Troubleshooting

Error Code List

Error Code	Name of malfunction and status	Error Type	Possible Causes	Solution
CL	Filter cleaning reminder	Indoor	Filter may have dust	Clean the filter
d0	Compressor RMS phase current limit down	Outdoor	Compressor phase current effective value is too high, the compressor need to limit the frequency or frequency reduction operation	The normal limit frequency reduction function.
d1	RMS machine current limit down	Outdoor	The whole unit current effective value is too high, compressor need to limit the frequency or frequency reduction operation	The normal limit frequency reduction function.
d2	Exhaust gas temperature limit down	Outdoor	The Exhaust pipe temperature is too high, compressor need to limit the frequency or frequency reduction operation	The normal limit frequency reduction function.
d3	Anti-freeze limit down	Outdoor	The inner pipe temperature is too low, compressor need to limit the frequency or frequency reduction operation	The normal limit frequency reduction function.
d4	Overload limit down	Outdoor	The system is overload, compressor need to limit the frequency or frequency reduction operation	The normal limit frequency reduction function.
d5	IPM temp limit down	Outdoor	The compressor module temperature is too high, compressor need to limit the frequency or frequency reduction operation	The normal limit frequency reduction function
dF	Defrosting	Outdoor	When displaying dF, it enters the defrosting mode. The indoor display show dF for 10s, and flash one time to exit from the dislay board/(dF disappear). It is normal function indication	When entering defrosting mode: The air conditioning operates in defrosting mode. Both indoor and outdoor fan stops running and the defrosting time is within 12 minutes. After defrosting, the air conditioning will resume normal operation.
E0	High discharge temp protection	Outdoor	1.The system pressure deviates from the normal value. 2.the internal and external fan air ducts are unobstructed. 3. The wind speed of the internal and external motors abnormal 4. The resistance value of exhaust temperature sensor deviates from the normal value.	1 . Detect for leaks, identify and repair the leak points before extracting,vacuum, quantitative addition of refrigerant. 2. Remove obstacles in the internal and external air ducts, and remove evaporation dirt from equipment and filters. 3. Adjust the windshield to detect changes in wind speed. If there is an abnormality, the internal main board should be replaced; 4. If the resistance value is abnormal, replace the exhaust temperature sensor.
E1	Overload protection	Outdoor	1.The ambient temperature of the internal and external units exceeds the normal range of the air conditioning system scope of work. 2.The internal and external fan ducts are unobstructed, the evaporator is dirty and blocked. 3.The system pressure deviates from the normal value. 4.The wind speed of the internal and external motors is abnormal. 5. Abnormal temperature sensor fault. 6. External main board malfunction.	1.Normal protection, restored to normal after improving environmental temperature 2. Remove obstacles in the internal and external air ducts, and remove the evaporator dirt from the filter. 3. Detect for leaks, identify and repair the leak points, then vacuum and fix it, add refrigerant by volume 4. Check if the wind speed is abnormal by adjusting the windshield, if abnormal, replace the motor; 5. If the resistance value is abnormal, replace the faulty temperature sensor; 6. Replace the internal main board.

E2	Compressor overload protection	Outdoor	If excessive system current is detected multiple times, a fault will be reported	1. Filter clogging, evaporator clogging, external unit frosting, internal unit frosting, etc. 2. Check if the voltage is too high or too low. The normal working voltage is: standard voltage ± 10%. 3. The working environment is too harsh, and there are obstacles blocking the air inlet or outlet. 4. The internal fan is not running, or the operating speed of the internal fan is too low. 5. The compressor operates abnormally, often with abnormal sounds, oil leakage, and shell temperature too high. 6. Insufficient refrigerant in the compressor. 7. Check the overall current of the machine. If the current value does not reach the protection value, please check the mainboard.
E3	Anti-freeze protection	Outdoor	1.Indoor machine return air is not smooth. 2.The fan speed is too low. 3.The filter or evaporator not clean. 4.The inner temperature sensorabnormal.	1. Indoor machine return air is not smooth. 2. The fan speed is too low. 3.The filter or evaporator not clean. 4. Change the temperature sensor abnormal.
