Part 5
Troubleshooting

1. Normal Air Conditioner Phenomenon

1.1 When main unit appears white vapor or water, the reasons is as follows:

1) The fan of main unit stops to begin defrosting.

2) The electromagnet valve sends out the noise when the defrosting begins and ends.

3) There is sound like water flowing when running or off; and the noise enlarges after running for 3 minutes. This is the sound of refrigerant flowing or discharging water gathered by dehumidifying.

1.2 Main units send out the noise of “pupu”, for temperature changes to heat exchanger heat expanded or cool compact.

1.3 Indoor units send out odor smell, because it absorbs the smell of house, furniture or smoking.

1.4 The running light of indoor unit flickers, the reasons are generally as follows:

1) Power supply ever failed during running period.

2) For 1-to-several, the following induces the director lighting and the operation stopping

①Other indoor units running at heating mode induce to this indoor unit cannot run at cooling mode

②Setting mode conflicts with the fixed mode.

③ Stop fan to prevent discharging cool air.

1.5 The “no priority” or “waiting” director light of operation board lights.

1.6 Auto running or stopping for the timer wrong operation.

1.7 Cannot run, the reasons are as follows:

①Power is off.

②Manual switch is pulled to off side.

③Fuse is cut.

④Protect device starts, at the same time running director lights.

⑤Timer’s setting time is over, at the time running director lights.

1.8 Heating or cooling is inefficient.

①Filter is block by duct or rubbish.

②The place of air deflector is unfit.

③Fan mode is “slight” or running mode is “fan”.

④Setting temperature is unfit.

⑤ Simultaneously choose the heating and cooling mode, at the time the “no priority” or “waiting” director light of panel lights.

2. Air Conditioner Protection in Common

2.1 Compressor protection.

When power is on, or machine stops then restarts right away, main unit will run in 3 minutes to protect the compressor from too frequent starts and stops.

2.2 When the protection device functions, running stops. Refer to the following:

①Forced to start but not possess the start article, and display light lights.

②When cooling running, inlet and outlet of main unit are blocked, outside strong air blows into main unit’s outlet.

③When heating running, dust adheres to air filter to block inlet or outlet of main unit.

Note: when protecting, please cut manual power switch. After checking the reason and solving it, restart.

2.3 Power fails.

①If power supply fails while machine is running normally, system will record this.

②When the machine is powered on again, the running light of wire controller would flash to inform user about this.

③Press the on/off key of wire controller to confirm this before restart the system.

Note: When running, if system takes place mistaken operation or lighter, please pull down the power

supply switch to cut it off. Before restarting machines, please press the on/off key again as above.

3. Malfunction Code and Troubleshooting

If there is phenomenon as follows, please stop air conditioner running and cut power supply and refer to the following. However, if the problem insists, please contact the customer service center of Midea commercial air conditioner company, and offer machine's model and detailed malfunction.

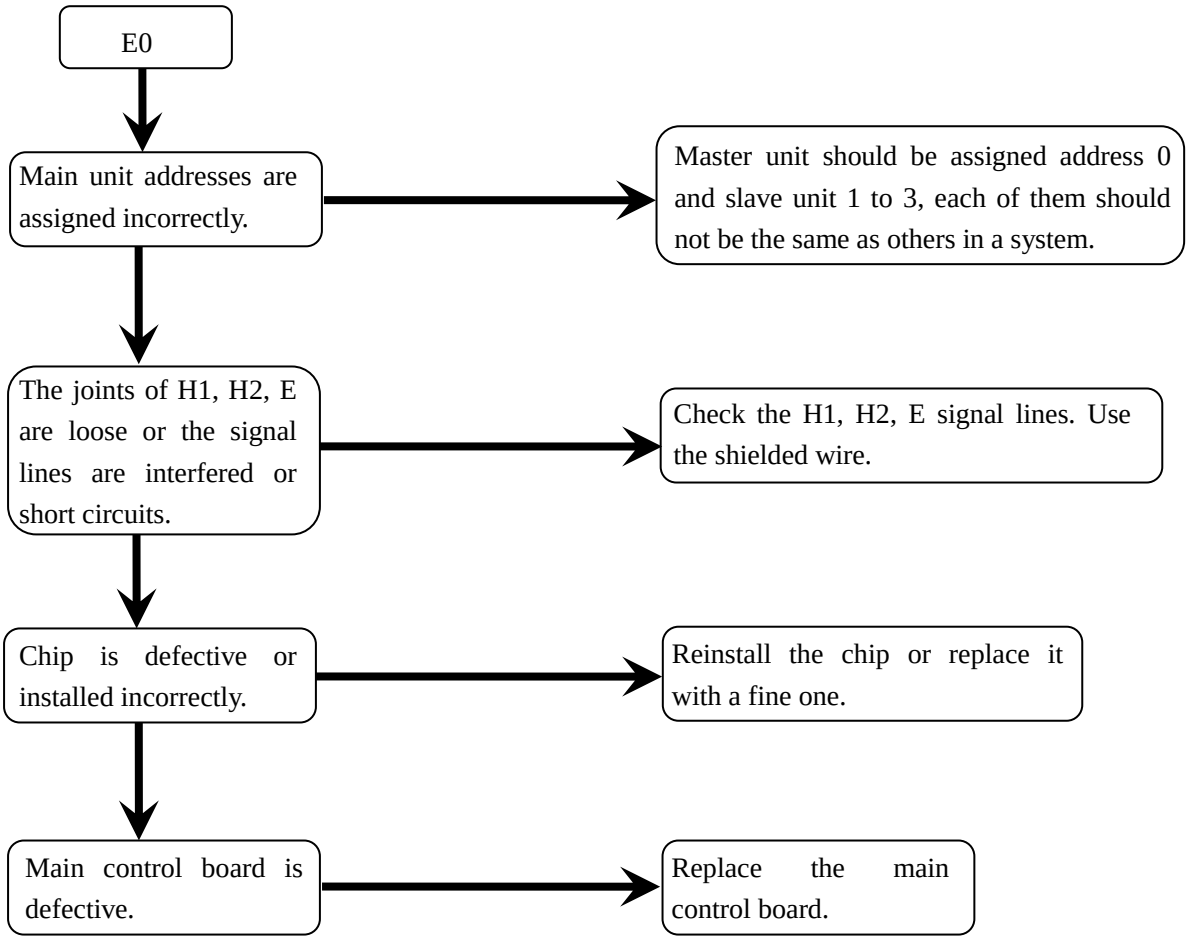
No.	Error code	Error or protection type	Note
1	E0	Main units communication error	Only display in slave unit
2	E1	Phase sequence error	
3	E2	Indoor units and master unit communication error	
4	E3	Reserve	
5	E4	Reserve	
6	E5	Reserve	
7	E6	Reserve	
8	E7	Reserve	
9	E8	Main unit address error	
10	E9	Voltage error	
11	H0	The communication error between DSP and 780034	
12	H1	The communication error between 0537 and 780034	
13	H2	Main unit qty. decreased error	Only display in master unit
14	H3	Main unit qty. increased error	Only display in master unit
15	H4	P6 protection occur 3 times within 30 minutes	
16	H5	P2 protection occur 3 times within 30 minutes	Must be re-powered on for the recovery
17	H6	P4 protection occur 3 times within 100 minutes	Must be re-powered on for the recovery
18	H7	Indoor unit qty. have decrease	
19	H8	Air discharge sensor error	
20	H9	Reserve	
21	P0	Inverter upper temp. protection	
22	P1	High pressure protection	
23	P2	Lo. pressure protection / power error / 3 phase protector error	P2 protection occur, and then vanish within one minute is normal
24	P3	Inverter over current protection	
25	P4	Overheat air discharged temp. protection	
26	P5	Reserve	
27	P6	Modual protection	
28	P7	Reserve	
29	P8	Reserve	
30	P9	Reserve	
31	L0	Modual error	
32	L1	Lo. voltage protection of DC main lead	
33	L2	Hi. voltage protection of DC main lead	
34	L3	Reserved	
35	L4	MCE error / synchro / closed loop	
36	L5	Zero velocity protection	
37	L6	Reserved	
38	L7	Phase sequence error protection	
39	L8	The different value of previous moment minus the subsequent moment >15Hz protection	

40	L9	The setting speed minus the actual speed>15 protection	
41	C0	TSJ sensor fault	
42	C1	TSC1 sensor fault	
43	C2	TSC2 sensor fault	
44	C3	Low pressure sensor fault	Low pressure Ps≤0.2MPa
45	C4	TSC tem. too high, too low protection	C4 protection occur 3 times within
46	C5	TSJ tem. too high, too low protection	
47	C6	Low voltage protection	
48	C7	T5 inverter module tem. high protection	
49	C8	Flow switch break protection	
50	C9	Reserve	
51	F0	C4 protection occur 3 times within 60 minutes	Need restart to recover
52	F1	Reserve	
53	F2	Reserve	

3.1 "E0": Main unit communication malfunction

Main unit Display	**E0(Slave unit displays only)**
Error Explanation	**If some main units compose a combination, we need to connect the H1,H2,E terminals of main unit correctly. Moreover we should switch master unit to address 0, slave 1 unit to 1, slave 2 unit to 2, slave 3 unit to 3. Address 4 and the above are invalid.**
Supposed Causes	**1. Something wrong with the signal lines.** **2. Master unit is not on or fails.** **3. The control boards of slave unit break down.**

