

SAMSUNG

SYSTEM AIR CONDITIONER

4 WAY CASSETTE SERIES

INDOOR UNIT

OUTDOOR UNIT

Model :

AC100JNCDEH/EU
AC120JNCDEH/EU
AC140JNCDEH/EU

AC100JXADEH/EU
AC100JXADGH/EU
AC120JXADEH/EU
AC120JXADGH/EU
AC140JXADEH/EU
AC140JXADGH/EU

SERVICE Manual

AIR CONDITIONER



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3. Disassembly and Reassembly
4. Troubleshooting
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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

2-1-1 Features

- **Auto Changeover**

- **Long Lasting Outdoor Unit**

Anti Corrosion Cabinet & Heat Exchanger are applied.

- **Free Installation**




4 directions piping installation are possible.



- **Various useful functions**

Long piping : Max.30m


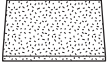
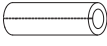
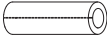
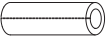





- **Eco-friendly Product (Lead-Free, RoHS, WEEE)**

2-2 Product Specifications

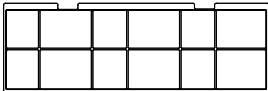
ITEM			DEVELOPMENT MODEL		
			AC100JNCDEH AC100JXADEH	AC100JNCDEH AC100JXADGH	AC120JNCDEH AC120JXADEH
IMAGE	INDOOR UNIT				
	OUTDOOR UNIT				
	REMOTE CONTROLLER				
Performance	Cooling [Btu/h]		10000	10000	12000
	Heating [Btu/h]		11200	11200	13000
Power Consumption	Cooling [W]		3450	3450	4700
	Heating [W]		3150	3150	3750
EER/COP	Cooling [Btu/hW]		5.8	5.8	5.7
	Heating [Btu/hW]		3.9	3.9	4
Voltage / Frequency			1Φ, 220-240V/50Hz	3Φ, 380~415V/50Hz	1Φ, 220-240V~/50Hz
Operating Current	Cooling [A]		15	5.4	20.4
	Heating [A]		13.7	4.9	16.4
Noise	Indoor Unit [dBA] (C/H)		47/47	47/47	50/50
	Outdoor Unit [dBA] (C/H)		59/63	59/63	60/64
Size	Net Dimension (WxDxH)	Indoor Unit [mm]	1650*235*675	1650*235*675	1650*235*675
		Outdoor Unit [mm]	940*330*998	940*330*998	940*330*998
	Shipping Dimension (WxDxH)	Indoor Unit [mm]	1739*321*758	1739*321*758	1739*321*758
		Outdoor Unit [mm]	995*426*1096	995*426*1096	995*426*1096
Weight	Net Weight	Indoor Unit [kg]	42	42	42
		Outdoor Unit [kg]	70	72	77
	Shipping Weight	Indoor Unit [kg]	48	48	48
		Outdoor Unit [kg]	74	76	82
Harness Specifications	Indoor Fan Motor		DB31-00661A	DB31-00661A	DB31-00661A
	Compressor		UG8T300LNBJU	UG8T300FUCJU	UG5T450FUEJX
	Outdoor Fan Motor		DB31-00579B	DB31-00579B	DB31-00579B
Refrigerant Type			R-410A		
Factory Charging [g]			2800	2800	2900
Additional Refrigerant (for every 1m) [g]			50	50	50
Basic Piping Length [m]			5	5	5
Max. Piping Length [m]			50	50	50
Max. Level Difference [m]			30	30	30
Option Code			01D06C- 1C5439-276470-370040	01D06C- 1C5439-276470-370040	01D06C- 1C247A-277882-370040

ITEM			DEVELOPMENT MODEL		
			AC120JNCDEH AC120JXADGH	AC140JNCDEH AC140JXADEH	AC140JNCDEH AC140JXADGH
IMAGE	INDOOR UNIT				
	OUTDOOR UNIT				
	REMOTE CONTROLLER				
Performance	Cooling [Btu/h]		12000	14000	14000
	Heating [Btu/h]		13000	16000	16000
Power Consumption	Cooling [W]		4700	4650	4650
	Heating [W]		3750	4430	4430
EER/COP	Cooling [Btu/hW]		5.7	3.01	3.01
	Heating [Btu/hW]		4	3.61	3.61
Voltage / Frequency			3Φ, 380~415V/50Hz	1Φ, 220-240V~/50Hz	3Φ, 380~415V/50Hz
Operating Current	Cooling [A]		7.2	20.2	7.1
	Heating [A]		5.8	19.3	6.8
Noise	Indoor Unit [dBA] (C/H)		50/50	51/51	51/51
	Outdoor Unit [dBA] (C/H)		60/64	60/62	60/62
Size	Net Dimension (WxDxH)	Indoor Unit [mm]	1650*235*675	1650*235*675	1650*235*675
		Outdoor Unit [mm]	940*330*998	940*330*1210	940*330*1210
	Shipping Dimension (WxDxH)	Indoor Unit [mm]	1739*321*758	1739*321*758	1739*321*758
		Outdoor Unit [mm]	995*426*1096	995*426*1388	995*426*1388
Weight	Net Weight	Indoor Unit [kg]	42	42	42
		Outdoor Unit [kg]	79	88	90
	Shipping Weight	Indoor Unit [kg]	48	48	48
		Outdoor Unit [kg]	84	98	100
Harness Specifications	Indoor Fan Motor		DB31-00661A	DB31-00661A	DB31-00661A
	Compressor		UG5T450FUFJX	UG5T450FUFJX	UG5T450FUFJX
	Outdoor Fan Motor		DB31-00579B	DB31-00579B	DB31-00579B
Refrigerant Type			R-410A		
Factory Charging [g]			2900	3200	3200
Additional Refrigerant (for every 1m) [g]			50	50	50
Basic Piping Length [m]			5	5	5
Max. Piping Length [m]			50	75	75
Max. Level Difference [m]			30	30	30
Option Code			01D06C-1C247A-277882-370040	01D06C-1C548E-278CA0-370045	01D06C-1C548E-278CA0-370045

2-3 Accessory**2-3-1 Accessory**

Item	Description	Code No.	Q'ty	Remark
	MANUAL USERS & INSTALL MANUAL	DB68-05134A DB68-05135A	1	Indoor Unit
	Insulation	DB62-04318S	1	
	Insu DRAIN HOSE	DB62-11028A	1	
	INSU HOSE D	DB62-11028E	1	
	INSU TUBE OUT	DB62-11028F	1	
	ASSY DRAIN HOSE JOINT	DB67-01191A	1	
	Ass'y Drain Hose Joint	DB90-06701A	1	
	GROMMET-HANGER	DB63-00237A	8	
	RUBBER LEG	DB73-20134A	4	Outdoor unit
	MANUAL INSTALL	DB98-32793A	1	

2-3-2 Filter specifications




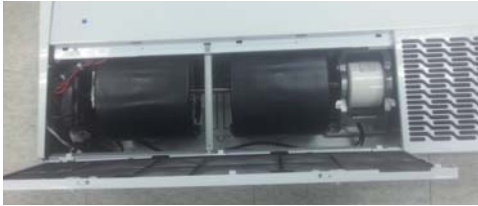




Item	Descriptions	Code-No.	Remark
	Dust filter	DB63-03687A	Basic/ Water wash

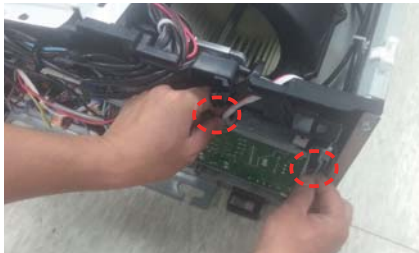
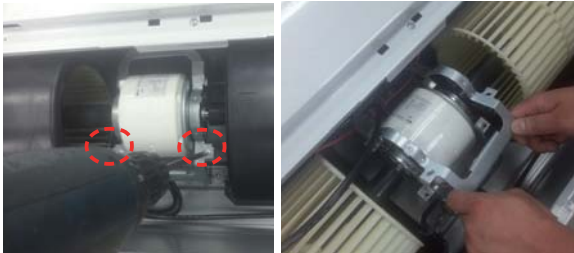

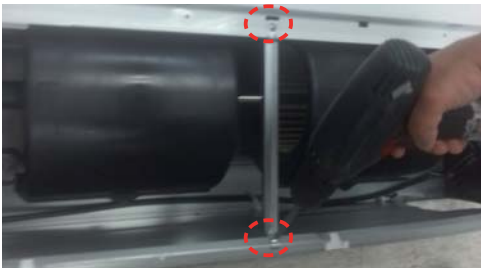

3. Disassembly and Reassembly


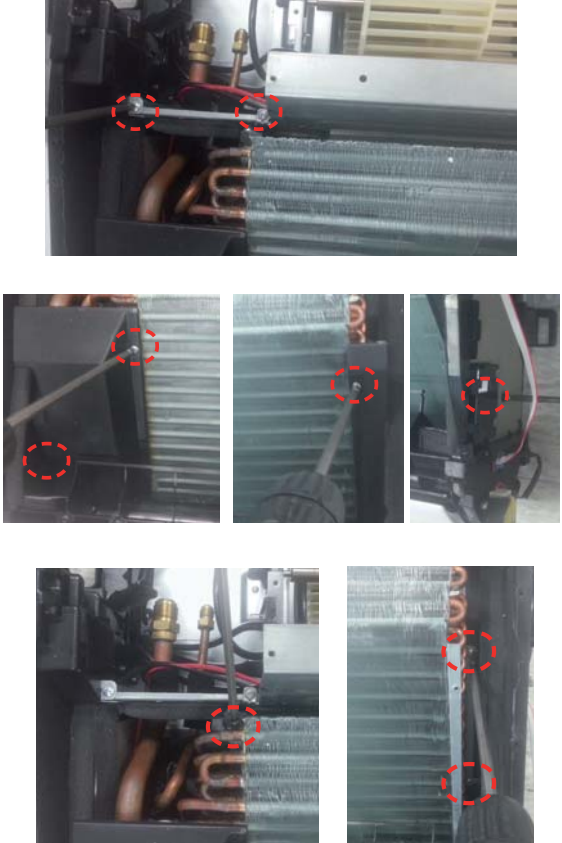
■ Necessary Tools





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

3-1 Indoor unit

No	Parts	Procedure	Remark
1	Electrial Part	<p>⚠ You must turn off the Power before disassembly.</p> <p>1) Open the Grille by sliding 4 position and removing 4 screws.</p> <p>2) Detach the Air Inlet Grille.</p> <p>3) Detach the Cover side by removing 1 screw and sliding Cover.</p> <p>4) Open the cover of Component Electrical Box by removing 2 screws.</p> <p>5) Open the cover of Terminal block Box by removing 2 screws</p>	       



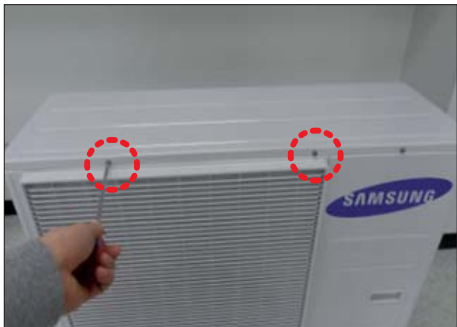

No	Parts	Procedure	Remark
2	Fan & Motor	<p>1) Disconnect 2 wires of Motor.</p> <p>2) Detach Holder Motor by removing 2 screws.</p> <p>3) Detach the Upper case of Fan. (AC036HBCDBD, AC036JBCDBD, AC040JBCDBD : 3EA AC060HBCDBD, AC060JBCDBD : 4EA)</p> <p>4) Detach Bracket Grille by removing 2 Screws. (Bracket Grille AC036JBCDBD, AC036JBCDBD, AC040JBCDBD : 1EA AC060HBCDBD, AC060JBCDBD : 2EA)</p>	    




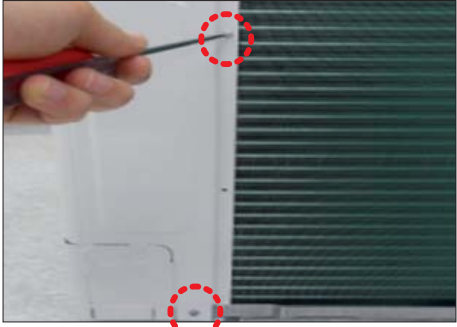
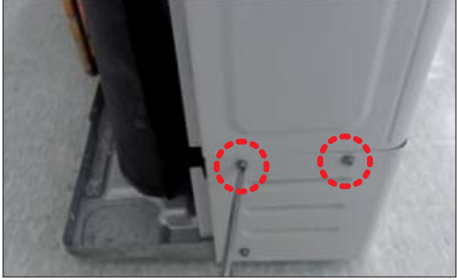
No	Parts	Procedure	Remark
3	Drain Pan	<p>1) Detach the Cabinet Front by removing 7 screws.</p> <p>2) Remove 1 screw in the middle of drain pan.</p> <p>3) Detach the Drian pan. Be careful that there might be some water left in the drain pan when you remove the drain pan.</p>	
4	Evaporator	<p>1) Detache the Cover Pipe by removing 2 screws.</p> <p>2) Detache the Cover Evap LF/RH by removing 4 screws.</p> <p>3) Detach the Evaporator assembly by removing 3 screws.</p>	

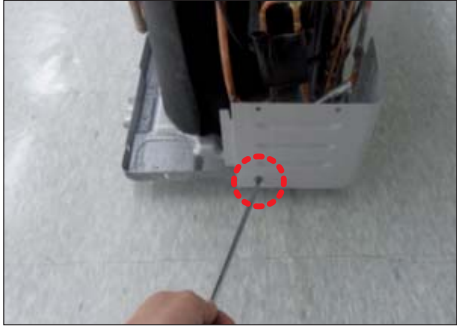
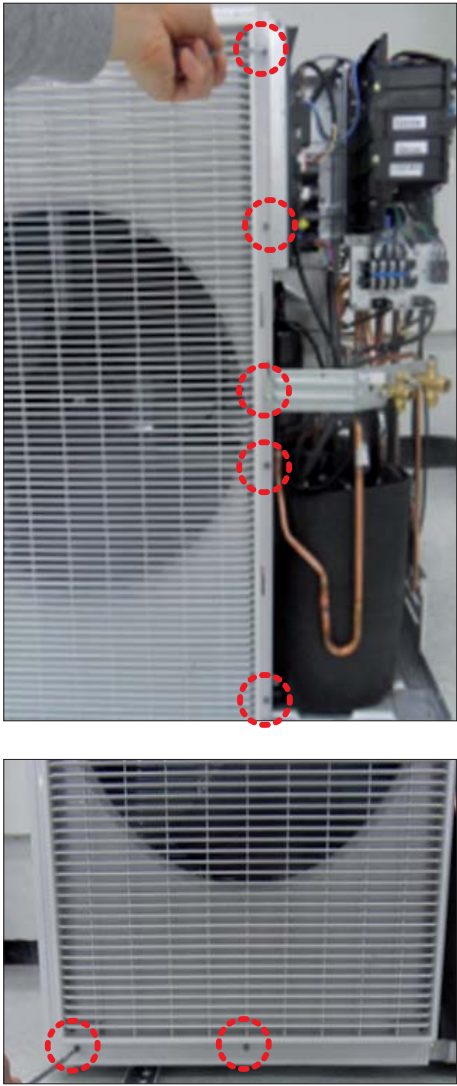
No	Parts	Procedure	Remark
5	Stepping Motor	1) Detach the Connector. 2) Detache the Stepping Motor by removing 2 screws.	 
6	Holder Blade	1) Remove 4 screws at both side of the Holder blade.	 

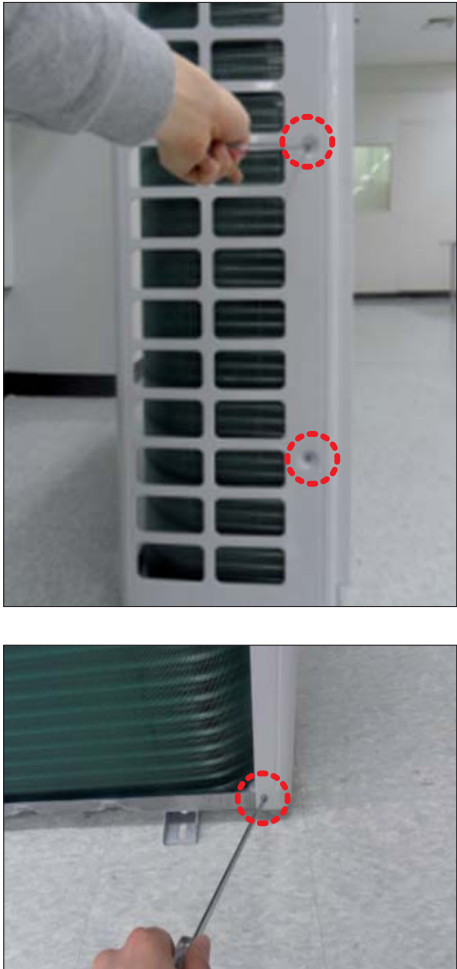

3-2 Outdoor Unit


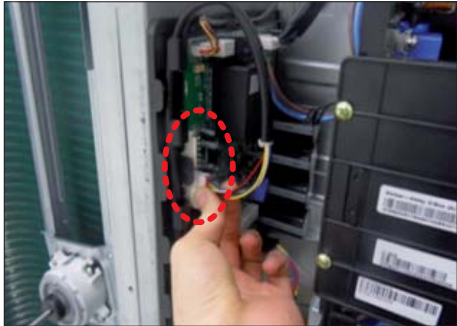

■ AC100JXADEH,AC100JXADGH,AC120JXADEH,AC120JXADGH

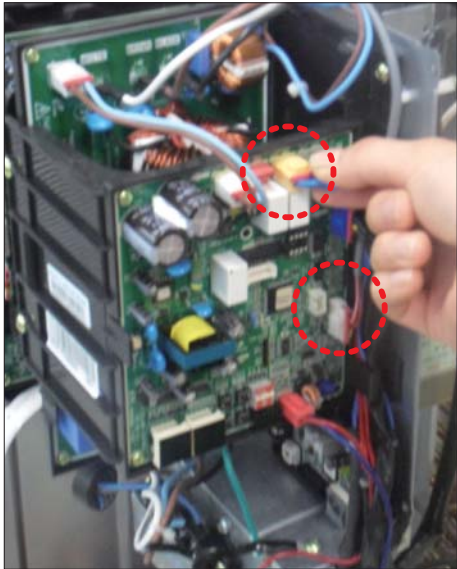
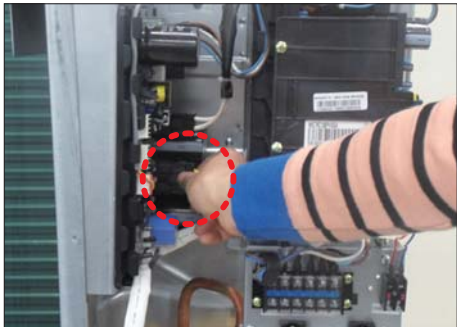

No	Parts	Procedure	Remark
1	Cabi Front RH	<p>⚠ You must turn off the Power before disassembly.</p> <p>1) Unscrew and remove two mounting screw in the Cabinet Front RH. (Use +Screw Driver)</p>	 
2	Cabi Top	<p>1) Unscrew and remove 9 screws on each side of the Cabinet-Top. (Use +Screw Driver)</p>	
3	Cabi Install Front	<p>1) Unscrew and remove 1 screw in the Cabinet-Install Front. (Use +Screw Driver)</p>	