E4	System high voltage protection	Outdoor	1. The large and small valves are not open. 2. Indoor and outdoor heat exchangers blocked by foreign objects or filter screens dirty and clogged fins lead to poor ventilation. 3. The indoor sweeping blades are not fully open. 4. Fan malfunction or blade damage; 5. High voltage switch failure; 6. Electronic expansion valve malfunction. 7. Excessive addition of refrigerant. 8. The system pipeline is blocked. 9. Mismatching of internal and external unit capacities for one to multiple units.	1. Fully open the valves. 2. Remove obstacles or clean filter screens and fins; 3. Ensure that the indoor sweeping motor is fully turned on. 4. Replace the motor or fan blades; 5. Check and replace the high-voltage switch. 6. Verify and replace the electronic expansion valve; 7. Release an appropriate amount of refrigerant and verify to determine. 8. Inspect system pipelines, identify blocked pipelines, and replace them. 9. Verify and ensure that the internal and external machine capacities are within a reasonable range.
E5	System low voltage protectIon	Outdoor	1. The large and small valves are not open. 2. The indoor sweeping blades are not fully open. 3. Indoor and outdoor heat exchangers blocked by foreign objects or filter screens dirty and clogged fins lead to poor ventilation. 4. Too little refrigerant in the system. 5. Low voltage switch malfunction; 6. Electronic expansion valve malfunction. 7. The system pipeline is blocked.	1.Fully open the valves. 2. Ensure that the indoor sweeping motor is fully turned on. 3. Remove obstacles or clean filter screens and fins. 4. Add refrigerant according to the nameplate. 5. Check and replace the low-voltage switch. 6. Verify and replace the electronic expansion valve. 7. Inspect system pipelines, identify blocked pipelines, and replace them.
E6	Refrigerant deficiency protection/valve Cutoff protection	Outdoor	1. The valve core of the external unit valve is not open. 2. Insufficient refrigerant; 3. System blockage	1. The valve core of the outdoor unit valve is not open. 2. Quantitative addition of refrigerant. 3. Identify and remove system blockages, or clear the air conditioning system.
E7	4 way valve malfunction	Outdoor	1.Supply voltage is unstable 2.Mainboard and Four-Way valve unconnected. 3.Four-Way valve is broken. 4. Abnormal resistance value of the indoor temperature sensor. 5. Insufficient refrigerant. 6. System blockage;	1.Check the voltage of power supply. 2.Check the connecting of mainboard and 4-way valve. 3.Change the 4-Way valve. 4.Change the indoor temperature sensor. 5.Add refrigerant by volume 6.Identify and remove system blockages, or clear the air conditioning system
E8	Outdoor ambient temperature abnormal protection	Outdoor	1. The outdoor environment temperature is too high or too low. 2. The outdoor environment temprature sensor is damage.	1.The outdoor environment temperature is in normal range. 2.Change the temprature sensor.

H0	Compressor stalling	Outdoor	1. The ambient temperature of the internal and external units exceeds the normal range of the air conditioning system scope of work. 2. The input AC voltage is abnormal. 3. Abnormal wind speed of internal and external motor. 4. Excessive refrigerant injection. 5. Unreliable connection of compressor lines. 6. The air conditioning system is dirty and blocked. 7. Short circuit of compressor winding. 8. The compressor is short circuited to ground. 9. External main board malfunction.	1.Normal protection, restored to normal after improving environmental temperature. 2. Occasionally, voltage instability may occur, and after normal operation, it will return to normal. 3. Check if the wind speed of the internal and external units is abnormal, and replace the motor if it is abnormal. 4. Detect system pressure, if abnormal, empty refrigerant, re-vacuuming and quantitative infusion (Note that the refrigerant pressure varies under different ambient temperatures). 5. Identify the loose terminals of the compressor and ensure reliable connection. 6. Identify and remove system blockages, or clean the air conditioning system, re-vacuuming and add refrigerant by volume. 7. Detected that if the resistance between two terminals is the same and is consistent with the compressor. If it does not matches the specifications, replace the compressor. 8. Insulation resistance greater than 50m Ω, If it is less than, replace the compressor. 9. Replace the external main board.
