 3S and blinks 15 times | | | Operation of remote controller or control panel is available, but the unit won't act. | <ol style="list-style-type: none"> 1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged. 4. Controller is damaged. |
| 5 | PG motor (indoor fan) circuit malfunction by zero cross detection | U8 | OFF 3S and blinks 17 times | | | Operation of remote controller or control panel is available, but the unit won't act. | <ol style="list-style-type: none"> 1. Controller is damaged. |

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TOWER-K28H3

Malfunction and protection codes:

- E1: High pressure protection of compressor
- E2 : Indoor anti -freezing Protection
- E3: Low pressure protection of compressor
- E5: Overcurrent protection

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TOWER-M42H3

6. 1. 5. 7 Malfunctions and protection codes

- E1: High pressure protection of compressor;
- E2 :Indooranti -freezing Protection;
- E3: Low pressure protection of compressor ;
- E4: High temperature protection of exhaust hose;
- E5: Overcurrent protection;

6. 1. 5. 8 Indicator lights control

Any one of the following cases happens,green indicator light flickers for interval of 3 sec.,the diferent times of flickering indicates different kind of protection.

- E1: High pressure protection of compressor for once flicker;
- E2 : Indooranti -freezing Protection for twice ;
- E3: Low pressure protection of compressor for 3 times;
- E4: High temperature protection of exhaust hose for 4 times;
- E5: Overcurrent protection for 5 times ;
- E6 : Static dedusting protection for 6 times,defrosting for 7 times;

Troubleshooting

| No. | Malfunction Name | Display Method of Indoor Unit (dual 8 code display) | A/C Status | Possible Reasons (Check it in order) | Troubleshooting |
|-------------------------------------|---|---|---|--|--|
| 1 | High voltage protection of system | E1 | Cooling or drying: all load will be stopped except the indoor fan. Heating : all will stop running (inverter unit); all loads will be tured off. Remote controler and buttons have action (inverter floor standing unit) | Main board and display panel hasn't been connected well | Connect the display board and main board well |
| | | | | Poor connection between OVC terminal on main board and the high voltage switch on the mian unit | Connect the OVC terminal on main board and the high voltage switch on the complete unit |
| | | | | Whether the wires for high voltage switch circuit is loosened; high voltage switch is damaged or poor connection | Connec the loosened wires according to the circuit diagram. If it's broken or poor conenction, replace the high voltage switch |
| | | | | Refrigeratn is superabundant | Adjust the volume of refrigerant according to the requirement of the system |
| | | | | Poor heat exchange for the unit (including the heat exchanger is dirty and the radiating environment for the unit is not good | Adjust the unit to improve the heat exchange |
| | | | | Ambient temperature is too high | Decrease the ambient ttemperature |
| | | | | Supply power is abnormal | The fluctuation is within 10% of the rated voltage on nameplate |
| | | | | Air intake and air discharge for indoor and outdoor heat exchanger is not smooth; the air cycle is short circuit | Adjust the system to let air intake and air discharge of indoor and outdoor heat exchanger become more smooth |
| | | | | There's filth blocage on the filter or heat exchange fin of indoor and outdoor unit | Get rid of the filth blockage |
| | | | | There's blockage in the pipeline of the system | Get rid of the blockage in the peline of the system |
| | | | | Gas valve and liquid valve of indoor unit haven't been opened completely | Open the gas valve and liquid valve of indoor unit and outdoor unit completely |
| Whether the OVC input is high level | Check the system (replace the main board) | | | | |
| 2 | Antifreezing protection | E2 | Cooling or drying : compressor and outdoor fan will stop running, while indoor unit will run. | 1. Poor air return in indoor unit; | Resolve the corresponding system problem |
| | | | | 2. Speed of fan is abnormal; | Resolve the corresponding rotation problem |
| | | | | 3. Evaporator is drity; | Clean the evaporator |
| | | | | 4. System is normal, but resistance of indoor tube temp sensor is abnormal or it hasn't been connected well | Replace the temperature sensor |
| 3 | Low voltage protection of compressor | E3 | The complete unit will stop running. Compressor, indoor fan and outdoor fan will all stop running. | Main board and display panel hasn't been connected well | Connect the display panel and main board well |
| | | | | Poor connection between LPP terminal on main board and the high boltage switch on the complete unit | The connection should be kept well |
| | | | | Wires of high voltage switch is loosened, high voltage switch is damaged or poor connection | Connec the loosened wires according to the circuit diagram. If it's broken or poor conenction, replace the high voltage switch |
| | | | | Refrigerant is insufficient or it's leaked out | Add the refrigerant according to the requirement of the complete system |
| 4 | Discharge high temperature protection of compressor | E4 | Cooling or drying : compressor and outdoor fan will stop running, while indoor fan will run. Heating : all of them will stop running | System is abnormal (eg: blockage, etc.) | Resolve the problem of system |
| | | | | The speed of outdoor motor is abnormal (cooling) | Resolve the problem of rotation |
| | | | | Outdoor air intake is abnormal (cooling) | Solve the problem of air intake |
| | | | | System is normal, but the resistance of discharge temp sensor for compressor is abnormal or poor connection | Replace the temp sensor |
| 5 | Overcurrent protection | E5 | Cooling or drying : compressor and outdoor fan will be stopped, while indoor fan will run. Heating mode: all of them will be stopped. | Supply power is unstable; high fluctuation | The fluctuation is within 10% of the rated voltage on nameplate |
| | | | | Suppy power is too low; overload | Adjust the supply voltage |
| | | | | Fan motor can't run normally, fan speed is too low or it doesn't run | Reinstall the motor and check the motor |
| | | | | Whether the compressor is running normally, whether there's abnormal sound, oil leakage and the temp. of cabient is too high, etc. | Solve the problem of rotation for compressor |
| | | | | The inner system is blocked (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely) | Solve the problem of blockage in the system |

Appendix 1: Resistance Table for Indoor and Outdoor Ambient Temperature Sensors (15K)

| Temp (°C) | Resistance(kΩ) | Temp (°C) | Resistance(kΩ) | Temp (°C) | Resistance(kΩ) | Temp (°C) | Resistance(k Ω) |
|-----------|----------------|-----------|----------------|-----------|----------------|-----------|-----------------|
| -19 | 138.1 | 20 | 18.75 | 59 | 3.848 | 98 | 1.071 |
| -18 | 128.6 | 21 | 17.93 | 60 | 3.711 | 99 | 1.039 |
| -17 | 121.6 | 22 | 17.14 | 61 | 3.579 | 100 | 1.009 |
| -16 | 115 | 23 | 16.39 | 62 | 3.454 | 101 | 0.98 |
| -15 | 108.7 | 24 | 15.68 | 63 | 3.333 | 102 | 0.952 |
| -14 | 102.9 | 25 | 15 | 64 | 3.217 | 103 | 0.925 |
| -13 | 97.4 | 26 | 14.36 | 65 | 3.105 | 104 | 0.898 |
| -12 | 92.22 | 27 | 13.74 | 66 | 2.998 | 105 | 0.873 |
| -11 | 87.35 | 28 | 13.16 | 67 | 2.896 | 106 | 0.848 |
| -10 | 82.75 | 29 | 12.6 | 68 | 2.797 | 107 | 0.825 |
| -9 | 78.43 | 30 | 12.07 | 69 | 2.702 | 108 | 0.802 |
| -8 | 74.35 | 31 | 11.57 | 70 | 2.611 | 109 | 0.779 |
| -7 | 70.5 | 32 | 11.09 | 71 | 2.523 | 110 | 0.758 |
| -6 | 66.88 | 33 | 10.63 | 72 | 2.439 | 111 | 0.737 |
| -5 | 63.46 | 34 | 10.2 | 73 | 2.358 | 112 | 0.717 |
| -4 | 60.23 | 35 | 9.779 | 74 | 2.28 | 113 | 0.697 |
| -3 | 57.18 | 36 | 9.382 | 75 | 2.206 | 114 | 0.678 |
| -2 | 54.31 | 37 | 9.003 | 76 | 2.133 | 115 | 0.66 |
| -1 | 51.59 | 38 | 8.642 | 77 | 2.064 | 116 | 0.642 |
| 0 | 49.02 | 39 | 8.297 | 78 | 1.997 | 117 | 0.625 |
| 1 | 46.6 | 40 | 7.967 | 79 | 1.933 | 118 | 0.608 |
| 2 | 44.31 | 41 | 7.653 | 80 | 1.871 | 119 | 0.592 |
| 3 | 42.14 | 42 | 7.352 | 81 | 1.811 | 120 | 0.577 |
| 4 | 40.09 | 43 | 7.065 | 82 | 1.754 | 121 | 0.561 |
| 5 | 38.15 | 44 | 6.791 | 83 | 1.699 | 122 | 0.547 |
| 6 | 36.32 | 45 | 6.529 | 84 | 1.645 | 123 | 0.532 |
| 7 | 34.58 | 46 | 6.278 | 85 | 1.594 | 124 | 0.519 |
| 8 | 32.94 | 47 | 6.038 | 86 | 1.544 | 125 | 0.505 |
| 9 | 31.38 | 48 | 5.809 | 87 | 1.497 | 126 | 0.492 |
| 10 | 29.9 | 49 | 5.589 | 88 | 1.451 | 127 | 0.48 |
| 11 | 28.51 | 50 | 5.379 | 89 | 1.408 | 128 | 0.467 |
| 12 | 27.18 | 51 | 5.177 | 90 | 1.363 | 129 | 0.456 |
| 13 | 25.92 | 52 | 4.986 | 91 | 1.322 | 130 | 0.444 |
| 14 | 24.73 | 53 | 4.802 | 92 | 1.282 | 131 | 0.433 |
| 15 | 23.6 | 54 | 4.625 | 93 | 1.244 | 132 | 0.422 |
| 16 | 22.53 | 55 | 4.456 | 94 | 1.207 | 133 | 0.412 |
| 17 | 21.51 | 56 | 4.294 | 95 | 1.171 | 134 | 0.401 |
| 18 | 20.54 | 57 | 4.139 | 96 | 1.136 | 135 | 0.391 |
| 19 | 19.63 | 58 | 3.99 | 97 | 1.103 | 136 | 0.382 |