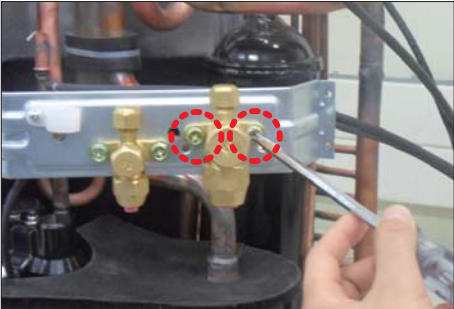

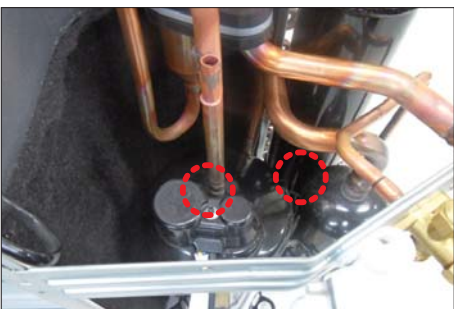
No	Parts	Procedure	Remark
4	Guard Cond	<p>1) Pull the sensor from Guard Cond.</p> <p>2) Unscrew and remove 4 screws in the Guard Cond. (Use +Screw Driver)</p>	 
5	Cabi Back RH	<p>1) Pull the sensor from Cabi Back RH.</p> <p>2) Unscrew and remove 4 screws on each side of the Cabinet Back RH. (Use +Screw Driver)</p>	  

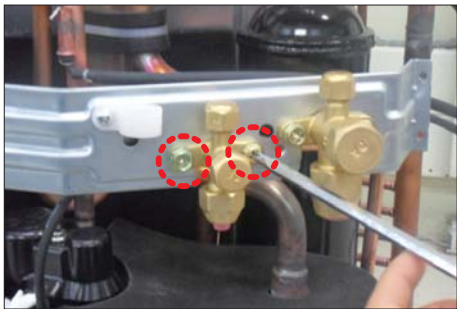

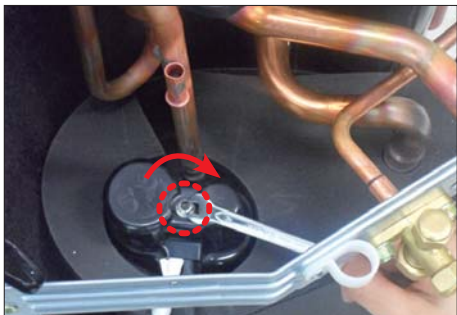


No	Parts	Procedure	Remark
6	Cabi Install Back	1) Unscrew and remove 1 screw in the Cabinet-Install Back. (Use +Screw Driver)	
7	Cabi Front LF	1) Unscrew and remove 10 screws in the Cabinet-Front LF. (Use +Screw Driver)	


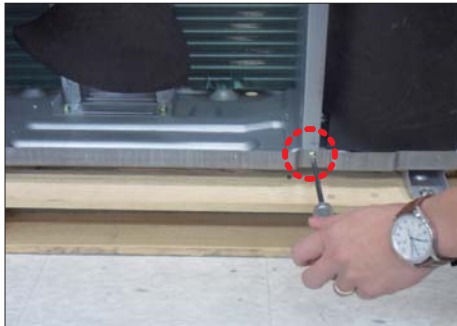
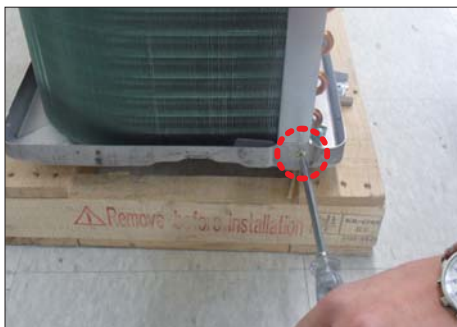
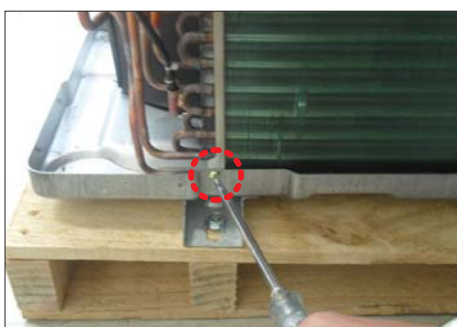
No	Parts	Procedure	Remark
			
8	Fan	1) Turn 2 mounting nuts as shown in the picture and remove it. (Use Adjustable Wrench)	

No	Parts	Procedure	Remark
9	Motor	<ol style="list-style-type: none"> 1) Separate the Fan Propeller. 2) Unscrew and remove the 8 Motor mounting screws. (Use +Screw Driver) 3) Disconnect the Motor wire From Ass'y Control Out. 	 
10	Bracket Motor	<ol style="list-style-type: none"> 1) Unscrew and remove 2 mounting screws in Bracket Motor. (Use +Screw Driver) 	

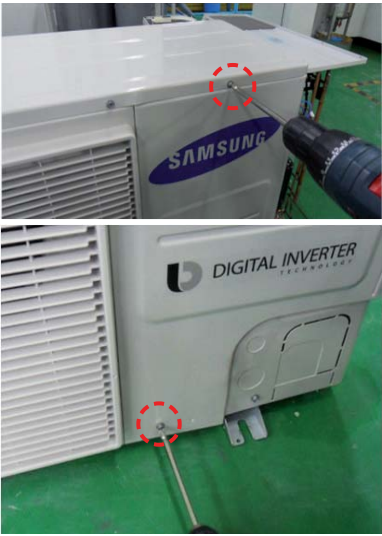
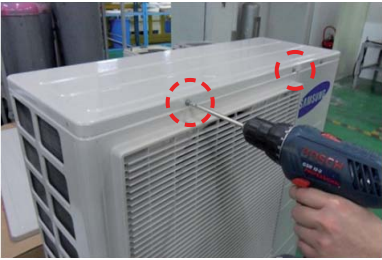


No	Parts	Procedure	Remark
11	Control Out	<p>1) Disconnect 4 Connecters From Ass'y Control Out.</p> <p>2) Unscrew and remove 1 mounting screw in Control Out. (Use +Screw Driver)</p> <p>3) Separate Ass'y Control Out.</p>	  



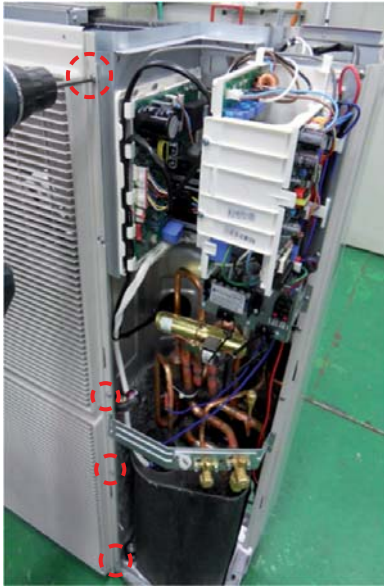
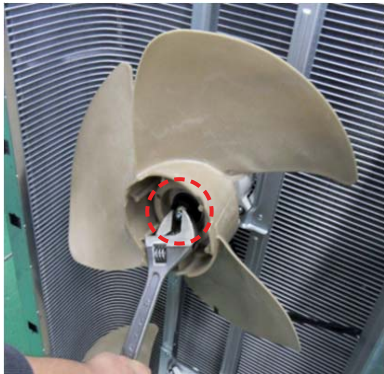
No	Parts	Procedure	Remark
12	Ass'y 4way Valve	<ol style="list-style-type: none"> 1) Purge the Coolant first. 2) Unscrew and remove 2 mounting screws in muffler. 3) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver) 4) Separate the pipe from the Entrance/Exit using a welder. <p>⚠ When removing the compressor, Heat Exchanger, and Pipe, purge the Coolant inside the Compressor completely and remove the pipe with a welding flame.</p>	   


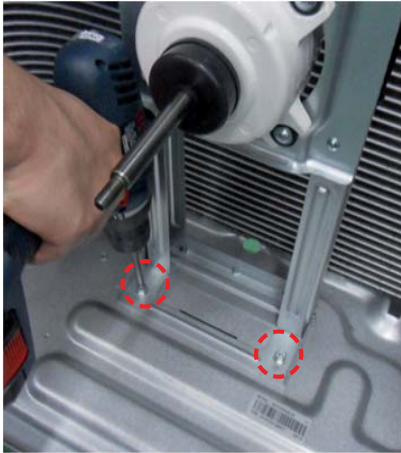
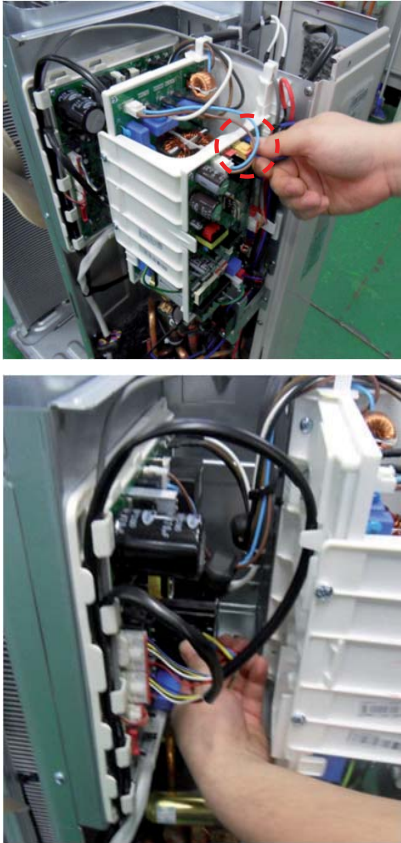
No	Parts	Procedure	Remark
13	Assy EEV Valve	1) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver) 2) Separate the pipe from the Entrance/Exit using a welder.	 
14	Compressor	1) Unscrew and remove 1 mounting nut in Cover Terminal. (Use Adjustable Wrench) 2) Separate the Compressor Felt Sound.	  



No	Parts	Procedure	Remark
		3) As shown in the picture, unscrew and remove 3 mounting screws from the bottom. (Use Adjustable Wrench)	
15	Cond Out	<p>1) Unscrew and remove 3 screws on each side of the Assy Cond Out. (Use +Screw Driver)</p> <p>2) Separate the Compressor Felt Sound.</p>	  

■ AC140JXADEH,AC140JXADGH

No	Parts	Procedure	Remark
1	Cabi Front RH	<p>⚠ You must turn off the Power before disassembly.</p> <p>1) Unscrew and remove two mounting screw in the Cabinet Front RH. (Use +Screw Driver)</p>	
2	Cabi Top	<p>1) Unscrew and remove 9 screws on each side of the Cabinet-Top. (Use +Screw Driver)</p>	
3	Cabi Install Front	<p>1) Unscrew and remove 1 screw in the Cabinet-Install Front. (Use +Screw Driver)</p>	
4	Guard Cond	<p>1) Pull the sensor from Guard Cond.</p> <p>2) Unscrew and remove 4 screws in the Guard Cond. (Use +Screw Driver)</p>	

No	Parts	Procedure	Remark
5	Cabi Back RH	1) Pull the sensor from Cabi Back RH. 2) Unscrew and remove 4 screws on each side of the Cabinet Back RH. (Use +Screw Driver)	
6	Cabi Install Back	1) Unscrew and remove 1 screw in the Cabinet-Install Back. (Use +Screw Driver)	
7	Cabi Front LF	1) Unscrew and remove 10 screws in the Cabinet-Front LF. (Use +Screw Driver)	
8	Fan	1) Turn 2 mounting nuts as shown in the picture and remove it. (Use Adjustable Wrench)	

No	Parts	Procedure	Remark
9	Motor	1) Separate the Fan Propeller. 2) Unscrew and remove the 8 Motor mounting screws. (Use +Screw Driver) 3) Disconnect the Motor wire From Ass'y Control Out.	
10	Bracket Motor	1) Unscrew and remove 2 mounting screws in Bracket Motor. (Use +Screw Driver)	
11	Control Out	1) Disconnect 4 Connecters From Ass'y Control Out. 2) Unscrew and remove 1 mounting screw in Control Out. (Use +Screw Driver) 3) Separate Ass'y Control Out.	

No	Parts	Procedure	Remark
12	Assy 4way Valve	<p>1) Purge the Coolant first.</p> <p>2) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver)</p> <p>3) Separate the pipe from the Entrance/Exit using a welder.</p> <p>⚠ When removing the compressor, Heat Exchanger, and Pipe, purge the Coolant inside the Compressor completely and remove the pipe with a welding flame.</p>	
13	Assy EEV Valve	<p>1) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver)</p> <p>2) Separate the pipe from the Entrance/Exit using a welder.</p>	

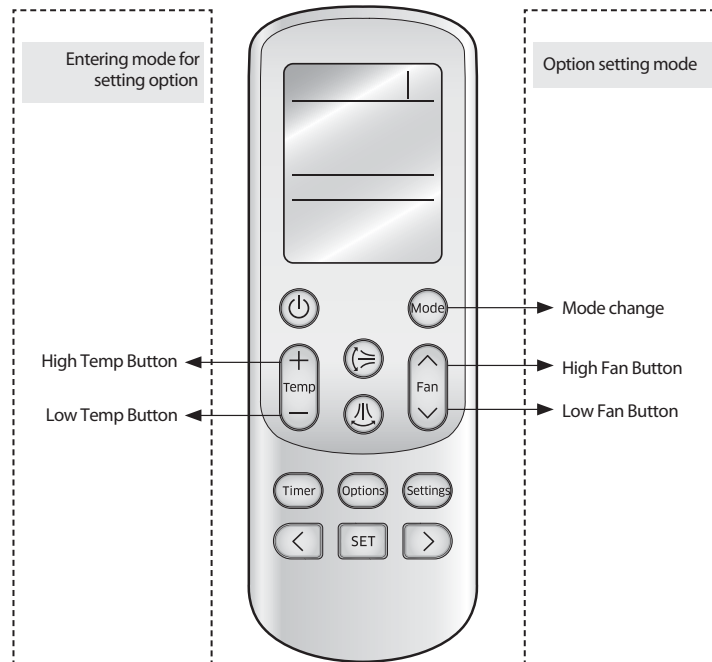
4. Troubleshooting

4-1 Setting an indoor unit address and installation option

- 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.

4-1-1 The procedure of setting option



Step 1 Entering mode for option setting.

1. Remove batteries from the remote controller.
2. Insert the batteries while you press [+ Temperature] and [- Temperature] button at the same time.
3. Check if you have entered the option setting status.



Step 2 Option setting procedure. (The option setting procedure is the same for other models.)

After entering the option setting status, select the option as listed below.








- Option setting is available from SEG1 to SEG 24.
- SEG1, SEG7, SEG13, SEG19 are not set as page option.
- Set the SEG2~SEG6, SEG8~SEG12 in the ON status and SEG14~18, SEG20~24 in the OFF status.


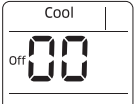
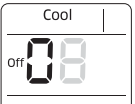
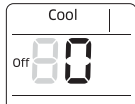


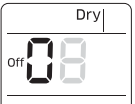
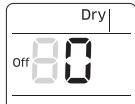

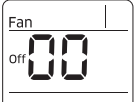
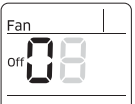
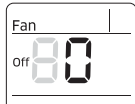

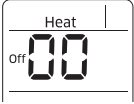
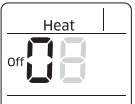
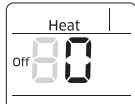
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
0	X	X	X	X	X	1	X	X	X	X	X
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
2	X	X	X	X	X	3	X	X	X	X	X

On(SEG1~12)	Off(SEG13~24)
Auto on 00	Auto off 00


4-1-2 The procedure of setting option

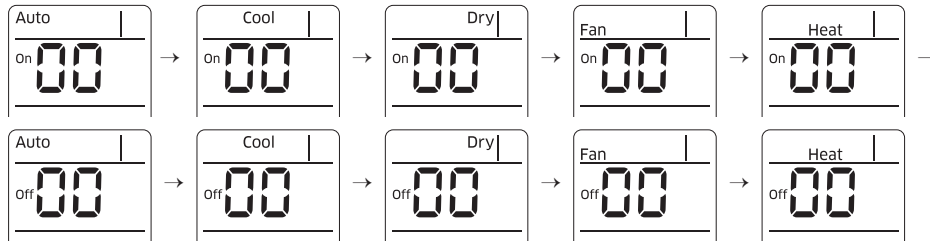
Option setting	Status
<p>1. Setting SEG2, SEG3 option</p> <p>Press Low Fan button(∨) to enter SEG2 value.</p> <p>Press High Fan button(∧) to enter SEG3 value.</p> <p>Each time you press the button, $\text{0} \rightarrow \text{1} \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}$ will be selected in rotation .</p>	<div> <div>Auto on 08 SEG2</div> <div>Auto on 80 SEG3</div> </div>
<p>2. Setting Cool mode</p> <p> Press Mode button to be changed to Cool mode in the ON status .</p>	<div>Cool on 00</div>
<p>3. Setting SEG4, SEG5 option</p> <p>Press Low Fan button(∨) to enter SEG4 value.</p> <p>Press High Fan button(∧) to enter SEG5 value.</p> <p>Each time you press the button, $\text{0} \rightarrow \text{1} \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}$ will be selected in rotation .</p>	<div> <div>Cool on 08 SEG4</div> <div>Cool on 80 SEG5</div> </div>
<p>4. Setting Dry mode</p> <p> Press Mode button to be changed to DRY mode in the ON status .</p>	<div>Dry on 00</div>
<p>5. Setting SEG6, SEG8 option</p> <p>Press Low Fan button(∨) to enter SEG6 value.</p> <p>Press High Fan button(∧) to enter SEG8 value.</p> <p>Each time you press the button, $\text{0} \rightarrow \text{1} \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}$ will be selected in rotation .</p>	<div> <div>Dry on 08 SEG6</div> <div>Dry on 80 SEG8</div> </div>
<p>6. Setting Fan mode</p> <p> Press Mode button to be changed to FAN mode in the ON status .</p>	<div>Fan on 00</div>
<p>7. Setting SEG9, SEG10 option</p> <p>Press Low Fan button(∨) to enter SEG9 value.</p> <p>Press High Fan button(∧) to enter SEG10 value.</p> <p>Each time you press the button, $\text{0} \rightarrow \text{1} \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}$ will be selected in rotation .</p>	<div> <div>Fan on 08 SEG9</div> <div>Fan on 80 SEG10</div> </div>
<p>8. Setting Heat mode</p> <p> Press Mode button to be changed to HEAT mode in the ON status .</p>	<div>Heat on 00</div>
<p>9. Setting SEG11, SEG12 option</p> <p>Press Low Fan button(∨) to enter SEG11 value.</p> <p>Press High Fan button(∧) to enter SEG12 value.</p> <p>Each time you press the button, $\text{0} \rightarrow \text{1} \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}$ will be selected in rotation .</p>	<div> <div>Heat on 08 SEG11</div> <div>Heat on 80 SEG12</div> </div>
<p>10. Setting Auto mode</p> <p> Press Mode button to be changed to AUTO mode in the OFF status.</p>	<div>Auto off 00</div>
<p>11. Setting SEG14, SEG15 option</p> <p>Press Low Fan button(∨) to enter SEG14 value.</p> <p>Press High Fan button(∧) to enter SEG15 value.</p> <p>Each time you press the button, $\text{0} \rightarrow \text{1} \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}$ will be selected in rotation.</p>	<div> <div>Auto off 08 SEG14</div> <div>Auto off 80 SEG15</div> </div>

The procedure of setting option (cont.)