H1	Start up failure	Outdoor	1. Loose connection between the mainboard and compressor leads to startup failure. 2. System blockage or fluorine leakage may cause compressor coil overheating protection, and restarting may result in startup failure. 3. Outdoor mainbaord damaged. 4. Compressor damaged.	1. Identify the loose connection point between the mainboard and the compressor connector, plug it in reliable. 2. Identify and remove system blockages or clean the air conditioning system. 3. Detect for leakage, identify and repair the leak points, then vacuum and fix it, add refrigerant by volume. 4. Replace the external motherboard; 5. Replace the compressor.
H2	Compressor phase current peak protection	Outdoor	1. Instability of power voltage leads to instantaneous large voltage fluctuations. 2. Excessive system load caused by system dirt and blockage. 3. Damaged external mainboard. 4. Compressor damage.	1. Occasional voltage instability may occur, it will get normal after voltage returning to normal. 2. Identify and remove system blockages or clean them air conditioning system. 3. Replace the external main board. 4. Replace the compressor.
H3	Compressor phase current RMS protection	Outdoor	Excessive system load caused by system dirt and blockage	Identify and remove system blockages or clean air conditioning system
H4	IPM protection	Outdoor	1. Excessive system load caused by system dirt and blockage. 2. Instability of power voltage leads to instantaneous large voltage fluctuations. 3. Damaged external mainboard. 4. Compressor damage.	1.Identify and remove system blockages or clean air conditioning system; 2. Occasional voltage instability may occur, it will get normal after voltage returning to normal. 3. Replace the external motherboard 4. Replace the compressor.
H5	IPM overheat protection	Outdoor	1. Low input voltage. 2. Fixed mainboard process components and radiator screws not installed tighten up. 3. The dirty radiator of outdoor mainboard causing heat dissipation poor effect. 4.Outdoor fan (usually only appears for AC fans),slow speed (fan failure). 5. Misdetection caused by damage to the outdoor mainboard.	1. Occasional voltage instability may occur, positive normal operation will be restored after normal operation. 2. Secure the radiator screws tightly. 3. Clean the outdoor unit mainboard radiator. 4. Replace the outdoorl fan. 5. Replace the outdoor mainboard.
H6	Compressor phase ciurcuit detection error	Outdoor	The mainboard is broken.	change the mainboard
H7	Compressor phase loss error	Outdoor	1.Mainboard and compressor unconnected. 2.The mainboard is broken.	1.check the connecting of mainboard and compressor 2.change the mainboard
H8	Outdoor DC fan motor error	Outdoor	1.Outdoor motor fan is blocked. 2.mainboard and DC fan motor unconnected. 3.the mainboard is broken 4.DC fan motor is broken.	1.Remove the block 2.Check the connecting of mainboard and DC fan motor 3.Change the mainboard 4.Change the DC fan motor
H9	Outdoor DC fan motor phase current detection circuit error	Outdoor	The mainboard is broken.	Change the mainboard

L0	Jumper error	Indoor	1. The internal mainboard is not equipped with a jumper cap. 2. Poor connection of jumper cap. 3. The mainboard detection the circuit fault of jumper cap	1. Tighten or replace the jumper cap. 2. Replace the indoor unit mainboard.
LA	8ºC heating mode (8ºC vacation Mode)	Indoor	It is normal function. It is activated when the ambient temperature drops below 8 °C to protect pipes during the winter period, unoccupied vacation homes, garages and basements.	It is normal function
L1	PG Indoor motor zero crossing detecting circuit malfunction	Indoor	The mainboard is broken	Change the mainboard
L2	Indoor fan motor error	Indoor	1. Loose motor wires. 2. The motor is broken. 3. Indoor motor stalling.	1.Tighten the indoor unit fan plug terminals. 2. Replace the indoor unit fan. 3. Replace the indoor unit mainboard.
