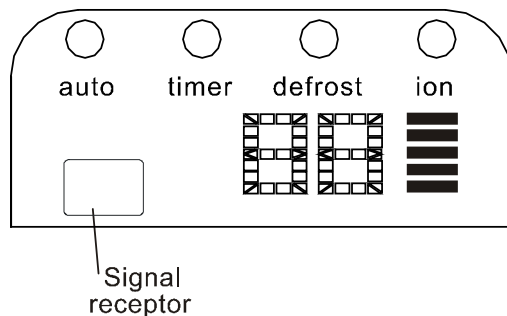
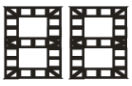



## 7. Troubleshooting

### 7.1 Display Function



<b>AUTO indication lamp</b>	Lights up during the auto operation.
<b>TIMER indication lamp</b>	Lights up during Timer operation.
<b>DEFROST indication lamp(For cooling &amp; heating models only):</b>	Lights up when the air conditioner starts defrosting automatically or when the warm air control feature is activated in heating operation.
<b>Ion indication</b>	Illuminate when Ionizer/Plasma function is activated
	DIGITAL DISPLAY: Displays the current setting temperature and malfunction/protection code when the air conditioner is in operation.
	Frequency display: This display is separated into five zones. The zones illuminate based on the compressor current frequency. For example, higher frequency will illuminate more zones.

## 7.2 Indoor Unit Error Display

Display	Failure
E0	Indoor EEPROM malfunction
E1	Indoor/ outdoor units communication error
E2	Zero-crossing signal error
E3	Indoor fan speed has been out of control
E5	Open circuit or short circuit of outdoor temperature sensor or outdoor EEPROM malfunction
E6	Open circuit or short circuit of T1 or T2 temperature sensor
E7	Outdoor fan speed has been out of control
P0	IPM module or IGBT over-strong current protection
P1	Voltage protection
P2	Temperature protection of compressor top
P3	Outdoor temperature is lower than -15°C ( optional function )
P4	Inverter compressor drive protection
P5	Mode conflict

### Note

P3: If the outdoor temperature  $\leq -15\text{ }^{\circ}\text{C}$  for 1 hour, then the machine stops running, the indoor display shows the error code "P3". The unit can still receive remote control signals.

If the outdoor  $\geq -12\text{ }^{\circ}\text{C}$  for 10 minutes, the compressor stops running more than one hour,

Or the outdoor temperature  $\geq 5$  for 10 minutes, then AC will recover to the last mode and fan speed.

## 7.3 Outdoor Unit Error Display

For KSIM20912-H216 - 2G, KSIM30912-H216 - 1G, KSIM330-H219, KSIM40912-H216 - 2G

Display	LED STATUS	IDU Error (KWIL / KWIM)	IDU Error (KWIO)	IDU Error (KDIM)
E0	Outdoor EEPROM malfunction	E5	F4	E6
E2	Communication malfunction between indoor and outdoor units	E1	E1	E2
E3	Communication malfunction between IPM board and outdoor main board	---	---	---
E4	Open or short circuit of outdoor temperature sensor(T3、 T4、 T5、 T2B)	E5	F2	E6
E5	Voltage protection	P1	P1	P0
E6	PFC module protection(Only for KSIM40912-H216 - 2G)	---	---	---
E8	Outdoor fan speed has been out of control(Only for DC fan motor models)	---	F5	---
F1	No A Indoor unit coil outlet temp. sensor or connector of sensor is defective	---	---	---
F2	No B Indoor unit coil outlet temp. sensor or connector of sensor is defective	---	---	---
F3	No C Indoor unit coil outlet temp. sensor or connector of sensor is defective	---	---	---
F4	No D Indoor unit coil outlet temp. sensor or connector of sensor is defective	---	---	---
P0	Temperature protection of compressor top (Only for KSIM30912-H216 - 1G)	P2	P2	P3
P1	High pressure protection (Only for KSIM40912-H216 - 2G)	---	---	---
P2	Low pressure protection(Only for KSIM40912-H216 - 2G)	---	---	---
P3	Current protection of compressor	---	---	---
P4	Temperature protection of compressor discharge	---	---	---
P5	High temperature protection of condenser	---	---	---
P6	IPM module protection	P0	P0	E5

**For KSIM20912-H216 - 1G, M3OC-27HRDN1-M, KSIM40912-H216 - 1G**

<b>Display digital tube</b>	<b>LED STATUS</b>	<b>IDU Error (KWIL / KWIM)</b>	<b>IDU Error KDIM</b>
E0	Outdoor EEPROM malfunction	E5	E6
E1	No A Indoor unit coil outlet temp. sensor or connector of sensor is defective	---	---
E2	No B Indoor unit coil outlet temp. sensor or connector of sensor is defective	---	---
E3	No C Indoor unit coil outlet temp. sensor or connector of sensor is defective	---	---
E6	No D Indoor unit coil outlet temp. sensor or connector of sensor is defective	---	---
E4	Open or short circuit of outdoor temperature sensor(T4)	E5	E6
E5	Voltage protection	P1	P0
E7	Communication malfunction between IPM board and outdoor main board	---	---
P0	Temperature protection of compressor discharge (Temperature protection of compressor top(only for KSIM20912-H216 - 1G&M3OC-27HRDN1-M) )	P2	P3
P1	High pressure protection (Only for KSIM40912-H216 - 1G)	---	---
P2	Low pressure protection(Only for KSIM40912-H216 - 1G)	---	---
P3	Current protection of compressor	---	---
P4	IPM module protection	P0	E5
P6	High temperature protection of condenser	---	---
P7	Inverter compressor drive protection	P4	P4
PF	PFC module protection(Only for KSIM40912-H216 - 1G)	---	---

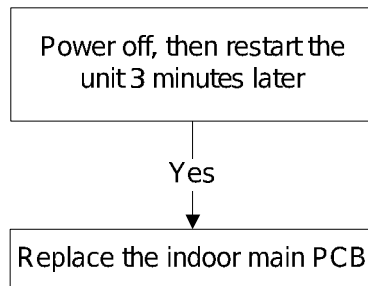
## 7.4 Diagnosis and Solution

### 7.4.1 Indoor unit trouble shooting

#### 7.4.1.1 E0(Indoor EEPROM malfunction) error diagnosis and solution

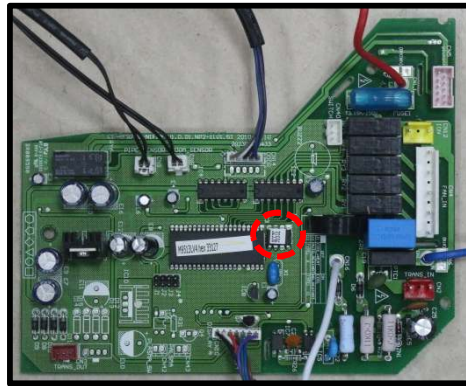
<b>Error Code</b>	<b>E0</b>
<b>Malfunction decision conditions</b>	PCB main chip does not receive feedback from EEPROM chip
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Installation mistake</li><li>• PCB faulty</li></ul>

**Trouble shooting:**



EEPROM: a read-only memory whose contents can be erased and reprogrammed using a pulsed voltage.

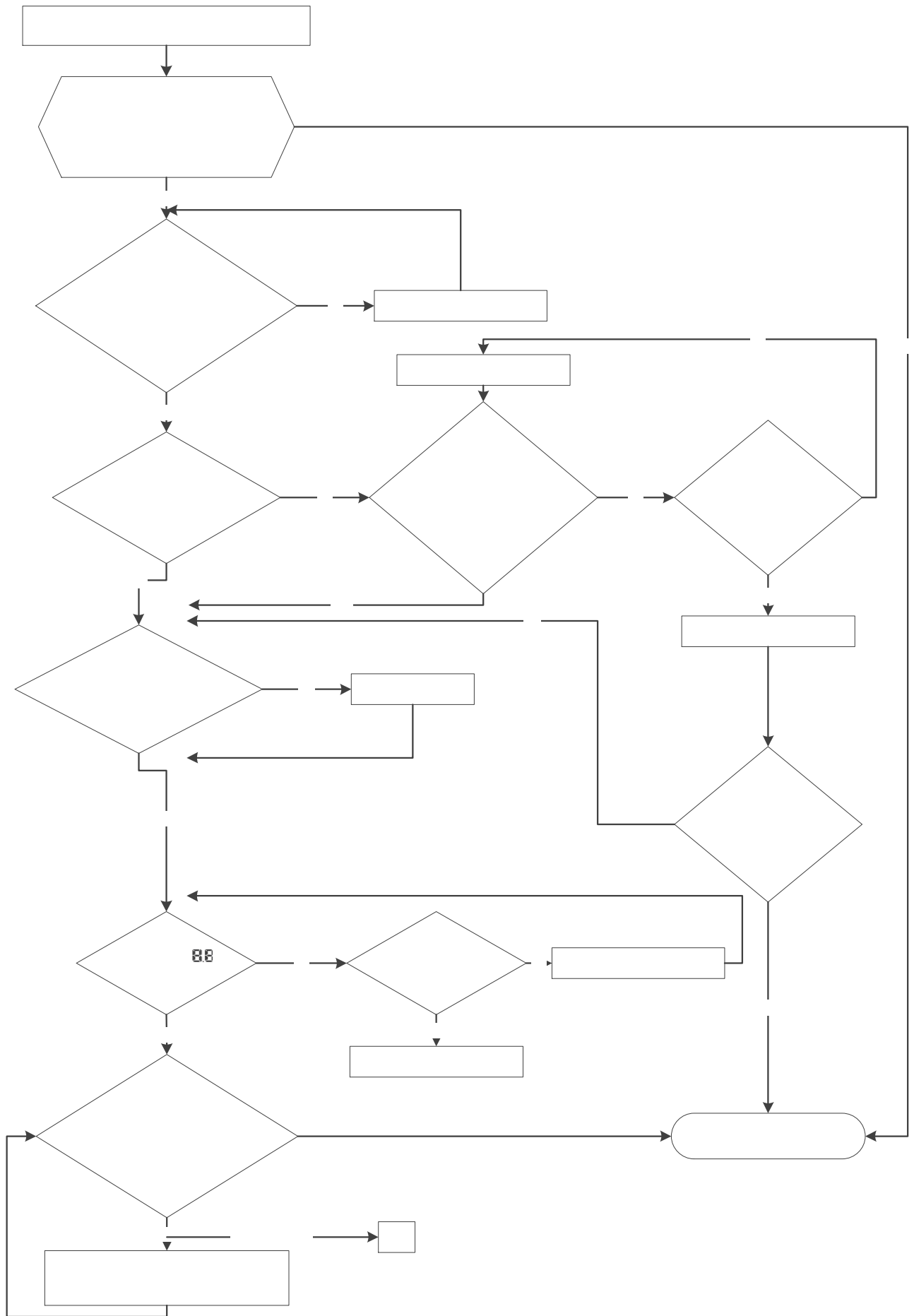
For the location of EEPROM chip, please refer to the below photos.

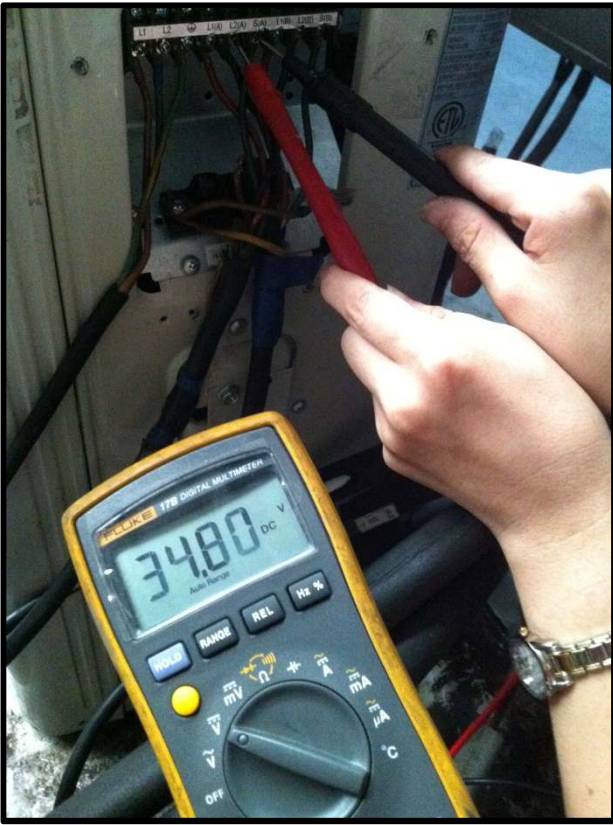


### 7.4.1.2 E1(Communication malfunction between indoor and outdoor units) error diagnosis and solution.

<b>Error Code</b>	<b>E1</b>
<b>Malfunction decision conditions</b>	Indoor unit does not receive the feedback from outdoor unit during 120 seconds.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• Indoor or outdoor PCB faulty</li></ul>

**Trouble shooting:**





Pic 1: Use a multimeter to test the DC voltage between L2 port and S port of outdoor unit. The red pin of multimeter connects with L2 port while the black pin is for S port.

When AC is normal running, the voltage will move alternately between positive value and negative value.

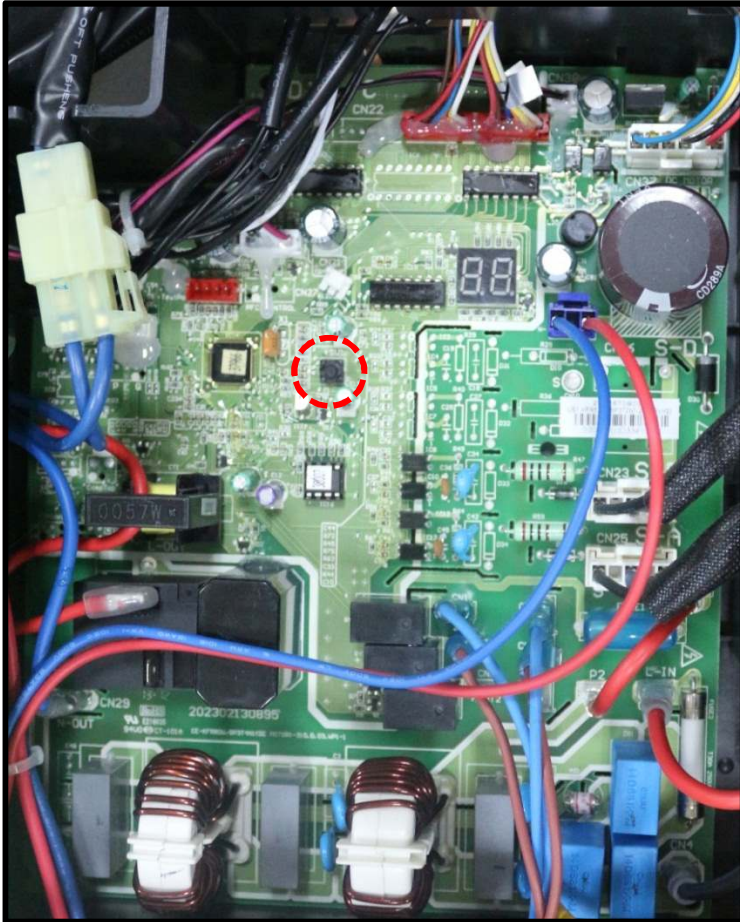


Pic 2: :IPM (for dual/tri/qua-zone)





PIC3 :Main board LED when power on and unit standby.



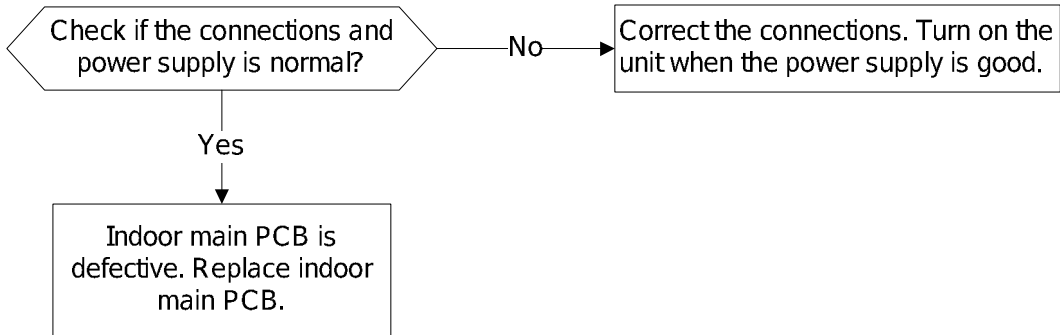
PIC 4: Check point button, press 1 time for check how many indoor units are connected.(for KSIM20912-H216 - 2G, KSIM30912-H216 - 1G, KSIM330-H219, KSIM40912-H216 - 2G)

Check point button, press 18 times for check how many indoor units are connected.  
(for KSIM20912-H216 - 1G, KSIM30912-H216 - 1G, KSIM40912-H216 - 1G)

### 7.4.1.3 E2(zero-crossing signal error) diagnosis and solution.

<b>Error Code</b>	<b>E2</b>
<b>Malfunction decision conditions</b>	When PCB does not receive zero crossing signal feedback for 4 minutes or the zero crossing signal time interval is abnormal.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Connection mistake</li><li>• PCB faulty</li></ul>

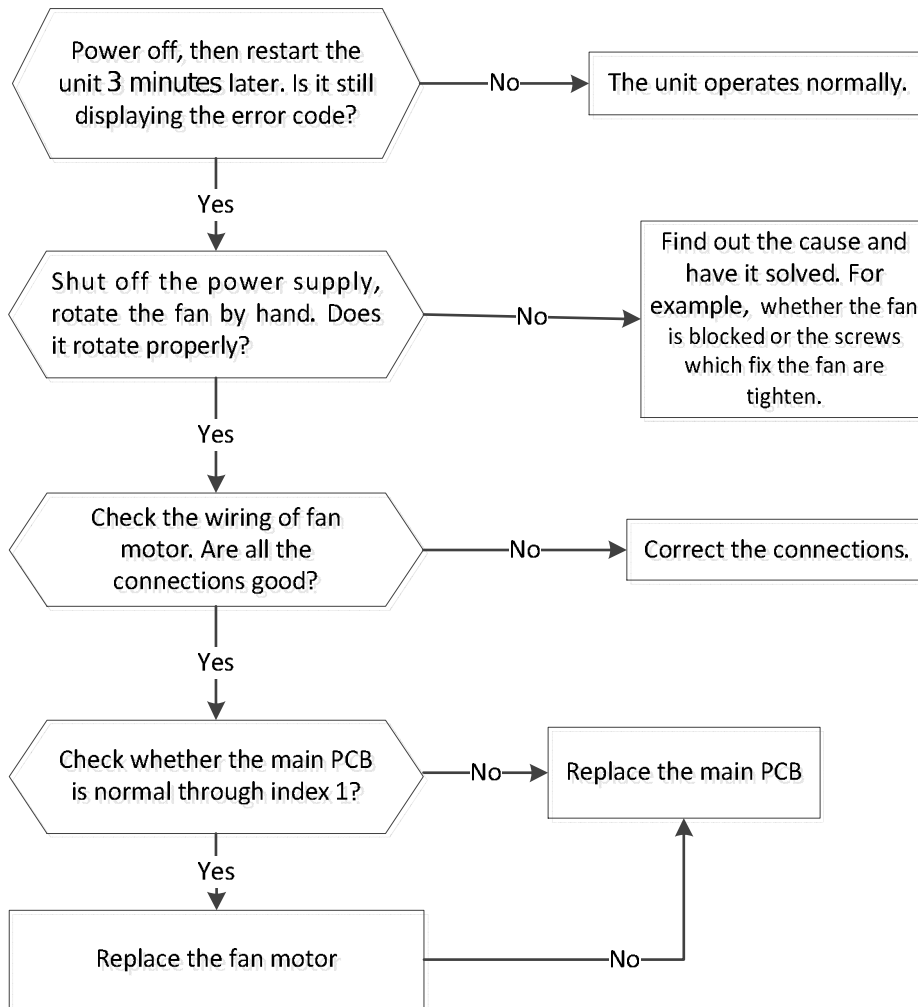
#### Trouble shooting:



### 7.4.1.4 E3(indoor fan speed has been out of control) diagnosis and solution.

<b>Error Code</b>	<b>E3</b>
<b>Malfunction decision conditions</b>	When indoor fan speed keeps too low (300RPM) for certain time, the unit will stop and the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Fan ass'y faulty</li> <li>• Fan motor faulty</li> <li>• PCB faulty</li> </ul>

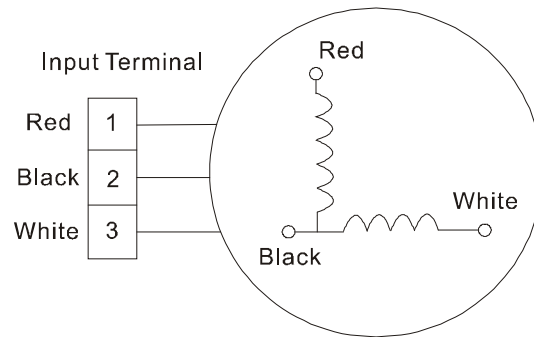
#### Trouble shooting:



Index 1:

1: Indoor AC fan motor

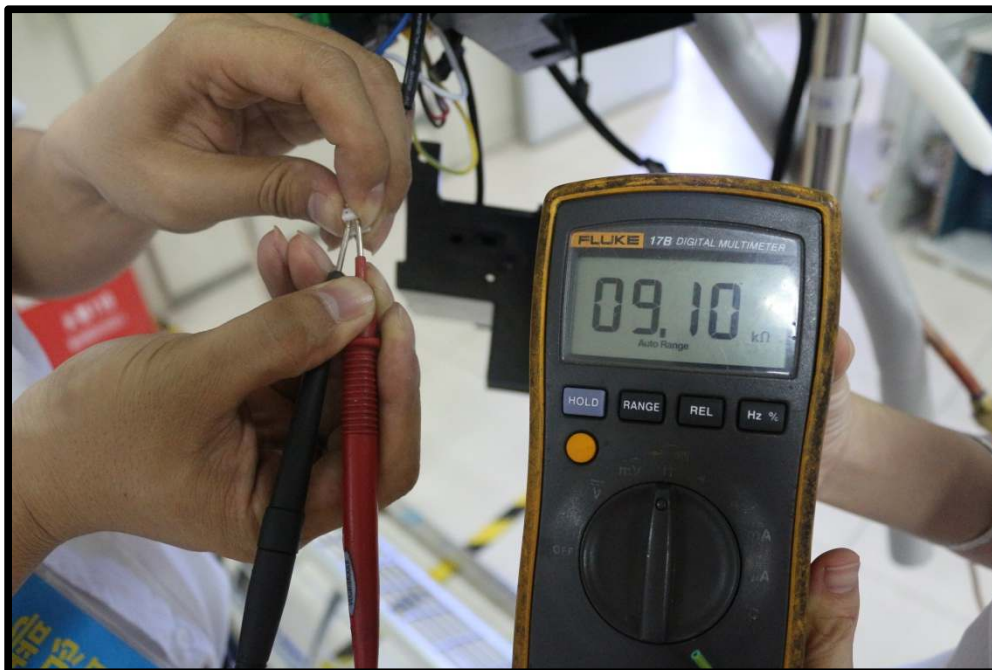
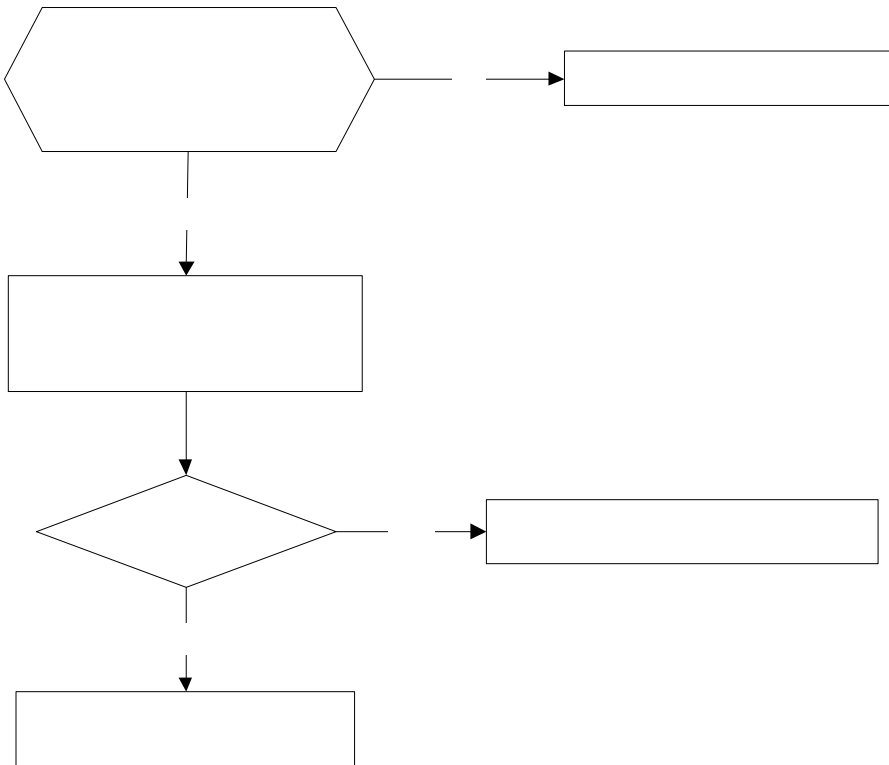
Power on and set the unit running in fan mode at high fan speed. After running for 15 seconds, measure the voltage of pin1 and pin2. If the value of the voltage is less than 100V, the PCB must have problems and need to be replaced.



