

DICORE

CÓDIGOS AVERÍA EQUIPOS CLIMATIZACIÓN DICORE SPLIT PARED 1+1 SUPER INVERTER

ASDGR50AYIRDC(2H)

ASDGR70AYIRDC(2H)

www.dicore.es

9. Maintenance

9.1 Flashing LED of Indoor/Outdoor Unit and Primary Judgement

No.	Malfunction Name	Dual-8 Code Display	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
			□OFF ■Illuminated ☆Blink					
			D5 (D40)	D6 (D41)	D16 (D42)	D30 (D43)		
1	High pressure protection of system	E1	□	☆	☆	☆	During cooling and drying operation, except indoor fan operates, all loads stop operation. During heating operation, the complete unit stops.	1. Refrigerant was superabundant; 2. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); 3. Ambient temperature is too high.
2	High discharge temperature protection of compressor	E4	■	□	■	☆	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).
3	Overcurrent protection	E5	□	■	☆	□	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.
4	Communication Malfunction	E6	□	□	□	☆	During cooling operation,compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.	Refer to the corresponding malfunction analysis.
5	High temperature resistant protection	E8	■	□	■	■	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).
6	PG motor (indoor fan motor) does not operate	H6					Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 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 isnot connected tightly. 3. Fan blade rotates unsmoothly. 4. Malfunctionof moto.r 5. Controller is damaged.
7	Malfunction protection of jumper cap	C5					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.
8	Indoor ambient temperature sensor is open/short circuited	F1					During cooling and drying operation, indoor unit operates while other loads will stop; during heating operation, the complete unit will stop 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.
9	Indoor evaporator temperature sensor is open/short circuited	F2					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.
10	Outdoor ambient temperature sensor is open/short circuited	F3	□	□	☆	■	During cooling and drying operating, compressor stops while indoor fan operates; During heating operation, the complete unit will stop operation	Outdoor temperature sensor hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor)

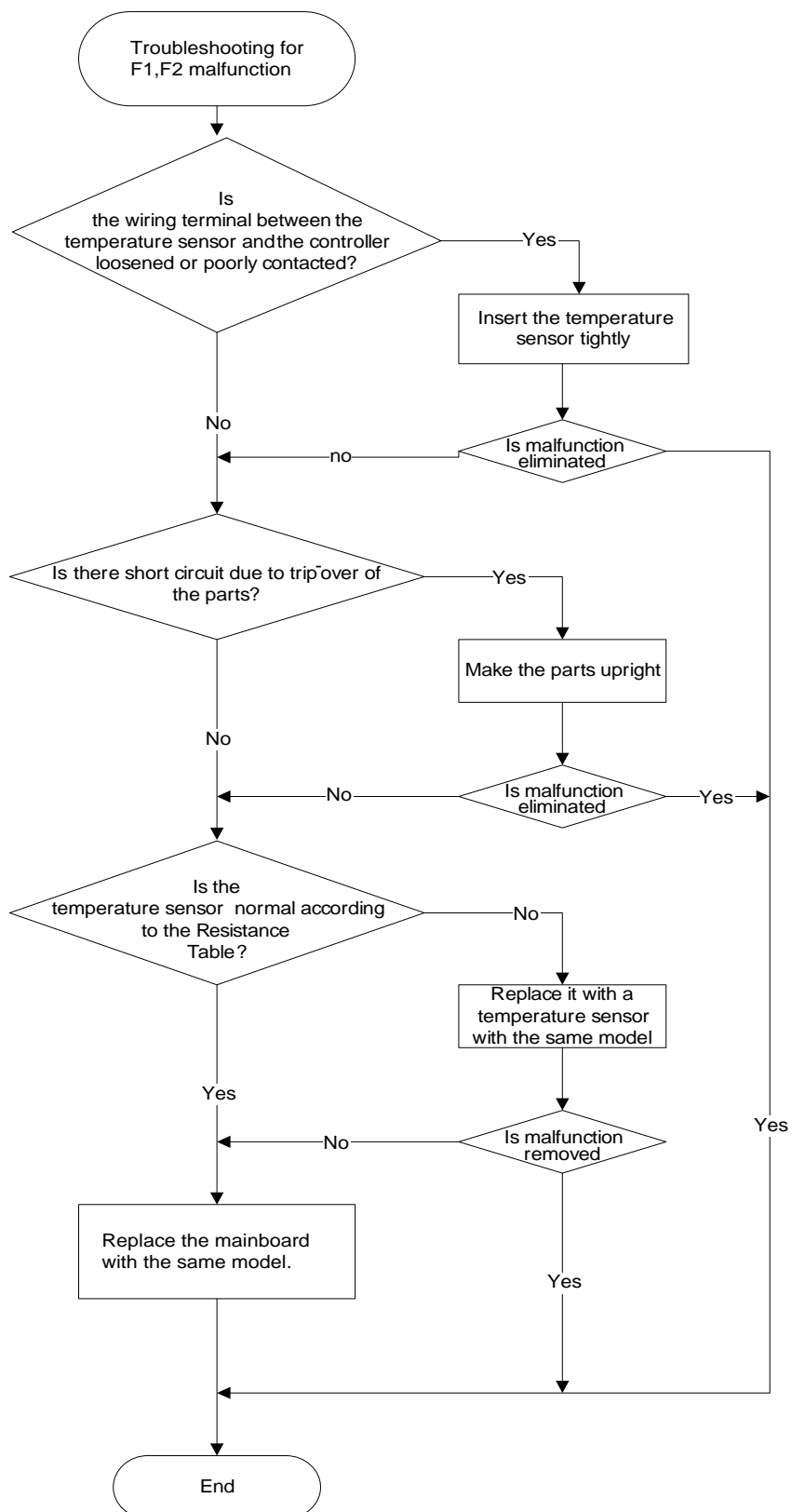
11	Outdoor condenser temperature sensor is open/short circuited	F4	□	□	☆	□	During cooling and drying operation, compressor stops while indoor fan will operate; During heating operation, the complete unit will stop operation.	Outdoor temperature sensor hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor)
12	Outdoor discharge temperature sensor is open/short circuited	F5	□	□	☆	☆	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 hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor) 2. The head of temperature sensor hasnt been inserted into the copper tube
13	Voltage for DC bus-bar is too high	PH	□	■	□	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	1. Measure the voltage of position L and N on wiring board (XT), if the voltage is higher than 265VAC, 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)
14	Malfunction of complete units current detection	U5	□	■	☆	■	During cooling and drying operation, the compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Theres circuit malfunction on outdoor units control panel AP1, please replace the outdoor units control panel AP1.
15	Overcurrent protection of phase current for compressor	P5	□	☆	□	□	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.
16	Defrosting	Heating indicator off for 0.5s and then blinks for 10s					Defrosting will occur in heating mode. Compressor will operate while indoor fan will stop operation.	Its the normal state
17	Overload protection for compressor	H3	□	☆	☆	□	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)
18	IPM protection	H5	□	☆	□	■	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.
19	PFC protection	HC	□	■	☆	☆	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
20	Desynchronizing of compressor	H7	□	☆	■	☆	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.
21	Failure start-up	LC	□	☆	□	☆	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
22	Malfunction of phase current detection circuit for compressor	U1	□	☆	■	□	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
23	EEPROM malfunction	EE	□	□	□	■	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
24	Charging malfunction of capacitor	PU	□	■	□	■	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

25	Malfunction of module temperature sensor circuit	P7	□	□	■	☆	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
26	Module high temperature protection	P8	■	□	☆	■	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.
27	Malfunction of voltage dropping for DC bus-bar	U3	□	■	■	■	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
28	Voltage of DC bus-bar is too low	PL	□	■	■	□	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)
29	Limit/decrease frequency due to high temperature of module	EU	■	■	■	☆	All loads operate normally, while operation frequency for compressor is decreased	Discharging 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.
30	The four-way valve is abnormal	U7	■	□	☆	□	If this malfunction occurs during heating operation, the complete unit will stop operation.	1. Supply voltage is lower than AC175V; 2. Wiring terminal 4V is loosened or broken; 3. 4V is damaged, please replace 4V.
31	Fan module protection	L3	■	□	□	□	Cooling:outdoor fan motor,compressor stop running;indoor fan works. Heating:outdoor fan motor,compressor,indoor fan motor stop running.	1. The wire terminal of outdoor fan motor is loosed,fix the terminal. 2. Motor damaged,replace the motor. 3. Fan motor module on mainboard is damaged;replace the mainboard AP1.