Option setting	Status
12. Setting Cool mode  Press Mode button to be change 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 → 8 → ... E → F will be selected in rotation.	<div>   </div> <div> SEG16 SEG17 </div>
14. Setting Dry mode  Press Mode button to be change 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 → 8 → ... E → F will be selected in rotation.	<div>   </div> <div> SEG18 SEG20 </div>
16. Setting Fan mode  Press Mode button to be change 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 → 8 → ... E → F will be selected in rotation.	<div>   </div> <div> SEG21 SEG22 </div>
18. Setting Heat mode  Press Mode button to be change to HEAT mode in the OFF status.	
19. Setting SEG23, SEG24 mode Press Low Fan button(∨) to enter SEG23 value. Press High Fan button(∧) to enter SEG24 value. Each time you press the button, 0 → 8 → ... E → F will be selected in rotation.	<div>   </div> <div> SEG23 SEG24 </div>

Step 3. Check the option you have set

After setting option, press  button to check whether the option code you input is correct or not.



Step 4. Input option

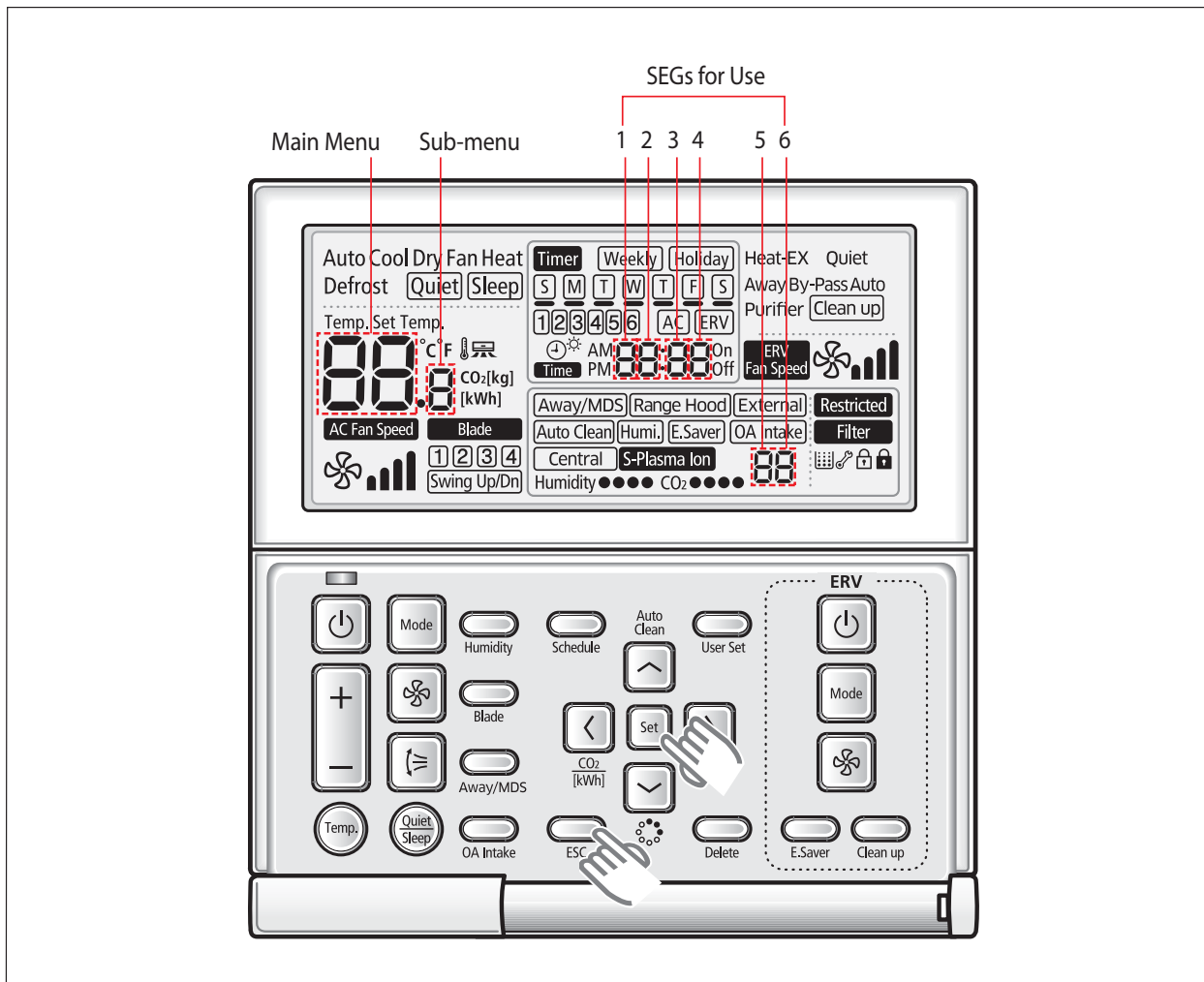
Press the operation button  with the direction of remote control for set.

For the correct option setting, you must input the option twice.

Step 5. Check operation

- 1) Reset the indoor unit by pressing the RESET button of indoor unit or outdoor unit.
- 2) Take the batteries out of the remote controller and insert them again and then press the operation button.

4-1-3 Order for Setting Options (Wired Remote Controller)



1. If you want to use the various additional functions for your Wired Remote Controller, press the Set and Esc buttons at the same time for more than three seconds.
 - ▶ You will enter the additional function settings, and the [main menu] will be displayed.
2. Refer to the list of additional functions for your Wired Remote Controller on the next page, and select the desired menu.
 - ▶ Using the [^]/[v] buttons, select a main menu number and press the [>] button to enter the sub-menu setting screen.
 - ▶ Using the [^]/[v] buttons, select a sub-menu number and press the [>] button to enter data setting screen.
 - ▶ When you enter the setting stage, the current setting will be displayed.
 - ▶ Refer to the chart for data settings.
 - ▶ Using the [^]/[v] buttons, select the settings. Press the [>] button to move to the next setting.
 - ▶ Press the **Set** button to save the settings and exit to the sub-menu setting screen.
 - ▶ Press the **Esc** button to exit to normal mode.



NOTE

- While setting the data, you can use the [<]/[>] buttons to set the range of Data bit.
- While configuring the setting, press the **Esc** button to exit to the setting sub-menu without saving your changes.

4-1-4 Setting an indoor unit installation option (Suitable for the condition of each installation location)

1. Check whether power is supplied or not.
- When the indoor unit is not plugged in, there should be additional power supply in the indoor unit.
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.
4. Set the indoor unit option by wireless remote controller.

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	2	RESERVED	Exterior temperature sensor	Central control	FAN RPM
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	Drain pump	RESERVED	RESERVED	Indoor unit at heating stop	Master / Slave
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	External control	External control output	S-Plasma ion	Buzzer	Number of hours using filter
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	Individual control of a remote controller	Heating setting compensation	RESERVED	RESERVED	RESERVED

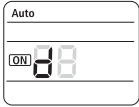
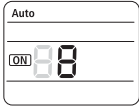
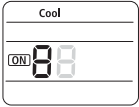
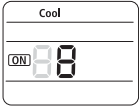
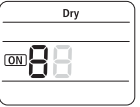
- ▶ 1WAY/2WAY/4WAY MODEL : Drain pump(SEG8) will be set to 'USE + 3minute delay' even if the drain pump is set to 0.
- ▶ 1 WAY/2WAY/4WAY,DUCT MODEL : Number of hours using filter(SEG18) will be set to '1000hour' even if the SEG18 is set to except for 2 or 6.
- ▶ If you input a number other than 0~4 of the individual control of the indoor unit(SEG20), the indoor is set as indoor 1.
- ▶ 4WAY MODEL : Even when the value of Heating setting compensation(SEG21) is set to '0', it will be recognized as '5°C'.

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		FAN RPM	
Remote Controller Display			<div>Auto</div> <div>ON28</div>				<div>Cool</div> <div>ON88</div>		<div>Cool</div> <div>ON88</div>		<div>Dry</div> <div>ON88</div>	
Indication and Details	Indication	Details	Indication	Details			Indication	Details	Indication	Details	0	nonuse
	0	2					0	Disuse	0	Disuse	1	High ceiling mode
			1	Use			1	Use	2	High purity kit		
									3	Noise reduction operation mode		
Option	SEG7		SEG8		SEG9		SEG10		SEG11		SEG11	
Explanation	PAGE		Use of drain pump		RESERVED		RESERVED		Indoor unit at heating stop Electric modification diagram		Master / Slave	
Remote Controller Display			<div>Dry</div> <div>ON88</div>						<div>Heat</div> <div>ON88</div>		<div>Heat</div> <div>ON88</div>	
Indication and Details	Indication	Details	Indication	Details					Indication	Details	Indication	Details
	1		0	Disuse					0	Default	0	slave
			1	Use					1	Noise reduction operation mode	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		Number of hours using filter	
Remote Controller Display			<div>Auto</div> <div>OFF88</div>		<div>Auto</div> <div>OFF88</div>		<div>Cool</div> <div>OFF88</div>		<div>Cool</div> <div>OFF88</div>		<div>Dry</div> <div>OFF88</div>	
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	2		0	Disuse	0	Thermo on	0	Disuse	0	Use of buzzer	2	1000 Hour
			1	ON/OFF Control OFF	1	Operation on	1	Use	1	Non use of buzzer	6	2000 Hour
			2	Control Window ON/OFF Control								
			3	Control Window ON/OFF Control								
Option	SEG19		SEG20		SEG21		SEG22		SEG23		SEG24	
Explanation	PAGE		Individual control of a remote controller		Heating setting compensation		RESERVED		RESERVED		RESERVED	
Remote Controller Display			<div>Dry</div> <div>OFF88</div>		<div>Heat</div> <div>OFF88</div>							
Indication and Details	Indication	Details	Indication	Details	Indication	Details						
	3		0 or 1	Indoor 1	0	Disuse						
			2	Indoor 2	1	2℃						
			3	Indoor 3	2	5℃						
			4	Indoor 4								

4-1-5 Changing a particular option

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	
Remote Controller Display												
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



CAUTION

- 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'.

Ex) 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

4-1-6 Option code for each model

Model	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
Remocon display												
AC100JNCDEH	0	1	D	0	6	C	1	C	5	4	3	9
AC120JNCDEH	0	1	D	0	6	C	1	C	2	4	7	A
AC140JNCDEH	0	1	D	0	6	C	1	C	5	4	B	E
Model	SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
Remocon display												
AC100JNCDEH	2	7	6	4	7	0	3	7	0	0	4	0
AC120JNCDEH	2	7	7	8	8	2	3	7	0	0	4	0
AC140JNCDEH	2	7	8	C	A	0	3	7	0	0	4	5

4-2 Indoor Display Error and Check Method

■ Error detection and reoperation

- If error occurs during the operation, badness is indicated by LED flickering and all operation is stopped except LED.
- When reoperating by remote control and switch determine the error mode after normal operation.


4-2-1 Indoor unit LED lamp display at error detecting

Error mode	Product operation with error				Remarks
	Ice blue	Yellow Green	Orange	Red	
Operation on	●	X	X	X	0.5[S]=On, 0.5[S]=Off
Operation off	●	X	X	X	-
Reservation	X	X	X	X	-
Filter sign	X	●	X	X	-
Defrosting	X	X	●	X	1[S]=On, 9[S]=Off
Smart install Error	●	X	X	X	-
Communication error between indoor units	X	X	X	●	-
EEPROM error / EEPROM option error	X	●	X	X	-
Error of temperature sensor in indoor unit(open/short)	●	X	X	●	-
Error of outdoor Unit/ Self-Diagnosis	X	X	X	●	-
Error of the indoor Unit pipe sensor	X	X	●	X	
High pressure blockage error	X	●	X	●	
Indoor fan error	X	X	●	X	
Thermal Fuse open error	●	●	X	X	
Indoor unit float S/W 2nd detection	●	X	●	X	
	X	●	●	X	

○ : On ● : Blink X : Off

- 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 detects an error again.

4-2-2 Wired remote controller

- If an error occurs, () icon will be displayed on the wired remote controller.
- Press the Test button to see the error code.

Display	Explanation
E108	Error due to repeated communication address
E121	Error on room temperature sensor of indoor unit (Short or Open)
E122	Error on EVA IN sensor of indoor unit (Short or Open)
E123	Error on EVA OUT sensor of indoor unit (Short or Open)
E153	Error on float switch (2nd detection)
E154	Indoor fan error
E198	Error on thermal fuse of indoor unit (Open)
E201	Communication error between indoor unit and outdoor unit (Pre tracking failure or when 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.
E202	Communication error between indoor unit and outdoor unit (When there is no response from indoor units after tracking is completed)
E203	Communication error between outdoor unit inv - main micom (For PF #4~#6 controller, error will be determined from the time when compressor is turned on)
E221	Error on outdoor temperature sensor (Short or Open)
E231	Error on outdoor COND OUT sensor (Short or Open)
E251	Error on discharge temperature sensor of compressor 1 (Short or Open)
E320	Error on OLP sensor (Short or Open)
E403	Compressor down due to freeze protection control
E404	System stop due to overload protection control
E416	System stop due to discharge temperature
E422	Blockage detected on high pressure pipe
E425	Reverse phase or open phase
E440	Heating operation restricted at outdoor temperature over Theat_high value (default: 30 °C)
E441	Cooling operation restricted at outdoor temperature below Tcool_low value (default: 0 °C)
E458	Fan speed error
E461	Error due to operation failure of inverter compressor
E462	System stop due to full current control
E463	Over current trip / PFC over current error
E464	IPM Over Current(O.C)
E465	Comp. Over load error
E466	DC-Link voltage under/over error
E467	Error due to abnormal rotation of the compressor or unconnected wire of compressor
E468	Error on current sensor (Short or Open)
E469	Error on DC-Link voltage sensor (Short or Open)
E470	Outdoor unit EEPROM Read/Write error (Option)
E471	Outdoor unit EEPROM Read/Write error (H/W)
E472	AC Line Zero Cross Signal out
E473	Comp Lock error
E474	Error on IPM Heat Sink sensor of inverter 1 (Short or Open)
E475	Error on inverter fan 2
E484	PFC Overload (Over current) Error

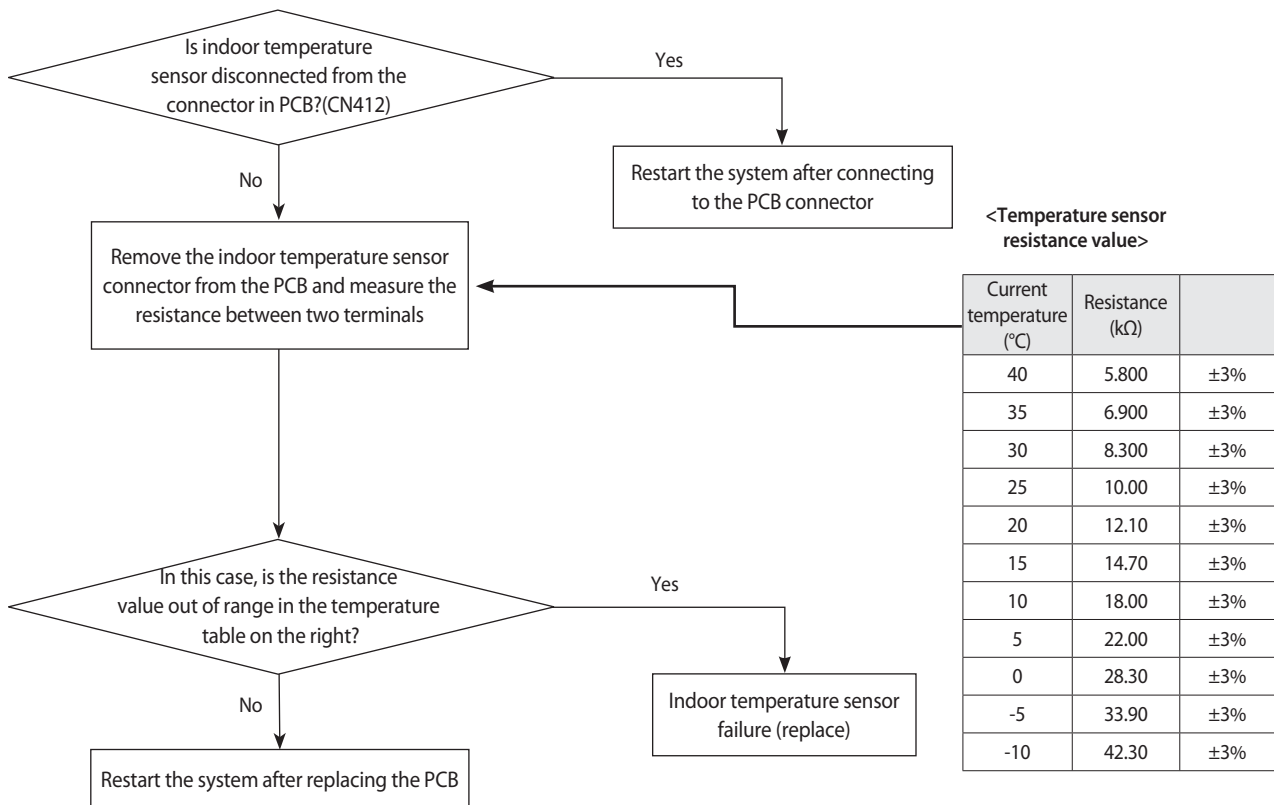
Wired remote controller (cont.)