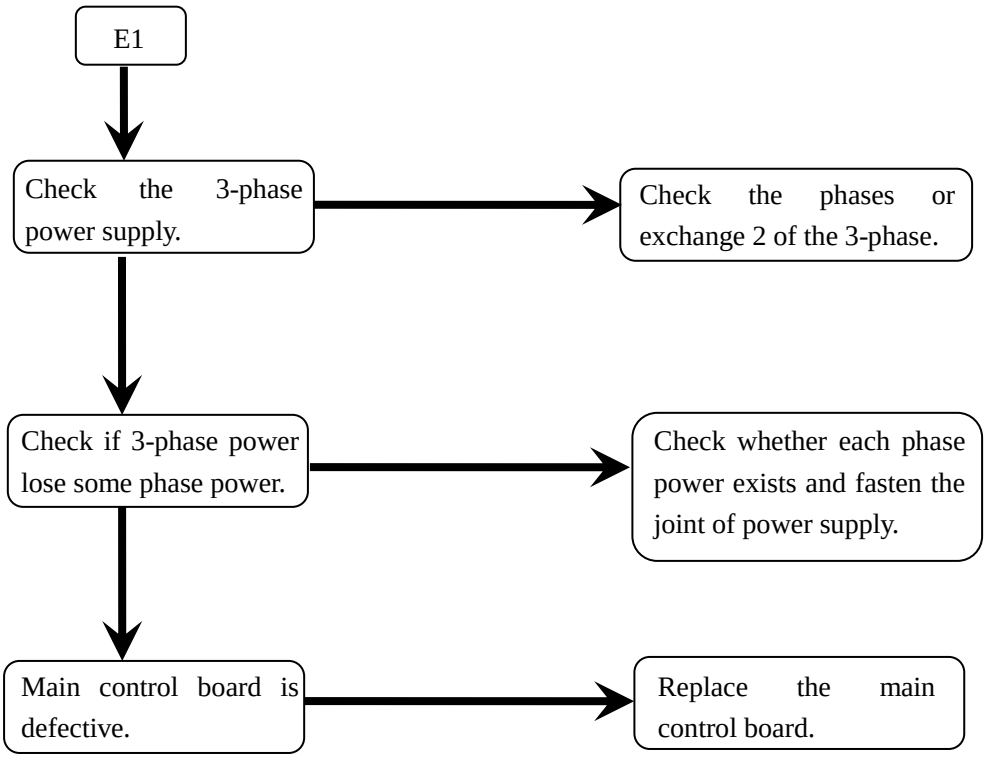
Troubleshooting



3.2 "E1": Phase sequence malfunction

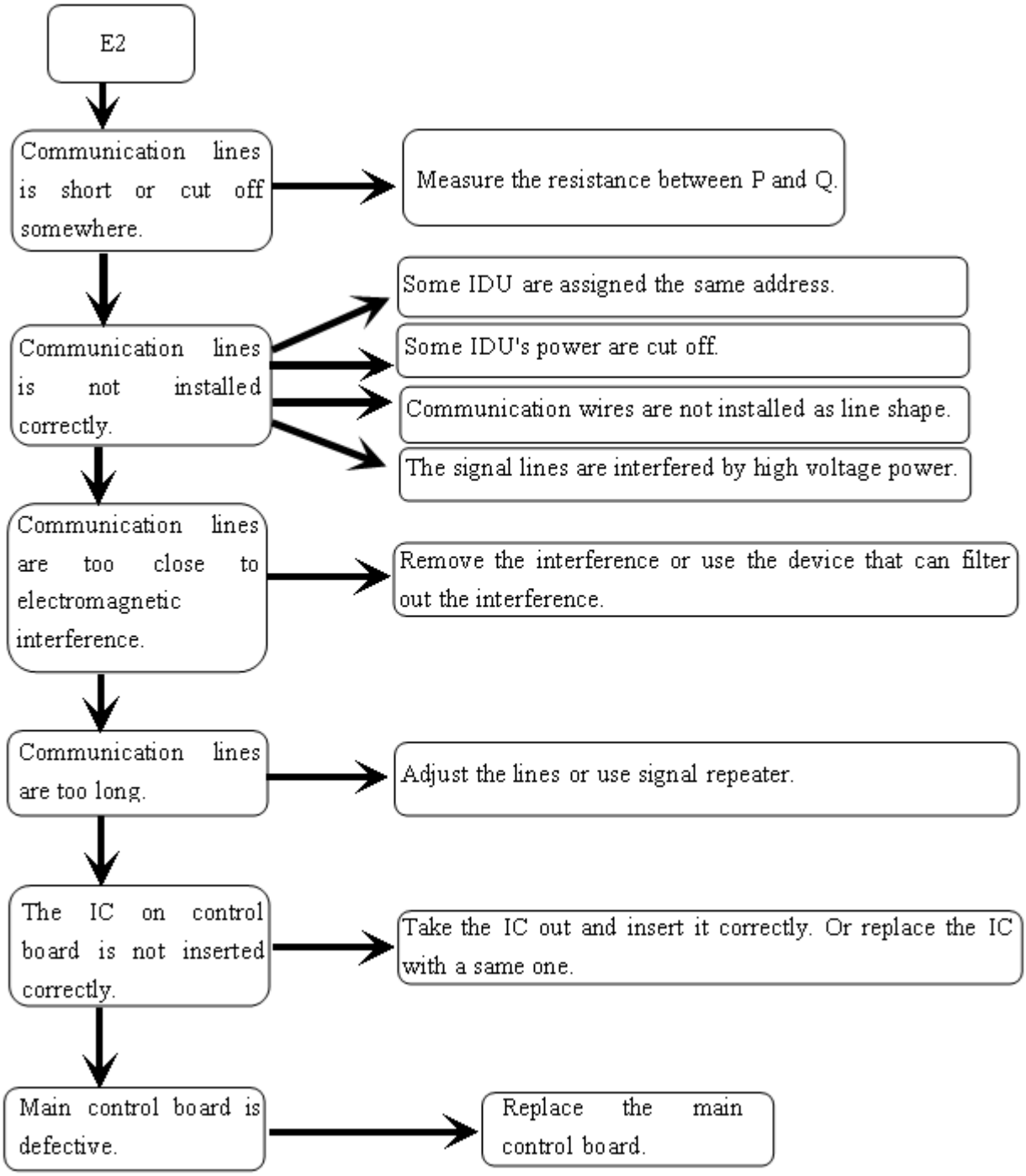
Main unit Display	**E1**
Error Explanation	**A, B, C terminal of three-phase power supply correspond with U,V,W of the compressor. The compressor could work normally only when they make good matches.**
Supposed Causes	**1. Phase sequence of the electricity supply does not match.** **2. In most circumstance, the reason is lack of power phase.**

Troubleshooting



3.3 "E2": Communication failure between master main unit and IDU

Main unit Display	**E2(Master unit displays only)**
Error Explanation	**1. Timer LED of indoor unit flashes quickly.** **2. The number of indoor unit that displayed on main unit changes .** **3. Some of the indoor unit do not work, etc.**
Supposed Causes	**1. IDU have the same address or the net address is set incorrectly.** **2. The signal lines do not work well.** **3. PQE bus is conducted somewhere.**
Troubleshooting	



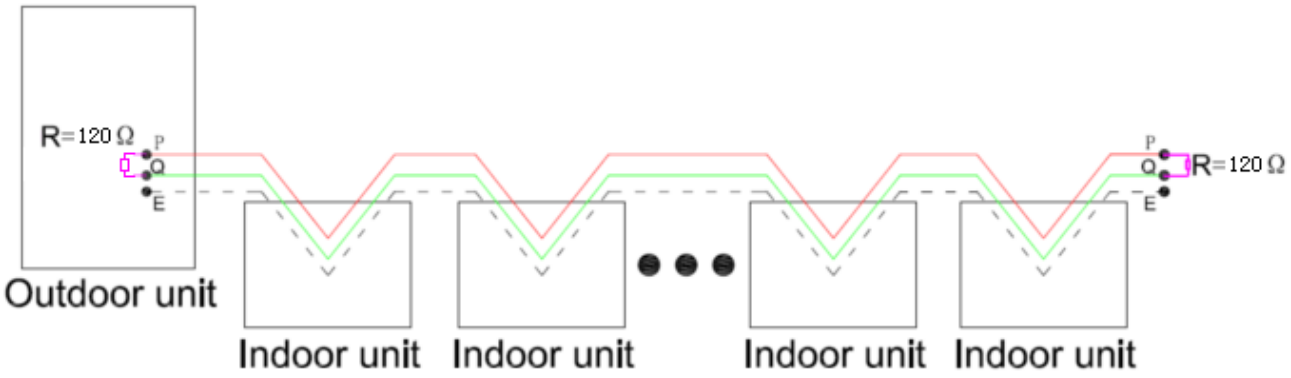
Remarks:

1. Press indoor unit's receiver button for 5 seconds, the indoor unit's communication address code is displayed; press it for 10 seconds, power code is displayed. Check every unit's address code. Codes are as follows:

Director light	Running	Timer	Fan/defend cold fan	Warning
Code	8	4	2	1

Address	0	1	2	3	4	5	6	7	8	9
Capacity (×100W)	22	28	36	45	56	71	80	90	112	140
HP	0.8	1.0	1.2	1.6	2.0	2.5	3.0	3.2	4.0	5.0

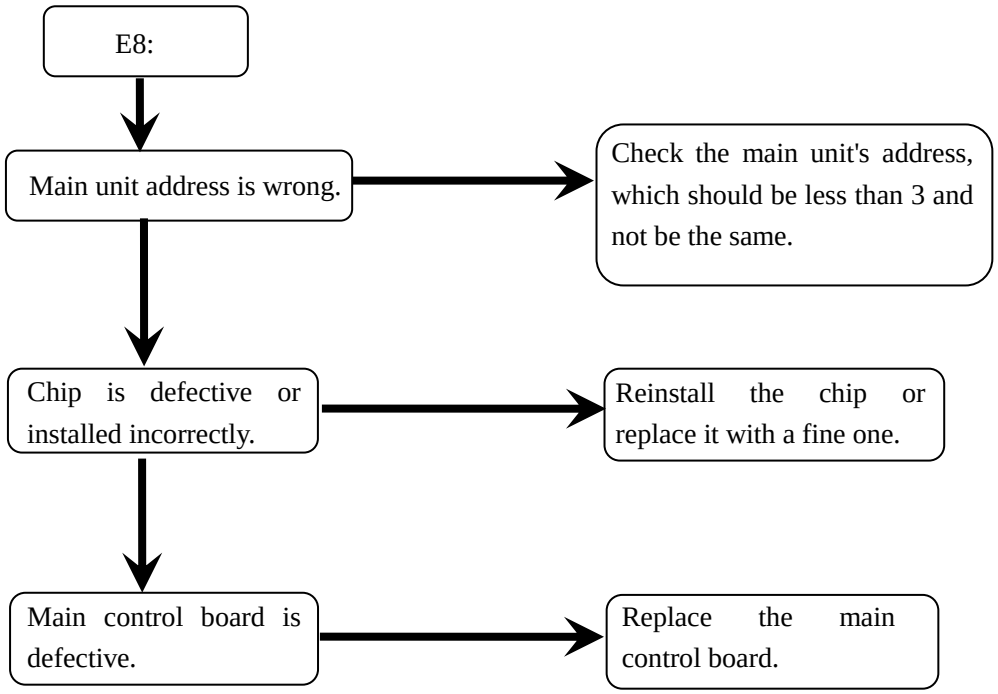
2. If the signal is weak, a 120Ω resistor should be installed at the end of P and Q line of indoor units, and another 120Ω resistor should be installed at the end of P and Q of main units. Installation refers to the picture following:



3.4"E8": Main unit address is wrong

Main unit Display	**E8**
Error Explanation	**Main unit displays E8.**
Supposed Causes	**Main unit is assigned a wrong address.**

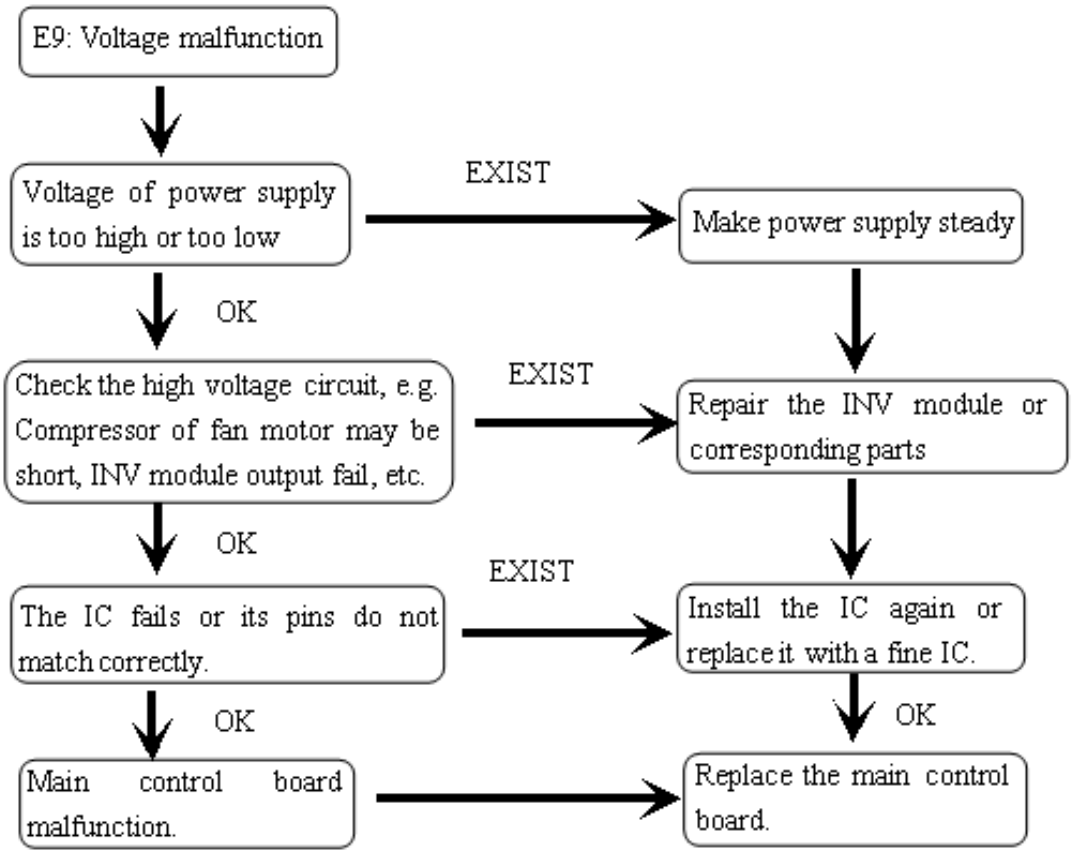
Troubleshooting



3.5"E9": Voltage malfunction

Main unit Display	**E9**
Error Explanation	**Main unit displays E9. All the main units standby.**
Supposed Causes	**1.The voltage of power supply is too high or too low.** **2.The voltage of power supply fluctuates.** **3.The IC is loose or main board fails.**

Troubleshooting



3.6"H0": Communication malfunction between DSP and 780034

Main unit Display	**H0**
Error Explanation	**DSP IC is used for providing running parameter to compressor. IC780034 send the system's parameter such as T3, T4, main unit power need, exhaust temp. etc. From which DSP IC calculates the compressor's frequency.**
Supposed Causes	**1. The power supply of DSP IC fails to work normally.** **2. Defect of either the DSP or the 780034.** **3. Disconnection of the IC 780034 pins.** **4. Defect of main control board.** **5. Environmental interference.**
Troubleshooting	**Normally the only way to deal with is to replace the main control board.**

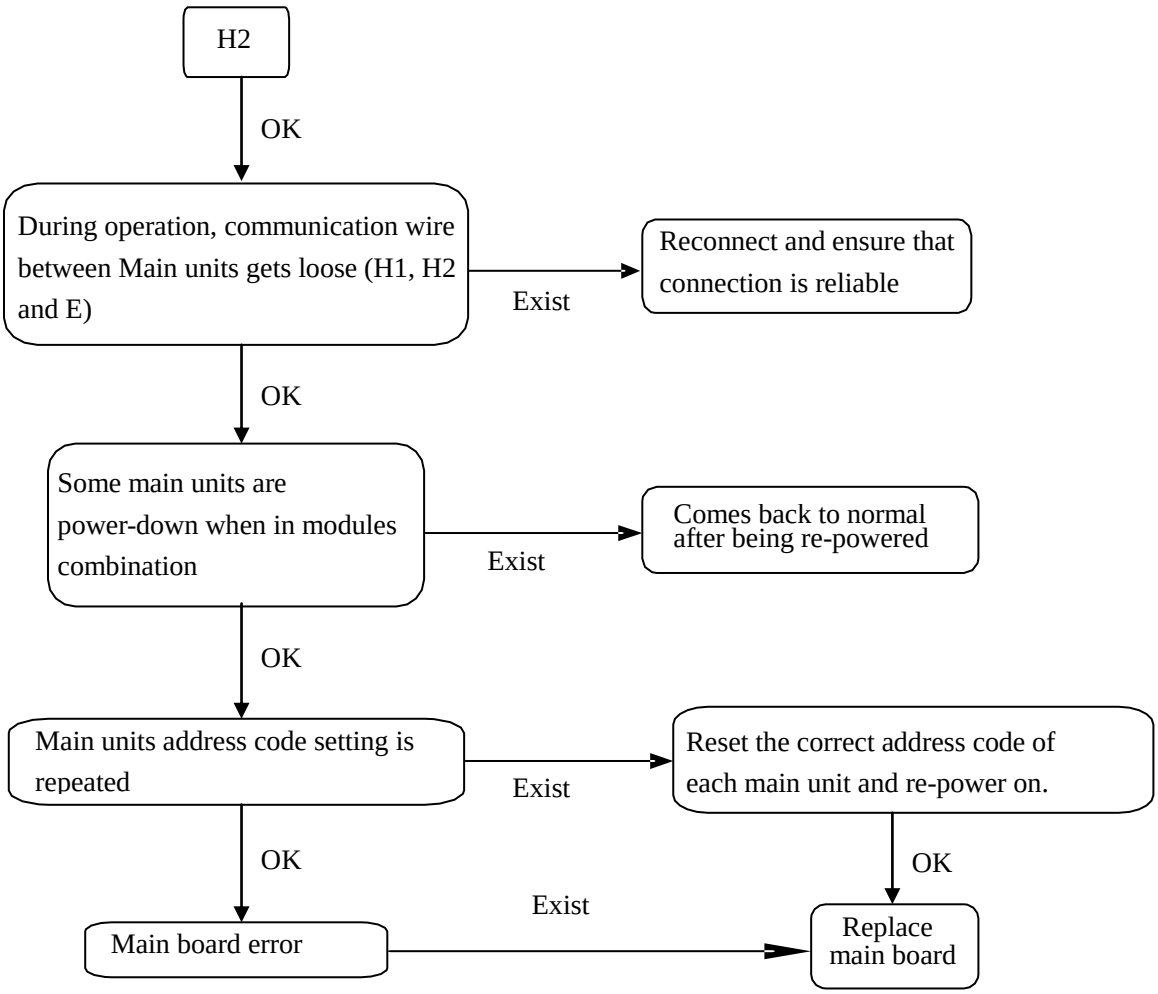
3.7H1: Communication malfunction between IC 0537 and IC 780034

Main unit Display	**H1**
Error Explanation	**For V4 and V3 series, error happens between IC 9177and IC 780034.** **For V4+W series, error happens between IC 0537 and IC 780034.**
Supposed Causes	**1. IC 9177 or IC 0537 or IC 780034 is defective.** **2. Disconnection of the pins of IC 780034.** **3. Environment interference.**
Troubleshooting	**Normally the only way to deal with is to replace the main control board.**

3.8"H2":Main unit quantities decreasing malfunction

Main unit Display	**H2(Master unit displays only)**
Error Explanation	**Main unit displays H2. All main units are standby.**
Supposed Causes	**1. Main units' communication lines loose.** **2. Some of the main units in combination power off.**
Troubleshooting	