Appendix 2: Resistance Table for Indoor and Outdoor Tube Temperature Sensor (20K)

| Temp (°C) | Resistance(kΩ) | Temp (°C) | Resistance(kΩ) | Temp (°C) | Resistance(kΩ) | Temp (°C) | Resistance(kΩ) |
|-----------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|
| -19 | 181.4 | 20 | 25.01 | 59 | 5.13 | 98 | 1.427 |
| -18 | 171.4 | 21 | 23.9 | 60 | 4.948 | 99 | 1.386 |
| -17 | 162.1 | 22 | 22.85 | 61 | 4.773 | 100 | 1.346 |
| -16 | 153.3 | 23 | 21.85 | 62 | 4.605 | 101 | 1.307 |
| -15 | 145 | 24 | 20.9 | 63 | 4.443 | 102 | 1.269 |
| -14 | 137.2 | 25 | 20 | 64 | 4.289 | 103 | 1.233 |
| -13 | 129.9 | 26 | 19.14 | 65 | 4.14 | 104 | 1.198 |
| -12 | 123 | 27 | 18.13 | 66 | 3.998 | 105 | 1.164 |
| -11 | 116.5 | 28 | 17.55 | 67 | 3.861 | 106 | 1.131 |
| -10 | 110.3 | 29 | 16.8 | 68 | 3.729 | 107 | 1.099 |
| -9 | 104.6 | 30 | 16.1 | 69 | 3.603 | 108 | 1.069 |
| -8 | 99.13 | 31 | 15.43 | 70 | 3.481 | 109 | 1.039 |
| -7 | 94 | 32 | 14.79 | 71 | 3.364 | 110 | 1.01 |
| -6 | 89.17 | 33 | 14.18 | 72 | 3.252 | 111 | 0.983 |
| -5 | 84.61 | 34 | 13.59 | 73 | 3.144 | 112 | 0.956 |
| -4 | 80.31 | 35 | 13.04 | 74 | 3.04 | 113 | 0.93 |
| -3 | 76.24 | 36 | 12.51 | 75 | 2.94 | 114 | 0.904 |
| -2 | 72.41 | 37 | 12 | 76 | 2.844 | 115 | 0.88 |
| -1 | 68.79 | 38 | 11.52 | 77 | 2.752 | 116 | 0.856 |
| 0 | 65.37 | 39 | 11.06 | 78 | 2.663 | 117 | 0.833 |
| 1 | 62.13 | 40 | 10.62 | 79 | 2.577 | 118 | 0.811 |
| 2 | 59.08 | 41 | 10.2 | 80 | 2.495 | 119 | 0.777 |
| 3 | 56.19 | 42 | 9.803 | 81 | 2.415 | 120 | 0.769 |
| 4 | 53.46 | 43 | 9.42 | 82 | 2.339 | 121 | 0.746 |
| 5 | 50.87 | 44 | 9.054 | 83 | 2.265 | 122 | 0.729 |
| 6 | 48.42 | 45 | 8.705 | 84 | 2.194 | 123 | 0.71 |
| 7 | 46.11 | 46 | 8.37 | 85 | 2.125 | 124 | 0.692 |
| 8 | 43.92 | 47 | 8.051 | 86 | 2.059 | 125 | 0.674 |
| 9 | 41.84 | 48 | 7.745 | 87 | 1.996 | 126 | 0.658 |
| 10 | 39.87 | 49 | 7.453 | 88 | 1.934 | 127 | 0.64 |
| 11 | 38.01 | 50 | 7.173 | 89 | 1.875 | 128 | 0.623 |
| 12 | 36.24 | 51 | 6.905 | 90 | 1.818 | 129 | 0.607 |
| 13 | 34.57 | 52 | 6.648 | 91 | 1.736 | 130 | 0.592 |
| 14 | 32.98 | 53 | 6.403 | 92 | 1.71 | 131 | 0.577 |
| 15 | 31.47 | 54 | 6.167 | 93 | 1.658 | 132 | 0.563 |
| 16 | 30.04 | 55 | 5.942 | 94 | 1.609 | 133 | 0.549 |
| 17 | 28.68 | 56 | 5.726 | 95 | 1.561 | 134 | 0.535 |
| 18 | 27.39 | 57 | 5.519 | 96 | 1.515 | 135 | 0.521 |
| 19 | 26.17 | 58 | 5.32 | 97 | 1.47 | 136 | 0.509 |

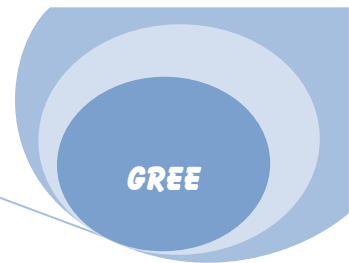
Appendix 3: Resistance Table for Outdoor Discharge Temperature Sensor (50K)

| Temp (°C) | Resistance(kΩ) | Temp (°C) | Resistance(kΩ) | Temp (°C) | Resistance (kΩ) | Temp (°C) | Resistance(kΩ) |
|-----------|----------------|-----------|----------------|-----------|-----------------|-----------|----------------|
| -29 | 853.5 | 10 | 98 | 49 | 18.34 | 88 | 4.754 |
| -28 | 799.8 | 11 | 93.42 | 50 | 17.65 | 89 | 4.609 |
| -27 | 750 | 12 | 89.07 | 51 | 16.99 | 90 | 4.469 |
| -26 | 703.8 | 13 | 84.95 | 52 | 16.36 | 91 | 4.334 |
| -25 | 660.8 | 14 | 81.05 | 53 | 15.75 | 92 | 4.204 |
| -24 | 620.8 | 15 | 77.35 | 54 | 15.17 | 93 | 4.079 |
| -23 | 580.6 | 16 | 73.83 | 55 | 14.62 | 94 | 3.958 |
| -22 | 548.9 | 17 | 70.5 | 56 | 14.09 | 95 | 3.841 |
| -21 | 516.6 | 18 | 67.34 | 57 | 13.58 | 96 | 3.728 |
| -20 | 486.5 | 19 | 64.33 | 58 | 13.09 | 97 | 3.619 |
| -19 | 458.3 | 20 | 61.48 | 59 | 12.62 | 98 | 3.514 |
| -18 | 432 | 21 | 58.77 | 60 | 12.17 | 99 | 3.413 |
| -17 | 407.4 | 22 | 56.19 | 61 | 11.74 | 100 | 3.315 |
| -16 | 384.5 | 23 | 53.74 | 62 | 11.32 | 101 | 3.22 |
| -15 | 362.9 | 24 | 51.41 | 63 | 10.93 | 102 | 3.129 |
| -14 | 342.8 | 25 | 49.19 | 64 | 10.54 | 103 | 3.04 |
| -13 | 323.9 | 26 | 47.08 | 65 | 10.18 | 104 | 2.955 |
| -12 | 306.2 | 27 | 45.07 | 66 | 9.827 | 105 | 2.872 |
| -11 | 289.6 | 28 | 43.16 | 67 | 9.489 | 106 | 2.792 |
| -10 | 274 | 29 | 41.34 | 68 | 9.165 | 107 | 2.715 |
| -9 | 259.3 | 30 | 39.61 | 69 | 8.854 | 108 | 2.64 |
| -8 | 245.6 | 31 | 37.96 | 70 | 8.555 | 109 | 2.568 |
| -7 | 232.6 | 32 | 36.38 | 71 | 8.268 | 110 | 2.498 |
| -6 | 220.5 | 33 | 34.88 | 72 | 7.991 | 111 | 2.431 |
| -5 | 209 | 34 | 33.45 | 73 | 7.726 | 112 | 2.365 |
| -4 | 198.3 | 35 | 32.09 | 74 | 7.47 | 113 | 2.302 |
| -3 | 199.1 | 36 | 30.79 | 75 | 7.224 | 114 | 2.241 |
| -2 | 178.5 | 37 | 29.54 | 76 | 6.998 | 115 | 2.182 |
| -1 | 169.5 | 38 | 28.36 | 77 | 6.761 | 116 | 2.124 |
| 0 | 161 | 39 | 27.23 | 78 | 6.542 | 117 | 2.069 |
| 1 | 153 | 40 | 26.15 | 79 | 6.331 | 118 | 2.015 |
| 2 | 145.4 | 41 | 25.11 | 80 | 6.129 | 119 | 1.963 |
| 3 | 138.3 | 42 | 24.13 | 81 | 5.933 | 120 | 1.912 |
| 4 | 131.5 | 43 | 23.19 | 82 | 5.746 | 121 | 1.863 |
| 5 | 125.1 | 44 | 22.29 | 83 | 5.565 | 122 | 1.816 |
| 6 | 119.1 | 45 | 21.43 | 84 | 5.39 | 123 | 1.77 |
| 7 | 113.4 | 46 | 20.6 | 85 | 5.222 | 124 | 1.725 |
| 8 | 108 | 47 | 19.81 | 86 | 5.06 | 125 | 1.682 |
| 9 | 102.8 | 48 | 19.06 | 87 | 4.904 | 126 | 1.64 |

TOWER-60H3 , H1

Error code:

| | |
|----|-------------------------------------|
| E1 | Compressor High-pressure Protection |
| E2 | Indoor Antifreeze Protection |
| E3 | Compressor Low-pressure Protection |
| E4 | Exhaust Pipe High-temp. Protection |
| E5 | Low-voltage Protection |



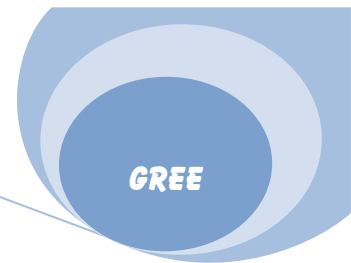
**جدول عیب یابی
دستگاه‌های اسپلیت
مدل ایستاده بزرگ
RF-28W**

MAINTENANCE

1 TROUBLE TABLE

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|--|---|--|
| E1 | Compressor High Pressure Protection | High Pressure Switch (move 3.0Mpa , recovery 2.4MPa) | When high pressure protection has been detected in continuously 3 seconds, shut off all loadings and shields all buttons and remote control signals. LED blinks and displays E1. The unit cannot recover automatically. Turn off the unit by press ON/OFF, clear “E1”and turn off the LED. |
| | Compressor Overloading protection 【 Only in Model R(L)F28W*】 | Overcurrent Protector | If detect that compressor overloading switch is cut off for continuously 3 seconds, it is believed that the compressor is in overloading protection. Turn off compressor and external fan and the LED blinks and displays the corresponding error code “E5”. Press ON/OFF to turn off the unit, clear error code and turn off the LED to recover the complete unit which cannot recover automatically. |
| E2 | Indoor anti-freezing protection | Tube sensor of indoor units | In cooling and dehumidifying modes, if detect that Tevaporator $\leq -2^{\circ}\text{C}$ for continuously 3min after 10min running of compressor, LED blinks and displays “E2. Stop compressor and external fan. In cooling mode, inner fan and swing motor keep original states; In dehumidifying mode, inner fan and swing motor stop. When Tevaporator $\geq 10^{\circ}\text{C}$ and compressor has stopped for 3min, LED pauses, LCD recovers displays and control device is running at setting mode. In anti-freezing protection, buttons are not shielded. |
| E3 | Compressor low pressure protection | Low pressure switch (move 0.05MPa, recovery 0.15MPa) | After 3min running of compressor, detect signal from low pressure switch. If detect that low pressure switch is cut off in continuously 30s, the complete unit will stop and display “E3”while LED blinks. 3min later, if the error has cleared, the complete unit resume running; If the low pressure switch protection has been detected for 3 times during 30min, the LED will blinks and displays “E3”. The unit cannot recover automatically which requires pressing ON/OFF, and then clear error code and turn off LED. |
| E4 | Compressor discharge temp. protection | Compressor discharge temp. sensor. | After the running of compressor, if detect that discharge temp. is higher that 130°C in continuously 30s, it is believed that there is high temp. protection of discharge pipes of compressor. Turn off compressor, external fan and inner fan. LED blinks and displays corresponding error code “E4”. After 3min stop of compressor, if detect that the discharge temp. is lower than 90°C for |

| | | | |
|----|---|-------------------------------------|---|
| | | | <p>continuously 5s, the compressor will resume running.</p> <p>Since the first error detected, if detect that there is 3 times of high temp. protection for compressor discharge pipes in 30min, turn off compressor, external fan and inner fan. LED blinks and displays corresponding error code "E4".</p> <p>The unit cannot recover automatically which requires pressing ON/OFF, and then clearing error code and turning off LED.</p> |
| E5 | Overloading Protection of Compressor | Overcurrent Protector | <p>If detect that overloading switch is cut off for continuously 3 seconds, it is believed that compressor is in the condition of overloading protection. Turn off compressor and external fan and the LED blinks and displays the corresponding error code E5. After 3 min stop of compressor, if the error has disappeared, the compressor will restart.</p> <p>From the first error detected, if overloading protection of compressor has been detected in 3 times in 30 min, turn off all loads (except for 4-way valve) and shield all buttons and remote control signal except for ON/OFF button. Then LED will blink and display the corresponding error code E5 and the complete unit cannot be automatically recovered. After turning off the unit by press ON/OFF button, if the error disappears, clear the error code and turn off the LED.</p> |
| F0 | 障 Indoor ambient temp. sensor error | Indoor ambient temp. sensor | <p>If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.</p> |
| F1 | Temp. sensor error of indoor evaporator | Temp. sensor of indoor evaporator | <p>If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.</p> |
| F2 | Tube sensor error for outdoor condensator | Tube sensor for outdoor condensator | <p>If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.</p> |
| F3 | Outdoor ambient temp. sensor error | Outdoor ambient temp. sensor | <p>If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.</p> |
| F4 | Discharge temp. sensor error | Discharge temp. sensor | <p>If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp -45□), it is believed that there is error of temp. sensor.</p> |



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FG...