Display	Explanation
E485	Error on input current sensor of inverter 1 (Short or Open)
E500	IPM over heat error on inverter 1
E508	Smart install is not installed
E554	Gas leak detected
E556	Error due to mismatching capacity of indoor and outdoor unit
E557	DPM remote controller option error
E590	Inverter EEPROM CheckSum error
E660	Inverter Boot Code error

4-3 Troubleshooting by symptoms

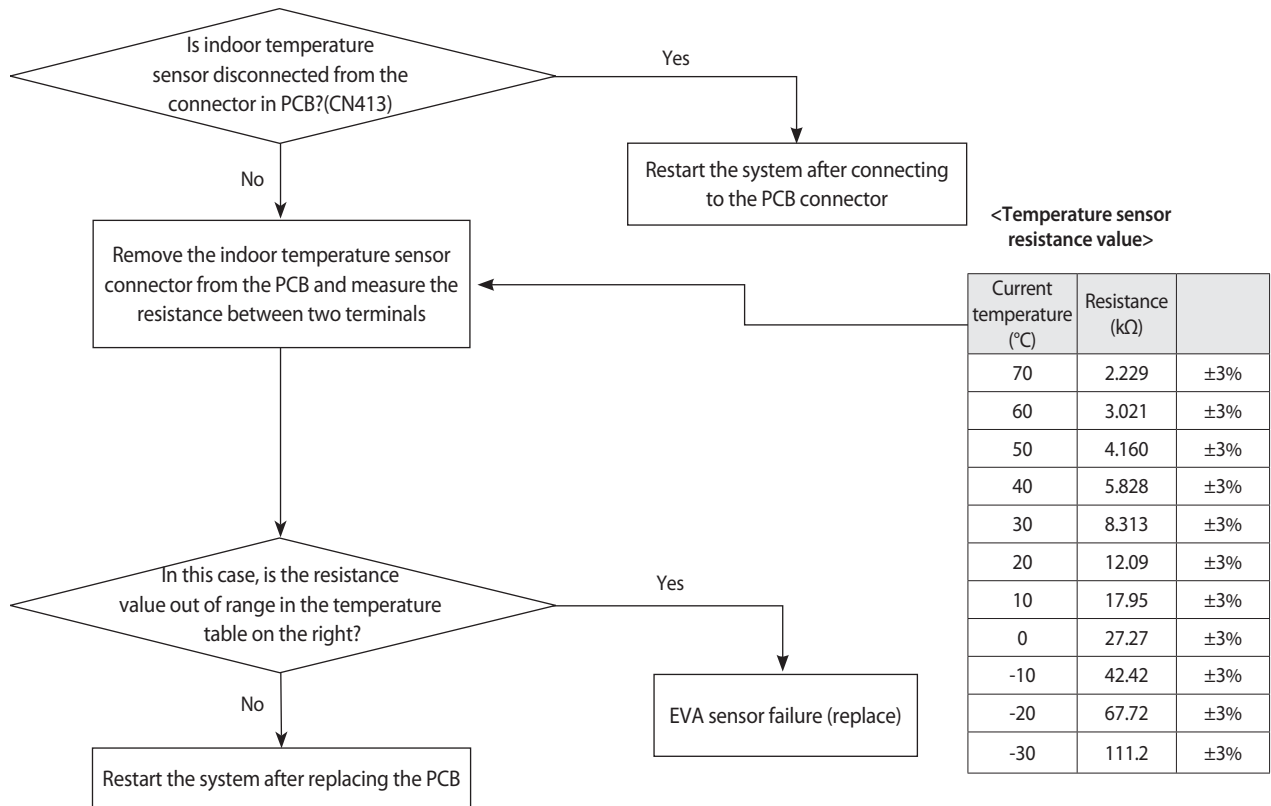
4-3-1 Indoor temperature sensor (open/short)

Wire remote controller display	E121
Symptom	Error of Room sensor in the indoor unit(Open/Short)
Failure	Short or leakage of the Room sensor



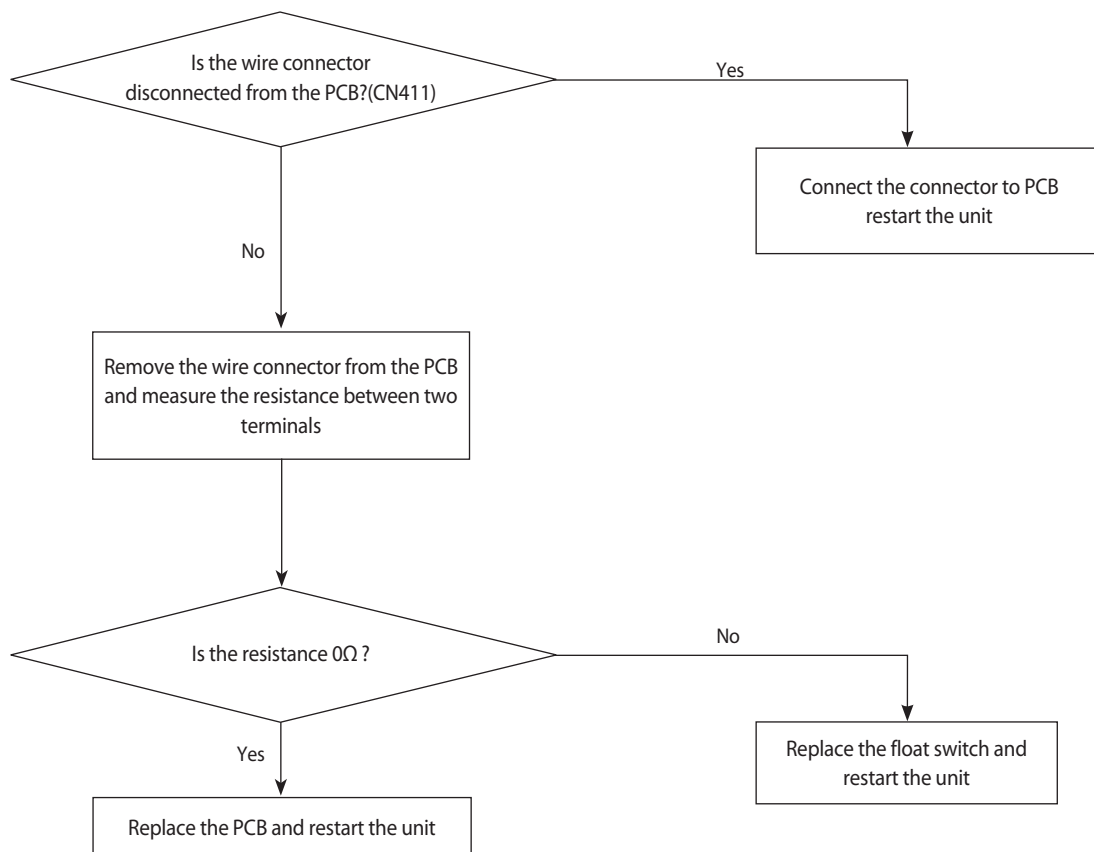
4-3-2 Eva in and out sensor (open/short)

Wire remote controller display	E122, E123
Symptom	Error of EVA-IN, EVA-OUT sensor in the indoor unit (Open/Short)
Failure	Short or leakage of the EVA sensor



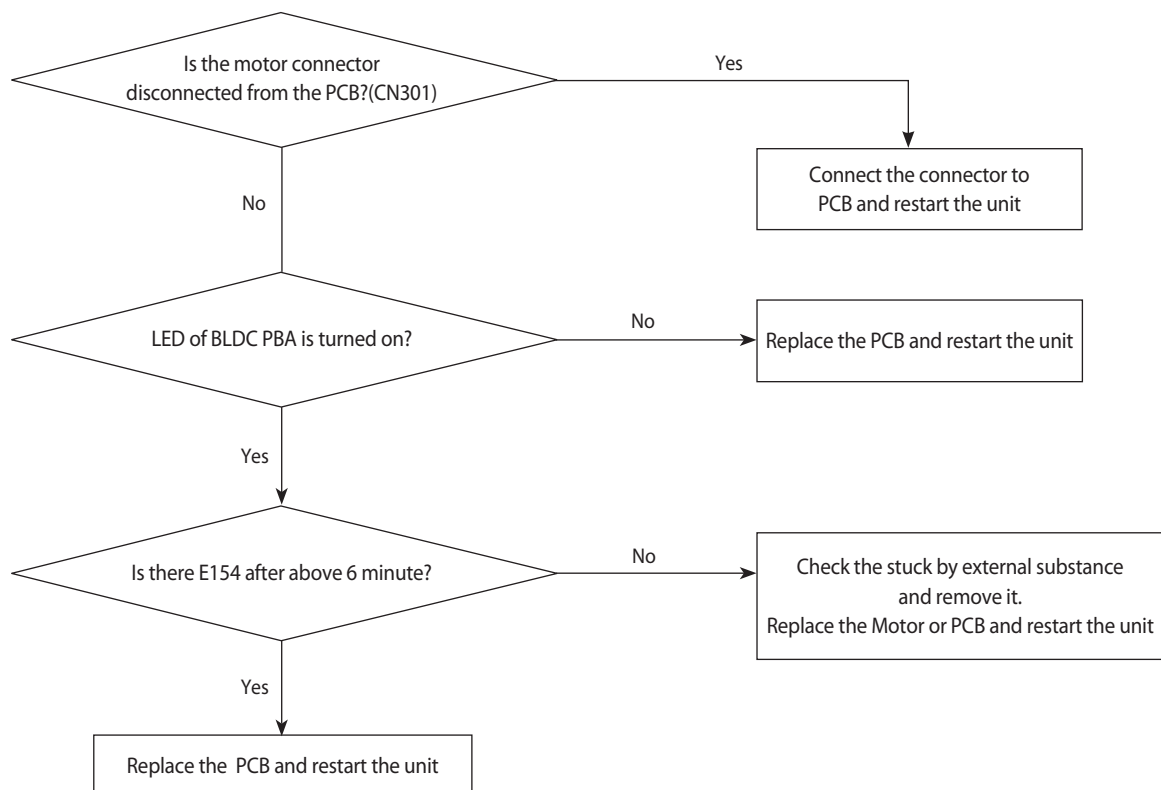
4-3-3 Float switch(Open)

Wire remote controller display	E153
Symptom	2nd Detection of the float switch
Failure	Float switch open



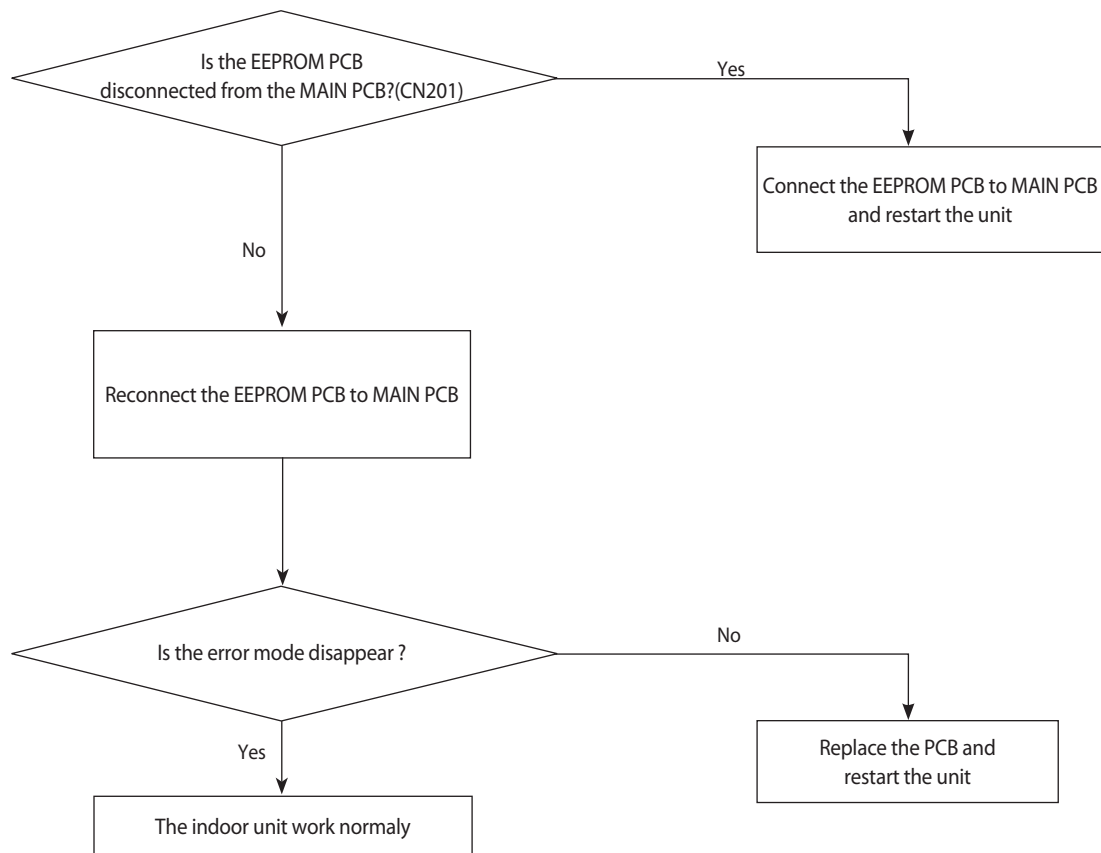
4-3-4 Fan error

Wire remote controller display	E154
Symptom	Error of Fan motor in the indoor unit
Failure	Fan error



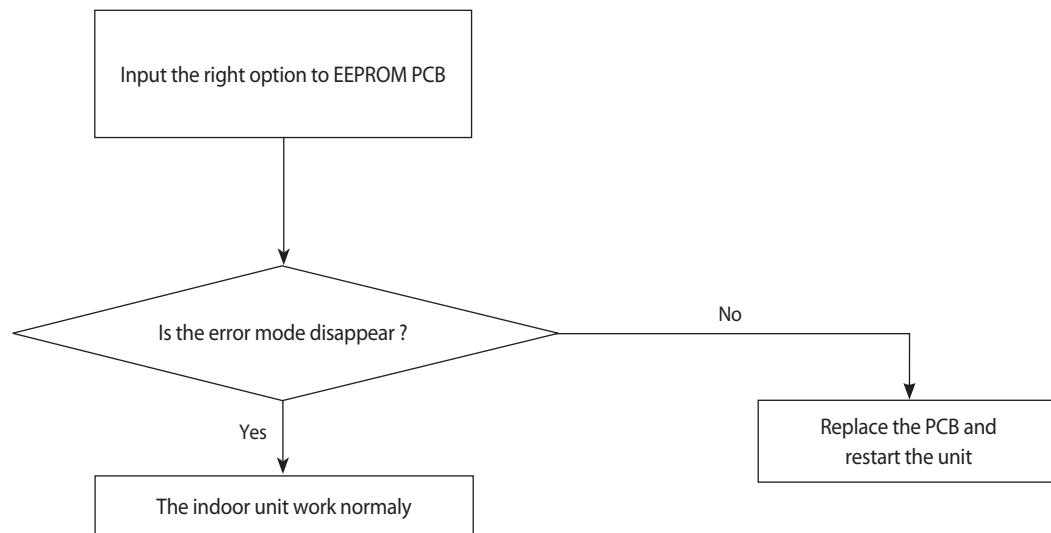
4-3-5 EEPROM error

Wire remote controller display	E162
Symptom	EEPROM PCB disconnected from the MAIN PCB
Failure	Option error



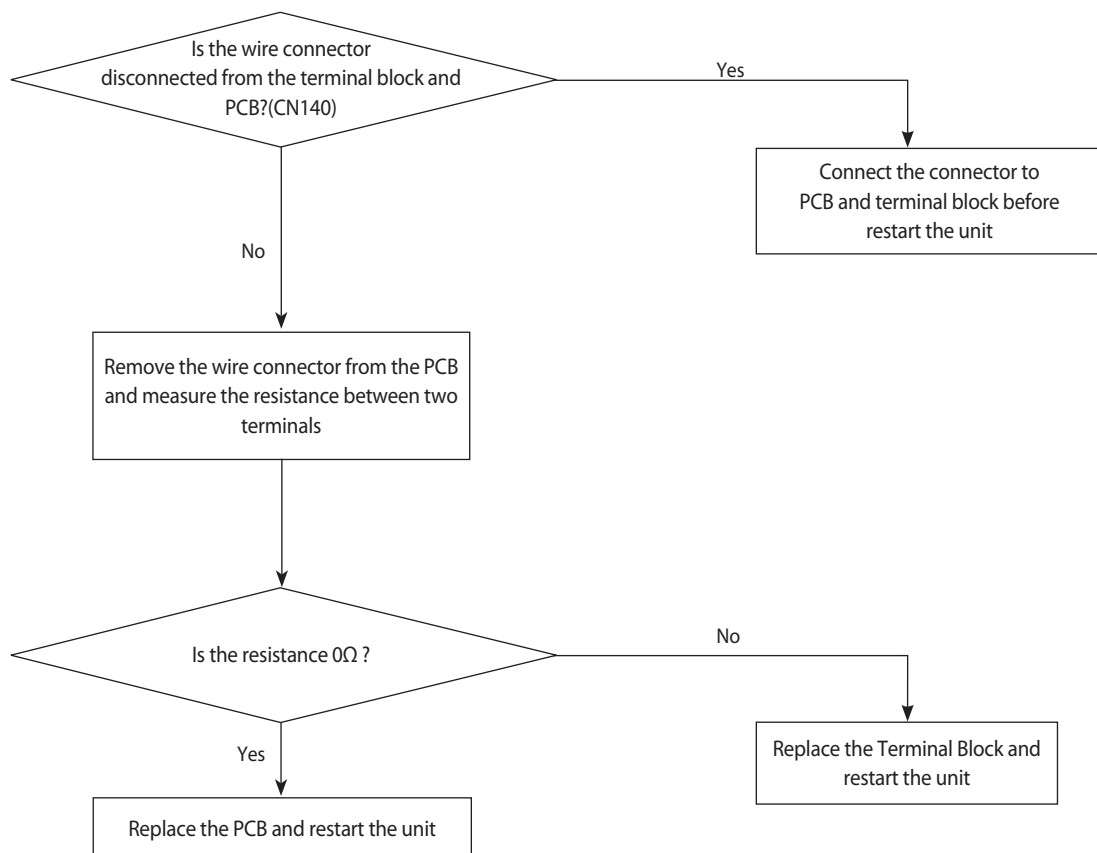
4-3-6 Option error

Wire remote controller display	E163
Symptom	EEPROM option setting error
Failure	Option error



4-3-7 Terminal Block's Terminal Fuse(Open)

Wire remote controller display	E198
Symptom	Error of Terminal Block's Terminal Fuse(Open)
Failure	Fuse open

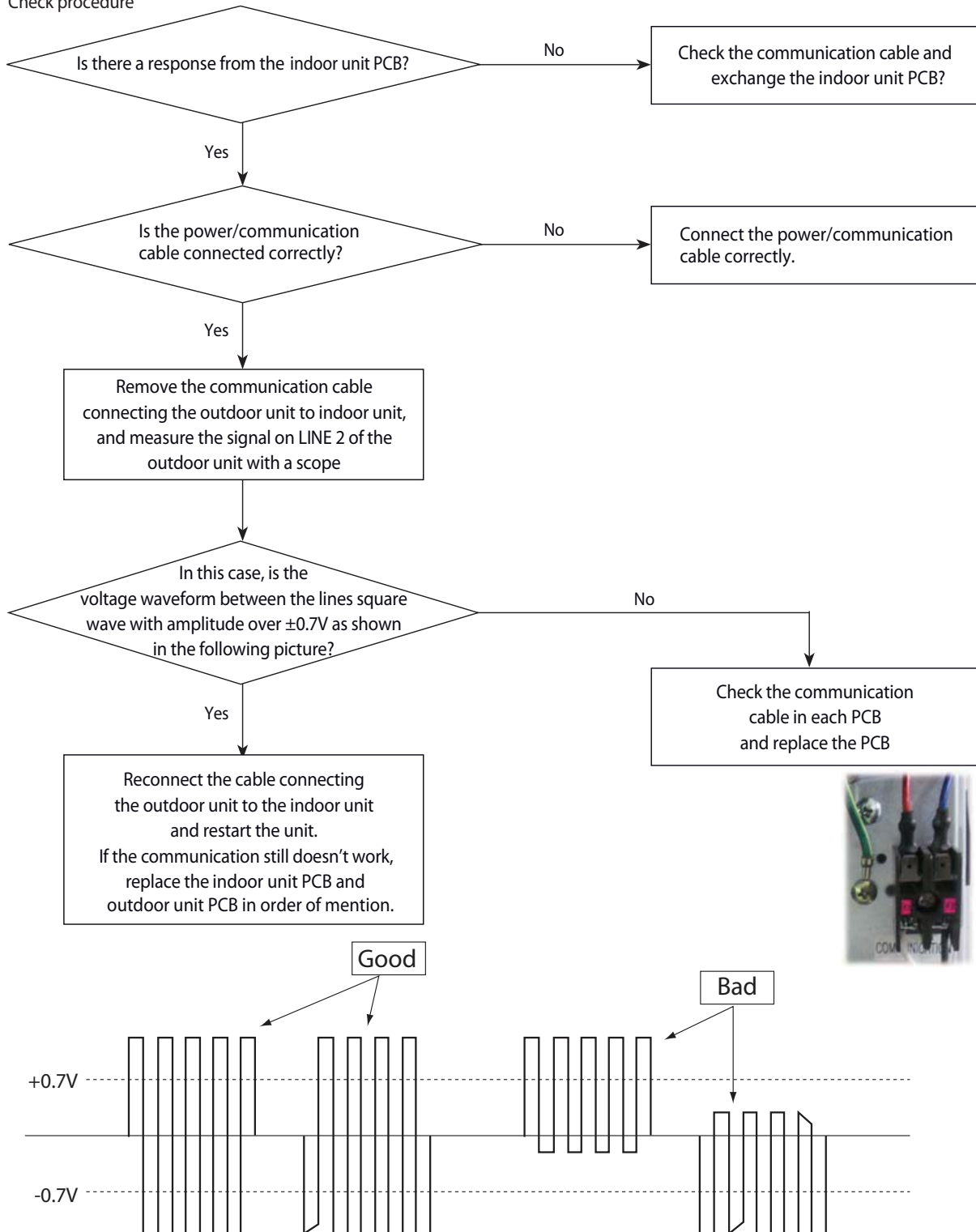


4-3-8 Communication error after finishing tracking (E202)

1. Check items

- 1) Is the communication cable short/open?
- 2) Is there a response from the indoor unit PCB?