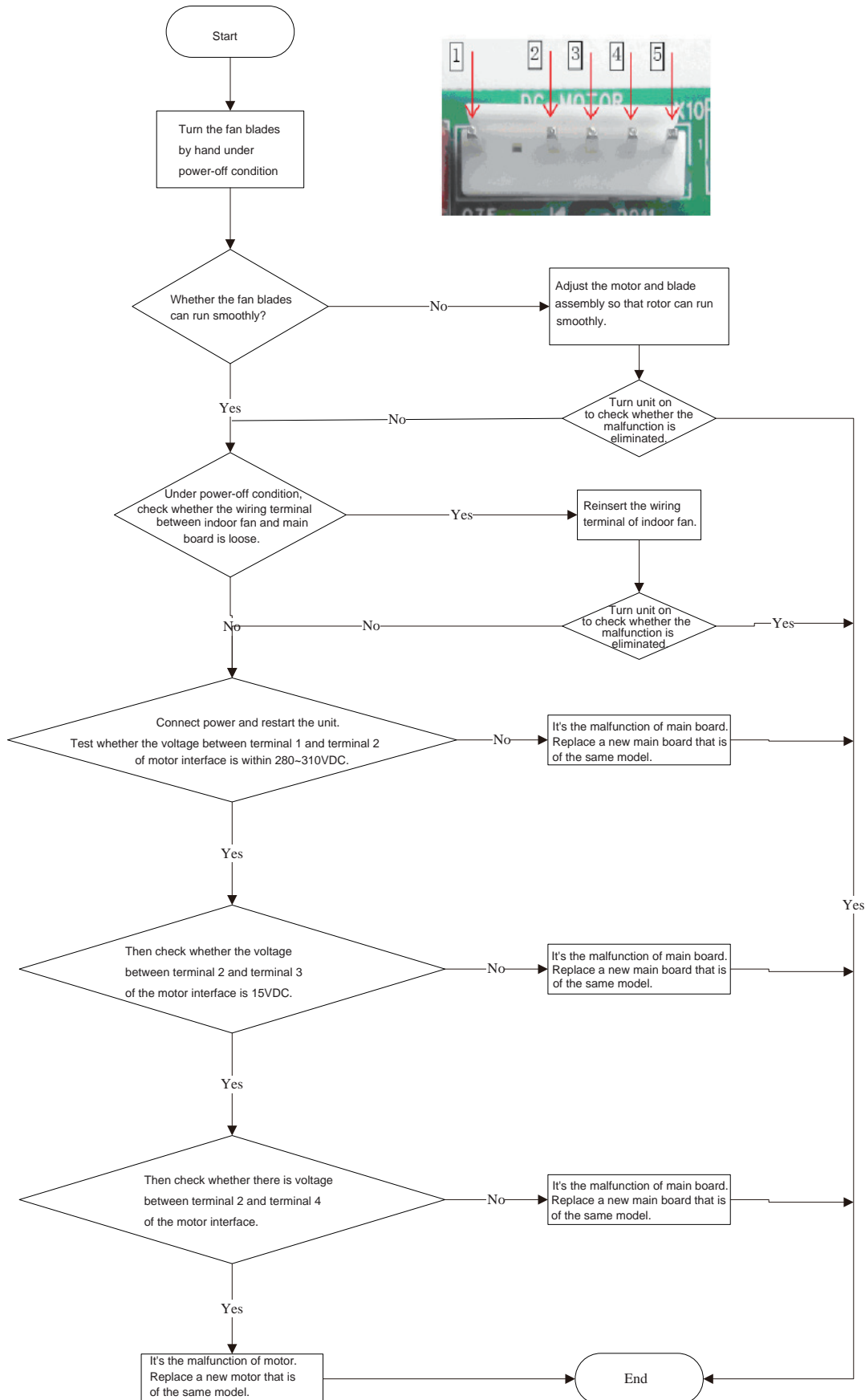
9.2 Procedure of Troubleshooting

•Indoor unit:

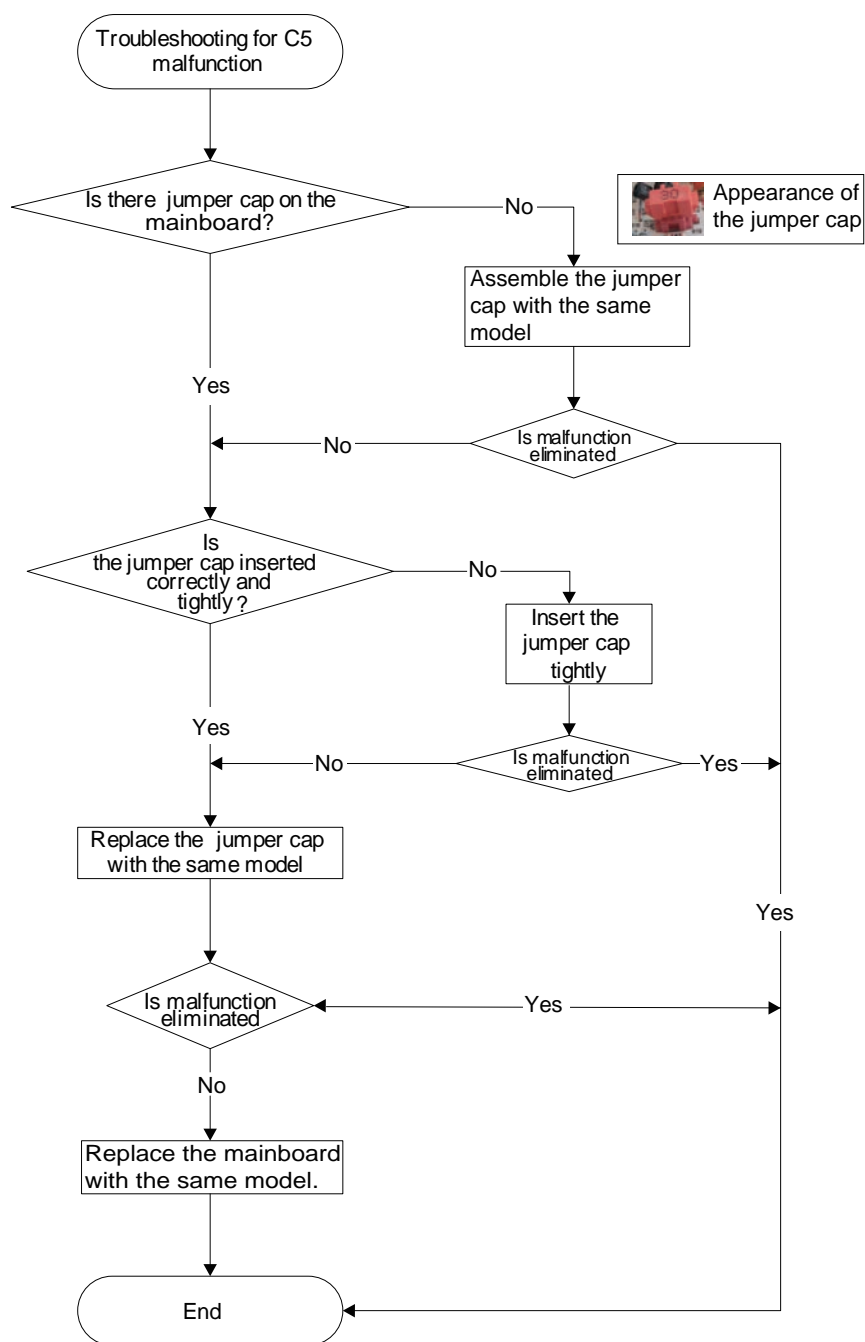
1. Malfunction of Temperature Sensor F1, F2