**7.4.1.5 E5(open or short circuit of outdoor temperature sensor) diagnosis and solution**  
**E6 (open or short circuit of room or indoor temperature sensor) diagnosis and solution.**

Error Code	E5/E6
Malfunction decision conditions	If the sampling voltage is lower than 0.06V or higher than 4.94V, the LED will display the failure.
Supposed causes	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• Sensor faulty</li><li>• PCB faulty</li></ul>

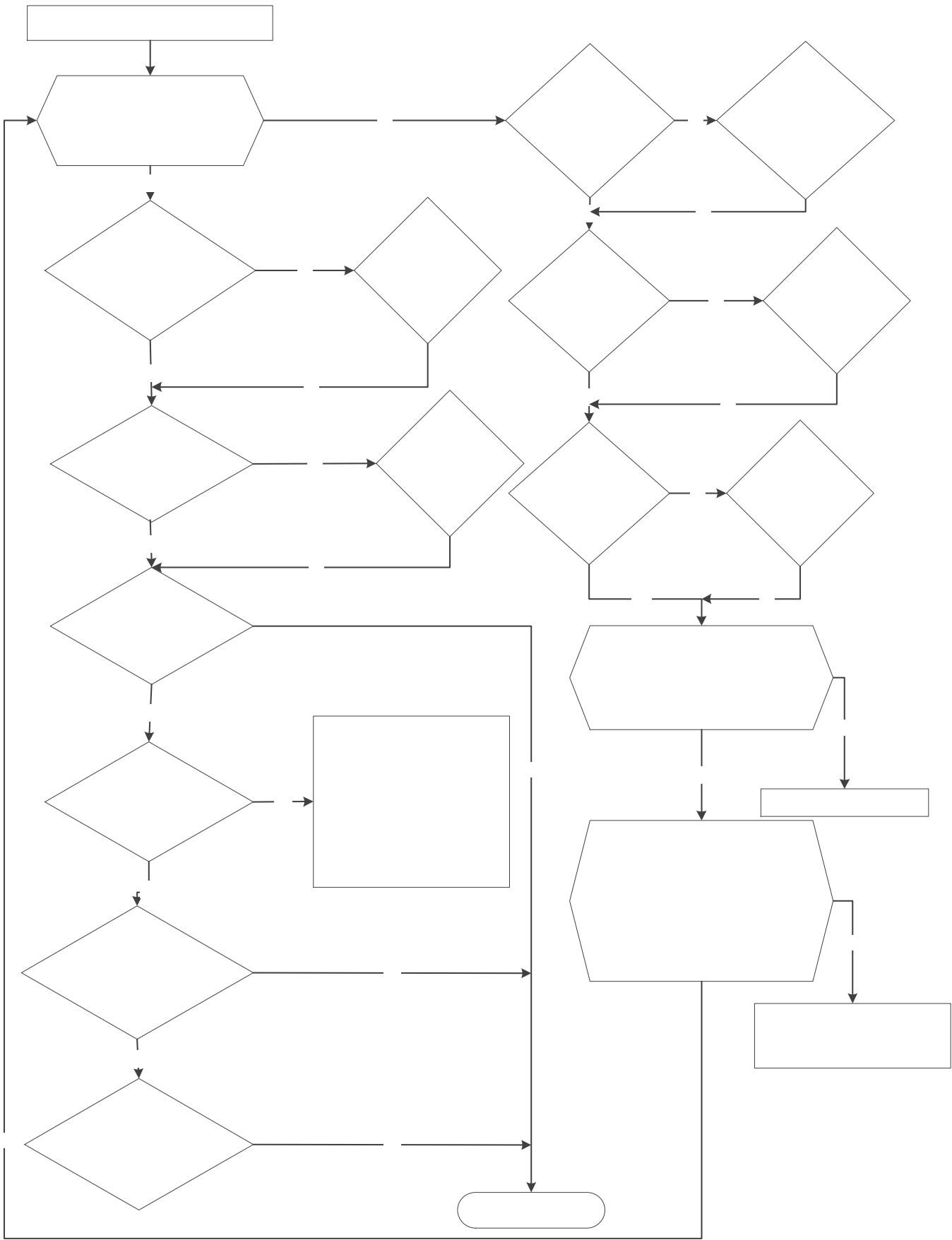
**Trouble shooting:**



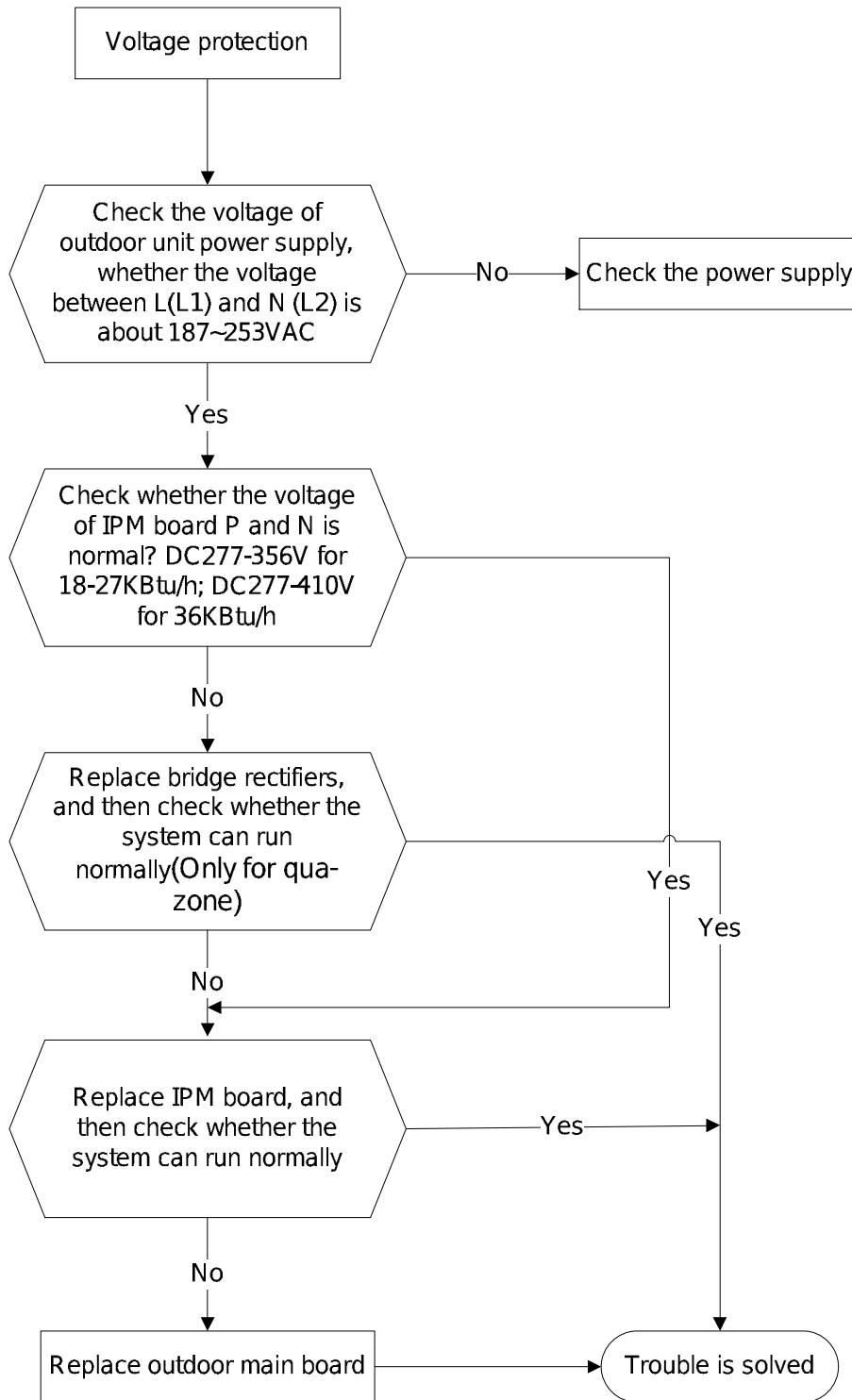
#### 7.4.1.6 P0(IPM module or IGBT over-strong current protection) diagnosis and solution.

<b>Error Code</b>	<b>P6</b>
<b>Malfunction decision conditions</b>	When the voltage signal that IPM send to compressor drive chip is abnormal, the display LED will show “P6” and AC will turn off.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• IPM malfunction</li><li>• Outdoor fan ass’y faulty</li><li>• Compressor malfunction</li><li>• Outdoor PCB faulty</li></ul>

**Trouble shooting:**



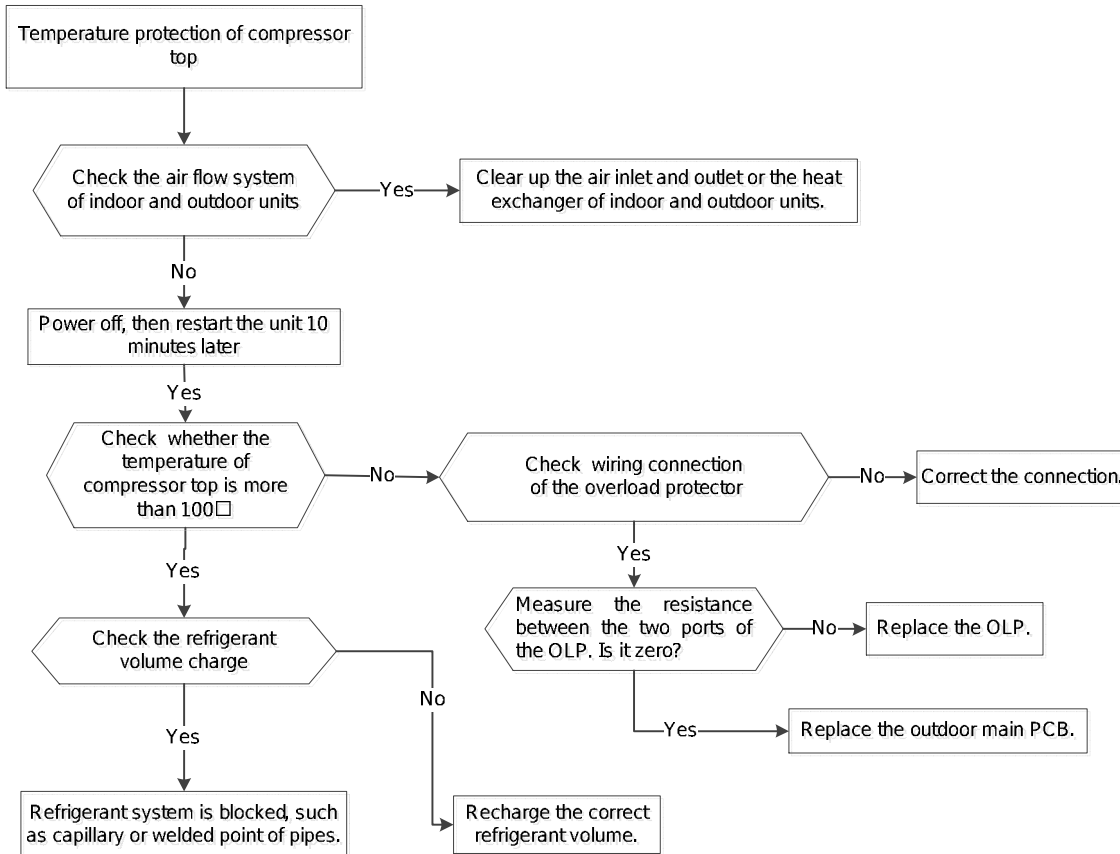
### 7.4.1.7 P1(over voltage or too low voltage protection) diagnosis and solution.





### 7.4.1.8 P2(Temperature protection of compressor top) diagnosis and solution.

Error Code	P2
Malfunction decision conditions	If the sampling voltage is not 5V, the LED will display the failure.
Supposed causes	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Over load protector faulty</li> <li>• System block</li> <li>• Outdoor PCB faulty</li> </ul>



### 7.4.1.9 P4 Inverter compressor drive error diagnosis and solution

The trouble shooting is same with one of IPM module protection(P0).

#### 7.4.1.10 P5: Mode conflict.

<b>Error Code</b>	<b>P5</b>
<b>Malfunction decision conditions</b>	The indoor units cannot work cooling mode and heating at same time. Heating mode has a priority.
<b>Unit action</b>	<ul style="list-style-type: none"> <li>• Suppose Indoor unit A working in cooling mode or fan mode, and indoor unit B is set to heating mode, then A will change to off and B will work in heating mode.</li> <li>• Suppose Indoor unit A working in heating mode, and indoor unit B is set to cooling mode or fan mode, then B will change to stand by and A will be no change.</li> </ul>

	Cooling mode	Heating Mode	Fan	Off
Cooling mode	No	Yes	No	No
Heating Mode	Yes	No	Yes	No
Fan	No	Yes	No	No
Off	No	No	No	No

No: No mode conflict;

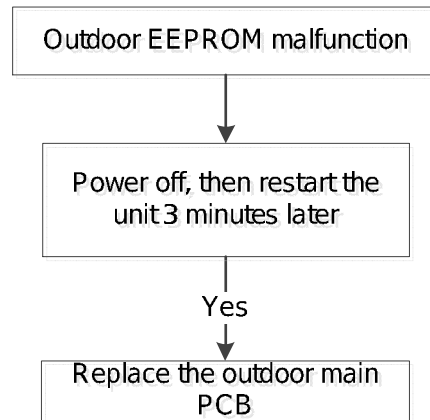
Yes: Mode conflict

## 7.4.2 Outdoor unit trouble shooting (For KSIM20912-H216 - 2G, KSIM218-H221, KSIM30912-H216 - 1G, KSIM330-H219, KSIM40912-H216 - 2G)

### 7.4.2.1 E0(Outdoor EEPROM malfunction) error diagnosis and solution

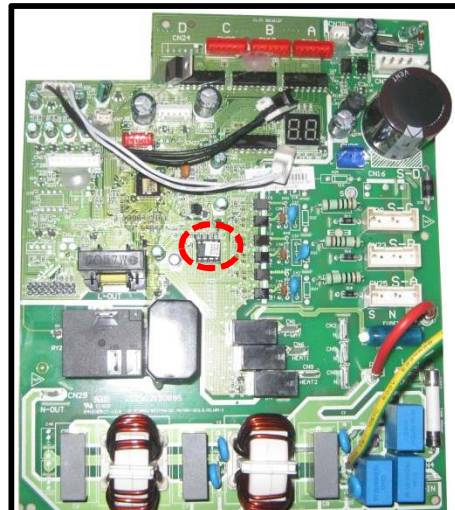
<b>Error Code</b>	<b>E0</b>
<b>Malfunction decision conditions</b>	PCB main chip does not receive feedback from EEPROM chip
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Installation mistake</li><li>• PCB faulty</li></ul>

Trouble shooting:



EEPROM: a read-only memory whose contents can be erased and reprogrammed using a pulsed voltage.

For the location of EEPROM chip, please refer to the below photos.

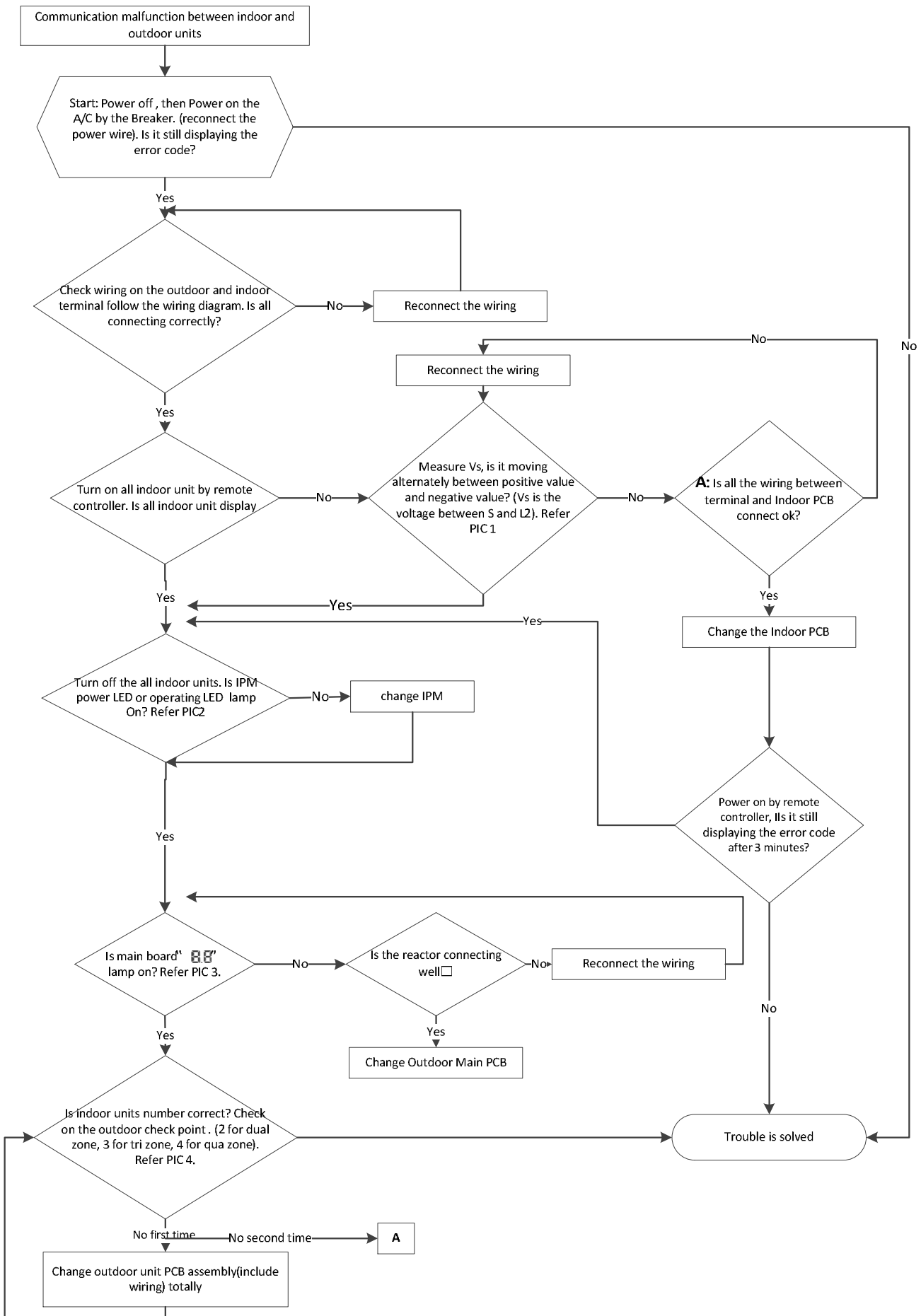


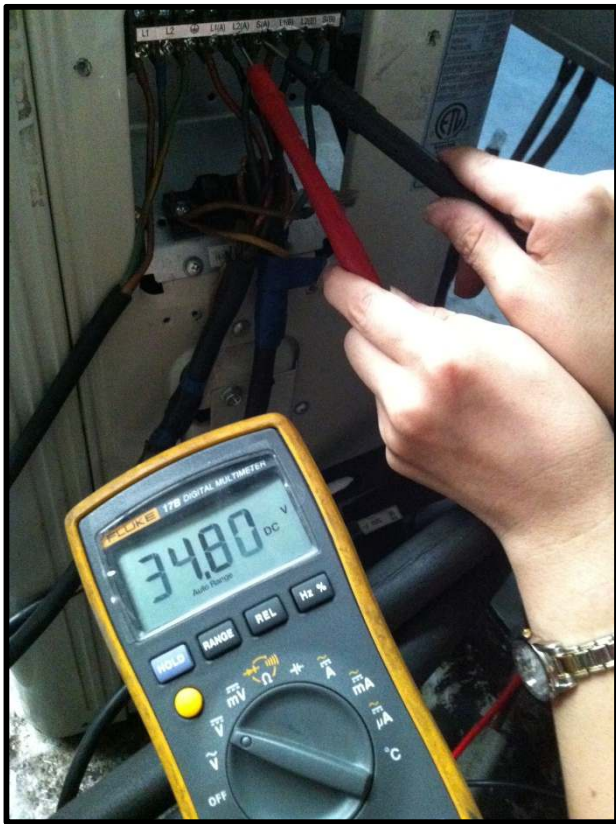
Outdoor PCB(KSIM330-H219)

#### 7.4.2.2 E2(Communication malfunction between indoor and outdoor units) error diagnosis and solution.

<b>Error Code</b>	<b>E2</b>
<b>Malfunction decision conditions</b>	Indoor unit does not receive the feedback from outdoor unit during 120 seconds or outdoor unit does not receive the feedback from any one indoor unit during 180 seconds.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• Indoor or outdoor PCB faulty</li></ul>

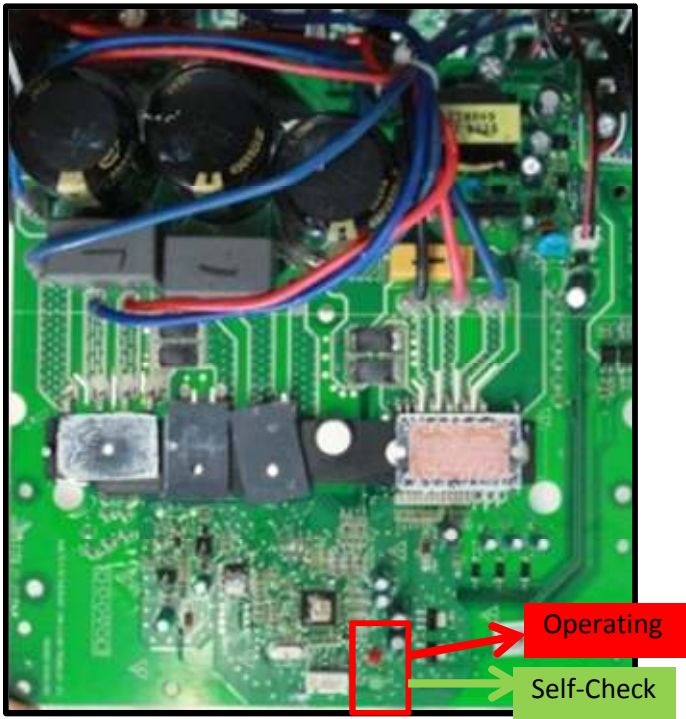
**Trouble shooting:**





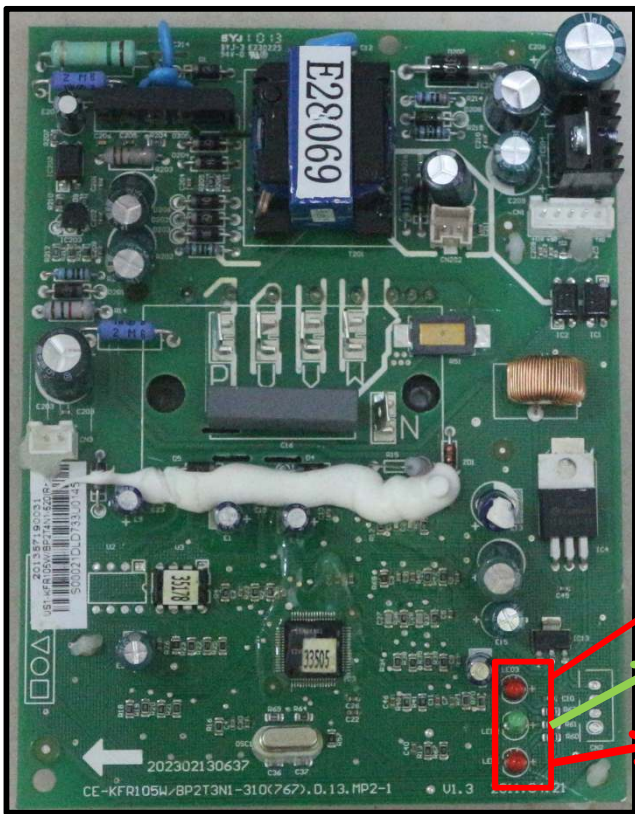
Pic 1: Use a multimeter to test the DC voltage between L2 port and S port of outdoor unit. The red pin of multimeter connects with L2 port while the black pin is for S port.

When AC is normal running, the voltage will move alternately between positive value and negative value.



Pic 2: :IPM (For dual/tri-zone)



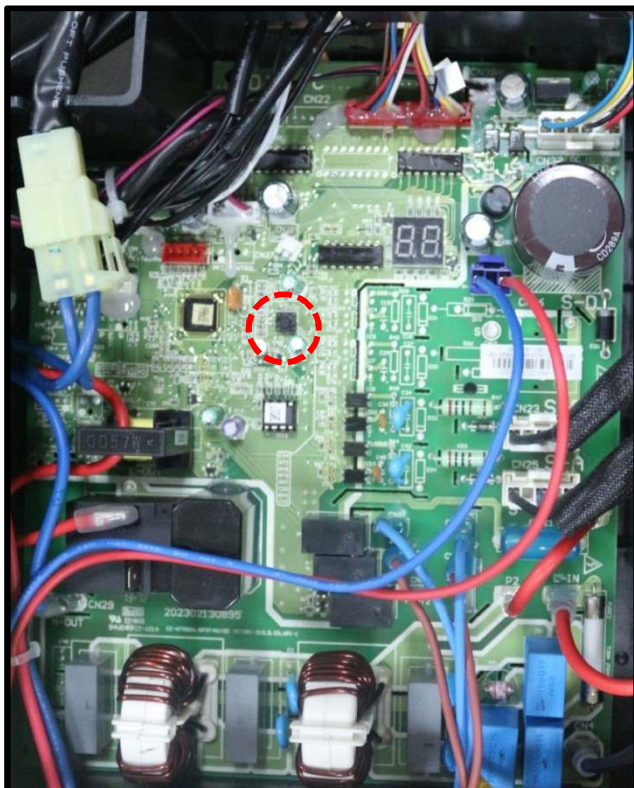


Pic 2: :IPM (For qua-zone)

- Power,
- Self-Check
- Operating



PIC3 :Main board LED when power on and unit standby.