L3	Indoor display communication between Indoor and Outdoor failure	Indoor	1. Loose or poor oxidation contact of communication line plug. 2. Open circuit, damage, oxidation of communication lines. 3. The communication line is tied together with the strong power line and is forced to Power interference (mainly in commercial 485 communication). 4. There are interference sources around the air conditioner. 5. Strong wires pass through the control board chip, causing interference. 6. Indoor unit mainboard fault: No 1-56V voltage signal number jump.	1. Tighten or replace communication cables and plugs. 2. Identify the faulty line and replace the communication line. 3. Separate communication lines from power lines for routing. 4. Remove interference sources (transformers, chargers) LED lights, etc.) 5. Wrap the strong power cord around the controller chip and tie it up tight. 6. Replace the external or internal mainboard
L4	Select the port level abnormal error	Indoor	The mainboard is broken	Change the mainboard
L5	Indoor EEPREM error	Indoor	Remote control display L5 represents the E -side of the main chip data bad.	If it does not affect normal operation, it only affects the power record, the mainboard can be replaced according to customer needs.
L6	Outdoor display communication between Indoor and Outdoor failure	Outdoor	1.The internal function receives data from the external machine, but the external machine unable to receive correct internal data. 2. After communication was restored, the compressor stopped.	1. Communication failure will report L6 failure within 3 seconds of recovery. Exit after 3 seconds. 2. If the L6 fault is still displayed after 3 seconds, then there is a problem with the communication circuit between the internal and external devices, and it needs to be replaced. Replace the mainboard.
L7	Mainboard and wired controller communication failure	Indoor	Abnormal communication between the wire controller and the indoor, communication line Poor wiring or communication circuit failure	1. Check if the communication line is normal 2. If the communication circuit is damaged, the wire controller needs to be replaced.
L8	Water pump malfunction	Indoor	1. Poor operation of float switch. 2. Abnormal indoor mainboard. 3. Water pump damage.	1. Check if the float level switch is blocked by foreign objects, resulting in a long time false alarm water full protection. Time false alarm of water full protection, resulting in unit false alarm of water pump failure. 2. When the water is full, check if the water pump has voltage output at the wiring terminal of the indoor mainboard. If there is no voltage output, it is possible the mainboard damaged. 3. Judging whether the water pump is running or listening for any sound of the water pump running. If there is no sound, the water pump is damaged. Please replace the water Pump.

L9	Water full protection	Indoor	1. Poor operation of float switch. 2. Indoor mainboard abnormal. 3. Water pump damage. 4. Improper installation of indoor unit.	1. Check if the float level switch is blocked by foreign objects, causing the unit to malfunction for long term false alarm of water full protection. 2. When the water is full, check the liquid level switch on the indoor machine mainboard. Is there voltage output at the wiring terminal? If there is no voltage output, then there is possible damage to the mainboard; 3. Judging whether the water pump is running or listening for any sound of the water pump running. If there is no sound, the water pump is damaged. Please replace the water pump. 4. If the water pump is working properly, please check if there are any abnormalities in the drainage pipe.If the lifting height of the drainage pipe exceeds the range of the drainage pump, the drainage pipe is blocked, etc
LL	Trial running	Indoor	Normal Function	Normal Function
P0	Outdoor EEPREM error	Outdoor	1.EEPROM chip(U8) loose. 2.The mainboard is broken.	1.Check the EEPROM chip(U8) is fixed. 2.Change the mainboard.
P1	Power On failure \ Chaging ciurcuit error	Outdoor	1.The voltage of power supply is too low. 2.The mainboard is broken.	1.Check the voltage of power supply. 2.Change the mainboard.
P2	Alternating current protection \ Feedforward voltage protection	Outdoor	1.The voltage of power supply is too low. 2.The mainboard is broken	1.Check the voltage of power supply. 2.Change the mainboard.
P3	High voltage protection	outdoor	1.The voltage of power supply is too high. 2.The mainboard is broken.	1.Check the voltage of power supply. 2.Change the mainboard.
P4	Low voltage protection	Outdoor	1.The voltage of power supply is too low. 2.The mainboard is broken.	1.Check the voltage of power supply. 2.Change the mainboard.
P5	DC line voltage drop protection	Outdoor	1.The voltage of power supply is unstable. 2.The mainboard is broken.	1.Check the voltage of power supply. 2.Change the mainboard.
P6	Machine current detection circuit error	Outdoor	1.Refrigerant leakage. 2.The mainboard is broken.	1.Check the refrigerant leakage. 2.Change the mainboard.