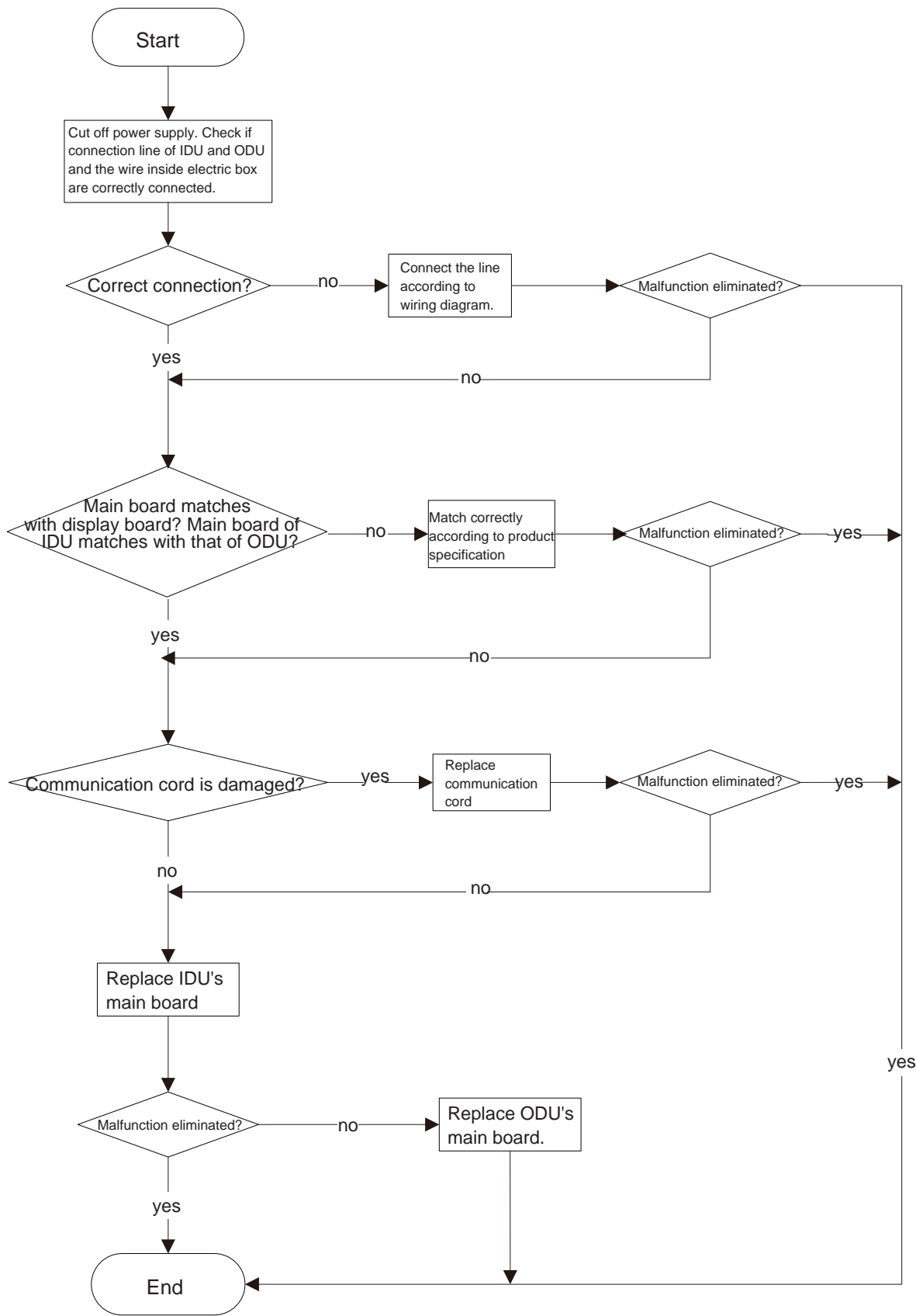
2. Malfunction of Blocked Protection of IDU Fan Motor H6



3. Malfunction of Protection of Jumper Cap C5

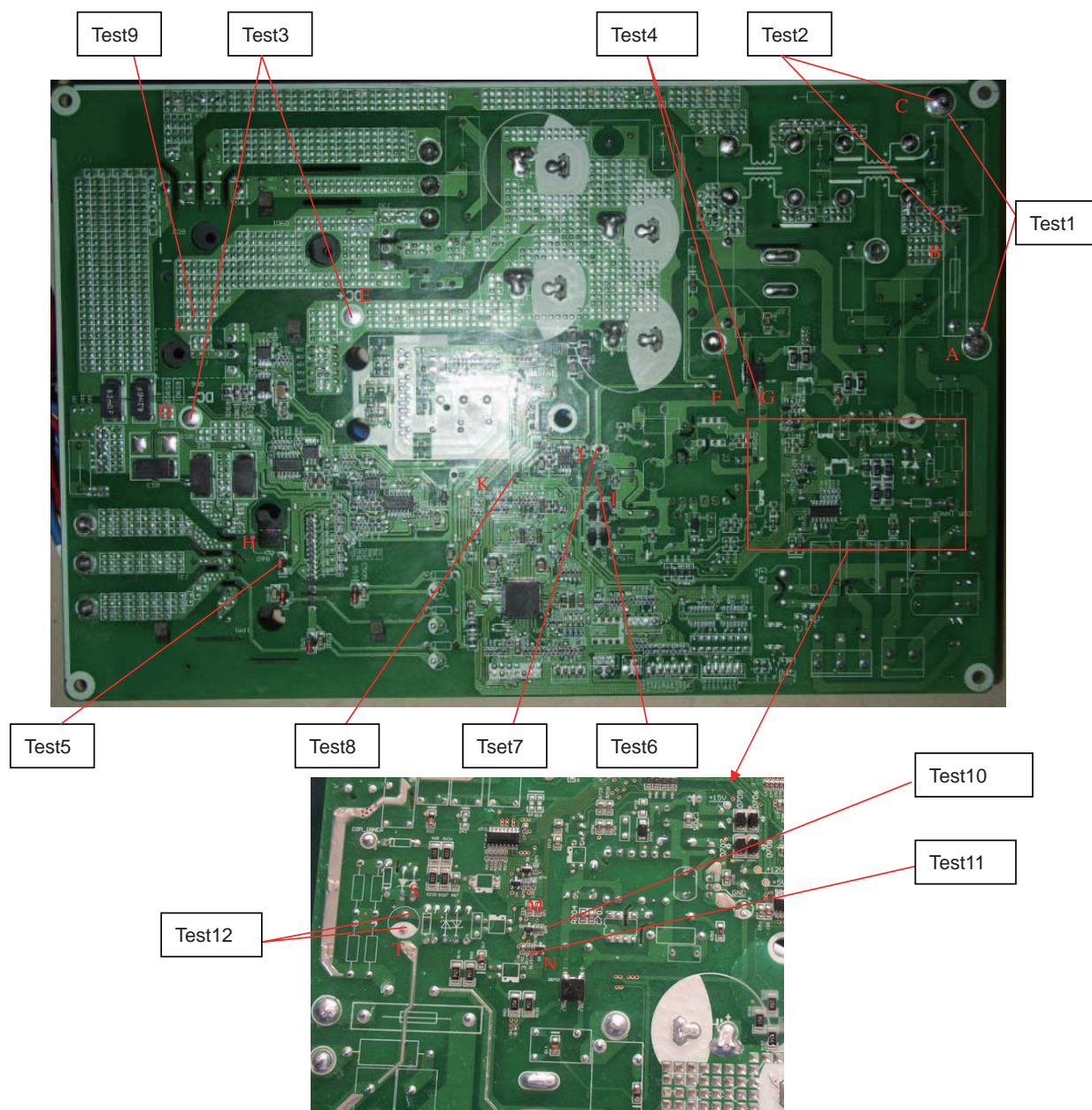


4. Communication malfunction E6



●Outdoor unit:

1.Key detection point



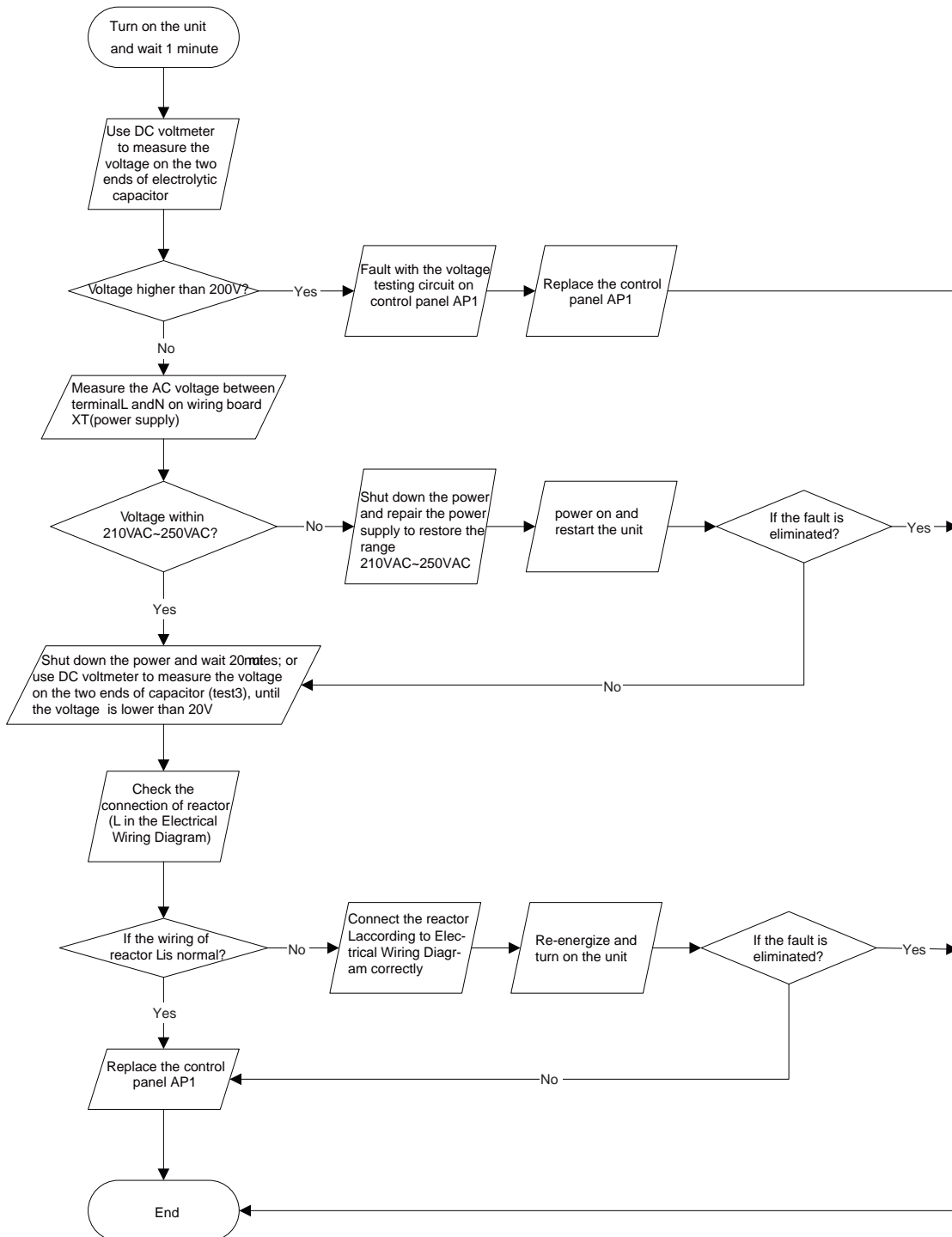
Test NO	Test point	Corresponding component	Test value under normal condition
Test 1	Between A and C	Neutral and live wires	160V~265V
Test 2	Between B and C	Neutral and live wires	160V~265V
Test 3	Between D and E	DC busbar electrolytic capacitor	DC 180V~380V
Test 4	Between F and G	Electrolytic capacitor of power	DC 180V~380V
Test 5	Two ends of diode D15	D15(IPM modular +15V power supply)	DC 14.5V~15.6V
Test 6	Two ends of electrolytic capacitor C715	C715(+12V power supply)	DC 12V~13V
Test 7	Two ends of electrolytic capacitor C710	C710(+5V power supply)	DC 5V
Test 8	Two ends of electrolytic capacitor C226	C226(+3.3V power supply)	DC 3.3V
Test 9	Two ends of chip capacitor C912	C912(+17V power supply)	DC 15V~18V
Test 10	Between M to GND	Point M of R75 to ground (signal sending port of ODU)	Fluctuate between 0~3.3V
Test 11	Between N to GND	Point N of R123 to ground (signal receiving port of ODU)	Fluctuate between 0~3.3V
Test 12	Between S and T	Power supply of communication ring	DC 56V

2.Capacity charging malfunction (outdoor unit malfunction) (AP1 below is control board of outdoor unit)

Main detection point:

- Detect if the voltage of L and N terminal of wiring board is between 210AC-240AC by alternating voltage meter;
- Is reactor (L) well connected? Is connection wire loosened or pull-out? Is reactor (L) damaged?

Malfunction diagnosis process:

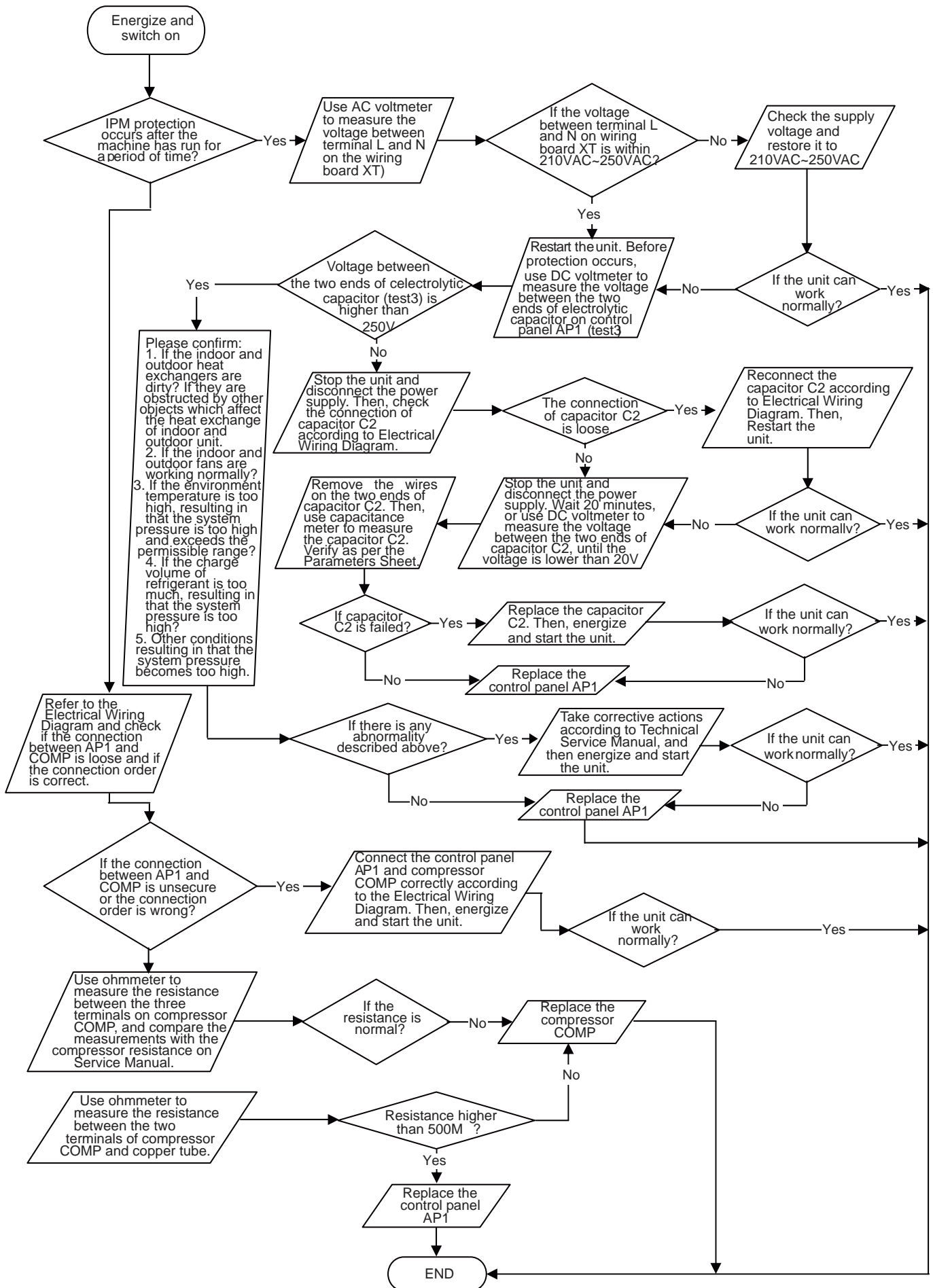


3. IPM protection, desynchronizing malfunction, phase current of compressor is overcurrent (AP1 below is control board of outdoor unit)

Main detection point:

- If control board AP1 and compressor COMP is well connected? If they are loosened? If the connection sequence is correct?
- Is voltage input in the normal range (Test the voltage between L, N of wiring board XT by DC voltage meter)?
- If coil resistance of compressor is normal? Is compressor coil insulating to copper pipe well?
- If the work load of unit is heavy? If radiating of unit is well?
- If the refrigerant charging is appropriate?