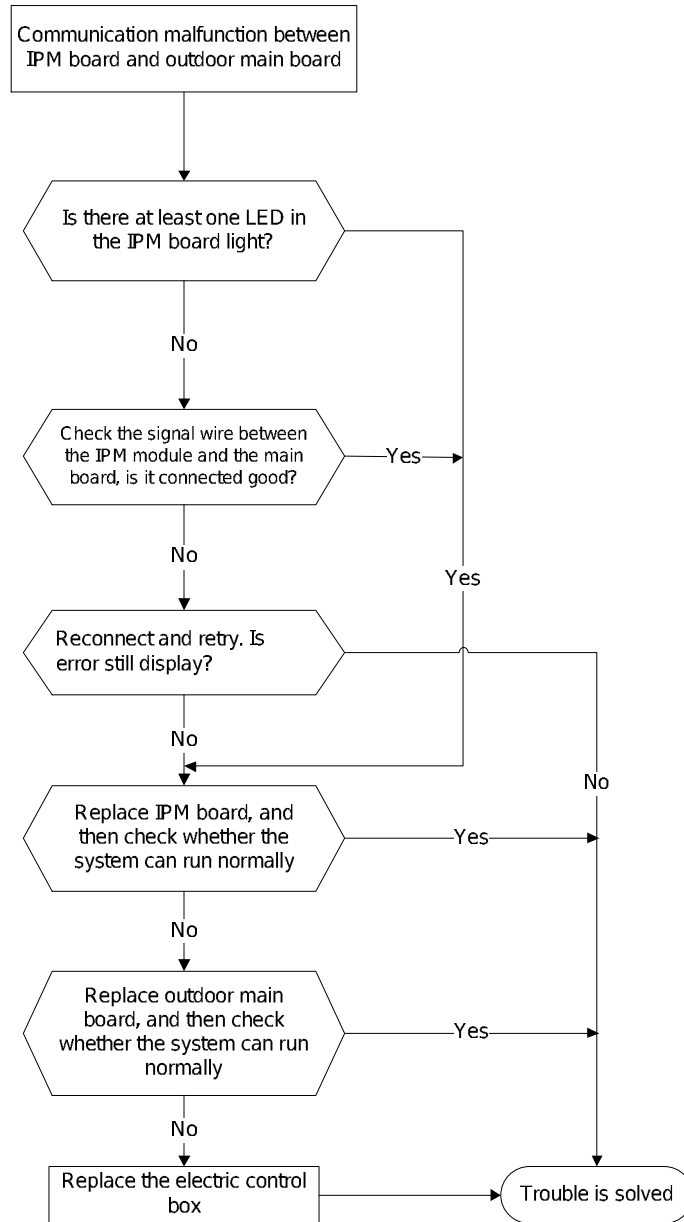


PIC 4: Check point button, press 1 time for check how many indoor units are connected.

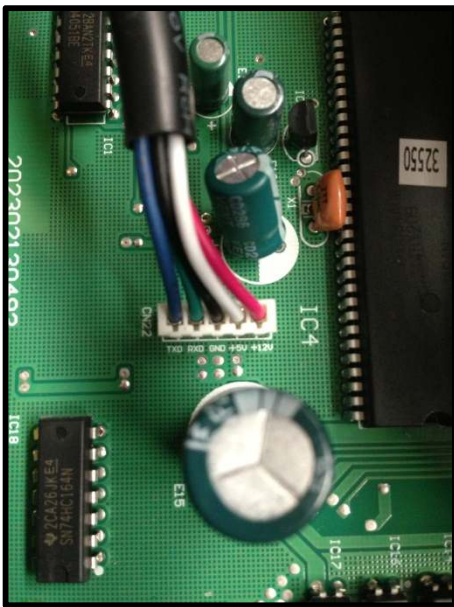
### 7.4.2.3 E3(Communication malfunction between IPM board and outdoor main board) error diagnosis and

<b>Error Code</b>	<b>E3</b>
<b>Malfunction decision conditions</b>	PCB main chip does not receive feedback from IPM module during 60 seconds.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• PCB faulty</li> </ul>

#### Trouble shooting:



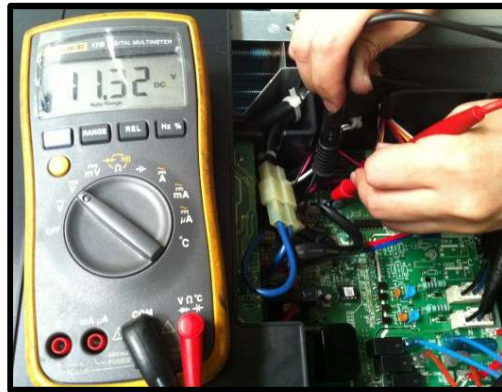
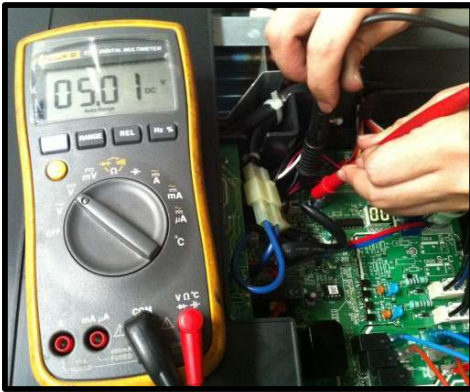




**Remark:**

Use a multimeter to test the DC voltage between black pin and white pin of signal wire. The normal value should be around 5V.

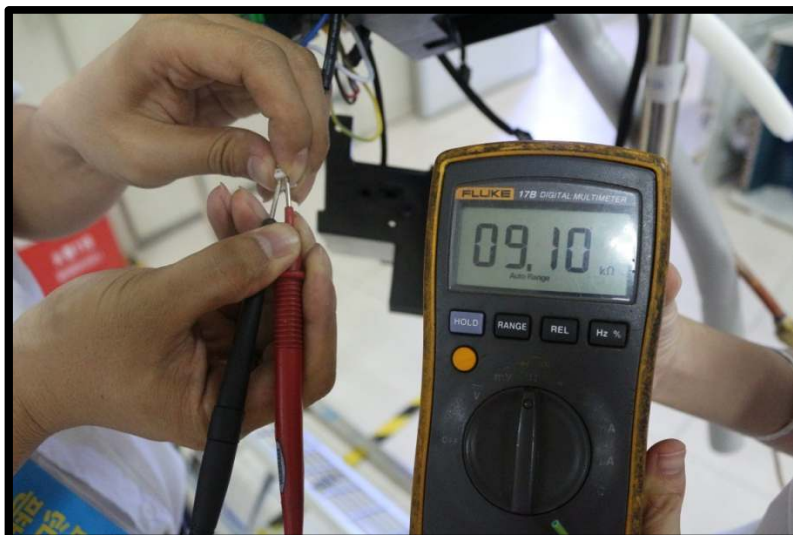
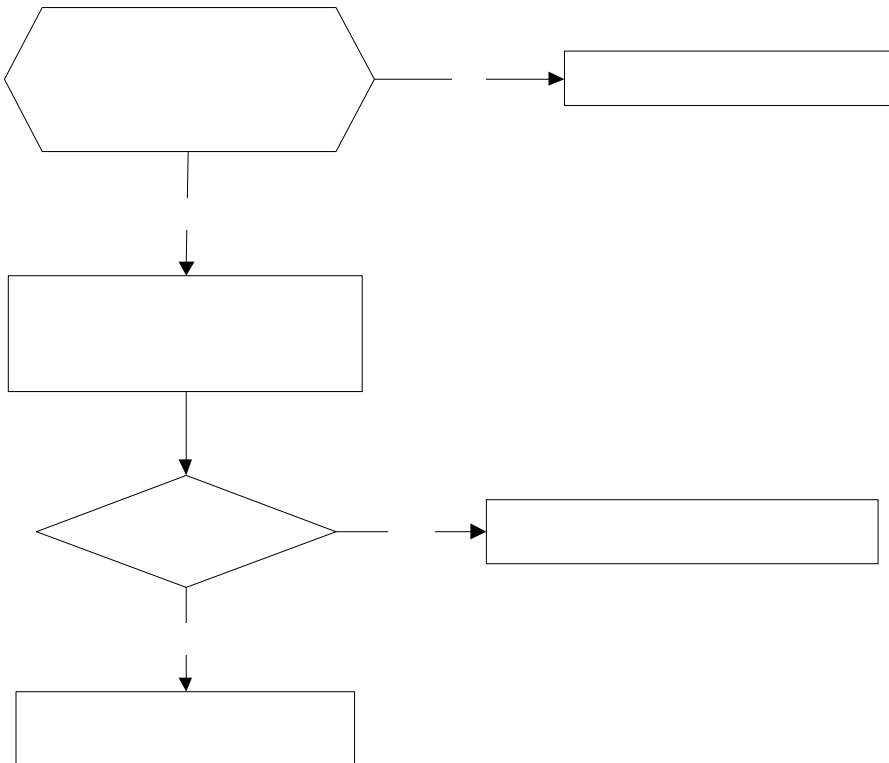
Use a multimeter to test the DC voltage between black pin and red pin of signal wire. The normal value should be around 12V.



**7.4.2.4E4(open or short circuit of outdoor temperature sensor) diagnosis and solution**  
**F1/F2/F3/F4/F5 (open or short circuit of indoor coil temperature sensor) diagnosis and solution.**

<b>Error Code</b>	<b>E4/F1/F2/F3/F4/F5</b>
<b>Malfunction decision conditions</b>	If the sampling voltage is lower than 0.06V or higher than 4.94V, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Sensor faulty</li> <li>• PCB faulty</li> </ul>

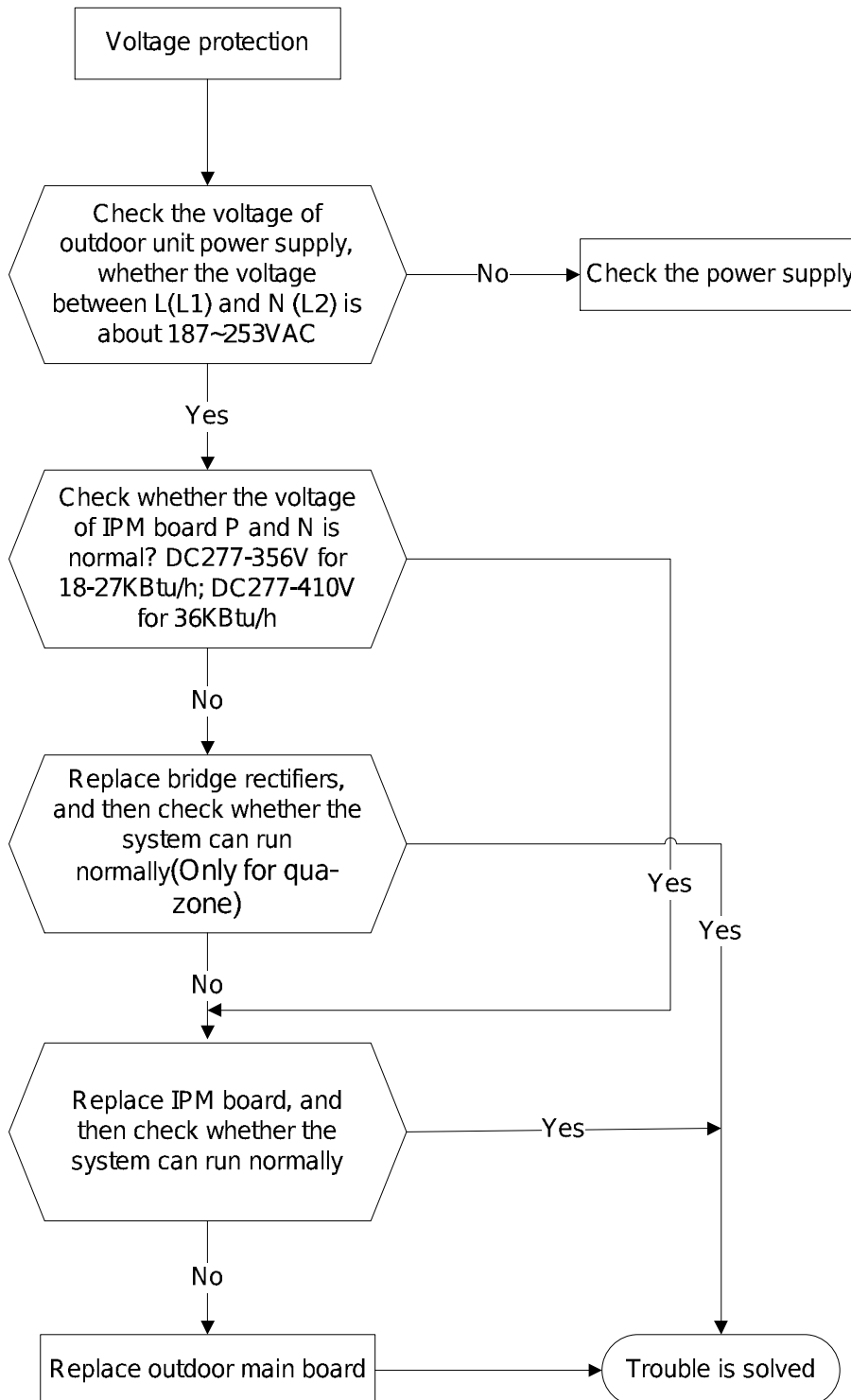
**Trouble shooting:**



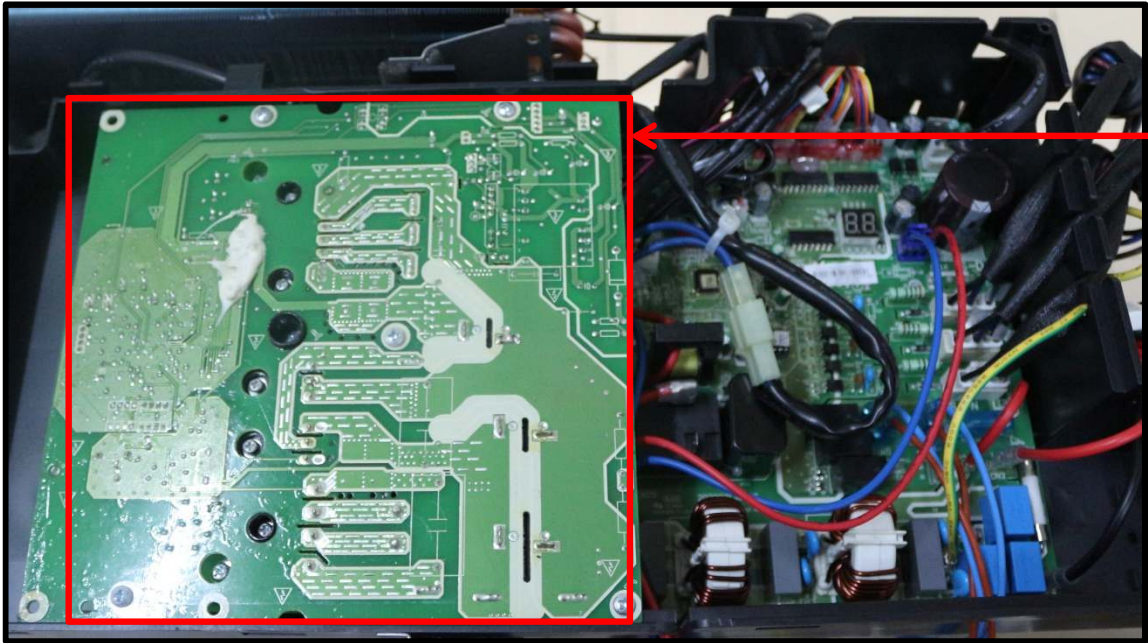
### 7.4.2.5 E5(Voltage protection) error diagnosis and solution.

<b>Error Code</b>	<b>E5</b>
<b>Malfunction decision conditions</b>	An abnormal voltage rise or drop is detected by checking the specified voltage detection circuit.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Power supply problems.</li> <li>• System leakage or block</li> <li>• PCB faulty</li> </ul>

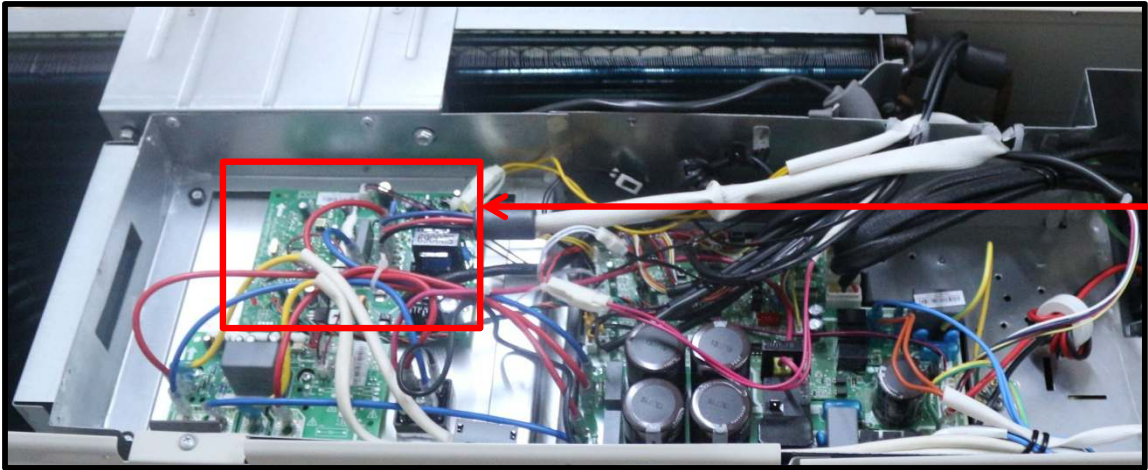
#### Trouble shooting:







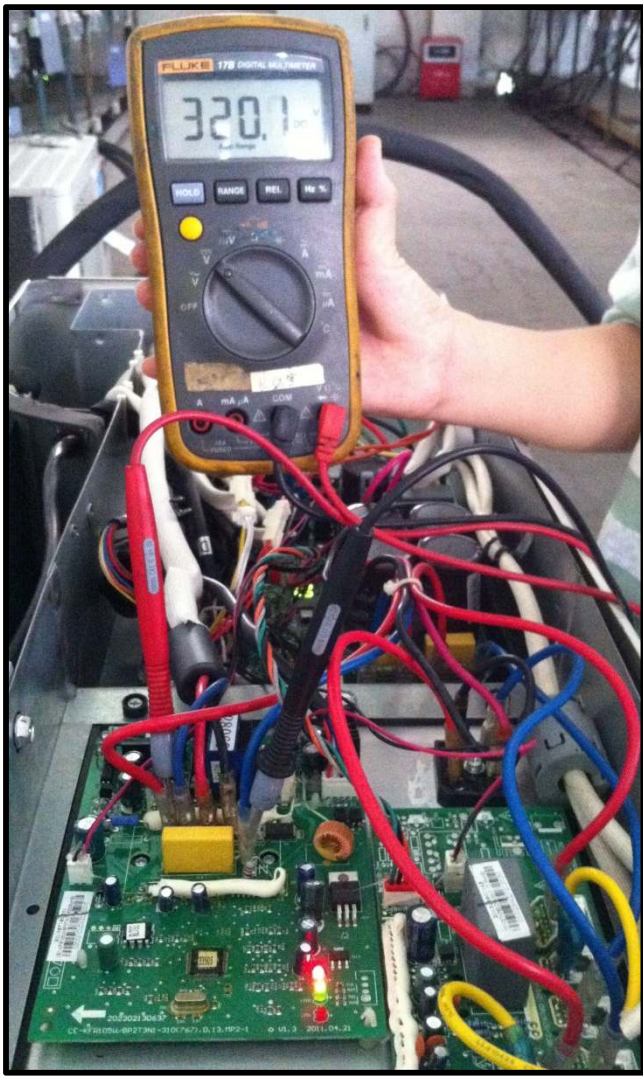
IPM (for dual/tri-zone)



IPM (for qua-zone)



P-N (for dual/tri-zone)

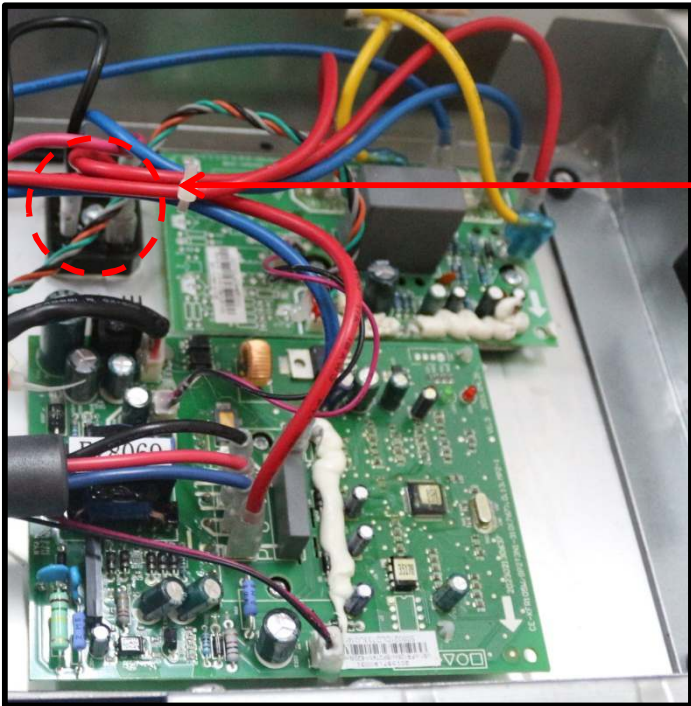


P-N (for qua-zone)

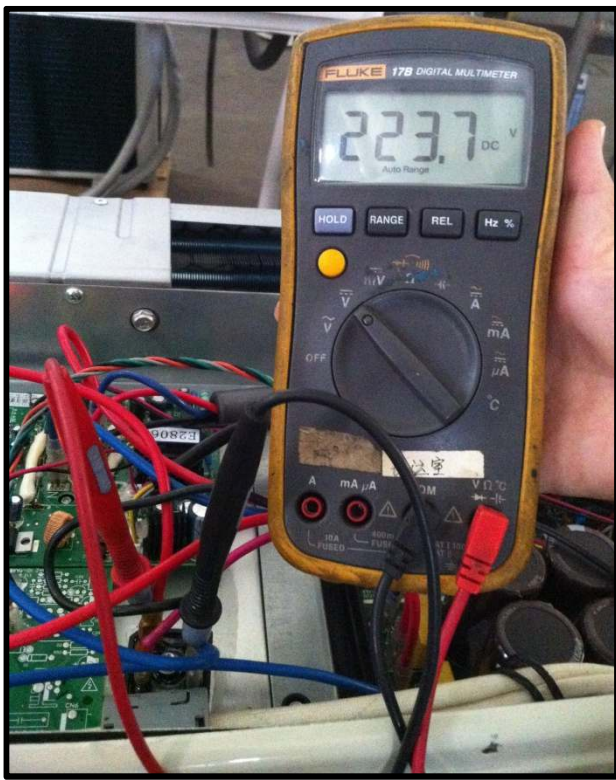




bridge rectifier  
(for dual/tri-zone)



bridge rectifier  
(for qua-zone)



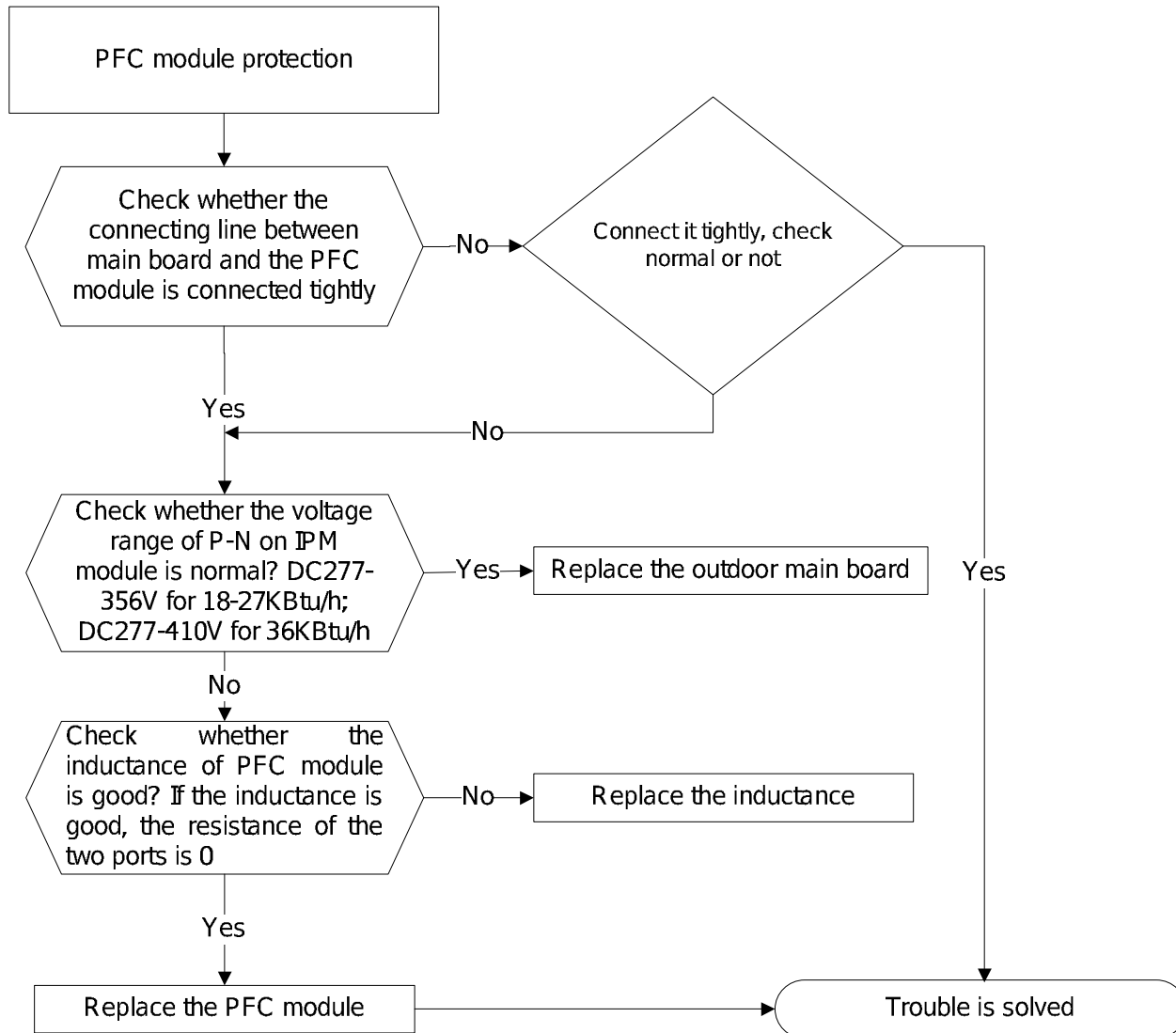
**Remark:**

Measure the DC voltage between + and - port. The normal value should be 190V~250V.

### 7.4.2.6 E6(PFC module protection) error diagnosis and solution. (Only for KSIM40912-H216 - 2G)

<b>Error Code</b>	<b>E6</b>
<b>Malfunction decision conditions</b>	When the voltage signal that PFC sends to main control board is abnormal, the display LED will show “E6” and AC will turn off.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Outdoor PCB faulty</li> <li>• Inductance of PFC module faulty</li> <li>• PFC module malfunction</li> </ul>

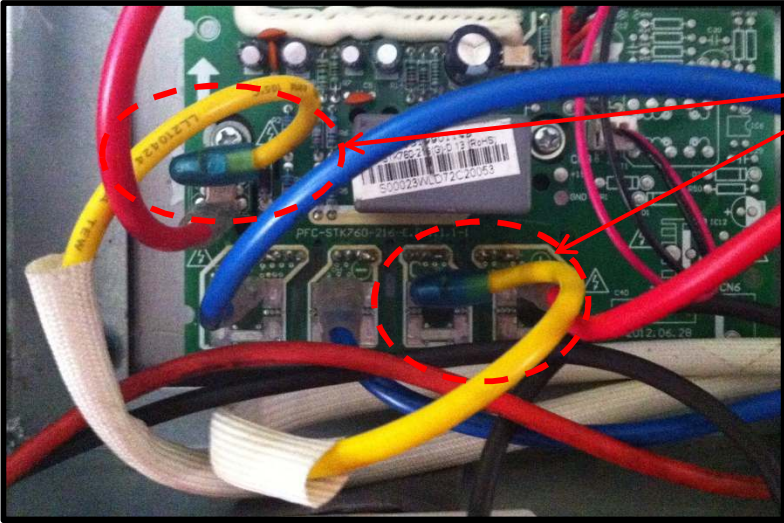
#### Trouble shooting:



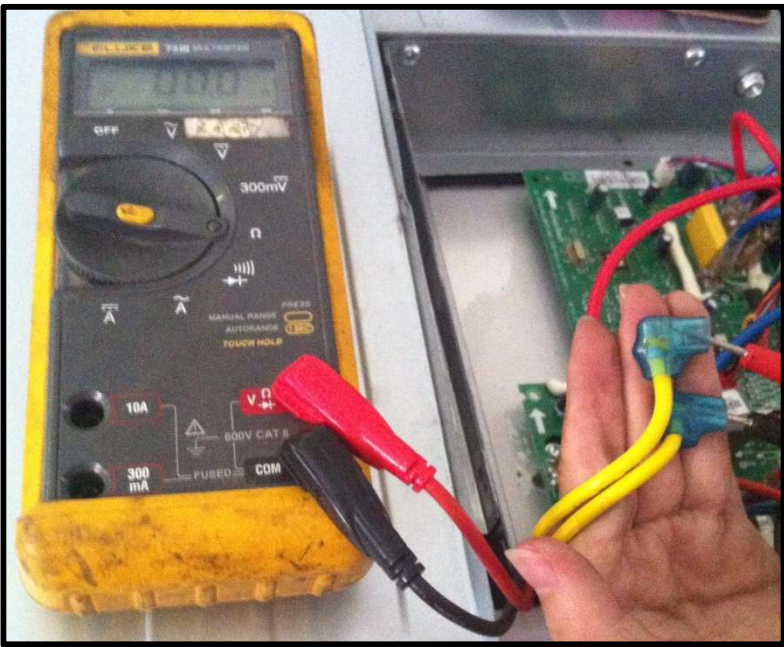




Inductance



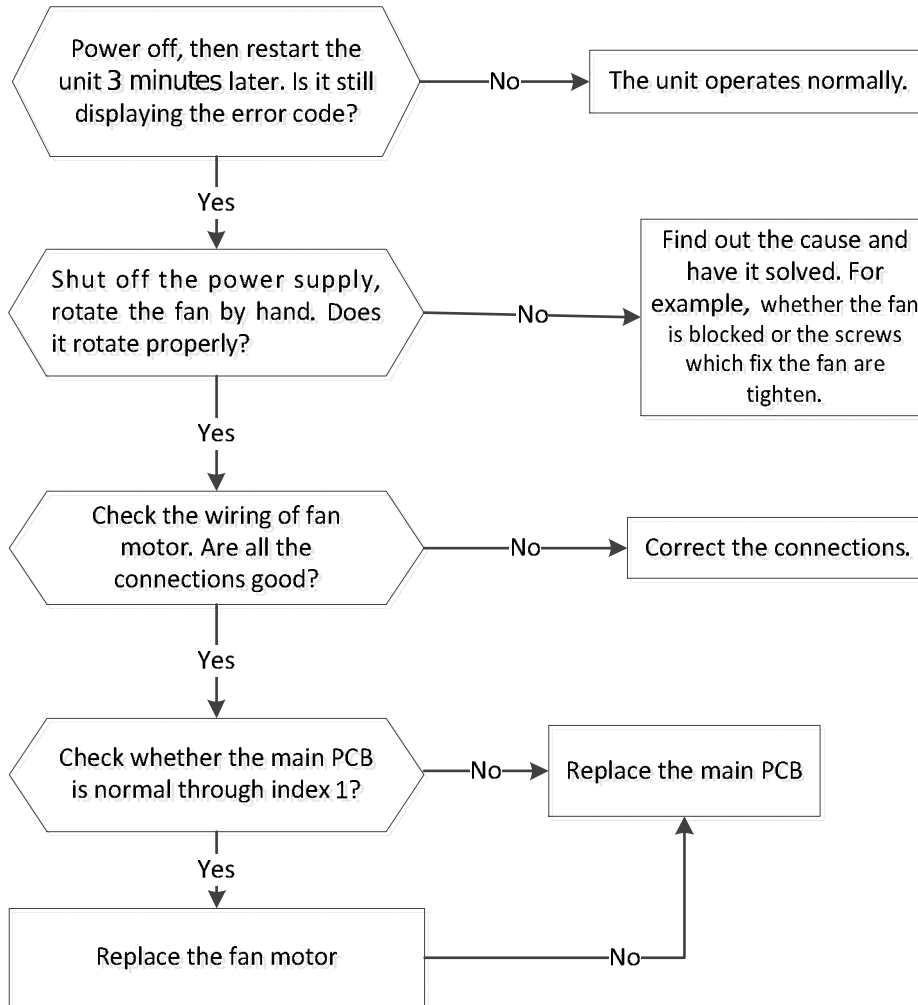
Two ports of the inductance



7.4.2.7 E8(Outdoor fan speed has been out of control) diagnosis and solution(Only for DC fan motor models).

<b>Error Code</b>	<b>E8</b>
<b>Malfunction decision conditions</b>	When outdoor fan speed keeps too low (300RPM) or too high(2400RPM) for certain time, the unit will stop and the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Fan ass'y faulty</li> <li>• Fan motor faulty</li> <li>• PCB faulty</li> </ul>

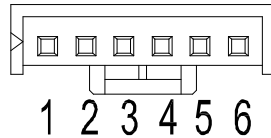
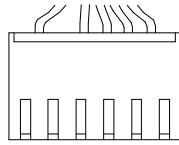
**Trouble shooting:**



## Index 1:

### 1. DC fan motor(control chip is inside fan motor)

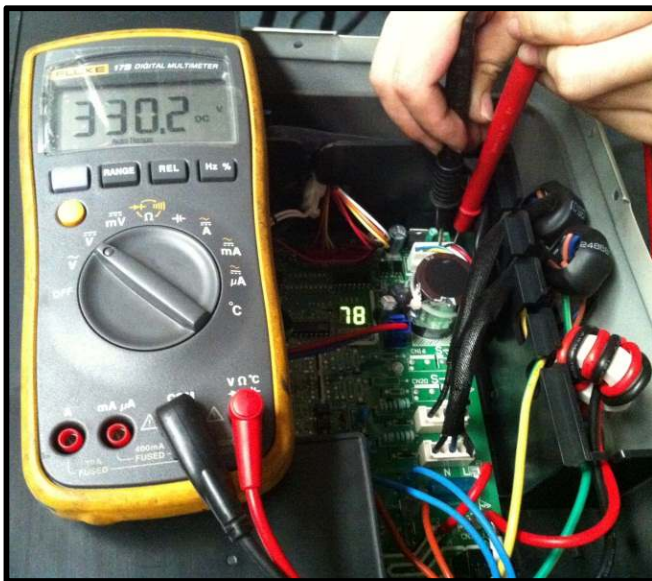
Power on and when the unit is in standby, measure the voltage of pin1-pin3, pin4-pin3 in fan motor connector. If the value of the voltage is not in the range showing in below table, the PCB must have problems and need to be replaced.



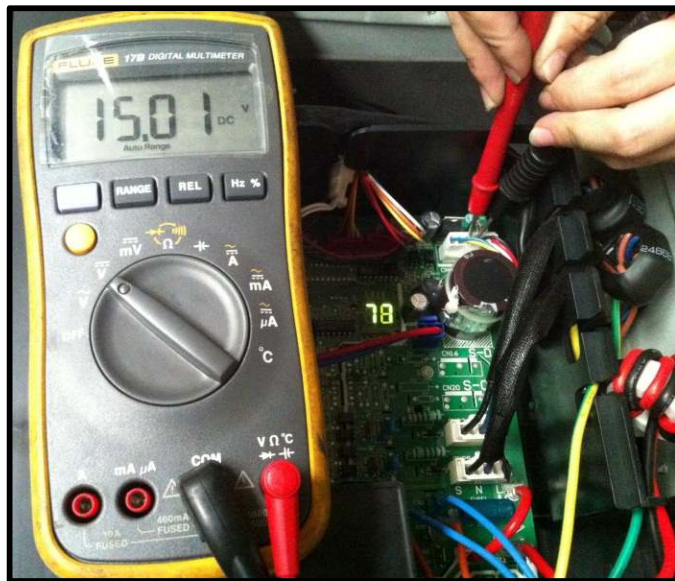
### DC motor voltage input and output

NO.	Color	Signal	Voltage
1	Red	Vs/Vm	200~380V
2	---	---	---
3	Black	GND	0V
4	White	Vcc	13.5~16.5V
5	Yellow	Vsp	0~6.5V
6	Blue	FG	13.5~16.5V

**Vs**



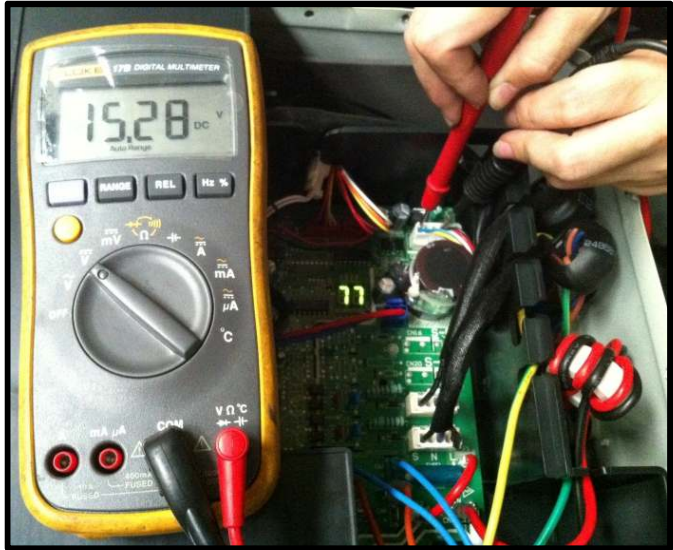
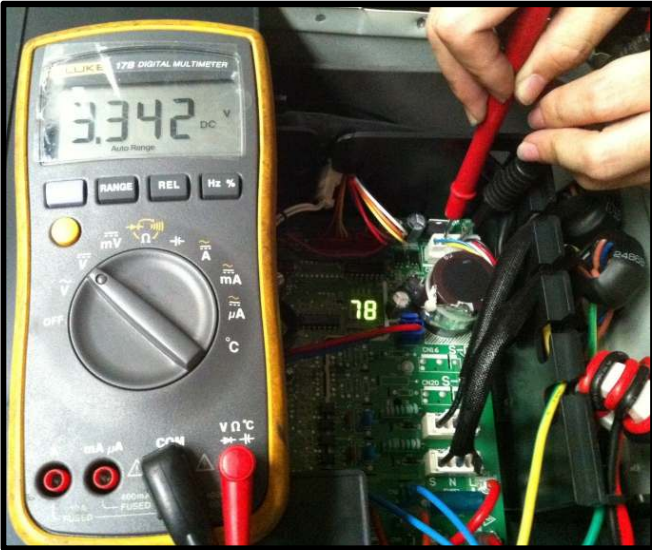
**Vcc**





Vsp

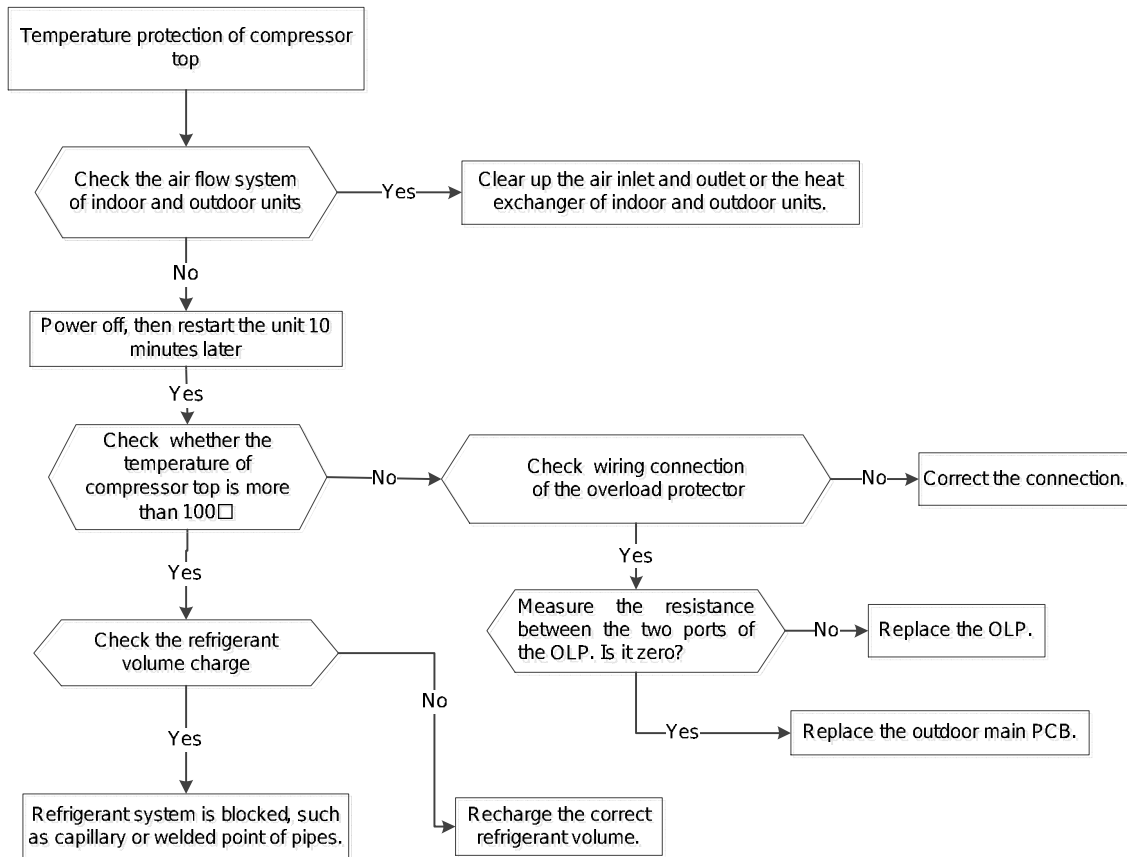
FG

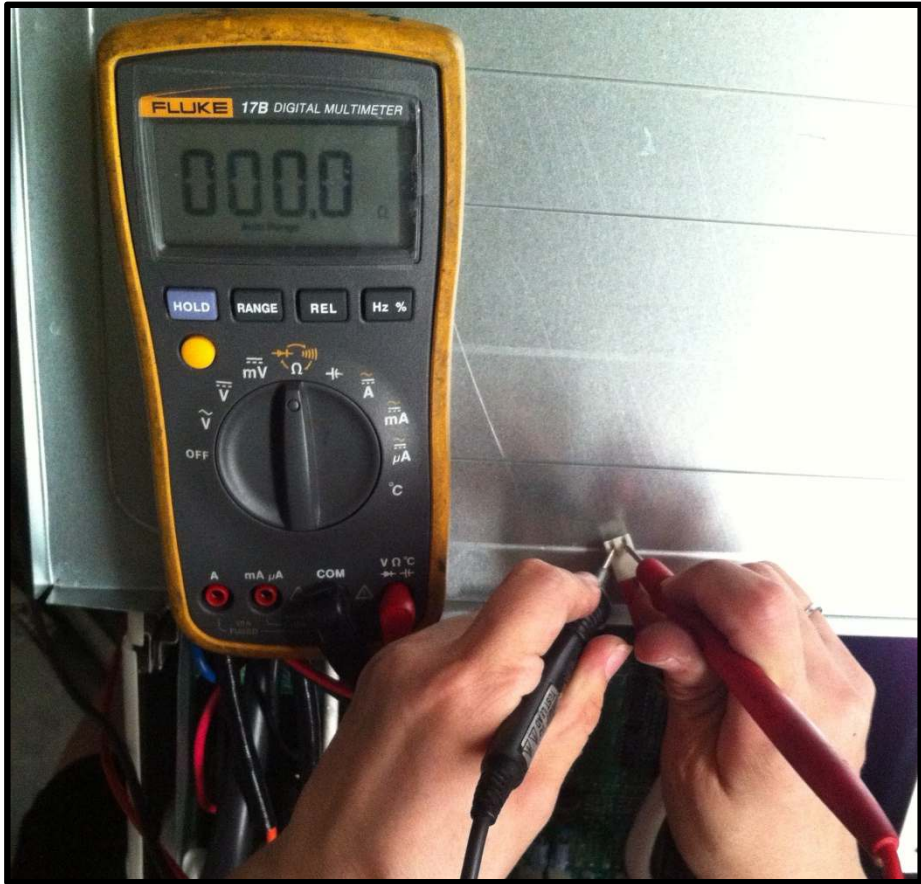
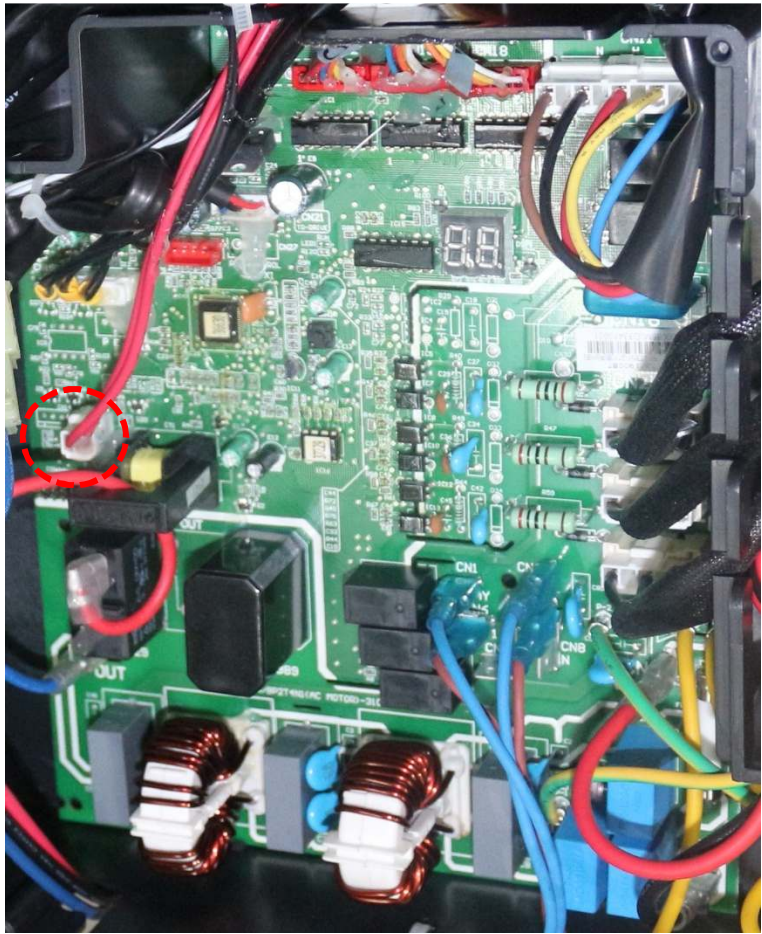


**7.4.2.8 P0(Temperature protection of compressor top) error diagnosis and solution. (Only for KSIM30912-H216 - 1G)**

<b>Error Code</b>	<b>P0</b>
<b>Malfunction decision conditions</b>	If the sampling voltage is not 5V, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Over load protector faulty</li> <li>• System block</li> <li>• Outdoor PCB faulty</li> </ul>