Troubleshooting

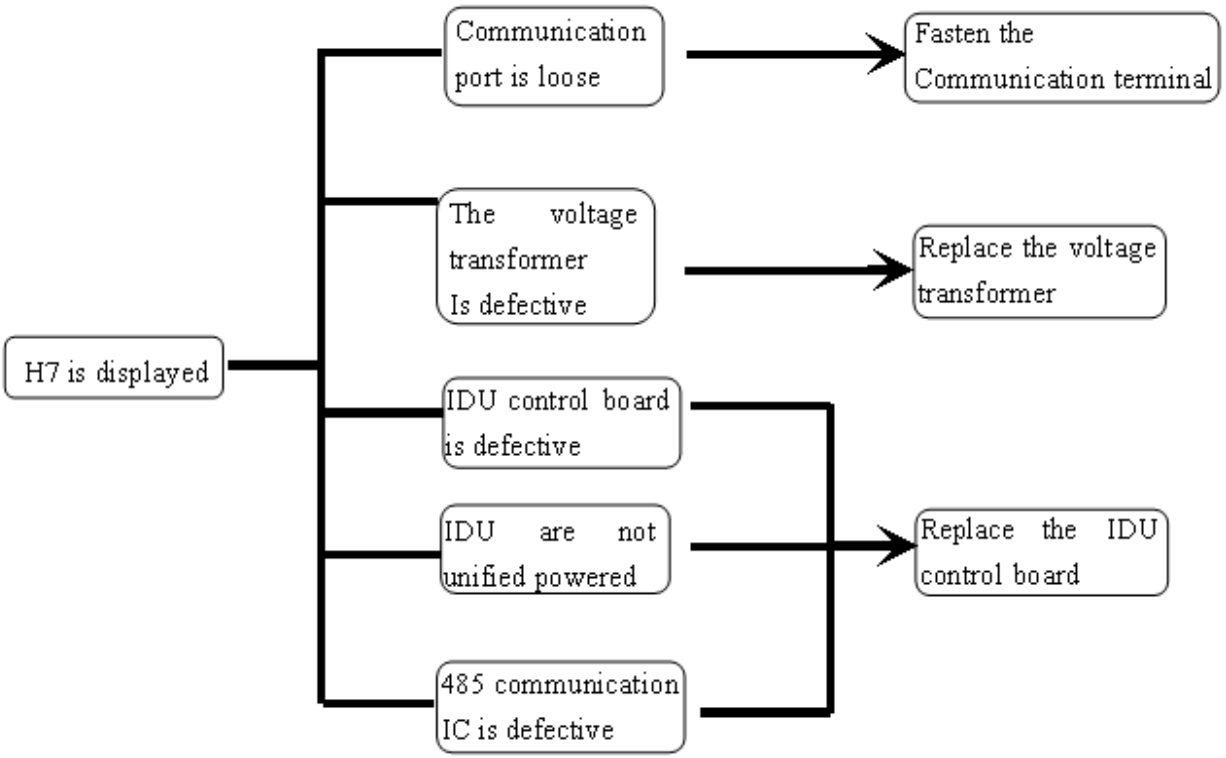


3.9 "H3": Main unit quantities increasing malfunction

Main unit Display	**H3(Master unit displays only)**
Error Explanation	**Main unit displays H3. All main units are standby.**
Supposed Causes	**1. Main unit communication lines loose.** **2. Some of the main units in combination power off.**
Troubleshooting	

3.10 "H7": Main unit quantities decreasing malfunction

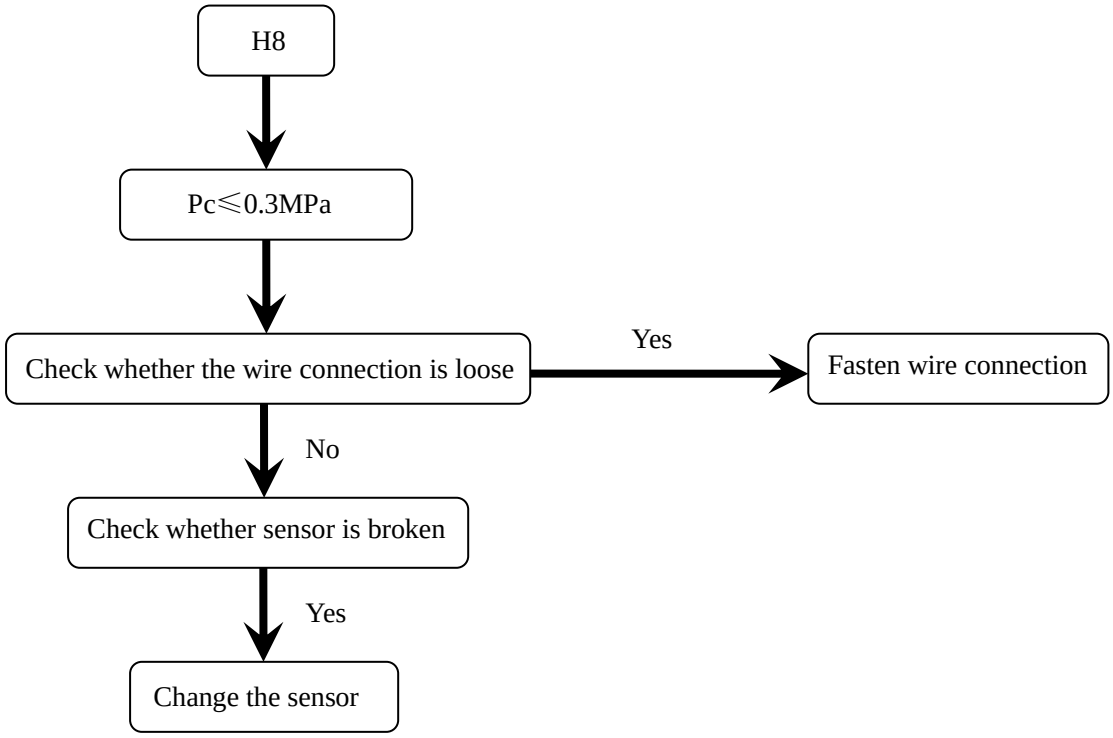
Main unit Display	**H7**
Error Explanation	**Main unit displays H7. All the main units standby.**
Supposed Causes	**1. The communication terminal of IDU is loose.** **2. The voltage transformer of IDU is defective.** **3. IDU installation is not standard, which are not unified powered.** **4. The control board of IDU is defective.**
Troubleshooting	



3.11"H8": Air discharge sensor error

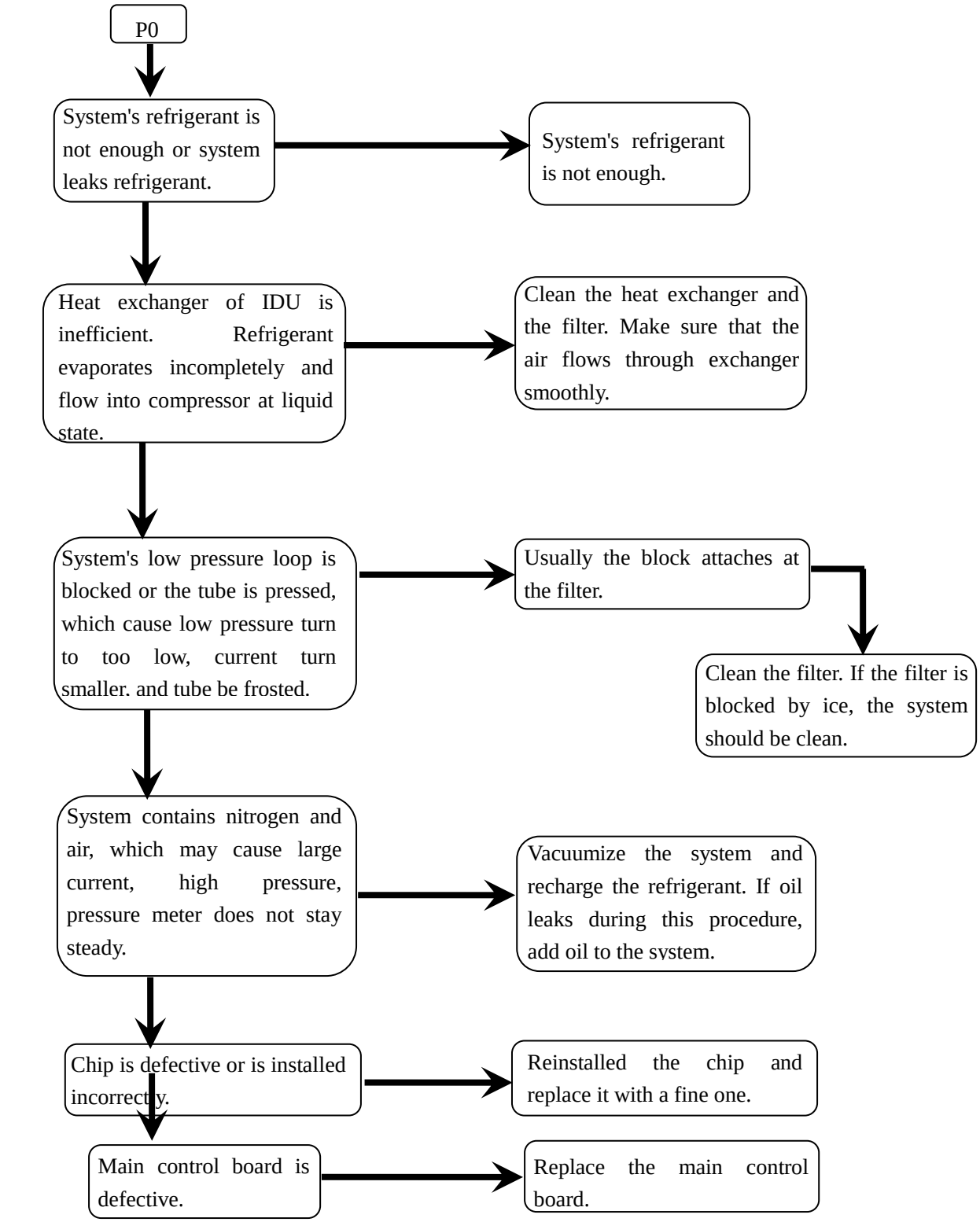
Main unit Display	**H8**
Error Explanation	**Discharge sensor broken or wire connection loose.**
Supposed Causes	**1. Discharge sensor broken.** **2. Discharge temperature Pc≤0.3MPa**

Troubleshooting



3.12"P0": The sensor protection on the top of inv. Compressor

Main unit Display	**P0**
Error Explanation	**One MAIN UNIT displays P0 and changes to protecting standby state.**
Supposed Causes	**1. Refrigerant is not enough.** **2. Efficiency of outdoor heat exchange is low.** **3. Refrigerant does not loops smoothly** **4. Control board is defective**
Troubleshooting	