Malfunction diagnosis process:

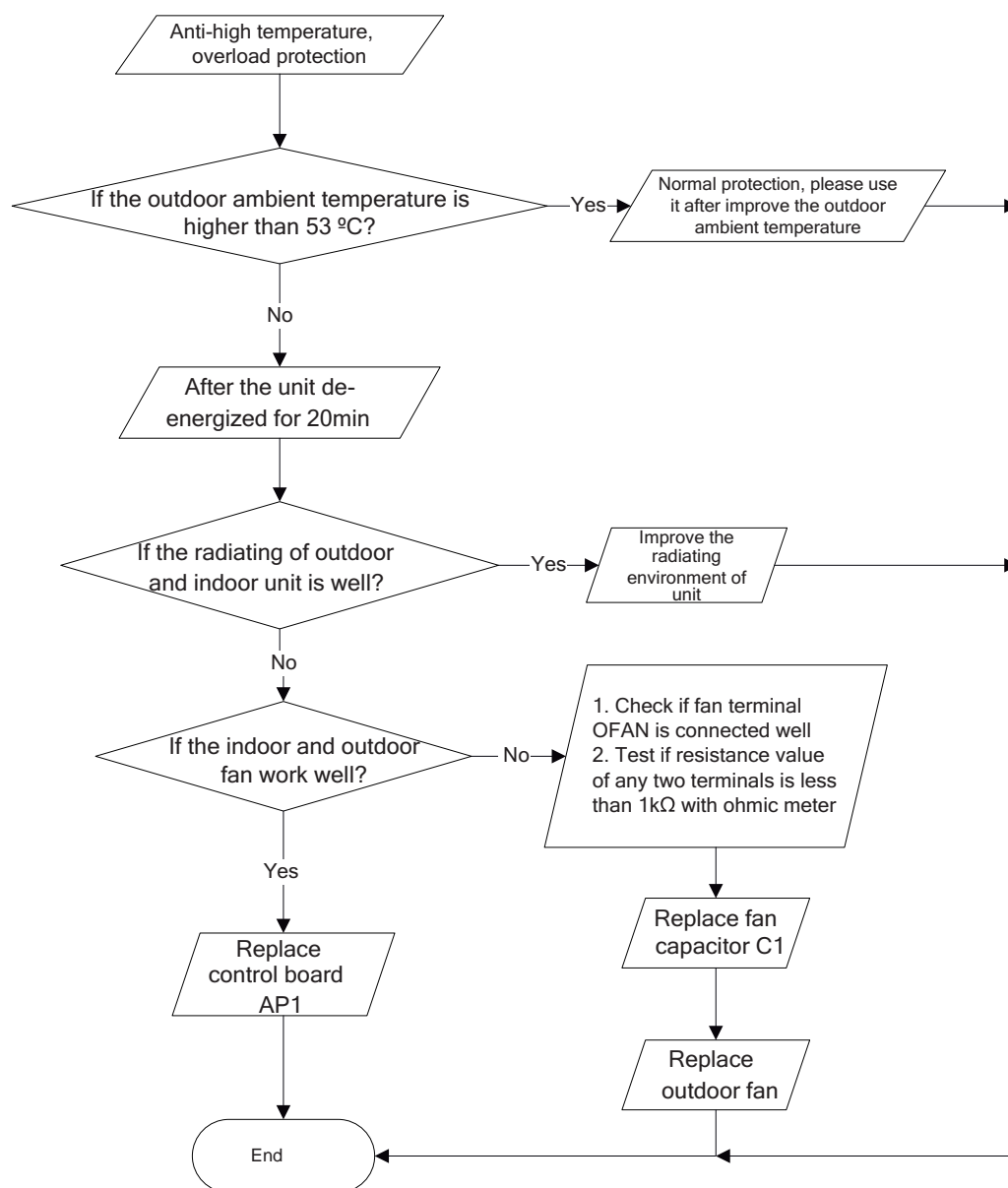


4.Diagnosis for anti-high temperature, overload protection (AP1 below is control board of outdoor unit)

Main detection point:

- If the outdoor ambient temperature is in normal range;
- If the indoor and outdoor fan is running normal;
- If the radiating environment of indoor and outdoor unit is well.

Malfunction diagnosis process:

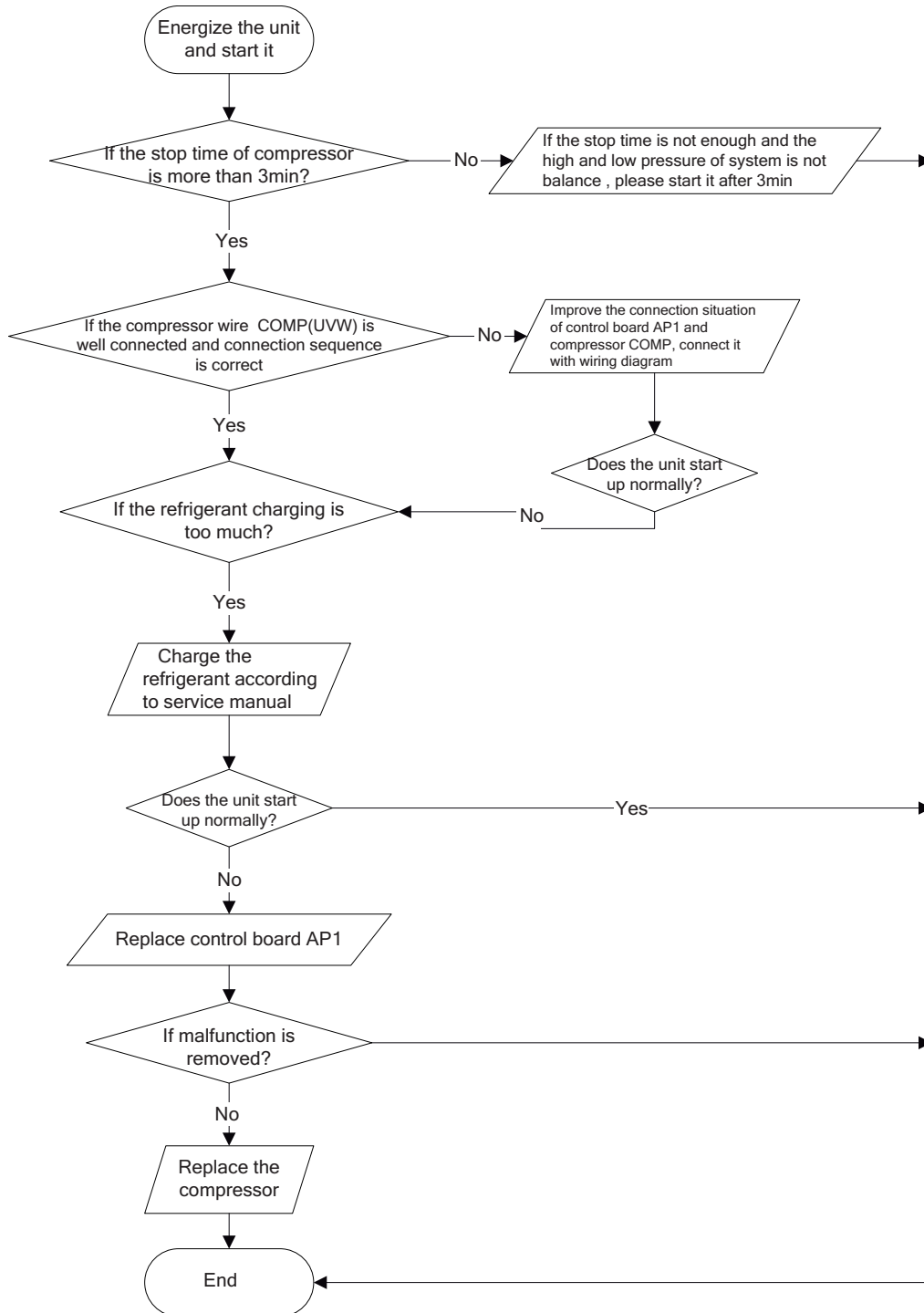


5.Diagnosis for failure start up malfunction (AP1 below is control board of outdoor unit)

Main detection point:

- If the compressor wiring is correct?
- If the stop time of compressor is enough?
- If the compressor is damaged?
- If the refrigerant charging is too much?