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DUCT SPLIT

FG5T3/A-K
FG7T3H/(X)-K
FG9T3H/(X)-K
FG10T3H/(X)-K
FG12T3H/(X)-K
FG14T3H/(X)-M
FG16T3H/(X)-M1

TROUBLE TABLE

| Error Code | Description | Causes | Control Description |
|------------|---|---|---|
| E1 | High pressure protection of compressor | High pressure switch | If high pressure is detected in 3s successively after startup of unit 4min, all loads of this system will be stopped. |
| E2 | Indoor anti-freezing protection | Indoor evaporator temp. sensor | If the compressor has continuously run for 15m in cooling or dry mode, or the compressor(starting 6min and stops 4 min) has continuously run for 3min in dry mode, and Tevaporator <-2℃ is detected in 3min successively, the compressor and outdoor fan stop and indoor fan keeps its previous running state. After 3min delay, if Tevaporator≥10℃ keeps for 1s, normal display will resume. |
| E3 | Low pressure protection of compressor | Low pressure switch | If low pressure is detected in 30s successively after startup of unit 4min, all loads of this system will be stopped. |
| F0 | Indoor ambient temp. sensor malfunction | Indoor ambient temp. sensor | In case of short or open circuit of indoor ambient sensor head, all loads will be stopped during cooling, drying or heating. |
| F1 | Evaporator sensor malfunction | Indoor evaporator temp. sensor | In case of short or open circuit of evaporator sensor head, all loads will be stopped during cooling, drying or heating. |
| EH | Adhesion protection of AC contactor | AC contactor of auxiliary electric heater | If malfunction is detected in 3s successively in any case after energization, EH protection immediately acts. |

running.

11) Malfunction code display

If there is something wrong with the conditioner, a malfunction code will be shown on the control panel as shown in Fig.11 The malfunction codes are shown in the following tables.

| Malfunction code | Malfunction | Malfunction code | Malfunction |
|------------------|---|------------------|--|
| E1 | Compressor high-pressure protection | F0 | Indoor temperature sensor malfunction |
| E2 | Indoor antifreeze protection | F1 | Evaporator temperature sensor malfunction |
| E3 | Compressor low-pressure protection | F2 | Condenser temperature sensor malfunction |
| E4 | Compressor discharge temperature protection | F3 | Outdoor temperature sensor malfunction |
| E5 | Compressor overload protection | F4 | Air discharge temperature sensor malfunction |
| E6 | Communication malfunction | | |
| E8 | Indoor unit overload protection | | |

Notice: Please press the ON/OFF button to stop the buzzer if the alarm buzzer calls accompanying the Malfunction code.

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BIG DUCT SPLIT

FG(R)16(H)/A-G(I)
FG(R)20(H)/A-G(I)
FG(R)25(H)/A-G(I)
FG(R)30(H)/A-G(I)
FG(R)35(H)/B-G(I)
FG(R)40(H)/A-G(I)
FG(R)45(H)/A-G(I)
FG(R)55(H)/A-G(I)
FG(R)65(H)/A-G(I)

MAINTENANCE

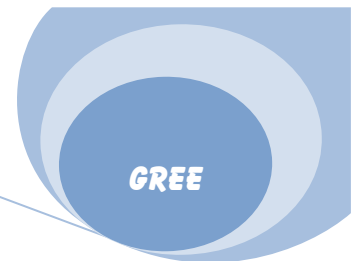
1 TROUBLE TABLE

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|---------------------------------------|------------------------------------|--|
| E1 | Compressor High Pressure Protection | High Pressure Switch | When high pressure protection has been detected in continuously 3 seconds, shut off all loadings and shield all buttons and remote control signals. LED blinks and displays E1. The unit cannot recover automatically. Turn off the unit by pressing ON/OFF, clearing "E1" and turning off the LED. |
| E3 | Compressor low pressure protection | Low pressure switch | After 3min running of compressor, detect signal from low pressure switch. If detect that low pressure switch is cut off in continuously 30s, the complete unit will stop and display "E3" while LED blinks. 3min later, if the error has cleared, the complete unit resume running; If the low pressure switch protection has been detected for 3 times during 30min, the LED will blinks and displays "E3". The unit cannot recover automatically which requires pressing ON/OFF, and then clear error code and turn off LED. |
| E4 | Compressor discharge temp. protection | Compressor discharge temp. sensor. | After the running of compressor, if detect that discharge temp. is higher than 130°C in continuously 30s, it is believed that there is high temp. protection of discharge pipes of compressor. Turn off compressor, external fan and inner fan. LED blinks and displays corresponding error code "E4". After 3min stop of compressor, if detect that the discharge temp. is lower than 90°C for continuously 5s, the compressor will resume running. Since the first error detected, if detect that there is 3 times of high temp. protection for compressor discharge pipes in 30min, turn off compressor, external fan and inner fan. LED blinks and displays corresponding error code "E4". The unit cannot recover automatically which requires pressing ON/OFF, and then clearing error code and turning off LED. |
| E5 | Overloading Protection of Compressor | Overcurrent Protector | If it is detected that overloading switch is cut off for continuously 3 seconds, it is believed that compressor is in the condition of overloading protection. Turn off compressor and external fan and the LED blinks and displays the corresponding error code E5. After 3 min stop of compressor, if the error has disappeared, the compressor will restart. From the first error detected, if overloading protection of |

| | | | |
|----|---|-------------------------------------|--|
| | | | compressor has been detected in 3 times in 30 min, turn off all loads (except for 4-way valve) and shield all buttons and remote control signal except for ON/OFF button. Then LED will blink and display the corresponding error code E5 and the complete unit cannot be automatically recovered After turning off the unit by press ON/OFF button, if the error disappears, clear the error code and turn off the LED. |
| E6 | Communication malfunction | Terminal COM | After energization, if outdoor unit continuously shows that there is not any feedback from indoor unit's mainboard, communication malfunction occurs. In this case, compressor will be stop and E6 will be displayed. After that, outdoor fan stops. If heating, the 4 way valve will stop after the compressor stops for adequate time. If the indoor unit hasn't received information from outdoor unit for a period of time, communication malfunction occurs. In this case, indoor unit stop (during heating, E-heater stopped firstly and the indoor fan blows residual heat). If the display board hasn't received information from indoor unit for a period of time, communication malfunction occurs. In this case, malfunction code is displayed and the unit won't act. |
| E9 | Indoor fan protection | Fan's motor switch or thermal relay | After startup of indoor fan if overloading information of fan breaks for a period of time, all loads will stops and E9 will be displayed. |
| F0 | Indoor ambient temp. sensor error | Indoor ambient temp. sensor | If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor. |
| F1 | Temp. sensor error of indoor evaporator | Temp. sensor of indoor evaporator | If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp about-45□), it is believed that there is error of temp. sensor. |
| F2 | Tube sensor error for outdoor condensator | Tube sensor for outdoor condensator | If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor. |
| F3 | Outdoor ambient temp. sensor error | Outdoor ambient temp. sensor | If detect that AD value exceeds 250(short circuit with corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor. |
| F4 | Discharge temp. | Discharge temp. | If detect that AD value exceeds 250(short circuit with |

| | | | |
|--|--------------|--------|---|
| | sensor error | sensor | corresponding temp. 160 °C) or less than 5 (open circuit with corresponding temp -45□), it is believed that there is error of temp. sensor. |
|--|--------------|--------|---|

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1 TROUBLE TABLE

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|--|---|---|
| E0 | Pump Failure | Pump | If water full protection continues for 2 hours and fails to restore, it is believed that the water pump is at fault and all loads are shut off and fail to restore automatically. |
| E1 | Compressor High Pressure Protection | High voltage switch | When high voltage protection is detected for continuous 3 seconds, all loads are shut off (except for the four way valve), all buttons and remote control signals except for power-on or power-off are shielded and fail to restore automatically, the unit should be powered off and on, or failure should be removed after power supply is restored. |
| E2 | Indoor Frost-Proof Protection | Evaporator of indoor unit Thermal bulb | When the unit has been running for refrigeration or dehumidification for a period of time and evaporator thermal bulb is detected to be lower than -2°C , the unit will report a fault and stops the compressor and the outdoor unit. The unit will begin to operate after temperature is $\geq 10^{\circ}\text{C}$ and the compressor keeps outage for 3 minutes. |
| E3 | Compressor Low Pressure Protection | Low voltage switch | When the unit is started or at standby (detection will begin 3 minutes after the compressor is started up) and detected breakdown of the low voltage switch for continuous 30 seconds, a fault is reported. The unit can be restored automatically after the first 2 reported faults within 30 minutes. The third reported fault and so on can not be restored automatically. |
| E4 | Compressor Exhaust High Temperature Protection | Discharge thermal bulb | After the compressor is started, if discharge temperature is detected to be more than or equal to 130 degree for continuous 30 seconds, E4 will be displayed, all loads (except for the four way valve) will be shut off, the compressor will stop for 3 minutes and the complete system will restore after discharge temperature is lower than 90 degree. If such fault is reported for successive three times, the protection can not be restored itself. |
| E5 | Compressor Overheat | Compressor | After the compressor is started, if the overload switch of the compressor is detected to shut off, the fault is reported. All loads (except for the four way valve) are shut off, the fault is displayed, and the compressor will stop for 3 minutes. If the fault is removed, the compressor can be restarted to run. If successive three compressor overload protection faults are detected within |