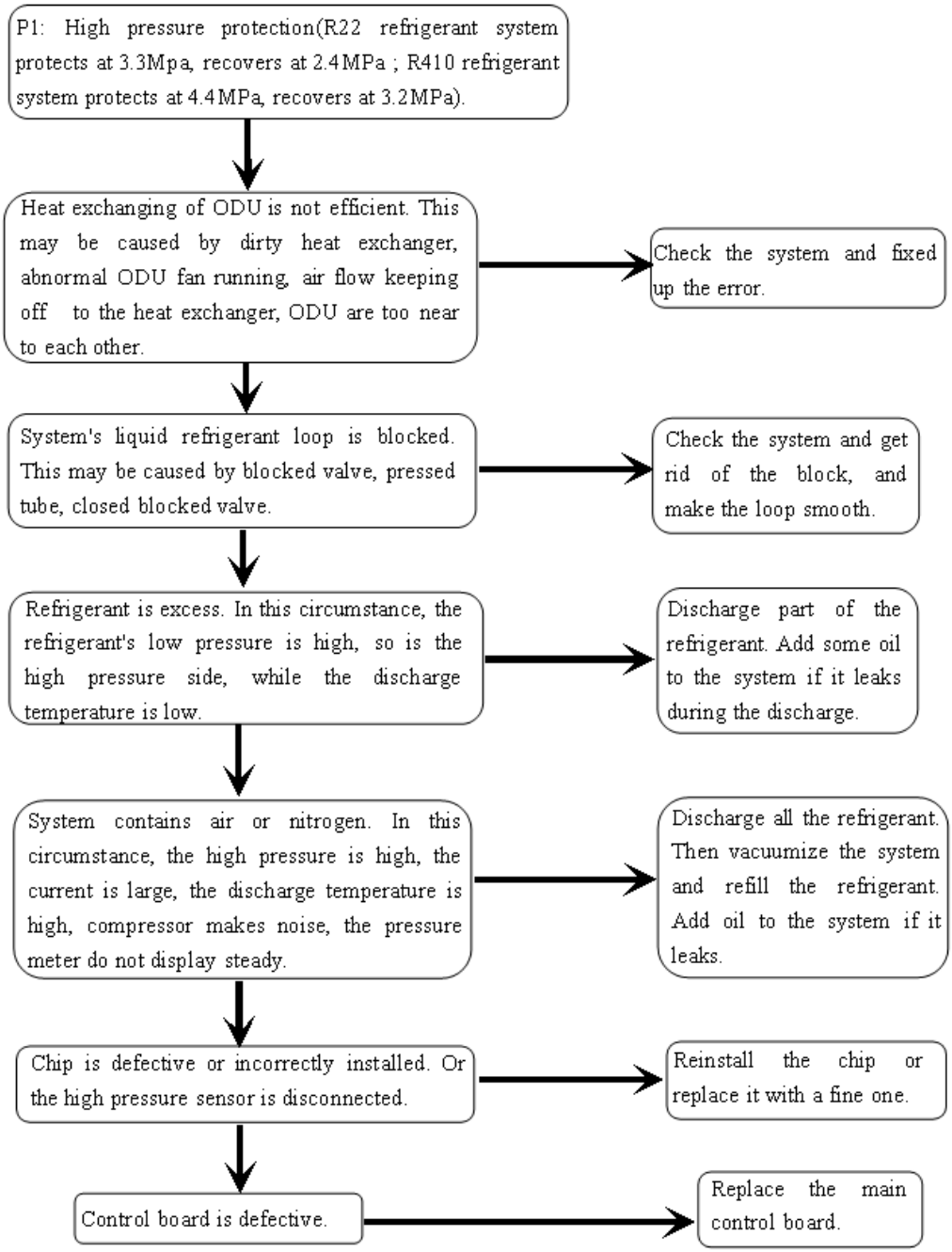


Remarks: When system appear 3 times P0 or P4 protection in 100 minutes, system will auto shut down and display H6 malfunction, which can recover only by restarting the machine. At this time, malfunction should be promptly treated to avoid further damage.

3.13"P1": High pressure protection

Main unit Display	**P1**
Error Explanation	**One main unit displays P1 and changes to protecting standby state.**
Supposed Causes	**1. Refrigerant is excess.** **2. Refrigerant does not loop smoothly.** **3. The refrigerant loop contains air.** **4. Control board is defective.**

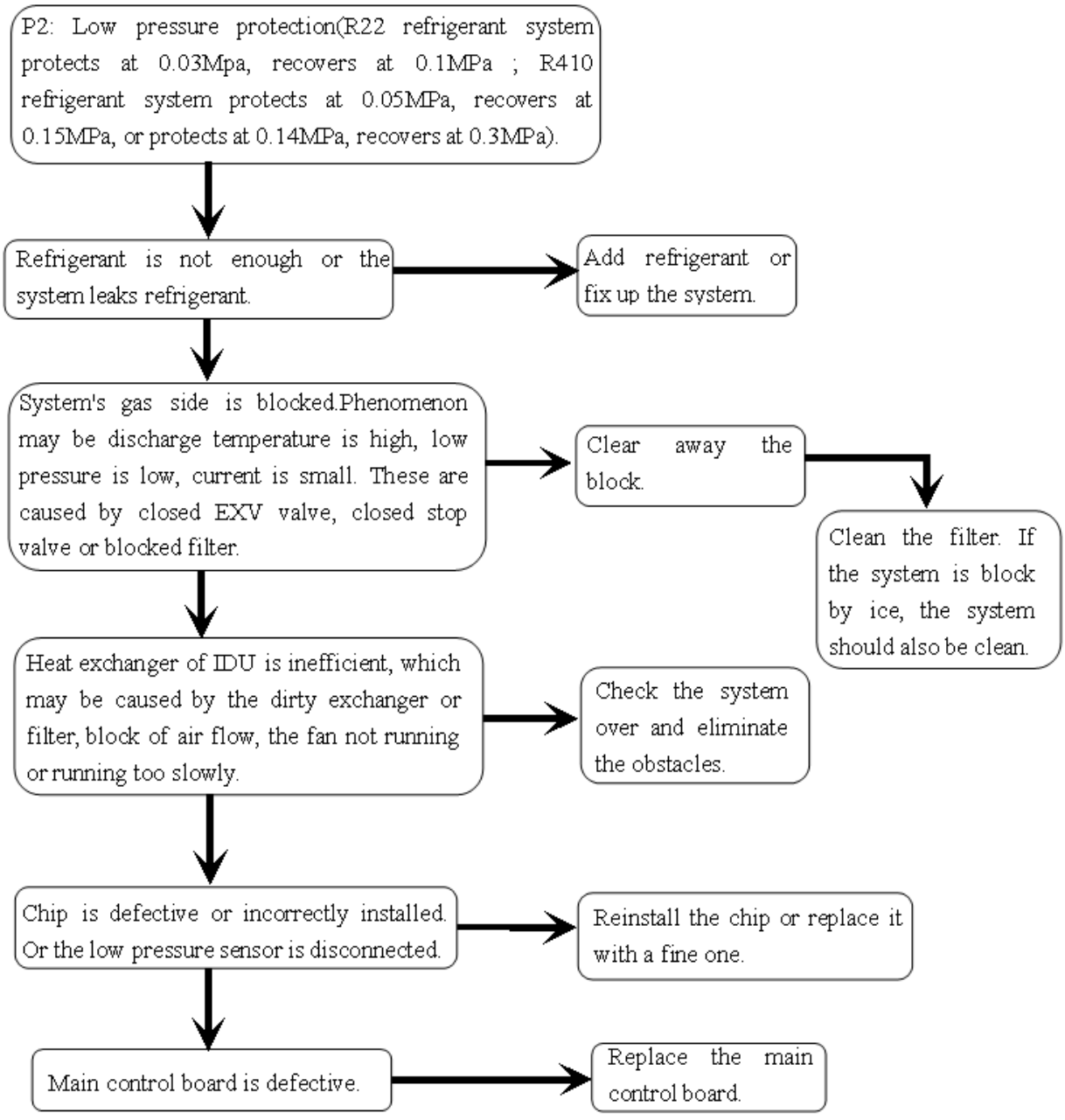
Troubleshooting



3.14"P2": Low pressure protection

Main unit Display	**P2**
Error Explanation	**One main unit displays P2 and changes to protecting standby state.**
Supposed Causes	**1. Refrigerant is not enough.** **2. Refrigerant does not loop smoothly.** **3. Efficiency of indoor heat exchange is low.** **4. Control board is not defective.**

Troubleshooting



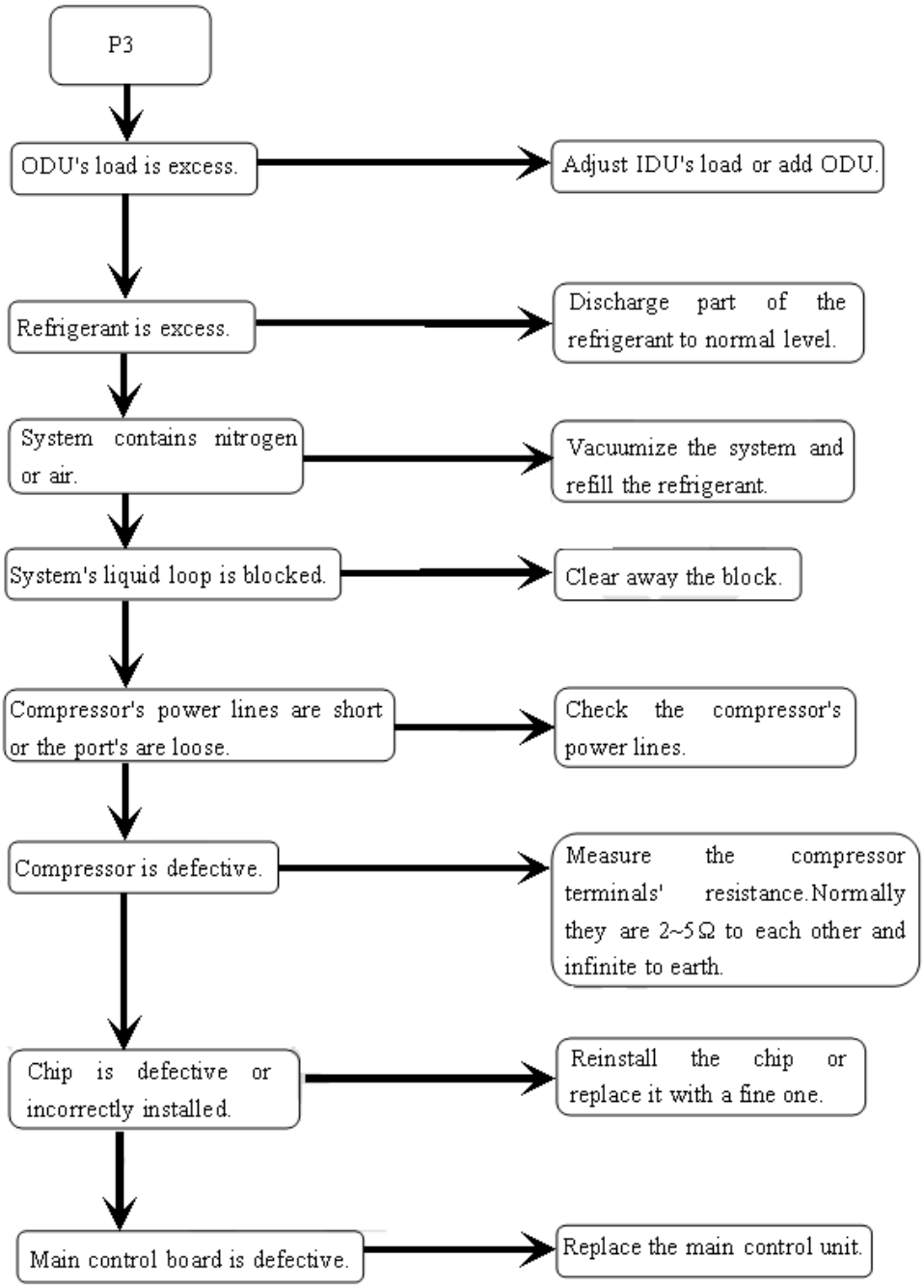
Remarks: When system appear 3 times P2 protection in 30 minutes, system will auto shut down and display H5 malfunction, which can recover only by restarting the machine . Malfunction should be

promptly treated to avoid further damage.

3.15"P3": Inv. compressor over current protection

Main unit Display	**P3**
Error Explanation	**Main unit displays P3.**
Supposed Causes	**1. Load on main unit is excess.** **2. Main unit heat exchanging is not efficient.** **3. Refrigerant is excess.** **4. Compressor or its circuit is defective.** **5. Control board is defective.**

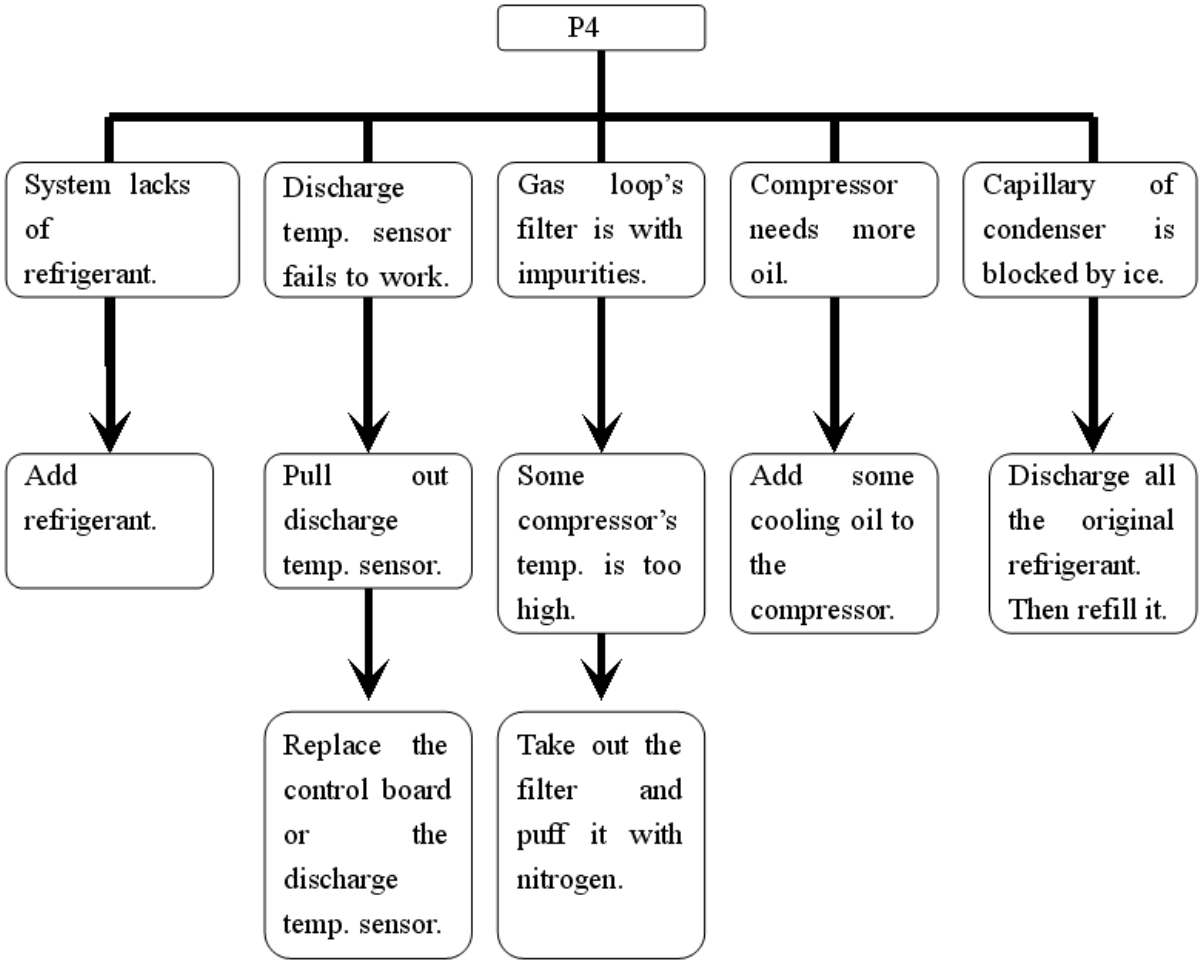
Troubleshooting



3.16"P4": Discharge temp. sensor protection

Main unit Display	**P4**
Error Explanation	**One main unit displays P4 and changes to protecting standby state.**
Supposed Causes	**1. Refrigerant is not enough.** **2. Refrigerant does not loop smoothly.** **3. Compressor needs more oil.** **4. Control board is defective**

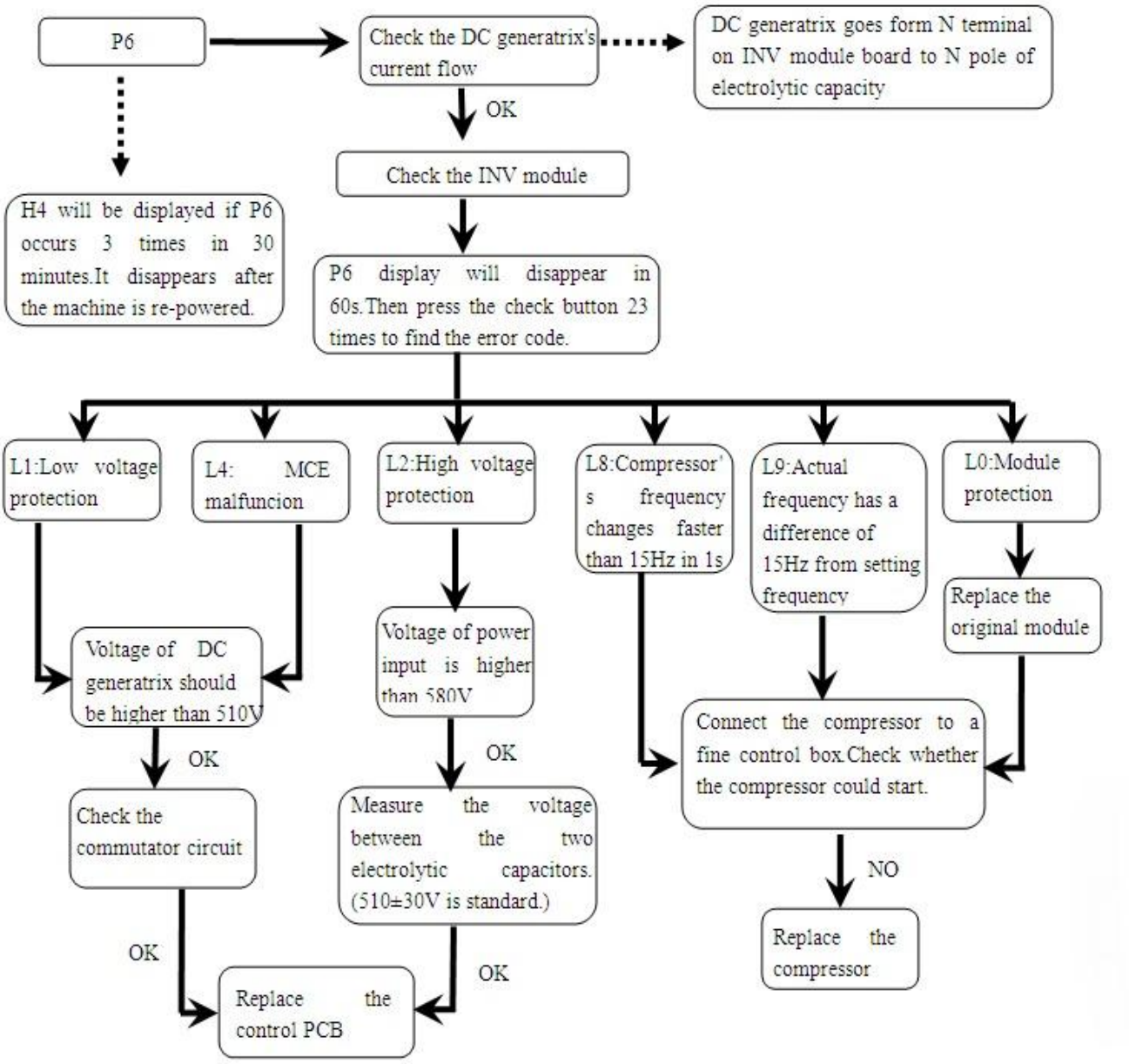
Troubleshooting



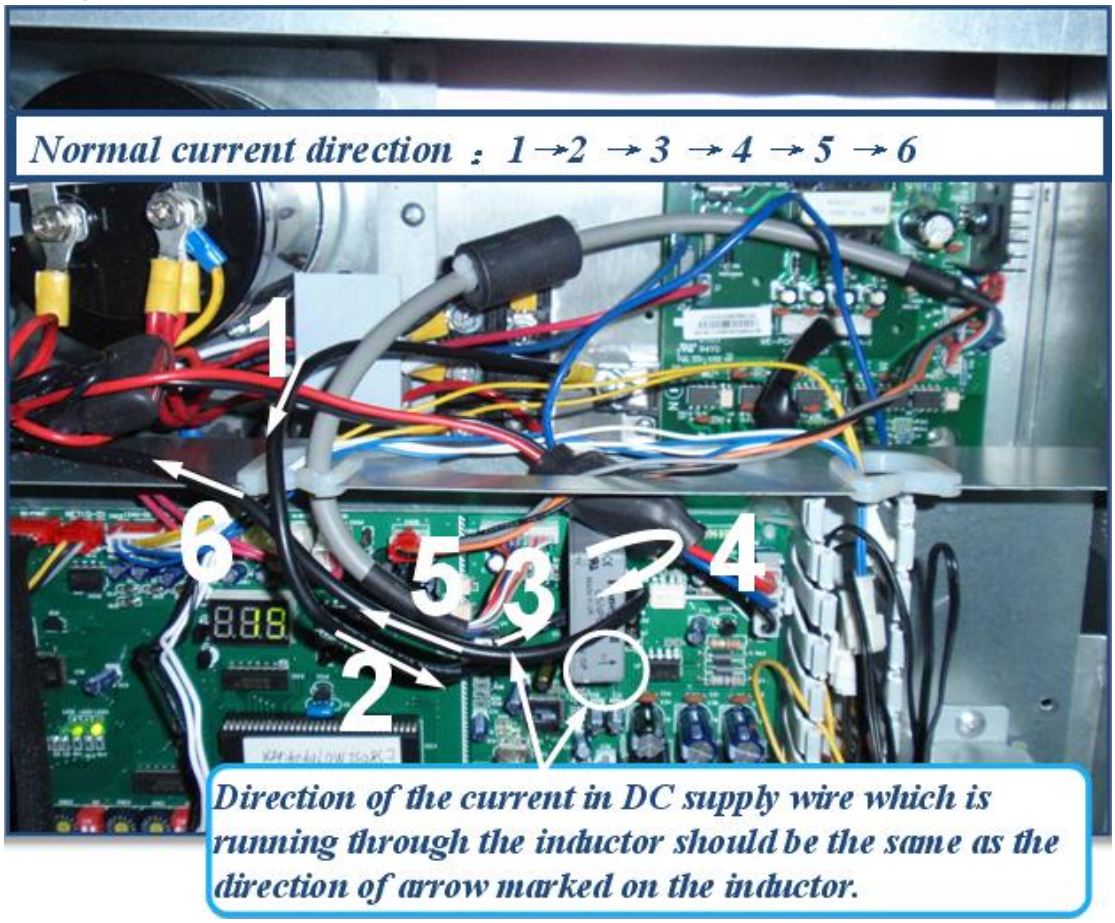
3.17 "P6": Module protection

Main unit Display	**P6**
Error Explanation	**MAIN UNIT displays P6.**
Supposed Causes	**1. DC generatrix is not lined correctly.** **2. DC generatrix low or high voltage protection.** **3. MCE malfunction.** **4. Compressor's frequency changes incorrectly.**

Troubleshooting



1. DC generatrix detection



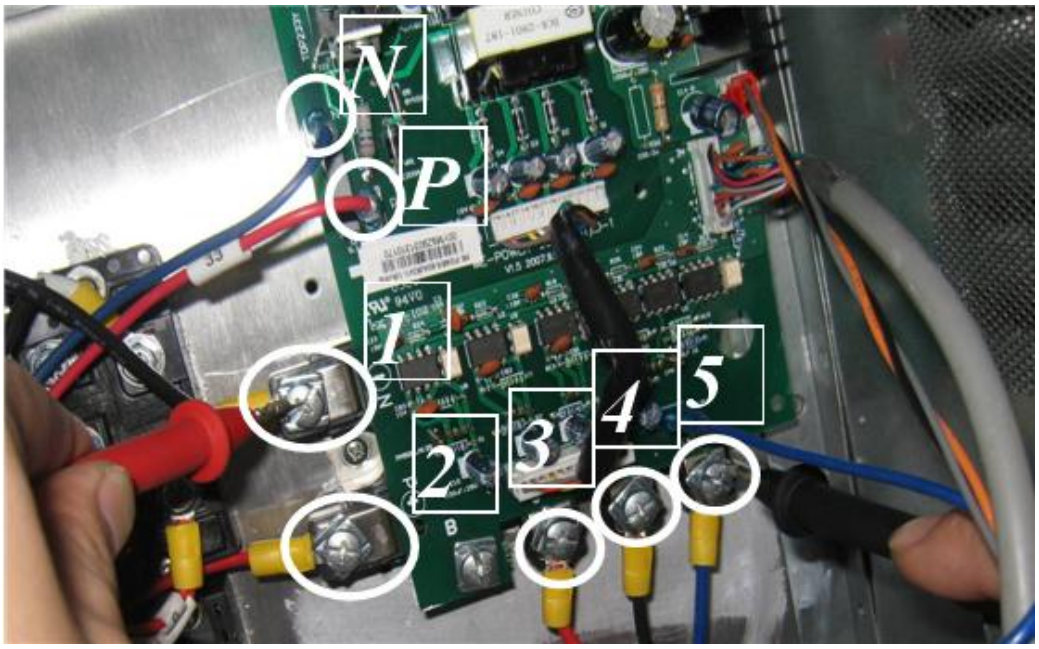
1.1 Voltage check of DC generatrix

1.2 Check the voltage of DC generatrix, which is normal between 510V and 580V. If less , go to next step.

1.3 Check the rectification circuit. Find out any loose in the circuit. Moreover check the filter board, rectifier stacks. Mind DC and AC switch on the meter while doing this.

1.4 If none of the above works, replace the main control board.

2 Voltage check of module



2.1 The voltage between N and P should be 1.41times to local power supply.
2.2 The voltage between 1 and 2 should range from 510V to 580V
2.3 The resistance between 1,2,3,4,5 should be infinite. If any of them is about 0, which means the module has already been broken down, we need to replace the module.

3 Compressor's characteristics
3.1 Measure the resistance among the compressor's U,V,W respectively. The resistance should range from 0.9 to 5 Ohms and be the same.


Fig. A

Fig. B

3.2 Measure the resistance between the compressor's U,V,W and GND respectively. The resistance should be more or less mega-Ohms.


Fig. C

Fig. D

3.3 Measure the current of the compressor's U,V,W terminal respectively, which should be more or less the same, by e.g. current flow table clamp. They should be 4A at the frequency of 35 Hertz.

4 P6 appears after the compressor turns on with difficulties
4.1 Check the module according to step 3 first.
4.2 If the module works, make the machine standby for 4 hours with power supply, which can help heating the refrigerant and oil adequately.
4.3 Start the fixed frequency compressor only for 3S to 5S.The great startup pressure could wash the impurity away in the tube.
4.4 If the compressor's frequency climb to 37 Hertz of above in 2S after turning on, then there's something wrong with the compressor. Check the compressor.
4.5 If the compressor 's current is normal, the malfunction appears on the control board. Please replace it.

5 The machine is powered on and P6 appears at once

In normal situation:
LED 1: Flash in 1Hz (slowly flash) when standby
LED 1: On when running
LED 2: Off

Phenomenon A
LED 2 red ON
LED 1 green Flashes 8 times and stops for 1S, then repeat.
Error: Inverter module failure

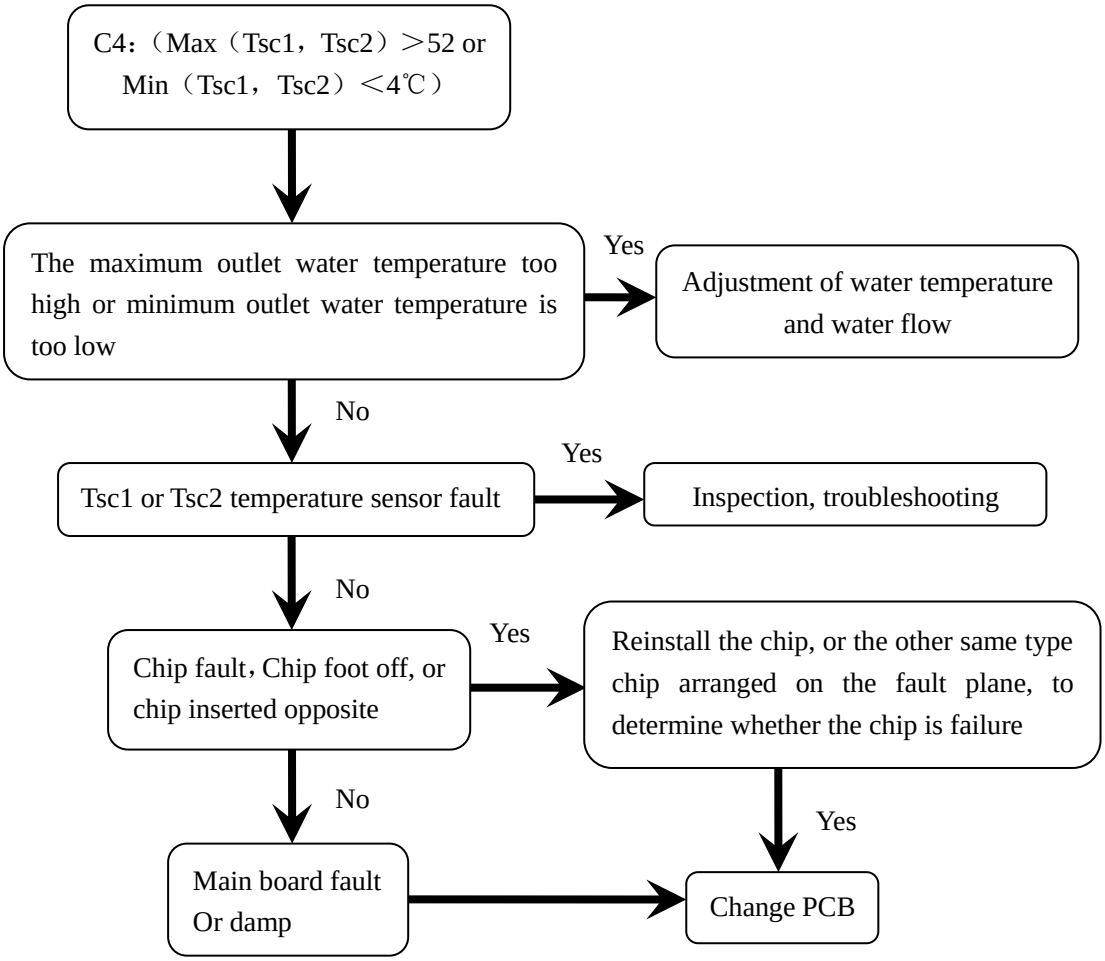
Phenomenon B
LED 2 red ON
LED 1 green Flashes 9 times and stops for 1S, then repeat.
Error: Low voltage protection
Here are 3 circumstances:
a) The voltage between the two electrolytic capacitors is less than 450V. The AC contactor should be picked up. If not, there's something wrong with the main control board or the PTC resistors, which need to be replace correspondingly.
b) Somewhere is loose in the circuit.
c) The voltage between P and N of CN12 on the main control board should range from 450V to 570V. If the voltage between N terminal and middle terminal of CN12 is 15V while error displays, it means that the main control board fails. Please replace the main control board.

