SAMSUNG

SYSTEM AIR CONDITIONER

	INDOOR UNIT	OUTDOOR UNIT
Basic Model :	AC052MNADKH/EU	AC052MXADKH/EU
	AC071MNADKH/EU	AC071MXADKH/EU
Model Code :	AC018MNADCH/AA	AC018MXSCCC/AA
	AC024MNADCH/AA	AC024MXSCCC/AA

SERVICE Manual

AIR CONDITIONER

AC018/024MNADCH

AC018MXSCCC

AC024MXSCCC

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1. Precautions

1-1 Precautions for the Service

◆ **Use the standard parts when replacing the electric parts.**
– Confirm the model name, rated voltage, rated current of the electric parts.

◆**When repairing the equipment, connection of the harness parts must be firm and solid.**
– A loose connection may cause noise or other malfunction.

◆**When assembling and disassembling the equipment while it is laid down, lay it on soft cloth.**
– Otherwise it may scratch the back of the exterior of the product.

◆**Remove dust or dirt completely from the housing block, wiring block and service parts during repair.**
– This helps prevent the danger of fire caused by tracking or short circuit.

◆**Fasten the valve caps of service valves and charging valves of outdoor unit as much as possible using adjustable wrenches.**

◆**Check the status of the components' assembly after repair service.**
– The status must be the same as before the repair service.

1-2 Precautions related to static electricity and PL

◆ **The PCB power supply block is susceptible to static electricity. Therefore, care must be taken during repair or measuring while the power is on.**
– Wear insulation gloves for PCB repair or measuring.

◆ **Check whether the installation location is at least two meters away from other electronic products such as TV, video, or audio.**
– Otherwise, the video quality might be degraded or noise might be generated.

◆ **Do not let end users repair the products themselves.**
– Unauthorized disassembly might cause electric shock or fire.

1-3 Precautions related to product safety

- **Do not pull the power cord and do not touch the power plug or aux power switch with wet hands.**
  – It might cause electric shock or fire.

- **A damaged power line or power plug must be replaced to prevent danger.**

- **Do not bend the power cable with excessive force, and do not place a heavy weight on the case as it might damage the cable.**
  – It might cause electric shock or fire.

- **Do not use multiple electric outlets.**
  – This might cause electric shock or fire.

- **Connect the ground terminal when necessary.**
  – You must connect the ground terminal if you determine that there is a danger of electric leakage due to moisture or water.

- **Unplug the power cable or turn off the auxiliary power switch for electric part replacement and repair service.**
  – Otherwise it might cause electric shock.

- **Instruct end users to separate the batteries from the remote controllers and store them separately when the product is not used for long time.**
  – Otherwise leakage from the dry cell may cause problems with the remote controller.

1-4 Other precautions

- **The pipes should have no leaks during installation, and the compressor must be stopped before removing connecting pipes for pump down work. Operating the compressor while the service valve is open and coolant pipe is not properly connected may cause explosion or injury due to abnormal high pressure created inside the coolant cycle as the air can be absorbed through the pipe.**

- **Pump Down work procedure (When uninstalling the product)**
  – Turn on the air conditioner, select cooling operation, and run the compressor for more than three minutes.
  – Release the high pressure and low pressure valve caps.
  – Close the high pressure valve completely using an L-wrench
  – After about two minutes, close the low pressure valve completely.
  – Stop running the air conditioner.
  – Separate the connecting pipe.

2. Product Specifications

2-1 The Feature of Product

◆ **Built-in Cassette Type**

After installed, the air conditioner can be harmonized with a room interior.

◆ **High Performance & Energy Saving**

With the advanced BLDC inverter technology, it makes a room cool with highly energy saving and arises the efficiency of air conditioner.

◆ **Long Ambient Operation(In Low Temperature)**

It can arise the reliability and the capacity of the air conditioner, especially operated in low temperature.

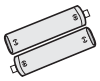
◆ **Eco-friendly Product(Lead-Free, ROHS, WEEE)**

◆ **Easy installation of ultra-lightweight indoor unit**

2-2 Product Specifications

ITEM				AC018MNADCH AC018MXSCCC	AC024MNADCH AC024MXSCCC
IMAGE	Indoor Unit				
	Outdoor Unit				
	Remote Controller				
Power	Product			1Φ, 208-230V/60Hz	1Φ, 208-230V/60Hz
Indoor	L x H x D		mm	896*261*261	1065*294*301
Outdoor	L x H x D		mm	880*310*638	880*310*798
Indoor	Product		kg(Net)	10.6	14.4
Outdoor	Product		kg(Net)	42.8	50.3
Capacity	Cooling(STD)		Btu/h	18 000	24 000
	Heating(STD)		Btu/h	-	-
Power Consumption	Cooling(STD)		W	1990	2270
	Heating(STD)		W	-	-
Operation current	Cooling(STD)		A	8.5	10.0
	Heating(STD)		A	-	-
Noise (Cooling/ Heating)	Indoor unit	In case of strongest air blow	dBA	48/-	51/-
	Outdoor unit	In case of strongest air blow	dBA	58/58	60/60
Refrigerant (R410A)			g	1300	2000
Connecting Pipe		Liquid	mm	6.35	6.35
		Gas	mm	12.70	15.88
Additional Refrigerant (R410A)			g/m	15	10
Standard			m	7.5	7.5
Extension length(Total)			m	30	50
Extension length(Elevation)			m	20	30
Option Code			Product Option	0100FC-19548E-27343E-3C130D	0100FC-19547F-274750-37130D
			Installation Option	020000-100000-200000-300000	020000-100000-200000-300000

2-3 Accessory and Specifications

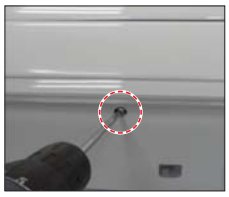
Item	Description	Code No.	Q'ty	Remark
	Remote Control	DB93-15882S	1	Essential Offer (Indoor Unit)
	Batteries for Remote Control	4301-000121	2	
	USER & INSTALLATION MANUAL	DB68-07119A	1	
	Remote Control Holder	DB61-06087A	1	
	M4 x 16 Tapped Screws	6002-000234	2	
	Cap Screws	DB67-01404B	3	
	CARD WARRNATY	DB68-02596B	1	
	Drain Plug	DB67-20011A	1	Essential Offer (Outdoor Unit)
	Rubber Leg	DB67-01533A	4	
	INSTALLATION MANUAL	DB68-07241A	1	

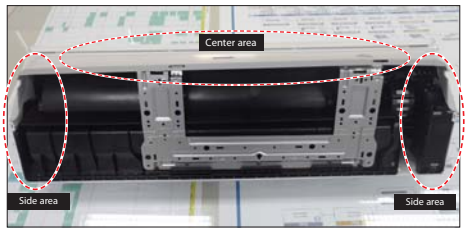
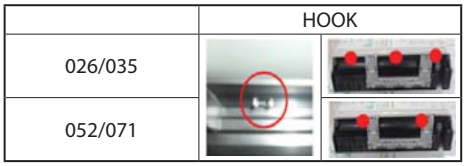
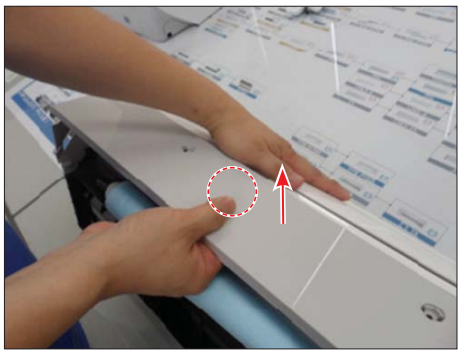
3. Disassembly and Reassembly

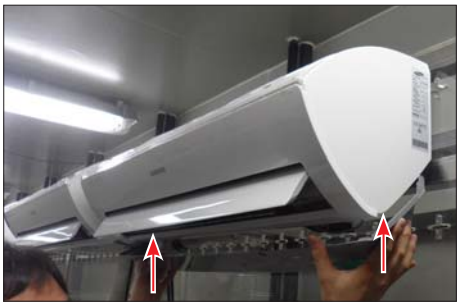
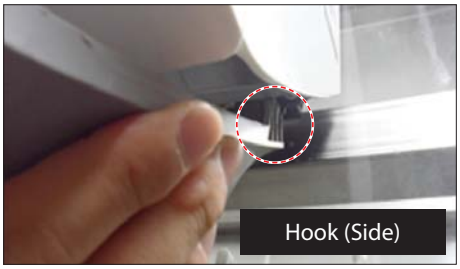
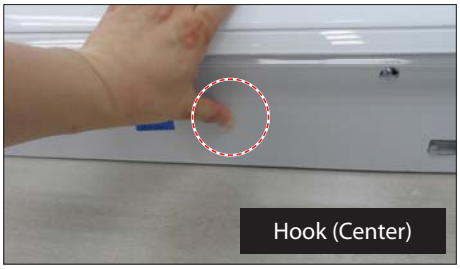
■ Necessary Tools

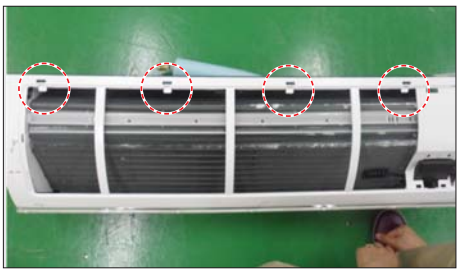
Item	Remarks
+SCREW DRIVER	
Adjustable Wrench (8mm, 10mm, 13mm)	
M6, M8 Hex Wrench	

◆ AC018MNADCH / AC024MNADCH

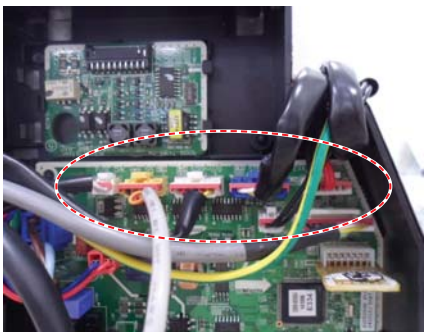
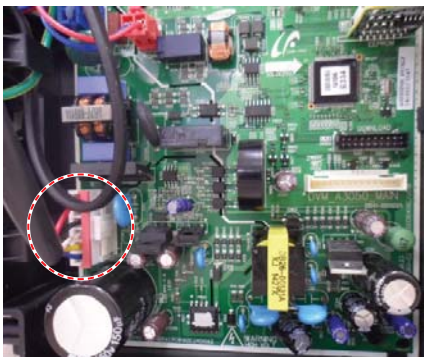
No	Parts	Procedure	Remark
1	PANEL-FRONT	1) Stop the driving of air conditioner and shut off main power supply.	
		2) Detach FILTER PRE from the PANEL FRONT.	
		3) Cover Panel is assembled on bottom of indoor unit as shown in the figure. Remove the Cap Screw as shown on the right side and then remove the screw and separate the Cover Panel.	  

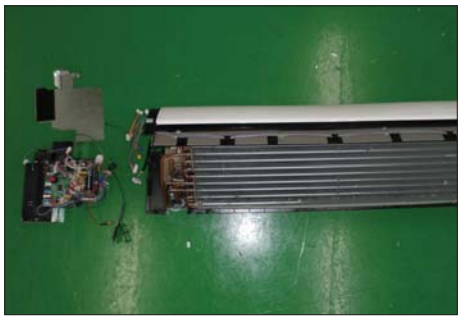
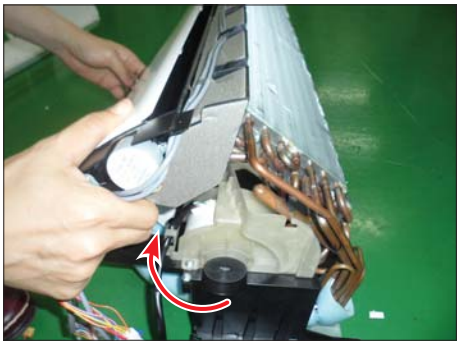
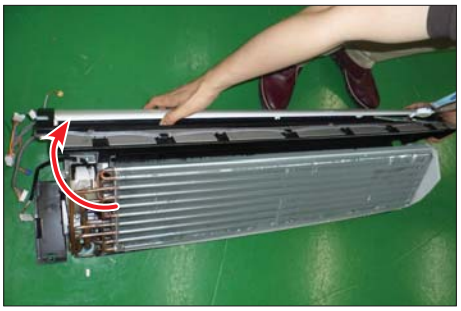
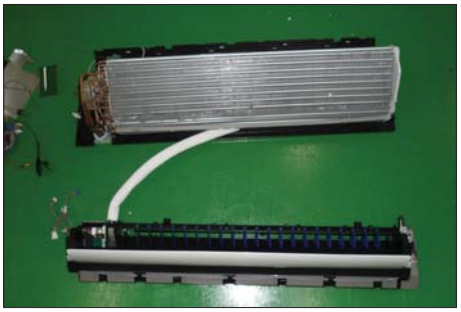
No	Parts	Procedure	Remark
		4) Cover Panel is fixed to body by Hook in center area and side area.	
			
		5) Separate the hook after pushing both end of Cover Panel as shown in the figure. (Watch out for the damage of the hook)	
		6) Raise front part upward obliquely as shown in the figure and then remove the hooks.	
			

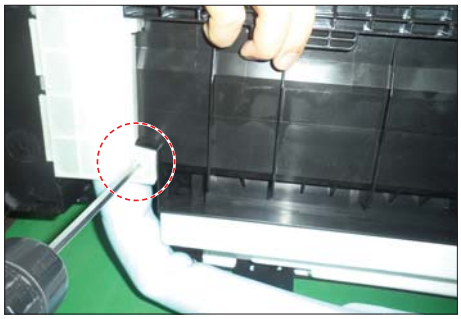
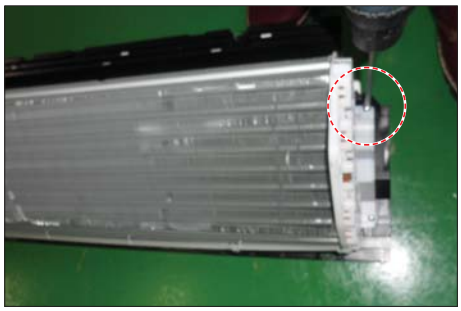
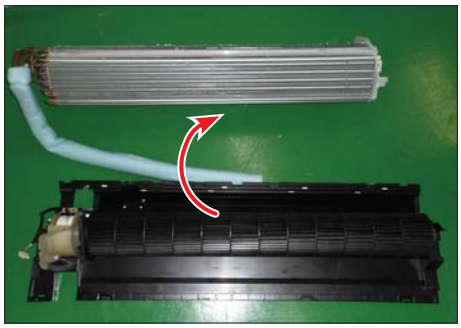
No	Parts	Procedure	Remark
		Caution: Assembly of Cover Panel after service end. - Reassembly is in the reverse order of the removal. - Piping and drain hose must be careful not to damage and Progress must be done with both hands.	  Hook (Side)  Hook (Center)  Screw  Cap Screw

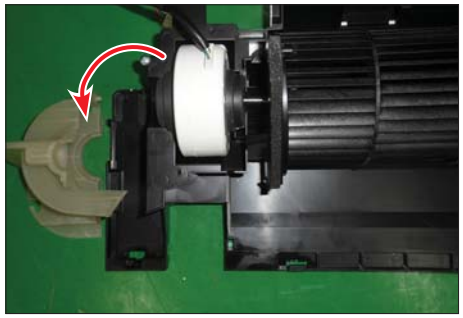
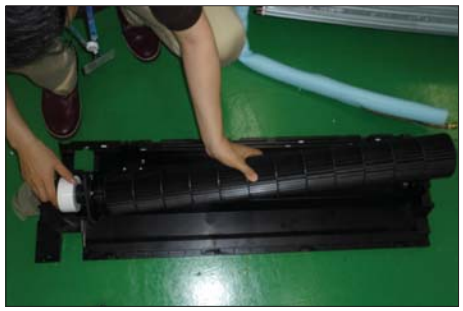
No	Parts	Procedure	Remark
		7) To detach the PANEL-FRONT from the main frame, unfasten 2 screws at the bottom. (use + Screw Driver)	
			
		8) To detach the COVER-PANEL from the main frame, loosen 4 HOOK Structures. When separate the hook : Use the (-) screw Driver. (-)Screw Driver Insert the hook and then pull the hook as shown on the right side. (Watch out for the damage of the hook)	
			 

No	Parts	Procedure	Remark
		9) Remove the Panel Frame from the Main Frame as shown on the right side.	  

No	Parts	Procedure	Remark
2	CONTORL IN	1) Lossen Sub PBA Wire. ⚠ Caution: When you separate the connector, pull pressing the locking button.	
			
		2) Lossen Stepping Motor, EEV, Display, Sensor, SPI, Fuse Wire. ⚠ Caution: When you separate the connector, pull pressing the locking button.	
		3) Lossen Motor, Terminal Wire. ⚠ Caution: When you separate the connector, pull pressing the locking button.	
		4) Loosen Earth Wire.	

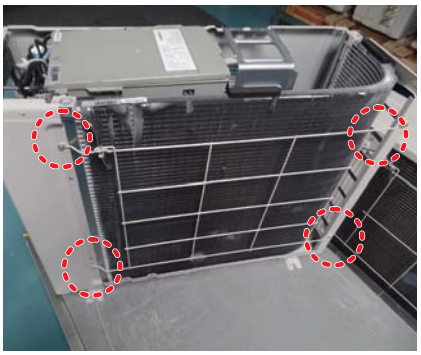
No	Parts	Procedure	Remark
5	EVAPORATOR	9) Take off the CASE-CONTROL from the main frame after loosen the remaining connector. ⚠ Caution: When you separate the connector, pull pressing the locking button.	
3	TRAY DRAIN	1) To detach TRAY-DRAIN from the main frame, pull the bottom of the TRAY-DRAIN towards you.	  

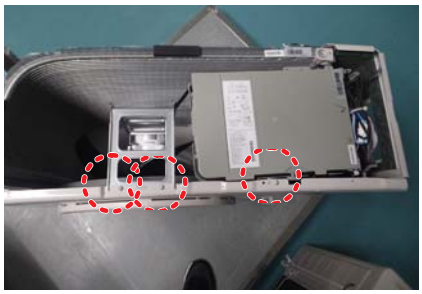
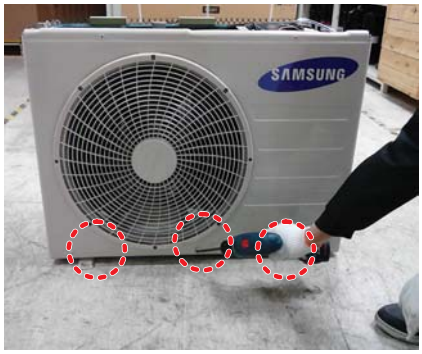
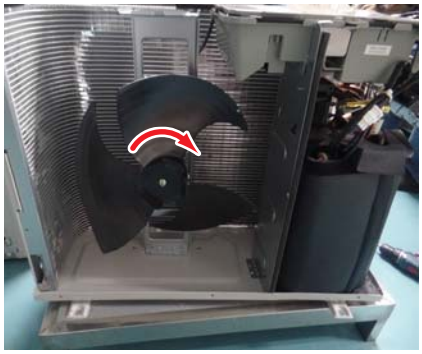
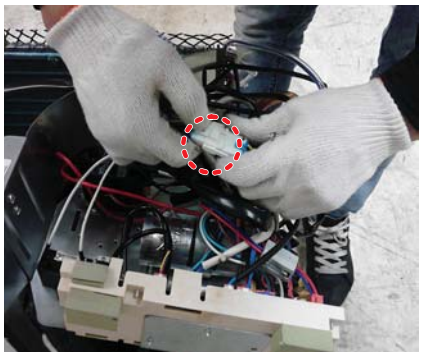
No	Parts	Procedure	Remark
4	Evaporator	1) Detach the HOLDER PIPE.	
		2) Unfasten the screw at the left side. (use + Screw Driver)	
		3) Unfasten the screw at the right side. (use + Screw Driver)	
		4) To detach Evaporator from the main frame, pull the bottom of the Evaporator towards you.	

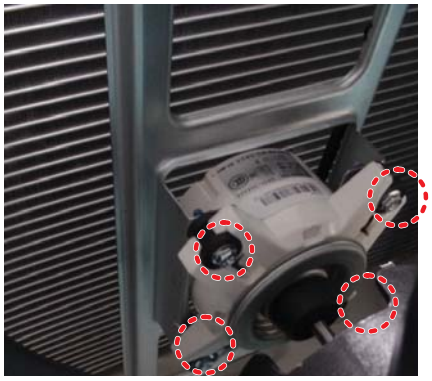
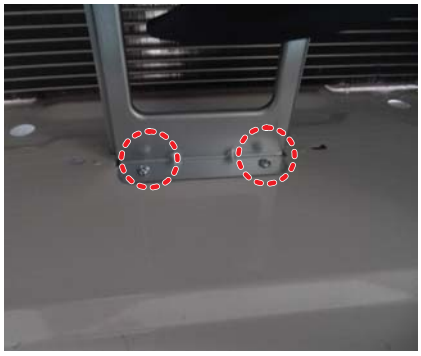
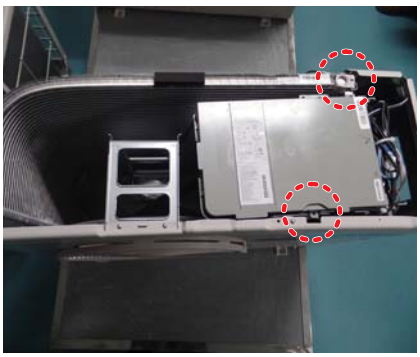
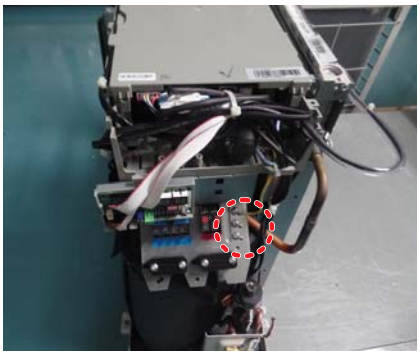
No	Parts	Procedure	Remark
5	FAN MOTOR & CROSS FAN	1) Unfasten the screw. (use + Screw Driver)	
		2) Detach the FAN Motor case.	
		3) Unfasten the screw a little. (use + Screw Driver)	
		4) Pull the CROSS-FAN to the left side.	

3-2 Outdoor Unit

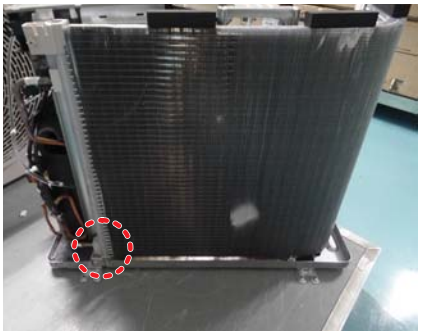
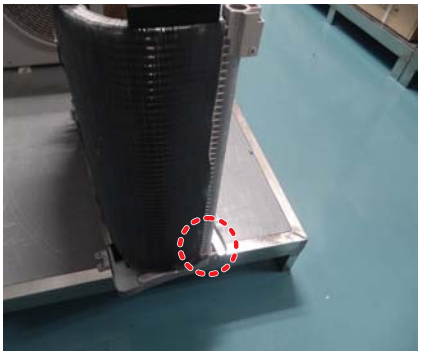
■ AC018MXSCCC

No	Parts	Procedure	Remark
1	common work	CAUTION You must turn off the Power before disassembly. 1) Loosen 1 pcs screw of cover control	
		2) Loosen 8 pcs screw of the cabi top cover.	
		3) Loosen 4 pcs screw of the bar steel.	
		4) Loosen 10 pcs screw of the cabi side front.	

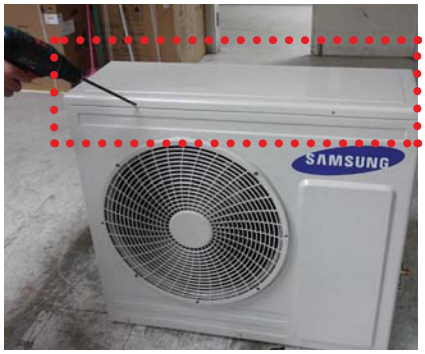
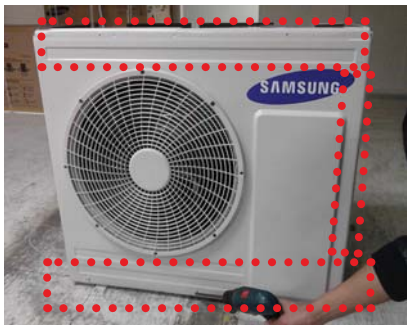
No	Parts	Procedure	Remark
1	common work		 
2	Fan& motor	1) Loosen the fan screw according the indication and detach the fab propeller 2)Disconnect the wire between assy control out and motor.	 

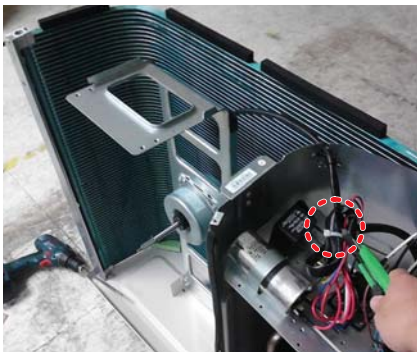
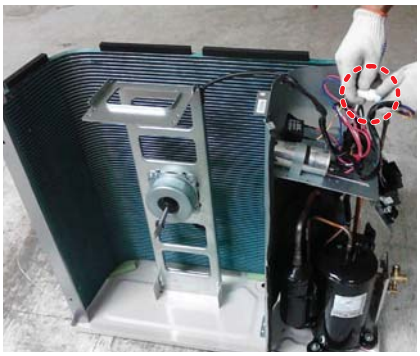
No	Parts	Procedure	Remark
2		3) Loosen 4 pcs motor screw.	
		4) Loosen 2 pcs screw of bracket motor.	
3	Assy control out	1)Loosen the screws that connected partition and case control then get the control out.	
		2) Loosen the screw of the cover termimal	

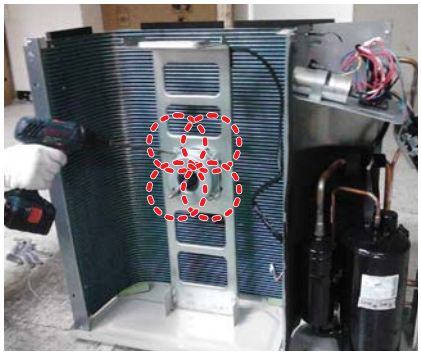
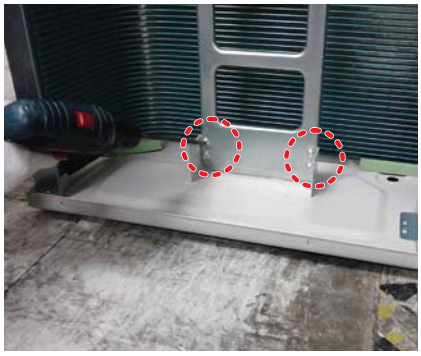
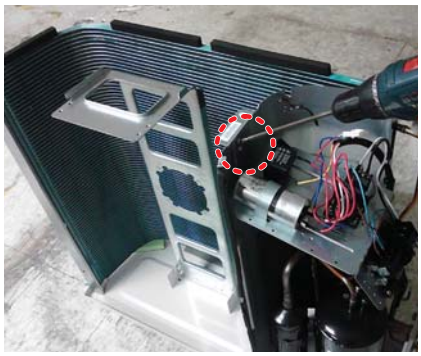
No	Parts	Procedure	Remark
3		3) Loosen 2 screws , disassemble the Coil Harmonic.	
		4) Loosen the screw of the cover terminal.	

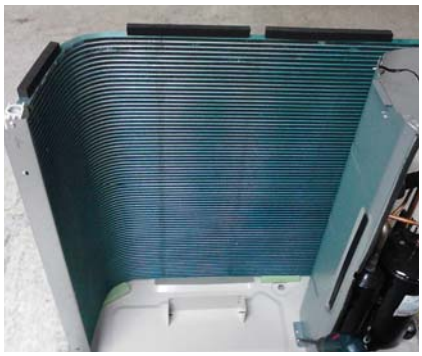
No	Parts	Procedure	Remark
4	Heat exchanger	1) Release the refrigerant at first 2) Loosen fixing screw on both side.. 3) Disassemble the pipes in both inlet and outlet with welding torch. 4) Detach the heat exchanger. CAUTION When removing the compressor, Heat Exchanger, and Pipe, purge the Coolant inside the Compressor completely and remove the pipe with a welding flame.	  
5	Compressor	1)Loosen the 3 bolts at the bottom of compressor.	

■ AC024MXSCCC

No	Parts	Procedure	Remark
1	common work	1) loosen 1 pcs screw of cover control	
		2) loosen 8 pcs screw of the cabi top cover.	
		3) loosen 12 pcs screw of the cabi front	
		4) loosen 7 pcs screw of the cabi side right.	

No	Parts	Procedure	Remark
		5)loosen 3pcs screw of the cabi side left.	 
2	Fan & Motor	1) loosen the fan screw according the indication and detach the fab propeller 2)Cut the cable-tie 3)disconnect the wire betwwen assy control out and motor.	  

No	Parts	Procedure	Remark
		4) loosen 4 pcs motor screw. 5) loosen 4 pcs screw of bracket motor	 
3	assy control out	1) lossen the screw of the cover termimal 2)lossen the screws that connected partition and case control then pull up the control out.	 

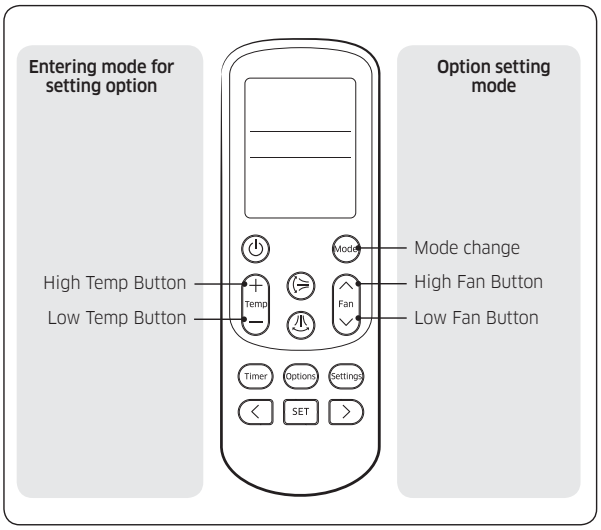
No	Parts	Procedure	Remark
4	Heat exchanger	1) Release the refrigerant at first 2) Looosen fixing screw on both side. 3) disaessembly the pipes in both inlet and outlet with welding torch. 4) detach the heat exchanger.	  
5	Compressor	1)loosen the 3 bolts at the bottom of compressor.	

4. Troubleshooting

4-1 Troubleshooting for indoor unit

- Set the indoor unit address and installation option with remote controller option. Set the each option separately since you cannot set the ADDRESS setting and indoor unit installation setting option at the same time. You need to set twice when setting indoor unit address and installation option.
- Please use the proper wireless remote controller which can set 24 digit option code.
- Please refer to the wired remote controller installation manual for setting with the wired remote controller.

Common steps for setting the addresses and options



NOTE

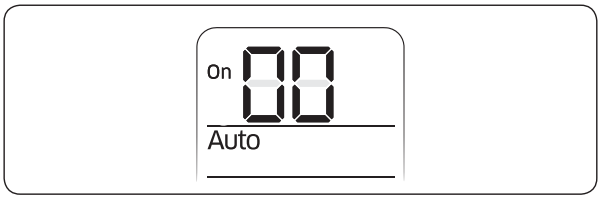
- The remote control display and buttons may vary depending on the model.

1 Enter the mode for setting the options:

a Remove the batteries from the remote control, and then insert them again.

b While holding down the (High Temp) and (Low Temp) buttons simultaneously, insert the batteries into the remote control.

c Make sure that you are entered to the mode for setting the options:



2 Set the option values.

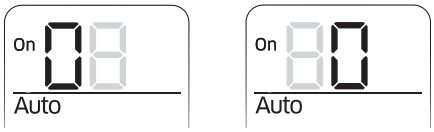
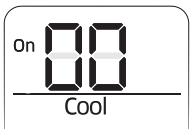
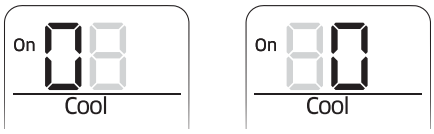
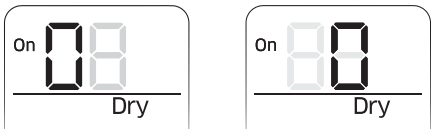
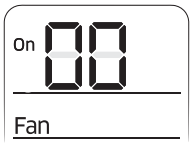
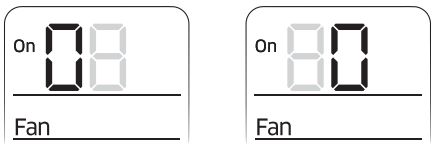
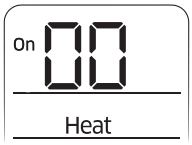
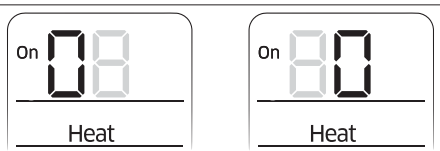
⚠ CAUTION

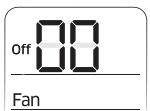
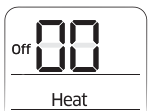
- The total number of available options are 24: SEG1 to SEG24.
- Because SEG1, SEG7, SEG13, and SEG19 are the page options used by the previous remote control models, the modes to set values for these options are skipped automatically.
- Set a 2-digit value for each option pair in the following order: SEG2 and SEG3 → SEG4 and SEG5 → SEG6 and SEG8 → SEG9 and SEG10 → SEG11 and SEG12 → SEG14 and SEG15 → SEG16 and SEG17 → SEG18 and SEG20 → SEG21 and SEG22 → SEG23 and SEG24

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	X	X	X	X	X
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	X	X	X	X	X
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	X	X	X	X	X
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	X	X	X	X	X

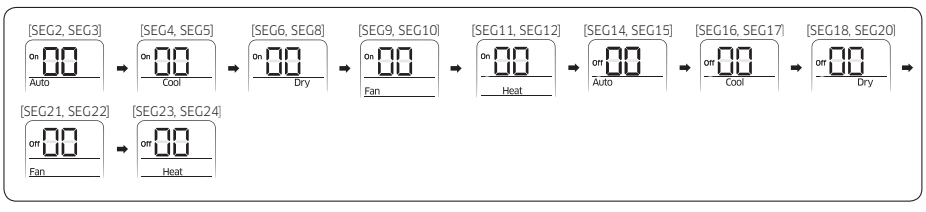
On (SEG1 to SEG12)	Off (SEG13 to SEG24)
	

Take the steps presented in the following table:

Option setting	Status
1 Setting SEG2, SEG3 option Press Low Fan button to enter SEG2 value. Press High Fan button to enter SEG3 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG2 SEG3
2 Setting Cool mode Press Mode button to be changed to Cool mode in the ON status.	
3 Setting SEG4, SEG5 option Press Low Fan button to enter SEG4 value. Press High Fan button to enter SEG5 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG4 SEG5
4 Setting Dry mode Press Mode button to be changed to DRY mode in the ON status.	
5 Setting SEG6, SEG8 option Press Low Fan button to enter SEG6 value. Press High Fan button to enter SEG8 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG6 SEG8
6 Setting Fan mode Press Mode button to be changed to FAN mode in the ON status.	
7 Setting SEG9, SEG10 option Press Low Fan button to enter SEG9 value. Press High Fan button to enter SEG10 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG9 SEG10
8 Setting Heat mode Press Mode button to be changed to HEAT mode in the ON status.	
9 Setting SEG11, SEG12 option Press Low Fan button to enter SEG11 value. Press High Fan button to enter SEG12 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG11 SEG12
10 Setting Auto mode Press Mode button to be changed to AUTO mode in the OFF status.	

Option setting	Status
11 Setting SEG14, SEG15 option Press Low Fan button to enter SEG14 value. Press High Fan button to enter SEG15 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG14 SEG15
12 Setting Cool mode Press Mode button to be changed to Cool mode in the OFF status.	
13 Setting SEG16, SEG17 option Press Low Fan button to enter SEG16 value. Press High Fan button to enter SEG17 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG16 SEG17
14 Setting Dry mode Press Mode button to be changed to Dry mode in the OFF status.	
15 Setting SEG18, SEG20 option Press Low Fan button to enter SEG18 value. Press High Fan button to enter SEG20 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG18 SEG20
16 Setting Fan mode Press Mode button to be changed to Fan mode in the OFF status.	
17 Setting SEG21, SEG22 option Press Low Fan button to enter SEG21 value. Press High Fan button to enter SEG22 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG21 SEG22
18 Setting Heat mode Press Mode button to be changed to HEAT mode in the OFF status.	
19 Setting SEG23, SEG24 option Press Low Fan button to enter SEG23 value. Press High Fan button to enter SEG24 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG23 SEG24

3 Check whether the option values that you have set are correct by pressing the Mode button repeatedly.



4 Save the option values into the indoor unit:
Press the Power button with the direction of remote control for set. For correcting option values, input the option values twice.

5 Check whether the air conditioner operates in accordance with the option values you have set:

a Reset the indoor unit by pressing the Reset button on the indoor or outdoor unit.

b Remove the batteries from the remote control, insert them again, and then press the Power button on the remote control.

Emergency Temperature Output (ETO) function

⚠CAUTION

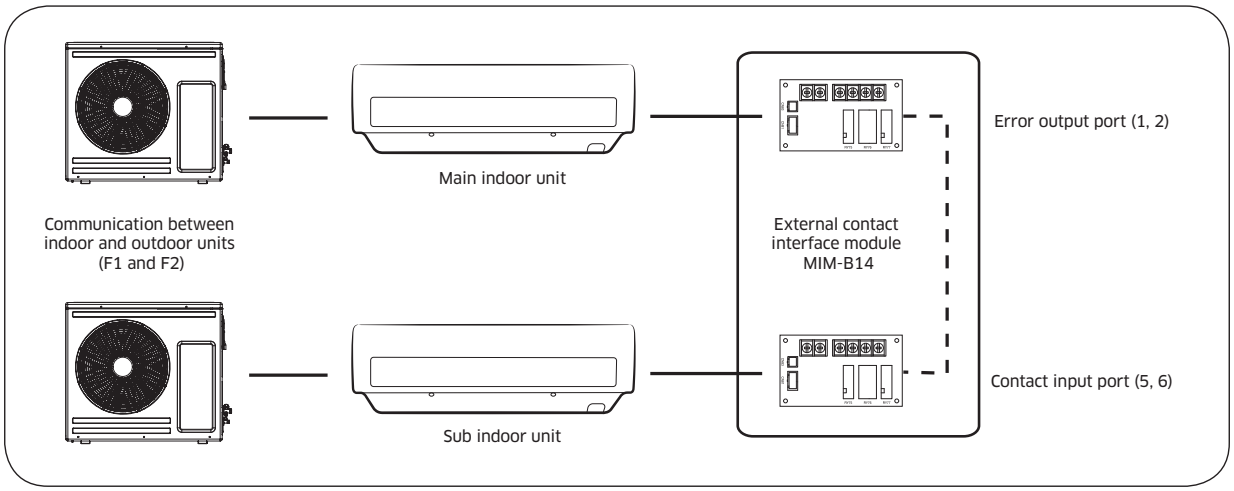
- In order to deploy the ETO function, the MIM-B14, an external contact interface module, must be installed in each indoor unit.

– The ETO is a concept of emergency operation of indoor units. If the indoor unit 1 (main indoor unit) stops because of an error, the indoor unit 2 (sub indoor unit) starts to operate.

– Basically, the indoor unit 2 operates in the previous mode. (For the first time operation, it starts in 24 ˚C Auto mode.)

– To set more detailed operation conditions for the indoor unit 2, use the S-net Pro.

Setting up the ETO



1 Main indoor unit

– Disable the external contact control (Default).

– Connect the S-net pro2 to F1 and F2.

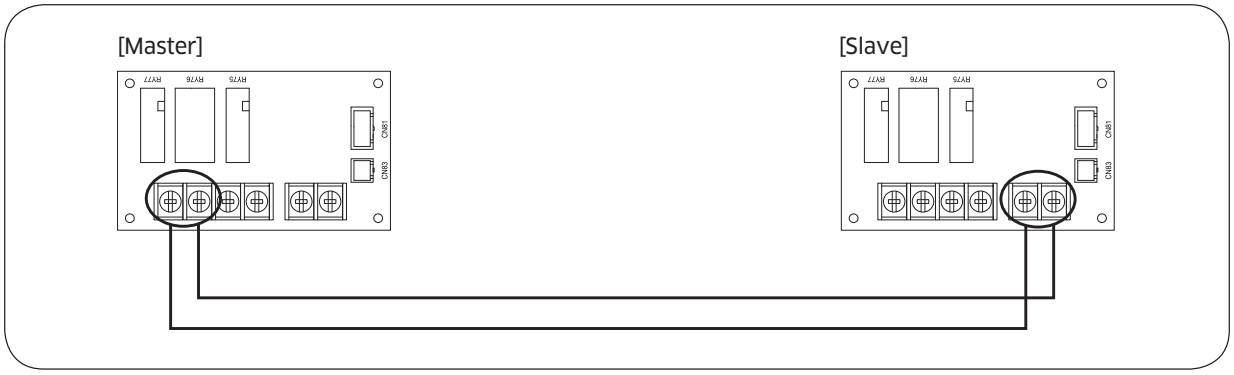
– Enable the ETO function and set the temperature and time.

2 Sub indoor unit

– (Required) Enable the external contact control (with the installation option SEG14 - Reverse Control).

– Connect the S-net pro2 to F1 and F2.

– Enable the entrance control and set the mode, set temperature, and fan speed.



ETO operation specifications

1 Main indoor unit

– Based on the external contact control settings, the main indoor unit decides whether to generate output when an error (indoor unit stop) occurs.

- Based on the ETO settings, the main indoor unit decides whether to generate output according to the temperature and time conditions.

2 Sub indoor unit

- Based on the entrance control settings, the sub indoor unit decides the mode, set temperature, and fan speed when contact inputs are given.

	Enable of ETO	Enable of external contact	Error port output
Main indoor unit	X	X	N/A
	X	O	Output due to an error
	O	X	Output by ETO entrance conditions (temperature / time / error occurrence)
	O	O	Output by ETO entrance conditions (temperature / time / error occurrence) ❉ Ready to control the main contact input

	Enable of entrance control	Enable of external contact	Operation when outputting Main
Sub indoor unit	X	X	N/A
	X	O	On with the previous operation conditions
	O	O	On with the entrance control enabled

Setting the indoor unit addresses

1 Make sure that the power is supplied to the indoor unit. If the indoor unit is not plugged in, it must include a power supply.

2 The panel(display) should be connected to an indoor unit to receive option.

3 Before installing the indoor unit, assign an address to the indoor unit according to the air conditioning system plan.

4 Assign an indoor unit address by wireless remote controller.

- The initial indoor unit ADDRESS is set as "MAIN : 0, RMC : 0".
- Set Main and RMC Address only the setting is required.
- There is no need to assign the indoor unit Main Address if the outdoor unit is addressing automatically.
  The indoor unit Main address will follow the outdoor unit's automatically.
- Assign 12 digit when setting the indoor unit address.
- No need to assign SEG4, 5, 8, 10 which are non applicable. Even though those segments are set, they will be ignored.
- If you set the applicable segments with numbers other than the indiciated, the initial setting will be maintained.

Option No. : 0AXXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3		SEG4	SEG5	SEG6	
Explanation	PAGE		MODE		Setting Main address		RESERVED	RESERVED	The unit digit of an indoor unit	
Indication and Details	Indication	Details	Indication	Details	Indication	Details			Indication	Details
	0		A		0	No Main address			0~3(ACN*)	Details
					1	Main address setting mode			0~4 (AJN*)	A single digit

Option	SEG7		SEG8	SEG9		SEG10	SEG11		SEG12	
Explanation	PAGE		RESERVED	Setting RMC address		RESERVED	Group channel(*16)		Group address	
Indication and Details	Indication	Details		Indication	Details		Indication	Details	Indication	Details
	1			0	No RMC address		RMC1	0~2	RMC2	0~F
				1	RMC address setting mode					

*SEG6: AJN** models should check maximum installation indoor unit number of outdoor unit.
(Indoor1: 0, Indoor2: 1, ~)

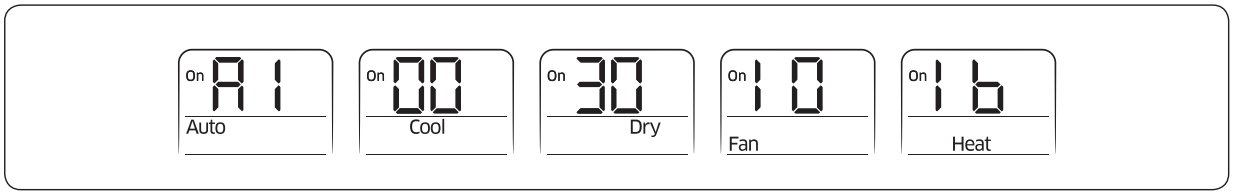
⚠ CAUTION

- When “A”~”F” is entered to SEG5~6, the indoor unit MAIN ADDRESS is not changed.
- If you set the SEG 3 as 0, the indoor unit will maintain the previous MAIN ADDRESS even if you input the option value of SEG6.
- If you set the SEG 9 as 0, the indoor unit will maintain previous RMC ADDRESS even if you input the option value of SEG11~12.

Example) If you want to set as "MAIN: 3, CHANNEL: 1, RMC: B",

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	A	1	-	-	3
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	-	1	-	1	B

assign option codes except SEG 1, 7 which are page options.



Setting the installation options in a batch

1 Make sure that the power is supplied to the indoor unit. If the indoor unit is not plugged in, it must include a power supply.

2 The panel(display) should be connected to an indoor unit to receive option.

3 Set the installation option according to the installation condition of an air conditioner.

- The default setting of an indoor unit installation option is “02000-100000-200000-300000”.
- Individual control of a remote controller(SEG20) is the function that controls an indoor unit individually when there is more than one indoor unit.
- No need to assign SEG3, 6, 9, 10, 11, 16, 21, 22, 23, 24 which are non applicable. Even though those segments are set, they will be ignored.
- If you set the applicable segments with numbers other than the indiciated, the initial setting will be maintained.

4 Set the indoor unit option by wireless remote controller.

Option No. : 02XXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3	SEG4		SEG5		SEG6
Explanation	PAGE		MODE		RESERVED	Use of external temperature sensor		Use of central control		RESERVED
Indication and details	Indication	Details	Indication	Details		Indication	Details	Indication	Details	
	0		2			0	Disuse	0	Disuse	
						1	Use	1	Use	

Option	SEG7		SEG8		SEG9	SEG10	SEG11	SEG12	
Explanation	PAGE		Use of drain pump		RESERVED	RESERVED	RESERVED	Group address	
Indication and details	Indication	Details	Indication	Details				Indication	Details
	1		0	Disuse				0	slave
			1	Use				1	master
			2	Use + 3minute delay					

Option	SEG13		SEG14			SEG15		SEG16		SEG17		SEG18
Explanation	PAGE		Use of external control			Setting the output of external control		S-Plasma ion		Buzzer control		
	Indication	Details	Indication	Details		Indication	Details	Indication	Details	Indication	Details	
Indication and details	2		0	Disuse	Slave, Existing Control	0	Thermo on	0	Disuse	0	Use	RESERVED
			1	On/Off								
			2	Off								
			3	Window								
			4	Disuse	Master, Existing Control							
			5	On/Off								
			6	Off								
			7	Window								
			8	Disuse	Slave, Reverse Control	1	Operation on	1	Use	1	Disuse	
			9	On/Off								
			A	Off								
			B	Window								
			C	Disuse	Master, Reverse Control							
			D	On/Off								
			E	Off								
			F	Window								

Option	SEG19		SEG20		SEG21		SEG22	SEG23	SEG24
Explanation	PAGE		Individual control of a remote controller		Heating setting compensation		RESERVED	RESERVED	RESERVED
	Indication	Details	Indication	Details	Indication	Details			
Indication and details	3		0 or 1	Indoor 1	0	Disuse			
			2	Indoor 2					
			3	Indoor 3					
			4	Indoor 4	1	2˚C			
					2	5˚C			

If you input a number other than 0~4 on the individual control of the indoor unit(SEG 20), the indoor is set as "Indoor 1".

Example) If you want to set as "Exterior temperature sensor : USE, External control : USE

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	2	-	1	0	-
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	0	-	-	-	0
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	1	0	-	0	0
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	0	-	-	-	-

assign option codes except SEG 1, 7, 13, 19 which are page options.

Changing the addresses and options individually

You can change each digit of set option.

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Explanation	PAGE		MODE		The option mode you want to change		The tens' digit of an option SEG you will change		The unit digit of an option SEG you will change		The changed value	
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		D		Option mode	0~F	Tens' digit of SEG	0~9	Unit digit of SEG	0~9	The changed value	0~F

NOTE

- When changing a digit of an indoor unit address setting option, set the SEG3 as 'A'.
- When changing a digit of indoor unit installation option, set the SEG3 as '2'.
  Example) When setting the 'buzzer control' into disuse status.

Option	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
Explanation	PAGE	MODE	The option mode you want to change	The tens' digit of an option SEG you will change	The unit digit of an option SEG you will change	The changed value
Indication	0	D	2	1	7	1

Detection of errors

- If an error occurs during the operation, an LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

LED Display on the receiver & display unit

LED Display

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- When E108 error occurs, change the address and reset the system.Ex.) When address of the indoor unit #1 and #2 are set as 5, address of the indoor unit #1 will become 5 and indoor unit #2 will display E108, A002.

● On ◑ Flickering X Off

Abnormal condition	Error code	LED Display		
		⏻	⏲	TURBO
Error on indoor temperature sensor (Short or Open)	E121	X	◑	X
1. Error on Eva-in sensor (Short or Open) 2. Error on Eva-out sensor (Short or Open) 3. Discharge sensor error (Short or Open)	E122 E123 E126	◑	◑	X
Indoor fan error	E154	X	X	◑
1. Error on outdoor temperature sensor (Short or Open) 2. Error on cond sensor 3. Error on discharge sensor Other outdoor unit sensor error that is not on the above list	E221 E237 E251	◑	X	◑
1. When there is no communication between the indoor•outdoor units for 2 minutes 2. Communication error received from the outdoor unit 3. 3 miniute tracking error on outdoor unit 4. Communication error after tracking due to unmatching number of installed units 5. Error due to repeated communication address 6. Communication address not confirmed Other outdoor unit communication error that is not on the above list	E101 E102 E202 E201 E108 E109	X	◑	◑
Self diagnosis error display 1. Error due to opened EEV (2nd detection) 2. Error due to closed EEV (2nd detection) 3. Eva in sensor is detached 4. Eva out sensor is detached 5. Thermal fuse error (Open)	E151 E152 E128 E129 E198	●	◑	◑

Abnormal condition	Error code	LED Display		
		⏻	⏲	TURBO
1. COND mid sensor is detached	E241	●	◑	◑
2. Refrigerant leakage (2nd detection)	E554			
3. Abnomally high temperature on Cond (2nd detection)	E450			
4. Low pressure s/w (2nd detection)	E451			
5. Abnomally high temperature on discharged air on outdoor unit (2nd detection)	E416			
6. Indoor operation stop due to unconfirmed error on outdoor unit	E559			
7. Error due to reverse phase detection	E425			
8. Comp stop due to freeze detection (6th detection)	E403			
9. High pressure sensor is detached	E301			
10. Low pressure sensor is detached	E306			
11. Outdoor unit copression ration error	E428			
12. Outdoor sump down_1 prevetion control	E413			
13. Compressor down due to low pressure sensor prevention control_1	E410			
14. Simultaneous opening of cooling/heating MCU SOL valve (1st detection)	E180			
15. Simultaneous opening of cooling/heating MCU SOL valve (2nd detection)	E181			
Other outdoor unit self-diagnosis error that is not on the above list				
EEPROM error	E162	◑	◑	◑

4-2 Troubleshooting for outdoor unit

The table below list the self-diagnostic routines. For some of error codes, you must contact an authorized service centre.
If an error occurs during the operation, it is displayed on the outdoor unit PCB LED, both MAIN PCB and INVERTER PCB.

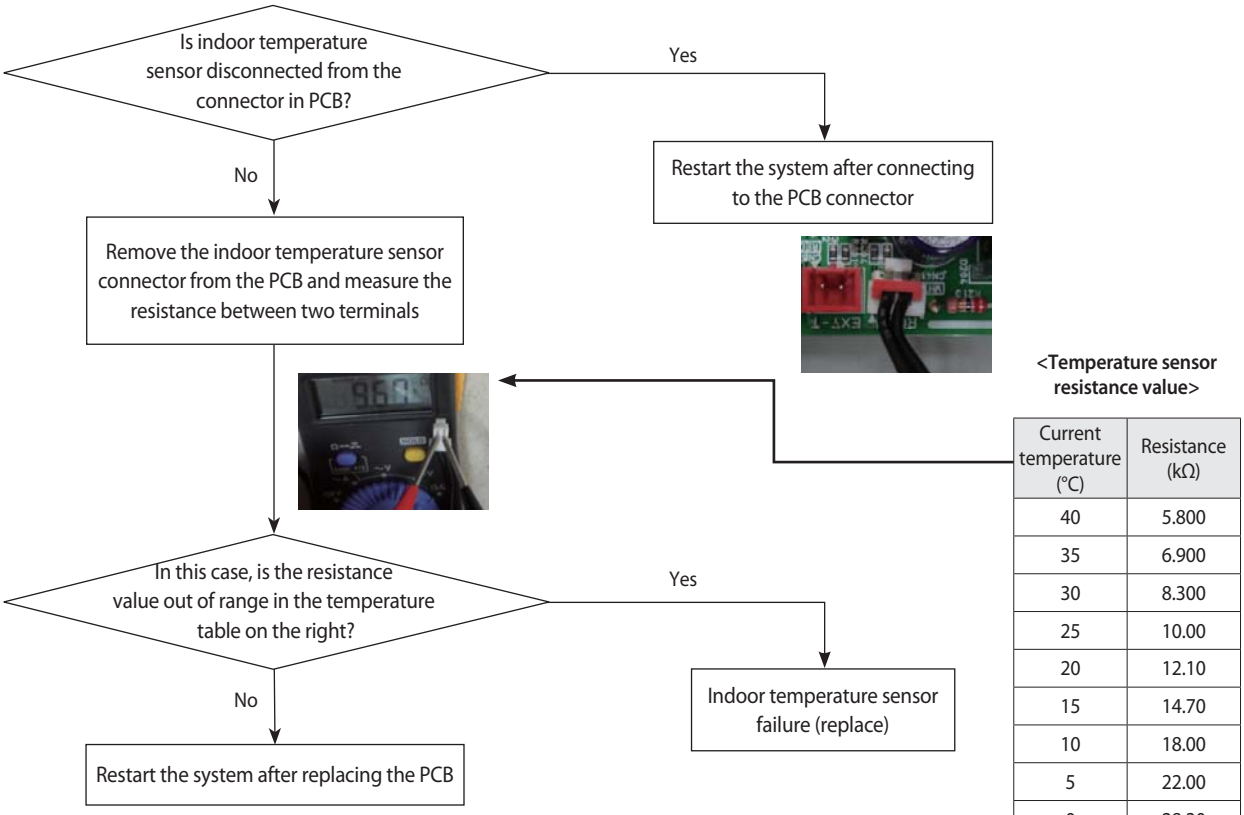
No.	Error Code	Meaning	Remarks
1	E108	Error due to duplicated communication address	Check on repeated indoor unit main address
2	E121	Error on room temperature sensor of indoor unit (Short or Open)	Indoor unit Room Thermistor Open/Short
3	E122	Error on EVA IN sensor of indoor unit (Short or Open)	Indoor unit EVA_IN Thermistor Open/Short
4	E123	Error on EVA OUT sensor of indoor unit (Short or Open)	Indoor unit EVA_OUT Thermistor Open/Short
5	E153	Error on float switch (2nd detection)	Indoor unit Float Switch Open/Short Drain Pump operation Check
6	E154	Indoor fan error	Check on indoor unit indoor Fan operation
7	E198	Error on thermal fuse of indoor unit (Open)	Thermal Fuse Open Check of indoor unit Terminal Block
8	E201	Communication error between the indoor unit and outdoor unit (Pre-tracking failure or when the actual number of indoor units are different from the indoor unit quantity setting on the outdoor unit) Error due to communication tracking failure after initial power is supplied (The error occurs regardless of the number of units.)	Check indoor quantity setting in outdoor
9	E202	Communication error between indoor unit and outdoor unit (When there is no response from indoor units after tracking is completed)	Check electrical connection and setting between indoor unit and outdoor unit
10	E203	Communication error between the outdoor unit and main micom (For PF #4 to #6 controllers, error will be determined from the time when the compressor is turned on.)	Check electrical connection and setting between indoor unit MAIN PBA - INVERTER PBA
11	E221	Error on outdoor temperature sensor (Short or Open)	Check Outdoor sensor Open / Short
12	E231	Error on outdoor COND OUT sensor (Short or Open)	Check Cond-Out sensor Open / Short
13	E251	Error on discharge temperature sensor of compressor 1 (Short or Open)	Check Discharge sensor Open / Short
14	E320	Error on OLP sensor (Short or Open)	Check OLP sensor Open / Short
15	E403	Compressor down due to freeze protection control	Check Outdoor Cond.
16	E404	System stop due to overload protection control	Check Comp. when it starts
17	E416	System stop due to discharge temperature	-
18	E422	Blockage detected on high pressure pipe	1. Check if the service valve is open 2. Check for refrigerant leakage (pipe connections, heat exchanger) and charge refrigerant if necessary 3. Check if there's any blockage on the refrigerant cycle (indoor unit/outdoor unit) 4. Check if additional refrigerant has been added after pipe extension
19	E425	Reverse phase or open phase	Check whether 3 phase is reversed or opened.
20	E440	Heating operation restricted at outdoor temperature over Theat_high value	HEATING
21	E441	Cooling operation restricted at outdoor temperature below Tcool_low value	COOLING
22	E458	Fan speed error	FAN1 ERROR

No.	Error Code	Meaning	Remarks
23	E461	Error due to operation failure of inverter compressor	-
24	E462	System stop due to full current control	-
25	E463	Over current trip / PFC over current error	Check OLP sensor
26	E464	IPM Over Current(O.C)	IPM
27	E465	Comp. Over load error	-
28	E466	DC-Link voltage under/over error	Check AC Power and DC Link Voltage
29	E467	Error due to abnormal rotation of the compressor or unconnected wire of compressor	Check Comp wire
30	E468	Error on current sensor (Short or Open)	Check Outdoor Inverter PBA.
31	E469	Error on DC-Link voltage sensor (Short or Open)	-
32	E470	Outdoor unit EEPROM Read/Write error (Option)	Check Outdoor EEPROM Data
33	E471	Outdoor unit EEPROM Read/Write error (H/W)	Check Outdoor EEPROM PBA
34	E472	AC Line Zero Cross Signal out	-
35	E473	Comp Lock error	-
36	E474	Error on IPM Heat Sink sensor of inverter 1 (Short or Open)	Check Outdoor Inverter PBA.
37	E475	Error on inverter fan 2	FAN2 ERROR
38	E484	PFC Overload (Over current) Error	Check Outdoor Inverter PBA.
39	E485	Error on input current sensor of inverter 1 (Short or Open)	Check Outdoor EEPROM PBA
40	E500	IPM over heat error on inverter 1	Check Outdoor Inverter PBA.
41	E508	Smart install is not installed	-
42	E554	Gas leak detected	Check the refrigerant
43	E556	Error due to mismatching capacity of indoor and outdoor unit	Check the indoor and outdoor unit capacity
45	E590	Inverter EEPROM Checksum error	-
46	E660	Inverter Boot Code error	-

4-3 Troubleshooting by symptoms

4-3-1 Indoor temperature sensor (open/short)

Indoor unit display	
Symptom	In case of open or short circuit of indoor temperature sensor
Failure	Short or leakage of the corresponding sensor

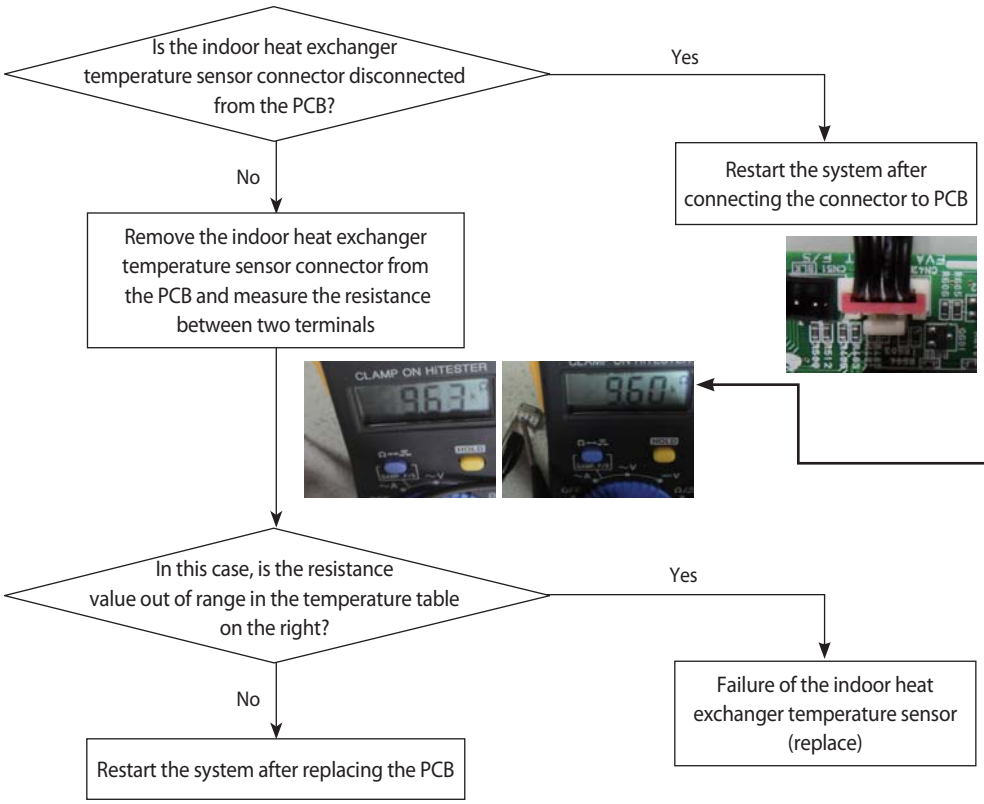


<Temperature sensor resistance value>

Current temperature (℃)	Resistance (kΩ)
40	5.800
35	6.900
30	8.300
25	10.00
20	12.10
15	14.70
10	18.00
5	22.00
0	28.30
-5	33.90
-10	42.30

4-3-2 Indoor heat exchanger temperature sensor (open/short)

Indoor unit display	
Symptom	Short or open circuit of indoor heat exchanger temperature sensor
Failure	Short or open circuit in the corresponding sensor

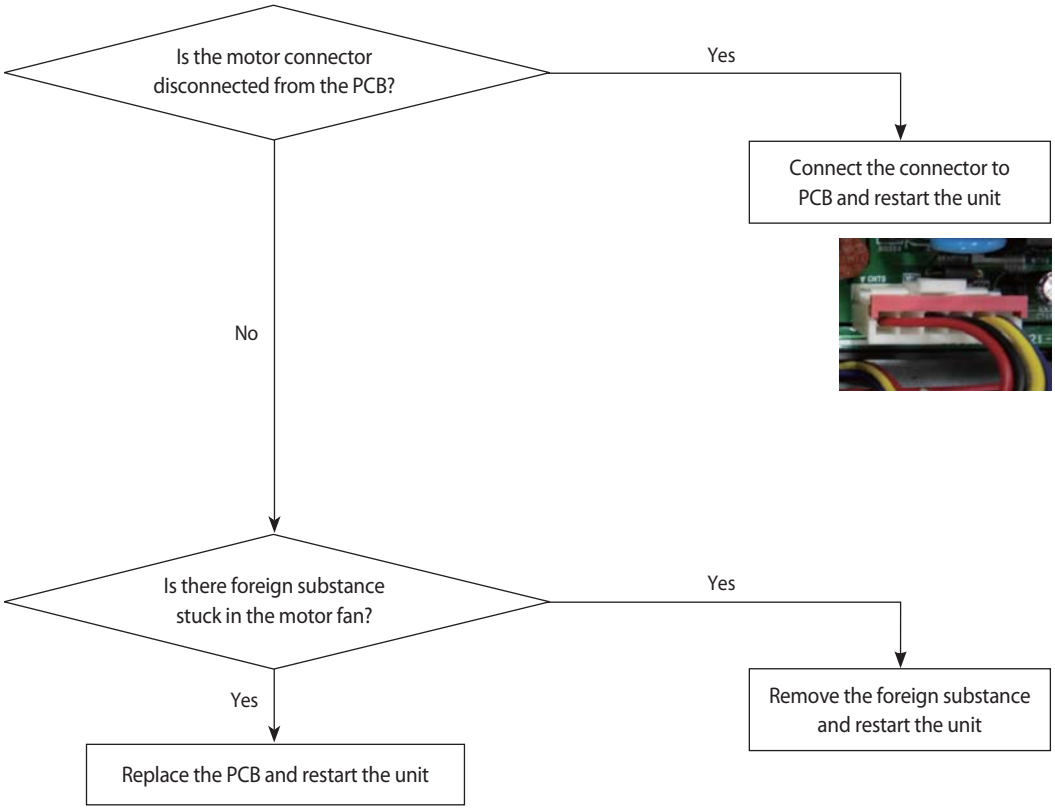


<Temperature sensor resistance value>

Current temperature (°C)	Resistance (kΩ)
40	5.800
35	6.900
30	8.300
25	10.00
20	12.10
15	14.70
10	18.00
5	22.00
0	28.30
-5	33.90
-10	42.30

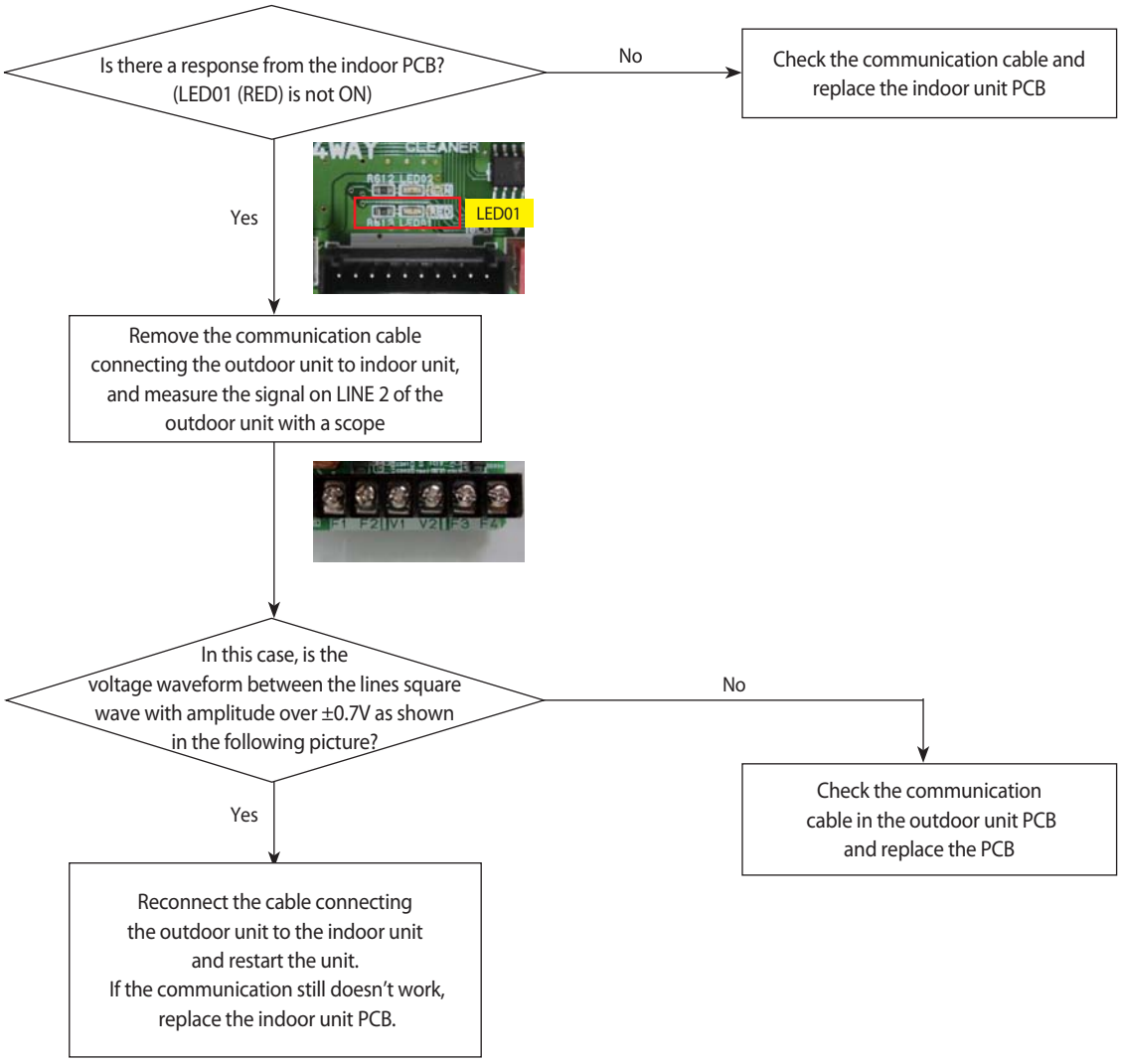
4-3-3 Indoor FAN error

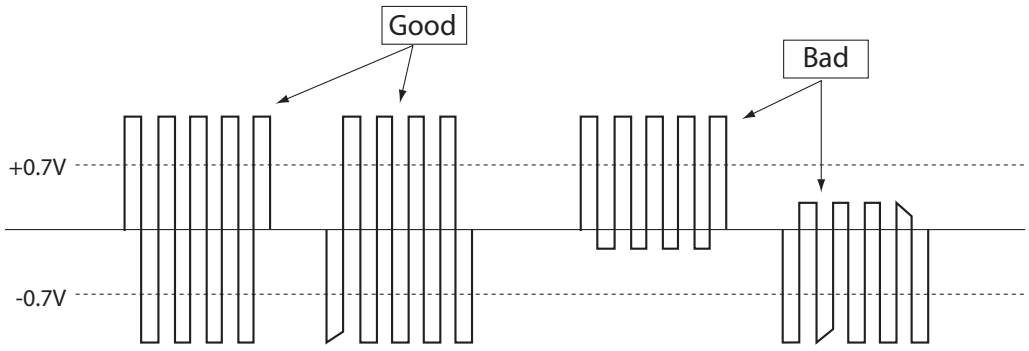
Indoor unit display	
Symptom	Indoor unit fan does not run /Runs at excessive high speed and stops
Failure	Check if the motor connector is disconnected/ check the motor fan assembly status



4-3-4 Communication error after finishing Tracking

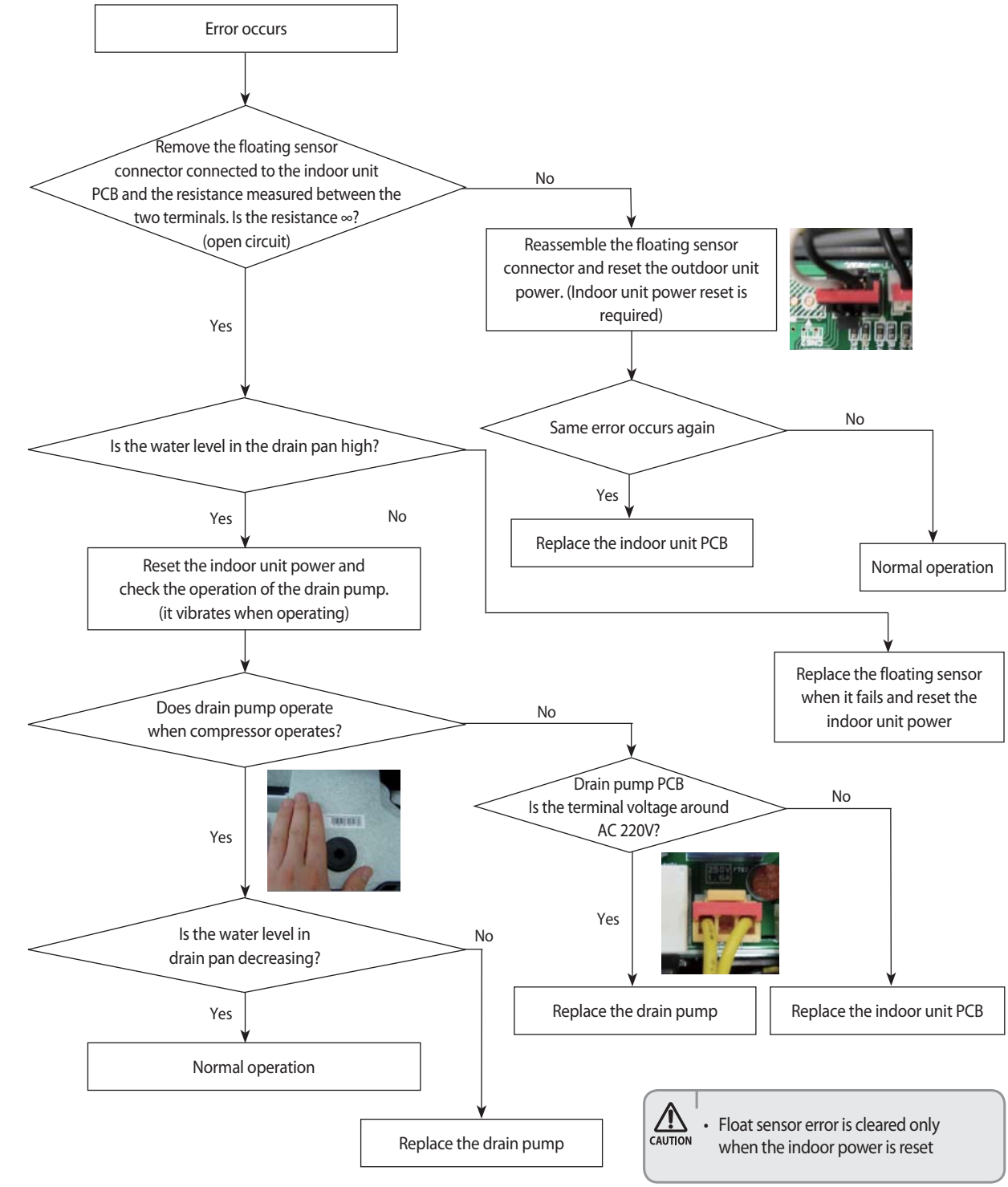
Indoor unit display	
Symptom	Communication error between the indoor and outdoor unit for two minutes
Failure	Communication error between the indoor unit and outdoor unit





4-3-5 Indoor unit float sensor error

Indoor unit display	
Symptom	The indoor unit floating sensor is open and that state is maintained for more than one minute
Failure	Increase in the drain pan water level due to failure of the indoor unit drain pump, or float sensor failure



4-3-6 EEPROM circuit failure

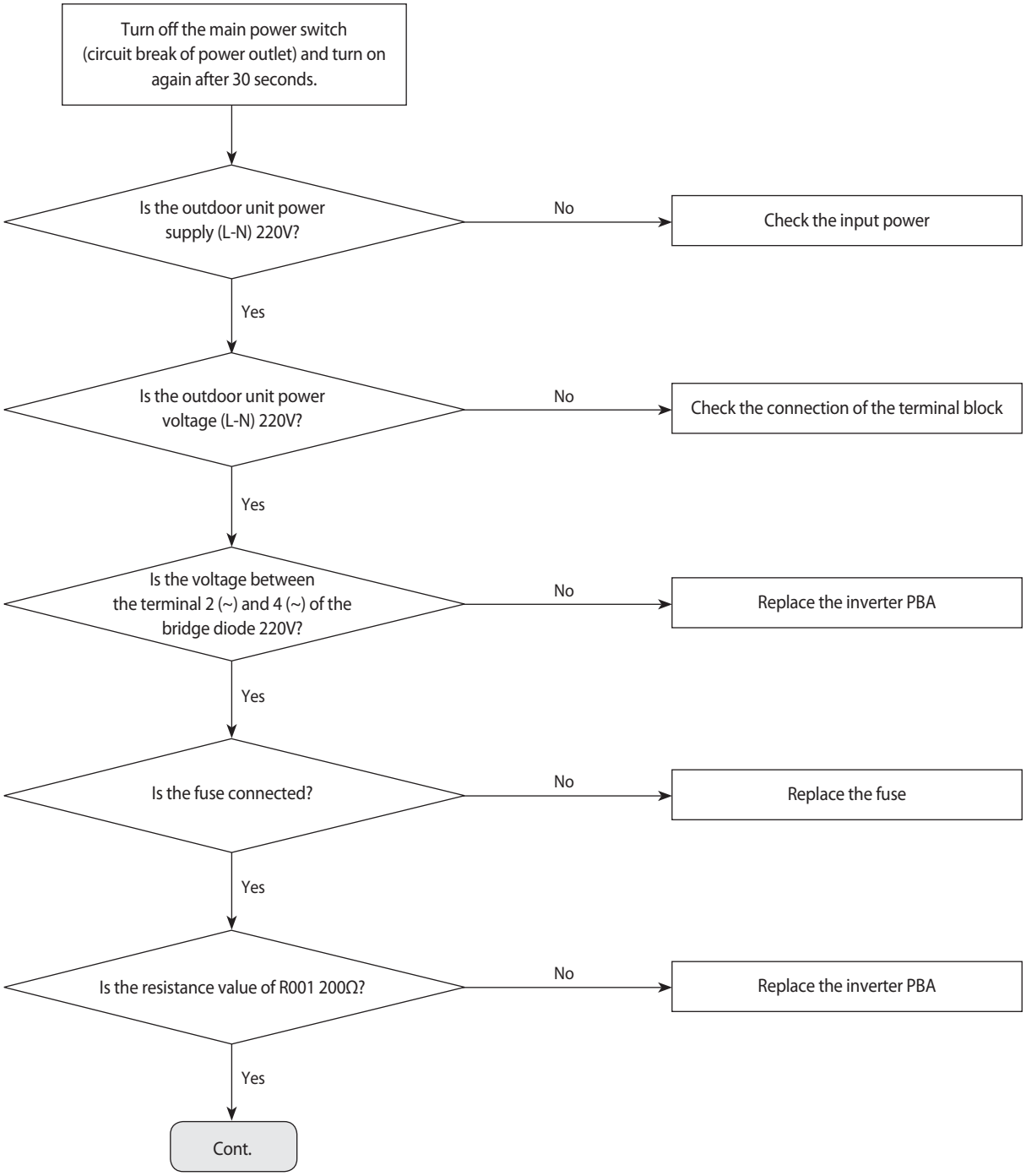
Indoor unit display	
Symptom	EEPROM circuit failure
Failure	EEPROM component failure, EEPROM circuit parts missing/damaged/soldering failure

4-3-7 Outdoor unit is not powered on – Initial diagnosis

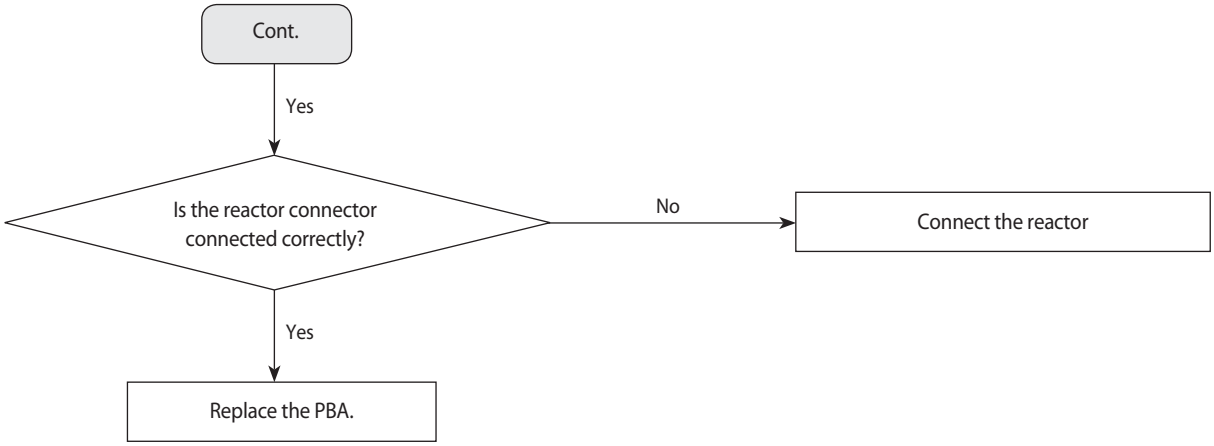
1. Check items

1) Is the power supply voltage 220V?
2) Is the AC power connected correctly?
3) Are the LEDs in the main PCB and inverter PCB of the outdoor unit ON?
4) Is the input power voltage of the indoor unit 220V?
5) Is the wired remote controller connected correctly?

2. Check procedure



Outdoor unit is not powered on – Initial diagnosis (cont.)



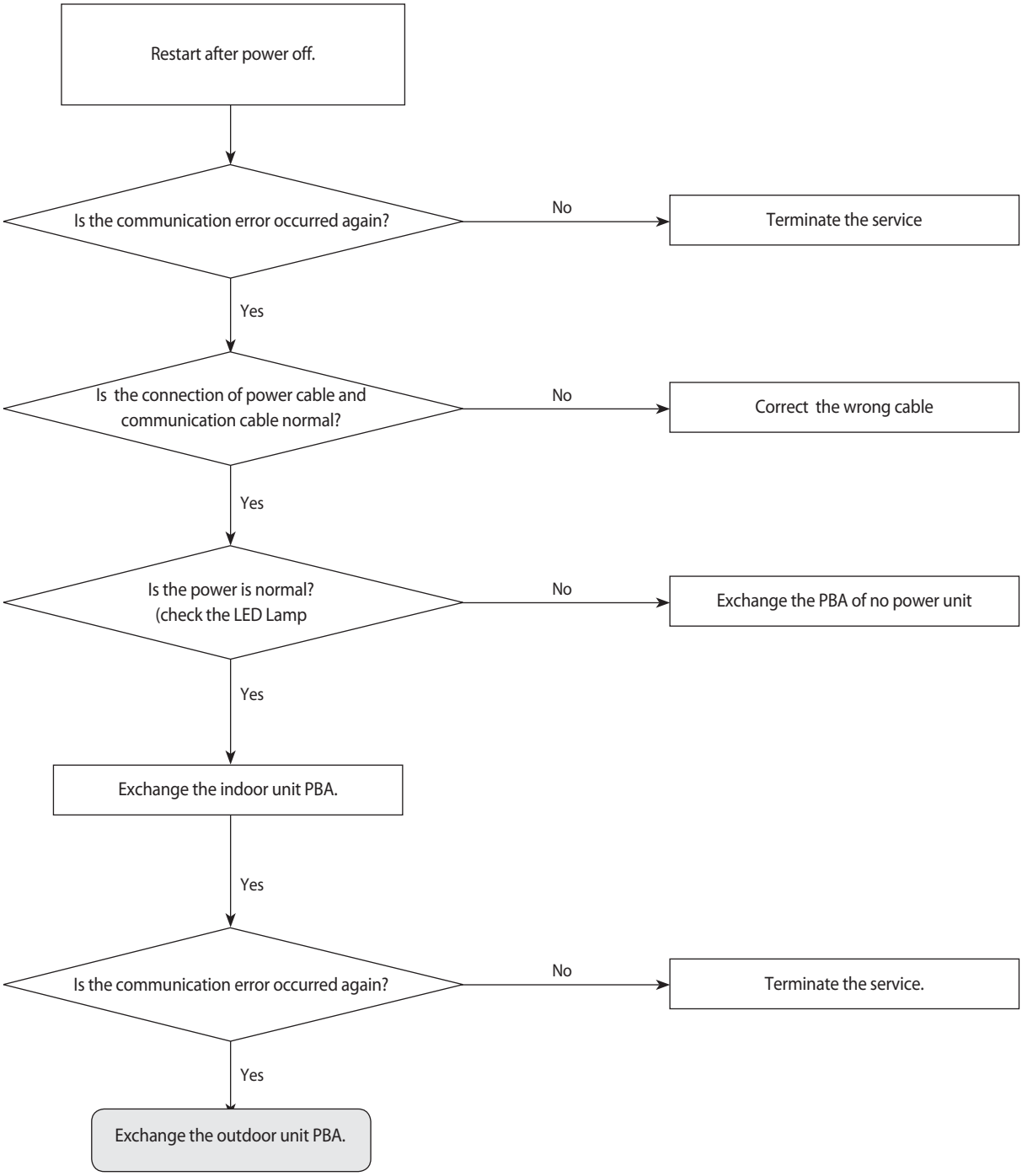
4-4-1 Communication error

1. 1.Checklist :

   1) Is the cable between the indoor unit and outdoor unit connected correctly?

   2) Isn't the power cable and communication cable cross?

2. Troubleshooting procedure

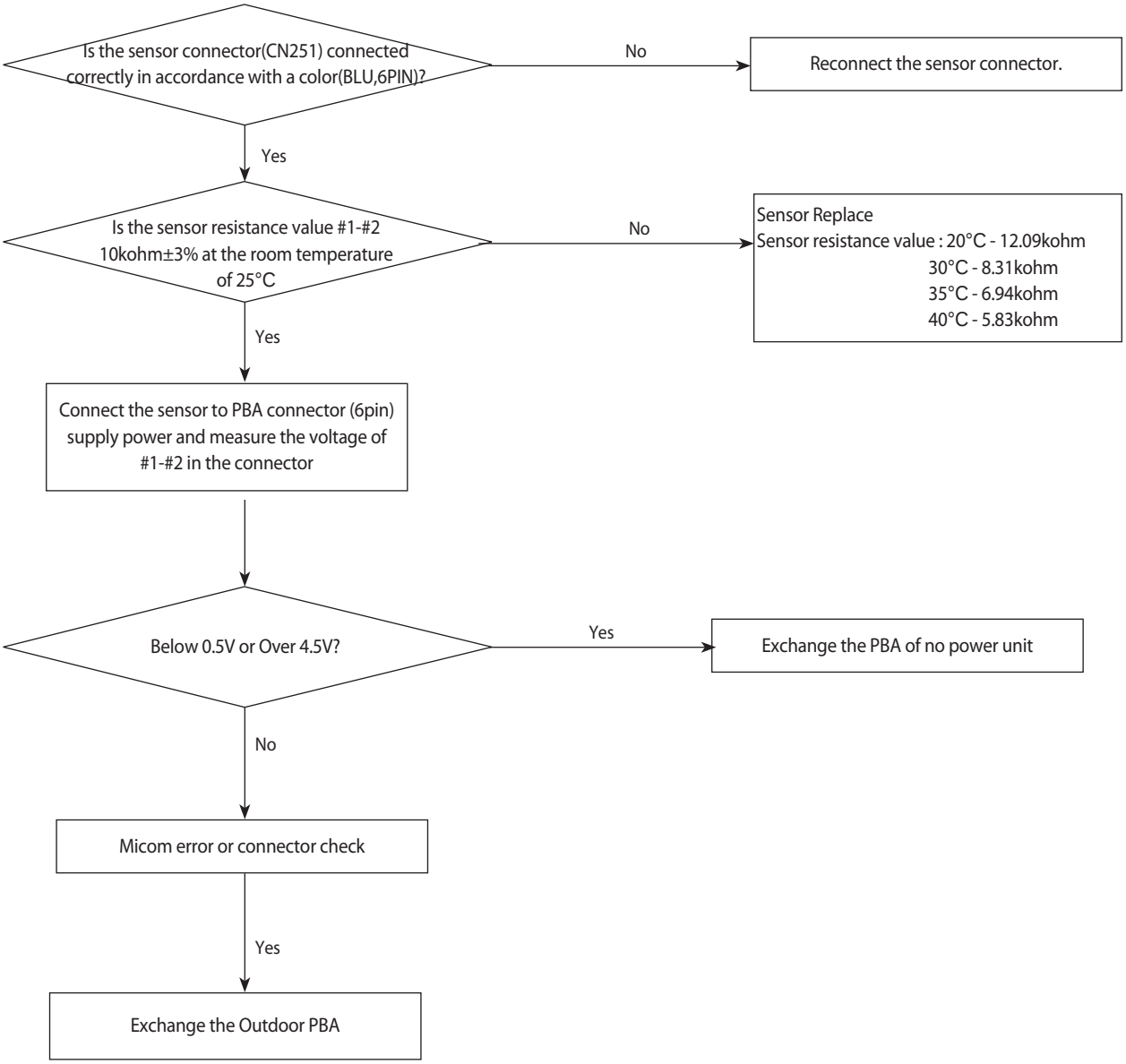


4-4-2 Outdoor temperature sensor error

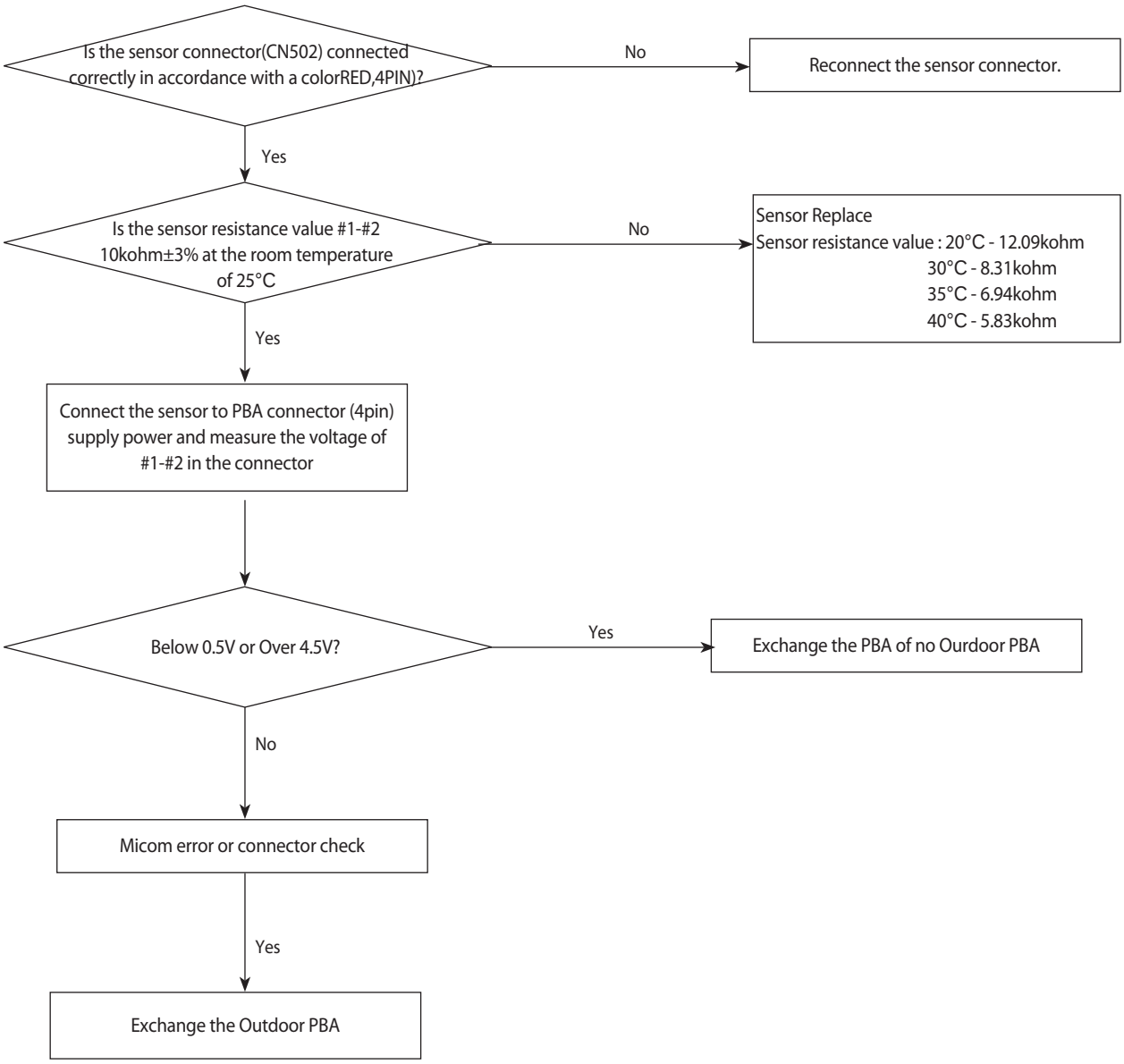
1. 1.Checklist :

1) Is the cable between the indoor unit and outdoor unit connected correctly?
2) Is the sensor placed correctly?
3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
4) Is the resistance value of sensor connection pull-up correct?

4-4-2-1. Troubleshooting procedure (PF2)



4-4-2-2. Troubleshooting procedure (PF3)

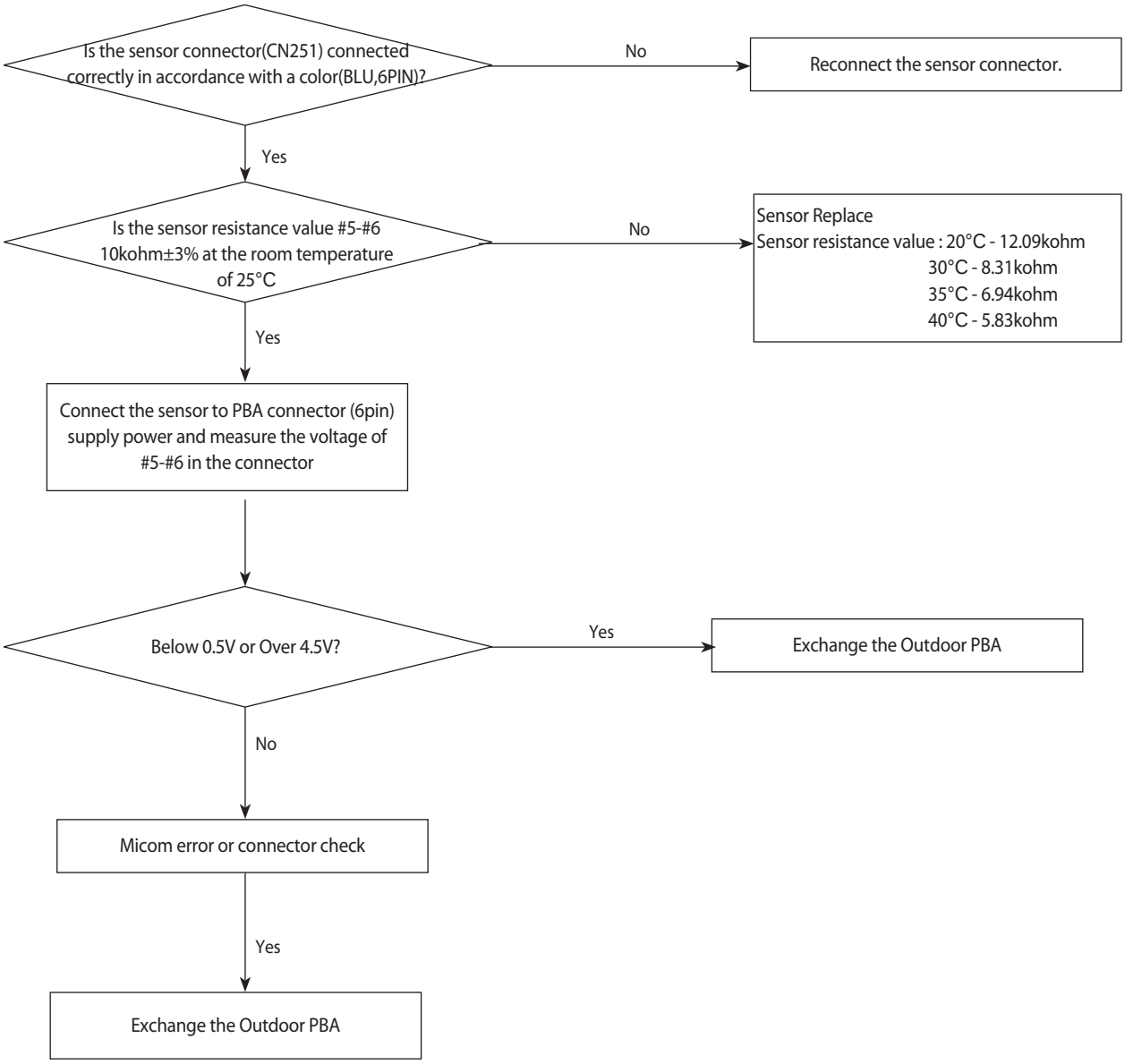


4-4-3 Outdoor Coil temperature sensor error

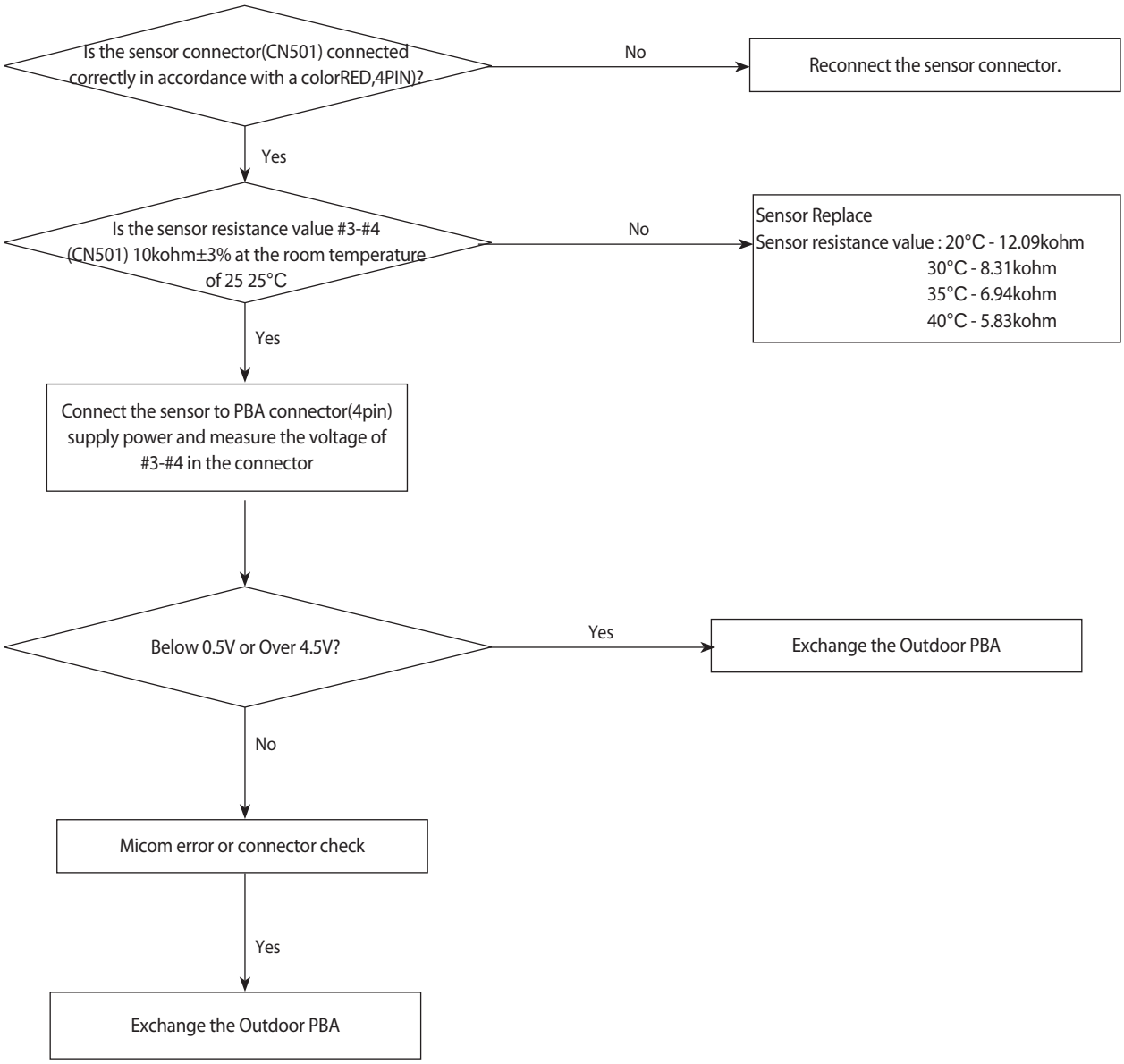
1.Checklist :

1) Is the sensor connected correctly?
2) Is the sensor placed correctly?
3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
4) Is the resistance value of sensor connection pull-up correct?

4-4-3-1. Troubleshooting procedure (PF2)



4-4-3-2. Troubleshooting procedure (PF3)

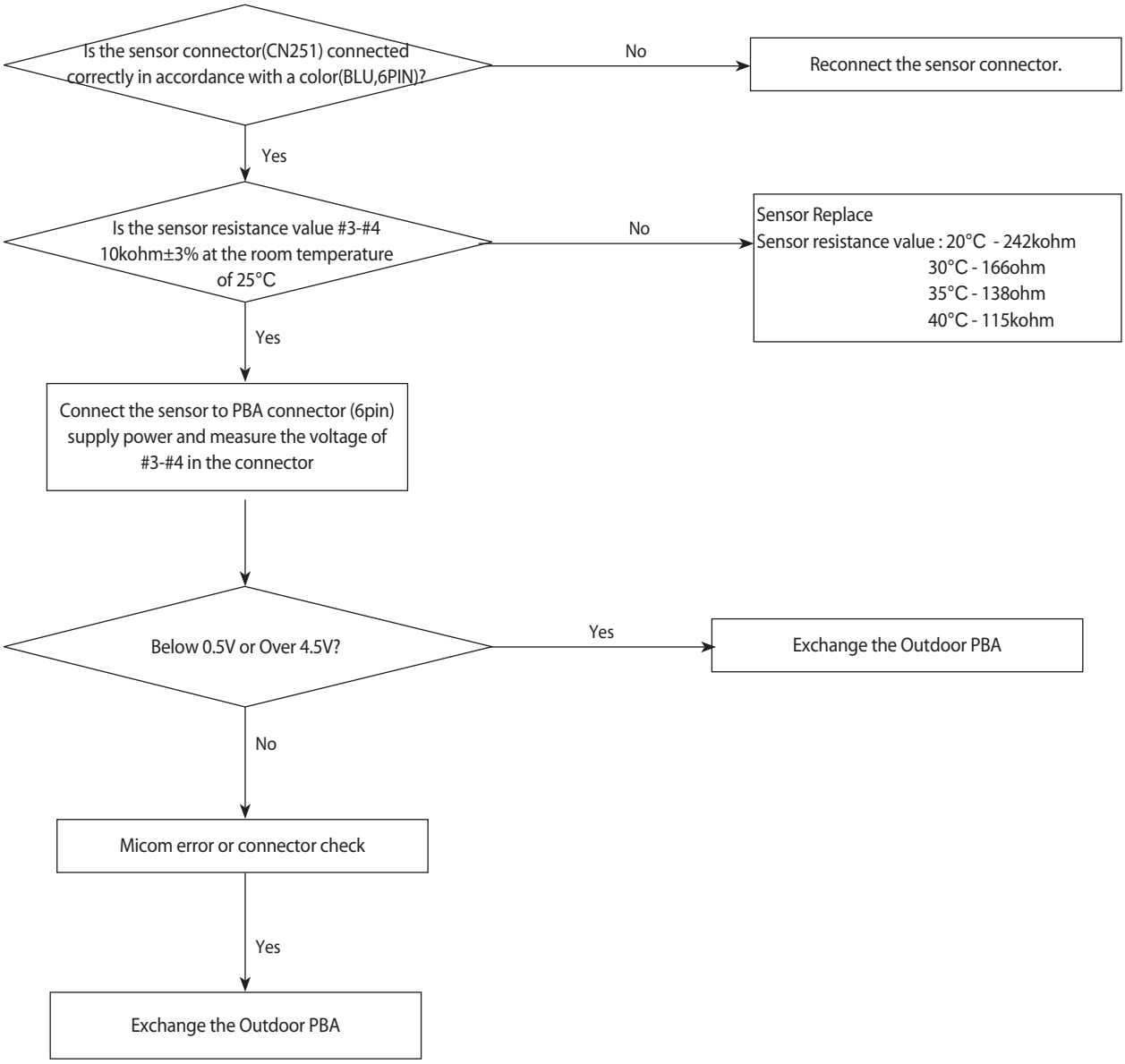


4-4-4 Outdoor Discharge temperature sensor error

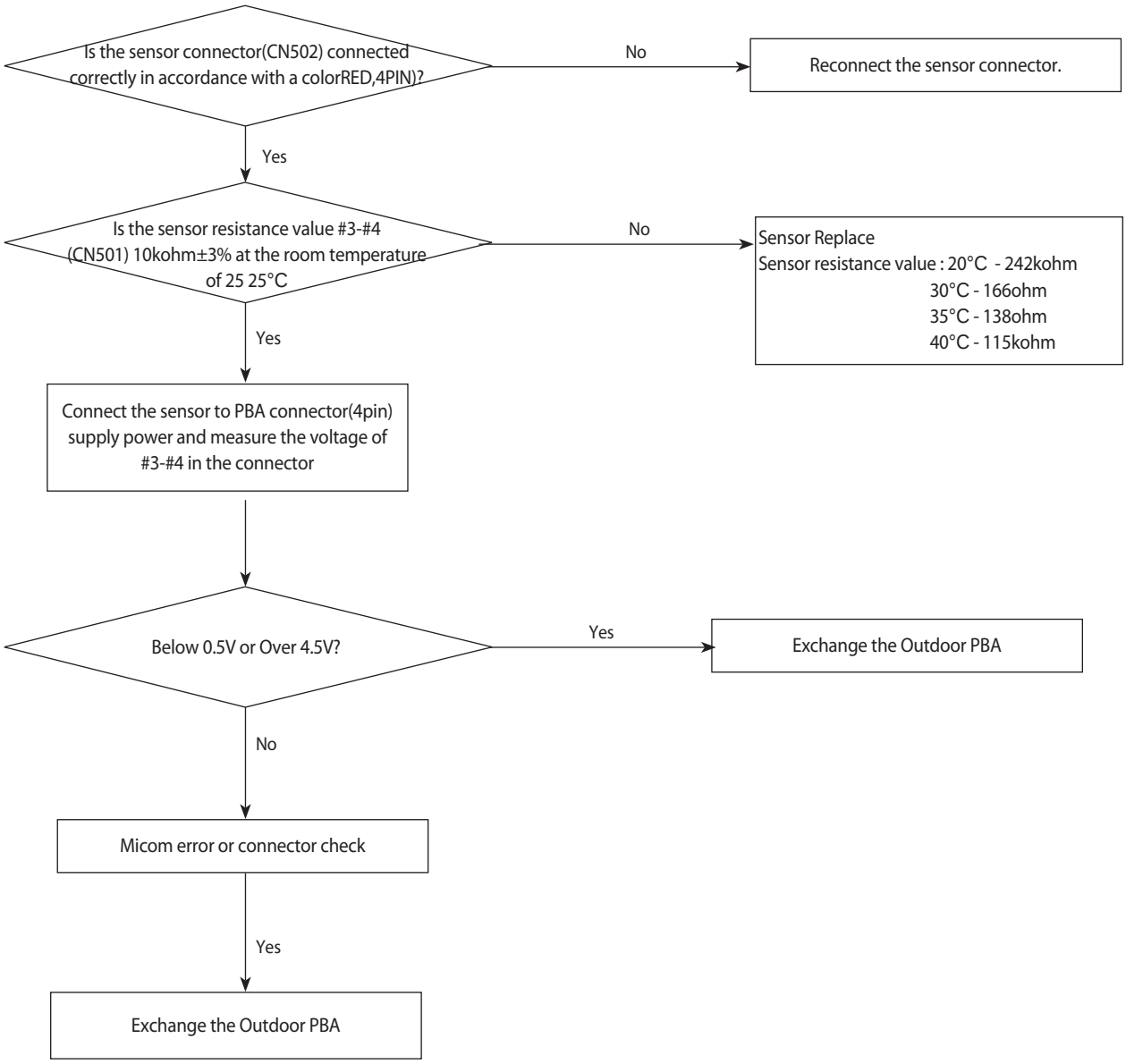
1.Checklist :

1) Is the sensor connected correctly?
2) Is the sensor placed correctly?
3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
4) Is the resistance value of sensor connection pull-up correct?

4-4-4-1. Troubleshooting procedure (PF2)



4-4-4-2. Troubleshooting procedure (PF3)

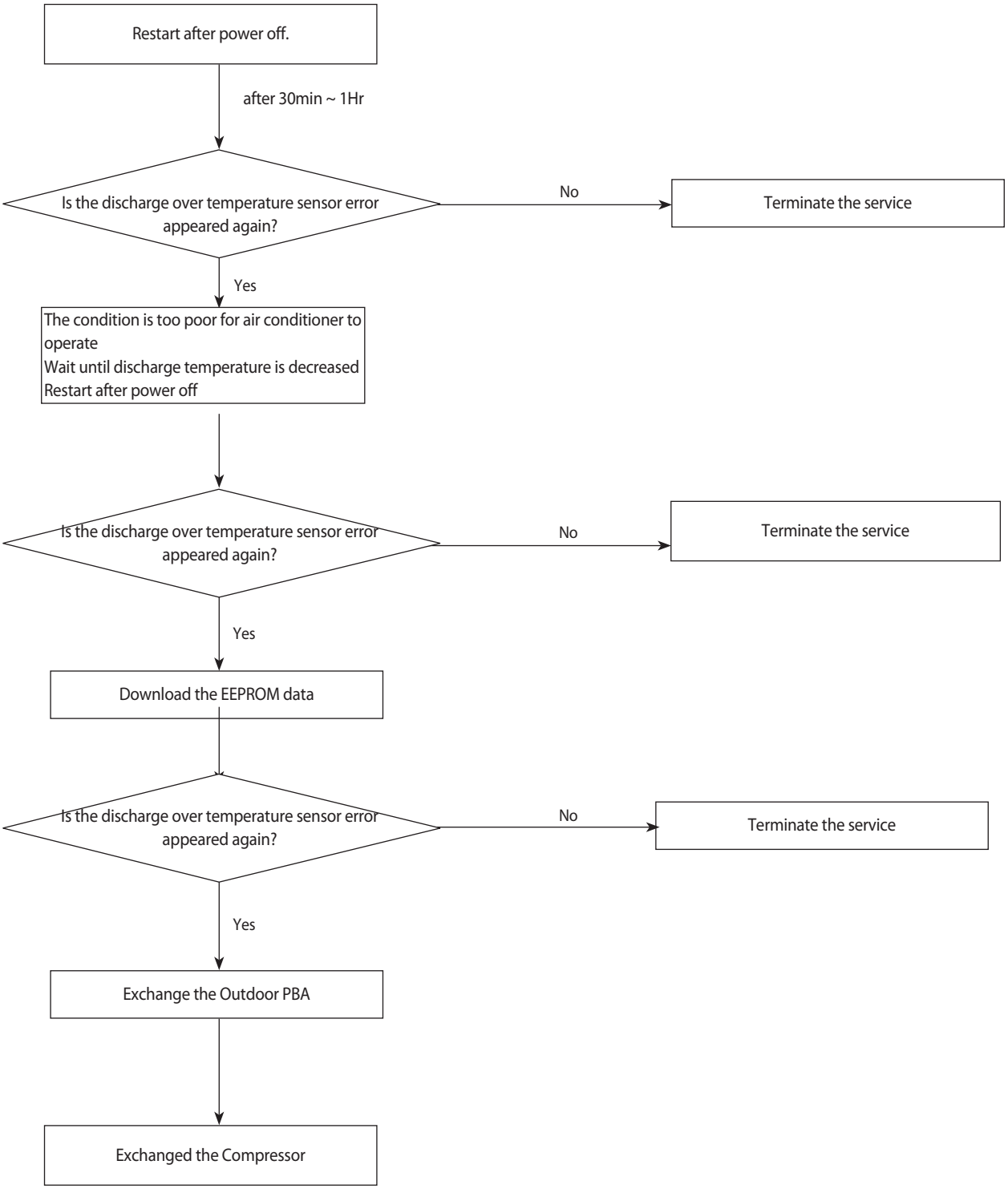


4-4-5 Outdoor Discharge over temperature error

1.Checklist :

1) Check the discharge temperature in the outdoor unit
2) Check the compressor locking or gas leak
3) 3) Download the EEPROM data

2. Troubleshooting procedure

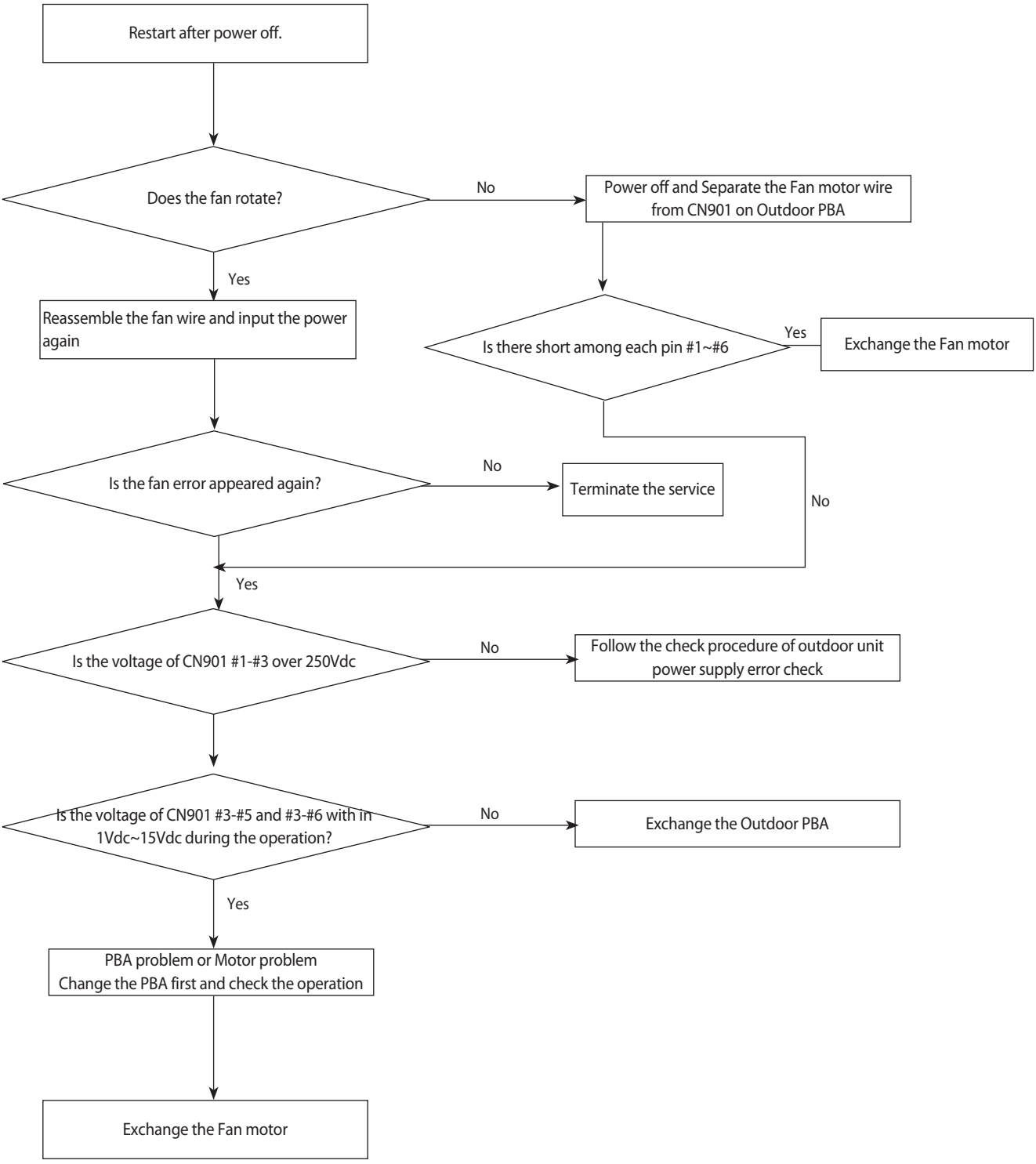


4-4-6 Outdoor Fan motor error

1.Checklist :

1) Are the input power voltage and the power connection correct?
2) Is the motor wire connected to the outdoor PBA correctly?
3) Is there no assembly error or none-assembly in the terminal of motor wire connector?
4) Is there no obstacle at the surrounding of motor and propeller?

2. Troubleshooting procedure

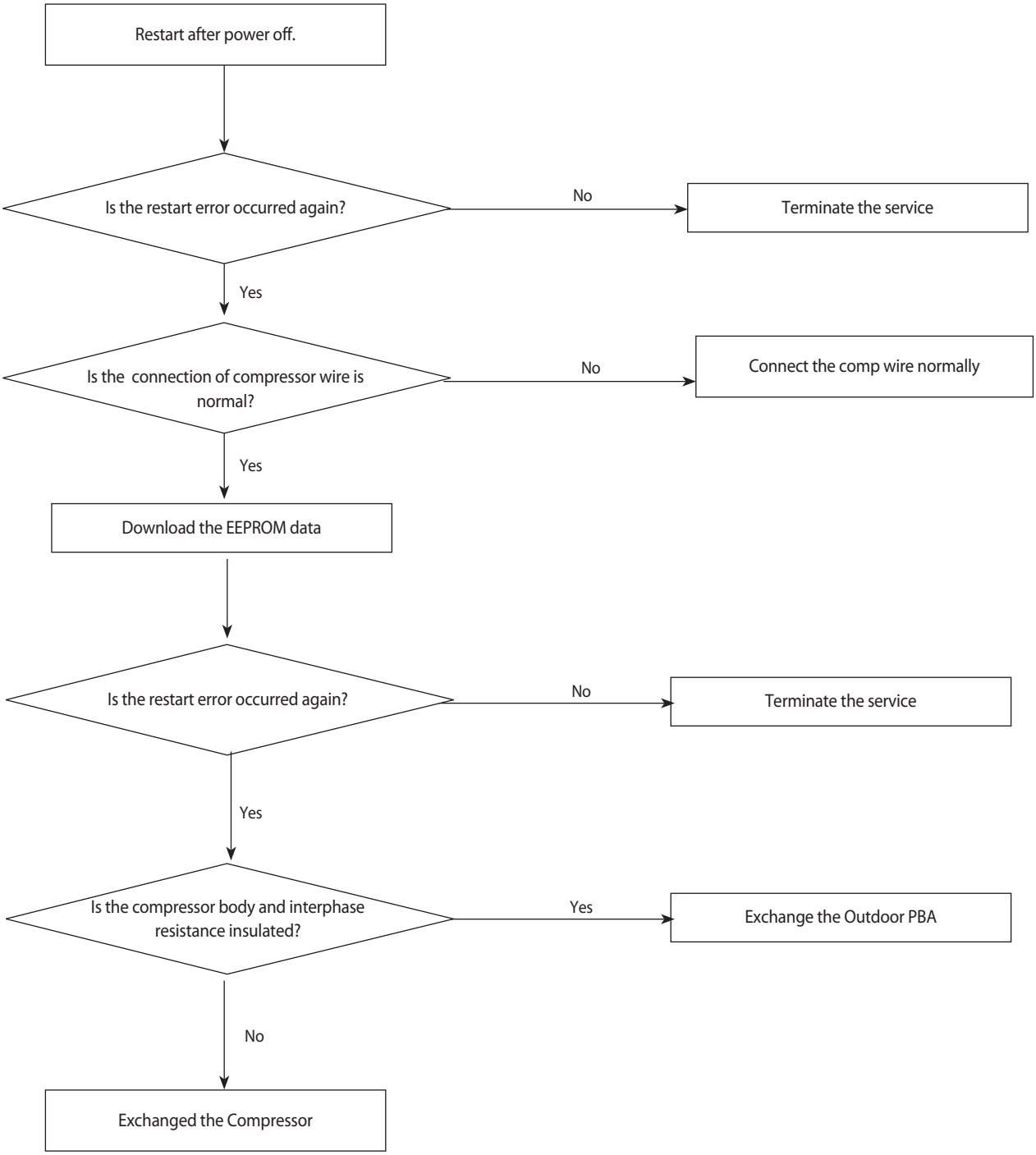


4-4-7 Compressor starting error

1.Checklist :

1) Is the connection of cable for the compressor?
2) Is the compressor wire is connected clockwise? U(RED)-V(BLU)-W(YEL)
3) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure

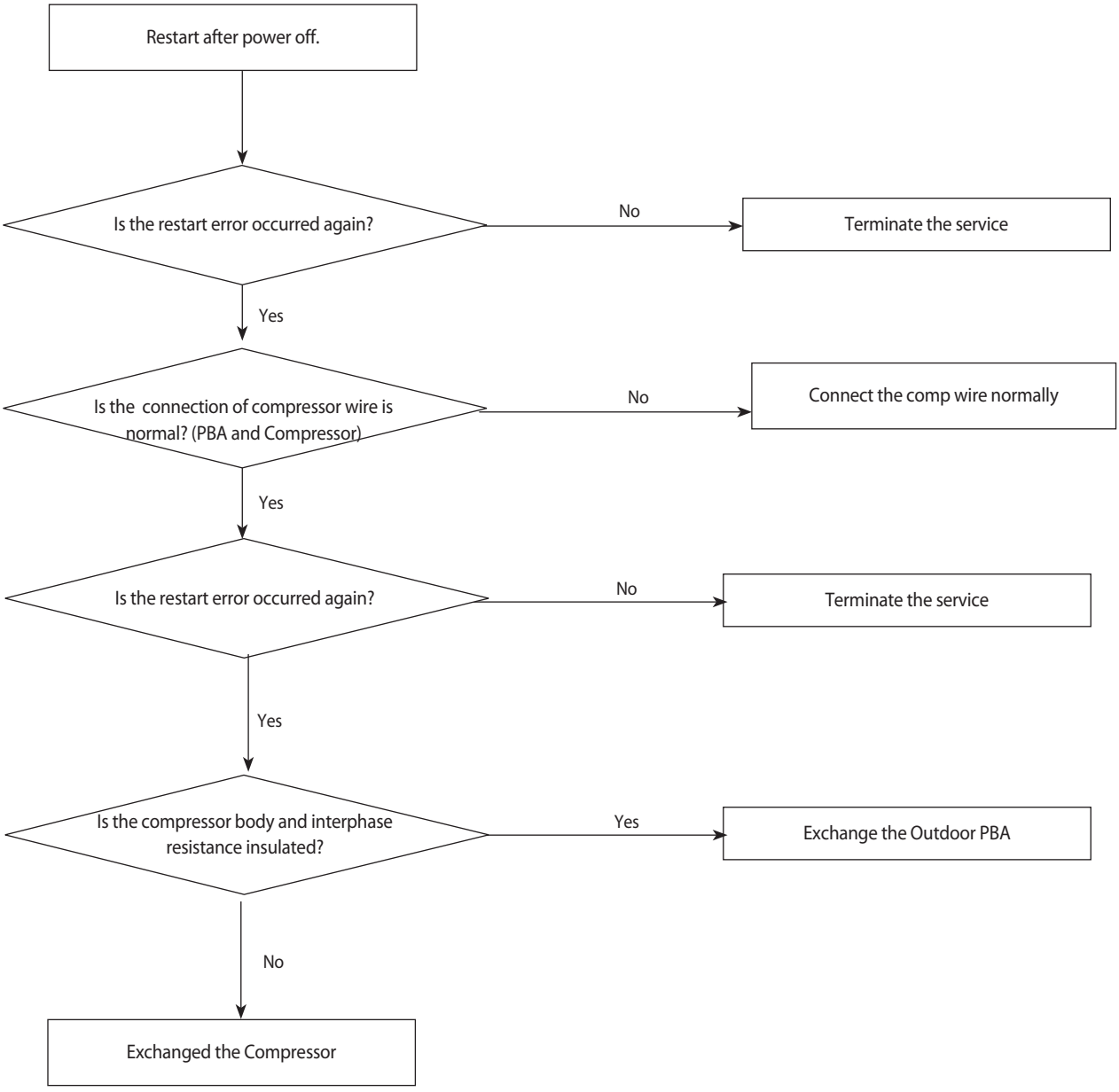


4-4-8 Compressor wire missing error/rotation error

1.Checklist :

1) Is the connection of cable for the compressor?
2) Is the compressor wire is connected clockwise? U(RED)-V(BLU)-W(YEL)
3) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure

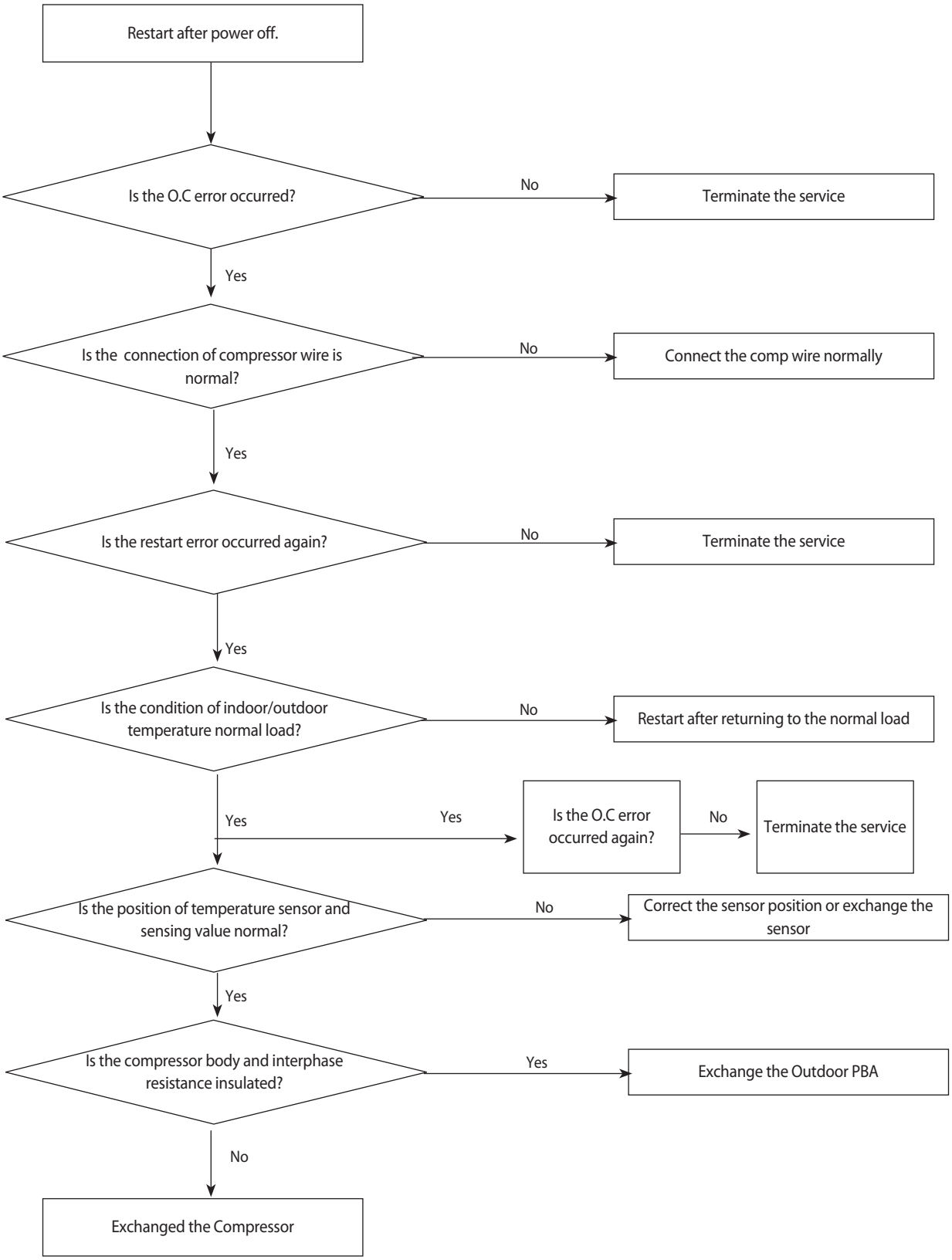


4-4-9 O.C(Over Current) error

1.Checklist :

1) Is the IPM Shunt(PF2:R451,R452,R453,PF3:R413,R414,R415) resistance value correct? Check the resistor is opened
2) Is the condition of surrounding temperature abnormal overload?
3) Is there any problem as like the temperature sensor separation or measurement value error?
4) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure



4-4-10 DC_link voltage sensor error

1.Checklist :

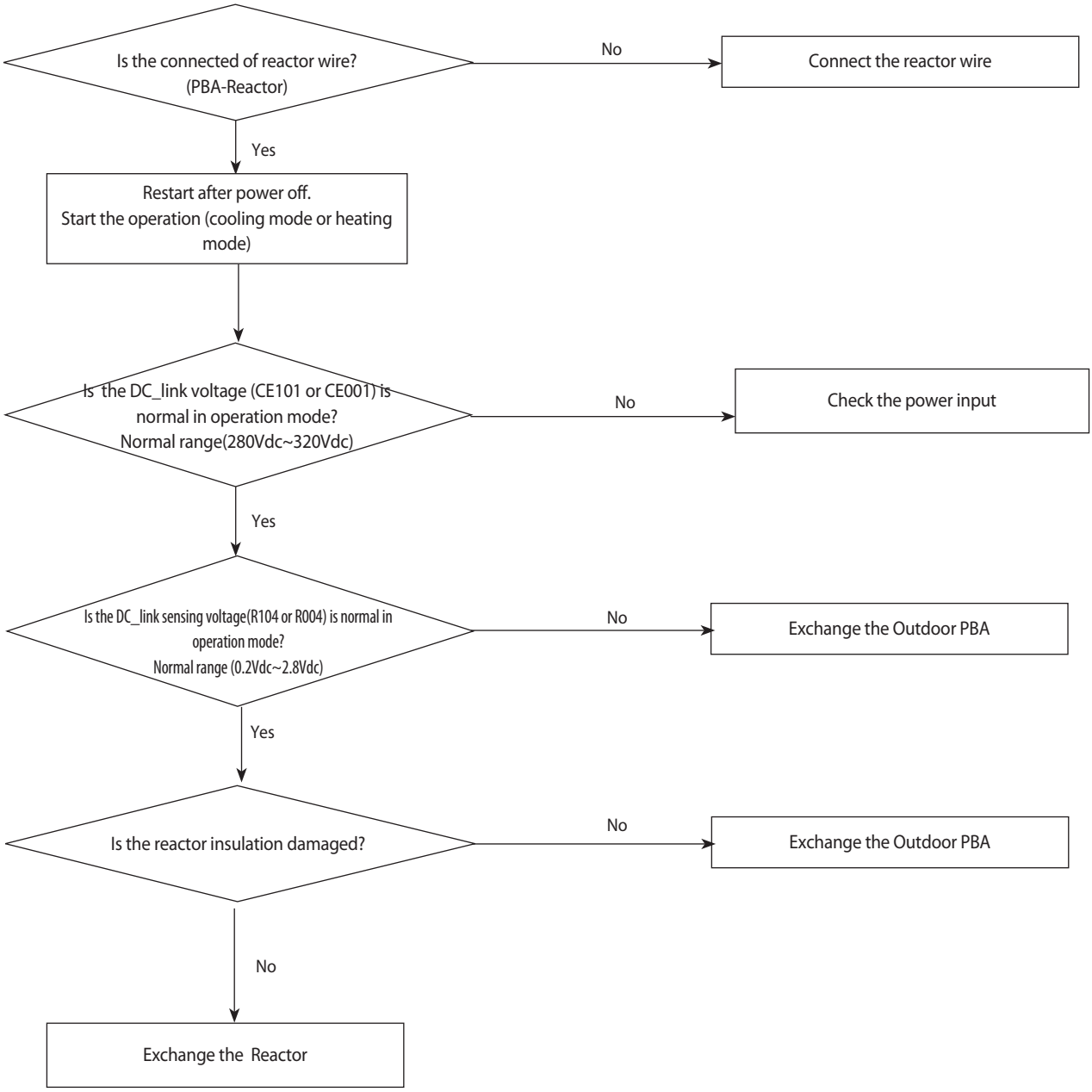
1) Is the input voltage of outdoor terminal block is normal?

2) Is the reactor wire connected?

3) Is the DC_link capacitor(PF2:CE101,CE102,CE103,PF3:CE001,CE002,CE003,CE004)) assembled in accordance the specification? (Outdoor PBA)

4) Is the DC_link resistor(PF2:R104,R106,R107,R108,PF3:R004,R005,R006,R007) value is normal? (Outdoor PBA)

2. Troubleshooting procedure

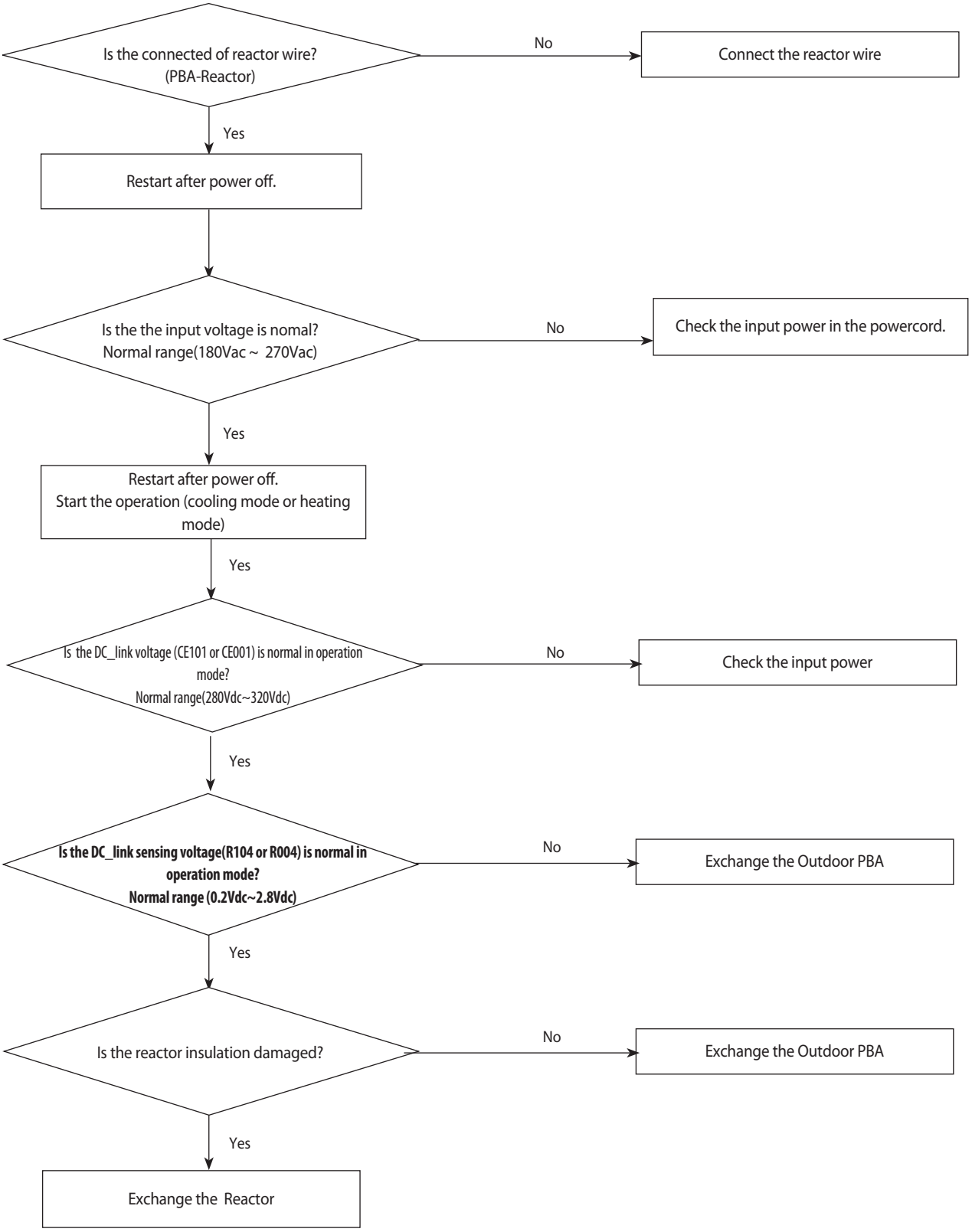


4-4-11 DC_link voltage under/over error, Over voltage protection error/PFC over load

1.Checklist :

1) Is the input voltage of outdoor terminal block is normal?
2) Is the reactor wire connected?
3) Is the reactor wire connected?
4) **Is the DC_link capacitor(PF2:CE101,CE102,CE103,PF3:CE001,CE002,CE003,CE004)) assembled in accordance the specification? (Outdoor PBA)**
5) Is the DC_link resistor(PF2:R104,R106,R107,R108,PF3:R004,R005,R006,R007) value is normal? (Outdoor PBA)

2. Troubleshooting procedure

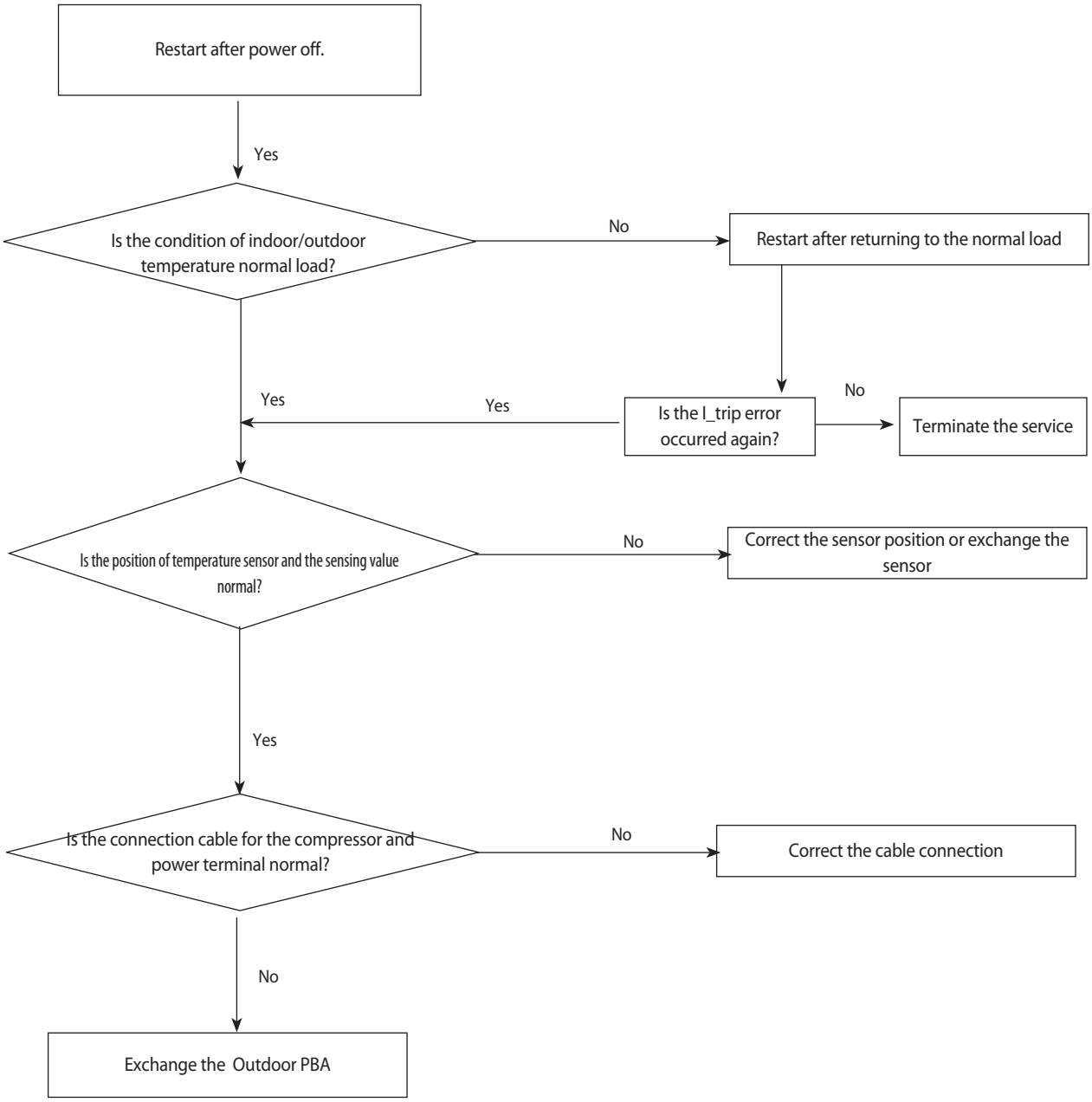


4-4-12 DC_link voltage sensor error

1.Checklist :

1) Is the PFC Shunt(PF2:R062,R063,PF3:R807,R808,R809) resistance value correct? Check the resistor is opened
2) Is the condition of surrounding temperature abnormal overload?
3) Is there any problem as like the temperature sensor separation or measurement value error?
4) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure

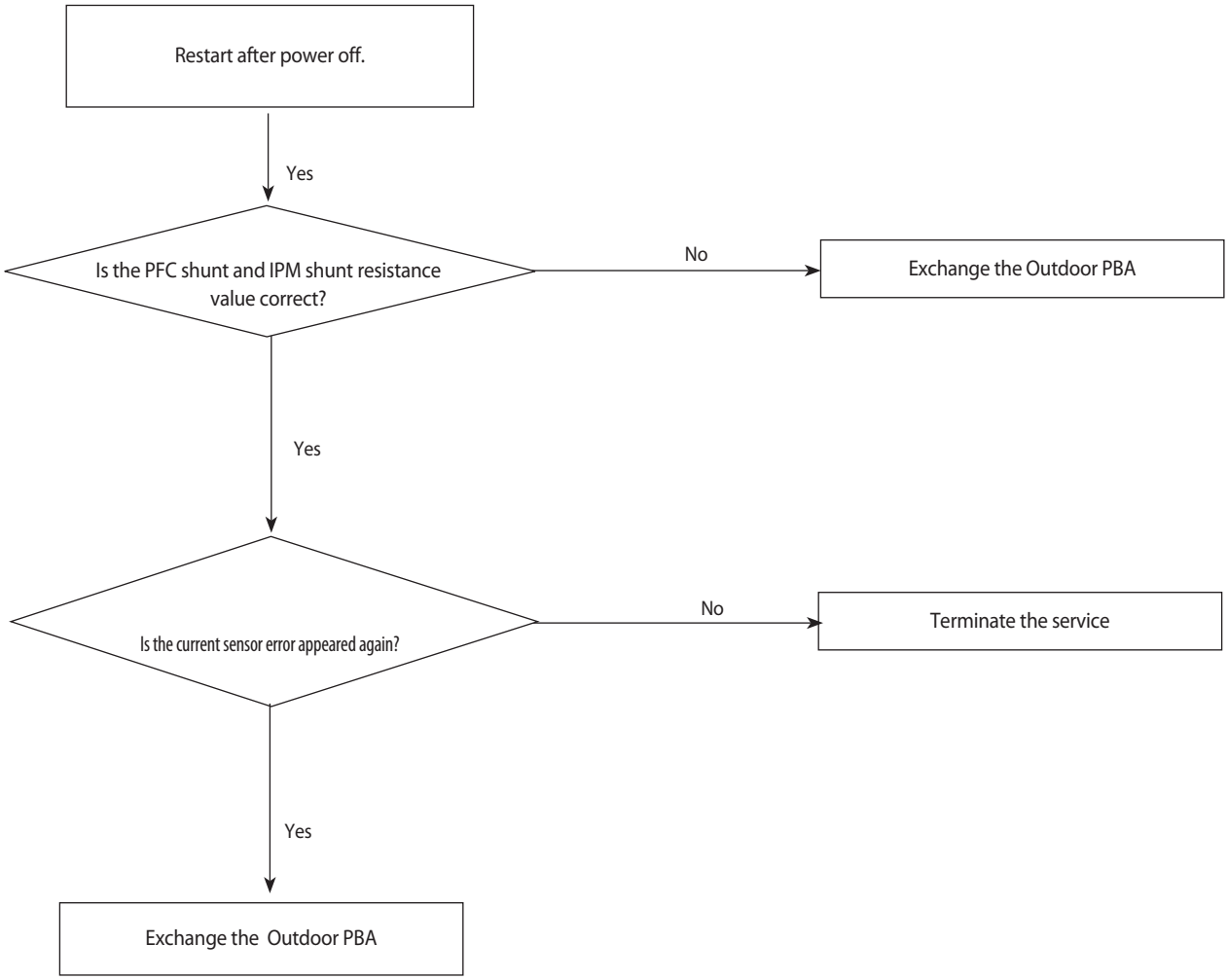


4-4-13 Current sensor error/Input current sensor error

1.Checklist :

1) Is the PFC Shunt(PF2:R062,R063,PF3:R807,R808,R809) resistance value correct? Check the resistor is opened
2) Is the IPM Shunt(PF2:R451,R452,R453,PF23:R413,R414,R415) resistance value correct? Check the resistor is opened
3) Is there no short or open around IC451(PF2) or IC451,IC452(PF3)?

2. Troubleshooting procedure

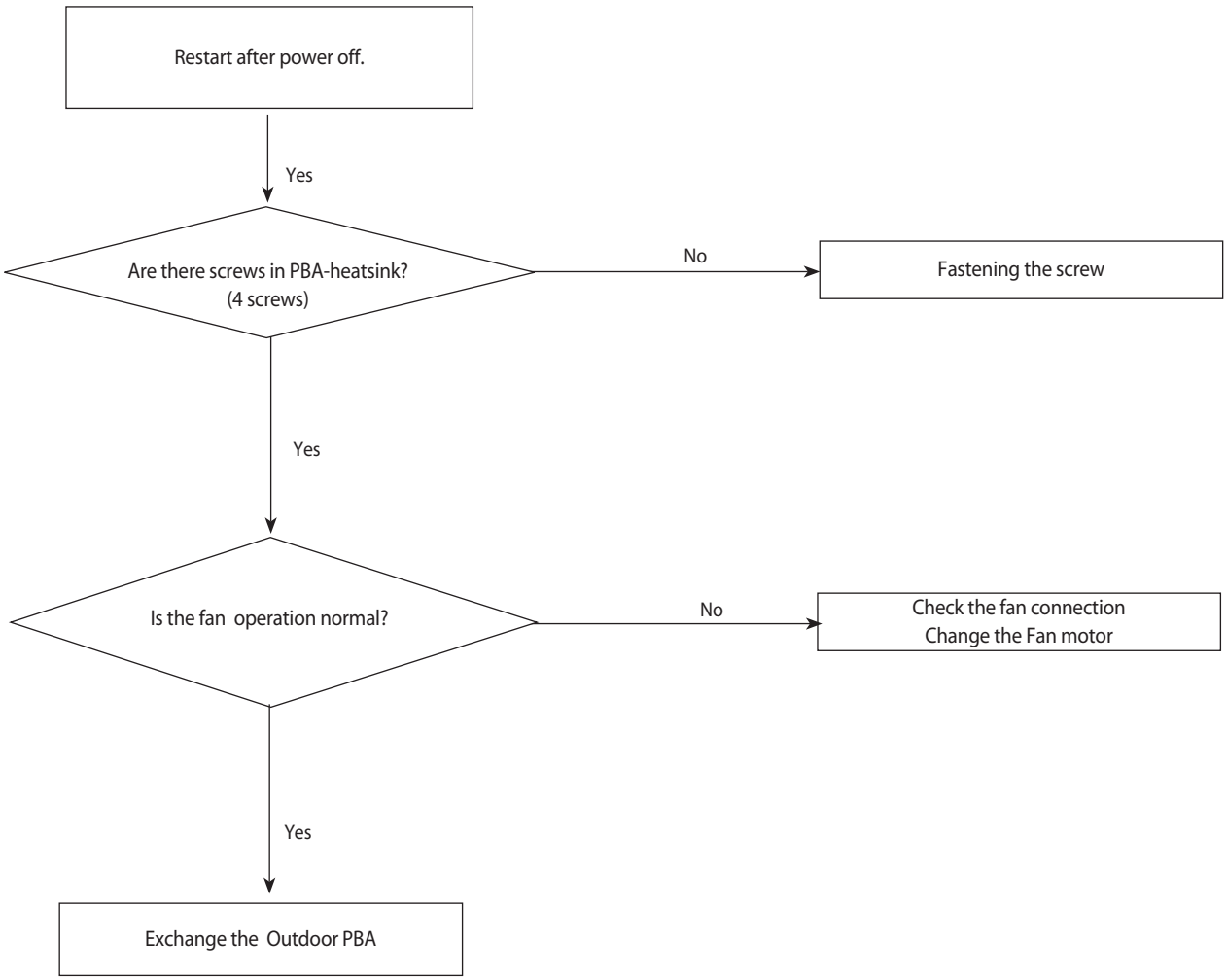


4-4-14 Heatsink sensor error/Heatsink over heat

1.Checklist :

1) Are there screws assembly in PBA-heatsink?
2) Is the gap PBA-heatsink
3) Is the fan operation normal?
4) Is the cover assembly in control-box normal?

2. Troubleshooting procedure

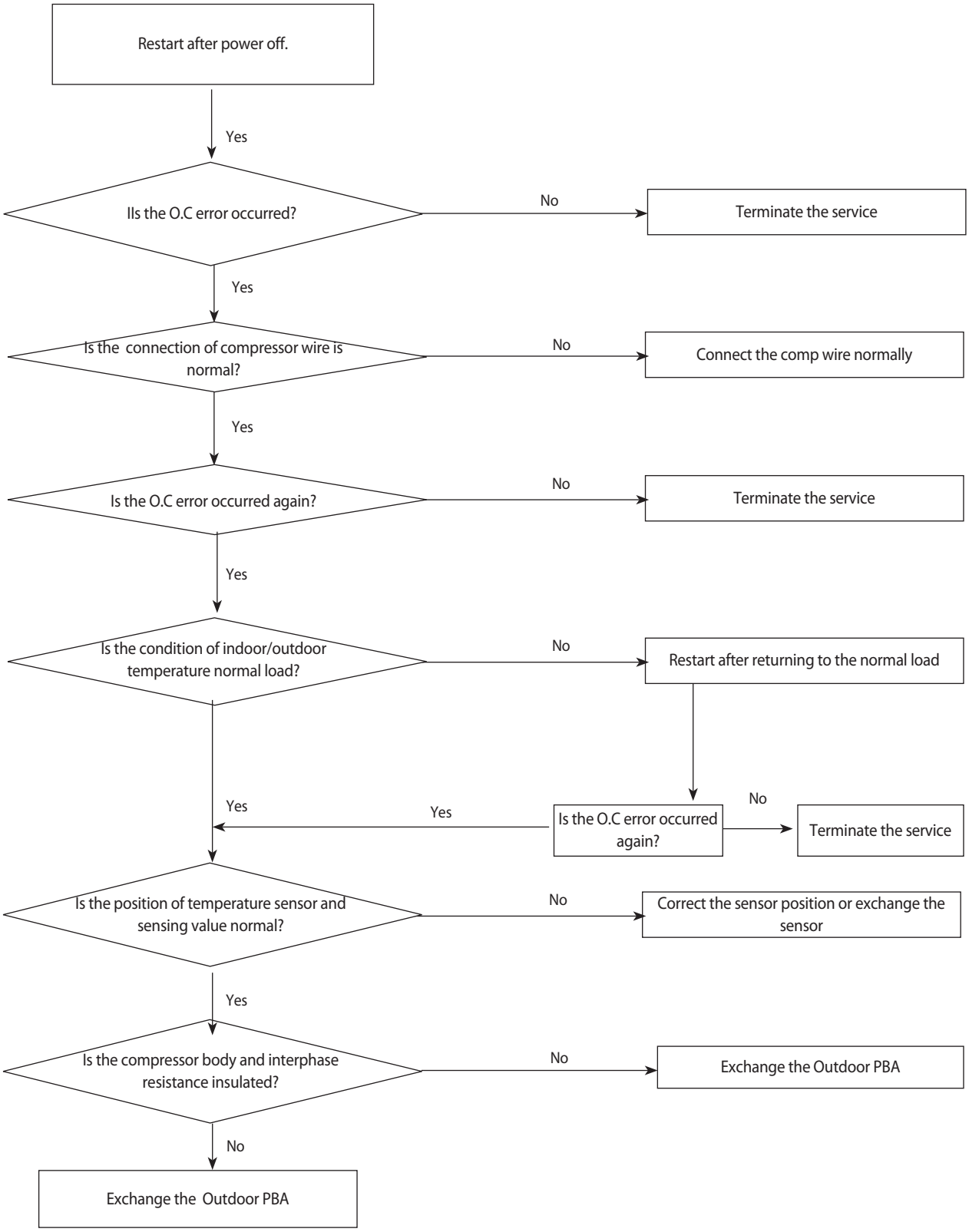


4-4-15 Comp Vlimit error/Comp current limit error

1.Checklist :

1) Is the PFC Shunt(PF2:R062,R063,PF3:R807,R808,R809) resistance value correct? Check the resistor is opened
2) Is the condition of surrounding temperature abnormal overload?
3) Is there any problem as like the temperature sensor separation or measurement value error?
4) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure

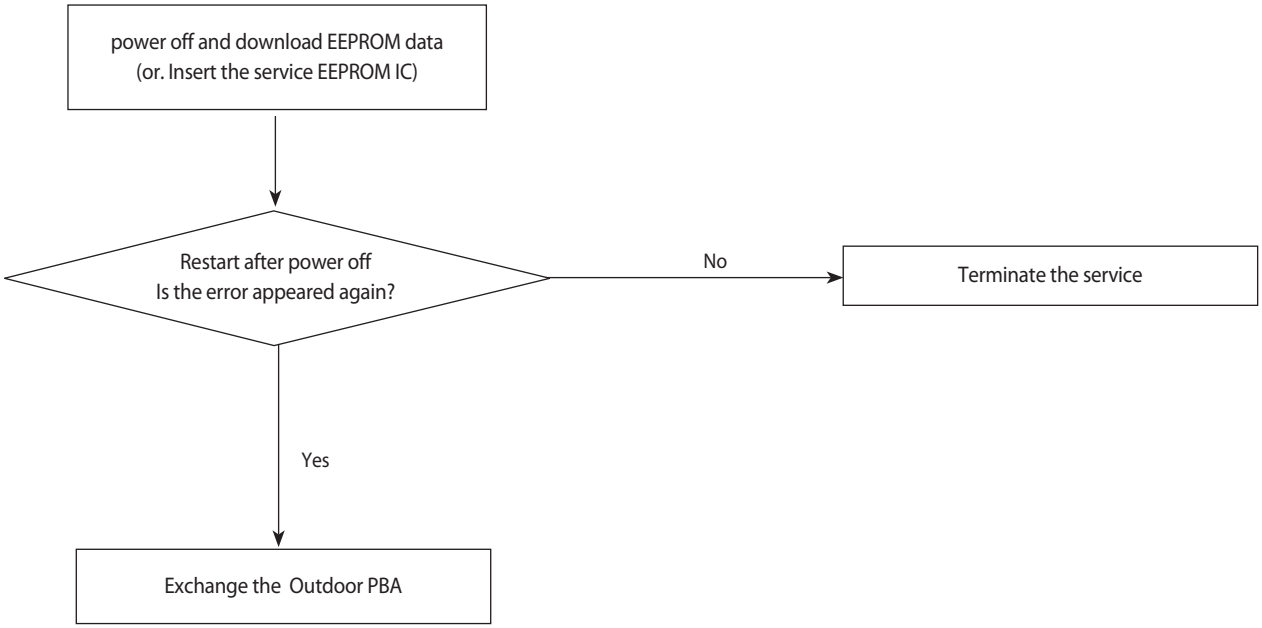


4-4-16 EEPROM error/OTP error

1.Checklist :

1) Is there a short around micom?
2) Is there a short around IC202(PF2) or IC701(PF3)?
3) Did you download or insert EEPROM IC, after changing outdoor PBA?

2. Troubleshooting procedure

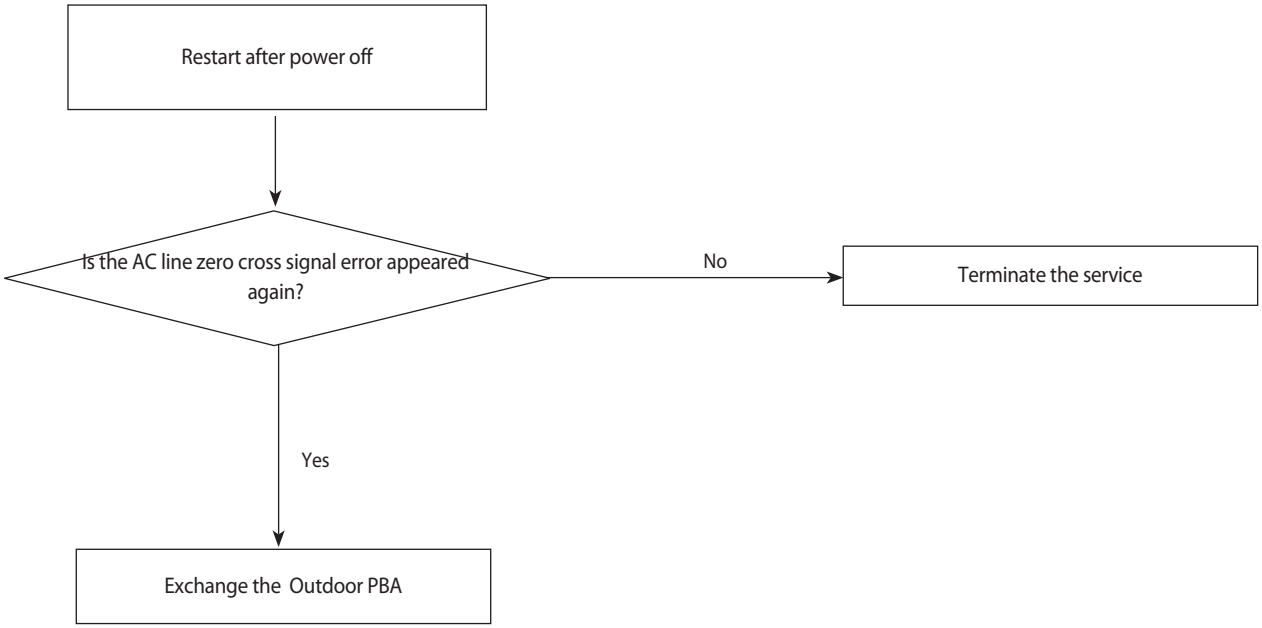


4-4-17 AC zero cross signal error

1.Checklist :

1) Check the power condition at customer's house (Is there any power noise?)
2) Have been there power failure?

2. Troubleshooting procedure

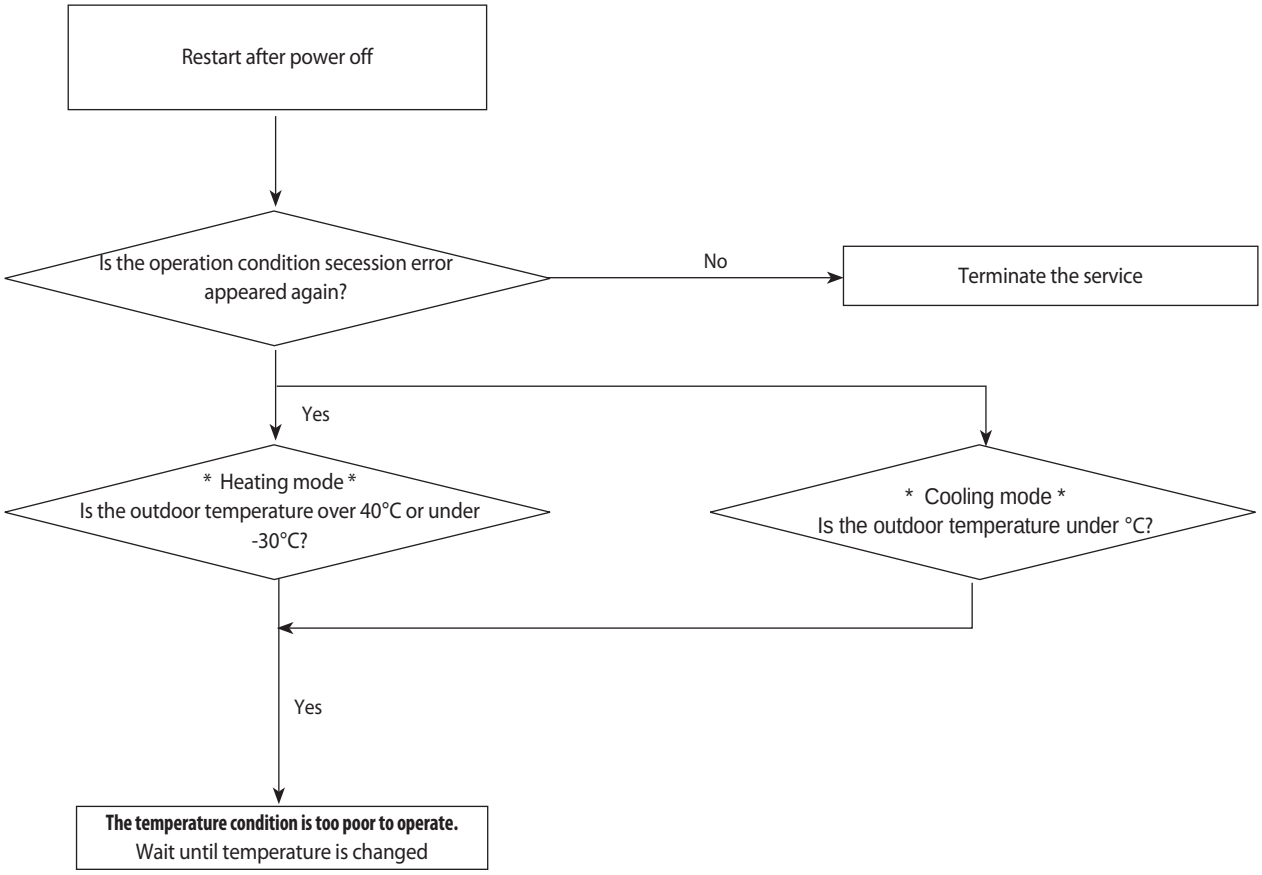


4-4-18 Operation condition secession error

1.Checklist :

1) Check the temperature around the outdoor unit.

2. Troubleshooting procedure

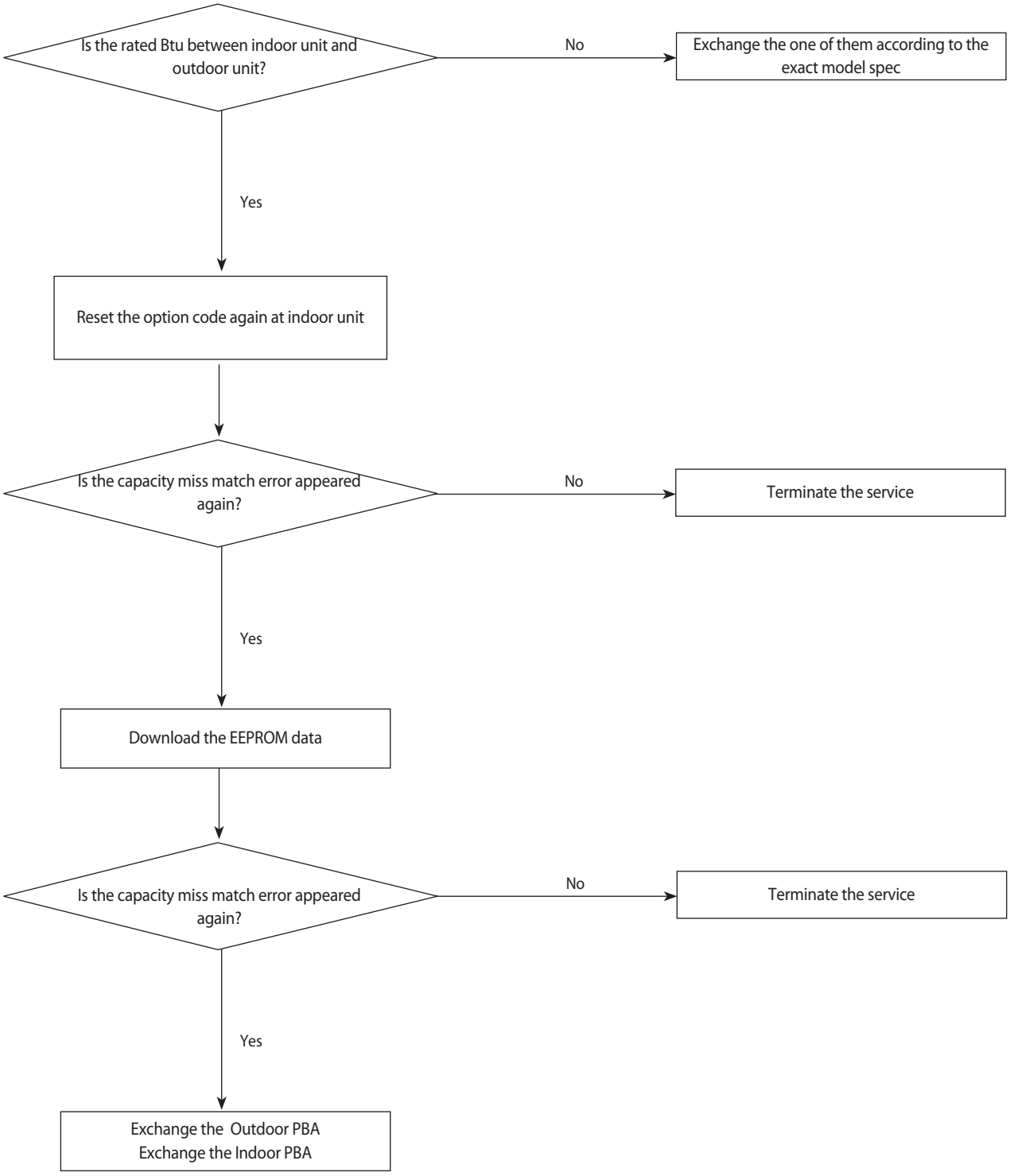


4-4-19 Capacity miss match error

1.Checklist :

1) Check the Btu between indoor and outdoor unit
2) Check the indoor unit option and outdoor unit EEPROM data

2. Troubleshooting procedure

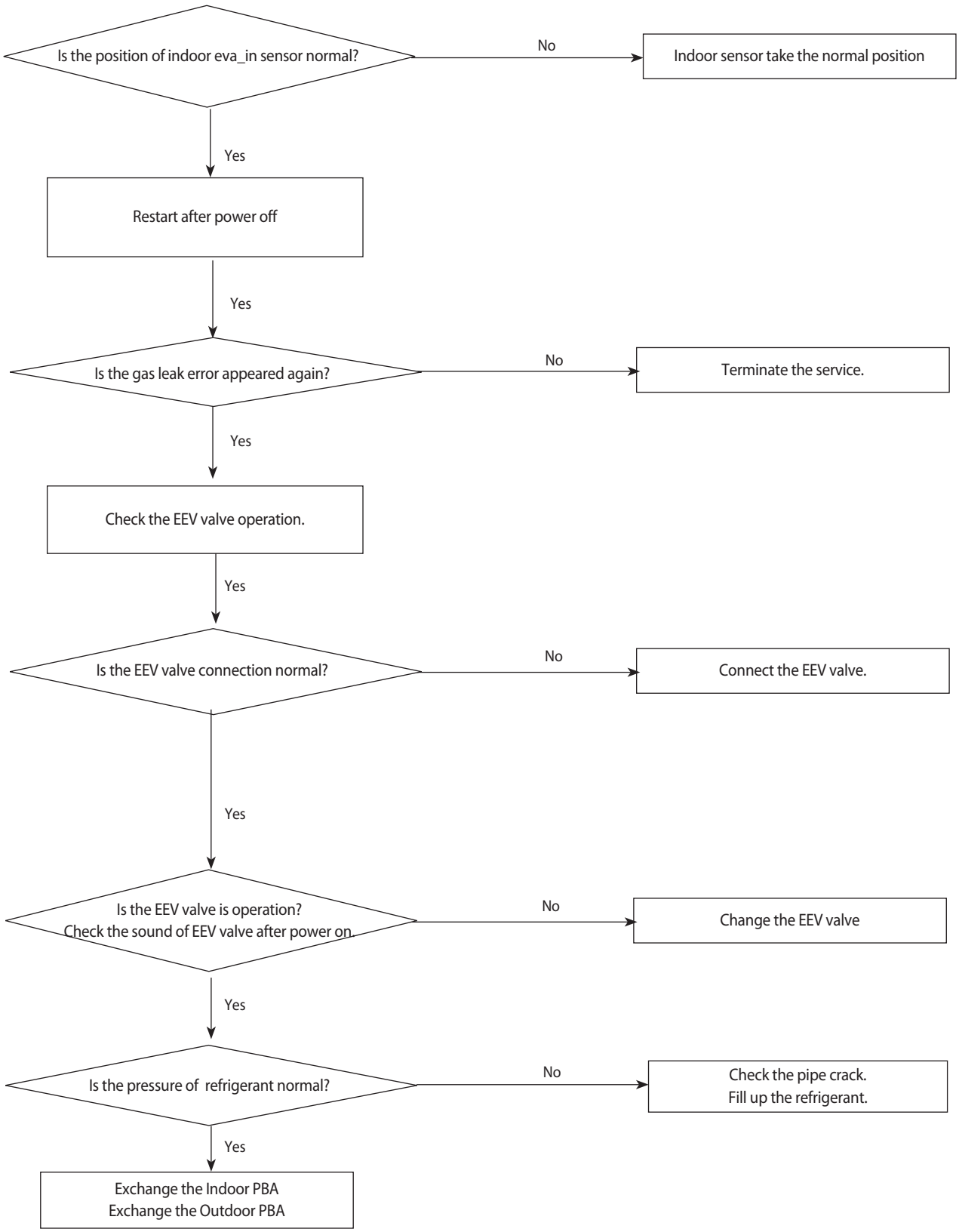


4-4-20 Gas leak error

1.Checklist :

1) Is the position of indoor Eva_in sensor normal?
2) Check the pipe crack
3) Check the EEV valve connection in Outdoor unit
4) Check the refrigerant was charged

2. Troubleshooting procedure

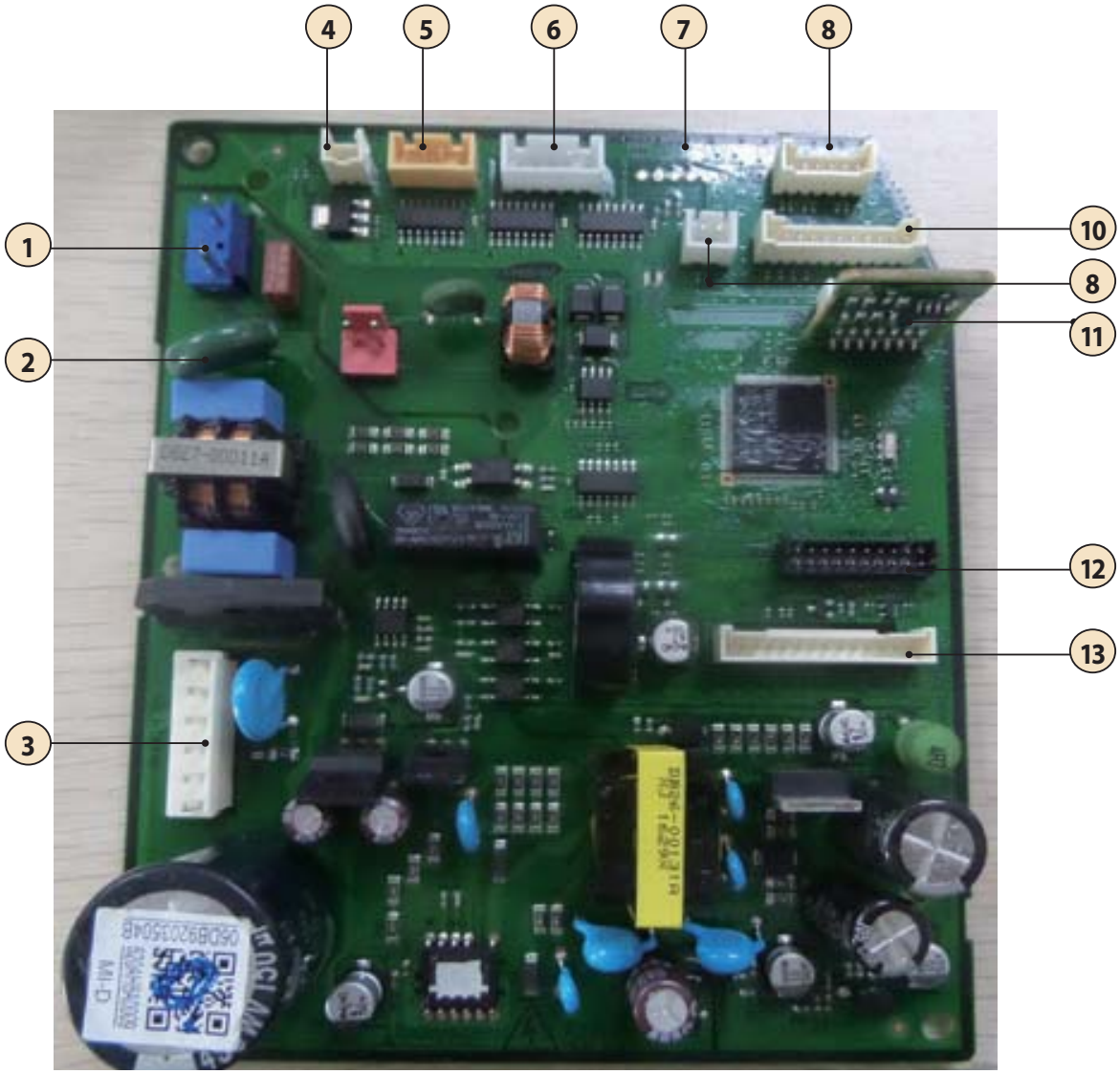


5. PCB Diagram

5-1 Indoor Unit

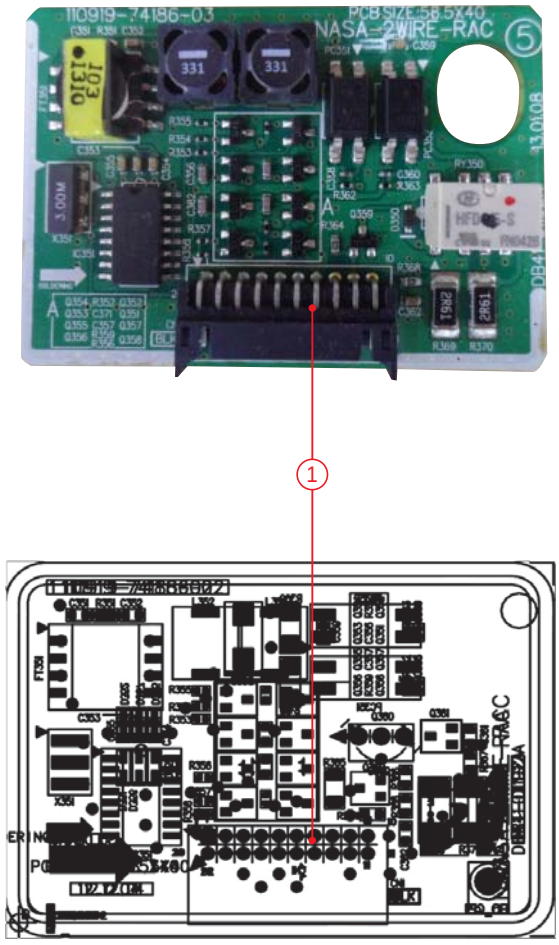
MAIN PCB

■ **AC018MNADCH / AC024MNADCH**



① **CNP101-POWER** #1 : L #2 : NOT USED #3 : N	② **CN303-COM1** #1~2 : COMMUNICATION SIGNAL	③ **CN701-BLDC FAN** #1 : DC 310V #2 : NOT USED #3 : GND #4 : PWM SIGNAL #5 : FEEDBACK SIGNAL	④ **CN140-FUSE CHECK** #1 : THERMAL FUSE SIGNAL #2 : GND
⑤ **CN805-SPI** #1~2 : GND #3 : SPI CONTROL SIGNAL #4 : NOT USED	⑥ **CN802-STEP UP/DOWN** #1 : DC 12V #2~5 : LOUVER SIGNAL	⑦ **CN801-EEV** #1~4 : EEV SIGNAL #5~6 : DC 12V	⑧ **CN401-ROOM** #1 : OOM TEMPERATURE SENSOR SIGNAL #2 : GND
⑨ **CN403-EVA IN/OUT/DIS** #1 : EVA IN TEMPERATURE SENSOR SIGNAL #2 : GND #3 : EVA OUT TEMPERATURE SENSOR SIGNAL #4 : GND #5 : DISCHARGE TEMPERATURE SENSOR SIGNAL #6 : GND	⑩ **CN501-DISPLAY** #1~3 : LED SIGNAL #4 : REMOCON SIGNAL #5 : GND #6 : DC 5V #7~8 : REMOCON SIGNAL #9~11 : NOT USED	⑪ **CN201-EEPROM** #1 : GND #2 : NOT USED #3 : DC 5V #4~7 : EEPROM SIGNAL	⑫ **CN302-DOWNLOAD** #1~8 : DOWNLOAD SIGNAL #9 : GND #10~11 : DC 5V #12~16 : DOWNLOAD SIGNAL #17 : GND #18~20 : DOWNLOAD SIGNAL
⑬ **CN301-to 2WIRE SUB** #1~2 : COMMUNICATION SIGNAL #3~4 : SUB PBA SIGNAL #5 : EXTERNAL CONTROL SIGNAL #6 : COMP CHECK SIGNAL #7 : ERROR CHECK SIGNAL #8 : DC 5V #9 : GND #10 : DC 12V #11~14 : COMMUNICATION SIGNAL			

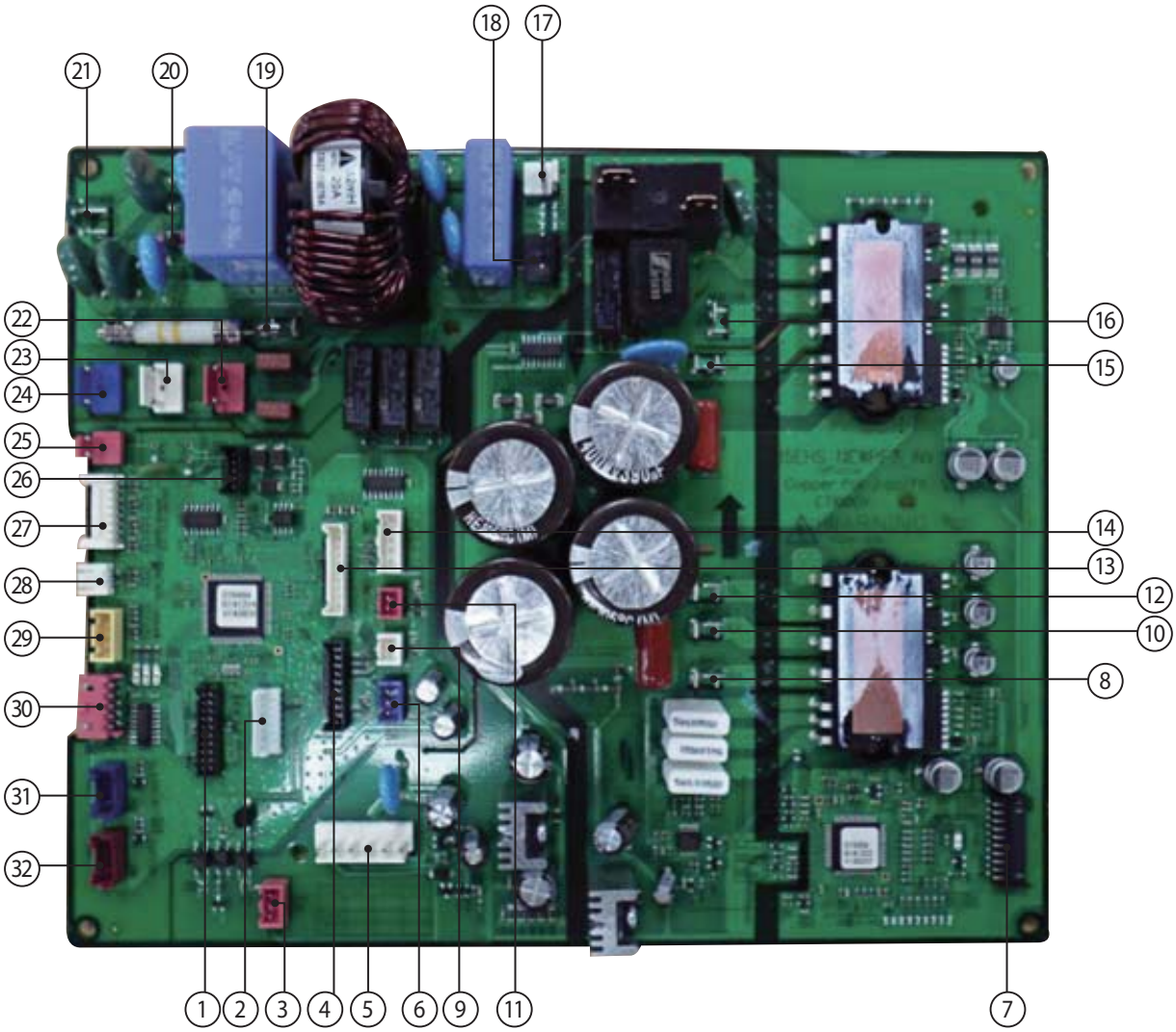
■ Sub PCB



① **CN1-2WIRES COMM.**

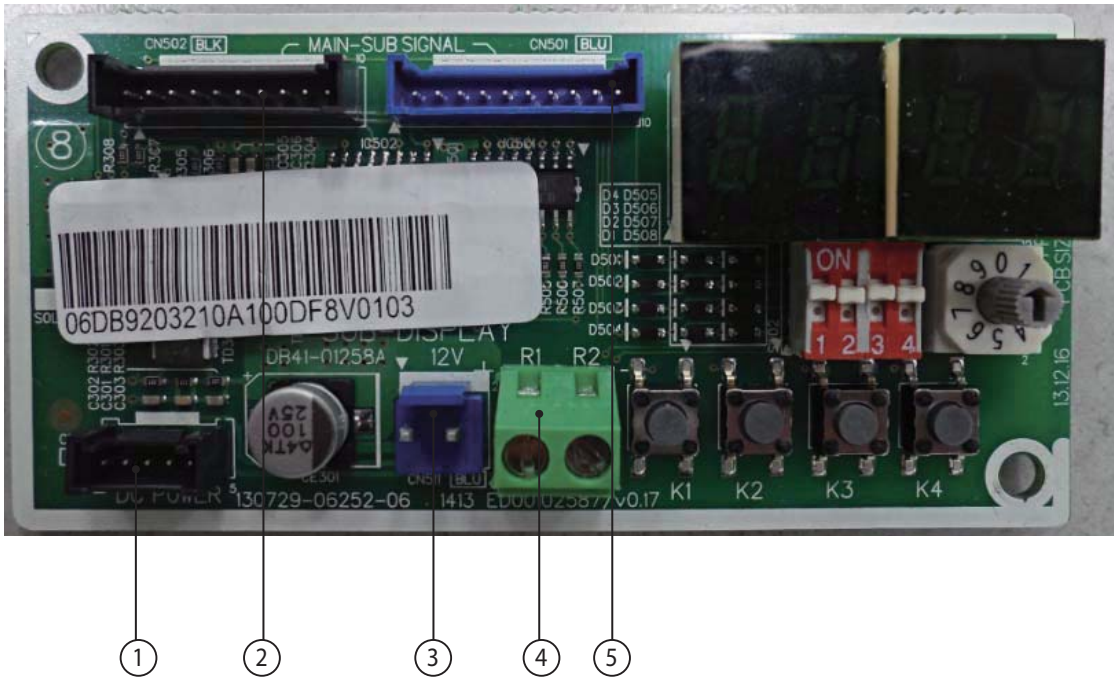
#1,#2,#19,#20:COMM. SIGNAL
#3,#18:EXTERNAL CONTROL
#4,#17:COMP CHECK
#5,#16:ERROR CHECK
#6:VCC(DC5V)
#7,#14:GND
#8,#13,#15:DC12V
#9~#12:COMM. SIGNAL

■ INVERTER PCB



No.	Local	Function	Description
1	CN201	DOWNLOAD-MAIN	YDW200-20 BLK
2	CN202	EEPROM	B7P-MQ WHT
3	CN153	SMPS DC15V	SMW250-03 RED
4	CN207	SUB PBA	SMW200-10 BLK
5	CN901	BLDC MOTOR	YW396-06V WHT
6	CN152	SMPS DC12V	SMW250-03 BLU
7	CN551	DOWNLOAD-MAIN	YDAW200-20 BLK
8	CN401	COMP_U	YTR250
9	CN203	TB-FUSE	SMW250-02 WHT
10	CN402	COMP_V	YTR250
11	CN246	QUIET_SW	SMW250-02 RED
12	CN403	COMP_W	YTR250
13	CN206	SUB PBA	SMW200-10 WHT
14	CN204	DRED	SMW250-05 WHT
15	CN051	REACTOR	YTR250
16	CN052	REACTOR	YTR250
17	CN150	SMPS POWER	YW396-03 BLK
18	CN151	HIGH-PRESS S/W	YW396-02V WHT
19	CN002	POWER	YTR250
20	CN003	EARTH	GP881205
21	CN001	POWER	YTR250
22	CN241	HOT GAS	YW396-03AV RED
23	CN030	4WAY	YW396-03AV WHT
24	CN242	BASE-HEATER	YW396-03AV BLU
25	CN301	COMM	YW396-02V RED
26	CN205	SUB PBA	SMW200-05 BLK
27	CN251	SENSOR OLP/COND/DIS/OUT	SMAW200-08 WHT
28	CN245	EVA_IN	SMAW250-02 WHT
29	CN252	WATER	SMW250-04 YEL
30	CN701	EEV	SMAW250A-05 RED
31	CN801	LOW-PRESS SENSOR	B04B-XAEK-1
32	CN809	HIGH-PRESS SENSOR	B04B-XARK-1

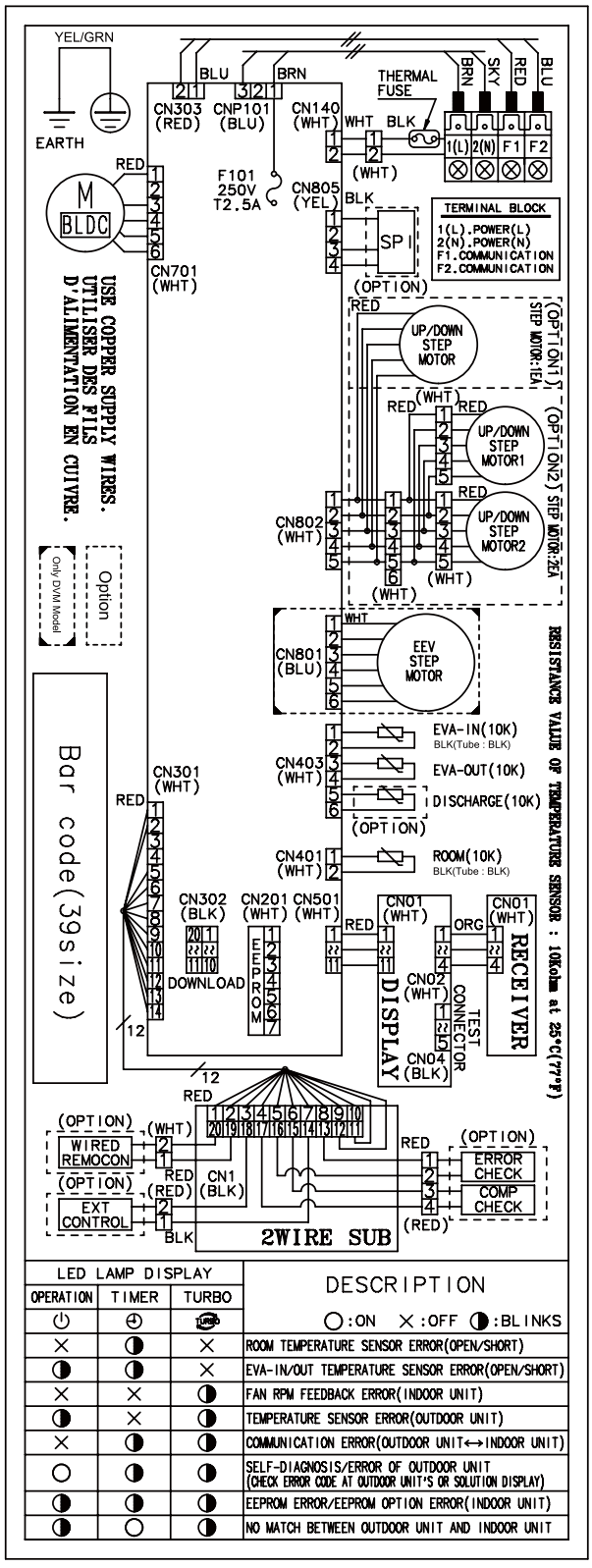
■ SUB-DISPLAY PCB



No.	Local	Function	Description
1	CN518	DC POWER	SMW200-05 BLK
2	CN502	MAIN-SUB SIGNAL	SMW200-10 BLK
3	CN511	DC 12V	YW396-02V BLU
4	CN01	SOLUTION_COMM	AKZ350 GRN
5	CN501	MAIN-SUB SIGNAL	SMW200-10 BLU

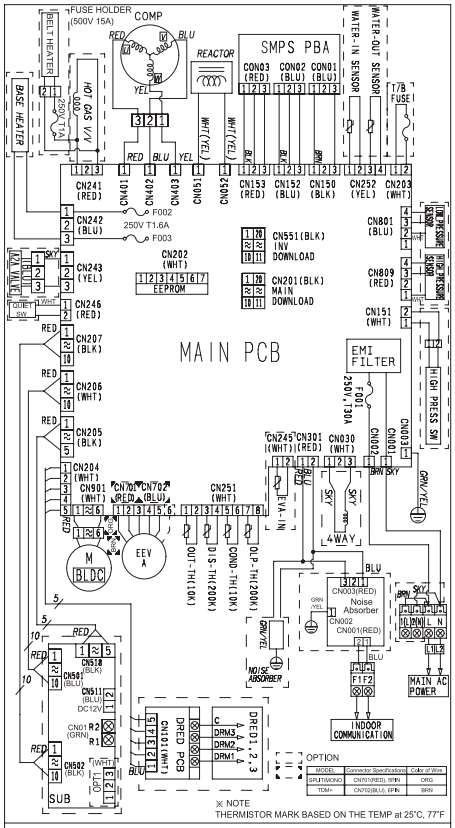
6. Wiring Diagram

6-1 Indoor Unit



LED LAMP DISPLAY			DESCRIPTION
OPERATION	TIMER	TURBO	○:ON ×:OFF ◑:BLINKS
×	◑	×	ROOM TEMPERATURE SENSOR ERROR(OPEN/SHORT)
◑	◑	×	EVA-IN/OUT TEMPERATURE SENSOR ERROR(OPEN/SHORT)
×	×	◑	FAN RPM FEEDBACK ERROR(INDOOR UNIT)
◑	×	◑	TEMPERATURE SENSOR ERROR(OUTDOOR UNIT)
×	◑	◑	COMMUNICATION ERROR(OUTDOOR UNIT↔INDOOR UNIT)
○	◑	◑	SELF-DIAGNOSIS/ERROR OF OUTDOOR UNIT (CHECK ERROR CODE AT OUTDOOR UNIT'S OR SOLUTION DISPLAY)
◑	◑	◑	EEPROM ERROR/EEPROM OPTION ERROR(INDOOR UNIT)
◑	○	◑	NO MATCH BETWEEN OUTDOOR UNIT AND INDOOR UNIT

■ AC018MXSCCC / AC024MXSCCC



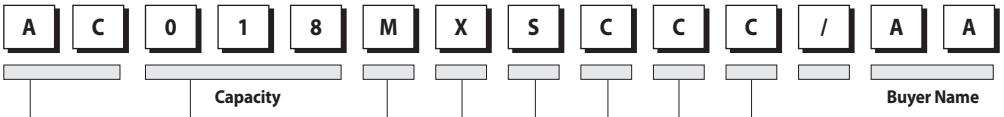
ERROR MODE	
E198	IDU_Terminal Block Thermal Fuse Error
E201	Communication Error (Pre tracking fail or The mismatched of indoor unit)
E202	Communication Error between the outdoor and indoor unit
E203	Time out Comm. (Inv Micom ↔ Main Micom)
E221	Outdoor Temperature Sensor Error(OPEN/SHORT)
E231	COND Temperature Sensor Error(OPEN/SHORT)
E251	Discharge Temperature Sensor Error(OPEN/SHORT)
E320	COMP-OLP Temperature Sensor Error(OPEN/SHORT)
E403	Comp Down by a freezing protection
E404	System stop to protect from overload
E416	Discharge Temperature Sensor Over Error
E422	EEV or Valve Close
E440	Prohibit Operation Condition Error(Heating)
E441	Prohibit Operation Condition Error(Cooling)
E458	Fan Error
E461	Comp Starting Error
E462	AC Input I_Limit Trip Error
E463	System stop due to OLP(Temp.)
E464	IPM Over Current(O.C) Error
E465	Comp V_limit/I_Limit Error
E466	DC Link Voltage Protecting Error
E467	Comp Wire Missing Error
E468	Current Sensor Error
E469	DC Link Voltage Sensor Error
E470	EEPROM Read/Write Error
E471	EEPROM Read/Write Error (H/W)
E474	Heatsink Sensor Error
E483	Over Voltage Protecting Error
E484	PFC Overload Error
E485	Input Current Sensor Error
E488	AC Input V_Limit Sensor Error
E500	IPM Overheat Error
E554	Gas Leak Error
E556	Model Wismaching Error(ODU/IDU)
E590	EEPROM CHECKSUM Error (Main→INVERTER)

DB68-05355A | OUTDOOR UNIT

7. Preference Sheet

7-1 Index of Model Name

Model Code



Product Type	
AM	DVM
AJ	PMA
AC	CAC (USD) / ASD
AE	EHS
AN	VTL
AK	PAK (Packaged System)
AG	CHR

Capacity	
018	BTU/H(*1000)
024	BTU/H(*1000)

Year	
E	2012
F	2013
H	2014
J	2015
K	2016
M	2017

Feature	
S	General Set (NASA)
N	Indoor unit (NASA)
X	Outdoor unit (NASA)
A	General Set (Non-NASA)
B	Indoor unit (Non-NASA)
C	Outdoor unit (Non-NASA)

Feature	
Code	Type
A	Inv+Side+General Temp
S	Inv+Side+Low Temp
Q	Inv+Side+Tropical Temp
F	Inv+Top+Tropical Temp
B	Non Inv+Side+General Temp
N	Non Inv+Side+Low Temp
R	Non Inv+Side+Tropical Temp
Z	Non Inv+Top+Tropical Temp

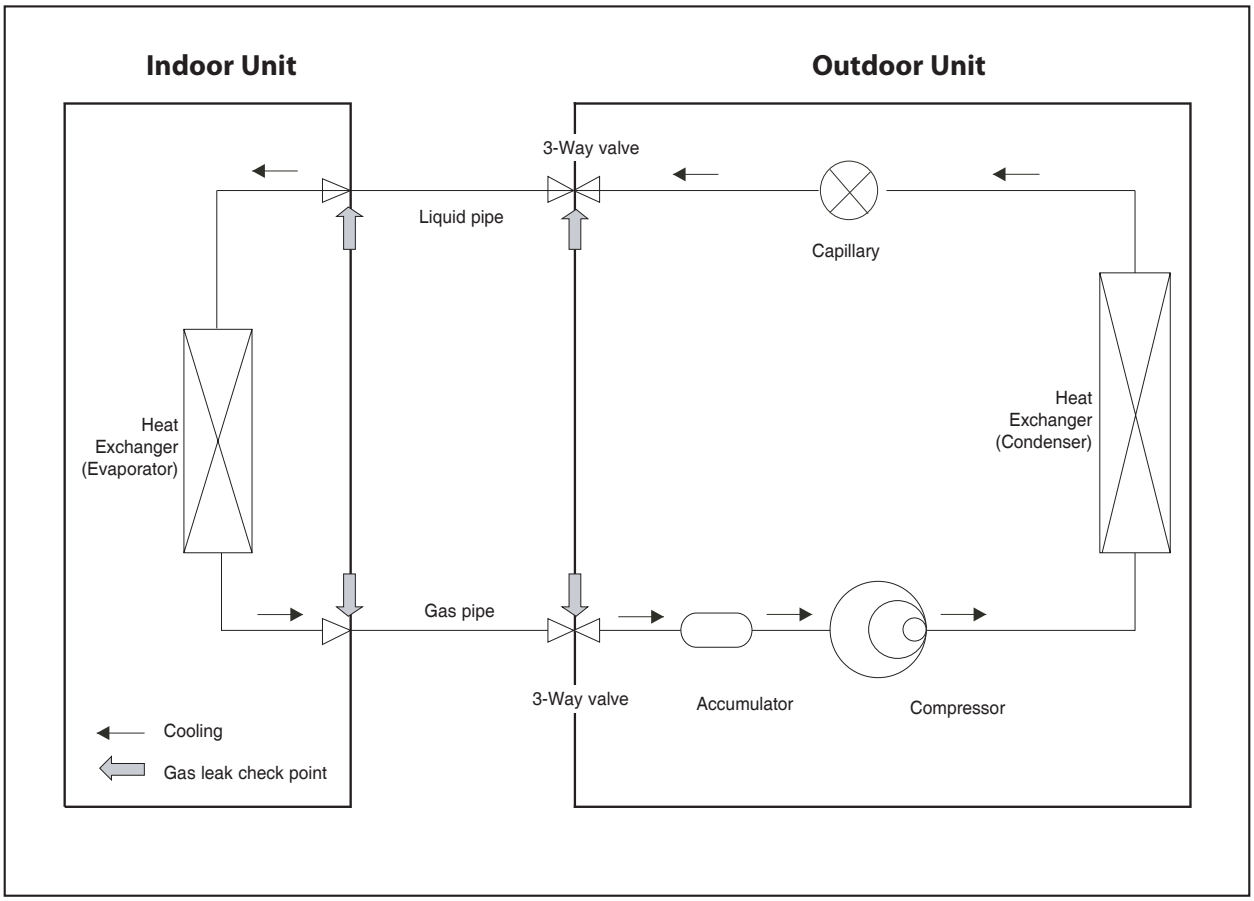
Power	
A	A(115V, 60hz, 1Φ)
B	B(220V, 60Hz, 1Φ)
C	C(208~230V, 60Hz)
D	D(200~220V, 50Hz)
E	E(220~240V, 50Hz)
F	F(208~230V, 60Hz, 3Φ)
G	G(380~415V, 50Hz, 3Φ)
H	H(380V, 60Hz, 3Φ)
J	J(460V, 60Hz, 3Φ)
K	K(220~240V, 50/60Hz, 1Φ)
M	M(127V, 50Hz)
N	N (380~415V, 50/60Hz, 3Φ)

Feature	
F	FLAGSHIP
P	PREMIUM
D	DELUXE <- Basic
S	STANDARD
L	FLAGSHIP+TROPICAL
R	PREMIUM+TROPICAL
T	DELUXE+TROPICAL<- Basic
N	STANDARD+TROPICAL
A	FLAGSHIP+Low Temp.
B	PREMIUM+Low Temp.
C	DELUXE+Low Temp.<- Basic
E	STANDARD+Low Temp.

Series		
C	COOLING ONLY	R410a
H	HEAT PUMP	
R	HEAT RECOVERY	
D	COOLING ONLY	R22
E	HEAT PUMP	
A	Cooling only	R134A
B	Heat Pump	
N	N/A	

※ "/" can be removed from the buyer card if there are not enough digits.

7-2 Refrigerating Cycle Diagram



■ **CONDENSER**

High temperature and high pressure gas state coolant discharged from the compressor is converted to a liquid state as it is cooled down by the heat emission in the outdoor condenser unit, and sent to the evaporator.

■ **COMPRESSOR**

Low temperature and low pressure coolant is compressed and sent to the cycling system

■ **EVAPORATOR**

Liquid coolant sucked in through the capillary tubes cools down the room by absorbing the surrounding heat as it evaporates (converting from liquid to gas). (Absorbing heat required for evaporation)

■ **SERVICE VALVE**

You can open the valve by turning the need valve counterclockwise using hex wrench, and it is used for vacuum, gas purging, coolant injection, coolant purging, and indoor-outdoor unit connection.

■ **ACCUMULATOR**

Accumulator prevents the flow of liquid-state coolant into the compressor. (Liquid-state coolant flowing into the compressor will overload the compressor.)

SAMSUNG