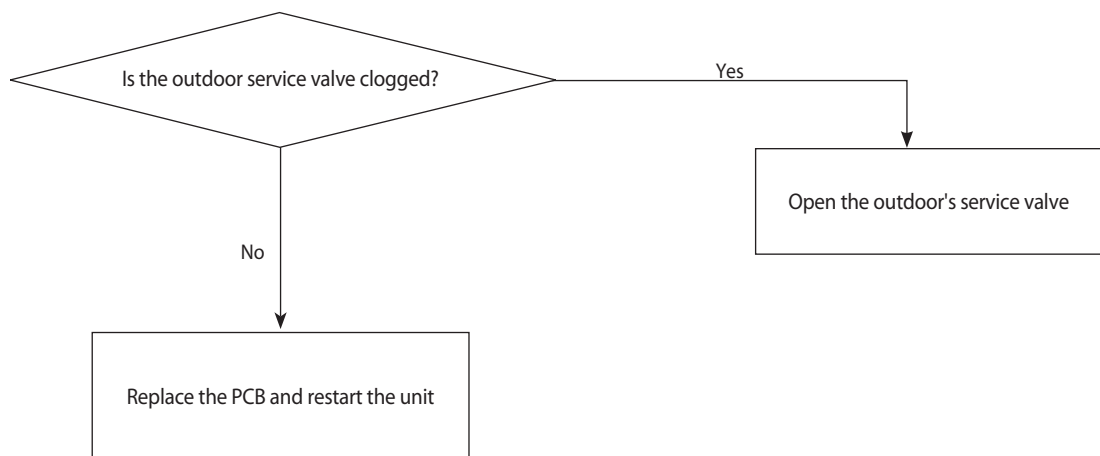
2. Check procedure



cf.) If there is no oscillo scope, it can be replaced multimeter instead of osillo scope.
If measured voltage is floating value from 0.1V to 4.5V, then it means that the PCB is normal.

4-3-9 Outdoor's service valve(Clog)

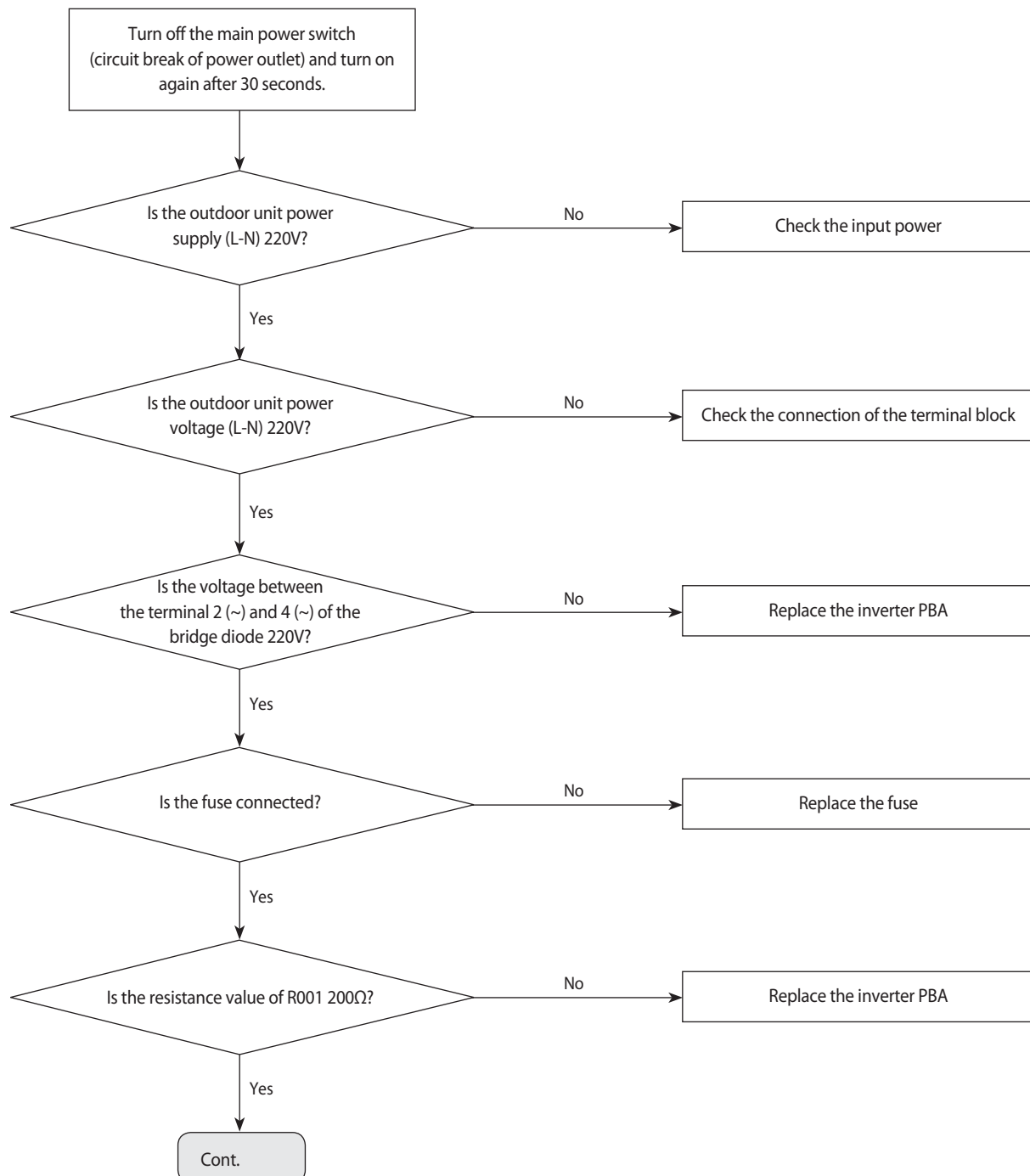
Wire remote controller display	E422
Symptom	Clogging of outdoor's service valve
Failure	Valve clog



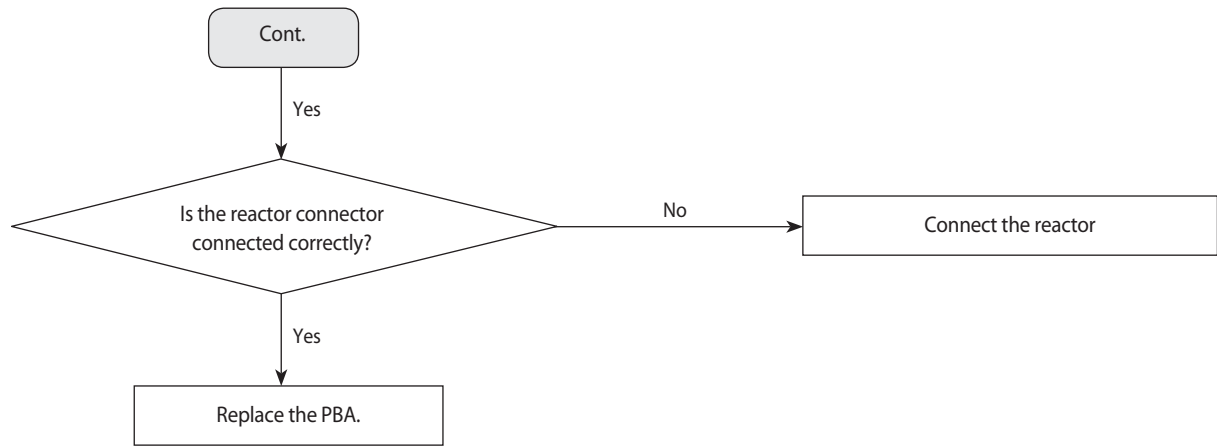
4-3-10 No Power(completely dead) - Initial diagnosis

Outdoor unit is not powered on – Initial diagnosis (1phase)

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



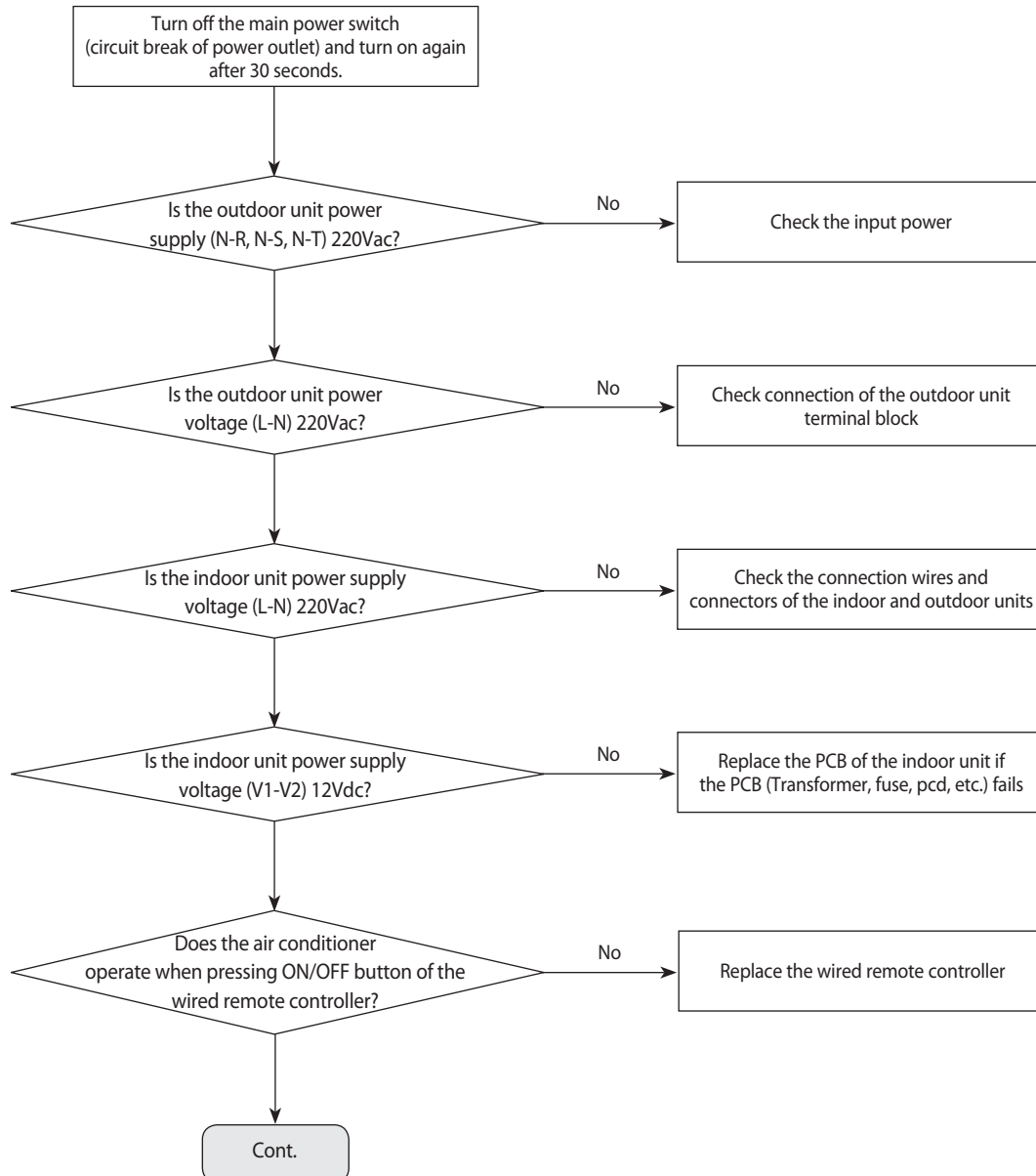
Outdoor unit is not powered on – Initial diagnosis (1phase) (cont.)



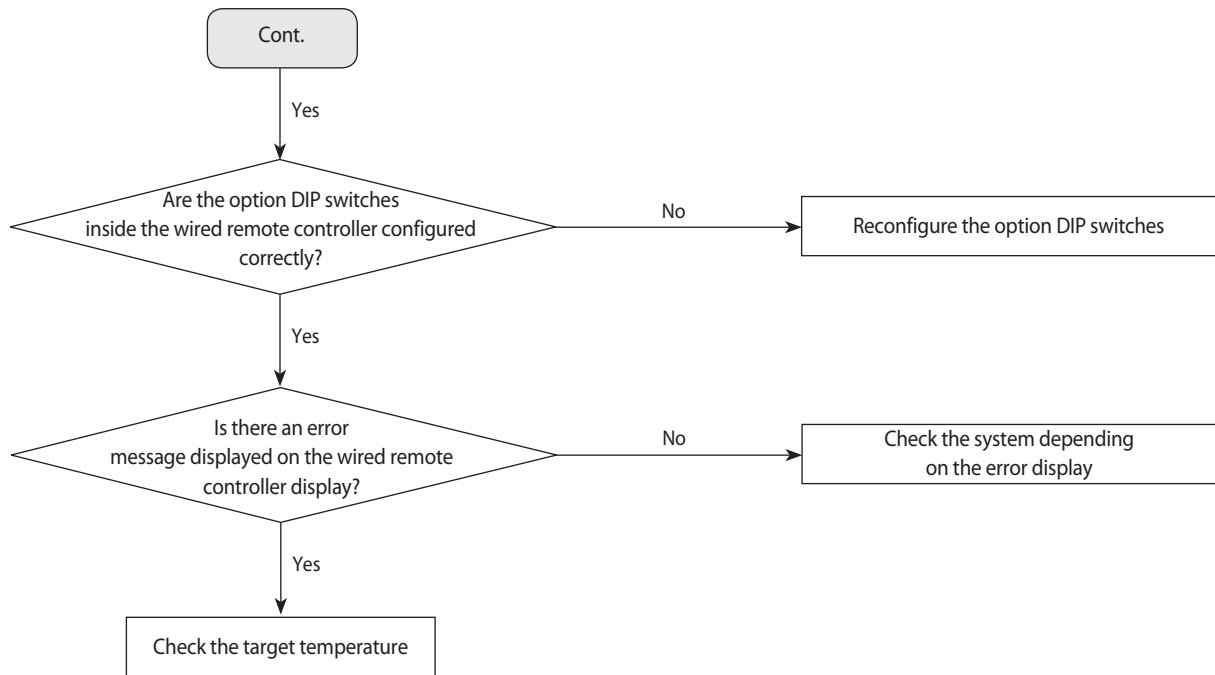
Outdoor unit is not powered on – Initial diagnosis (3phase)

1. Check items:
 - 1) Is the power supply voltage 380V?
 - 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. Troubleshooting procedure



Outdoor unit is not powered on – Initial diagnosis (3phase) (cont.)



4-3-11 E102 : Communication error between indoor and outdoor unit

E201 : Unit quantity miss matching between Indoor and Outdoor

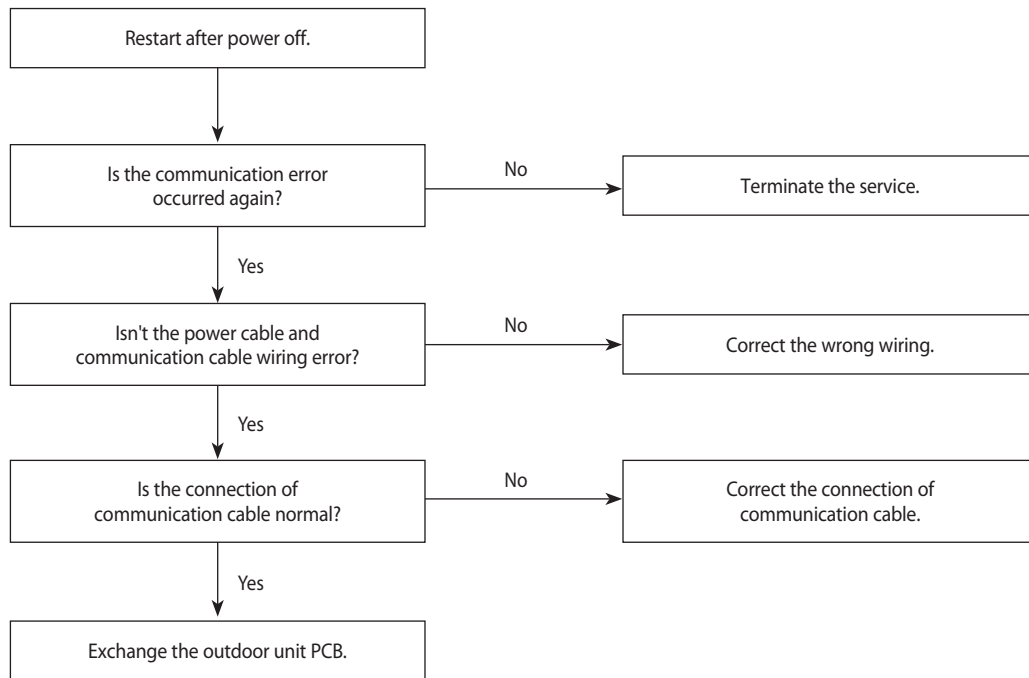
E202 : Abnormal state, no communication between Indoor and Outdoor Main PCB

E203 : 1min Time out of communication error(Main ↔ Inverter)

1. Checklist :

- 1) Is the communication cable between the indoor unit and outdoor unit connected correctly?
- 2) Isn't the power cable and communication cable wiring error?