P7	Over-current protection	Outdoor	The overall current of the machine exceeds the limited protection value. 1.Check if the input AC voltage is normal. 2.Check if the system is dirty or blocked, and check for system load Is too high. 3. External motherboard malfunction.	1. Occasional voltage instability may occur, it will get normal after voltage returning to normal. 2. Identify and remove system blockages, or clean air conditioning system, quantitative addition of refrigerant. 3. Replace the external motherboard.
P8	PFC current detection circuit error	Outdoor	The mainboard is broken	Change the mainboard
P9	PFC protection	Outdoor	1. Check if the input AC voltage is normal. 2. Short circuit between turns of reactor. 3. External mainboard malfunction.	1.Occasional voltage instability may occur, it will get normal after voltage returning to normal. 2. Replace the reactor. 3. If frequent P9 displays, replace the external mainboard.
PA	Indoor and outdoor mismatch	Outdoor	1. The outdoor unit valve is close. 2. The refrigerant connecting pipe installation errors. 3. The inside and outside the machine connecting wiring error. 4. The refrigerant connecting pipe with the connection order sequence.	1. Check the outdoor unit valve is open. 2. The refrigerant connecting pipe installation errors. 3. Check the inside and outside the machine connecting wiring is correct. 4. Check the refrigerant connecting pipe with the connection is in order sequence.
PC	Mode conflict	Outdoor	Failure in indoor model conflicts with the operation mode of the outdoor unit.	Power off or change the failure in indoor unit mode to non-conflicts mode.
PC	Mode conflict	Outdoor	Failure in indoor model conflicts with the operation mode of the outdoor unit.	Power off or change the failure in indoor unit mode to non-conflicts mode.
U0	Indoor ambiet temp sensor short\open	Indoor	1.The wiring terminal between the temperature sensor and the mainboard loosened or poorly contacted. 2.The sensor is broken. 3.The mainboard is broken.	1.Check the wiring terminal. 2.Change the sensor. 3.Change the mainboard.
			1.The wiring terminal between the temperature	

U1	Indoor mide pepe temp sensor short\open	Indoor	sensor and the mainboard loosened or poorly contacted. 2.The sensor is broken. 3.The mainboard is broken.	1.Check the wiring terminal. 2.Change the sensor. 3.Change the mainboard.
U2	Outdoor ambient temp sensor short\open	Outdoor	1.The wiring terminal between the temperature sensor and the mainboard loosened or poorly contacted. 2.The sensor is broken. 3.The mainboard is broken.	1.Check the wiring terminal. 2.Change the sensor. 3.Change the mainboard.
U3	Outdoor mid-coil temp sensor short\open	Outdoor	1.The wiring terminal between the temperature sensor and the mainboard loosened or poorly contacted. 2.The sensor is broken. 3.The mainboard is broken.	1.Check the wiring terminal. 2.Change the sensor. 3.Change the mainboard.
U4	Outdoor pipe temp sensor short\open	Outdoor	1.The wiring terminal between the temperature sensor and the mainboard loosened or poorly contacted. 2.The sensor is broken. 3.The mainboard is broken.	1.Check the wiring terminal. 2.Change the sensor. 3.Change the mainboard.
U5	IPM temp sensor short\ open	Outdoor	The IPM temp sensor is broken.	Change the mainboard.
U6	Liquid pipe outlet temp sensor short\open	Outdoor	1.The wiring terminal between the temperature sensor and the mainboard loosened or poorly contacted. 2.The sensor is broken. 3.The mainboard is broken.	1.Check the wiring terminal. 2.Change the sensor. 3.Change the mainboard.
U7	Gas pipe outlet temp sensor short\open	Outdoor	1.The wiring terminal between the temperature sensor and the mainboard loosened or poorly contacted. 2.The sensor is broken. 3.The mainboard is broken.	1.Check the wiring terminal. 2.Change the sensor. 3.Change the mainboard.
U8	Discharge temp sensor short\open	Outdoor	1.Outdoor pipe temp sensor is not in the right position. 2.The sensor is broken. 3.The mainboard is broken.	1.Check the sensor position. 2.Change the sensor. 3.Change the mainboard.