Malfunction diagnosis process:

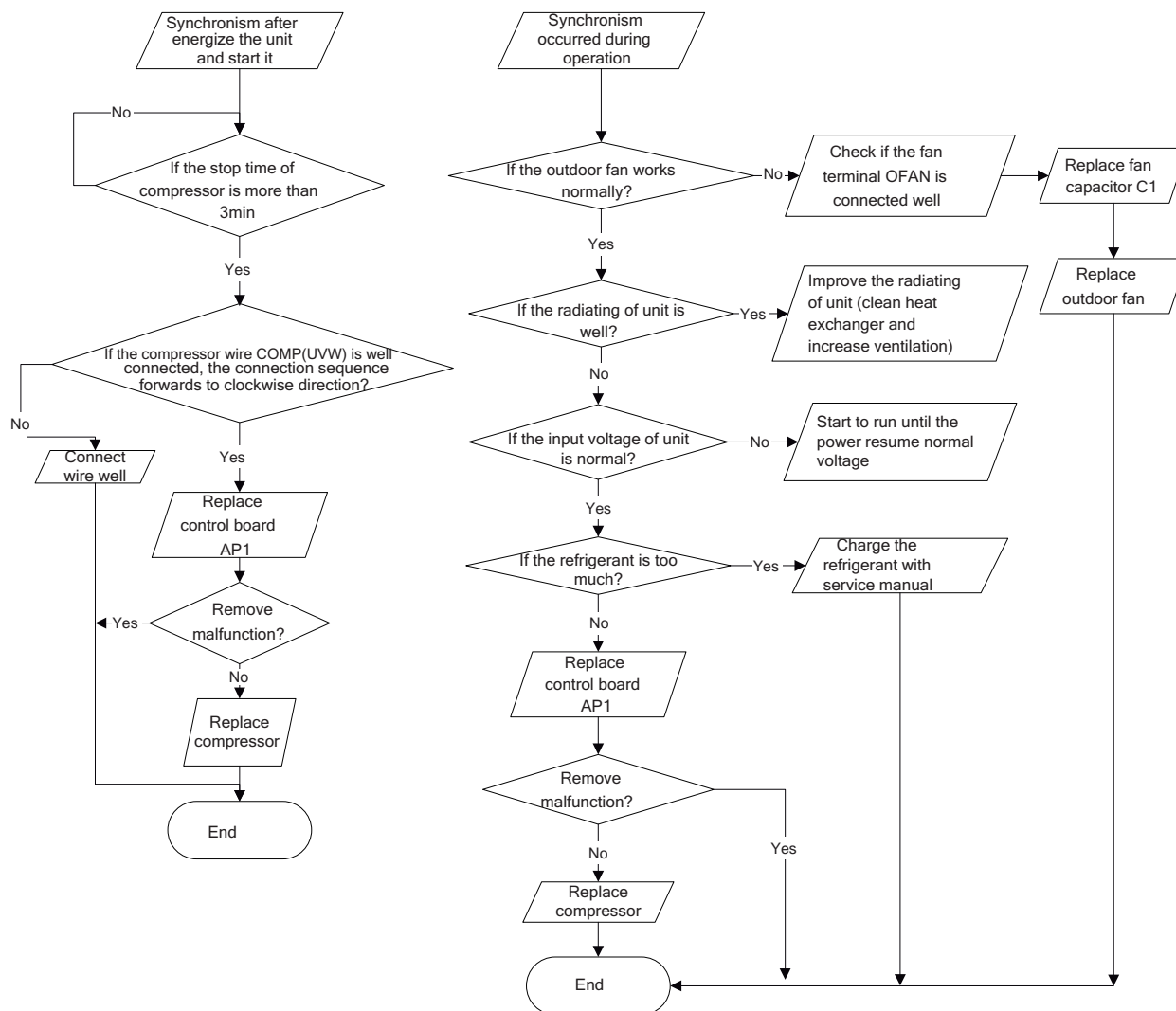


6. Diagnosis for compressor synchronism (AP1 below is control board of outdoor unit)

Main detection point:

- If the system pressure is over-high?
- If the work voltage is over-low?

Malfunction diagnosis process:

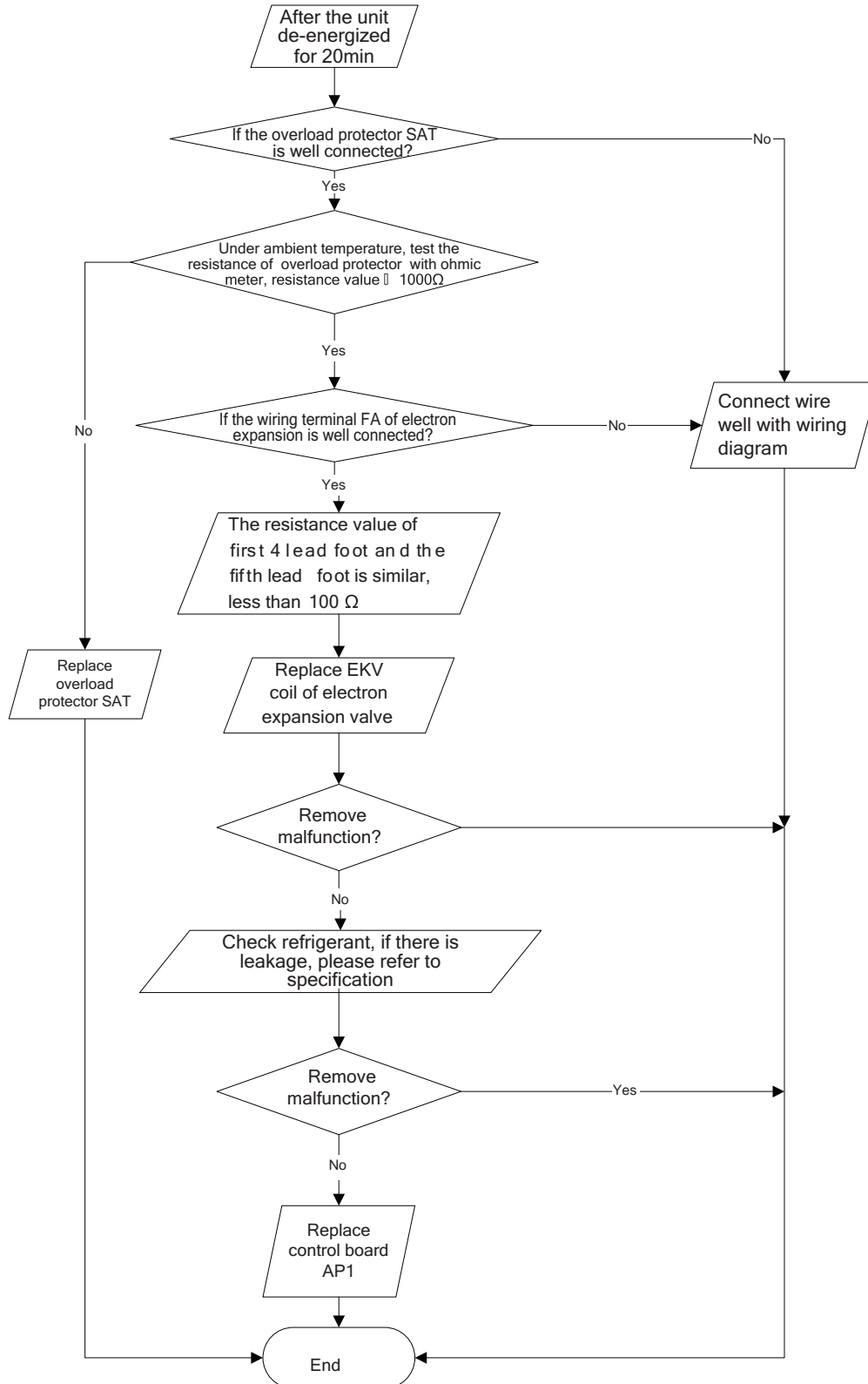


7. Diagnosis for overload and discharge malfunction (AP1 below is control board of outdoor unit)

Main detection point:

- If the electron expansion valve is connected well? Is the expansion valve damaged?
- If the refrigerant is leakage?
- If the overload protector is damaged?