2. Troubleshooting procedure



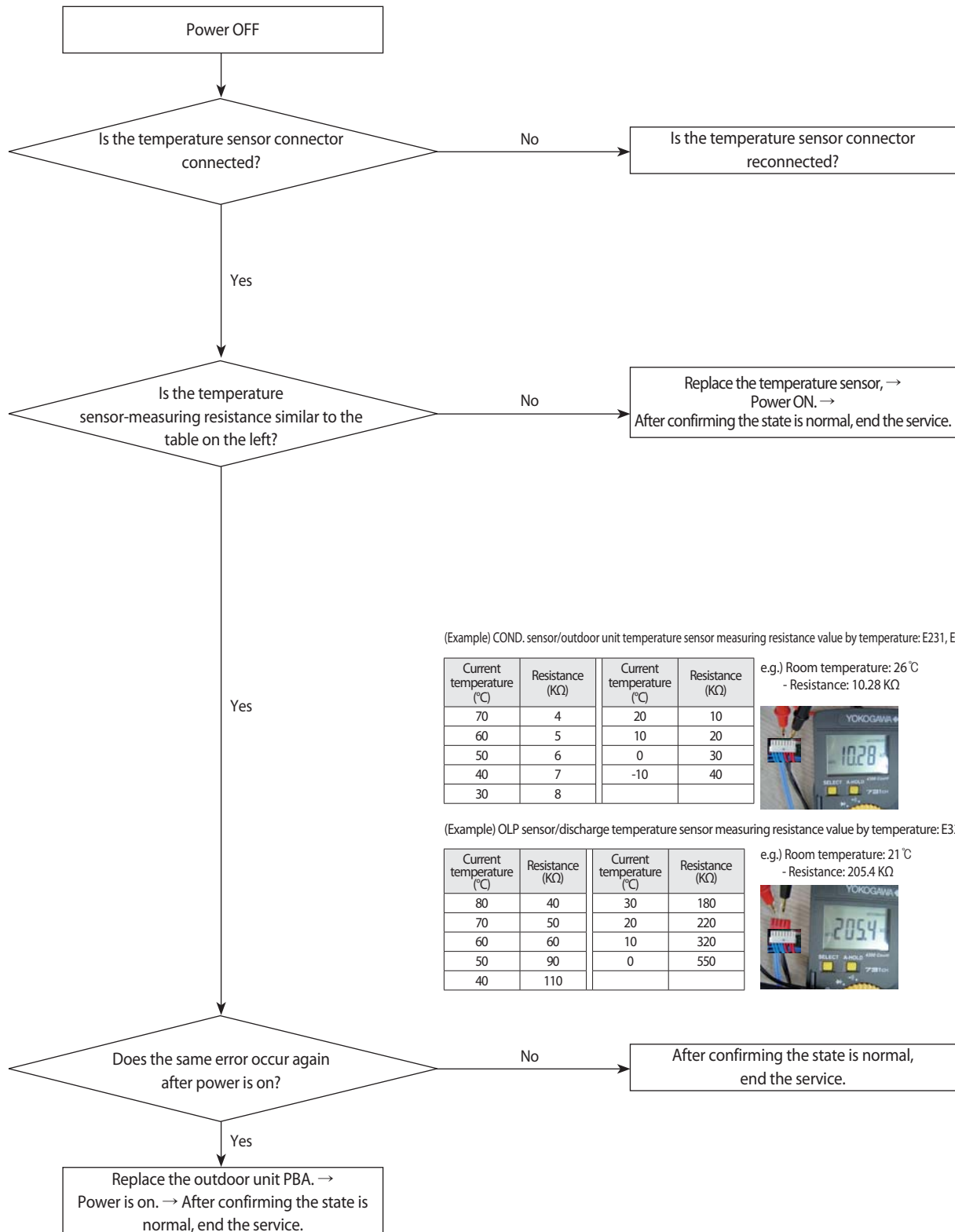
4-3-12 External Sensor Error (Error Code: E221, E231, E251, E320)

1. Test Item

- 1) Check the connection of the temperature sensor connector.
- 2) Check the resistance value of the temperature sensor.

Error Code	Description
E221	Error of the temperature sensor of the outdoor unit
E231	Error of the COND. sensor of the outdoor unit
E251	Error of the discharge sensor of the outdoor unit
E320	Error of the OLP sensor of the outdoor unit

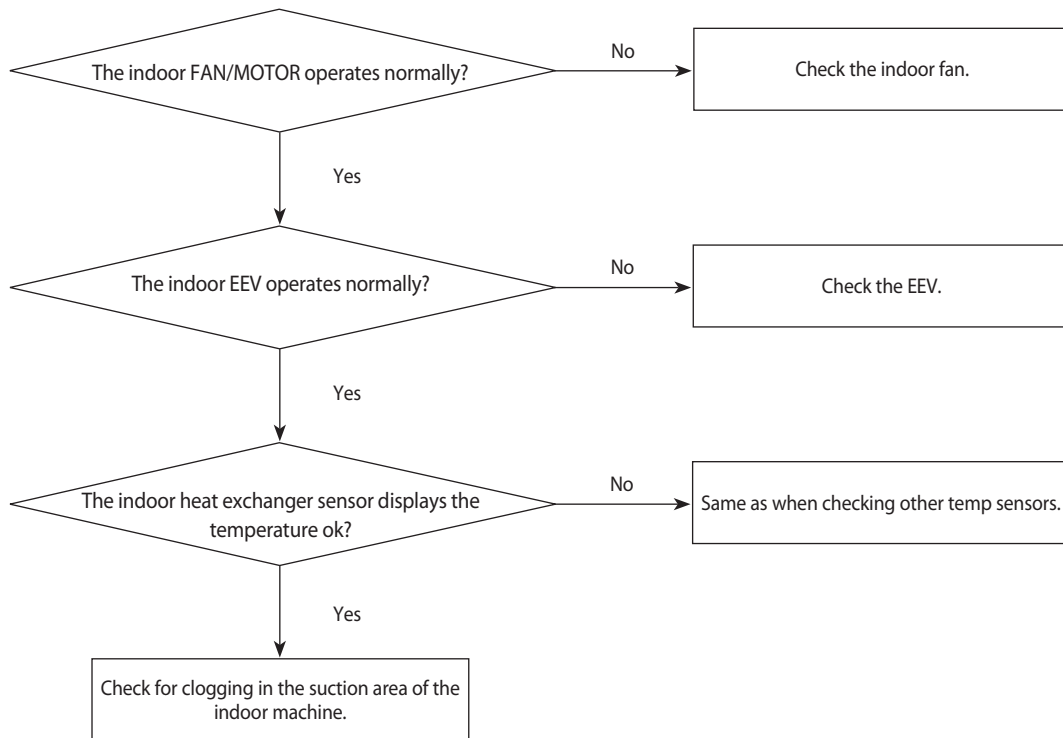
2. Check procedure



4-3-13 E403 : Freezing control causes comp. down

Outdoor unit display	E403
Criteria	•All the operating indoor machines do not reach -4°C for more than five minutes
Cause of problem	<ul style="list-style-type: none"> •Check if the indoor FAN/MOTOR operates normally. •Check if the indoor EEV operates normally. •Check the indoor heat exchanger's IN/OUT sensor. •Check for clogging in the suction area of the indoor machine.

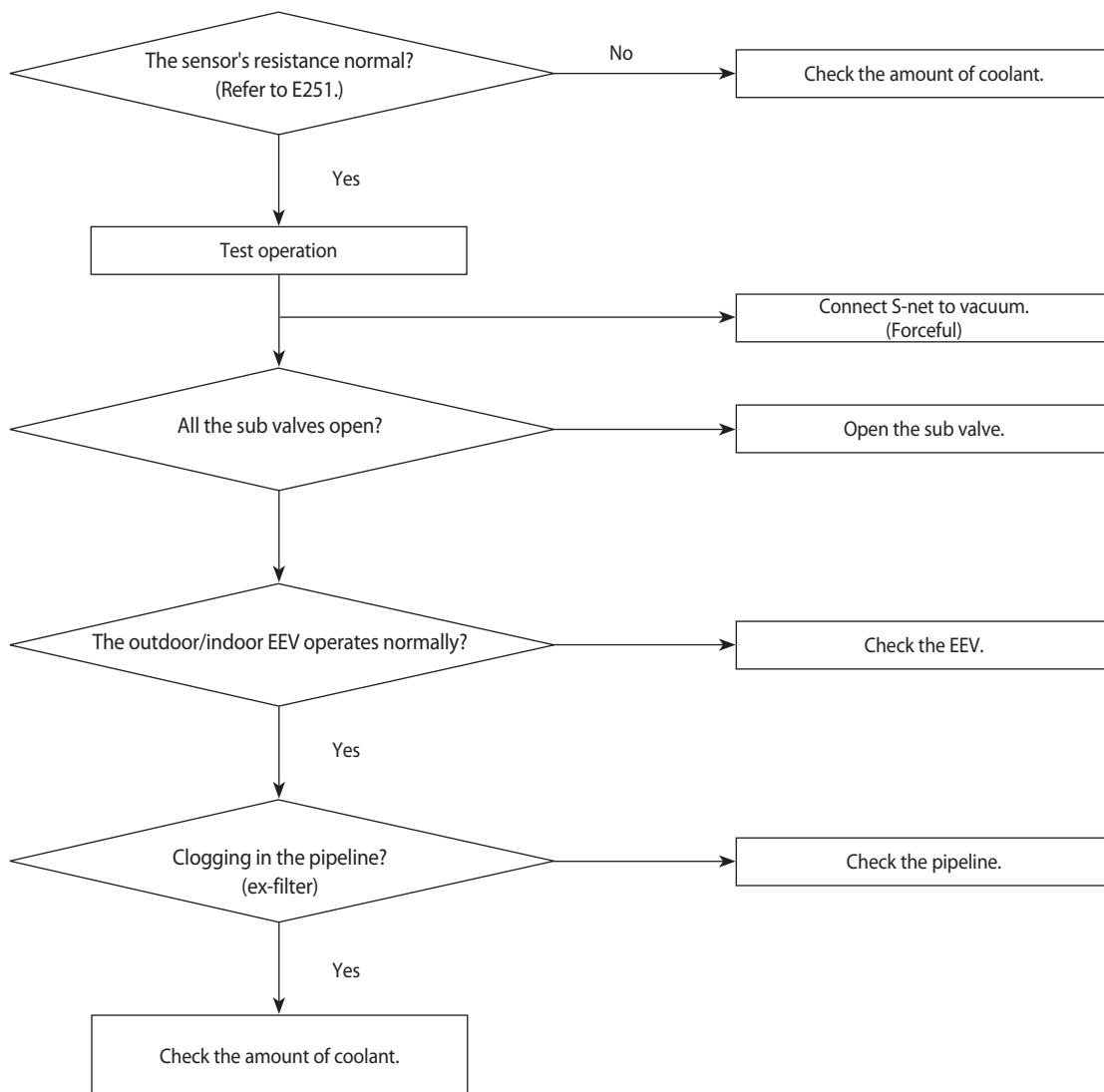
1. How to check



4-3-14 E416 : Discharge temperature sensor error

Outdoor unit display	E416
Criteria	•The compressor temperature above 110°C.
Cause of problem	<ul style="list-style-type: none"> •Insufficient coolant. •Clogging in the outdoor machine's solenoid valve. •Clogging in the sub valve. •Malfunctioning exhaust gas temp sensor. •Clogging in the pipeline and the filter. •Liquid EEV damaged.

1. How to check



4-3-15 E440, E441 : Abnormal outside temperature halts operation of the compressor

Outdoor unit display	E440 (No heater operation with the outside temperature above 30°C.) E441 No AC operation with the outside temperature below -10°C.)
Criteria	•The compressor temperature above 110°C.
Cause of problem	E440: If the outside temperature is above 30°C, operation of the indoor heater with a remotecon causes this error. E441: The indoor machine remotecon ON signal. If the outside temperature is below -10°C before the AC runs, this error occurs.
Cause of problem	•OLP SENSOR temp above Trip_Dis.

1. How to check

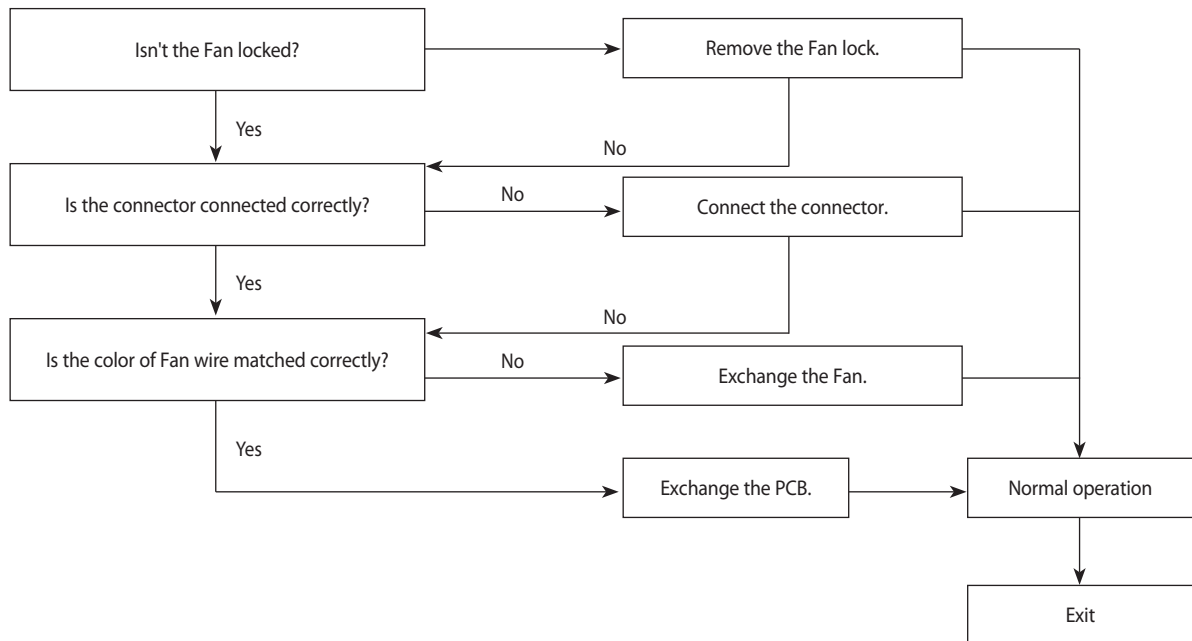
The above malfunction codes do not indicate a malfunction of the product. All you have to do is change the temperature suitably for the limits shown in the manual. When the product malfunctions, if the actual situation does not match the above diagnosis, measure the temperature of incoming air with S-net to see if the measurement is the same as the actual outdoor temperature. If not, replace the temperature sensor.

4-3-16 Outdoor unit BLDC Fan1 or Fan2 error (E458 : Fan1 error, E475 : Fan2 error)

1. Checklist :

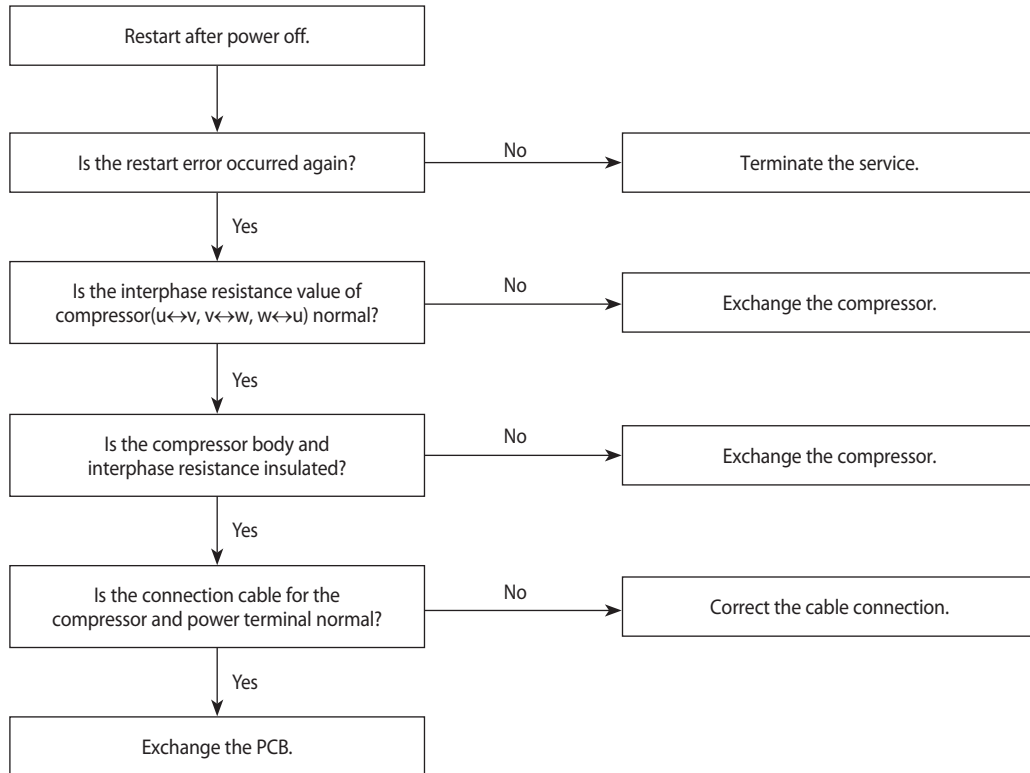
- 1) Isn't the fan locked?
- 2) Is the sensor placed correctly?
- 3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
- 4) Is the resistance value of sensor connection pull_up correct?

2. Troubleshooting procedure



4-3-17 E461: Compressor start error E467: Compressor wire missing error

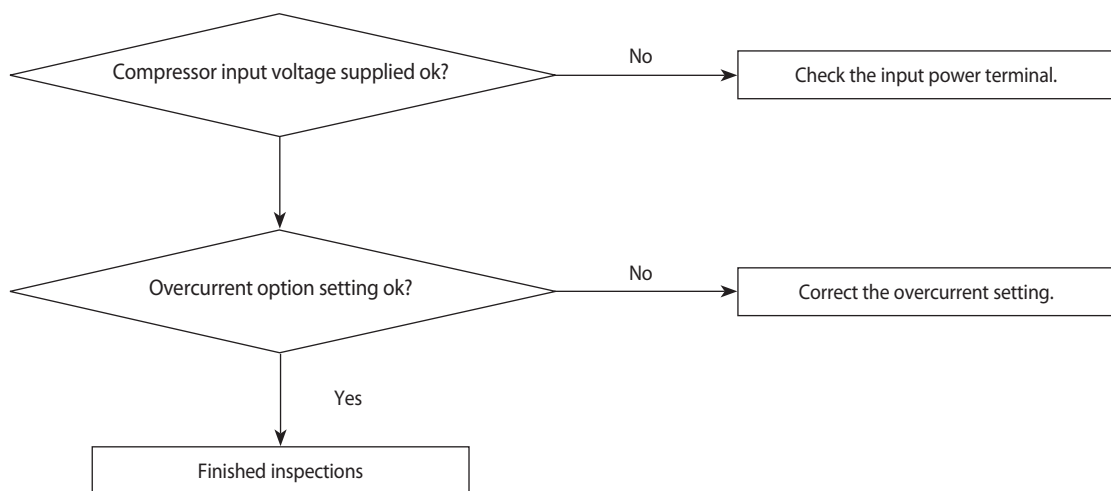
1. Checklist :
 - 1) Is the connection of cable for the compressor and power?
 - 2) Is the interphase resistance of compressor normal?
2. Troubleshooting procedure



4-3-18 E462 : Current protection control causes comp. down E484 : PFC overload error

Outdoor unit display	E462,E484
Criteria	• The outdoor machine input current above I_Trip.
Cause of problem	•Check the compressor input voltage. (error for low voltage.) •Check the overcurrent option setting.

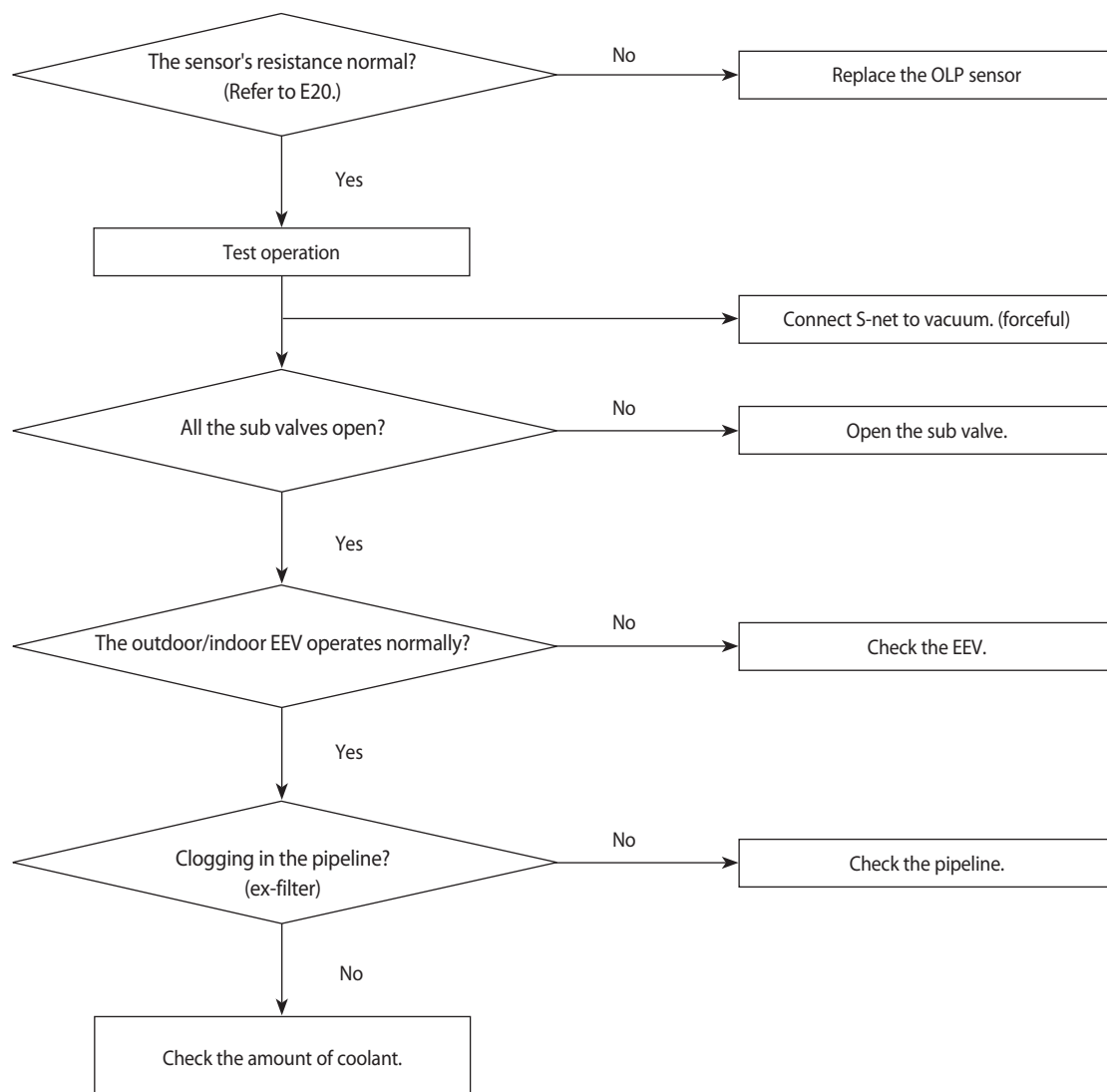
1. How to check



4-3-19 E463 : OLP protection control caused comp. down

Outdoor unit display	E463
Criteria	• OLP SENSOR temp above Trip_Dis.
Cause of problem	• See if the sub valve is open. • Check the amount of coolant. • Check the OLP sensor.

1. How to check

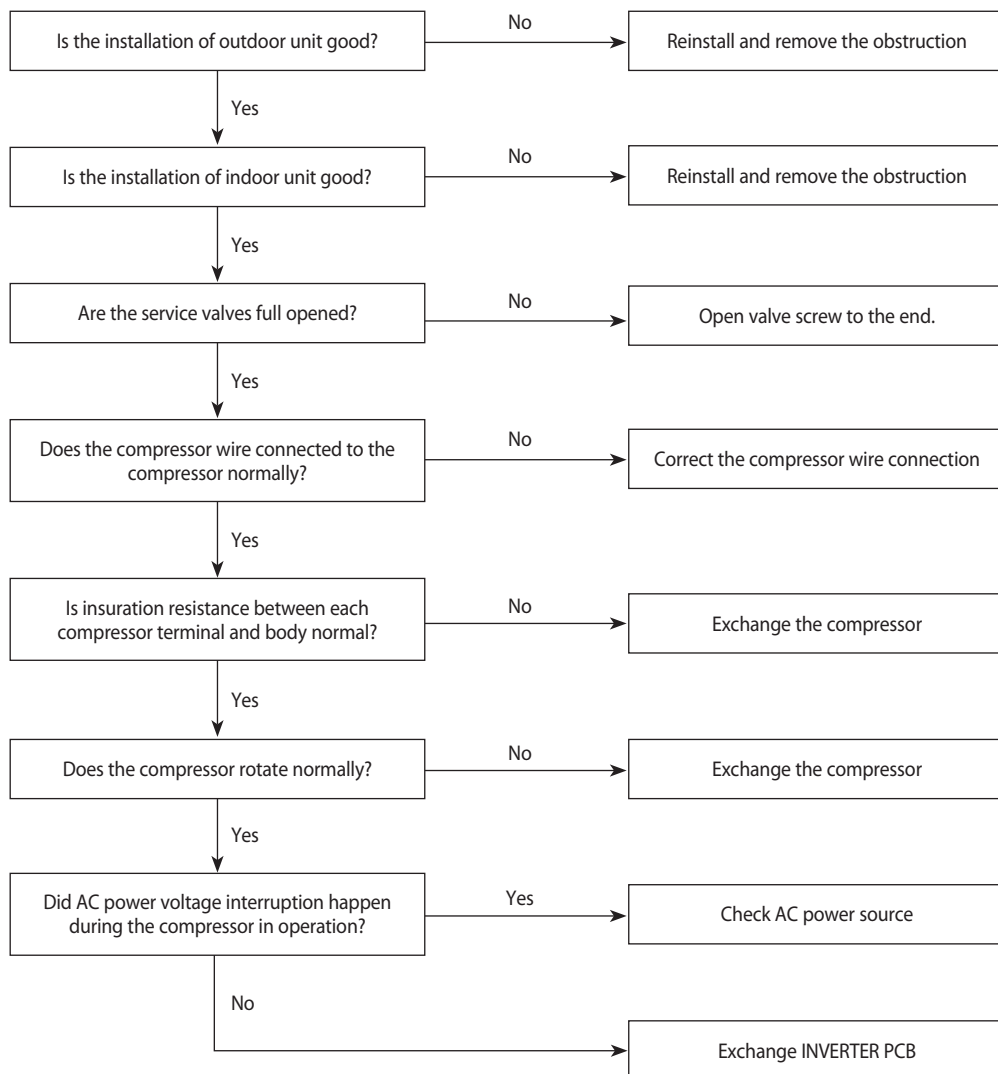


4-3-20 E464 : O.C. (Over Current) error

1. Checklist :

- 1) Is the refrigerant charged properly?
- 2) Does the compressor rotate normally?(Reverse rotation, Locking etc.)
- 3) Is connection of compressor wire normal?
- 4) Is compressor motor normal?(Insulation, Coil resistance etc.)
- 5) Does a temporary cycle overload condition happened?

2. Troubleshooting procedure

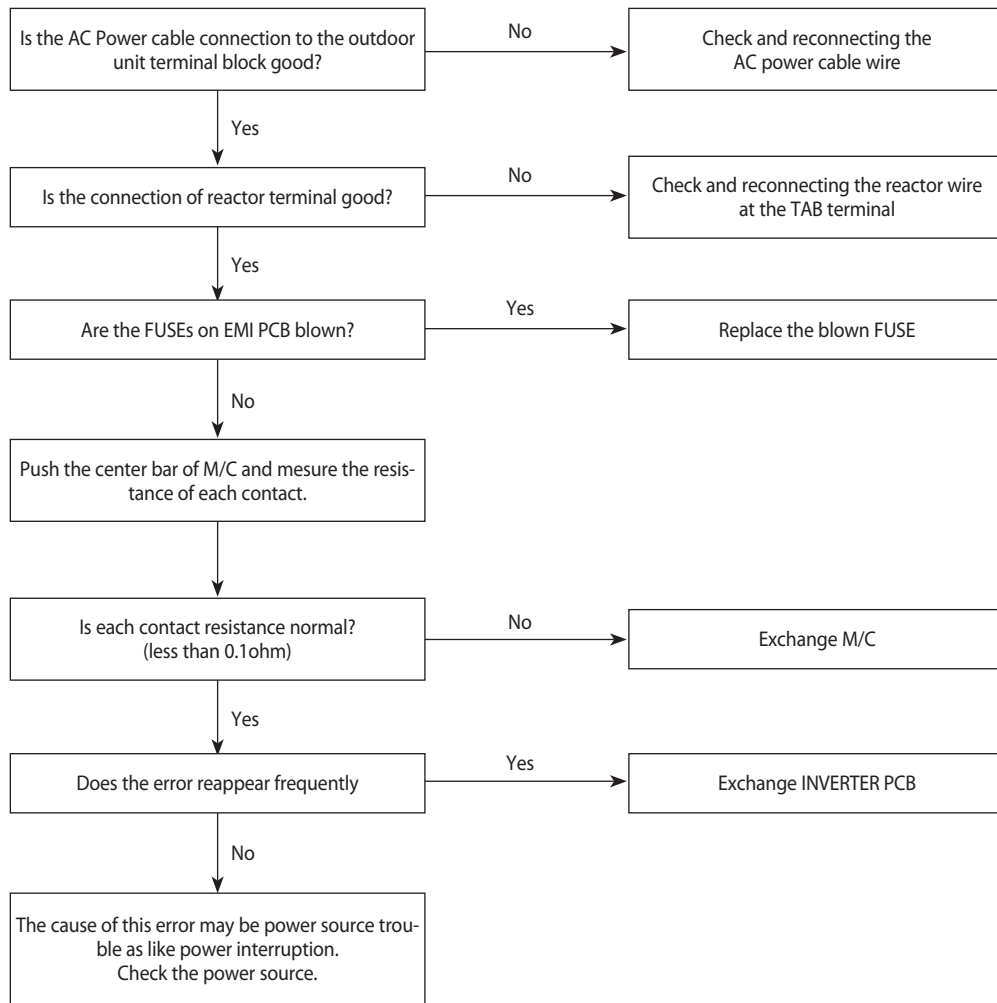


4-3-21 E466: DC Link Over voltage/ Low voltage error

1. Checklist :

- 1) Is the power voltage normal?(Lightning, Power interruption etc.)
- 2) Is AC Power cable connection normal?(Detaching the wire)

2. Troubleshooting procedure

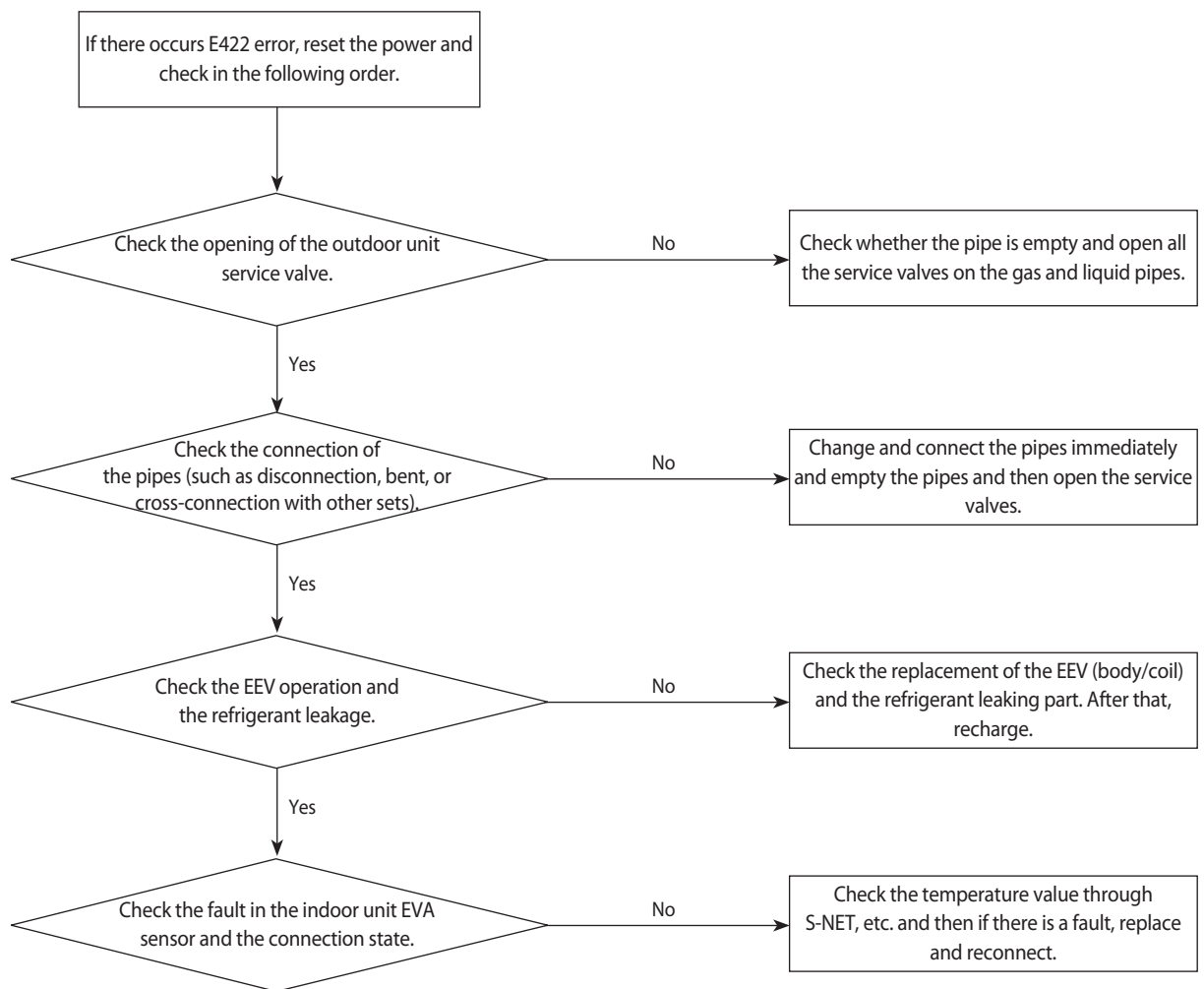


4-3-22 Pipe Blocking Error (Error Code: E422)

1. Test Item

- 1) Check the open state of the outdoor unit service valve.
- 2) Check the connection of the pipe.
- 3) Check the operation of the EEV.
- 4) Check the refrigerant leakage.
- 5) Check the connection of the indoor unit PBA EVA sensor.
- 6) Check the fault in the indoor unit EVA sensor.

2. Check procedure



4-3-23 The others

1. E465 : Compressor over load error

- If a compressor works improperly, change the compressor and check if it works properly.
- If a compressor is normal, check the assembly between Heatsink-Inverter PBA. If it is fine, change Inverter PBA.

2. E468 : Current sensor error

- Check EEPROM data.
- Check PCB operates properly.

3. E471 : Outdoor EEPROM error

- Upload EEPROM on Outdoor unit Main PBA.

4. E474 : IPM(IGBT Module) or PFCM Temperature sensor Error

- E500 : IPM is over heated
- Check IPM is well assembled to heatsink
- Check whether inlet port is clogged.
- Change IPM if it is defective one

5. E554 : Gas leak error

- Check refrigerant charge
- Check Indoor EVA sensor
- Check Service valve is open.
- Check the pipes and wires correctly connected.

6. E556 : Capacity miss match between indoor and outdoor

- Check the model name of indoor and outdoor unit and set option code on indoor unit again.

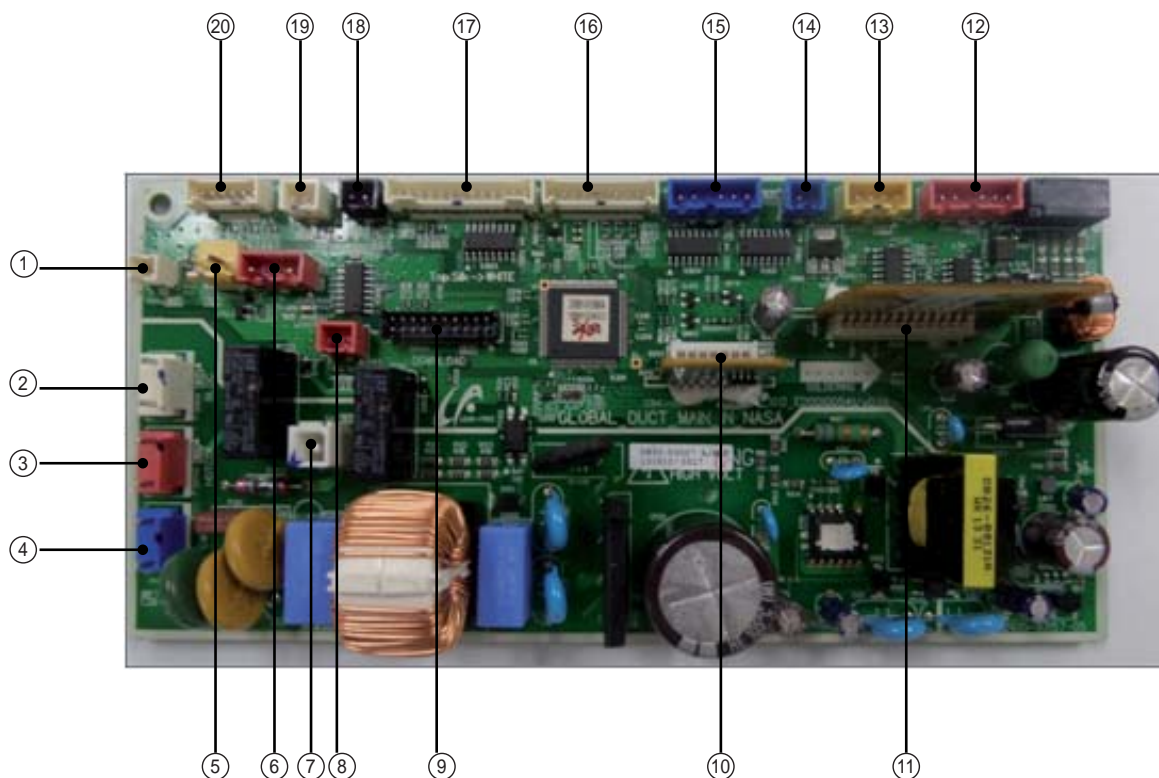
7. Outdoor overload protection control (at the stop of the compressor.) : E404

- Check whether the fan and the motor operate normally.
- Check the operation of EEV.
- Check the temperature sensor of the indoor unit heat exchanger.
- Check the indoor unit inlet blocking.