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|---|---------------------------------|--|
| | | | 30 minutes, the unit can not be restored itself and the buzzer will give out an alarm. Push the ON/OFF button to shut off the unit. And then push ON/OFF button again, if high voltage protection disappears, operation will restore, or otherwise, the fault is displayed. |
| E6 | Communications Failure | Communication | When outdoor unit is energized and fails to receive data of indoor unit within 30 seconds, an indoor unit communication fault is reported. The compressor and the outdoor unit will be shut off, and the four way valve will be stopped 2 minutes after the compressor outage in heating state. If indoor unit fails to receive information of outdoor unit, a communication fault is reported. The indoor unit is shut off and an indicator is twinkling. If the display board fails to receive information of outdoor unit, a communication fault is determined and displayed and the unit does not actuate. After communication becomes normal, the system can restore to the previous running state itself. |
| E8 | Indoor Fan Protection | Indoor unit | If fan overload protection is detected for continuous 3 seconds, relevant compressor and fan shall be shut off immediately and a fault code E8 is displayed, and at the same time, the buzzer gives out an alarm. Push the ON/OFF key, if the fault disappears, clear the fault display and push the ON/OFF key for restarting the system. |
| E9 | Full Water Protection | Liquid level switch | Water full is detected for continuous 8 seconds after the system is powered on, the water full protection is initiated and the indicator is twinkling (or E9 is displayed). Under refrigeration and dehumidification mode, the outdoor fan and the compressor are shut off and the indoor fan stops after 1 minute delay; under heating mode, the outdoor fan and the compressor are shut off, the four way valve keeps at the previous status, and the indoor fan stops after 1 minute delay; under air supply mode, the load of indoor unit remains. |
| F0 | Failure of Indoor Room Sensor at Air Intake | Indoor environment Thermal bulb | Open-circuit or short-circuit of the indoor environment thermal bulb is detected for continuous 5 seconds, indoor environment temperature will be set compulsively at 24 degree, the system does not take any measure, and only the indicator is twinkling or fault code F0 is displayed. After the fault is removed, the system can restore operation by itself. Under air supply mode, only the |

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|------------------------------------|----------------------------------|--|
| | | | fault is displayed and the indoor fan is running normally. The fault display disappears when the fault is removed. |
| F1 | Failure of Evaporator Temp. Sensor | Indoor evaporator thermal bulb | Open-circuit or short-circuit of evaporator thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F1 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed. |
| F2 | Failure of Condenser Temp. Sensor | Outdoor condenser thermal bulb | Open-circuit or short-circuit of condenser thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F2 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed. For other types of refrigeration machines except for air duct machine, condenser thermal bulb is not detected. |
| F3 | Failure of Outdoor Ambient Sensor | Outdoor environment thermal bulb | Open-circuit or short-circuit of outdoor environment thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F3 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed. |
| F4 | Failure of Exhaust Temp. Sensor | Discharge thermal bulb | After the compressor is started, open-circuit of discharge thermal bulb is detected for continuous 5 seconds. Under refrigeration and dehumidification mode, all loads will be shut off. Under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F4 is displayed. And the buzzer gives out an alarm. After the fault is removed, the system will restore by itself and clear the fault code. |

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|--|--------------------------|---|
| | | | If discharge thermal bulb is short circuited, under refrigeration and dehumidification mode, all loads will be shut off. Under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F4 is displayed. And the buzzer gives out an alarm. After the fault is removed, the system will restore by itself and clear the fault code. |
| F5 | Failure of Indoor Room Sensor at Wire Controller | Line controller | Open-circuit or short-circuit of line controller thermal bulb is detected for continuous 5 seconds, indoor environment temperature will be set compulsively at 24 degree, the system does not take any measure, and only the indicator is twinkling or fault code F0 is displayed. After the fault is removed, the system can restore operation by itself. Under air supply mode, only the fault is displayed and the indoor fan is running normally. The fault display disappears when the fault is removed. |

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MAINTENANCE

1.TROUBLE TABLE

1.1 Remote Controller Display Malfunction and Description

| Malfunction Code | Trouble Case | Origin of Trouble Signal | Measure |
|------------------|-----------------------------------|--|---|
| E1 | Actuation of High pressure switch | High pressure switch | Abnormality is detected when the contact of the high pressure switch opens for 3 sec. The system will be shut down. All buttons are deactivated except the on/off. This fault cannot be recovered automatically. |
| E2 | Indoor anti-freezing Protection | Evaporator temperature thermistor of indoor unit | When cooling and dehumidifying have been running for a period of time, if it is detected that the temperature of the evaporator temperature sensor is lower than the protective set point temperature, then an alarm will be given and the compressor and outdoor unit fan motor will stop; if it is detected that the temperature goes up beyond the protective set point temperature and the compressor has been stopped for three minutes, then the unit will resume running. |
| E3 | Actuation of low pressure switch | Low pressure switch | When the unit is running or on standby (the compressor has been operated for more than 3mins), the low pressure switch opens for more than 30sec and the screen will display malfunction code. |
| E4 | Abnormal discharge temperature | Discharge temperature thermistor | After the startup of compressor, the discharge temperature is higher than 130°C for more than 30sec, malfunction code (E4) will be displayed on the screen and the system will be shut down. After stopping the compressor for 3 mins, if the discharge temperature thermistor detects that the discharge temperature is lower than 90°C for more than 5 sec, the compressor will re-start. After retry for three times, the malfunction can not be corrected and can not be cancelled automatically. |

| | | | |
|----|---|------------------------|---|
| E5 | Compressor overheat | Compressor | <p>After the startup of the compressor, if the overload switch opens for more than 3 sec, the malfunction of the overheat for the compressor will be displayed on the screen. After the compressor has been stopped for 3 mins, if the malfunction has been recovered, the compressor will re-start. When overheat activates 3 times within 30mins, the malfunction of overheat will be determined according to the retry 3 times. The reset for the malfunction of overheat is manual reset. Therefore, the malfunction of overheat cannot be recovered automatically. Press ON/OFF button to recover.</p> |
| E6 | Malfunction of communications | Communication | <p>Check the communication state between the indoor unit PCB and outdoor unit PCB by micro-computer. Abnormality is detected when the correct communication is not conducted in 30se. When the malfunction of communication occurs, the system will be shut down and LED on the remote controller will blink and the screen will display the malfunction code (E6). The reset for the communication failure is automatic reset.</p> |
| E9 | Malfunction of drain water level | Liquid water level | <p>When a liquid water level switch opens for more than 8 seconds, it means a malfunction occurs to the drain water level. In this case, the LED on the remote controller will blink and the malfunction code (E9) will be displayed on the screen. Beside, the reset for the water level protection can only be done manually.</p> |
| F0 | Malfunction of indoor room temperature thermistor at air intake | Indoor room thermistor | <p>Malfunction of indoor room temperature thermistor at air intake is detected when a short circuit or an open circuit in the indoor room temperature thermistor for more than 5 sec. The indoor room temperature value will be set at 24°C forcibly. The reset for the malfunction of indoor room temperature thermistor is automatic. If the malfunction of indoor room temperature thermistor will be reset in air supply mode, the malfunction code (F0) will disappear on the screen and the indoor unit fan will run normally.</p> |

| | | | |
|----|---|--|--|
| F1 | Malfunction of evaporator temperature thermistor | Evaporator temperature thermistor | Malfunction of evaporator temperature thermistor is detected when there is a short circuit or an open circuit in the evaporator temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F1). The reset for the malfunction of evaporator temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F1). However, the indoor unit fan will run normally in this case. |
| F2 | Malfunction of condenser temperature thermistor | Condenser temperature thermistor | Malfunction of condenser temperature thermistor is detected when there is a short circuit or an open circuit in the condenser temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F2). The reset for the malfunction of condenser temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F2). However, the indoor unit fan will run normally in this case. |
| F3 | Malfunction of outdoor ambient temperature thermistor | Outdoor ambient temperature thermistor | Malfunction outdoor ambient temperature thermistor is detected when there is a short circuit or an open circuit in the outdoor ambient temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F3). The reset for the malfunction of condenser temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F3). However, the indoor unit fan will run normally in this case. |
| F4 | Malfunction of discharge temperature thermistor | Discharge temperature thermistor | Malfunction is detected when there is a short circuit or an open circuit in the discharge temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F4). The reset for the malfunction of discharge temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F4). However, the indoor unit fan will run normally in this case. |

| | | | |
|----|--|------------------------------------|---|
| F5 | Malfunction of Indoor Room temperature thermistor at Wired Remote Controller | Indoor room temperature thermistor | Malfunction is detected when there is a short circuit or an open circuit in the indoor room temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F5). The reset for the malfunction of discharge temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F5). However, the indoor unit fan will run normally in this case. |
|----|--|------------------------------------|---|

1.2 Cassette Type Indoor Unit's Error Indicating:

| LED | No error | Flash times every two seconds | Error description |
|------------------------------------|--|-------------------------------|--|
| yellow: Timing indicating lamp | It goes on as per the set time, And it flashes when the temperature sensor error occurs | once | the indoor ambient temperature sensor error |
| | | twice | the evaporator temperature sensor error |
| | | three times | the condenser temperature sensor error |
| | | four times | the outdoor ambient temperature sensor error |
| | | five times | the discharge air temperature sensor error |
| green : Compressor indicating lamp | It goes on/off as the compressor is turned on/off. And it flashes when defrosting or the compressor error occurs | twice | Defrosting |
| | | three times | high pressure protection |
| | | four times | the low pressure protection |
| | | five times | Overload protection |
| | | six times | Discharge high temperature protection |
| red : Running indicating lamp | It goes on/off as the unit is turned on/off, And it flashes when the indoor unit error occurs | once | Malfunction of communications |
| | | twice | the water overflow protection |
| | | three times | the anti-freezing error |
| | | four times | Anti-high temperature protection |

DC Inverter U-MATCH Air Conditioners

GUHD-09...60N

(T1/R410a/50Hz)

DC INVERTER U-MATCH AIR CONDITION

MAINTENANCE

1 TROUBLE TABLE

Table1 Fault Display on Indoor Wired controller:

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|---|------------------------------------|--|
| E0 | Water Pump Malfunction | Water pump | If the water-full protection cannot be recovered after 2 hours, it is believed that the water pump is failed, in which case all the loads will be switched off and cannot be recovered automatically. |
| E1 | High Pressure Protection of Compressor | High-pressure Switch | When high pressure protection is detected for 3 seconds successively, all the loads (except the heating 4-way valve) will be switched off, in which case all the keys and remote control signals except ON/OFF function will be disabled and cannot be recovered automatically. To eliminate the fault, it is needed to switch off and on the machine or recover from power failure. |
| E2 | Indoor Anti-frozen Protection | Indoor evaporator sensor | If detecting that the evaporator sensor is lower than -2°C after the unit has been running for a period of time under cooling or dry mode, the unit will report this fault, in which case the compressor and outdoor fan will be stopped. The unit will not run until this temperature is $\geq 10^{\circ}\text{C}$ and the compressor is stopped for 3 minutes. |
| E3 | Low Pressure Protection of Compressor | Low-pressure Switch | If it is detected within 30 seconds successively that the low-pressure switch is cut off under ON or standby state (If the compressor is started, the detection will start 3 minutes after the compressor has run), the unit will report this fault. For the first two faults within 30 minutes, the unit can be recovered automatically. If over three times, the unit cannot be recovered automatically. |
| E4 | Air Discharge High-temperature Protection of Compressor | Exhaust Overtemperature Protection | After the compressor is started, if it is detected within 30 seconds successively that the exhaust temperature is 130°C or higher, E4 will be displayed, in which case all the loads (except the 4-way valve of heating) will be stopped. The complete unit can only be recovered until the compressor has stopped for 3 minutes and the exhaust temperature is lower than 90°C . For this protection occurs three times, the complete unit cannot be recovered automatically. |
| E5 | Overload Protection of Compressor | Compressor | After the unit is energized, if it is detected within 3 seconds successively that the compressor overload switch is cut off, it will be deemed compressor overload protection. In this case, all the loads will be stopped (except the 4-way valve of heating) and E5 will be displayed. If the fault is eliminated, the compressor will be restarted after 3 minutes. If three compressor overload protections |