Malfunction diagnosis process:

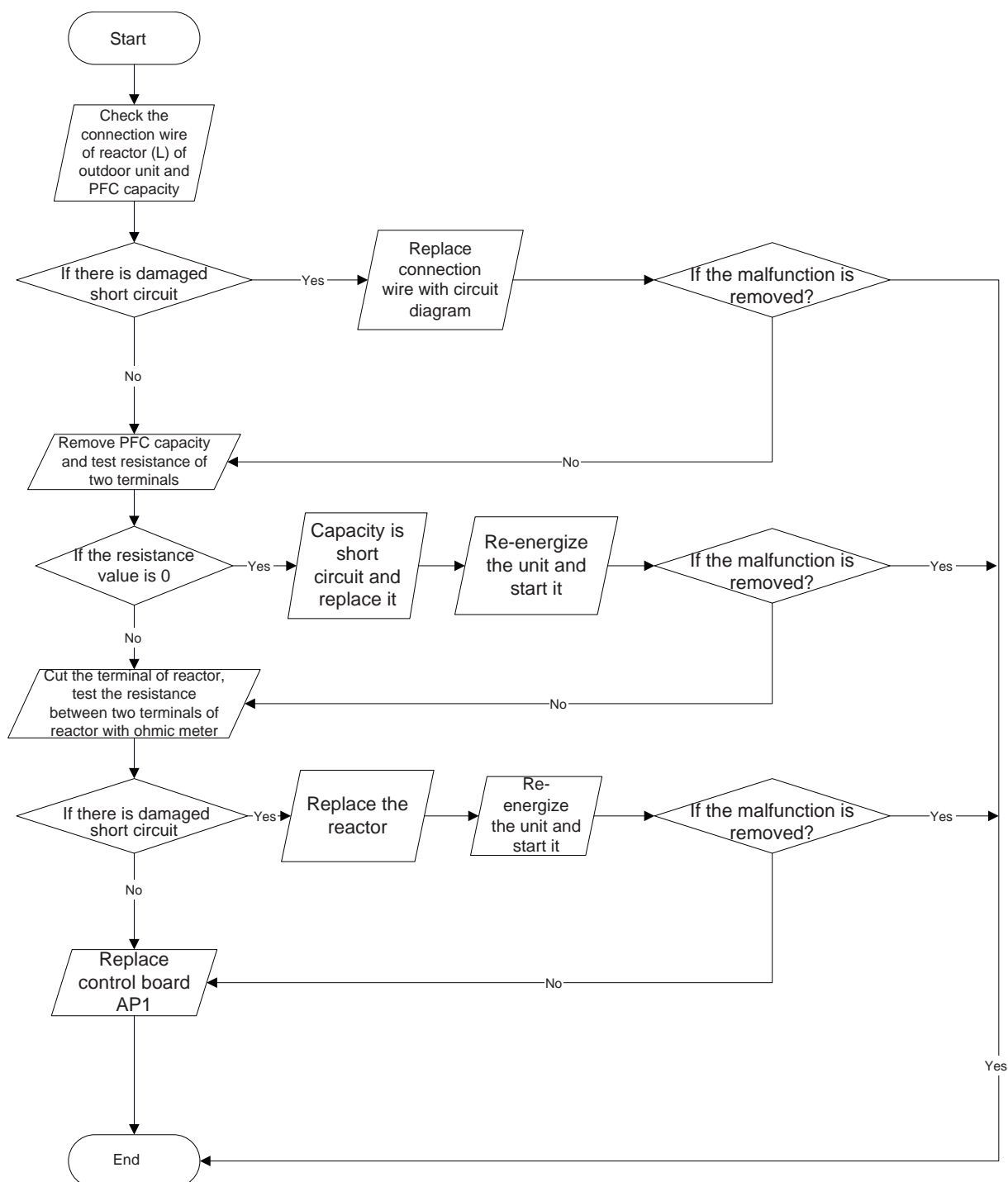


8.PFC (correction for power factor) malfunction (outdoor unit malfunction) (AP1 below is control board of outdoor unit)

Main detection point:

- Check if reactor (L) of outdoor unit and PFC capacity are damaged.

Malfunction diagnosis process:

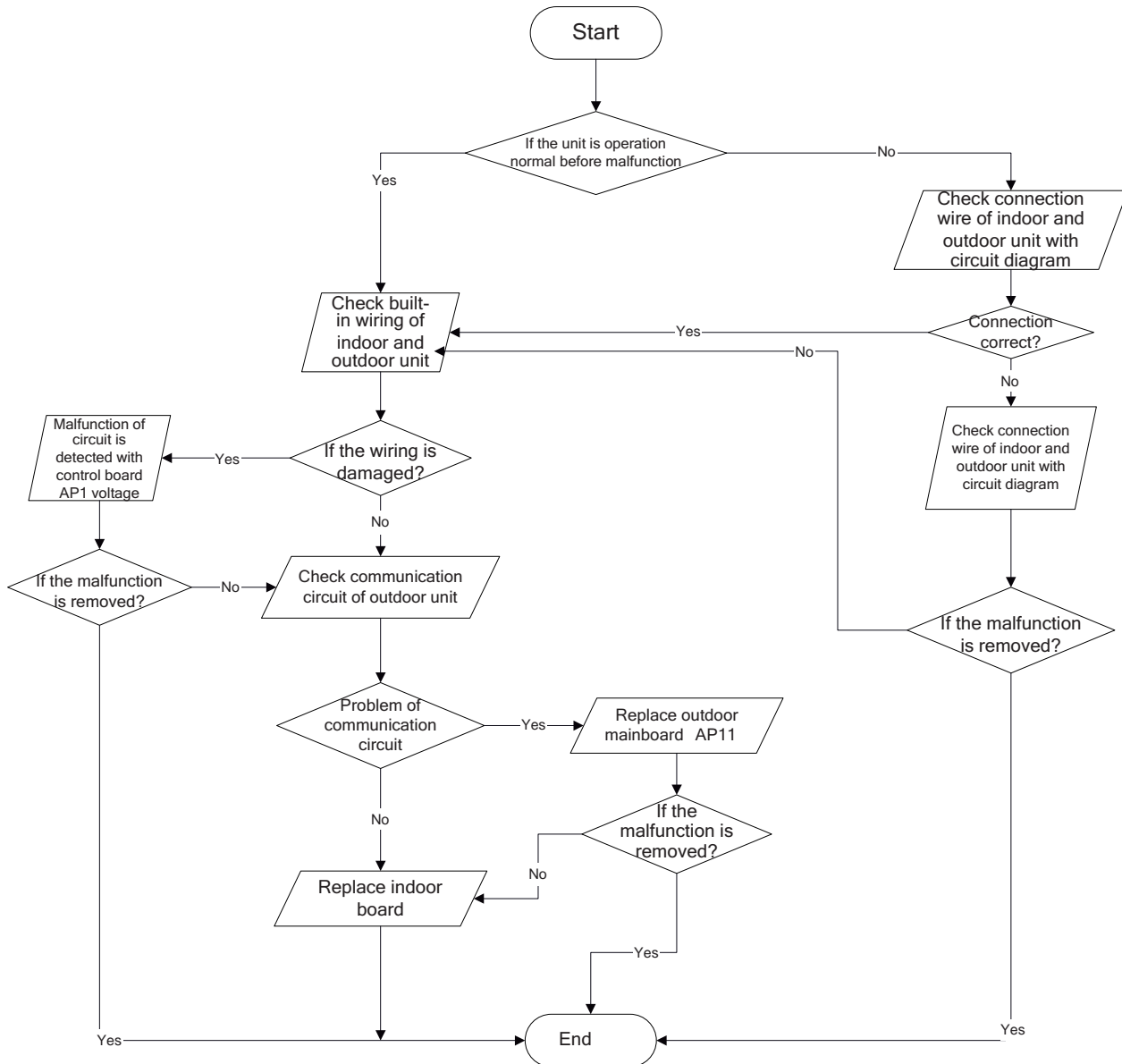


9. Communication malfunction (AP1 below is control board of outdoor unit)

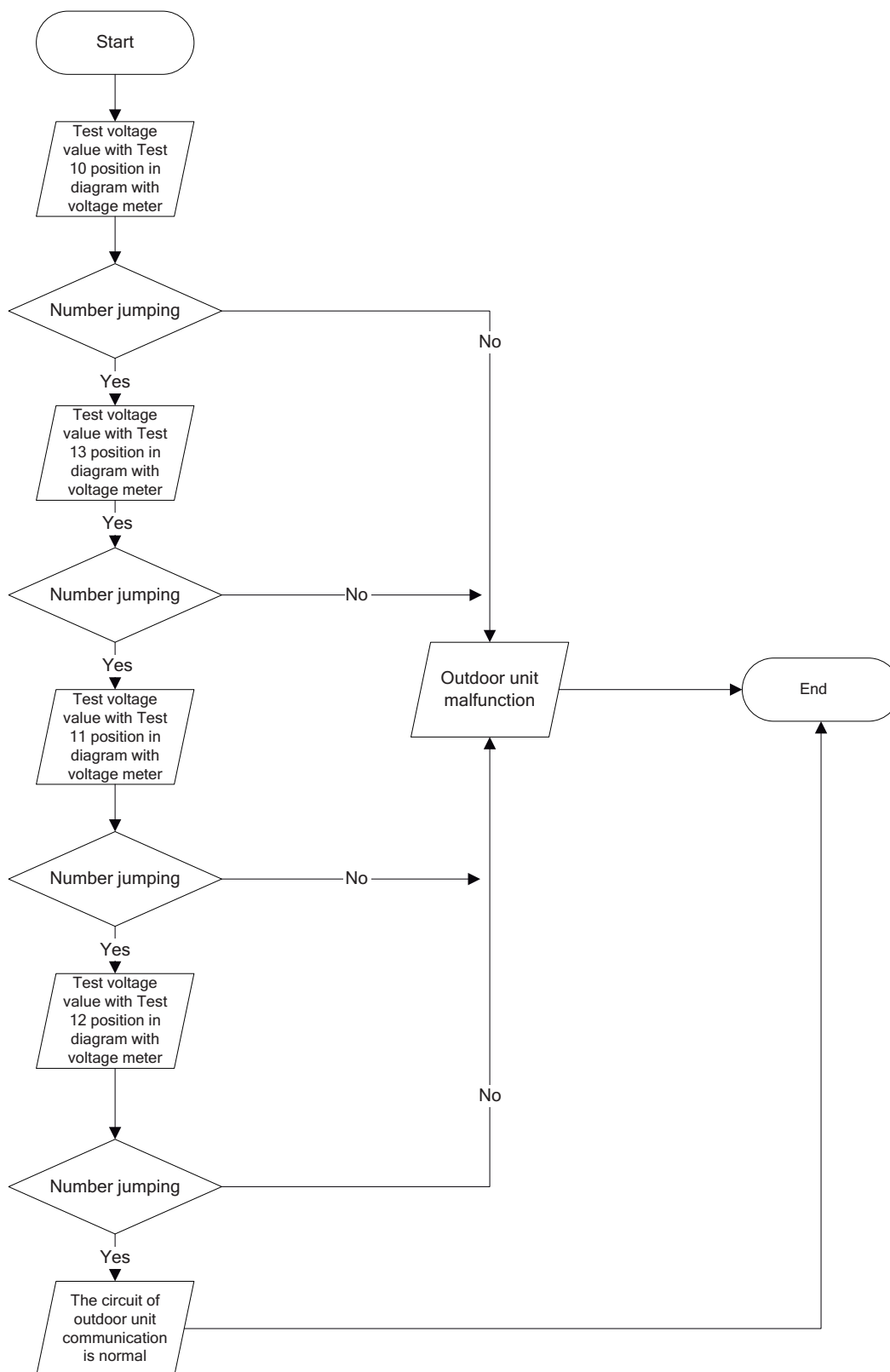
Main detection point:

- Check if the connection wire and the built-in wiring of indoor and outdoor unit is connected well and no damaged;
- If the communication circuit of indoor mainboard is damaged? If the communication circuit of outdoor mainboard (AP1) is damaged

Malfunction diagnosis process:



10. Diagnosis process for outdoor communication circuit



9.3 Troubleshooting for Normal Malfunction

1. Air Conditioner Can't be Started Up

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
No power supply, or poor connection for power plug	After energization, operation indicator isn't bright and the buzzer can't give out sound	Confirm whether it's due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well.
Wrong wire connection between indoor unit and outdoor unit, or poor connection for wiring terminals	Under normal power supply circumstances, operation indicator isn't bright after energization	Check the circuit according to circuit diagram and connect wires correctly. Make sure all wiring terminals are connected firmly
Electric leakage for air conditioner	After energization, room circuit breaker trips off at once	Make sure the air conditioner is grounded reliably Make sure wires of air conditioner is connected correctly Check the wiring inside air conditioner. Check whether the insulation layer of power cord is damaged; if yes, place the power cord.
Model selection for air switch is improper	After energization, air switch trips off	Select proper air switch
Malfunction of remote controller	After energization, operation indicator is bright, while no display on remote controller or buttons have no action.	Replace batteries for remote controller Repair or replace remote controller

2. Poor Cooling (Heating) for Air Conditioner

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Set temperature is improper	Observe the set temperature on remote controller	Adjust the set temperature
Rotation speed of the IDU fan motor is set too low	Small wind blow	Set the fan speed at high or medium
Filter of indoor unit is blocked	Check the filter to see it's blocked	Clean the filter
Installation position for indoor unit and outdoor unit is improper	Check whether the installation position is proper according to installation requirement for air conditioner	Adjust the installation position, and install the rainproof and sunproof for outdoor unit
Refrigerant is leaking	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit's pressure is much lower than regulated range	Find out the leakage causes and deal with it. Add refrigerant.
Malfunction of 4-way valve	Blow cold wind during heating	Replace the 4-way valve
Malfunction of capillary	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit's pressure is much lower than regulated range. If refrigerant isn't leaking, part of capillary is blocked	Replace the capillary
Flow volume of valve is insufficient	The pressure of valves is much lower than that stated in the specification	Open the valve completely
Malfunction of horizontal louver	Horizontal louver can't swing	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	The IDU fan motor can't operate	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	The ODU fan motor can't operate	Refer to point 4 of maintenance method for details
Malfunction of compressor	Compressor can't operate	Refer to point 5 of maintenance method for details

3. Horizontal Louver Can't Swing

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Stepping motor is damaged	Stepping motor can't operate	Repair or replace stepping motor
Main board is damaged	Others are all normal, while horizontal louver can't operate	Replace the main board with the same model

4. ODU Fan Motor Can't Operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of the ODU fan motor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the capacity of fan
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Motor of outdoor unit is damaged	When unit is on, cooling/heating performance is bad and ODU compressor generates a lot of noise and heat.	Change compressor oil and refrigerant. If no better, replace the compressor with a new one

5. Compressor Can't Operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of compressor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the compressor capacitor
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Coil of compressor is burnt out	Use universal meter to measure the resistance between compressor terminals and it's 0	Repair or replace compressor
Cylinder of compressor is blocked	Compressor can't operate	Repair or replace compressor

6. Air Conditioner is Leaking

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Drain pipe is blocked	Water leaking from indoor unit	Eliminate the foreign objects inside the drain pipe
Drain pipe is broken	Water leaking from drain pipe	Replace drain pipe
Wrapping is not tight	Water leaking from the pipe connection place of indoor unit	Wrap it again and bundle it tightly

7. Abnormal Sound and Vibration

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and there's abnormal sound	There's the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, there's abnormal sound due to flow of refrigerant inside air conditioner	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
Foreign objects inside the indoor unit or there're parts touching together inside the indoor unit	There's abnormal sound fro indoor unit	Remove foreign objects. Adjust all parts' position of indoor unit, tighten screws and stick damping plaster between connected parts
Foreign objects inside the outdoor unit or there're parts touching together inside the outdoor unit	There's abnormal sound fro outdoor unit	Remove foreign objects. Adjust all parts' position of outdoor unit, tighten screws and stick damping plaster between connected parts
Short circuit inside the magnetic coil	During heating, the way valve has abnormal electromagnetic sound	Replace magnetic coil
Abnormal shake of compressor	Outdoor unit gives out abnormal sound	Adjust the support foot mat of compressor, tighten the bolts
Abnormal sound inside the compressor	Abnormal sound inside the compressor	If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances.