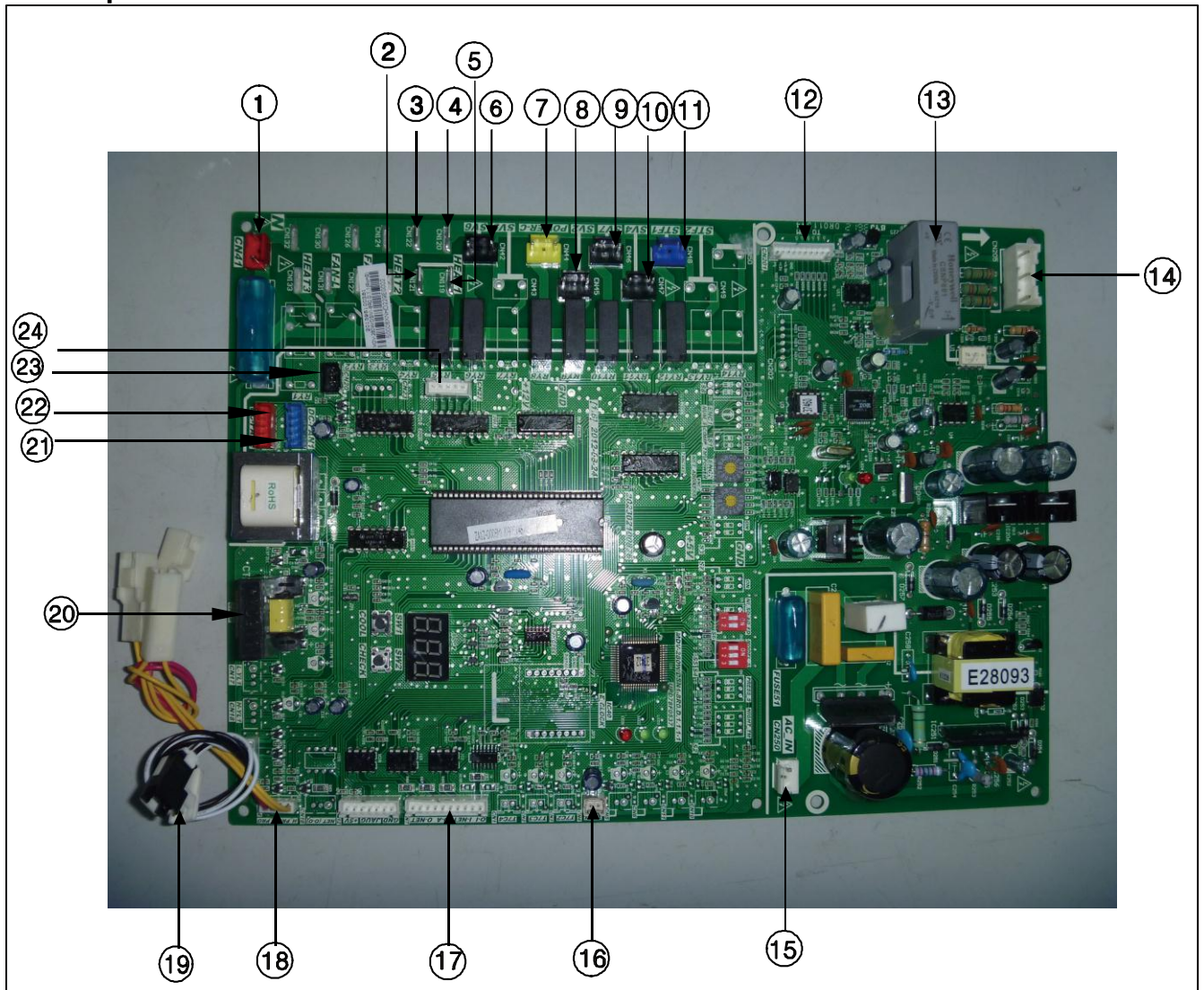


# Part 4 Troubleshooting

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<b>3. Error code table .....</b>	<b>70</b>
<b>4. Troubleshooting.....</b>	<b>71</b>

### 1. PCB ports instructions

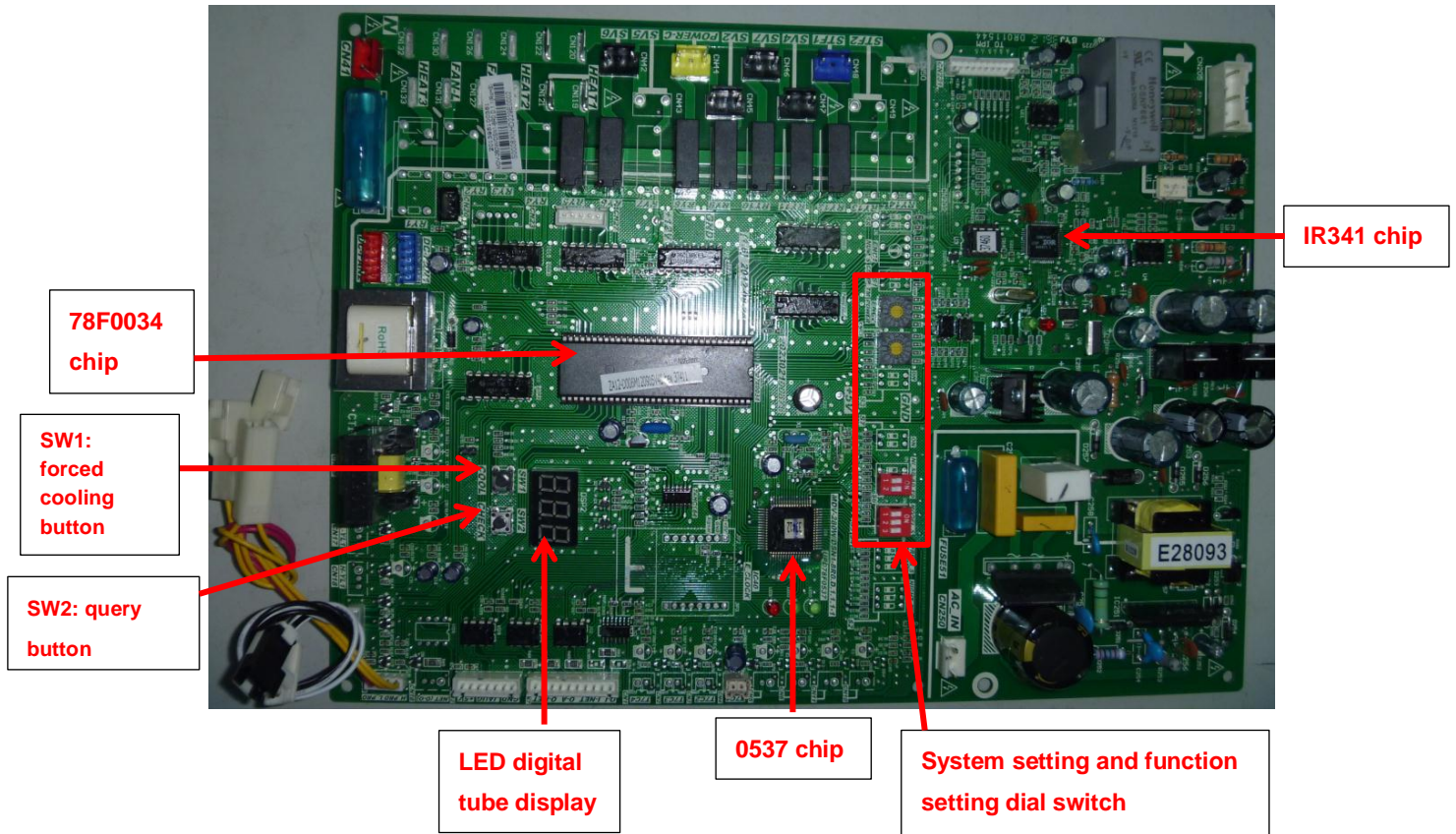


PCB ports instruction

No.	Content	Port voltage
1 CN41	Power input port of the main panel valve	220V
2 CN21	Load output port, crankcase heater HAET 1&HEAT 2	220V
3 CN22	Load output port	220V
4 CN20	Load output port	220V
5 CN19	Load output port	220V
6 CN42	Output port (solenoid valve SV6 control)	220V
7 CN44	Output port (contactor control POWER-C port)	220V
8 CN45	Output port (solenoid valve SV2 control)	220V
9 CN46	Output port (solenoid valve SV7 control)	220V
10 CN47	Output port (solenoid valve SV4 control)	220V
11 CN48	Output port (solenoid valve ST1 control)	220V
12 CN201	Inverter module drive module	The left the third pin:
13	Mutual inductor for DC main lead current inspection	In dynamic change
14 CN205	Power voltage test port for inverter module	DC540V,+15V,N
15 CN250	Power input port of the main control panel	220V
16 CN4	Discharge temp. test port for inverter compressor	DC0~5V (in dynamic

17 CN7	Indoor and outdoor units communication port, indoor unit network port, outdoor unit network port, and network charging connection port	DC2.5~5V
18 CN24	Signal input port for system high pressure and low pressure detection switch	DC0~5V (in dynamic change)
19 CN9	Temperature detection port for outdoor ambient	DC0~5V (in dynamic)
20 CN19	Input current detection port	DC0~5V (in dynamic)
21 CN13	Control port of the upward and downward DC fan 1	The right pin +5V
22 CN14	Control port of the upward and downward DC fan 2	The right pin +5V
23 CN20	Voltage output port for the main panel power supply	The left the first pin+12V
24 CN27	Drive port for EXV	The left the first pin:

## 2. PCB parts instructions



### 2.1 SW2 query instructions

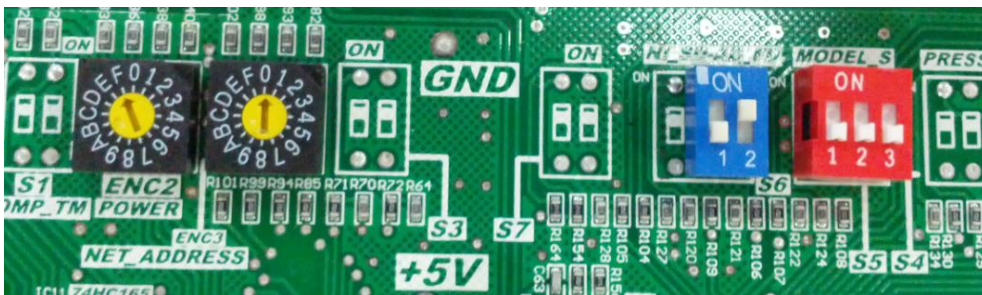
No.	Normal display	Display content	Note
0	0. --	Local capacity of outdoor units	7, 8, 10, 12, 14, 16, 18, 20, 22
1	1. --	Total capacity requirements of indoor units	--
2	2. --	Total requirements of outdoor units corrected capacity	--
3	3. --	Operating mode	0,2,3,4
4.	4. --	Operating FAN speed and FAN grade	0, 1, 2, 3, 4, 5, 6, 7, 8, 9
5	5. --	T2B/T2 average temperature	Actual value
6	6. --	T3 pipe temperature	Actual value
7	7. --	T4 environment temperature	Actual value
8	8. --	Inverter exhaust temperature	Actual value
9	9. --	Non-inverter exhaust temperature (reserved)	0
10	0. --	Heat dissipater surface temperature (reserved)	0
11	1. --	Electronic expansion valve aperture	Actual value x 8
12	2. --	Inverter input current	Actual value
13	3. --	Non-inverter input current	0
14	4. --	Exhaust pressure (reserved)	0
15	5. --	Priority mode	0,1,2,3,4
16	6. --	Indoor unit quantity	Actual value

17	7. --	Working indoor unit quantity	Actual value
18	8. --	Program version	--
19	9. --	Last fault or protection code	00 is displayed if no fault occurs or protection has not been activated.
20	0. --	--	Check completed.

Remark:

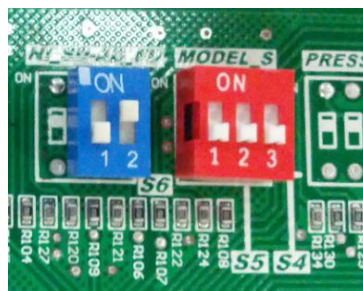
- 1) Normal display: In standby mode, the number of indoor units that communicate with outdoor units is displayed. Operating frequency of the compressor is displayed as required.
- 2) Operating mode: 0: standby; 2: cooling; 3: heating; 4: forced cooling
- 3) Operating air speed: 0: shutdown; 1-9: air speed increases in ascending order.
- 4) Priority mode: 0: priority heating; 1: priority cooling; 2: priority unit started first; 3: heating only; 4: cooling only; 5: test mode 1; 6: test mode 2

### 2.2 System setting dial switches instructions



Dial switch	Content	Note
ENC2	Capacity setting dial switch of outdoor unit	0: 26kW; 1: 28kW; F: 22.4kW
ENC3	Network address dial switch of outdoor units	0-F indicates 0-15 (factory setting is 0.)
S6	Outdoor unit auto-address setting or not	Detail refers to the below content
S5	Outdoor units mode setting	Detail refers to the below content

### 2.3 Function setting dial switches instructions



**S5 Function definition**

<p>0n S5 1 2 3</p>	Heating priority mode (setted by factory default)	<p>0n S5 1 2 3</p>	Heating only mode
<p>0n S5 1 2 3</p>	Cooling priority mode	<p>0n S5 1 2 3</p>	Cooling only mode
<p>0n S5 1 2 3</p>	Inicial-start priority mode		

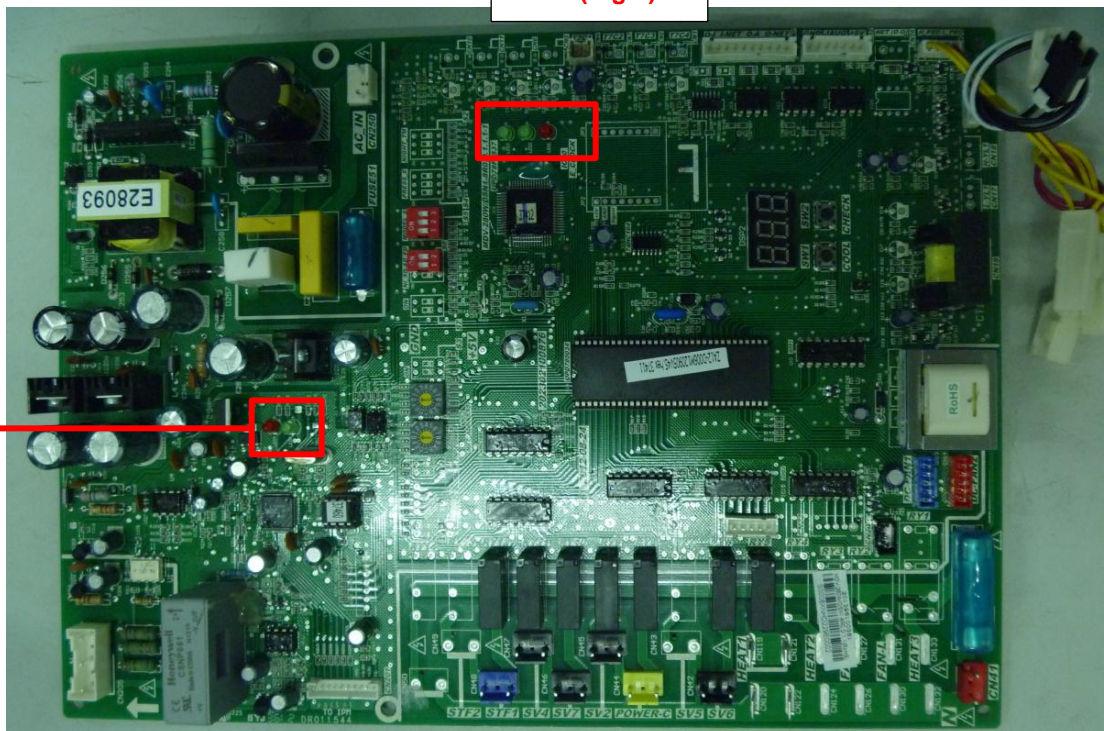
**S6 function definition:**

<p>0n S6 1 2</p>	Automatic addressing
<p>0n S6 1 2</p>	Non-automatic addressing(setted by factory default)
<p>0n S6 1 2</p>	Clear indoor unit address

**2.4 LED on PCB instructions**

**LED1 (Left)**  
**LED2 (Middle)**  
**LED3 (Right)**

**LED4 (Left)**  
**LED5 (Right)**



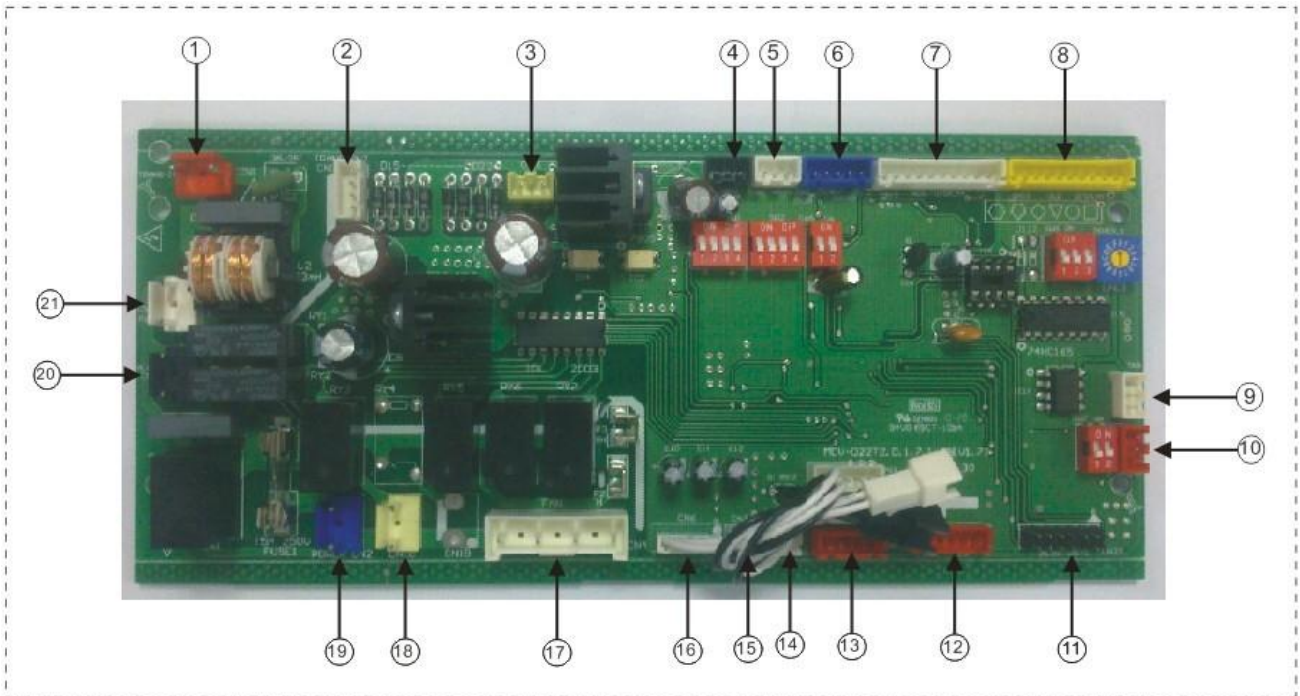
- LED1:** Power supply indicator lamp of network centralized control chip. The lamp will be on if the power supply is normal.
- LED2:** Running indicator lamp of network centralized control chip. The lamp will be on if the system running is normal.
- LED3:** Malfunction indicator lamp of network centralized control chip. The lamp will flash in Three-phase phase sequence protection.

**LED4:** Malfunction indicator lamp of inverter module. The lamp will flash if the inverter module is faulty and the error code will display on digital tube.

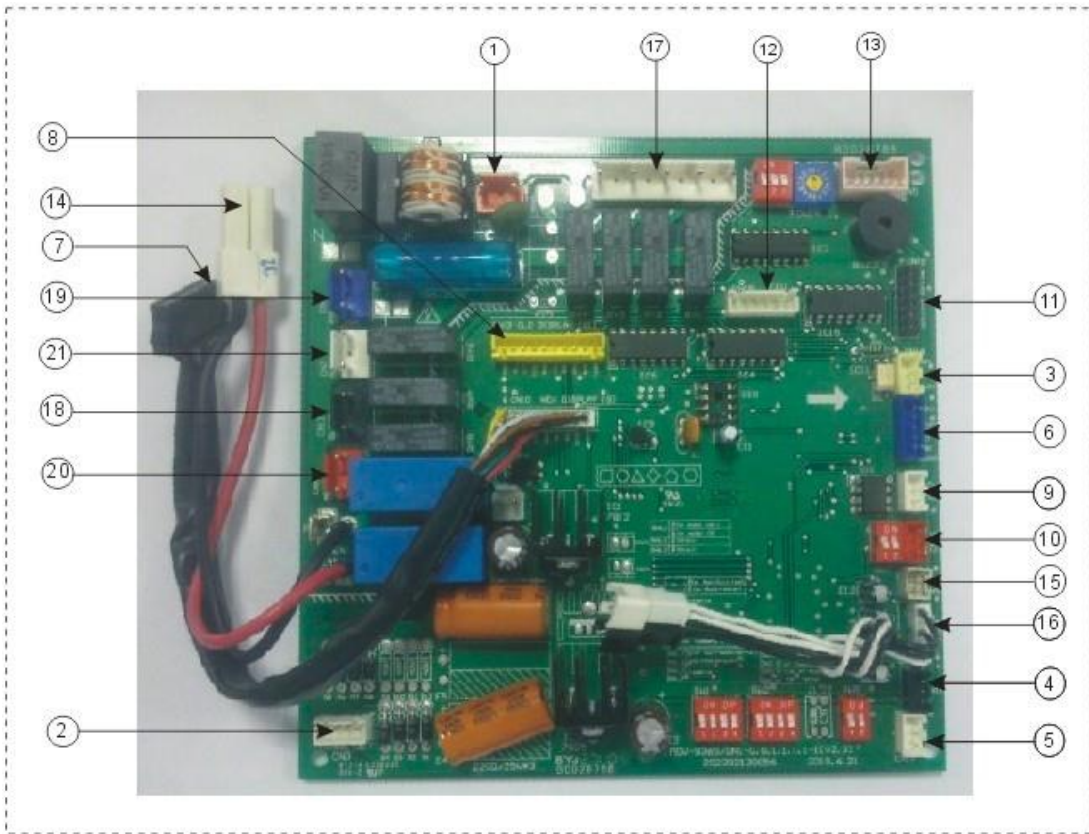
**LED5:** Running indicator lamp of inverter module. The lamp will be on if the compressor is running.

### 2.5 Description of Main Control Board of Indoor unit

There are two shapes of main control board that used to all types of indoor unit matching with V4+ outdoor unit.





Shape 1



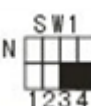


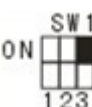


Shape 2

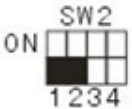





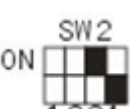
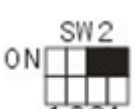
**Dial codes definition  
0/1 definition**

ON 	Means 0
ON 	Means 1

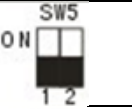


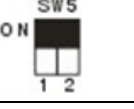
**SW1 definition**

ON 	1 means factory test mode 0 means default auto addressing mode	ON 	1 means DC fan is chosen 0 means AC fan is chosen
ON 	00 means DC fan static pressure is 0 (reserved)	ON 	01 means DC fan static pressure is 1 (reserved)
ON 	10 means DC fan static pressure is 2 (reserved)	ON 	11 means DC fan static pressure is 3 (reserved)

**SW2 definition**

	<b>00</b> means shutting down the unit to stop cold air at 15°C		<b>01</b> means shutting down the unit to stop cold air at 20°C
	<b>10</b> means shutting down the unit to stop cold air at 24°C		<b>11</b> means shutting down the unit to stop cold air at 26°C
	<b>00</b> means the time of stopping fan (when no capacity need) is 4 minutes		<b>01</b> means the time of stopping fan (when no capacity need) is 8 minutes
	<b>10</b> means the time of stopping fan (when no capacity need) is 12 minutes		<b>11</b> means the time of stopping fan (when no capacity need) is 16 minutes

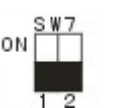
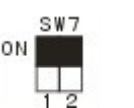
**SW5 definition**

	<b>00</b> means temperature compensation value is 6°C under heating mode		<b>01</b> means temperature compensation value is 2°C under heating mode
	<b>10</b> means temperature compensation value is 4°C under heating mode		<b>11</b> means temperature compensation value is 8°C under heating mode




**SW6 definition**

	<b>1</b> means old display panel <b>0</b> means new display panel		<b>Reserved</b>
---	--	---	-----------------

**SW7 definition**

	<b>Normal configuration</b>		<b>Last unit of the network</b>
---	-----------------------------	---	---------------------------------

**J1 J2 definition**

	<b>Without jumper J1 for auto restart function</b>		<b>With jumper J1 for non-auto restart function</b>
	<b>reserved</b>		

**Indoor unit & Error code & indication**

Error code	Lamp indication	Content
FE	Time LED and run LED flash together	Without address when first time power on
H0	4 LED flash together	M_Home non-matching
E0	Defrost LED flashes	Modes conflict
E1	Timer LED flashes	Communicative error between indoor and outdoor units
E2	Run LED flashes	Temperature sensor T1 error
E3	Run LED flashes	Temperature sensor T2 error



E4	Run LED flashes	Temperature sensor T2B error
E7	Defrost LED flash slowly	EEPROM error
Ed	Alarm LED flashes slowly	Outdoor unit error
EE	Alarm LED flash	Water level alarm

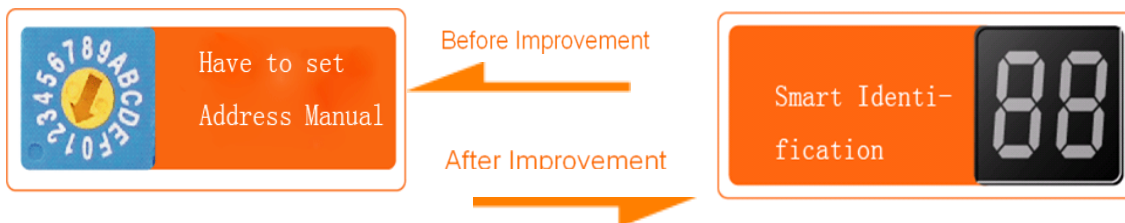
Note: Some unit that has digital tube will show the error code when error occurs, others show lamp indication.

**Explanation of main board**

No.	Content	No.	Content
1	Power input of transformer	12	Electric expansion valve drive port
2	Power output of transformer	13	Swing motor drive ports
3	Port for remote ON/OFF switch	14	Port for electric auxiliary heater
4	Port for infrared sensor	15	Indoor evaporator outlet pipe temp. detect port
5	Water level switch	16	Indoor ambient and evaporator middle part temp. detect port
6	Port for network module	17	Port for indoor fan motor
7	Port for new display board	18	Reserved
8	Port for old display board	19	Power input port
9	Communication port of X Y E	20	Port for alarm
10	Communication port of P Q E	21	Port for water pump
11	Port for on-line writing program	—	

**New Added Function—Auto Addressing**

- 1) New Auto-Addressing is just a newly designed indoor-address distributed method which will automatically be done by outdoor unit, without manual addressing. When the unit is under testing, as the outdoor and indoor units are powered on simultaneously, the outdoor unit will automatically distribute different address to every indoor unit in less than 10 minutes.
- 2) With regarding to the customer’s desire of some kind fixed address or regular addresses for all indoor units, it can be achieved by wireless remote controller.
- 3)



**3. Error code table (ODU)**

Error code	Content	Note
H0	IR341 and 78F0034 communication error	---
H1	0537 and 78F0034 communication error	---
H4	P6 protections happen 3 times in 30 minutes.	Recover until electricity reset.
H5	P2 protections happen 3 times in 30 minutes.	Recover until electricity reset.
H7	Quantity of indoor units decrease error	H7 will display after the unit is operating for 3 minutes or more if the quantity of indoor unit decrease. Recover until the quantity of indoor unit is normal.
H8	Reserved	---
HF	Not match with M_Home series	---
E1	Reserved	---
E2	Communication faulty between indoor unit and outdoor unit.	---
E4	T3/T4 sensor error	---
E5	Voltage protection error	---
E6	DC fan error	---
E7	Discharge temperature sensor error	---
EA	Heating mode, fan errors for 5 minutes under certain conditions.	When $22^{\circ}\text{C} \leq T3 \text{ sensor temperature} \leq 24^{\circ}\text{C}$ , heating fan errors for 5 minutes.
Eb	E6 faulty happen twice continuously within 10 minutes.	Recover after electricity is cut off.
P0	Reserved	---
P1	High temperature protection or discharge temperature switch protection.	---
P2	Low voltage protection	---
P3	Current input protection	---
P4	Compressor high discharge temperature protection.	---
P5	T3 high temperature protection of outdoor unit	---
P6	Module protection.	H4 will display if P6 happen 3 times in 30 minutes.(It will test after power on 6 seconds.)
P8	Typhoon protection	---
PE	Evaporator T2 high temperature protection	---

## 4. Troubleshooting

### 4.1 H0/H1

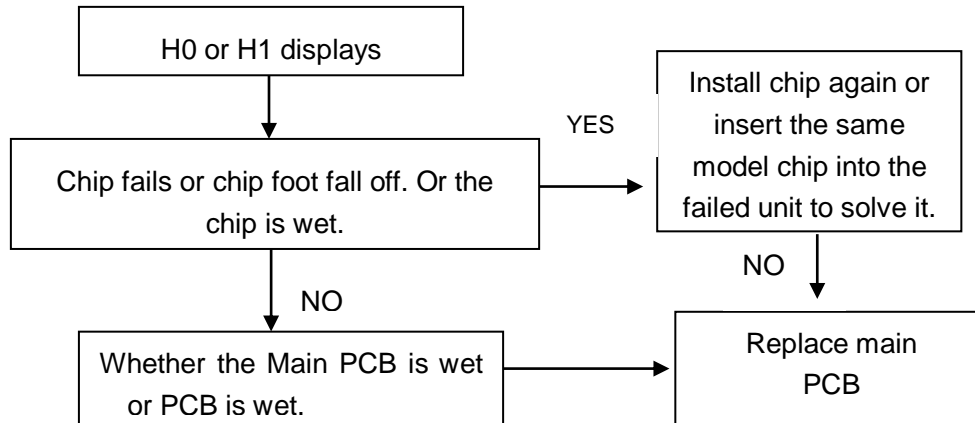
**H0: IR341 and 78F0034 communication error**

**H1: 0537 and 78F0034 communication error**

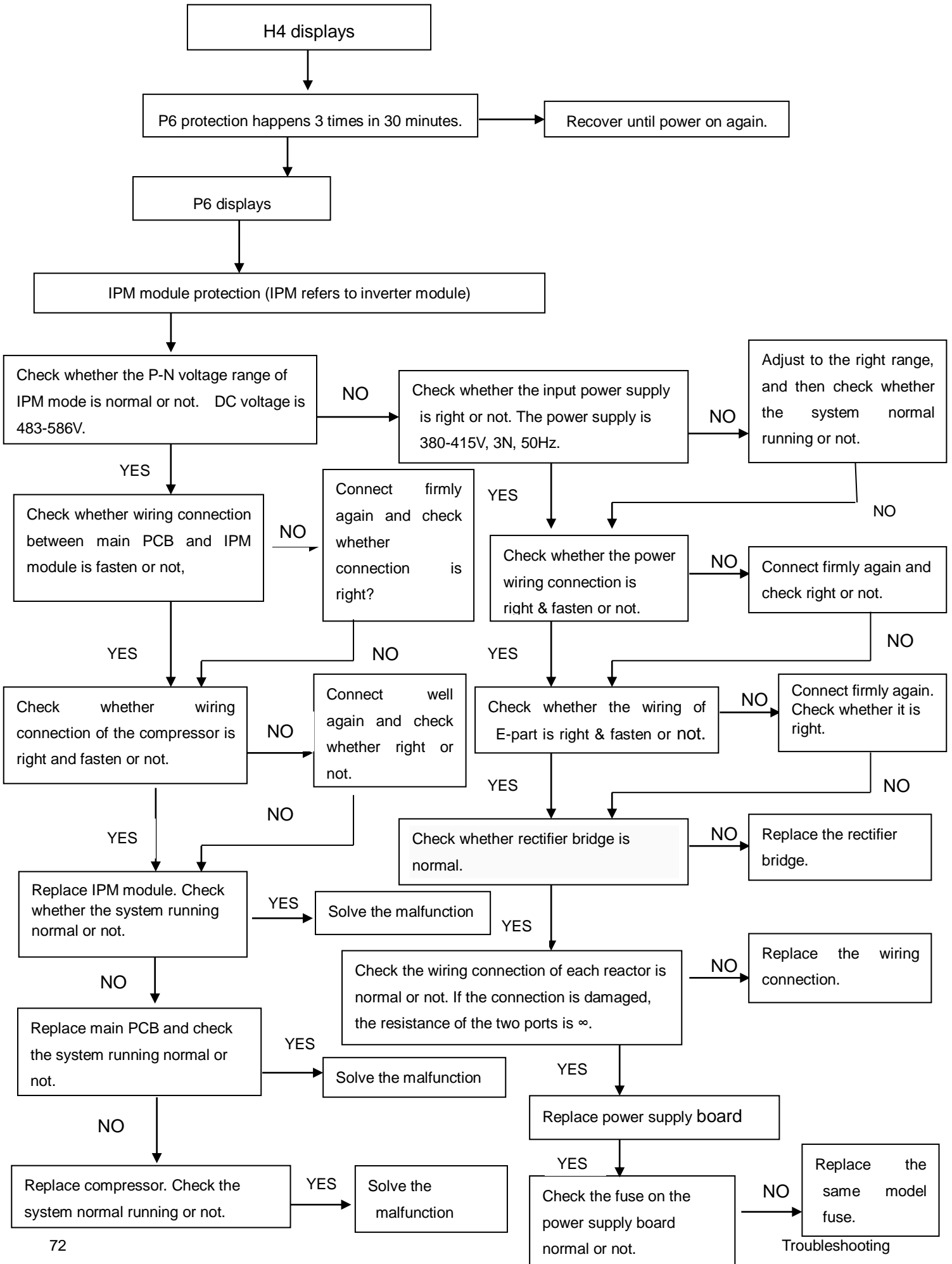
**IR341 chip:** IR 341chip is used for inverter compressor drive.

**0537 chip:** 0537chip is used for control the communication between indoor unit and outdoor unit, and the communication between outdoors

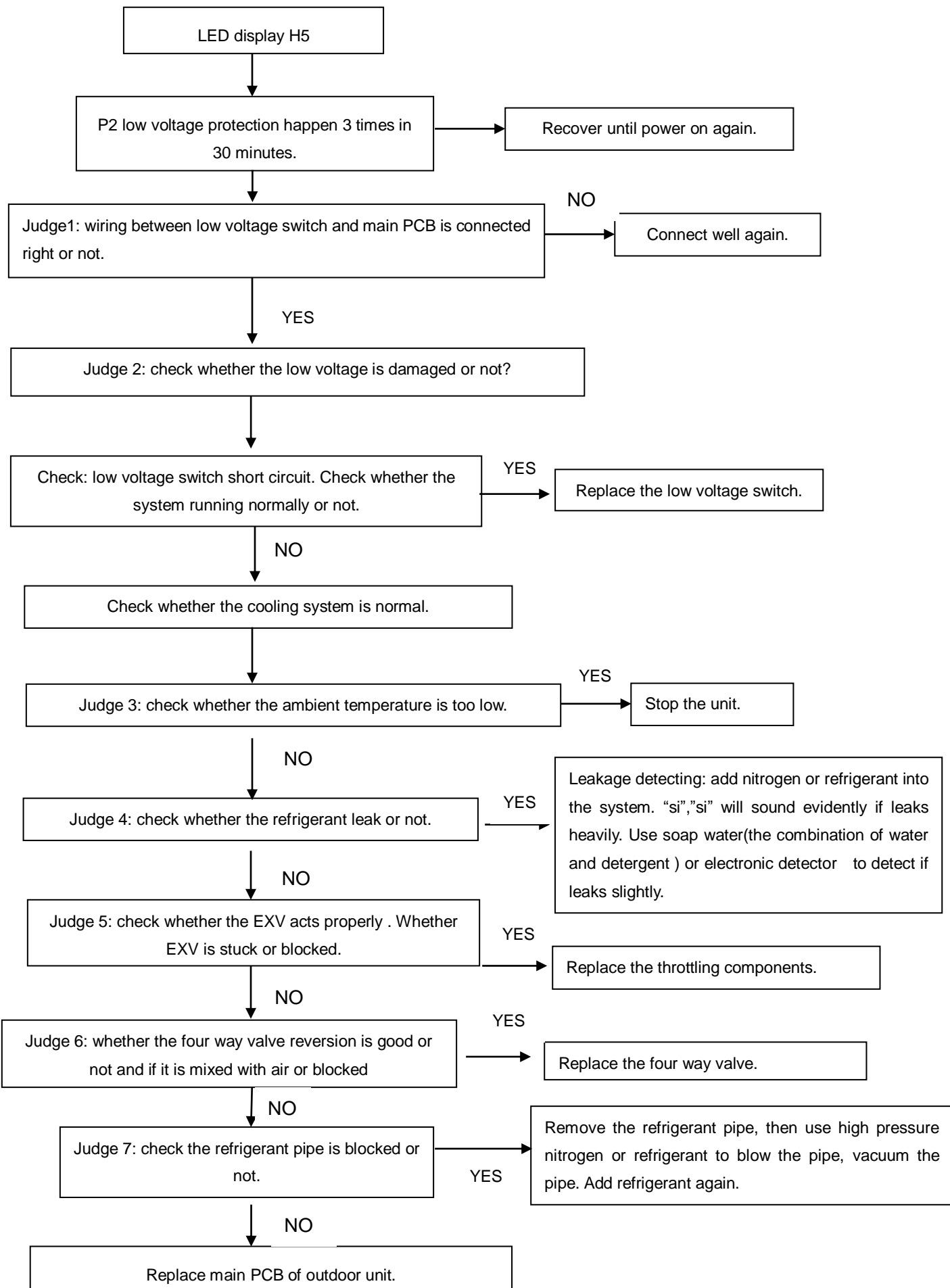
**78F0034 chip:** 78F0034 chip is the main chip, it is used for the whole system control.

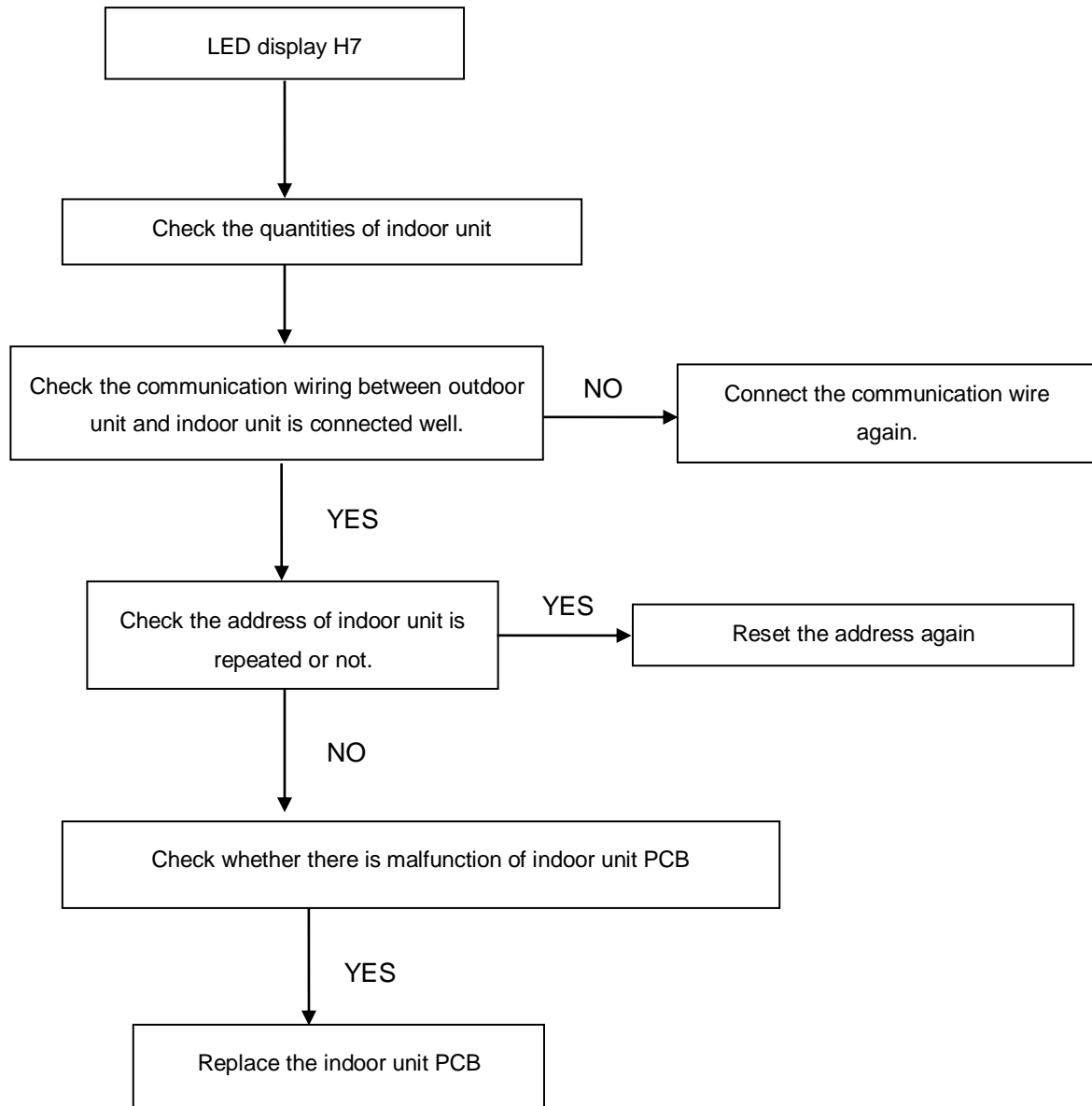


**4.2 H4: when P6 protection happens 3 times in 30 minutes,H4 displays.**

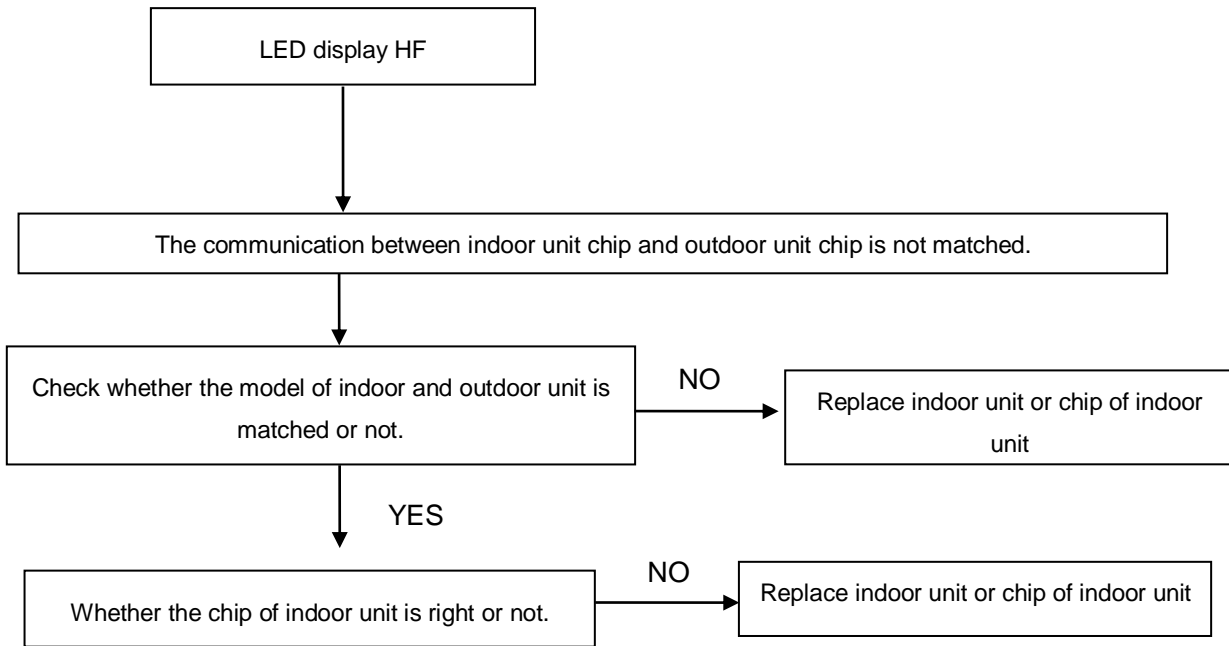


**4.3 H5: when P2 low voltage protection happen 3 times in 30 minutes, H5 displays.**

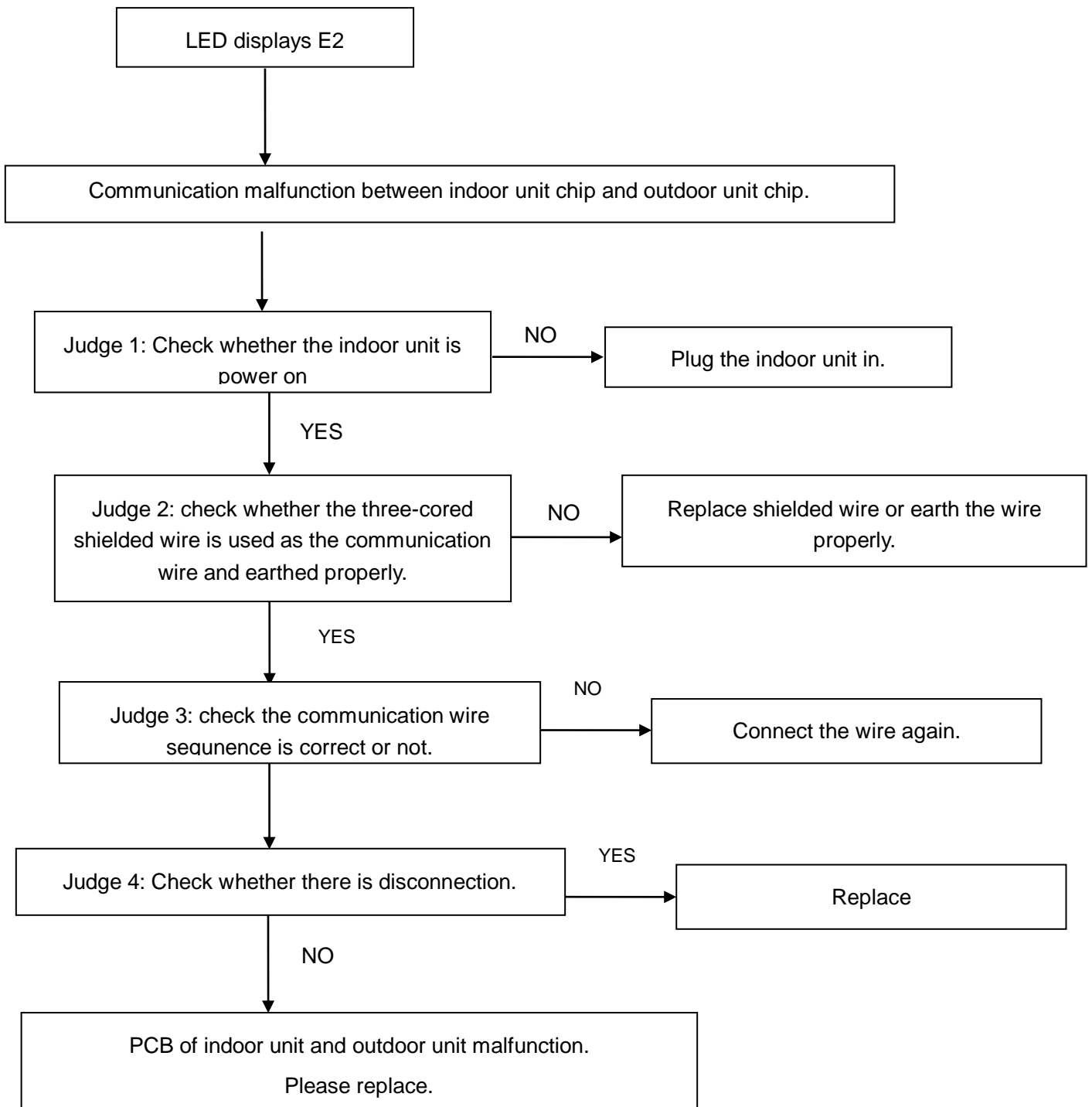


**4.4 H7: Quantity of indoor units decrease.**

**4.5 HF: not matched with M\_Home series.**



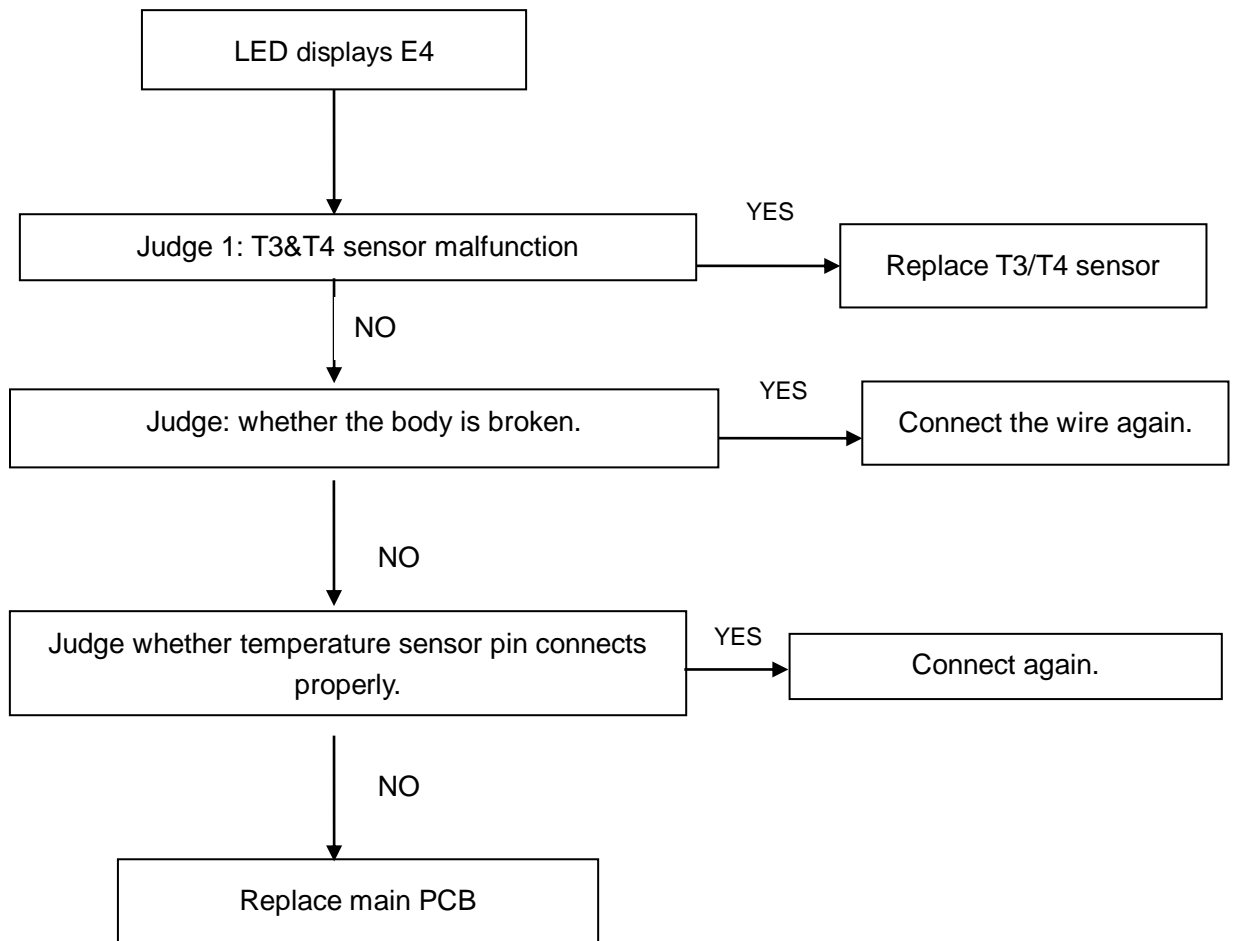
\*Outdoor unit chip refers to 0537 chip.

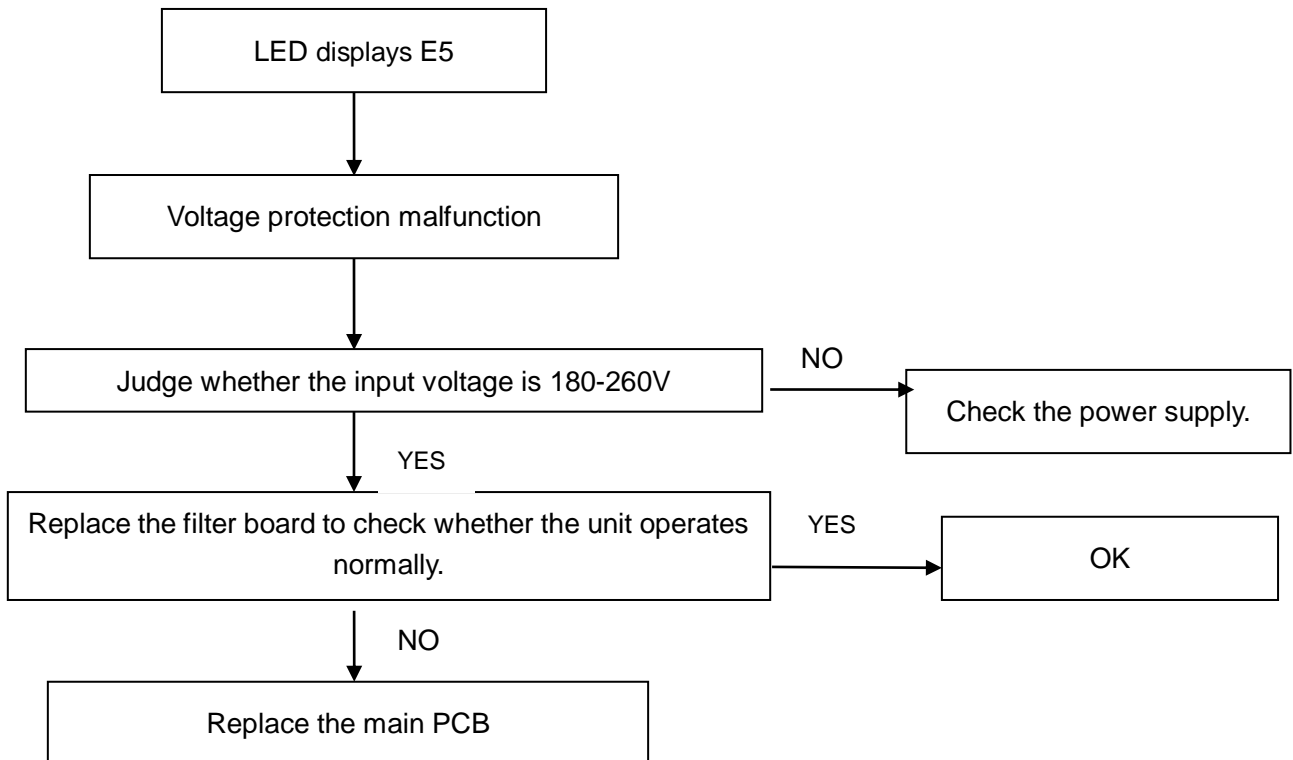
**4.6 E2:** Communication malfunction between indoor unit chip and outdoor unit chip.

\*Outdoor unit chip refers to 0537 chip.

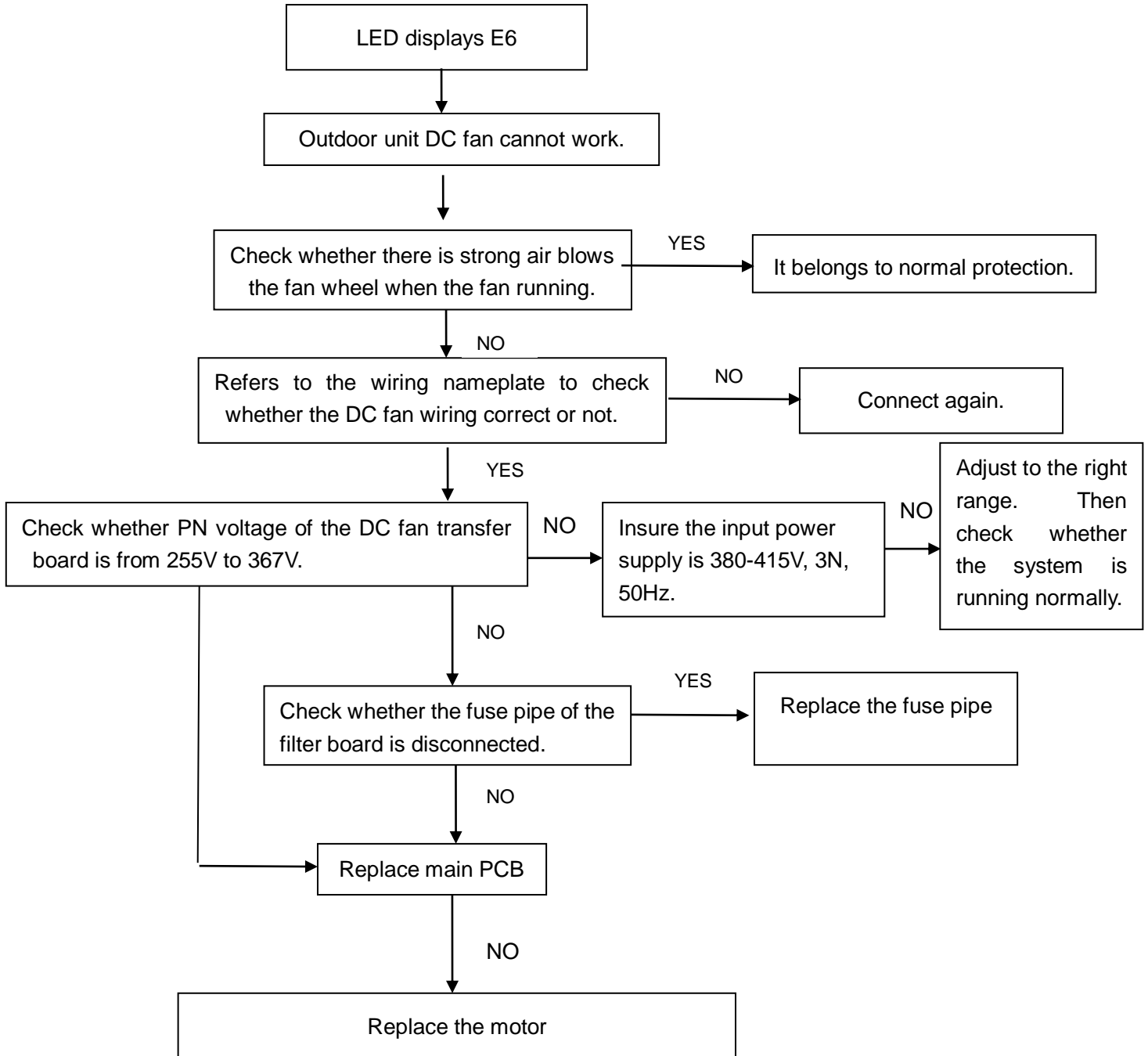


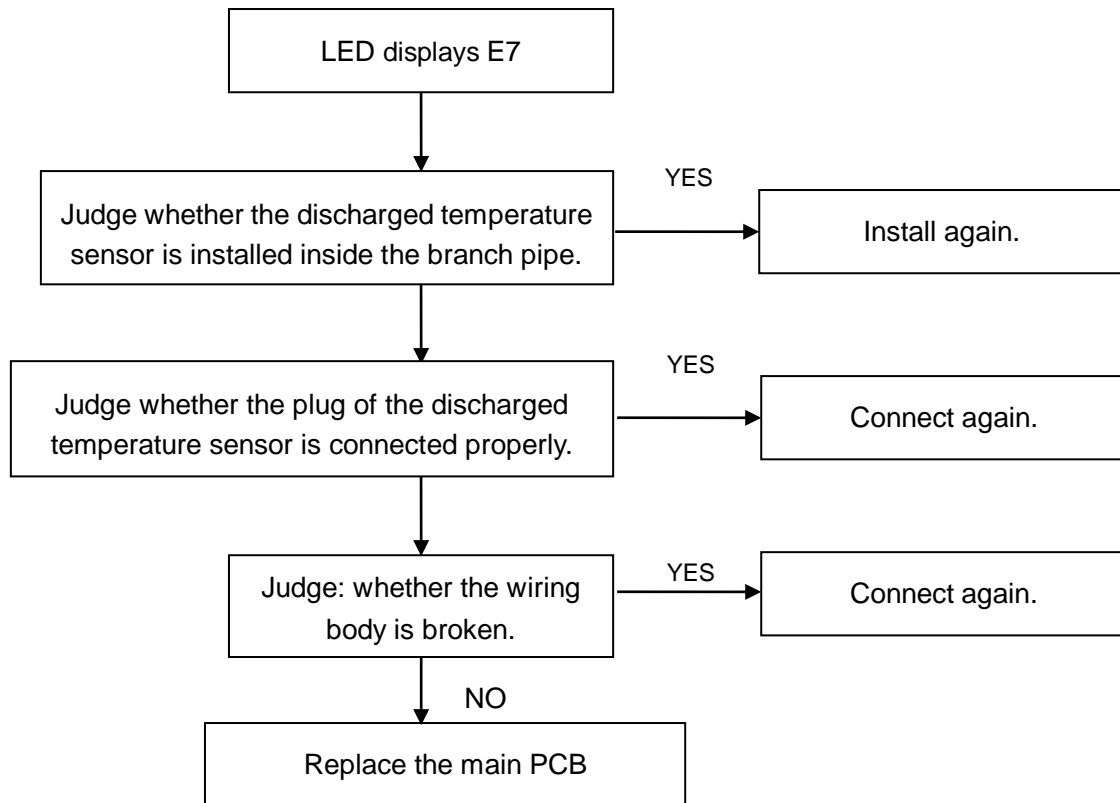
4.7 E4: T3&T4 sensor malfunction



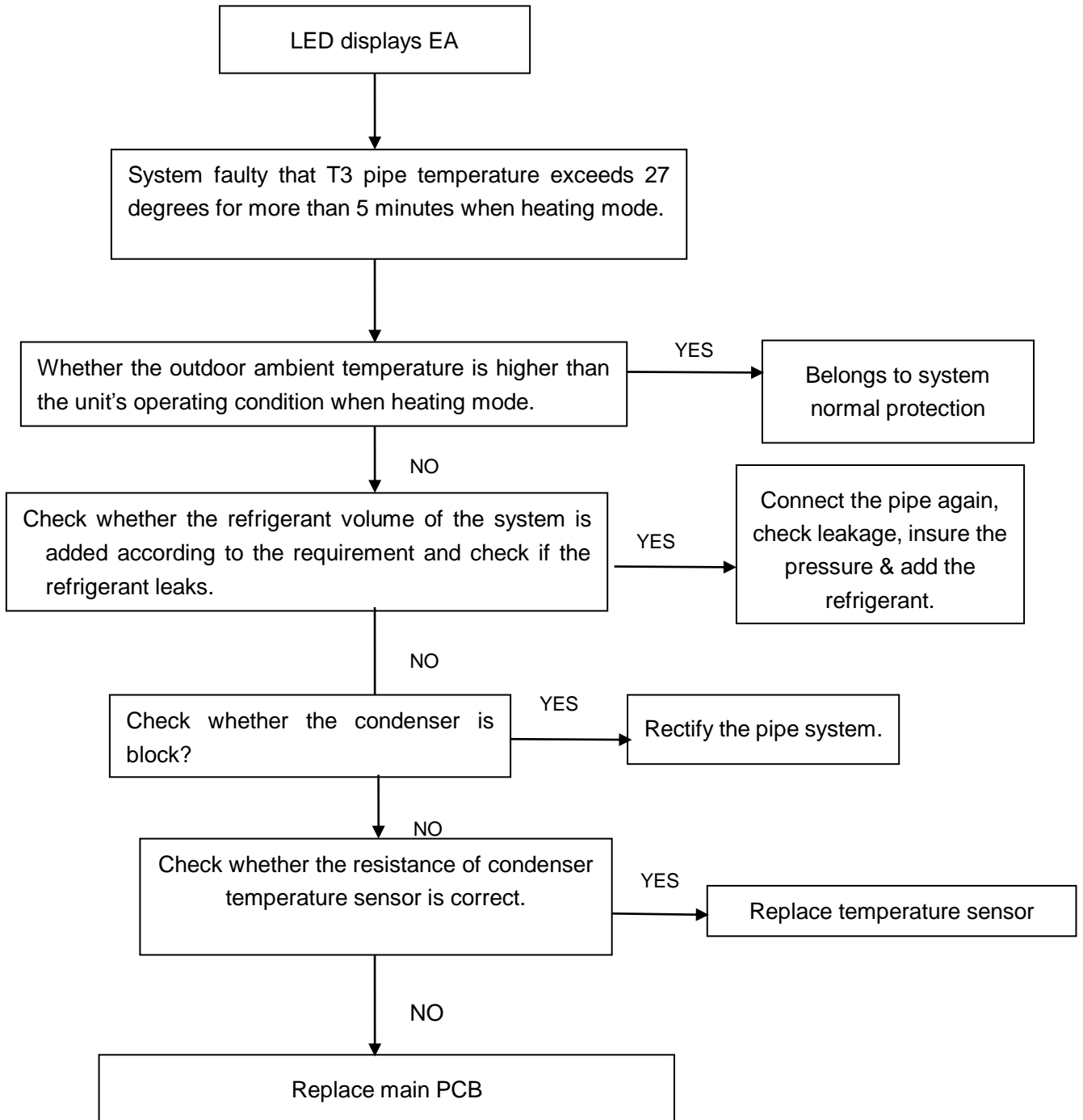
**4.8 E5: Voltage protection malfunction**

**4.9 E6: Outdoor unit DC fan cannot work.**



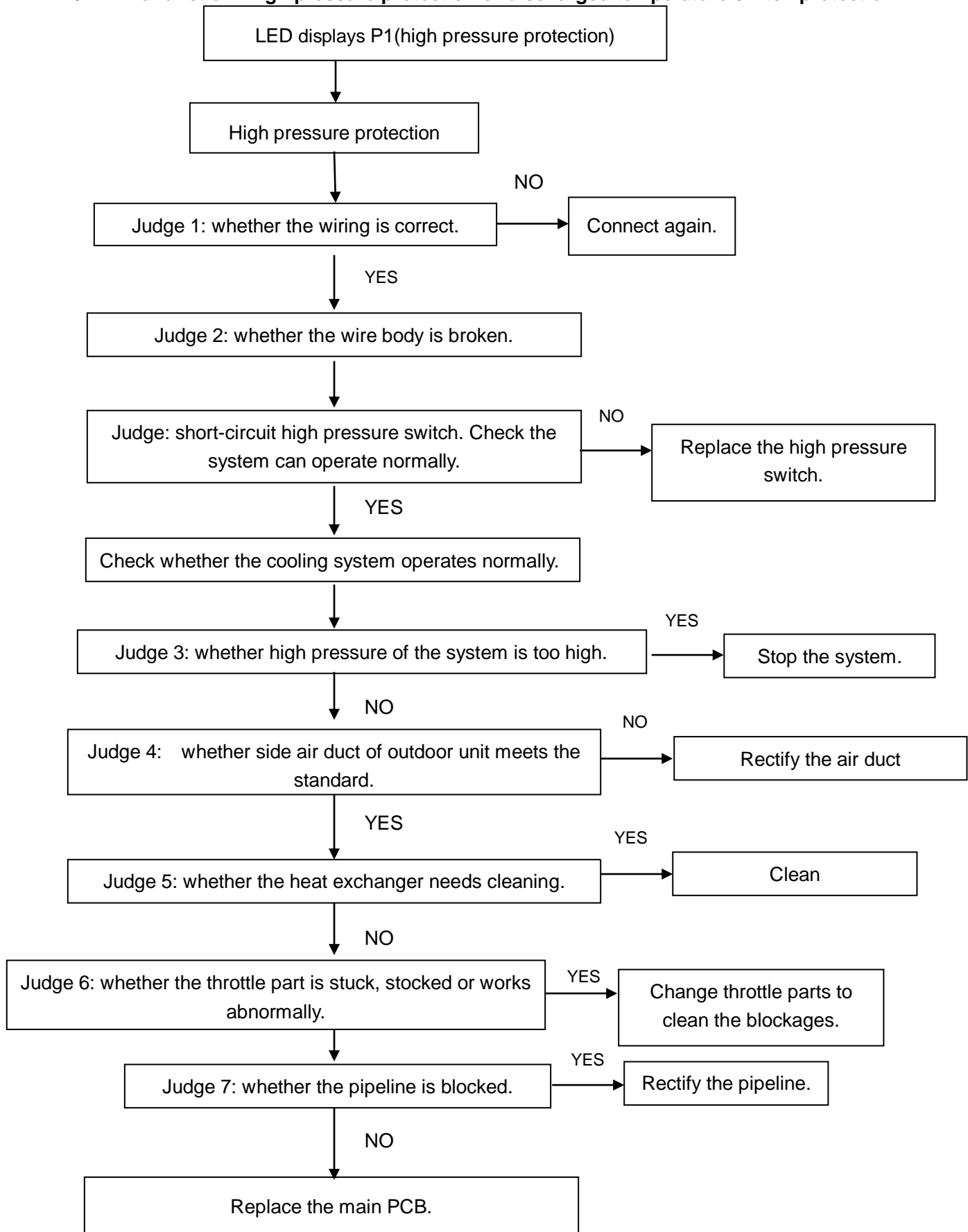
**4.10 E7: Discharged temperature sensor malfunction.**

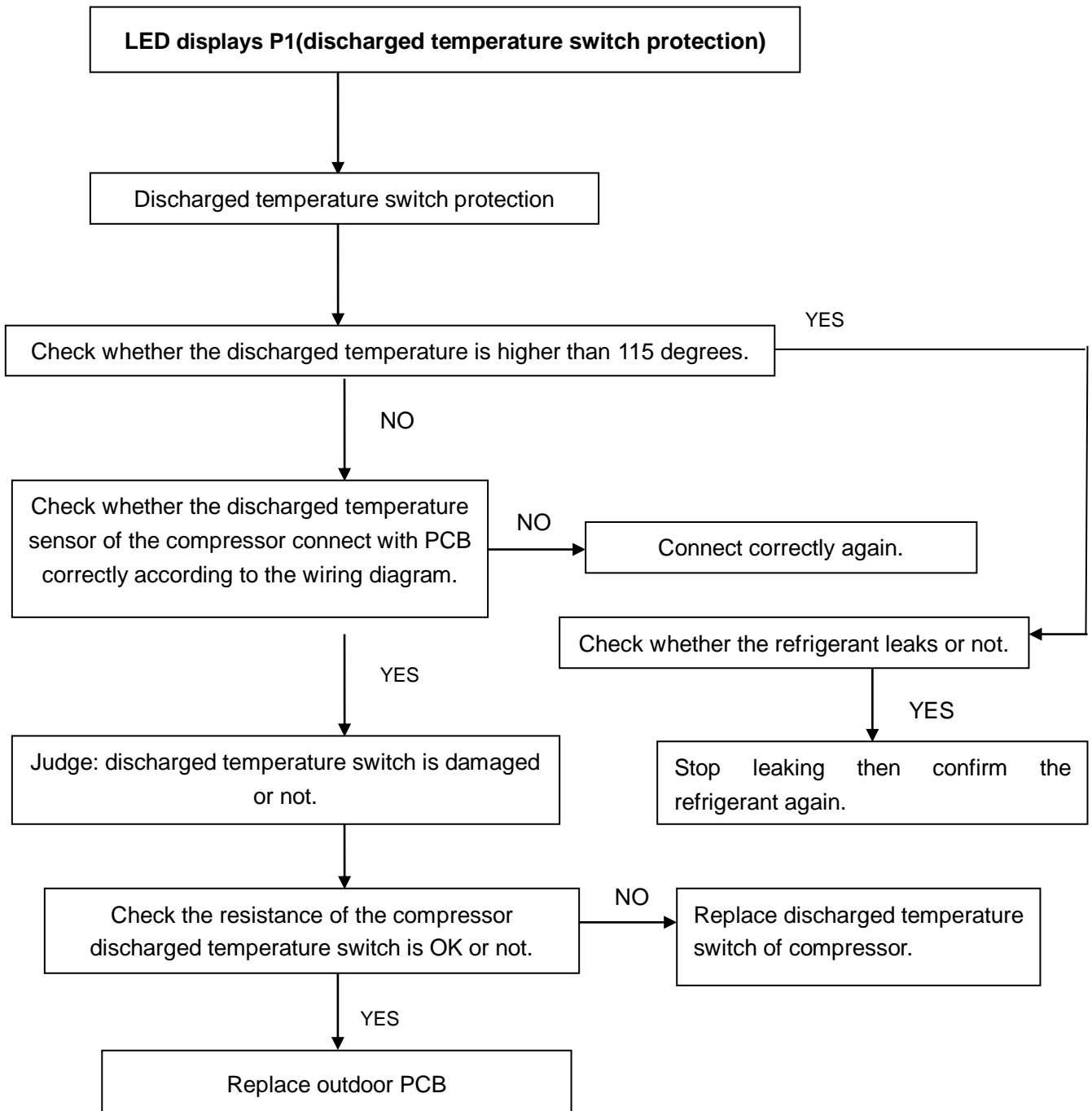
**4.11 EA:** T3 pipe temperature exceeds 27 degrees for more than 5 minutes when heating mode.



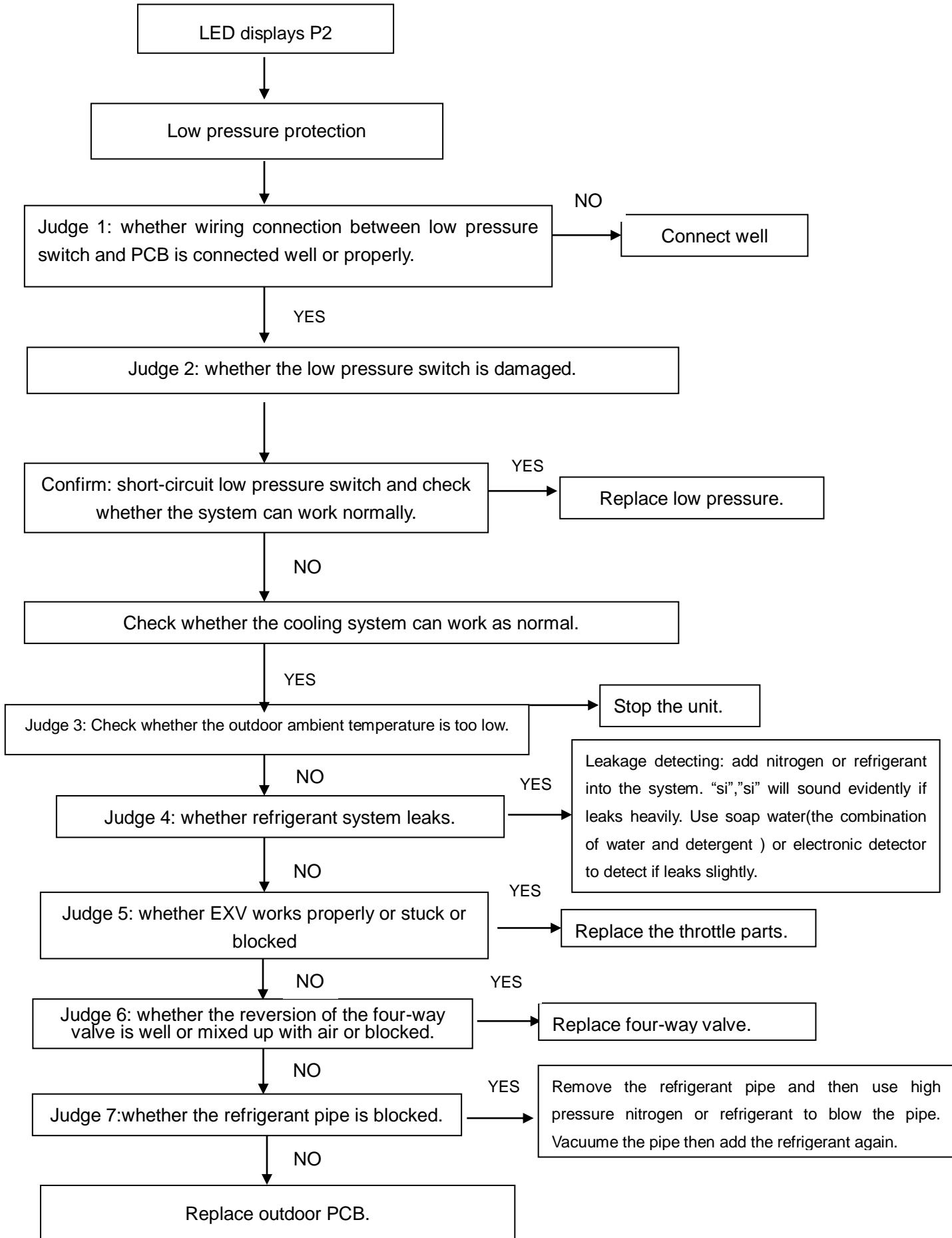
**4.12 Eb malfunction**

**E6 faulty happens twice in 10 minutes continuously. Eb will display. Malfunction checking method is the same as EA.**

**4.13 P1 malfunction: High pressure protection or discharged temperature switch protection.**



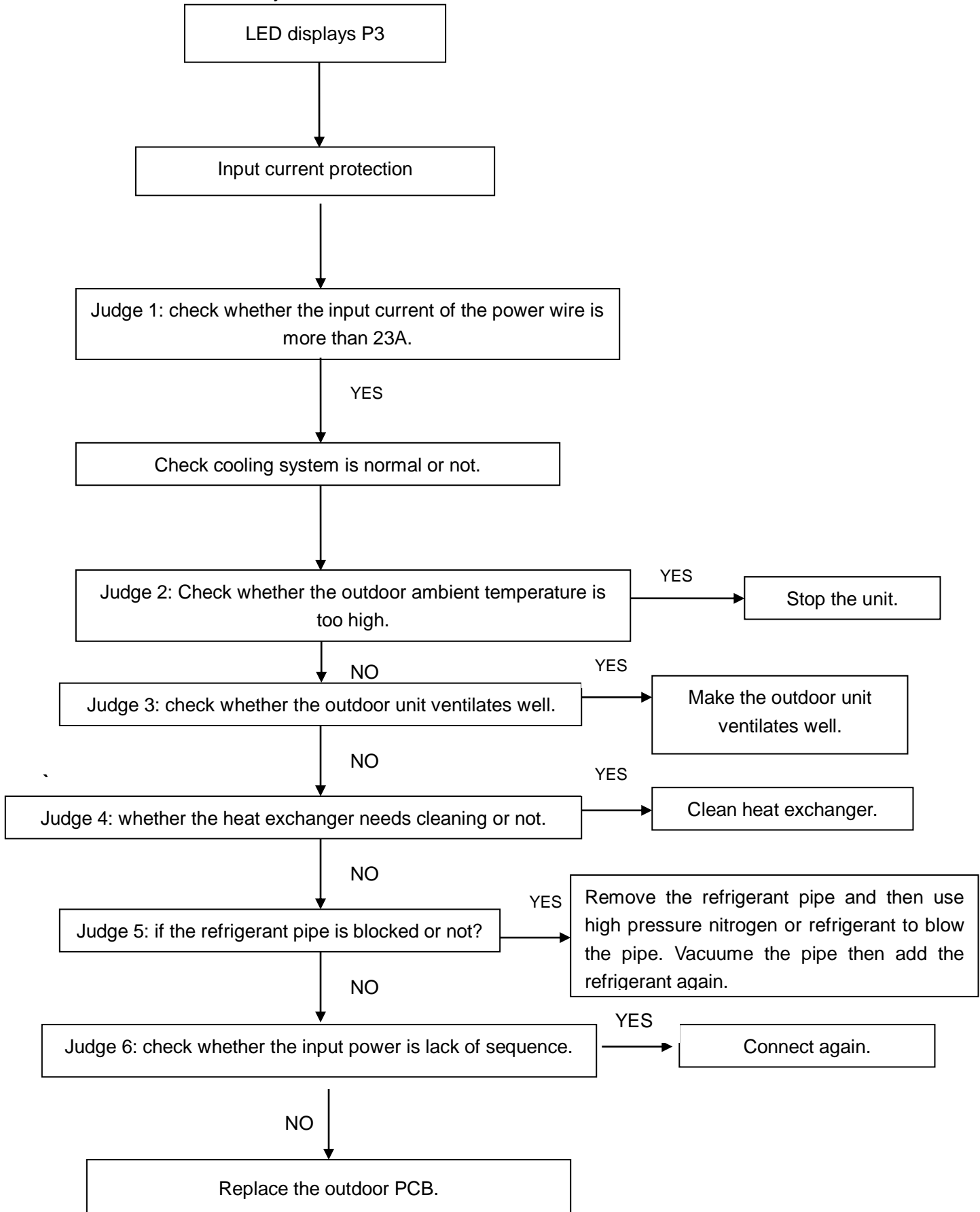
4.14 P2: Low pressure protection



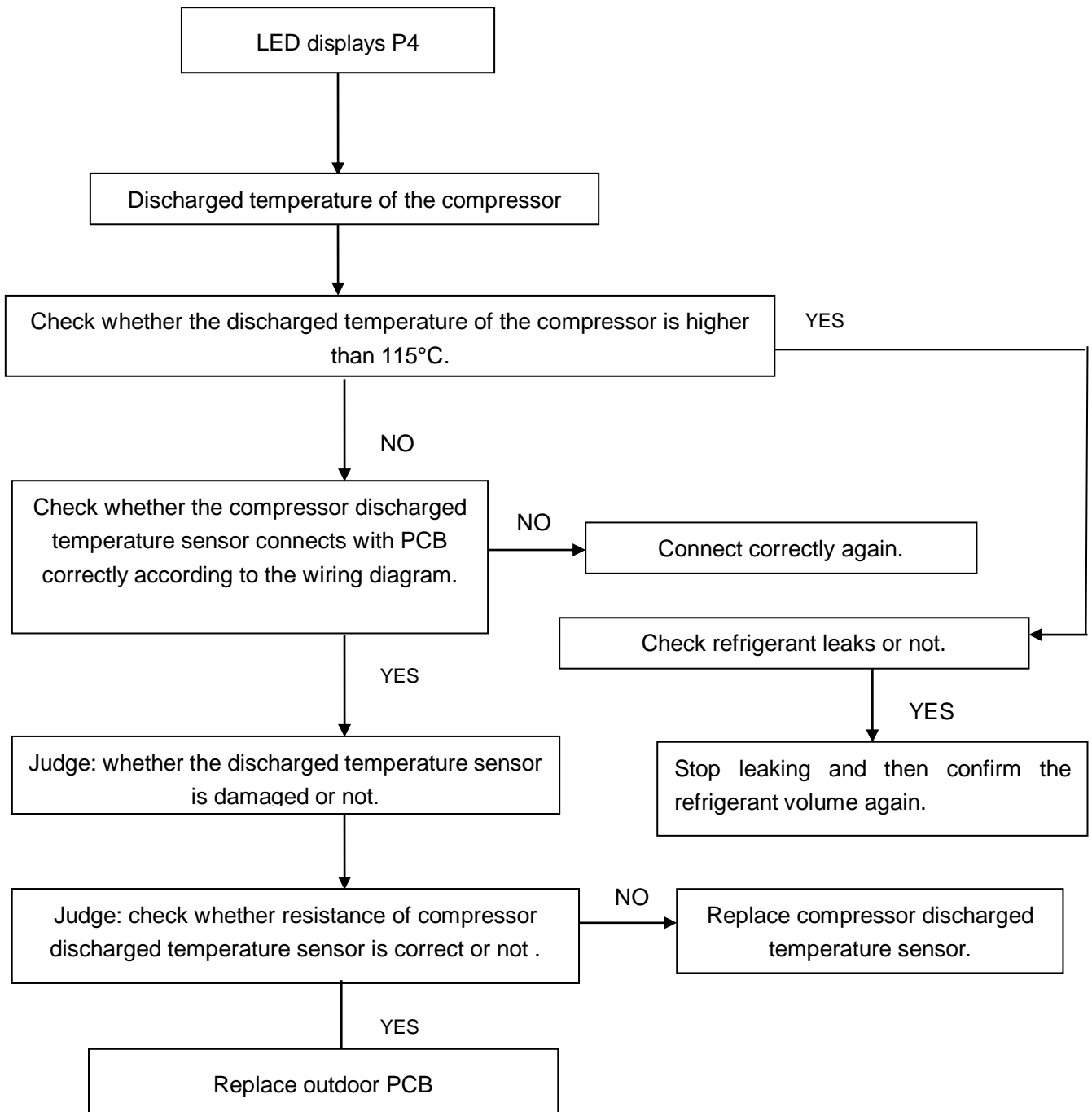


### 4.15 P3: Input current protection

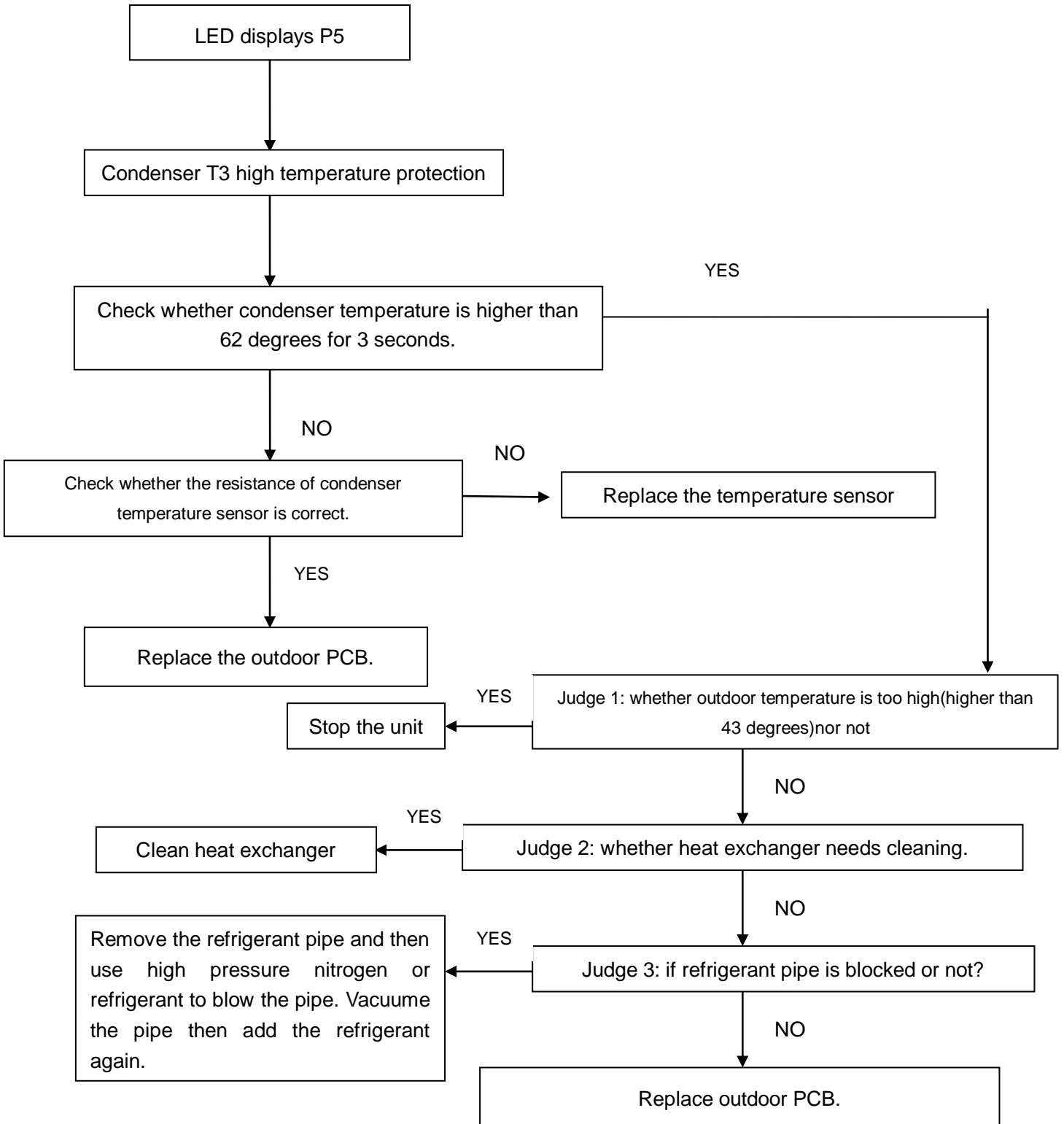
It will protect when input current is more than 23A. It will recover when input current is less than 23A. It will recover automatically.



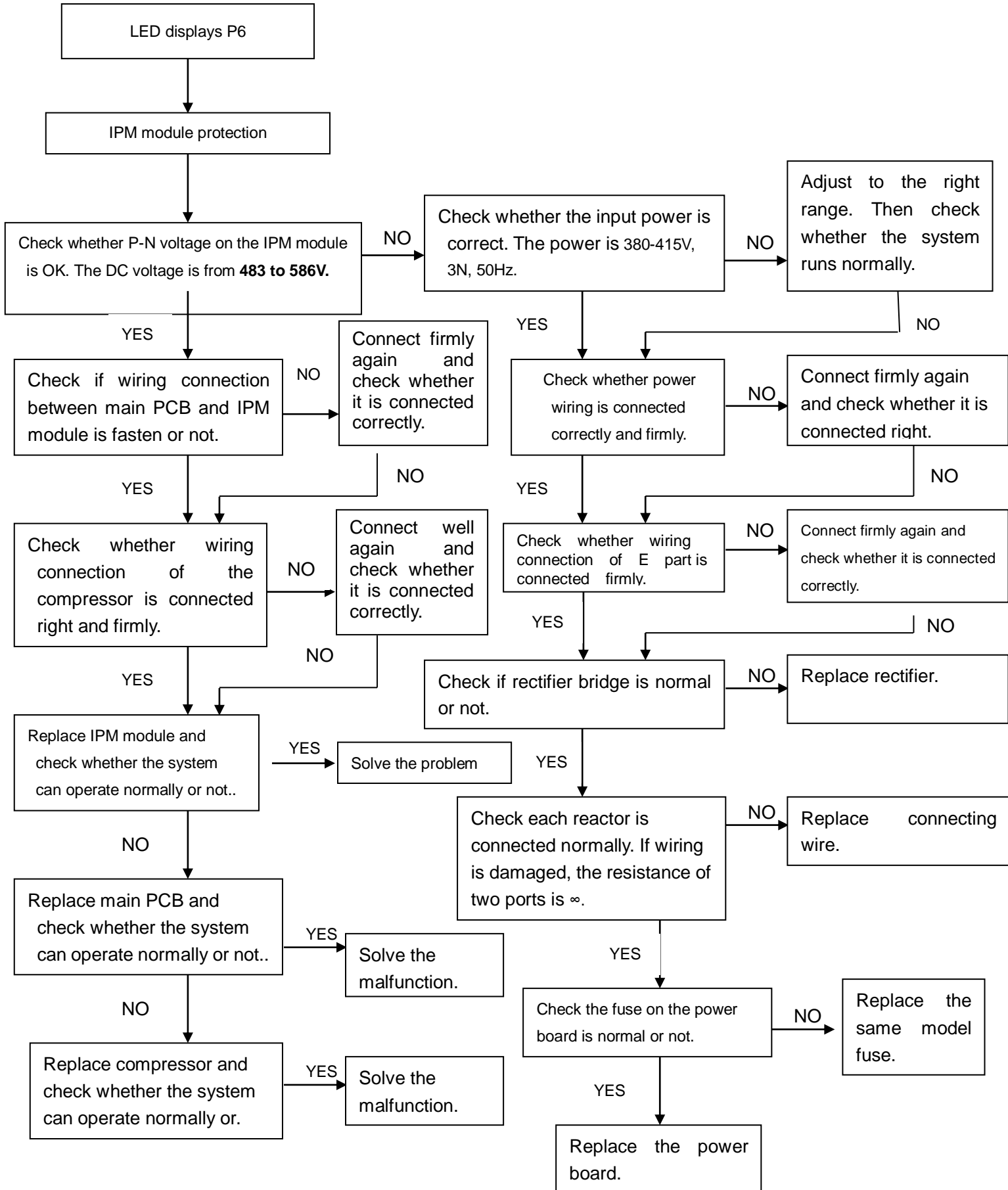
**4.16 P4:**When the discharged temperature of the compressor is higher than 115°C, the unit will stop running. When the discharged temperature of the compressor is lower than 80°C , the unit resumes normal operation automatically.



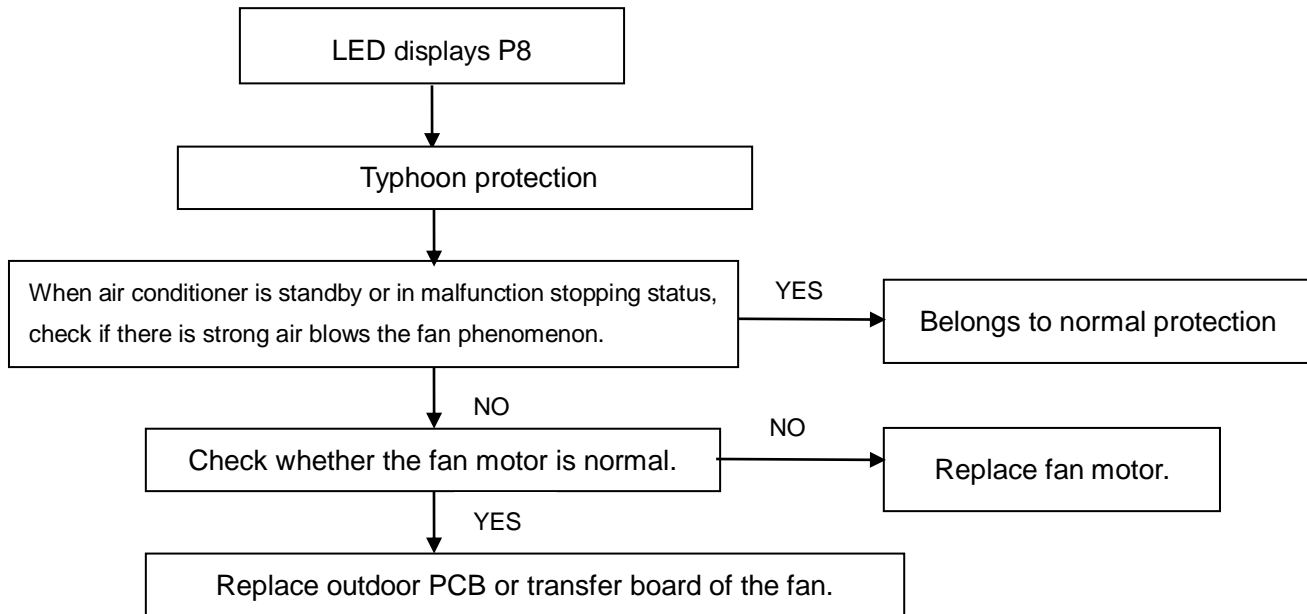
**4.17 P5: When condenser temperature is higher than 62 degrees for 3 seconds, the unit will stop operating. Then when pipe temperature outside is lower than 52 degrees, the unit will resume operate.**



**4.18 P6: Module protection**



### 4.19 P8: Typhoon protection



#### 4.20 PE malfunction

When the middle average temperature of the evaporator is higher than 63 degrees for 50 seconds, the unit will stop operating. When pipe temperature is lower than 50 degrees, the unit will resume running.