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|--|--|--|
| | | | are detected successively in 30 minutes from the first detection to the occurrence of fault, the compressor cannot be recovered automatically and the buzzer will alarm. You shall need to press ON/Off to stop the unit and clear the sound alarm before pressing ON/OFF again. The unit will be restarted if the high pressure protection disappears; otherwise the fault code will be displayed. |
| E6 | Communications Failure | Communication between indoor and outdoor mainboard | If the outdoor unit does not receive data from indoor unit for 30 seconds successively once energized, this indicates indoor communication failure. In this case, the compressor and outdoor fan will be stopped. Under heating mode, the 4-way valve will be stopped if the compressor has been stopped for 2 minutes. If the indoor unit does not receive message from outdoor unit for 1 minute, this indicates communication failure. In this case, the indoor unit will be stopped and the indicator will blink. If the display board does not receive message from outdoor unit in 1 minute, it can be judged that it is communication failure, in which case the fault will be displayed and the machine will not function. After the communication is resumed to normal, the system will run as per the working mode before. This can recover automatically. |
| E8 | Indoor Fan Protection | Indoor fan | If indoor fan overload protection is detected for 3 seconds successively, the compressor and fan will be immediately stopped and the fault code E8 will be displayed, while the buzzer will alarm. Press ON/OFF key. After the fault disappears, the fault display will be cleared. Then, press ON/OFF key to restart the machine. |
| E9 | Full Water Protection | Liquid level switch | If "full water" is detected for 8 seconds successively once energized, the system will enter into full water protection and the indicator will blink (or display E9): Under cooling and dry mode, the outdoor fan and compressor will be stopped, while the indoor fan will be stopped after 1 minute. Under heating mode, the outdoor fan and compressor will be stopped, the 4-way valve will maintain its original state, and the indoor unit will be stopped after 1 minute. Under fan mode, the indoor loads will not be stopped. |
| F0 | Malfunction Of Indoor Environment Sensor at Return air | Indoor room sensor | If the indoor sensor is detected of open circuit or short circuit for 5 seconds successively, the indoor room temperature will forcibly set to 24℃. In this case, the system will not perform any treatment, only the indicator will blink or display the fault code. The system can automatically resume after the failure is eliminated. Under fan mode, only the fault will be displayed, but the indoor unit will run |

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|---------------------|--|---------------------------------|--|
| | Vent | | normally. The fault disappears after it is eliminated. |
| F1 | Evaporator Temp. Sensor Malfunction | Outdoor evaporator sensor | If the evaporator sensor is detected of open circuit or short circuit for 5 seconds successively: When under cooling and dry mode, the system will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F1. After the fault is eliminated, the system can automatically resume to operation and clear the fault display. Under fan mode, only the fault will be displayed, and the indoor unit will run normally. The fault disappears after it is eliminated. |
| F2 | Condenser Temp. Sensor Malfunction | Outdoor condenser sensor | If the condenser sensor is detected of open circuit or short circuit for 5 seconds successively: When under cooling and dry mode, the system will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F2. After the fault is eliminated, the system can automatically resume to operation and clear the fault display. Under fan mode, only the fault will be displayed, and the indoor unit will run normally. The fault disappears after it is eliminated. For cooling-only unit, the other units except the duct type will not detect the condenser sensor fault. |
| F3 | Outdoor Environment Sensor Malfunction | Outdoor environment sensor | If the outdoor environment sensor is detected of open circuit or short circuit for 5 seconds successively: When under cooling and dry mode, the system will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F3. After the fault is eliminated, the system can automatically resume to operation and clear the fault display. Under fan mode, only the fault will be displayed, and the indoor unit will run normally. The fault disappears after it is eliminated. |
| F4 | Malfunction of Exhaust Temp. Sensor | Exhaust temperature sensor | If the outdoor temperature sensor is detected of open circuit for 5 seconds successively after the compressor is started: When under cooling and dry mode, all the loads will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F4 and the buzzer will alarm. After the fault is eliminated, the system can automatically resume to operation and clear the fault code. If the outdoor temperature sensor is detected of short circuit: |

| Trouble Code | Trouble Name | Origin of Trouble Signal | Control Description |
|--------------|---|--------------------------|--|
| | | | When under cooling and dry mode, all the loads will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F4 and the buzzer will alarm. After the fault is eliminated, the system can automatically resume to operation and clear the fault code. |
| F5 | Malfunction Of Indoor Environment Sensor at Wire Controller | Wired controller | If the wired controller is detected of open circuit or short circuit for 5 seconds successively, the indoor room temperature will forcibly set to 24℃. In this case, the system will not perform any treatment, only the indicator will blink or display the fault code. The system can automatically resume to operation after the failure is eliminated. Under fan mode, only the fault will be displayed, but the indoor unit will run normally. The fault disappears after it is eliminated. |
| FF | All of The Terminal Air Valve Closed | System | The air valve on end will be fully closed. |
| CC | Wire Controller Invalid (not failure) | wire controller | the units is remotely monitored or controlled by centralized controller and the wire controller's functions are invalidated (not failure) |
| EE | Keys Locked (not failure) | wire controller | keys on wire controller are locked (not failure) |

Table2 Mainboard LED Display Codes for Outdoor Unit:

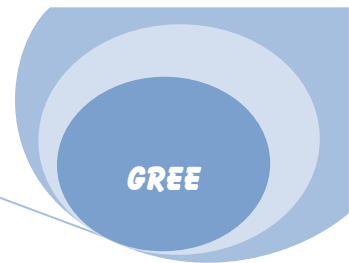
| Items | Mainboard LED Display Codes for Outdoor Unit | | | | | | Display |
|-----------------------------------|--|-------|--------|--------|--------|--------|---------|
| | LED6 | LED5 | LED4 | LED3 | LED2 | LED1 | |
| DC busbar overvoltage protection | Bright | Blink | Bright | Bright | Bright | Bright | E5 |
| Radiating fin overheat protection | Bright | Blink | Bright | Bright | Bright | Blink | E5 |
| Current sensor fault | Bright | Blink | Bright | Bright | Blink | Bright | E5 |
| Radiator sensor fault | Bright | Blink | Bright | Blink | Bright | Bright | E5 |
| Compressor current protection | Bright | Blink | Bright | Blink | Bright | Blink | E5 |
| DC busbar undervoltage protection | Bright | Blink | Bright | Blink | Blink | Bright | E5 |
| Compressor startup failure | Bright | Blink | Dark | Bright | Bright | Bright | E5 |

| | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|------------|
| PFC abnormal | Bright | Blink | Dark | Bright | Bright | Dark | E5 |
| Compressor clogged | Bright | Blink | Dark | Bright | Bright | Blink | E5 |
| IPM module reset | Bright | Blink | Dark | Bright | Dark | Bright | E5 |
| The compressor motor in loss of synchronization | Bright | Blink | Dark | Bright | Dark | Dark | E5 |
| Driver board in open phase | Bright | Blink | Dark | Bright | Dark | Blink | E5 |
| Fault from variable frequency drive to main control communication | Bright | Bright | Dark | Dark | Dark | Blink | E5 |
| IPM module protection | Bright | Blink | Blink | Bright | Bright | Bright | E5 |
| Compressor overspeed | Bright | Blink | Blink | Bright | Bright | Dark | E5 |
| Sensor connection protection | Bright | Blink | Blink | Bright | Bright | Blink | E5 |
| Temperature drift protection | Bright | Blink | Blink | Bright | Dark | Bright | E5 |
| AC contactor protection | Bright | Blink | Blink | Bright | Dark | Dark | E5 |
| AC current protection (input side) | Bright | Blink | Bright | Blink | Bright | Dark | E5 |
| Driver board environment temperature sensor error | Bright | Blink | Bright | Blink | Dark | Bright | E5 |
| High-pressure protection | Bright | Blink | Dark | Dark | Dark | Blink | E1 |
| Low-pressure protection | Bright | Blink | Dark | Dark | Blink | Dark | E3 |
| Exhaust protection | Bright | Blink | Dark | Dark | Blink | Blink | E4 |
| Compressor overload protection | Bright | Blink | Dark | Blink | Dark | Dark | E5 |
| Communication error(between indoor / outdoor unit and wired controller) | Bright | Blink | Dark | Blink | Blink | Dark | E6 |
| Outdoor environment temperature sensor error | Bright | Blink | Blink | Dark | Dark | Dark | F3 |
| Indoor coil middle temperature sensor error | Bright | Blink | Blink | Dark | Blink | Dark | F2 |
| Variable-frequency exhaust temperature sensor error | Bright | Blink | Blink | Blink | Dark | Blink | F4 |
| Defrost (non-malfunction) | Bright | Blink | Dark | Blink | Blink | Blink | Defrost |
| Oil return (non-malfunction) | Bright | Blink | Blink | Blink | Bright | Blink | No display |
| Mismatch of indoor unit model | Bright | Blink | Dark | Blink | Bright | Blink | No display |

Note: No indicator LED6 for GUHD09NK3AO, GUHD12NK3AO or GUHD18NK3AO.

Table 3 Driver Board Fault Display Codes for 3-phase Unit, only applicable to GUHD36NM3AO, GUHD42NM3AO, GUHD48NM3AO and GUHD60NM3AO

| Item | Driver Board LED Display for 3-phase Unit | | | Display |
|---|---|------------------|-----------------|---------|
| | LED1 (red) | LED2 (yellow) | LED3 (green) | |
| 11 Normal Mode | Blink | Dark | Dark | E5 |
| IPM module protection | Blink | Dark | Blink | E5 |
| High-pressure protection | Blink | Blink | Dark | E5 |
| Compressor current protection | Blink | Blink | Blink | E5 |
| Fault from variable frequency drive to main control communication | Dark | Blink | Blink | E5 |
| Loss-of-synchronization protection | Blink | Bright | Bright | E5 |
| Current sensor fault | Blink | Blink | Bright | E5 |
| Sensor connection protection | Bright | Bright | Blink | E5 |
| Radiator overtemperature protection | Bright | Blink | Bright | E5 |
| Radiator temperature sensor error | Dark | Blink | Bright | E5 |
| Mode error | Bright | Dark | Blink | E5 |



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FREE MATCH

OUTDOOR

Model: GWHD(24)NK3CO

Meanings of malfunction indicator for outdoor -unit main board(AP1) and drive board(AP3)

| LED-D101(red) | | LED-D102(yellow) | | LED-D103(green) | |
|---|---|---------------------|--|---------------------|--|
| Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction |
| flash-1 time | Compressor runs | flash-1 time | Frequency drop for exhaust protection | flash-1 time | Frequency limit for exhaust protection |
| flash-2 times | Stop for compressor high-pressure protection | flash-2 times | Frequency drop for cooling overload | flash-2 times | Frequency limit for cooling overload |
| flash-3 times | Stop for exhaust protection | flash-3 times | Frequency drop for over current protection | flash-3 times | Frequency limit for over current protection |
| flash-4 times | Stop for communication malfunction(including indoor unit and SIPM) | flash-4 times | Frequency drop for phase current protection | flash-4 times | Frequency limit for phase current protection |
| flash-5 times | Stop for IPM module protection | flash-5 times | Frequency drop for heating unit B high temperature protection | flash-5 times | Frequency limit for heating unit A high temperature protection |
| flash-6 times | Stop for over current protection | flash-6 times | Frequency drop for heating unit B high temperature protection | flash-6 times | Frequency limit for heating unit B high temperature protection |
| flash-7 times | Stop for cooling overload | flash-7 times | Frequency drop for heating unit C high temperature protection | flash-7 times | Frequency limit for heating unit C high temperature protection |
| flash-8 times | Stop for high temperature protection of each indoor unit simultaneously | flash-8 times | Defrost | flash-9 times | Oil return |
| flash-9 times | Stop for anti-freezing protection of each indoor unit simultaneously | | | | |
| flash-10 times | Stop for outdoor unit sensor malfunction or sensor malfunction of each indoor unit simultaneously | | | | |
| flash-11 times | Stop for compressor overload protection | | | | |
| flash-12 times | Stop for compressor low-pressure protection(prepared) | | | | |
| flash-13 times | Stop for phase current protection | | | | |
| flash-14 times | Stop for incorrect read of E2PROM | | | | |
| flash-15 times | Short circuit of DC power supply | | | | |
| | | | | | |
| LED-D104(red) | | LED-D105(yellow) | | LED-D106(green) | |
| Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction |
| flash-1 time | Outdoor ambient sensor malfunction | flash-1 time | Unit A communication malfunction(not available to receive correct data from A in 3 min.) | flash-1 time | Unit B communication malfunction(not available to receive correct data from B in 3 min.) |
| flash-2 times | Outdoor tube sensor malfunction | flash-2 times | Unit A indoor middle sensor malfunction | flash-2 times | Unit B indoor middle sensor malfunction |
| flash-3 times | Outdoor exhaust sensor malfunction | flash-3 times | Unit A indoor outlet pipe sensor malfunction | flash-3 times | Unit B indoor outlet pipe sensor malfunction |
| flash-4 times | Communication with drive board malfunction(not available to receive correct data in 10s) | flash-4 times | Unit A indoor inlet pipe sensor malfunction | flash-4 times | Unit B indoor inlet pipe sensor malfunction |
| | | flash-5 times | Unit A indoor ambient sensor malfunction | flash-5 times | Unit B indoor ambient sensor malfunction |
| | | flash-6 times | Mode conflict of Unit A | flash-6 times | Mode conflict of Unit B |
| | | flash-7 times | Unit A anti-freezing protection | flash-7 times | Unit B anti-freezing protection |
| | | flash-8 times | Unit A high temperature protection | flash-8 times | Unit B high temperature protection |
| | | | | | |
| LED-D107(red) | | LED-D109(green) | | LED1(red) | |
| Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction | Name of malfunction |
| flash-1 time | Unit C communication malfunction(not available to receive correct data from C in 3 min.) | flash-1 time | Flash once after receiving correct communication data | flash-1 time | Compressor normally runs |
| flash-2 times | Unit C indoor middle sensor malfunction | flash-1 time | | flash-2 times | Stop for abnormality |
| flash-3 times | Unit C indoor outlet pipe sensor malfunction | | | flash-3 times | IPM protection |
| flash-4 times | Unit C indoor inlet pipe sensor malfunction | | | flash-4 times | Demagnetization protection |
| flash-5 times | Unit C indoor ambient sensor malfunction | | | flash-5 times | PFC protection |
| flash-6 times | Mode conflict of Unit C | | | flash-6 times | Startup for 5 successive times |
| flash-7 times | Unit C anti-freezing protection | | | flash-7 times | Startup failure |
| flash-8 times | Unit C high temperature protection | | | flash-8 times | DC bus volt. is under 350V during startup of compressor |
| | | | | | |
| ELECTRICAL BOX | | | | | |
| | | | | | |
| AP1: Main Board; AP2: PFC Module; AP3: Drive Board; AP4: Power Module; | | | | | |

Note: D101-D109, LED1 and LED2 are all indicators for malfunction, in which D101-D109 are on main board AP1, and LED1 and LED2 are on drive board AP3.

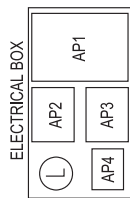
FREE MATCH

OUTDOOR

Model: GWHD(28)NK3AO

Meanings of malfunction indicator for outdoor -unit main board(AP1) and drive board(AP3)

| LED-D101(red) | Name of malfunction | LED-D102(yellow) | Name of malfunction | LED-D103(green) | Name of malfunction |
|----------------|---|-------------------|--|-----------------|--|
| flash-1 time | Compressor runs | flash-1 time | Frequency drop for exhaust protection | flash-1 time | Frequency limit for exhaust protection |
| flash-2 times | Stop for compressor high-pressure protection | flash-2 times | Frequency drop for cooling overload | flash-2 times | Frequency limit for cooling overload |
| flash-3 times | Stop for exhaust protection | flash-3 times | Frequency drop for over current protection | flash-3 times | Frequency limit for over current protection |
| flash-4 times | Stop for communication malfunction(including indoor unit and SIPM) | flash-4 times | Frequency drop for phase current protection | flash-4 times | Frequency limit for phase current protection |
| flash-5 times | Stop for IPM module protection | flash-5 times | Frequency drop for heating unit A high temperature protection | flash-5 times | Frequency limit for heating unit A high temperature protection |
| flash-6 times | Stop for over current protection | flash-6 times | Frequency drop for heating unit B high temperature protection | flash-6 times | Frequency limit for heating unit B high temperature protection |
| flash-7 times | Stop for cooling overload | flash-7 times | Frequency drop for heating unit C high temperature protection | flash-7 times | Frequency limit for heating unit C high temperature protection |
| flash-8 times | Stop for high temperature protection of each indoor unit simultaneously | flash-8 times | Frequency drop for heating unit D high temperature protection | flash-8 times | Frequency limit for heating unit D high temperature protection |
| flash-9 times | Stop for anti-freezing protection of each indoor unit simultaneously | flash-9 times | Defrost | flash-9 times | Oil return |
| flash-10 times | Stop for outdoor unit sensor malfunction or sensor malfunction of each indoor unit simultaneously | | | | |
| flash-11 times | Stop for compressor overload protection | | | | |
| flash-12 times | Stop for compressor low-pressure protection(prepared) | | | | |
| flash-13 times | Stop for phase current protection | | | | |
| flash-14 times | Stop for incorrect read of EEPROM | LED-D105 (yellow) | Name of malfunction | LED-D106(green) | Name of malfunction |
| flash-15 times | Short circuit of DC power supply | flash-1 time | Unit A communication malfunction(not available to receive correct data from A in 3 min.) | flash-1 time | Unit B communication malfunction(not available to receive correct data from B in 3 min.) |
| LED-D104(red) | Name of malfunction | flash-2 times | Unit A indoor middle sensor malfunction | flash-2 times | Unit B indoor middle sensor malfunction |
| flash-1 time | Outdoor ambient sensor malfunction | flash-3 times | Unit A indoor outlet pipe sensor malfunction | flash-3 times | Unit B indoor outlet pipe sensor malfunction |
| flash-2 times | Outdoor tube sensor malfunction | flash-4 times | Unit A indoor inlet pipe sensor malfunction | flash-4 times | Unit B indoor inlet pipe sensor malfunction |
| flash-3 times | Outdoor exhaust sensor malfunction | flash-5 times | Unit A indoor ambient sensor malfunction | flash-5 times | Unit B indoor ambient sensor malfunction |
| flash-4 times | Communication with drive board malfunction(not available to receive correct data in 10s) | flash-6 times | Mode conflict of Unit A | flash-6 times | Mode conflict of Unit B |
| | | flash-7 times | Unit A anti-freezing protection | flash-7 times | Unit B anti-freezing protection |
| | | flash-8 times | Unit A high temperature protection | flash-8 times | Unit B high temperature protection |
| | | | | | |
| LED-D107 (red) | Name of malfunction | LED-D108 (yellow) | Name of malfunction | LED-D109(green) | Name of malfunction |
| flash-1 time | Unit C communication malfunction(not available to receive correct data from C in 3 min.) | flash-1 time | Unit D communication malfunction(not available to receive correct data from D in 3 min.) | flash-1 time | Flash once after receiving correct communication data |
| flash-2 times | Unit C indoor middle sensor malfunction | flash-2 times | Unit D indoor middle sensor malfunction | LED1 (red) | Name of malfunction |
| flash-3 times | Unit C indoor outlet pipe sensor malfunction | flash-3 times | Unit D indoor outlet pipe sensor malfunction | flash-1 time | Compressor normally runs |
| flash-4 times | Unit C indoor inlet pipe sensor malfunction | flash-4 times | Unit D indoor inlet pipe sensor malfunction | flash-2 times | Stop for abnormality |
| flash-5 times | Unit C indoor ambient sensor malfunction | flash-5 times | Unit D indoor ambient sensor malfunction | flash-3 times | IPM protection |
| flash-6 times | Mode conflict of Unit C | flash-6 times | Mode conflict of Unit D | flash-4 times | Demagnetization protection |
| flash-7 times | Unit C anti-freezing protection | flash-7 times | Unit D anti-freezing protection | flash-5 times | PFC protection |
| flash-8 times | Unit C high temperature protection | flash-8 times | Unit D high temperature protection | flash-6 times | Startup for 5 successive times |
| | | | | flash-7 times | Startup failure |
| | | | | flash-8 times | DC bus volt. is under 350V during startup of compressor |
| | | | | flash-9 times | DC bus volt. is above 420V |
| | | | | flash-10 times | IPM over heat protection |
| | | | | flash-11 times | DC bus volt. is under 320V during running |
| | | | | flash-12 times | IPM temperature detects short or open circuit of resistance |



Note: D101-D103, LED1 and LED2 are on main board AP1, and LED1 and LED2 are on drive board AP3.

| Malfunction Name | Dual-8 display | Operation Lamp | Cooling Lamp | Solution |
|--|----------------|----------------|----------------|---|
| Mode Conflict | E7 | Blink 7 times | | Set the same mode for indoor unit of error code to the other running indoor unit. |
| Open circuit and short circuit for indoor ambient temperature sensor | F1 | | Blink once | Replace the related malfunction temperature sensor |
| Open circuit and short circuit for indoor middle evaporator temperature sensor | F2 | | Blink twice | |
| Open circuit and short circuit for indoor outlet evaporator temperature sensor | b7 | | Blink 22 times | |
| Open circuit and short circuit for indoor inlet evaporator temperature sensor | b5 | | Blink 19 times | |

8.3 Malfunction Code

| Malfunction Name | Dual-8 display | Operation Lamp | Heating lamp | Cooling lamp |
|--|----------------|----------------|----------------|----------------|
| Abnormal system | H4 | | Blink 4 times | |
| Compressor overload protection | H3 | | Blink 3 times | |
| Modular protection | H5 | | Blink 5 times | |
| High-pressure | E1 | Blink once | | |
| Discharge temperature protection | E4 | Blink 4 times | | |
| Low-voltage over-current protection | E5 | Blink 5 times | | |
| Mode conflict | E7 | Blink 7 times | | |
| Communication malfunction | E6 | Blink 6 times | | |
| Defrost or heating oil-return | H1 | | Blink once | |
| Open circuit and short circuit for indoor ambient temperature sensor | F1 | | | Blink once |
| Open circuit and short circuit for indoor middle evaporator temperature sensor | F2 | | | Blink twice |
| Open circuit and short circuit for indoor outlet evaporator temperature sensor | b7 | | | Blink 22 times |
| Open circuit and short circuit for indoor inlet evaporator temperature sensor | b5 | | | Blink 19 times |
| Open circuit and short circuit for outdoor ambient temperature sensor | F3 | | | Blink third |
| Open circuit and short circuit for outdoor condenser temperature sensor | F4 | | | Blink 18 times |
| Open circuit and short circuit for outdoor discharge temperature sensor | F5 | | | Blink 5 times |
| Fail startup | H7 | | Blink 7 times | |
| PFC malfunction | HC | | Blink 6 times | |
| Demagnetizing protection of compressor | HE | | Blink 14 times | |
| Anti-high temperature protection of system | E8 | Blink 8 times | | |
| All the malfunctions need adjust by remote controller, and it is displayed when pressing lamp button 6 time continuously in 3S, and exit test automatically in 5min (invalid under auto mode) or will exit if press lamp button 6 time continuously in 3S. | | | | |
| Stop when the anti-freeze protection | E2 | Blink twice | | |
| Cooling overload down frequency | F6 | | | Blink 6 times |
| Unit over-current down frequency | F8 | | | Blink 8 times |
| Compressor discharge down frequency | F9 | | | Blink 9 times |
| The AC voltage of unit decreases down frequency | E0 | Blink 10 times | | |
| Heating anti-high temperature down frequency | H0 | | Blink 10 times | |
| Anti- cold air protection | E9 | Blink 9 times | | |
| Cooling oil-return | F7 | | | Blink 7 times |

4 Displayer

4. 1 Basic display

(1) After powered on, the figure will be displayed, then only Power/running indicator turn on.
 (2) When using remote controller to open the unit, it will turn on, at the same time to display current setting running modes.
 Cool mode:run and cool lights are green; Heat mode: run and heat lights are green;Dry mode:run and dry lights are green
 Fan mode:run and fan lights are green; Auto mode: run\auto and actual run lights are green; is green
 Note: Panel 2 models don't have fan light and auto mode light.Under the fan mode run light is green.Under the auto mode run light and actual run mode light are green.

If you turn off light key, then all display will be turned off(it's available under the unit is off)

(4) After set up the SLEEP function, the displayer will keep original displaying status that is Sleep function will not affect the light on and Off.

4. 2 Dual 8 display

The nixie tube will display current setting temperature that the setting temperature range is 16-30 °C. In Auto mode, the Cool and Fan will display 25°C, in Heat will display 20°C, cooling only controller only display 25°C. Display indoor temperature, the temperature setting range is 0°C to 60°C .

4. 3 Fan speed display

Fan speed signal is divided into 3 parts dynamic circularly display, the three parts are two section, four section and six full display, there into the two section is still displayed. When remote control the super high speed, the fan speed figure blinks quickly; when remote control low fan speed, the figure blinks slowly; When remote control the middle fan it will display speed is between the high speed and low speed; When remote control the auto speed, the figure blinks depends on the inner fan motor actual running speed. If indoor unit stops running that will blink with the lowest speed display.

Note: Export unit with panel 2 haven't this fan speed display.

4. 4 Indoor unit malfunction display

| Malfunction | Dual 8 display | Running light | Heating light | Cooling light |
|---|----------------|----------------|----------------|---------------|
| System abnormal (anti-high temp, unit will stop, cooling overload) | H4 | | Blink 4 times | |
| Compressor overload protection | H3 | | Blink 3 times | |
| Modes protection | H5 | | Blink 5 times | |
| High pressure protection | E1 | Blink once | | |
| Anti-freeze protection unit will stop | E2 | Blink twice | | |
| Air exhaust temperature protection | E4 | Blink 4 times | | |
| Low voltage overcurrent protection | E5 | Blink 5 times | | |
| Modes confliction | E7 | Blink 7 times | | |
| Communication malfunction | E6 | Blink 6 times | | |
| Defrost or heating oil return | H1 | | Blink once | |
| Indoor ambient temp sensor opened, short circuit | F1 | | | Blink once |
| Any of indoor evaporator sensor opened, short circuit | F2 | | | Blink twice |
| Outdoor ambient sensor opened, short circuit | F3 | | | Blink 3 times |
| Outdoor condensor sensor opened, short circuit | F4 | | | Blink 4 times |
| Outdoor air exhaust sensor opened, short circuit | F5 | | | Blink 5 times |
| Start up failure | H7 | | Blink 7 times | |
| PFC malfunction | HC | | Blink 6 times | |
| Compressor demagnetization protection | HE | | Blink 14 times | |
| The following malfunction need to use remote control for transfer, within 3s continuously press SLEEP button for 6 times will display, 5min will automatically quit detection status (invalid in Auto mode) or within 3s continuously press SLEEP button for 6 times will quit. | | | | |
| Over current frequency decline | F6 | | | Blink 6 times |
| Whole unit over current frequency decline | F8 | | | Blink 8 times |
| Compressor air exhaust frequency decline | F9 | | | Blink 9 times |
| Whole unit AC current voltage decline frequency decline | E0 | Blink 10 times | | |
| Heating anti-high temperature frequency decline | H0 | | Blink 10 times | |
| Anti-cool wind protection | E9 | Blink 9 times | | |
| Cooling oil return | F7 | | | Blink 7 times |

Note: If several malfunction exist synchronously, the malfunction code will display circularly. Indicator will blink 0.5s and extinguish 0.5s. Defrosting. oil reutrn procedure, and quit within 3mins, will not detect indoor unit all sensor malfunction.

FREE MATCH

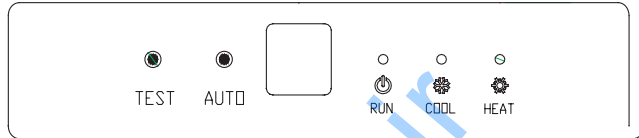
INDOOR - CASSETTE

3.8 Memory Function

1. What can be memorized includes: mode(auto.cool,dry,fan.heat),swing, setting temperature, preset fan speed and so on.
2. If the unit is running before re-energization, the indoor unit will send signal of sta to outdoor unit in 3-min. delay.
3. After re-energization, the unit will run under the state before power failure. .
4. If indoor unit does not connect wire controller and TIMER function is not set at the last remote control command, the system after power failure will memorize the the last remote control command and it runs at the running mode set at last time. If TIMER function is set at the last remote control command, the system after power failure will automatically cancel TIMER. It should be reset.
5. If the system is connected with wire controller. It will run according to wire controller's command before power failure and after re-energization.

3.9 Indoor Indicators

1. Communication indicator of indoor mainboard
When indoor unit communicates with outdoor unit or with wire controller, Communication indicator flashes for once.



2. Indicators of indoor light board

Under normal operation, red indicator (running indicator), yellow indicator (heating indicator) and green indicator (cooling indicator) will show according to corresponding running state. Malfunction is shown priorly and many malfunctions are shown in cycle.

Note: 1) Once malfunction occurs, it will be shown.

2). Malfunction indicator flashes once every 0.5s. The show interval between two malfunctions is 3s.

| No. | Malfunction | Red indicator (running) | Yellow indicator Heating | Green indicator Cooling |
|-----|--|--|--------------------------|-------------------------|
| 1 | System high pressure protection | Flash once | | |
| 2 | Anti-freezing protection | Flash twice | | |
| 3 | System low pressure protection | Flash 3 times | | |
| 4 | Exhaust protection | Flash 4 times | | |
| 5 | Low pressure overcurrent protection | Flash 5 times | | |
| 6 | Communication malfunction | Flash 6 times | | |
| 7 | Mode conflict | Flash 7 times | | |
| 8 | Jumper cap malfunction | Flash 15 times | | |
| 9 | Defrosting/heating oil return | | Flash once | |
| 10 | Compressor overload protection | | Flash 3 times | |
| 11 | System abnormality (for overload cooling, detect outdoor tube temp and for heating, detect indoor tube temp) | | Flash 4 times | |
| 12 | Module protection | | Flash 5 times | |
| 13 | PFC protection | | Flash 6 times | |
| 14 | Compressor desynchronizing error including degaussing error | | Flash 7 times | |
| 15 | Water-full protection | | Flash 8 times | |
| 16 | Short and open circuit of indoor ambient temp sensor | | | Flash once |
| 17 | Short and open circuit of evaporator (including outlet/inlet/mid tube temp) | | | Flash twice |
| 18 | Short and open circuit of outdoor ambient temp sensor | | | Flash 3 times |
| 19 | Short and open circuit of outdoor condenser temp sensor | | | Flash 4 times |
| 20 | Short and open circuit of exhaust temp sensor | | | Flash 5 times |
| 21 | E2 is wrong read by reserved outdoor unit | | | Flash 11 times |
| 22 | Ambient temp sensor malfunction of wire controller | When this temp sensor is used, indoor ambient temp sensor malfunction is shown. (green indicator flashes once) | | |

FREE MATCH INDOOR - WIRED REMOTE CONTROL

The Codes of Failure Definitions are as Follows:

| Fault code | Meaning | Wire controller |
|------------|--|-----------------|
| 1 | Compressor high pressure protection unit stop | E1 |
| 2 | Indoor unit anti-freezing protection | E2 |
| 3 | Low-pressure protection unit stop | E3 |
| 4 | Air exhaust protection unit stop | E4 |
| 5 | Over current protection unit stop | E5 |
| 6 | Communication malfunction unit stop | E6 |
| 7 | Unit modes conflict | E3 |
| 8 | Jumper malfunction | E3 |
| 9 | Defrosting /Heating oil return | defrost |
| 10 | Compressor overload protection unit stop | E5 |
| 11 | System Unit malfunction | F2 |
| 12 | IPM modular protection unit stop | E5 |
| 13 | PFC protection unit stop | E5 |
| 14 | Compressor malfunction | E9 |
| 15 | Water spill protection | E9 |
| 16 | Indoor ambient temp. sensor malfunction | F0 |
| 17 | Indoor pipe temp. sensor malfunction | F1 |
| 18 | Outdoor ambient temp. sensor malfunction | F3 |
| 19 | Outdoor pipe temp. sensor malfunction | F2 |
| 20 | Outdoor air exhaust temp. sensor malfunction | F4 |
| 21 | E2 PROM Error | E3 |
| 22 | Wire controller ambient temp. sensor malfunction | F5 |

FREE MATCH

INDOOR - DUCT

| Fault code | Meaning | Wire controller |
|------------|--|-----------------|
| 1 | Compressor high pressure protection unit stop | E1 |
| 2 | Indoor unit anti-freezing protection | E2 |
| 3 | Low-pressure protection unit stop | E3 |
| 4 | Air exhaust protection unit stop | E4 |
| 5 | Over current protection unit stop | E5 |
| 6 | Communication malfunction unit stop | E6 |
| 7 | Unit modes conflict | E3 |
| 8 | Jumper malfunction | E3 |
| 9 | Defrosting /Heating oil return | defrost |
| 10 | Compressor overload protection unit stop | E5 |
| 11 | System Unit malfunction | F2 |
| 12 | IPM modular protection unit stop | E5 |
| 13 | PFC protection unit stop | E5 |
| 14 | Compressor malfunction | E9 |
| 15 | Water spill protection | E9 |
| 16 | Indoor ambient temp. sensor malfunction | F0 |
| 17 | Indoor pipe temp. sensor malfunction | F1 |
| 18 | Outdoor ambient temp. sensor malfunction | F3 |
| 19 | Outdoor pipe temp. sensor malfunction | F2 |
| 20 | Outdoor air exhaust temp. sensor malfunction | F4 |
| 21 | E2 PROM Error | E3 |
| 22 | Wire controller ambient temp. sensor malfunction | F5 |

FREE MATCH

INDOOR - FLOOR CEILING

3.7 Communication Malfunction

Communication malfunction occurs, if the unit can not receive correct signal for 3 minutes continuously. Under AUTO HEAT or HEAT mode, the unit runs with blowing residual heat. Under other mode, indoor fan keeps its original operating state. If signal from wire controller can not be received for 1 min continuously, communication malfunction with wire controller occurs.

3.8 Memory Function

1. What can be memorized includes: mode(auto.cool,dry,fan.heat),swing, setting temperature, preset fan speed and so on.
2. If the unit is running before re-energization, the indoor unit will send signal of state to outdoor unit in 3-min. delay.
3. After re-energization, the unit will run under the state before power failure.
4. If indoor unit does not connect wire controller and TIMER function is not set at the last remote control command, the system after power failure will memorize the last remote control command and it runs at the running mode set at last time. If TIMER function is set at the last remote control command, the system after power failure will automatically cancel TIMER. It should be reset.
5. If the system is connected with manual controller. It will run according to wire controller's command before power failure and after re-energization.

3.9 Indoor Indicators

1. Communication indicator of indoor mainboard

When indoor unit communicates with outdoor unit or with wire controller, Communication indicator flashes for once.

2. Indicators of indoor light board

Under normal operation, red indicator (running indicator), yellow indicator (heating indicator) and green indicator (cooling indicator) will show according to corresponding running state. Malfunction is shown priorly and many malfunctions are shown in cycle.

Note: 1) Once malfunction occurs, it will be shown.

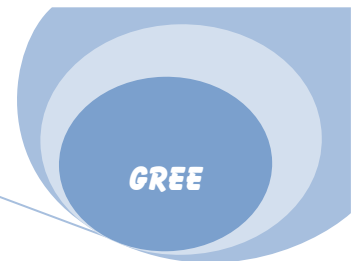
- 2). Malfunction indicator flashes once every 0.5s. The show interval between two malfunctions is 3s.

| Serial number | Meaning | LED (red) | LED (yellow) | LED (green) | LED (E/E) |
|---------------|--|---------------|--------------|--------------|-----------|
| 1 | Compressor high pressure protection unit stop | Blink once | | | E1 |
| 2 | Indoor unit anti-freezing protection | Twice | | | E2 |
| 3 | Low-pressure protection unit stop | Three times | | | E3 |
| 4 | Air exhaust protection unit stop | Four times | | | E4 |
| 5 | Over current protection unit stop | Five times | | | E5 |
| 6 | Communication malfunction unit stop | Six times | | | E6 |
| 7 | Unit modes conflict | Seven times | | | E7 |
| 8 | Jumper malfunction | fifteen times | | | C5 |
| 9 | Defrosting /Heating oil return | | Blink once | | H1 |
| 10 | Compressor overload protection unit stop | | Three times | | H3 |
| 11 | System Unit malfunction | | Four times | | H4 |
| 12 | IPM modular protection unit stop | | Five times | | H5 |
| 13 | PFC protection unit stop | | Six times | | HC |
| 14 | Compressor malfunction | | Seven times | | H7 |
| 15 | Water spill protection | | Eight times | | H8 |
| 16 | indoor ambient temp. sensor malfunction | | | Blink once | F1 |
| 17 | indoor pipe temp. sensor malfunction | | | Twice | F2 |
| 18 | Outdoor ambient temp. sensor malfunction | | | Three times | F3 |
| 19 | Outdoor pipe temp. sensor malfunction | | | Four times | F4 |
| 20 | Outdoor air exhaust temp. sensor malfunction | | | Five times | F5 |
| 21 | E2 PROM Error | | | Eleven times | HA |
| 22 | Wire controller ambient temp. sensor malfunction | | | Blink once | |

**FREE MATCH
INDOOR - FLOOR CEILING- WIRED REMOTE CONTROL**

When the unit is running operated by wire controller

| The Codes of Failure Definitions are as Follows: | | |
|--|--|-----------------|
| Fault code | Meaning | Wire controller |
| 1 | Compressor high pressure protection unit stop | E1 |
| 2 | Indoor unit anti-freezing protection | E2 |
| 3 | Low-pressure protection unit stop | E3 |
| 4 | Air exhaust protection unit stop | E4 |
| 5 | Over current protection unit stop | E5 |
| 6 | Communication malfunction unit stop | E6 |
| 7 | Unit modes conflict | E3 |
| 8 | Jumper malfunction | E3 |
| 9 | Defrosting /Heating oil return | defrost |
| 10 | Compressor overload protection unit stop | E5 |
| 11 | System Unit malfunction | F2 |
| 12 | IPM modular protection unit stop | E5 |
| 13 | PFC protection unit stop | E5 |
| 14 | Compressor malfunction | E9 |
| 15 | Water spill protection | E9 |
| 16 | Indoor ambient temp. sensor malfunction | F0 |
| 17 | Indoor pipe temp. sensor malfunction | F1 |
| 18 | Outdoor ambient temp. sensor malfunction | F3 |
| 19 | Outdoor pipe temp. sensor malfunction | F2 |
| 20 | Outdoor air exhaust temp. sensor malfunction | F4 |
| 21 | E2 PROM Error | E3 |
| 22 | Wire controller ambient temp. sensor malfunction | F5 |



جداول عیب یابی دستگاه‌های کولر پنجره ای

**SUPER-
CR3-U**

9. Troubleshooting

9.1 Malfunction Code Table

| Malfunction Name | Dual 8 Code Display | Indicator Lamp Display | Results and Solution |
|--|---------------------|---|--|
| Ambient temperature sensor is open and short circuit | F1 | Cooling indicator lamp is 3s off blinks once | Pipe temperature sensor is bad connecting to controller, please re-insert or replace a new pipe temperature sensor |
| Pipe temperature sensor is open and short circuit | F2 | Cooling indicator lamp is 3s off blinks twice | Pipe temperature sensor is bad connecting to controller, please re-insert or replace a new pipe temperature sensor |

9.2 Malfunction Analysis

Malfunction 1: There is no action after the AC is energized, the buzzer will not give out a beep.

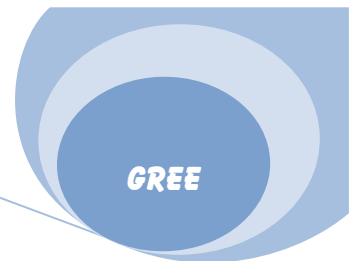
Solution: Please check the power cord of AC or replace controller.

Malfunction 1: The dual-8 nixie tube of display board displays "F1", cooling indicator lamp is 3s off and blinks once.

Solution: Ambient temperature sensor is bad connecting to controller, please re-insert or replace a new ambient temperature sensor.

Malfunction 3: The dual-8 nixie tube of display board displays "F2", cooling indicator lamp is 3s off and blinks twice.

Solution: Pipe temperature sensor is bad connecting to controller, please re-insert or replace a new pipe temperature sensor.



جداول عیب یابی دستگاههای موبایل (پورتابل)

C'MATIC

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9. Troubleshooting

9.1 Confirm below 2 points before any failures occurred

(1) Confirm power supply is OK

Check the plug of power line is normal energized and work.

(2) Confirm power voltage

Make sure the voltage is between normal range, if exceed the range, the unit may abnormally runs.AC 115+/-10%

9.2 Error Code

Please see the below failure contents and repair methods when the unit is energized or the error code occurred during the unit runs.

| No. | Malfunction Name | Display Method of Indoor Unit | | | A/C Status | Possible Causes | |
|----------------|--|-------------------------------|--|--|------------|---|--|
| | | Error Code | Indicator lamp | | | | |
| | | | (During blinking, ON for 0.5S and OFF for 0.5 S) | | | | |
| Operation Lamp | COOL Lamp | HEAT Lamp | | | | | |
| 1 | Indoor ambient temperature sensor is open/short-circuited | F1 | OFF 3S and blinks once | | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation.</p> <p>1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.</p> | |
| 2 | Indoor evaporator temperature sensor is open/short-circuited | F2 | OFF 3S and blinks twice | | | <p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.</p> <p>1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.</p> | |

| | | | | | | | |
|---|---|----|---|---------------------------|---|---|---|
| 3 | Outdoor condenser temperature sensor is open/ short-circuited | F4 | | OFF 3S and blinks 4 times | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation. | <ol style="list-style-type: none"> 1. The wiring terminal between outdoor condenser temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor condenser temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken. |
| 4 | Overcurrent protection | E5 | OFF 3S and blinks 5 times (inverter unit); running indicator blinks (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement. | | | During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop. | <ol style="list-style-type: none"> 1. Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller. 4. The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked. 5. The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run 6. The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc. 7. There's blockage in the system (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely) |
| 5 | Over-blow protection | H8 | | | Over-blow indicator lamp goes out 3S blinks 8 times | | Refer to the indication of instruction to discharge the water of chassis. |

TROUBLE SHOOTING

If the malfunction occur , please check the following before maintenance:

| Troubles | Possible Causes | Solutions |
|---|--|---|
| The air conditioner doesn't start. | The power supply is not connected well. The power plug is not inserted tightly. There is the malfunction of power plug or socket. The fuse is broken. | 1. Insert the power plug tightly. 2. Ask for the electrician to replace the power plug or socket. 3. Ask for the electrician to replace the fuse. |
| Although it was set the COOL mode, there is no cool wind. | 1. The room temp is lower than the set temp. 2. The evaporator frosts. | 1. This is the normal phenomenon. 2. Unit is running in defrosting operation, it will come back to run in original operation after defrosting. |
| Although it was set the DRY mode, there is no cool wind. | 1. The evaporator frosts. | 1. Unit is running in defrosting operation, it will come back to run in original operation after defrosting. |
| The LED displays "E5". | 1. The power supply is unstable. 2. The malfunction occurs. | To cut off power supply, after 10 minutes turn on the unit, if the "E5" still displays, please inform the maintenance man to maintain. |
| The LED displays "H8". | The water tank gets full. | 1. To pour out the water of the tank (please see the fig of P7) 2. If the malfunction still exists, please inform the maintenance man to maintain. |
| The LED displays "F1". | Ambient temperature sensor disable or release. | Please inform the maintenance man to maintain. |
| The LED displays "F2". | Indoor tube sensor disable or release. | |
| The LED displays "F4". | Outdoor tube sensor disable or release. | |