Phenomenon C
LED 2 red ON
LED1 Green Flashes 10 times and stops for 1S, then repeat.
Error: High voltage protection
Here are 2 circumstance:
6. Three-phase power supply 's voltage is more than 440V
7. Main control board fails. Please replace it.

3.18"C4" : TSC tem. too high, too low protection

Main unit Display	**C4**
Error Explanation	**C4 protection occur 3 times within 60 minutes**
Supposed Causes	**1. TSC1 or TSC2 sensor fault.** **2. Chip fault.** **3. Main board damp.**

Troubleshooting

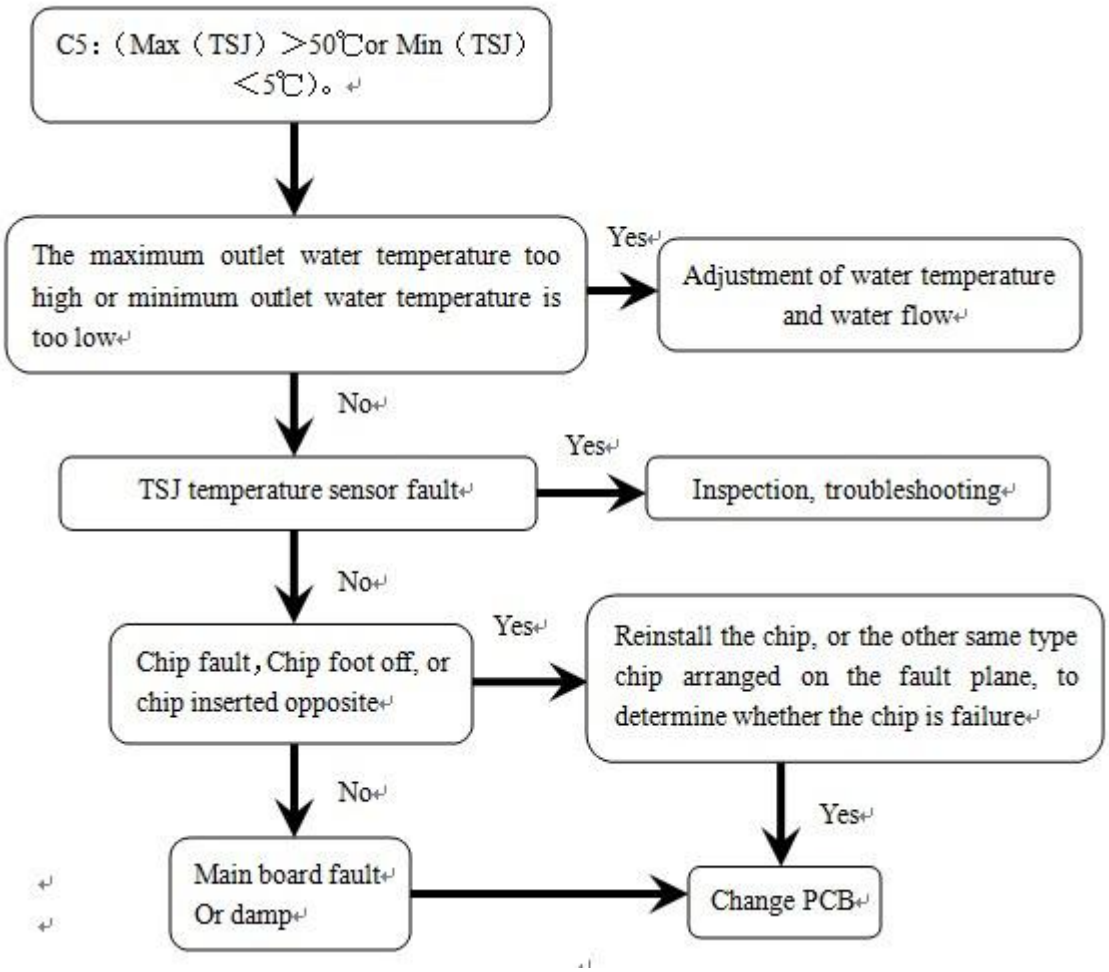


Note: 60 minutes 3 times C4 protection, display " F0 " fault code, only to restart power can be freed. This should promptly investigate and handle the fault, so as not to cause further damage.

3.19"C5": TSJ tem. too high, too low protection

Main unit Display	**C5**
Error Explanation	**TSJ＞50℃ or TSJ＜5℃**
Supposed Causes	**1. TSJ sensor fault.** **2. Chip fault.** **4. Main board damp.**

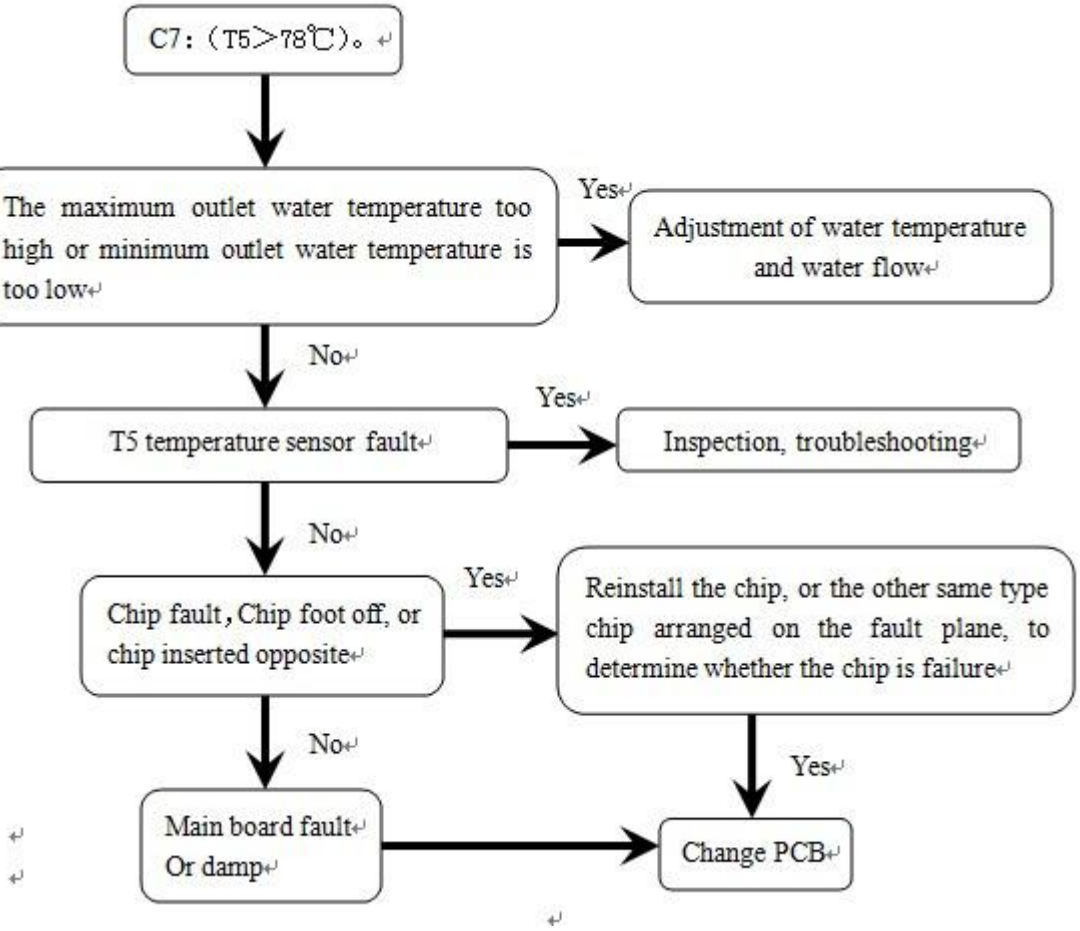
Troubleshooting



3.20C7": T5 inverter module tem. high protection

Main unit Display	**C7**
Error Explanation	**T5 inverter module tem. high protection**
Supposed Causes	**1. T5 sensor fault.** **2. Chip fault.** **5. Main board damp.**

Troubleshooting



3.21C8": Flow switch break protection

Main unit Display	**C8**
Error Explanation	**Flow switch break protection**
Supposed Causes	**1. Water flow volume is not enough.** **2. Chip fault.** **3. Flow switch break**

Troubleshooting