**Trouble shooting:**



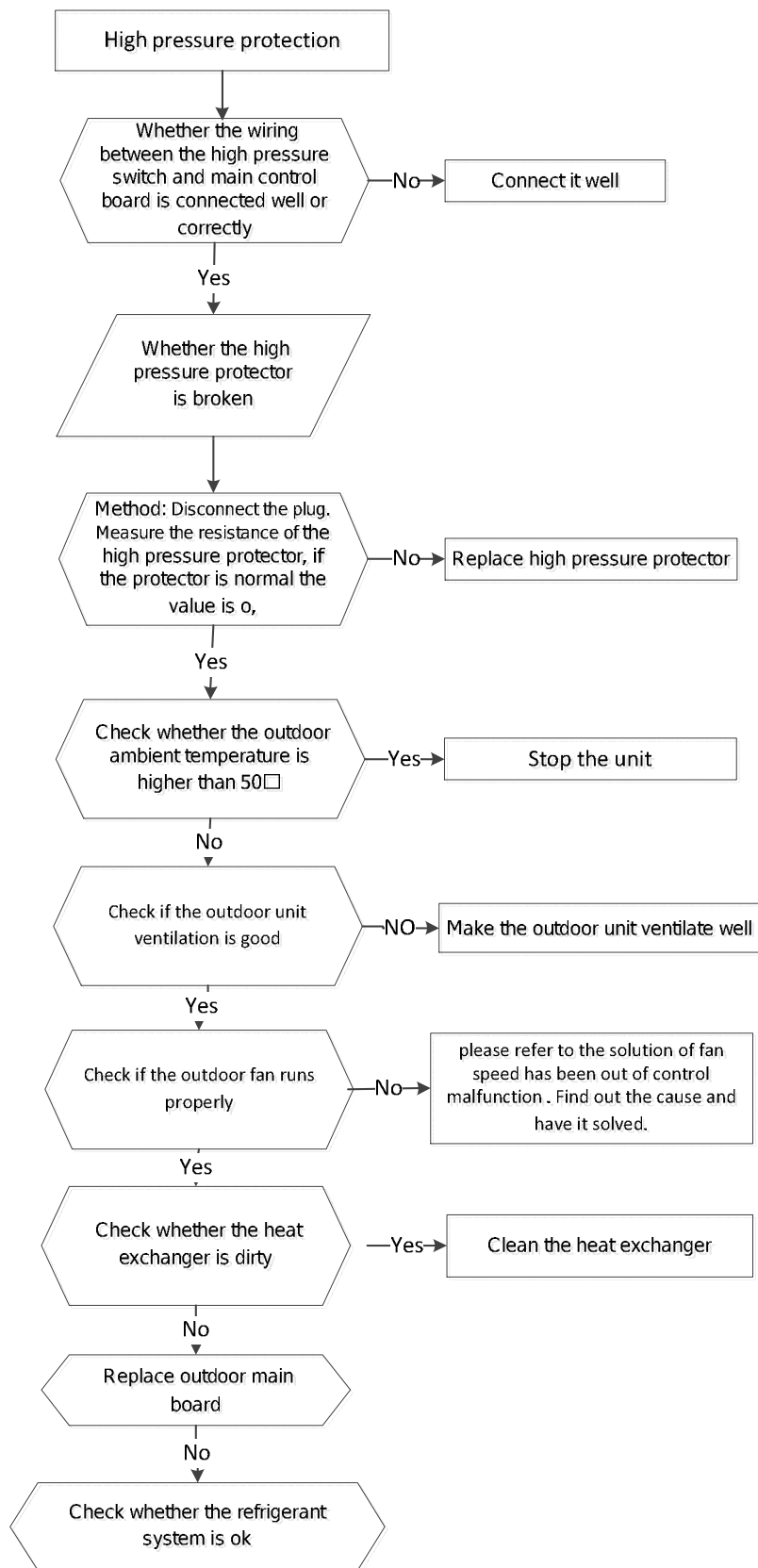


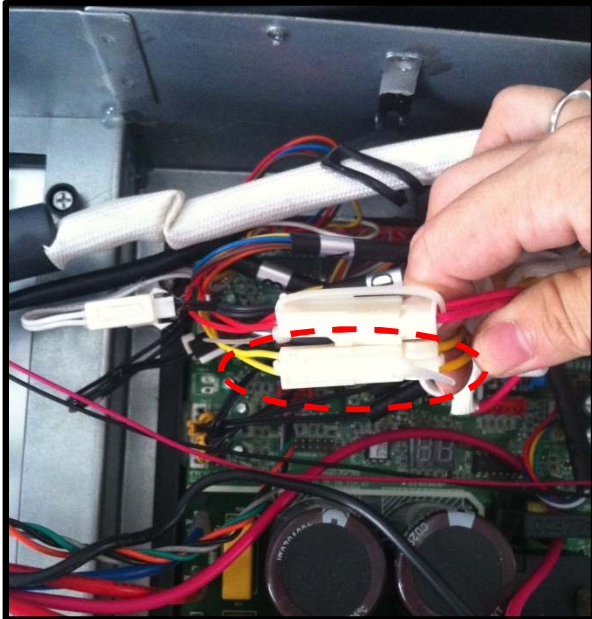
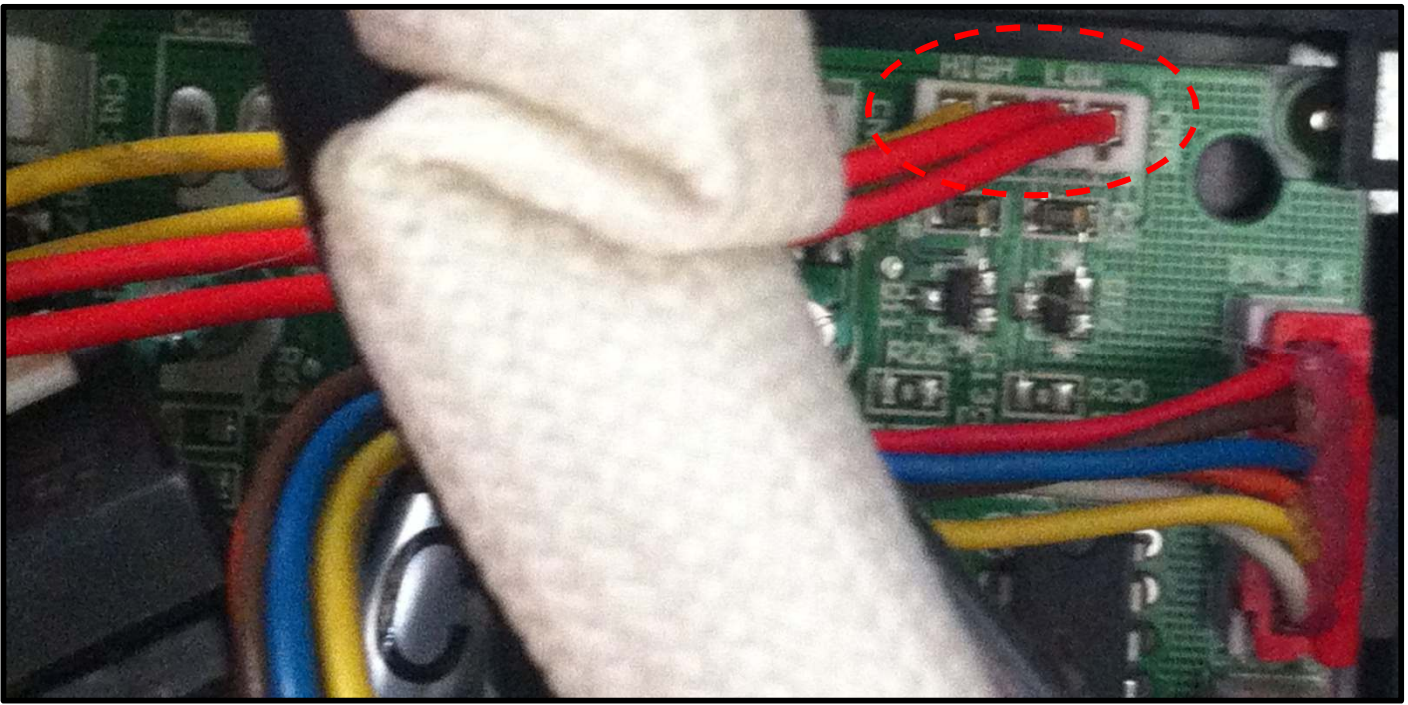
#### 7.4.2.9 P1(High pressure protection) error diagnosis and solution. (Only for KSIM40912-H216 - 2G)

<b>Error Code</b>	<b>P1</b>
<b>Malfunction decision conditions</b>	If the sampling voltage is not 5V, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• Over load protector faulty</li><li>• System block</li><li>• Outdoor PCB faulty</li></ul>

**Trouble shooting:**



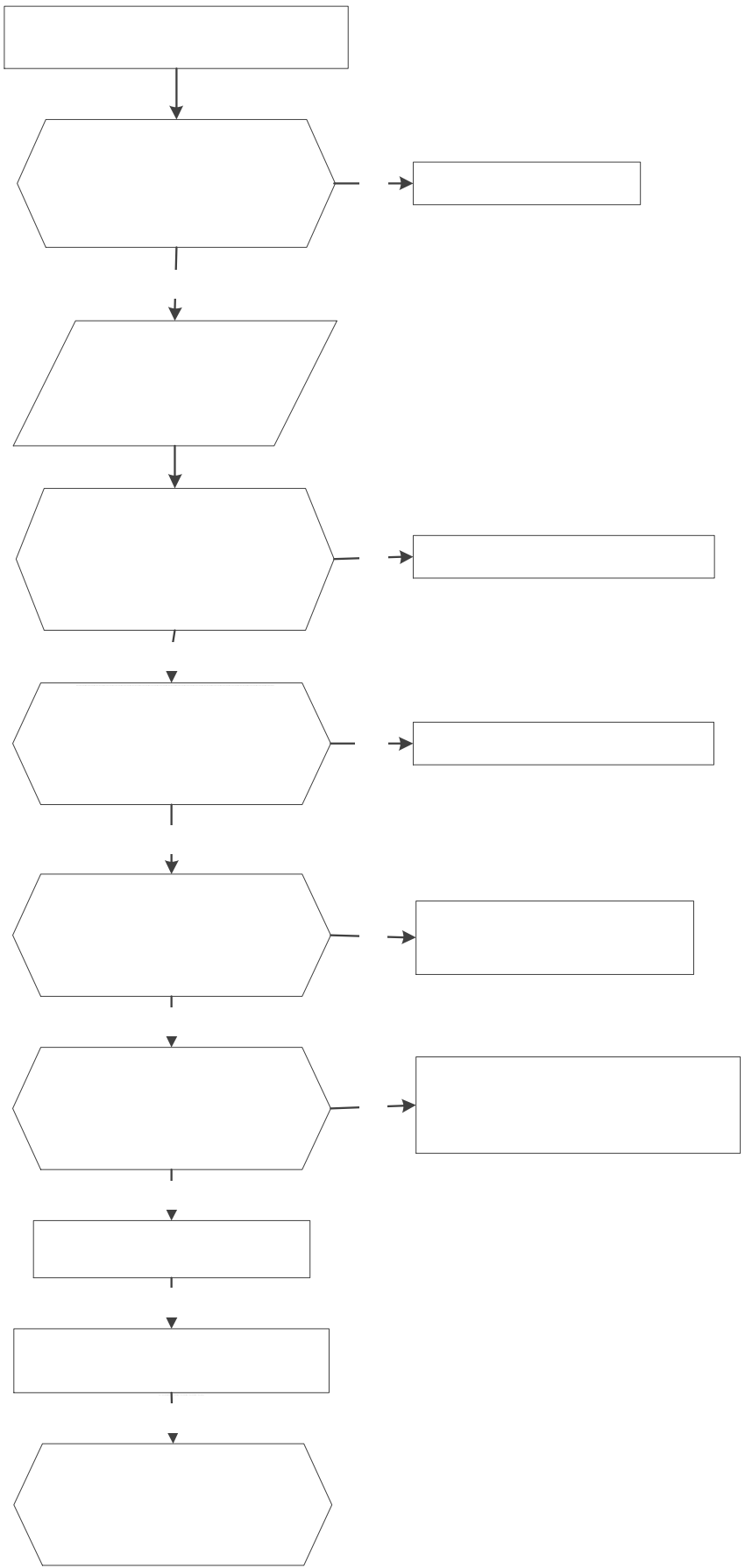




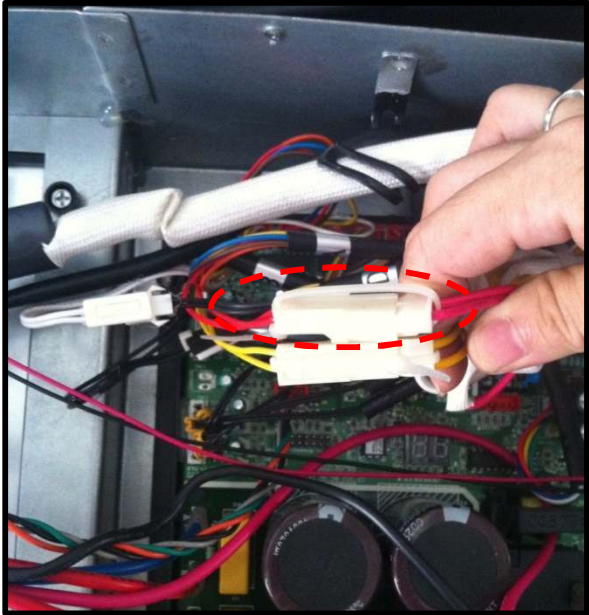
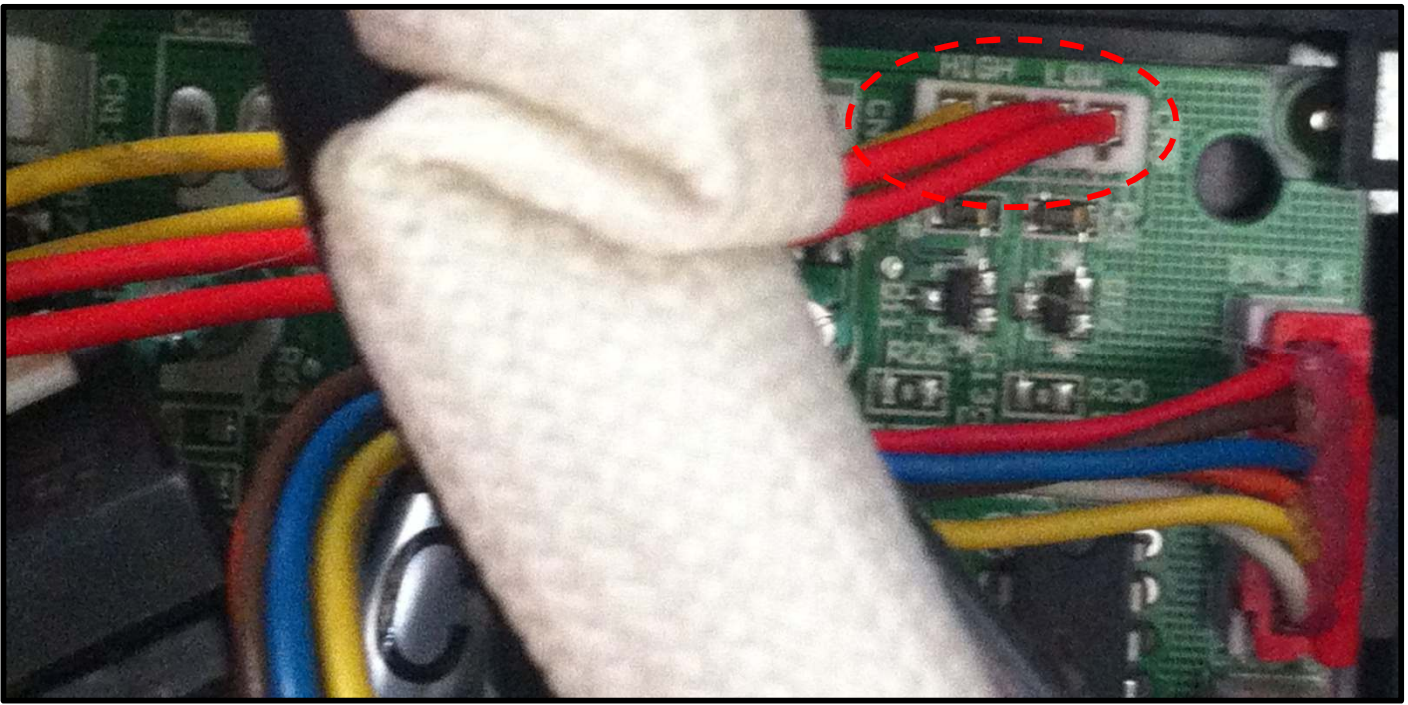
#### 7.4.2.10 P2(Low pressure protection) error diagnosis and solution. (Only for KSIM40912-H216 - 2G)

<b>Error Code</b>	<b>P2</b>
<b>Malfunction decision conditions</b>	If the sampling voltage is not 5V, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• Over load protector faulty</li><li>• System block</li><li>• Outdoor PCB faulty</li></ul>

**Trouble shooting:**



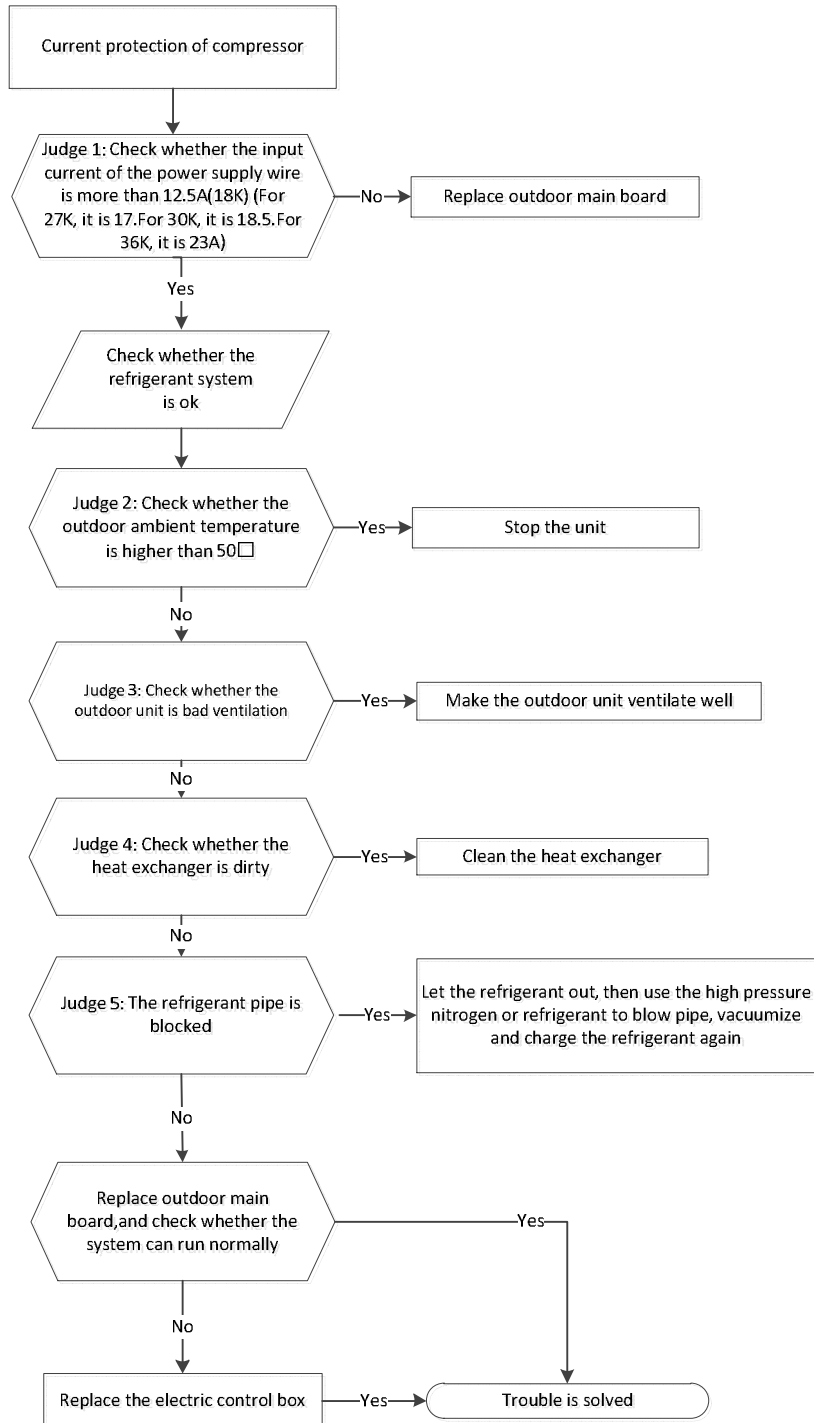




### 7.4.2.11 P3(Current protection of compressor) error diagnosis and solution.

<b>Error Code</b>	<b>P3</b>
<b>Malfunction decision conditions</b>	If the outdoor current exceeds the current limit value, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>● Wiring mistake</li> <li>● Over load protector faulty</li> <li>● System block</li> <li>● Outdoor PCB faulty</li> </ul>

#### Trouble shooting:



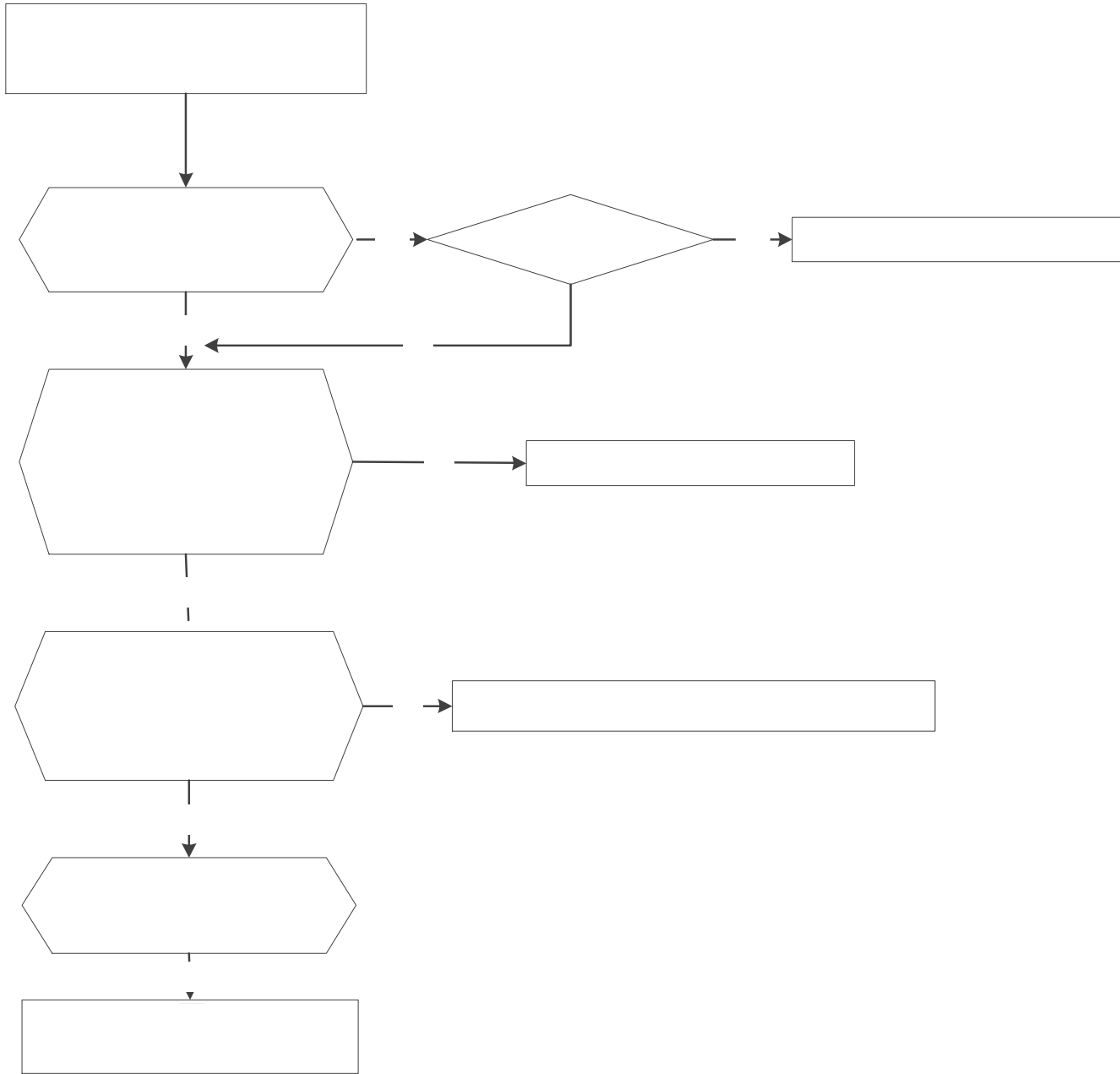




7.4.2.12 P4(Temperature protection of compressor discharge) error diagnosis and solution.

<b>Error Code</b>	<b>P4</b>
<b>Malfunction decision conditions</b>	When the compressor discharge temperature(T5) is more than 115 for 10 seconds, the compressor will stop and restart till T5 is less than 90 .
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Refrigerant leakage</li> <li>• Wiring mistake</li> <li>• The discharge temperature sensor faulty</li> <li>• Outdoor PCB faulty</li> </ul>

**Trouble shooting:**

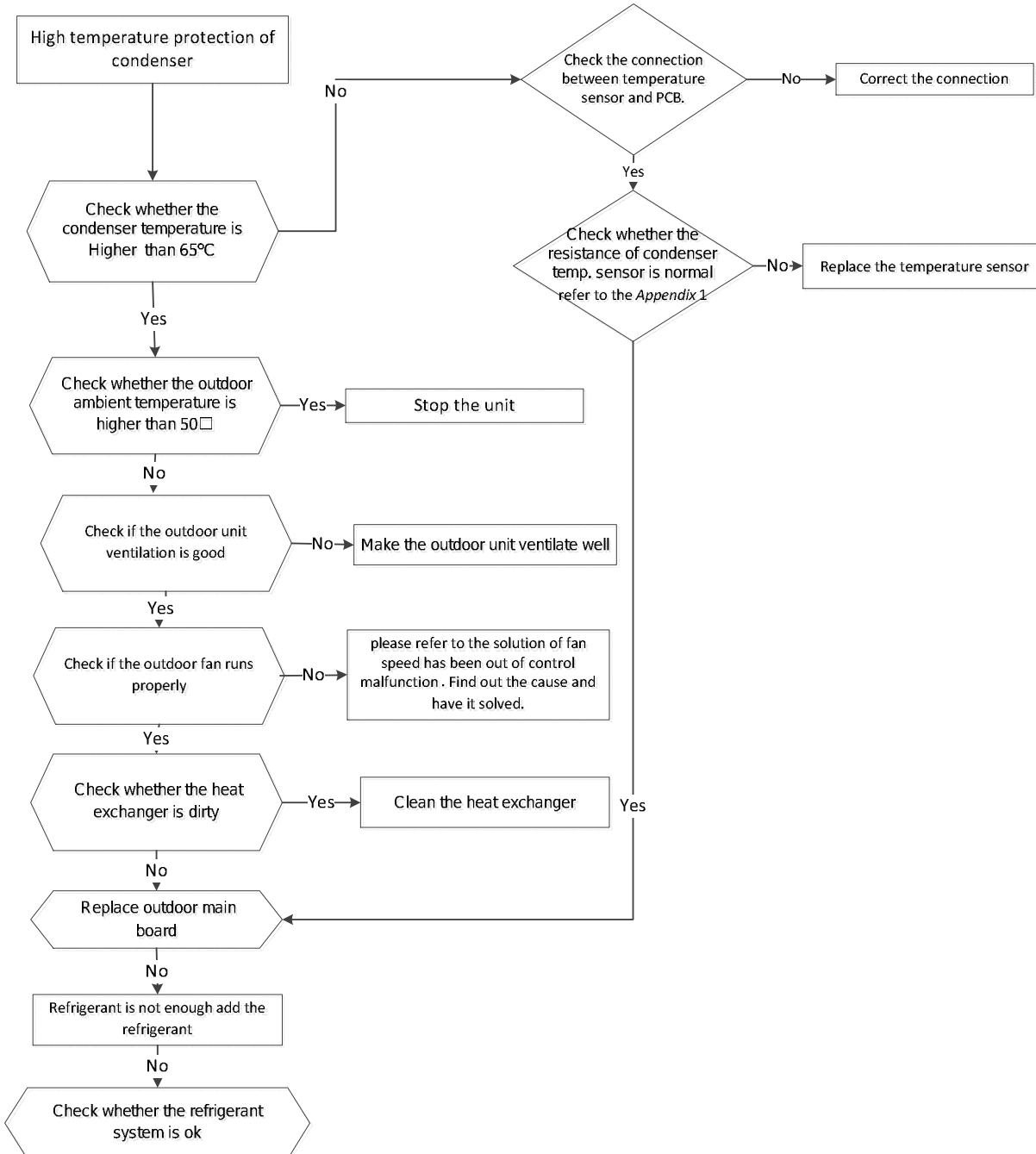




### 7.4.2.13 P5(High temperature protection of condenser) error diagnosis and solution.

<b>Error Code</b>	<b>P5</b>
<b>Malfunction decision conditions</b>	When outdoor pipe temperature is more than 65°C, the unit will stop, and unit runs again when outdoor pipe temperature is less than 52°C
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• The condenser temperature sensor faulty</li> <li>• Heat exchanger dirty</li> <li>• System block</li> </ul>

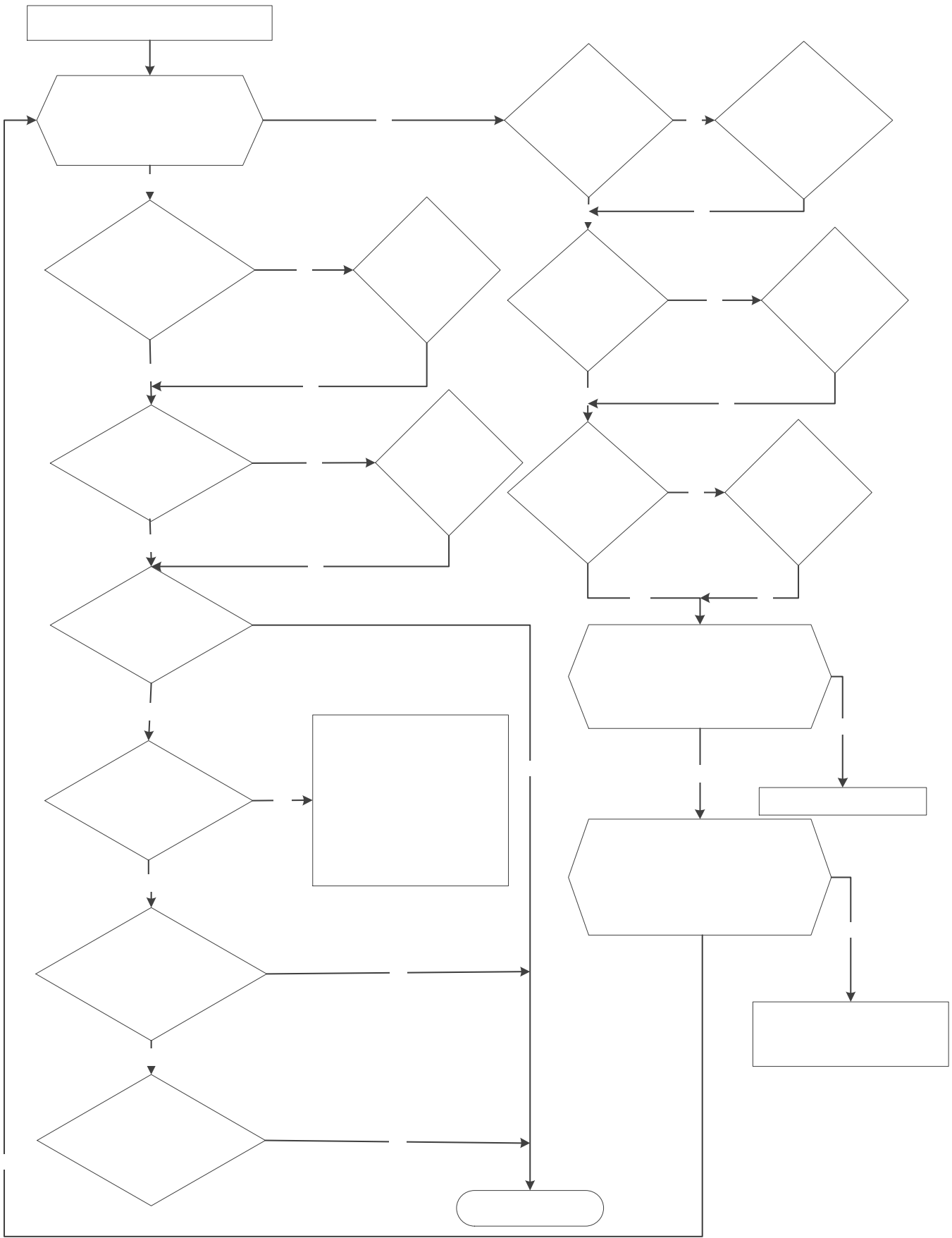
#### Trouble shooting:



#### 7.4.2.14 P6(IPM module protection) error diagnosis and solution.

<b>Error Code</b>	<b>P6</b>
<b>Malfunction decision conditions</b>	When the voltage signal that IPM send to compressor drive chip is abnormal, the display LED will show “P6” and AC will turn off.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• IPM malfunction</li><li>• Outdoor fan ass'y faulty</li><li>• Compressor malfunction</li><li>• Outdoor PCB faulty</li></ul>

**Trouble shooting:**

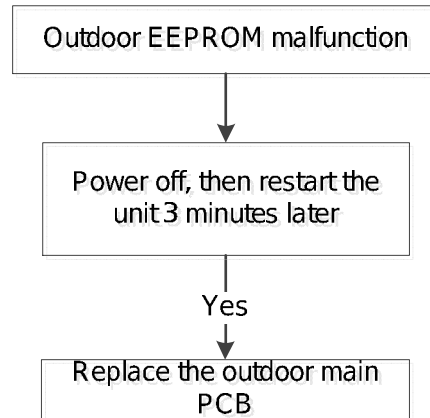


## 7.4.3 Outdoor unit trouble shooting (For KSIM20912-H216 - 1G, KSIM30912-H216 - 1G, KSIM40912-H216 - 1G)

### 7.4.3.1 E0(Outdoor EEPROM malfunction) error diagnosis and solution

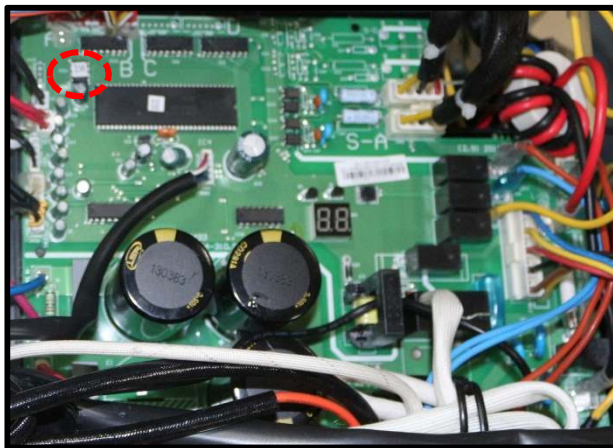
<b>Error Code</b>	<b>E0</b>
<b>Malfunction decision conditions</b>	PCB main chip does not receive feedback from EEPROM chip
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Installation mistake</li><li>• PCB faulty</li></ul>

#### Trouble shooting:



EEPROM: a read-only memory whose contents can be erased and reprogrammed using a pulsed voltage.

For the location of EEPROM chip, please refer to the below photos.

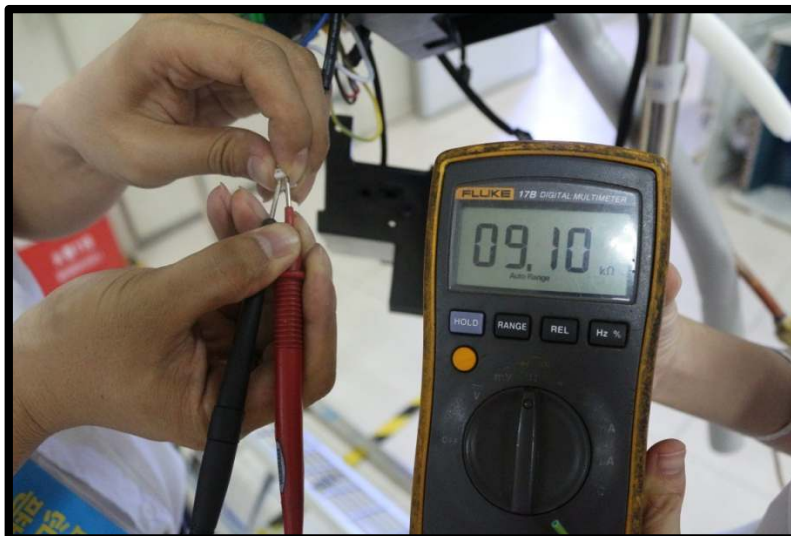
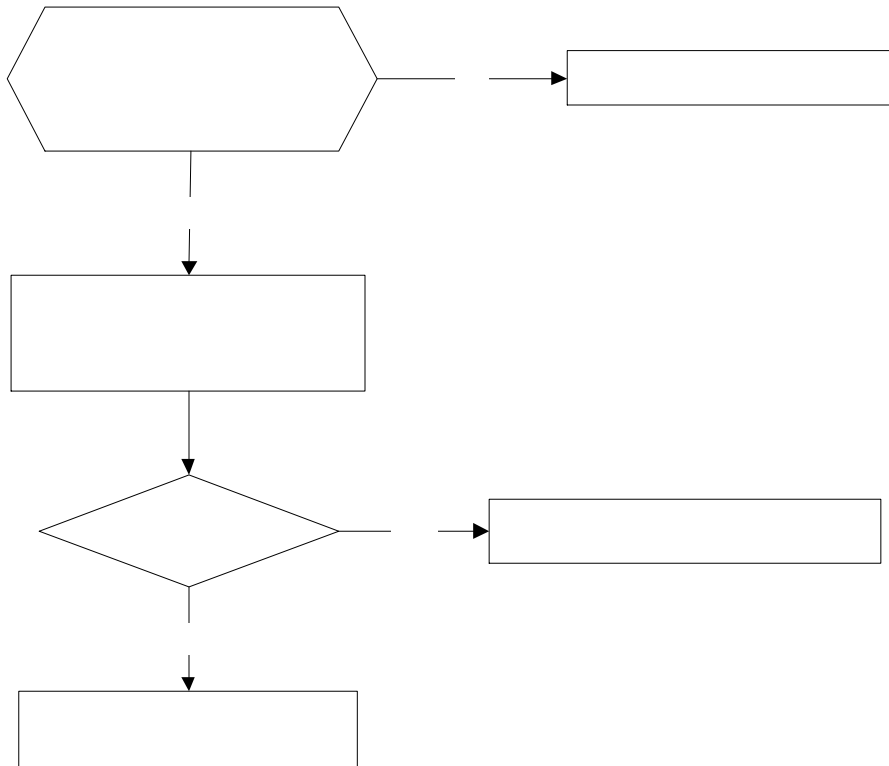


**Outdoor PCB(KSIM20912-H216 - 1G)**

7.4.3.2 E4(open or short circuit of outdoor temperature sensor) diagnosis and solution  
 E1/E2/E3/E6 (open or short circuit of indoor coil temperature sensor) diagnosis and solution.

Error Code	E1/E2/E3/E4/E6
Malfunction decision conditions	If the sampling voltage is lower than 0.06V or higher than 4.94V, the LED will display the failure.
Supposed causes	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Sensor faulty</li> <li>• PCB faulty</li> </ul>

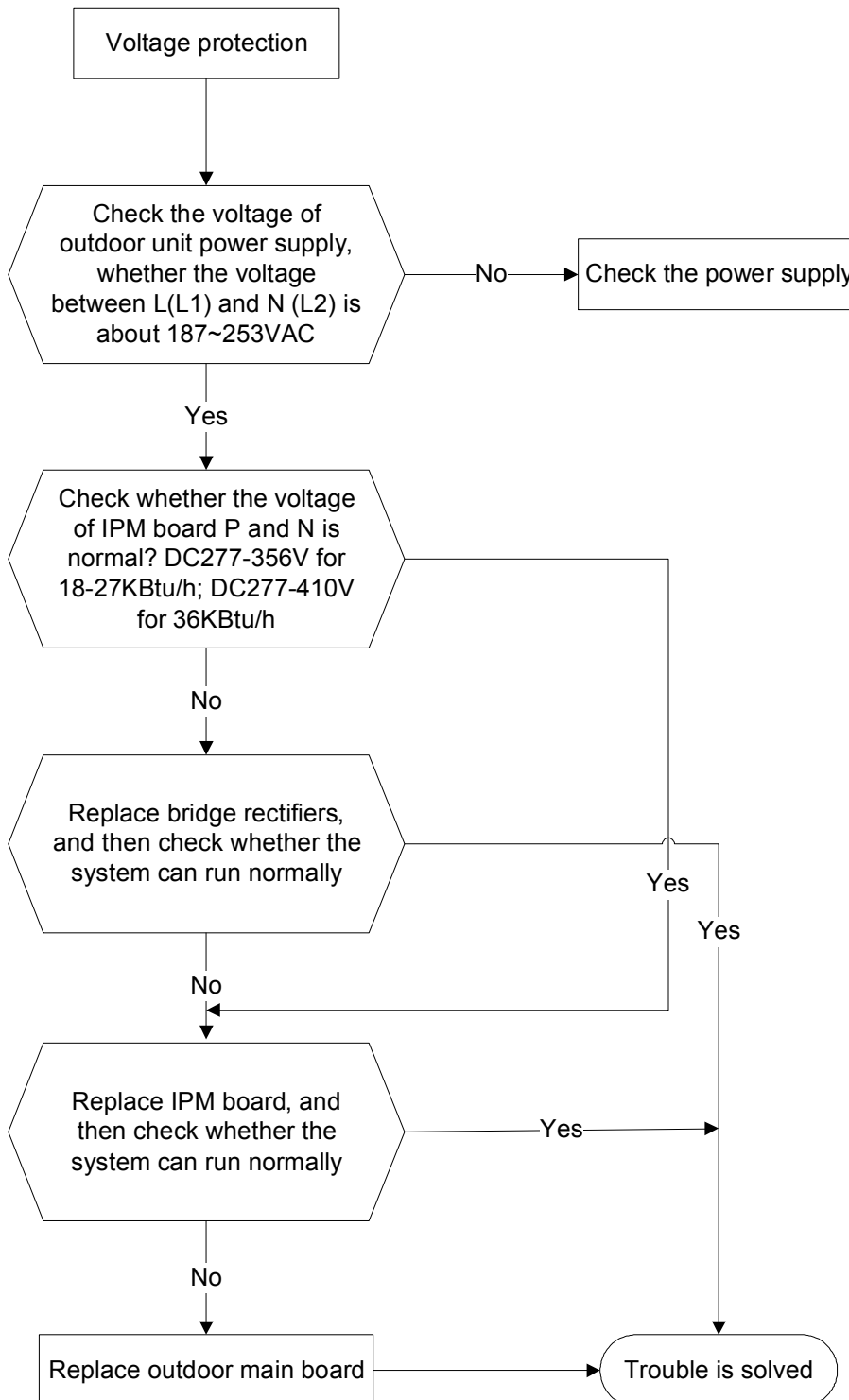
Trouble shooting:

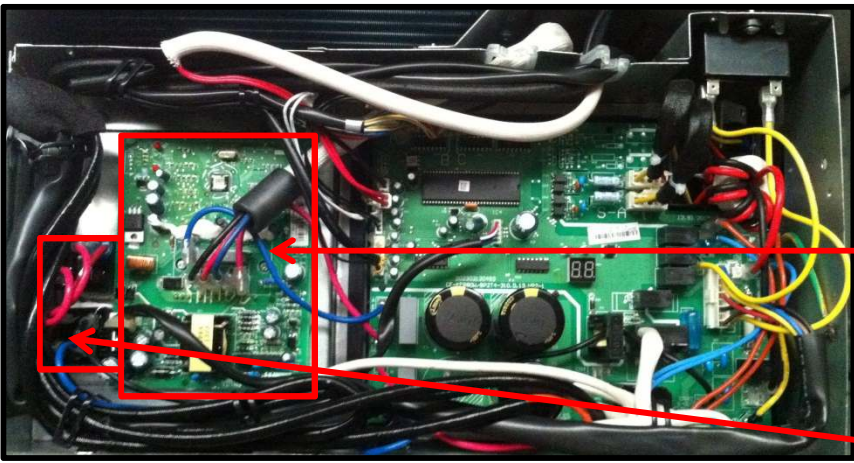


### 7.4.3.3 E5(Voltage protection) error diagnosis and solution.

<b>Error Code</b>	<b>E5</b>
<b>Malfunction decision conditions</b>	An abnormal voltage rise or drop is detected by checking the specified voltage detection circuit.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Power supply problems.</li> <li>• System leakage or block</li> <li>• PCB faulty</li> </ul>

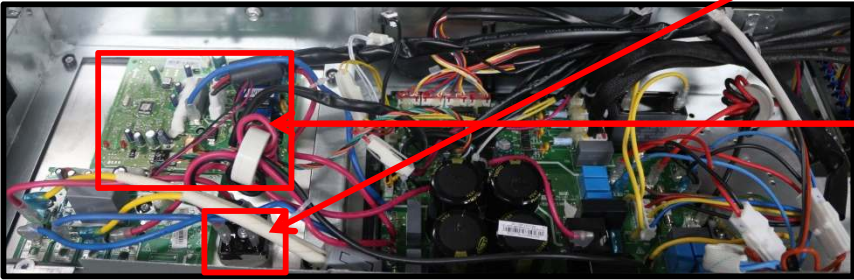
#### Trouble shooting:



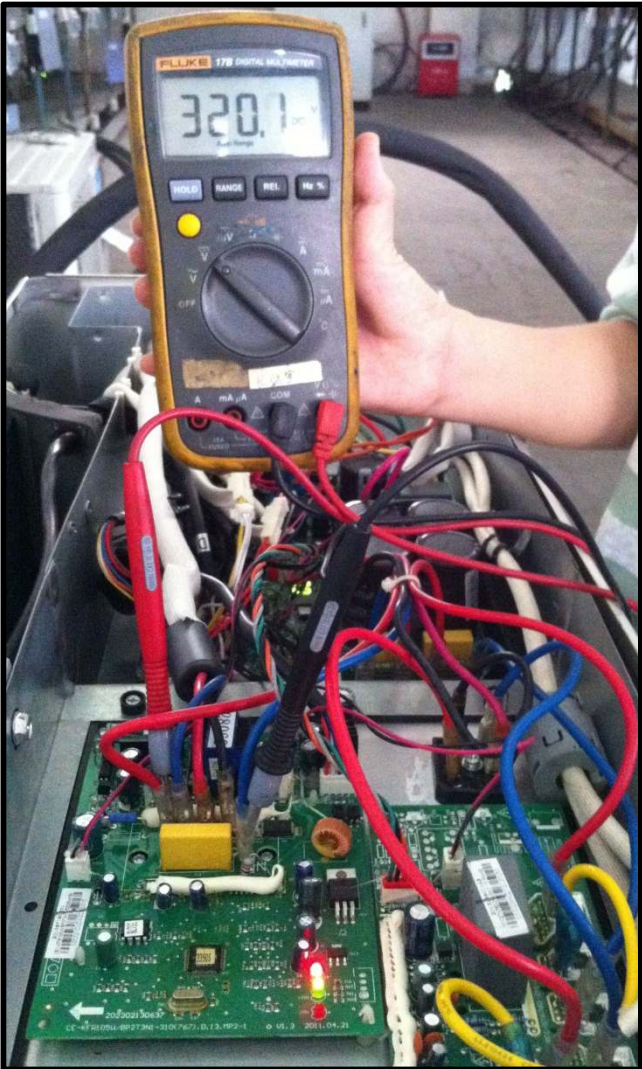


IPM (for dual/tri-zone)

bridge rectifier

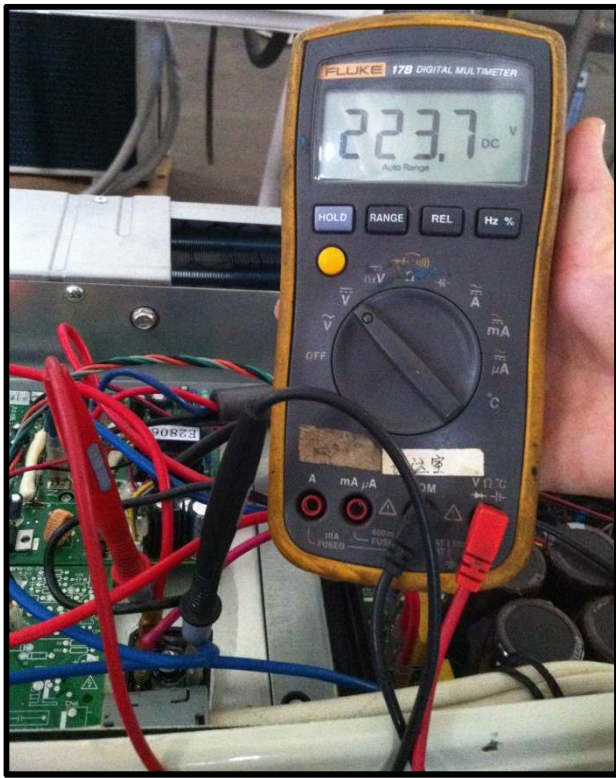


IPM (for qua-zone)



P-N





**Remark:**

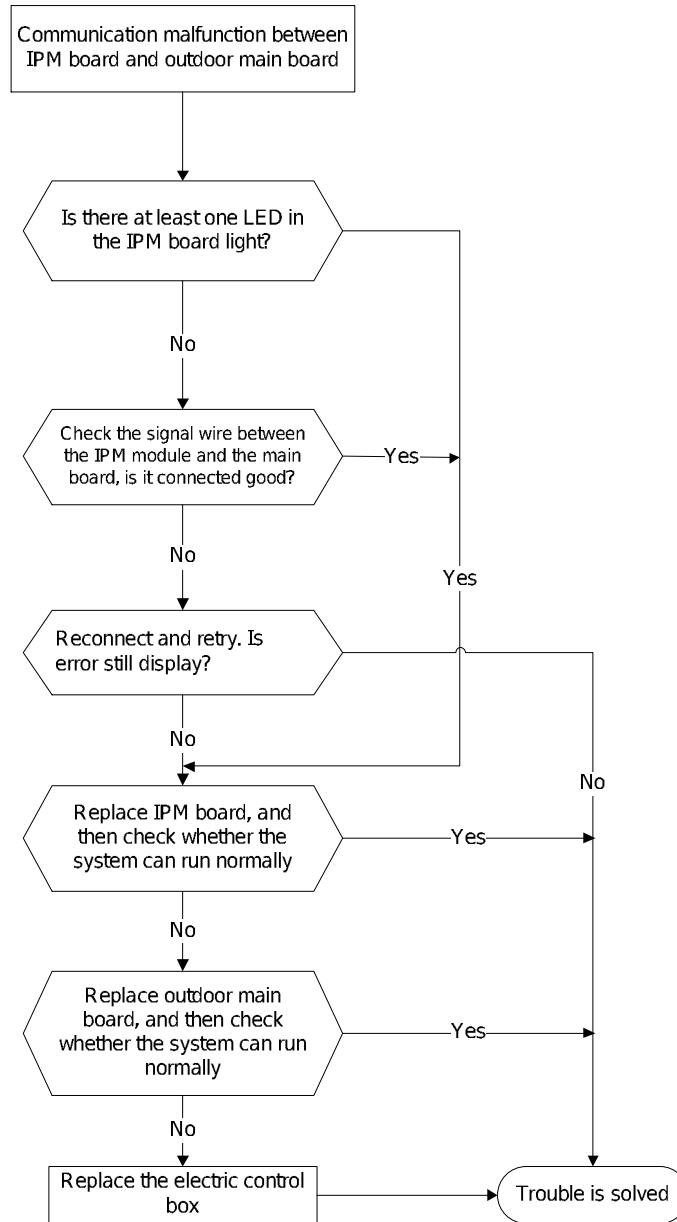
Measure the DC voltage between + and - port. The normal value should be 190V~250V.

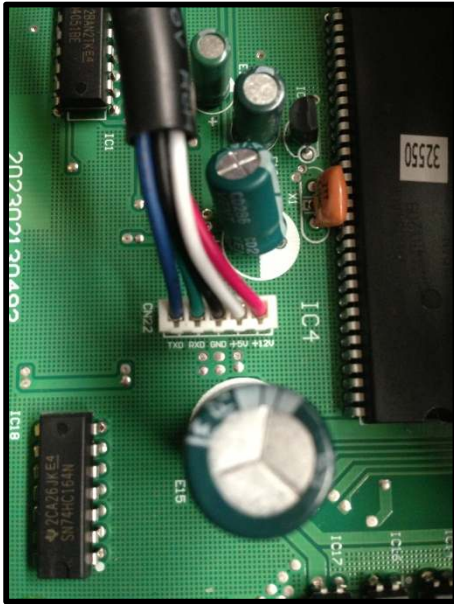


### 7.4.3.4 E7(Communication malfunction between IPM board and outdoor main board) error diagnosis and

<b>Error Code</b>	<b>E7</b>
<b>Malfunction decision conditions</b>	PCB main chip does not receive feedback from IPM module during 60 seconds.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• PCB faulty</li> </ul>

#### Trouble shooting:

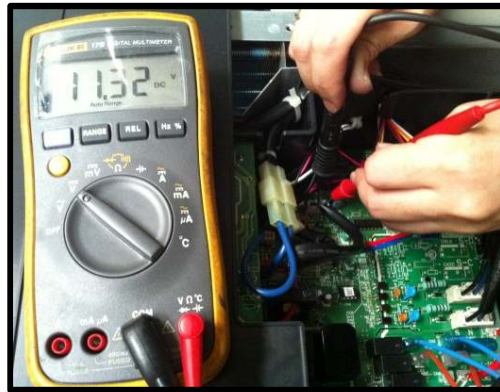
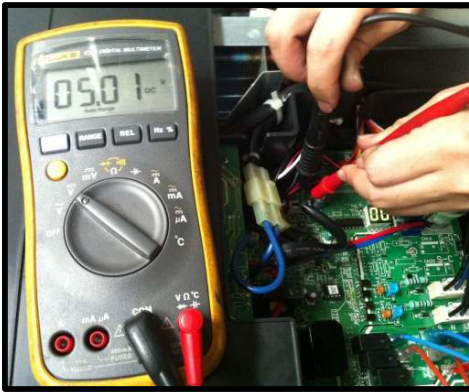




**Remark:**

Use a multimeter to test the DC voltage between black pin and white pin of signal wire. The normal value should be around 5V.

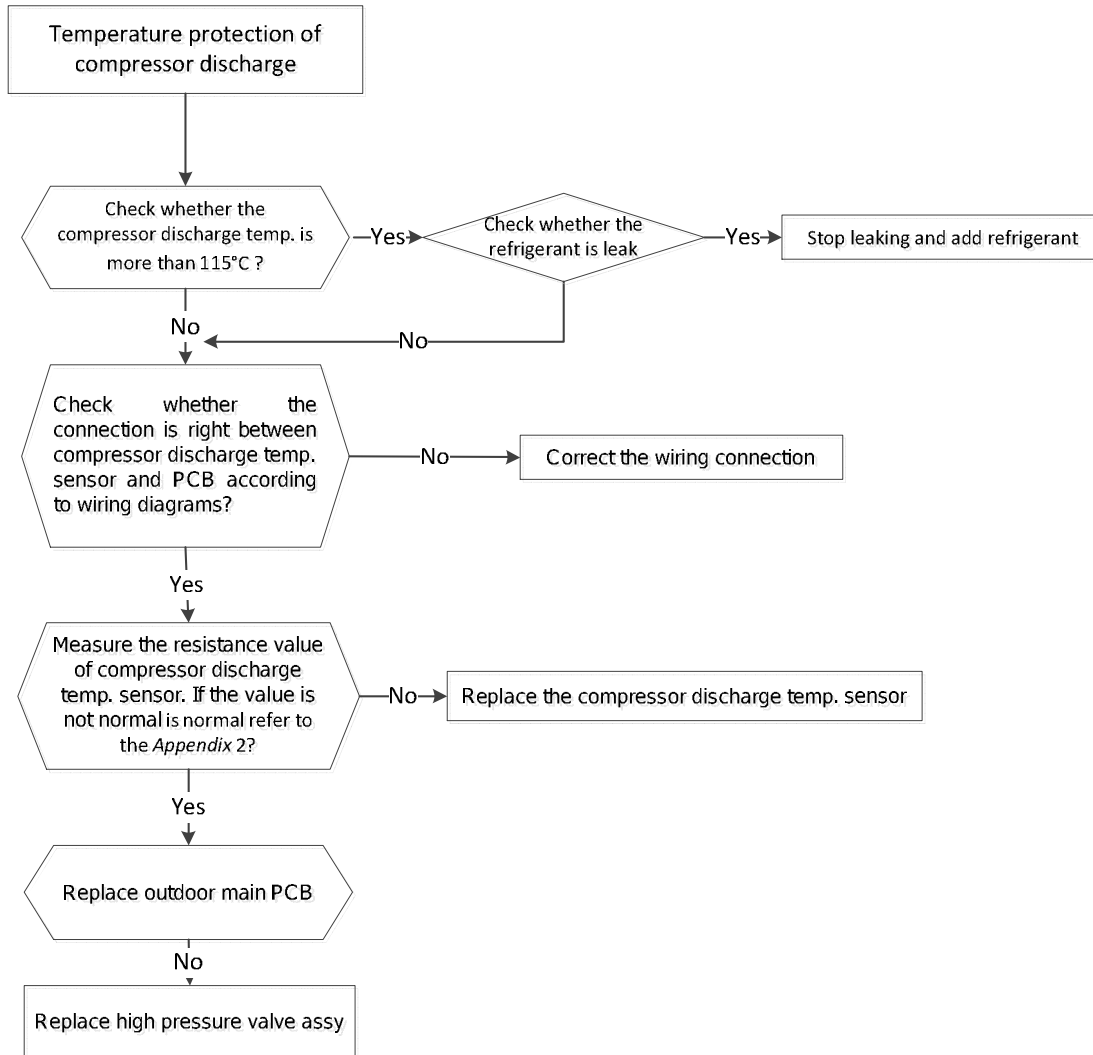
Use a multimeter to test the DC voltage between black pin and red pin of signal wire. The normal value should be around 12V.



### 7.4.3.5 P0(Temperature protection of compressor discharge) error diagnosis and solution.

Error Code	P0
Malfunction decision conditions	When the compressor discharge temperature(T5) is more than 115 for 10 seconds, the compressor will stop and restart till T5 is less than 90 .
Supposed causes	<ul style="list-style-type: none"> <li>• Refrigerant leakage</li> <li>• Wiring mistake</li> <li>• The discharge temperature sensor faulty</li> <li>• Outdoor PCB faulty</li> </ul>

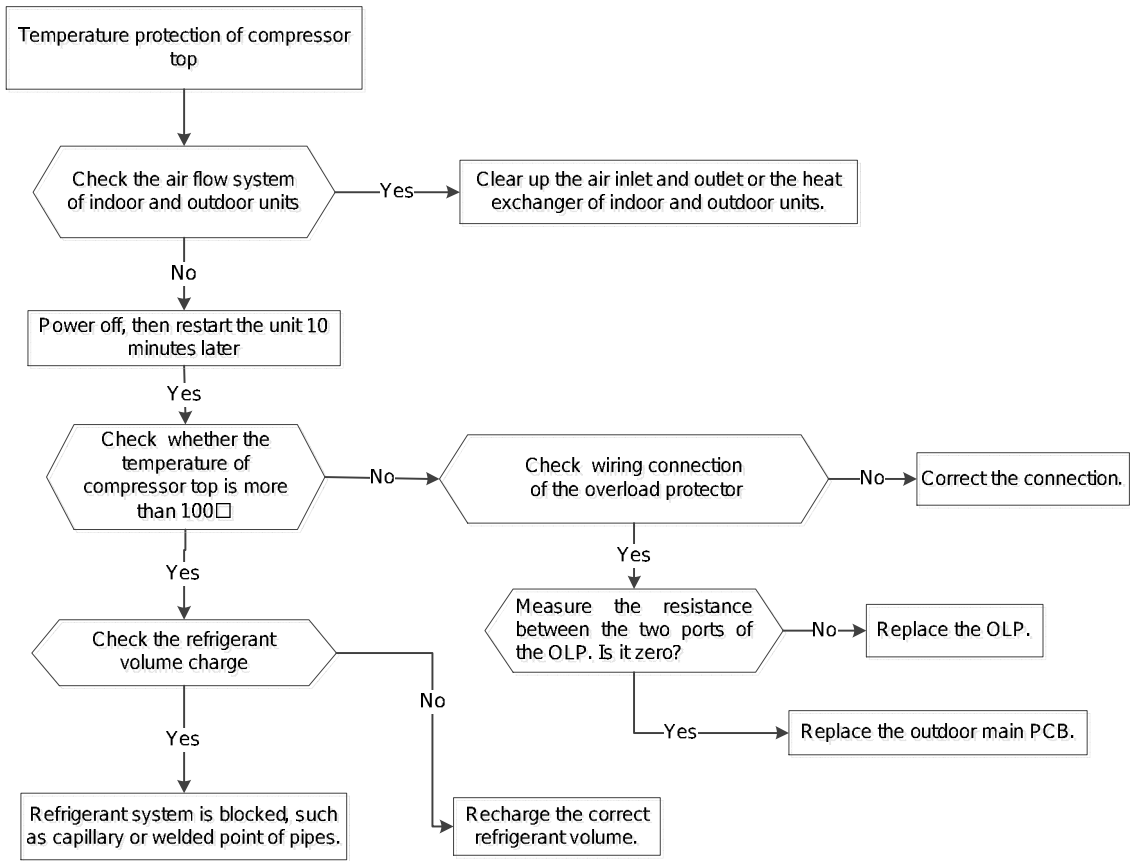
#### Trouble shooting:

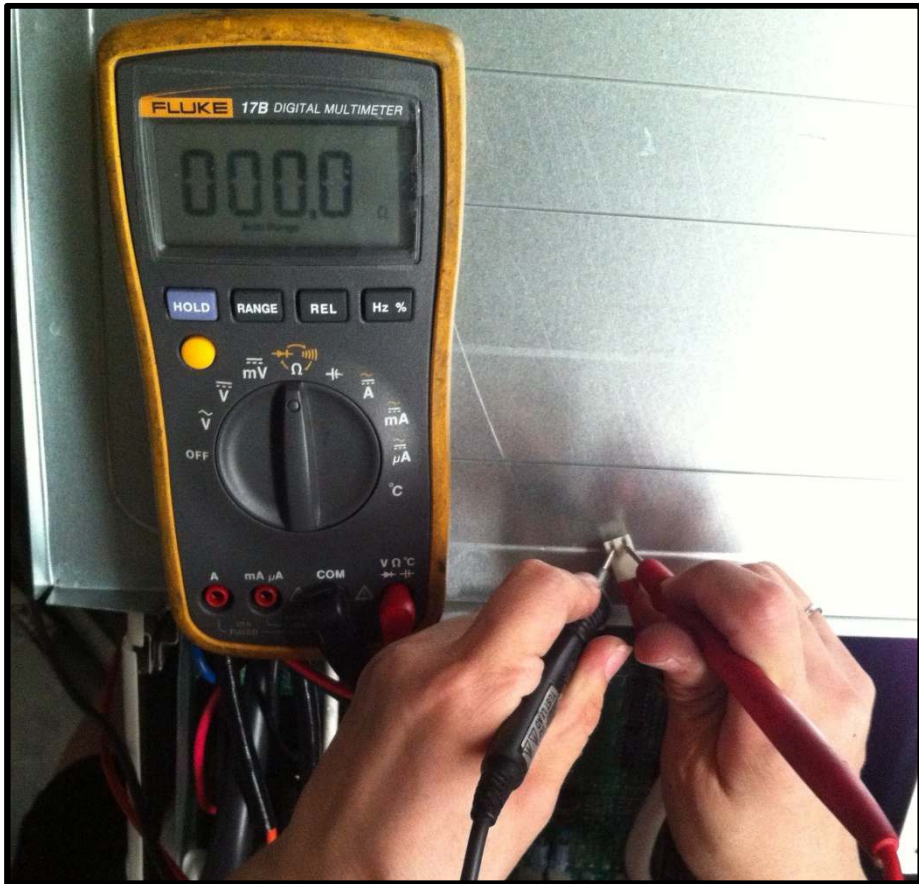
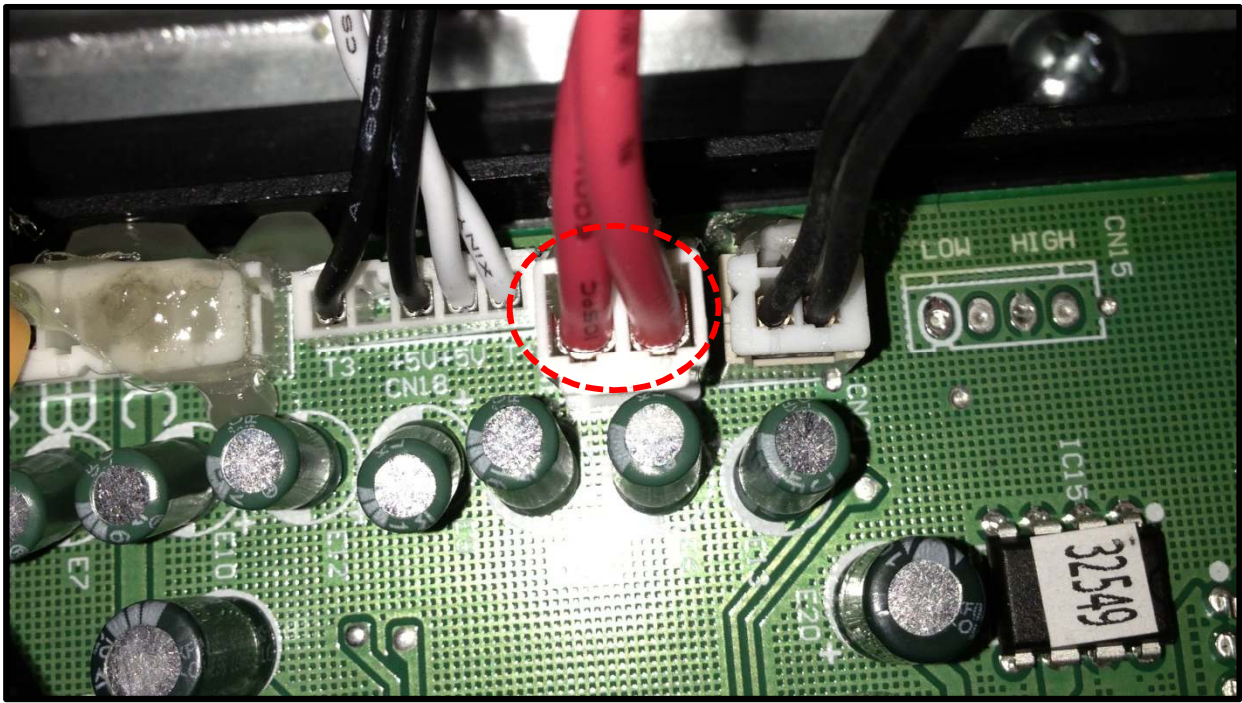


**7.4.3.6 P0(Temperature protection of compressor top) error diagnosis and solution. (Only for KSIM20912-H216 - 1G & KSIM30912-H216 - 1G)**

<b>Error Code</b>	<b>P0</b>
<b>Malfunction decision conditions</b>	If the sampling voltage is not 5V, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Over load protector faulty</li> <li>• System block</li> <li>• Outdoor PCB faulty</li> </ul>

**Trouble shooting:**



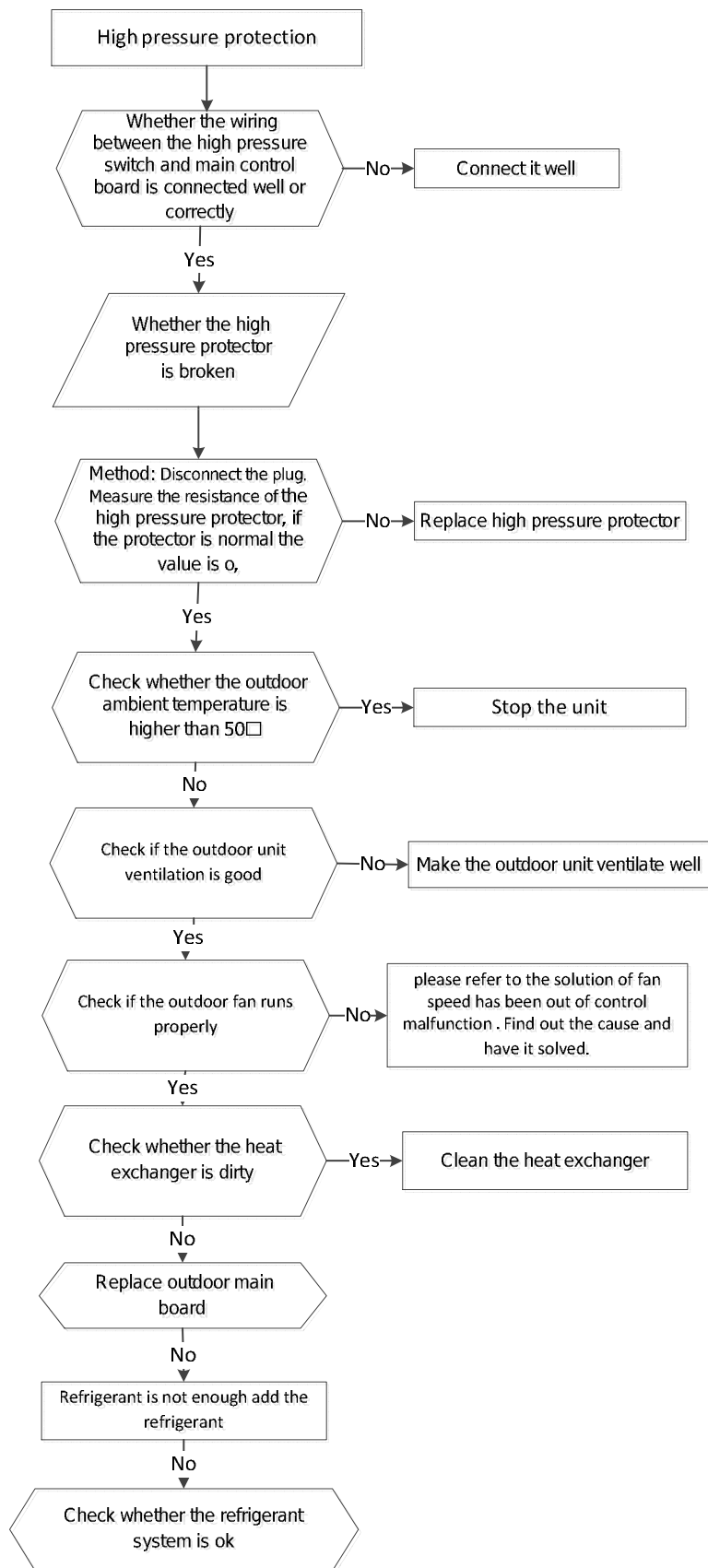


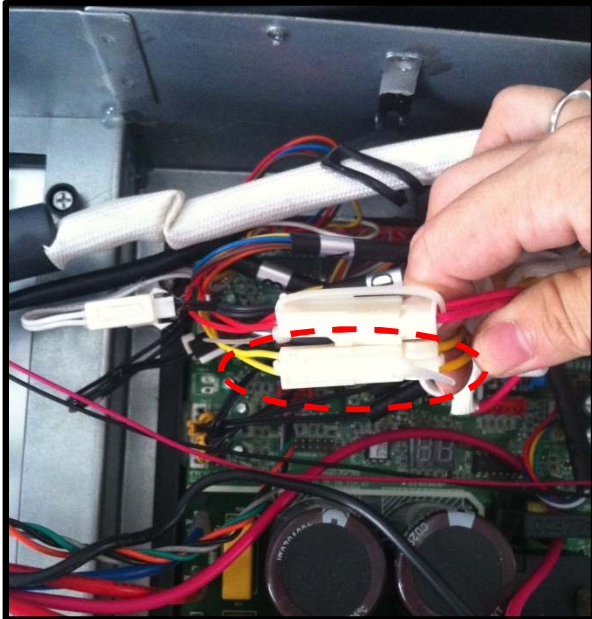
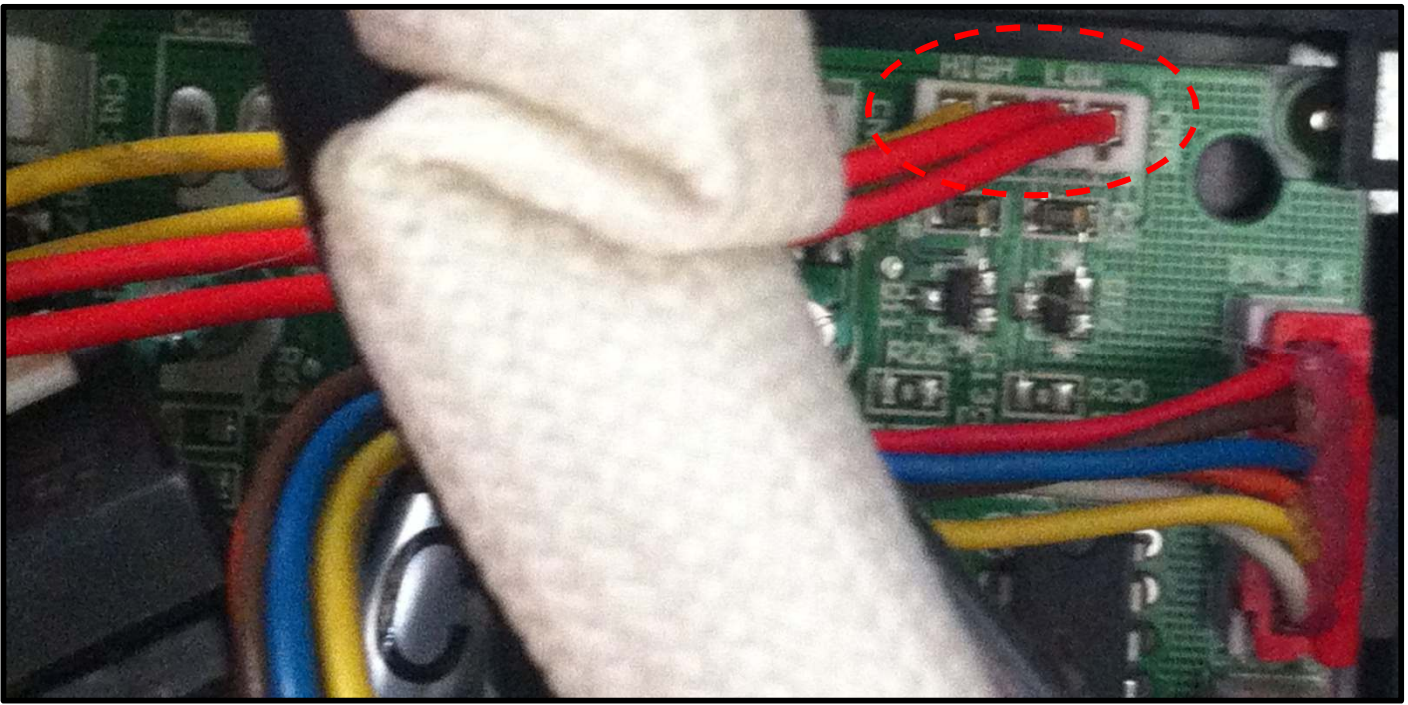
#### 7.4.3.7 P1(High pressure protection) error diagnosis and solution. (Only for KSIM40912-H216 - 1G)

<b>Error Code</b>	<b>P1</b>
<b>Malfunction decision conditions</b>	If the sampling voltage is not 5V, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• Over load protector faulty</li><li>• System block</li><li>• Outdoor PCB faulty</li></ul>

**Trouble shooting:**



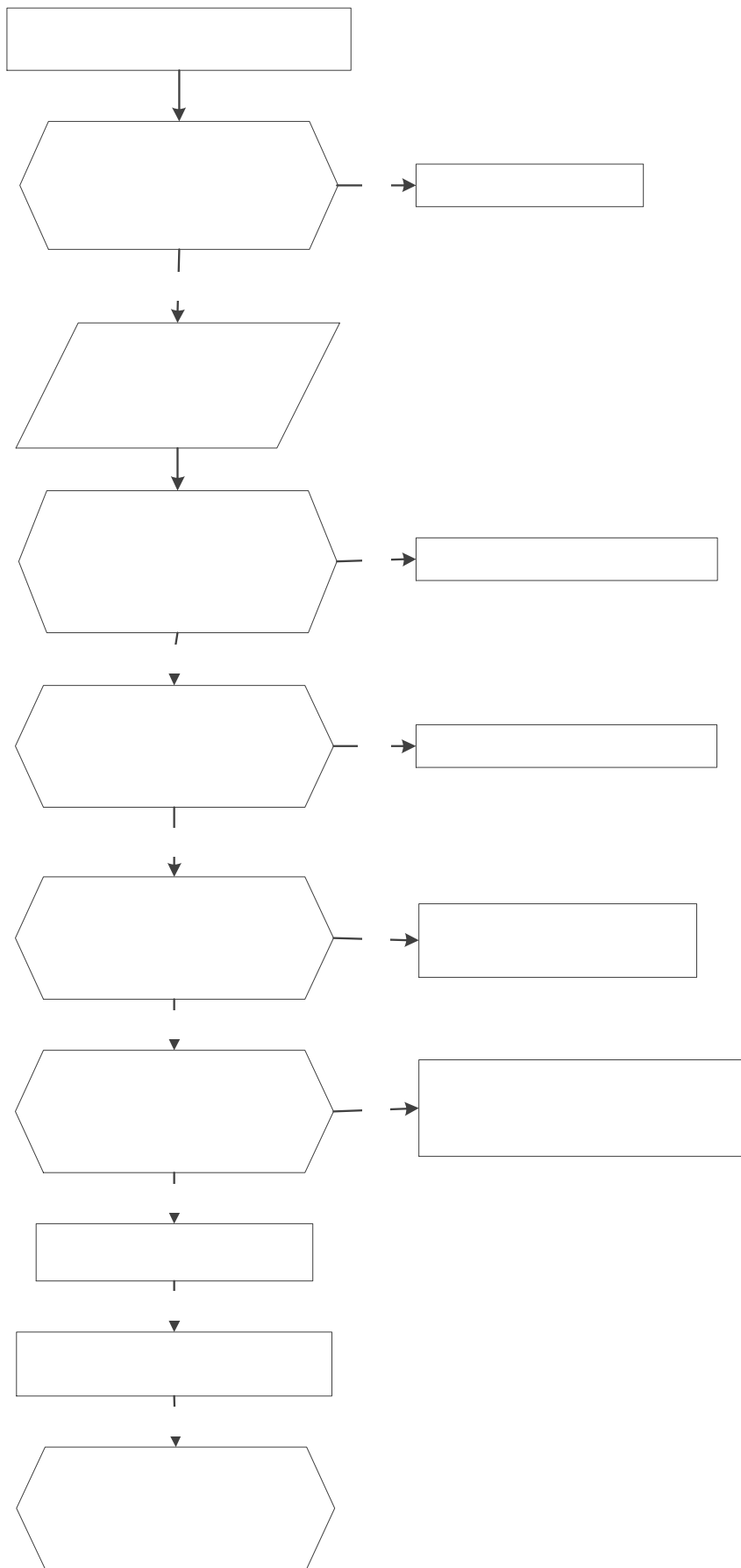




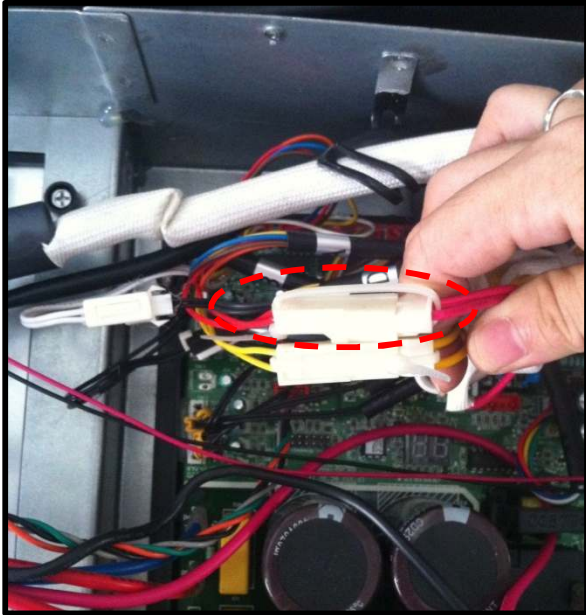
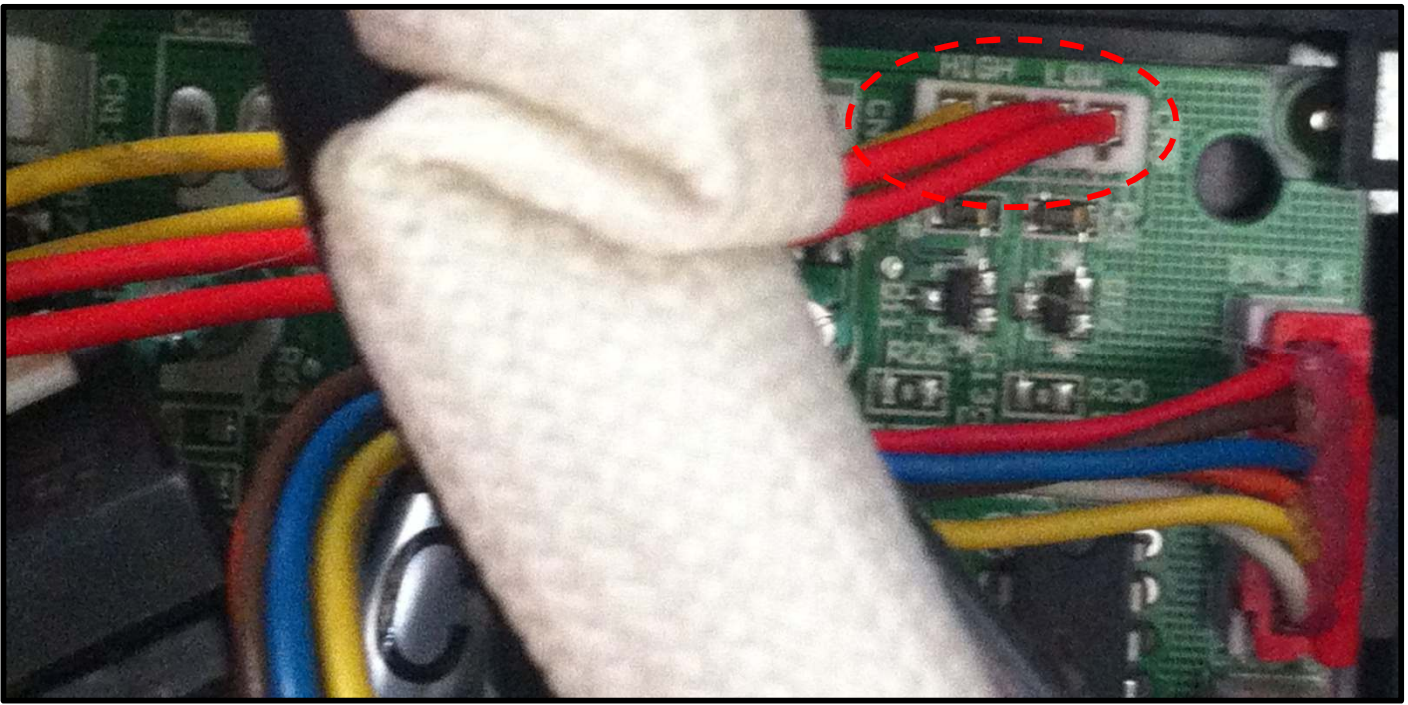
#### 7.4.3.8 P2(Low pressure protection) error diagnosis and solution. (Only for KSIM40912-H216 - 1G)

<b>Error Code</b>	<b>P2</b>
<b>Malfunction decision conditions</b>	If the sampling voltage is not 5V, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• Over load protector faulty</li><li>• System block</li><li>• Outdoor PCB faulty</li></ul>

**Trouble shooting:**



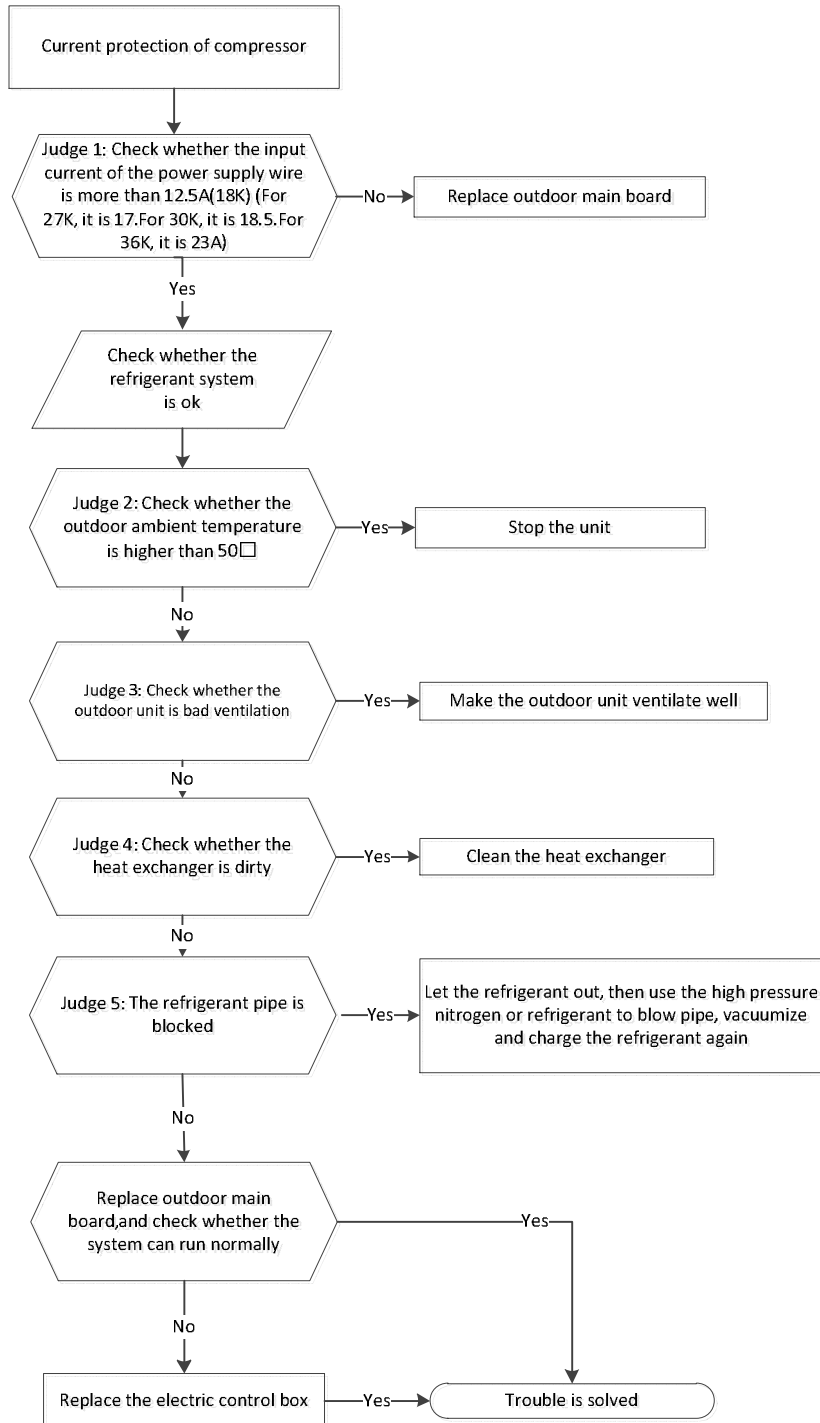




### 7.4.3.9 P3(Current protection of compressor) error diagnosis and solution.

<b>Error Code</b>	<b>P3</b>
<b>Malfunction decision conditions</b>	If the outdoor current exceeds the current limit value, the LED will display the failure.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>● Wiring mistake</li> <li>● Over load protector faulty</li> <li>● System block</li> <li>● Outdoor PCB faulty</li> </ul>

#### Trouble shooting:



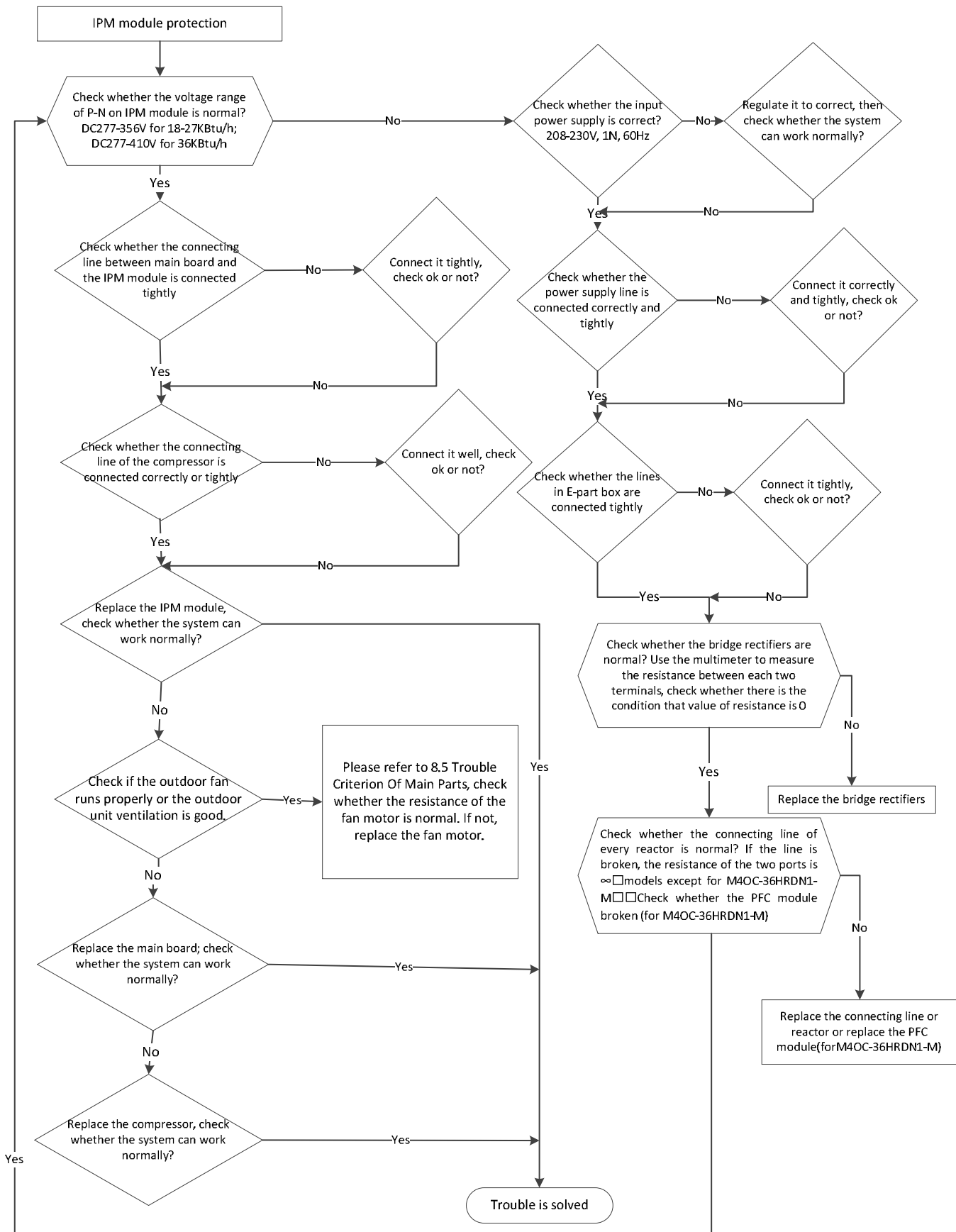




#### 7.4.3.10 P4(IPM module protection) error diagnosis and solution.

<b>Error Code</b>	<b>P4</b>
<b>Malfunction decision conditions</b>	When the voltage signal that IPM send to compressor drive chip is abnormal, the display LED will show “P4” and AC will turn off.
<b>Supposed causes</b>	<ul style="list-style-type: none"><li>• Wiring mistake</li><li>• IPM malfunction</li><li>• Outdoor fan ass'y faulty</li><li>• Compressor malfunction</li><li>• Outdoor PCB faulty</li></ul>

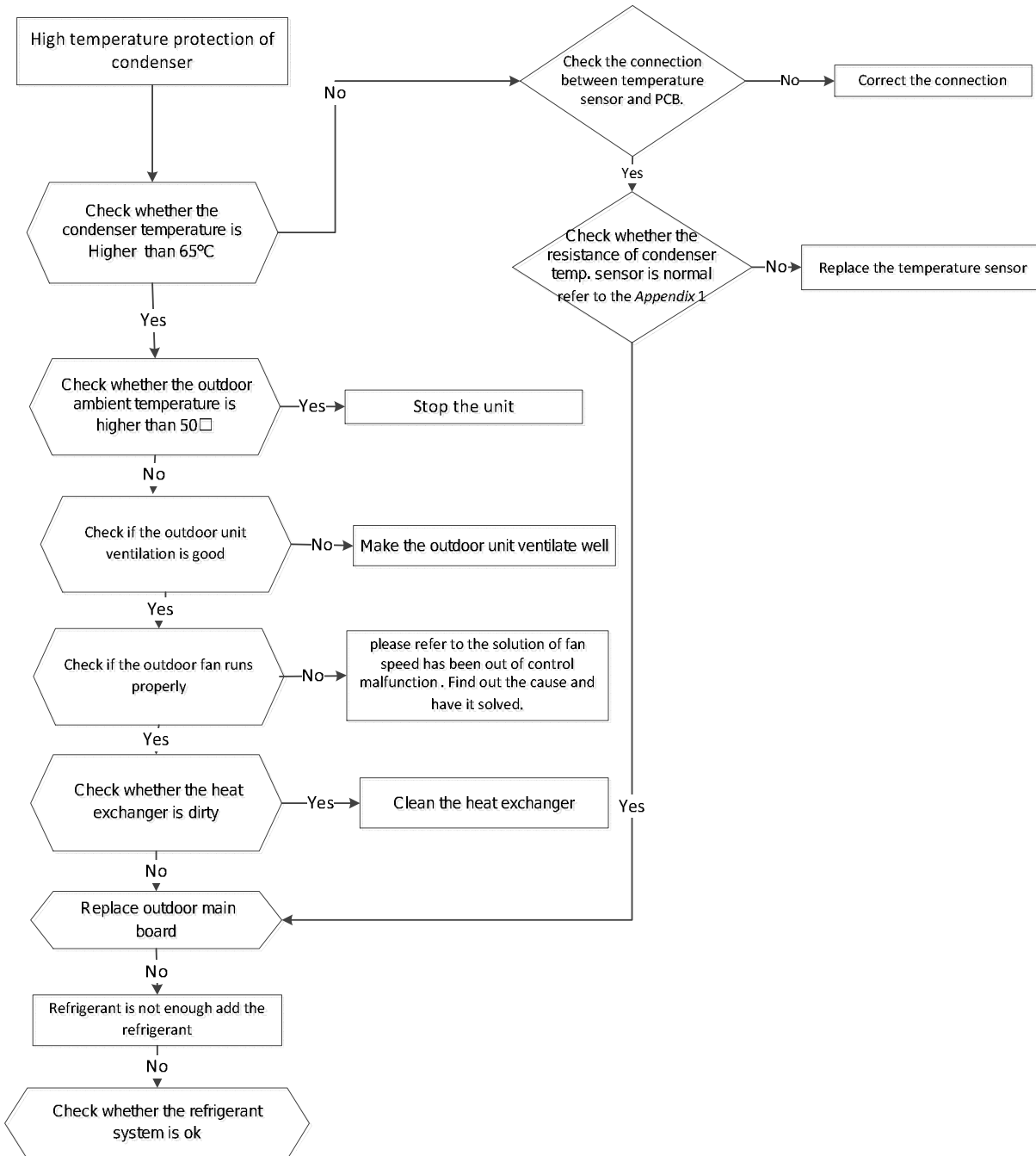
**Trouble shooting:**



### 7.4.3.11 P6(High temperature protection of condenser) error diagnosis and solution.

<b>Error Code</b>	<b>P6</b>
<b>Malfunction decision conditions</b>	When outdoor pipe temperature is more than 65°C, the unit will stop, and unit runs again when outdoor pipe temperature is less than 52°C
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• The condenser temperature sensor faulty</li> <li>• Heat exchanger dirty</li> <li>• System block</li> </ul>

#### Trouble shooting:



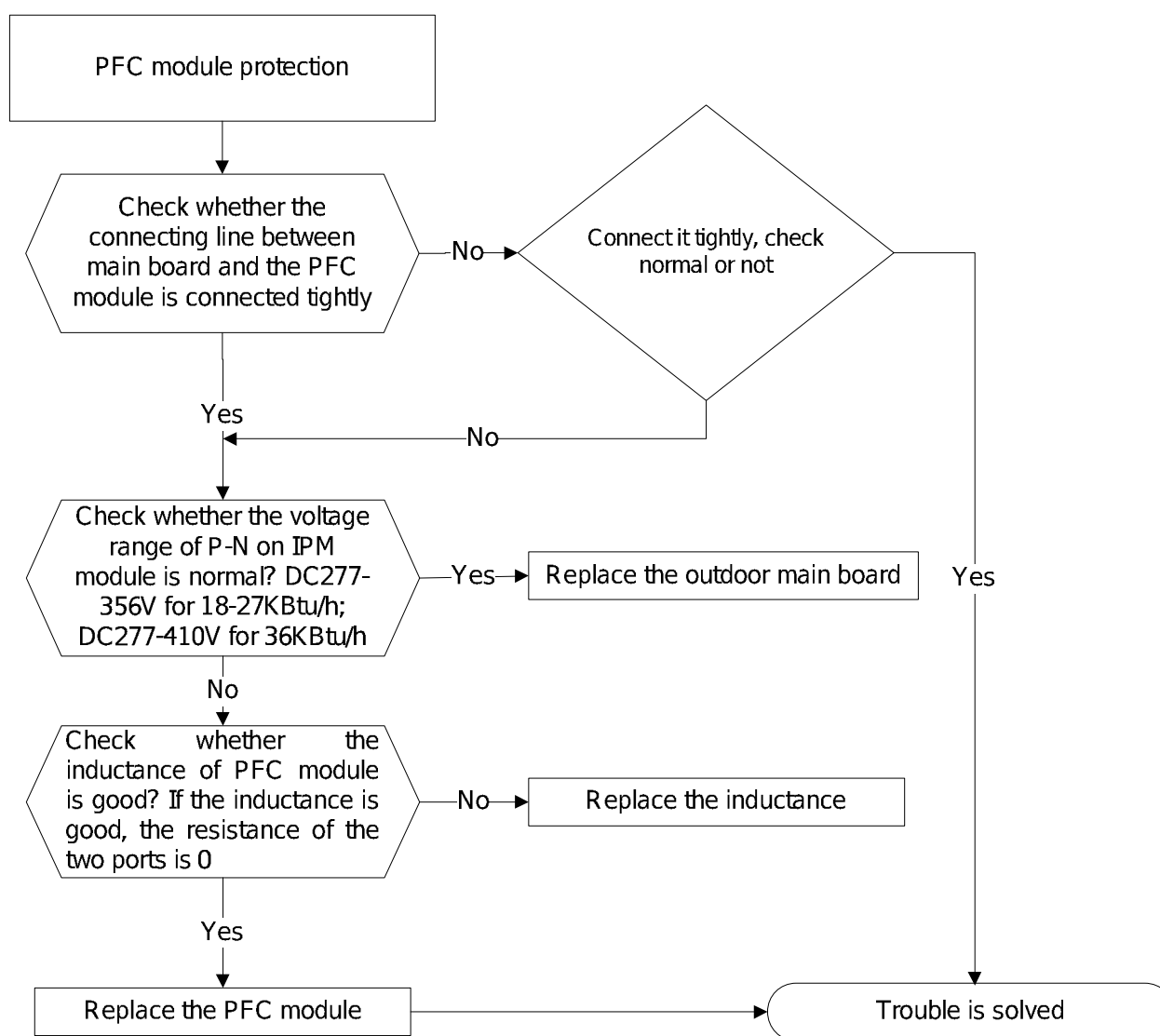
### 7.4.3.12 P7(Inverter compressor drive protection) error diagnosis and solution.

The same as P4(IPM module protection)

### 7.4.3.13 PF(PFC module protection) error diagnosis and solution. (Only for KSIM40912-H216 - 1G)

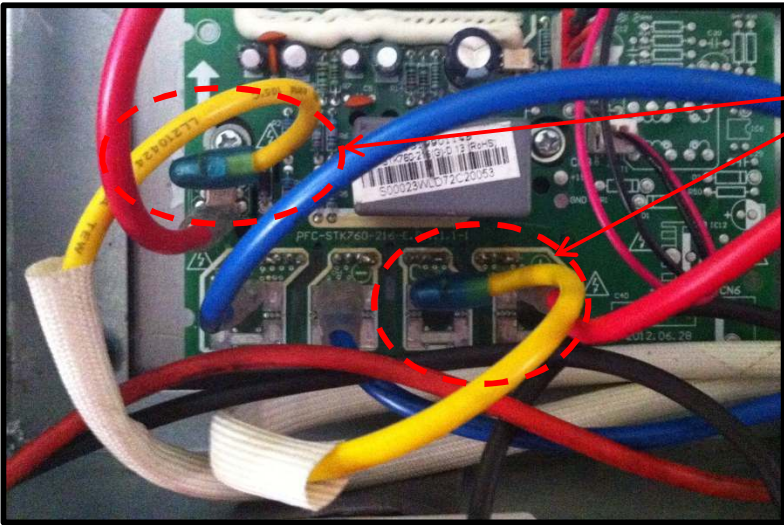
Error Code	PF
<b>Malfunction decision conditions</b>	When the voltage signal that PFC sends to main control board is abnormal, the display LED will show “PF” and AC will turn off.
<b>Supposed causes</b>	<ul style="list-style-type: none"> <li>• Wiring mistake</li> <li>• Outdoor PCB faulty</li> <li>• Inductance of PFC module faulty</li> <li>• PFC module malfunction</li> </ul>

#### Trouble shooting:





Inductance



Two ports of the inductance





## 7.5 Trouble Criterion Of Main Parts.

Spec.

<b>Indoor unit</b>			
Model	KWIL09-H2	KWIL12-H2	KWIL18-H2
Indoor fan motor	RPG20B	RPG20B	RPG28H
<b>Outdoor unit</b>			
Model	KSIM30912-H216 - 1	KSIM330-H219	KSIM40912-H216 - 2G
Compressor	DA150S1C-20FZ	DA250S2C-30MT	TNB306FPGMC-L
Outdoor fan motor	YDK53-6FB(B)	WZDK72-38G	WZDK180-38G
Model	KSIM30912-H216 - 1G	KSIM40912-H216 - 1G	
Compressor	DA150S1C-20FZ	TNB306FPGMC-L	
Outdoor fan motor	YDK53-6FB(B)	YDK180-8GB	



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