5. PCB Diagram and Parts List

5-1 Indoor Unit

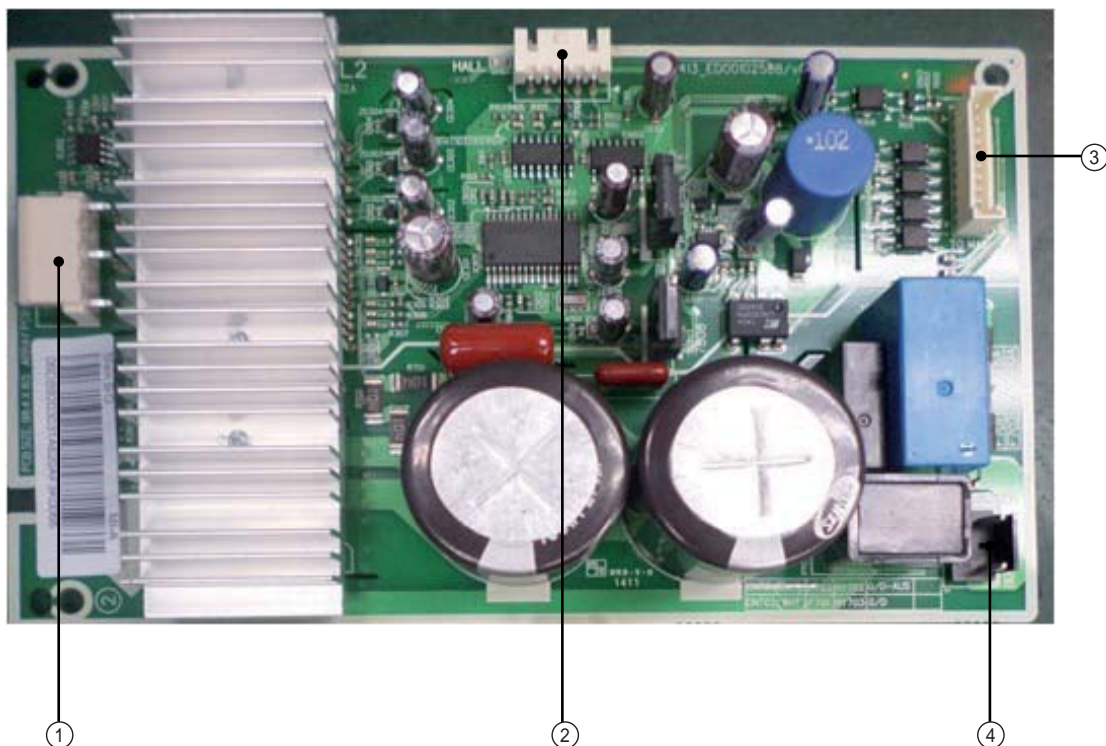
5-1-1 MAIN PCB



No	Part Code	Local	Function	Description
1	3711-003942	CN140	Fuse Check	SMW200-02P WHT #1 - FUSE CHECK, #2 - GND
2	3711-000203	CN906	BLDC POWER	YW396-03AV WHT #1 - N, #3 - L
3	3711-003407	CN702	HOTCOIL	YW396-03AV RED #1 - N, #3 - L
4	3711-003404	CN101	MAIN POWER	YW396-03AV BLU #1 - L, #3 - N
5	3711-000179	CN701	DRAIN	YW396-02V YEL #1 - DRAIN PUMP OUT, #2 - GND
6	3711-000939	CN81	ERROR CHECK COMP CHECK	SMW250-04 RED #1,2 - ERROR CHECK SIGNAL #3 - 12V, #4 - COMP CHECK SIGNAL
7	3711-000744	CN1	EARTH	YDW236-01WHT
8	3711-000796	CN83	EXT-T	SMW250-02 RED #1,2 - EXT SIGNAL
9	3711-002001	CN301	DOWNLOAD	YDW200-20 #1,2 - COM SIGNAL #3~8,12~16,18~20 - DOWNLOAD SIGNAL #9,17 - GND, #10,11 - 5V
10	3711-007817	CN201	EPPROM	B7P-MQ WHT #1 - GND, #2 - NC, #3 - 5V #4,5,6,7 - EEPROM SIGNAL
11	3711-004773	CN311	2 WIRE	BMW200-12 WHT #1 - 12V, #6 - 5V, #12 - GND #2~5,7~11 - COM2 SIGNAL
12	3711-001037	CN302	COMM	SMW250-06 RED #1,2,5,6 - COM SIGNAL #3 - 12V, #4 - GND
13	3711-000941	CN801	SPI	SMW250-04 YEL #1,#2 - GND, #3 - SPI CTRL, #4 - NC

No	Part Code	Local	Function	Description
14	3711-000795	CN804	VENT	SMW250-02 BLU #1 - 12V, #2 - VENT OUT
15	3711-001036	CN808	EEV	SMW250-06 BLU #1~4 - EEV SIGNAL, #5,6 - 12V
16	3711-004182	CN905	FAN MOTOR COMM	SMW200-10P WHT #1 - 12V, #2 - GND #3 - 5V, #4 - BLDC POWER RELAY SIGNAL #5 - OVER TEMP, #6 IPM_FO #7 - REV OUT, #8 - FAN FEEDBACK #9 - INRUSH RELAY SIGNAL, #10 - FAN PWM
17	3711-003895	CN501	DISPLAY	SMW200-13P WHT #1 - 12V, #2~6 - LED OUT #7 - Buz1, #8 - REMOCON OUT #9 - AUTO S/W, #10 - REMOCON-INT #11 - GND, #12 - 5V, #13 - Buz2
18	3711-000794	CN411	FLOAT-SW	SMW250-02 BLK #1 - FLOAT S/W SIGNAL, #2 - GND
19	3711-000015	CN412	ROOM SENSOR	SMW250-02 WHT #1 - ROOM SENSOR SIGNAL, #2 - GND
20	3711-004236	CN413	EVA DIS/OUT SENSOR	SMW200-06P WHT #1 - EVA IN SIGNAL #3 - EVA OUT SIGNAL #5 - DISCHARGE SIGNAL #2,4,6 - GND #1 - L, #3 - N

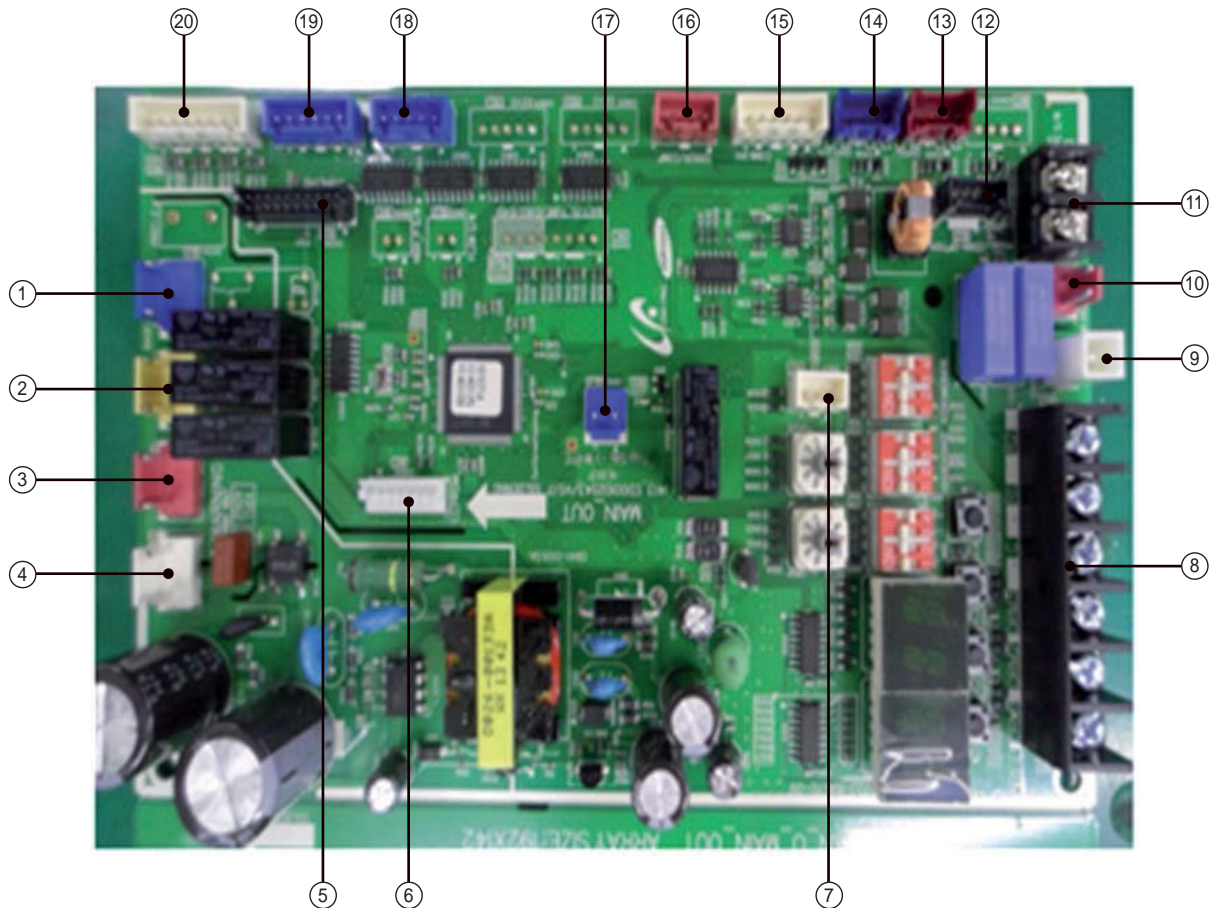
5-1-2 SUB PCB DIAGRAM



No	Part Code	Local	Function	Description
1	3711-003381	CN301	FAN MOTOR	1WALL,5P,1R,3.96mm,ANGLE,SN,WHT #1 - U, #2 - V, #3 - W
2	3711-000992	CN101	HALL	BOX,5P,1R,2.5MM,ANGLE,SN,WHT #1 - 5V, #2~4 - HALL, #5 - GND
3	3711-004182	CN501	FAN MOTOR COMM	BOX,10P,1R,2mm,STRAIGHT,SN,WHT #1 - 12V, #2 - GND #3 - 5V, #4 - BLDC POWER RELAY #5 - OVER TEMP #6 - RST #7 - REV OUT, #8 - FAN FEEDBACK #9 - INRUSH RELAY, #10 - FAN PWM
4	3711-003405	CN701	POWER	1WALL,2P,1R,7.92mm,STRAIGHT,SN,BLK #1 - N, #2 - L

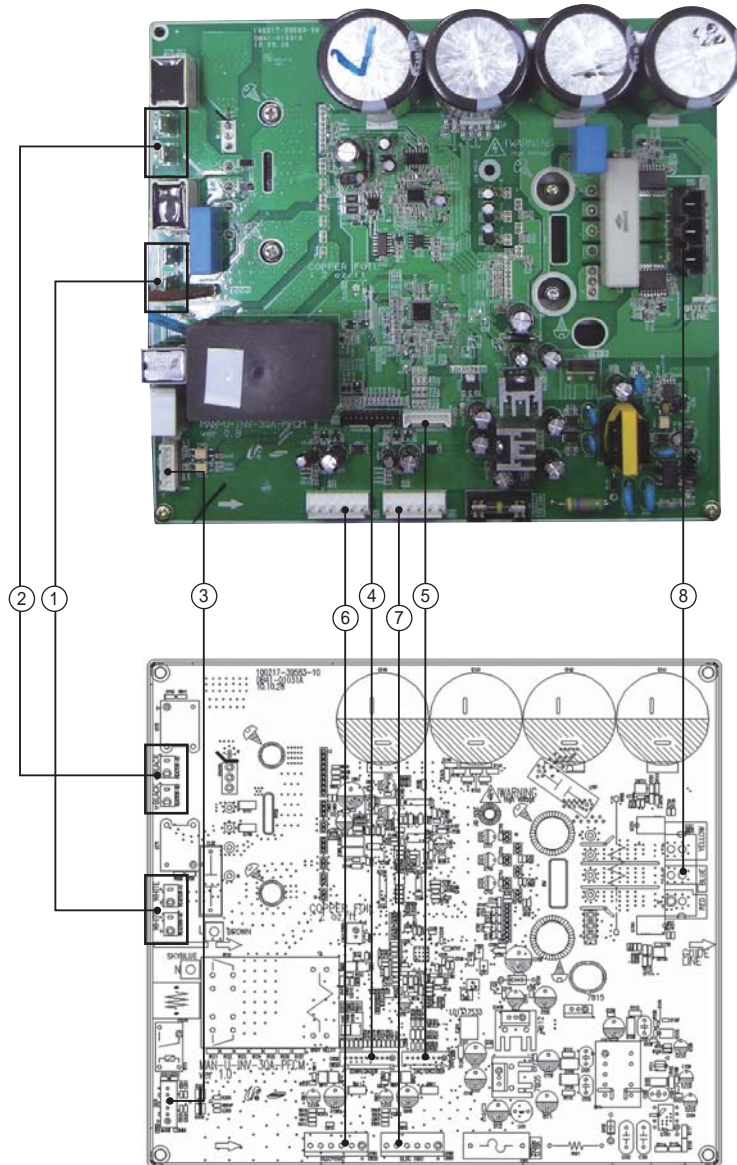
5-2 Outdoor Unit

5-2-1 MAIN PCB



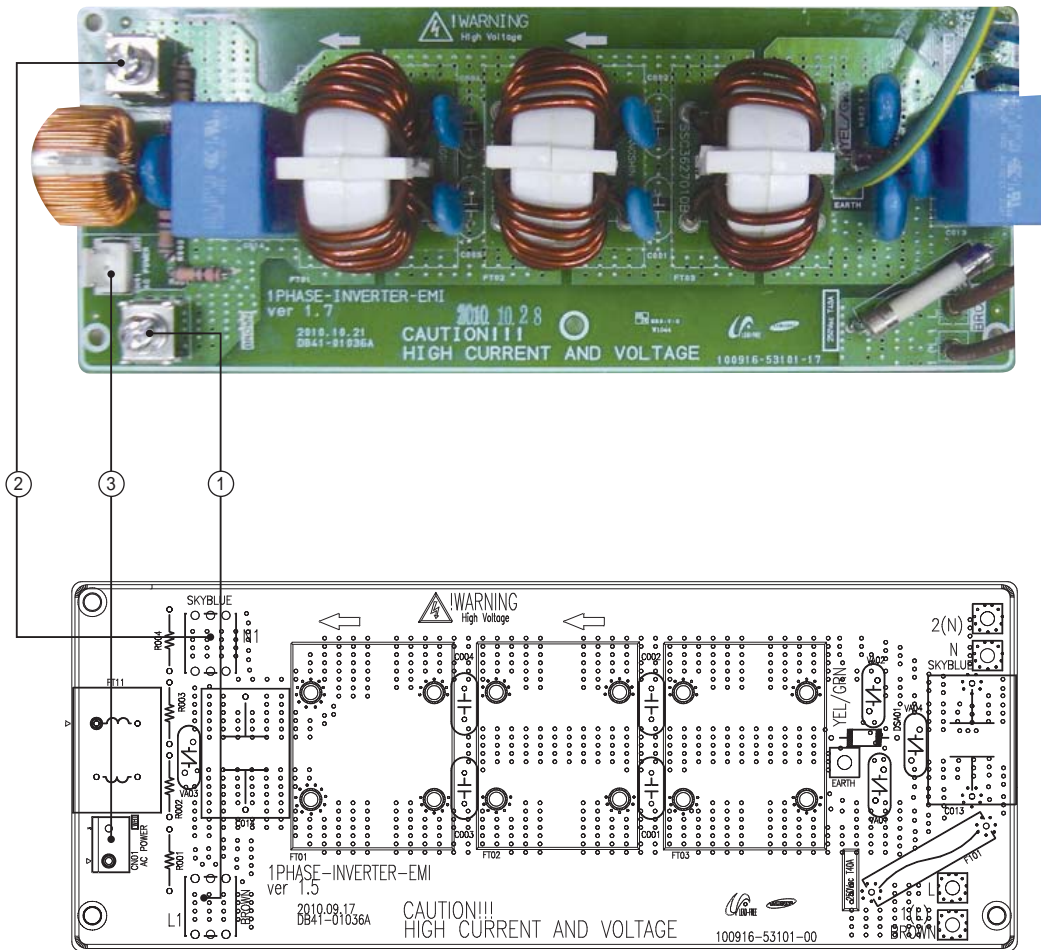
No	Part Code	Local	Function	Description
1	3711-003404	CN703	BASE-HEATER	YW396-03AV BLU
2	3711-003406	CN702	4WAY-1	YW396-03AV YEL
3	3711-003407	CN701	HOTGAS	YW396-03AV RED
4	3711-000203	CN101	POWER	YW396-03AV WHT
5	3711-002001	CN306	DOWNLOAD	YDW200-20P BLK
6	3711-007817	CN806	EEPROM	B7P-MQ WHT
7	3711-000024	CN501	MODE SELECTOR	SMW250-03 WHT
8	DB65-00320A	CN304	DRED	DAPC-2009-6P BLK
9	3711-000744	CN103	EARTH	YDW236-01 WHT
10	3711-000177	CN303	COMM-INDOOR	YW396-02V RED
11	3716-001162	CN003	QUIET S/W	BR-7623-2P BLK
12	3711-005096	CN302	COMM-OPTION	SMW200-05 BLK
13	3711-007069	CN402	HIGH PRESSURE S/W	B04B-XARK-1 RED
14	3711-007325	CN401	LOW PRESSURE S/W	B04B-XARK-1 BLU
15	3711-001038	CN305	COMM INV	SMW250-06 WHT
16	3711-000939	CN801	ERROR/COMP CHECK	SMW250-04 RED
17	3711-000176	CN12	DC12V	YW396-02V BLU
18	3711-000997	CN803	EEV1	SMW250-05 BLU
19	3711-001036	CN802	EEV4	SMW250-06 BLU
20	3711-001084	CN403	OUT TEMP/COND/DISQ/OLP	SMW250-08 WHT

5-2-2 INVERTER PCB



① Reactor-A1/B1 #Reactor-A2 : WHT #Reactor-B2 : WHT	② Reactor-A2/B2 #Reactor-A2 : BLK #Reactor-B2 : BLK	③ CN50(2PIN/RED)-Communication #1 : RXD, #2 : TXD #3 : GND, #4 : DC 5V #5 : DC 12V, #6 : INV. SMPS signal	④ CN22-Downloader #1 : RXD_ATARO, #2 : TXD_ATARO #3, #8 : N.C, #4~#7 : DATA signal #9 : GND, #10 : DC 5V
⑤ CN21-DAC/ENCODER For S/W engineer debugging	⑥ CN91-FAN2 #1 : DC 360V #2 : N.C #3 : GND #4 : DC 15V #5 : FAN RPM #6 : FAN RPM feedback	⑦ CN90-FAN1 #1 : DC 360V #2 : N.C #3 : GND #4 : DC 15V #5 : FAN RPM #6 : FAN RPM feedback	⑧ CN71-COMP. #1 : COMP. U-phase(RED) #2 : COMP. V-phase(BLU) #3 : COMP. U-phase(YEL)

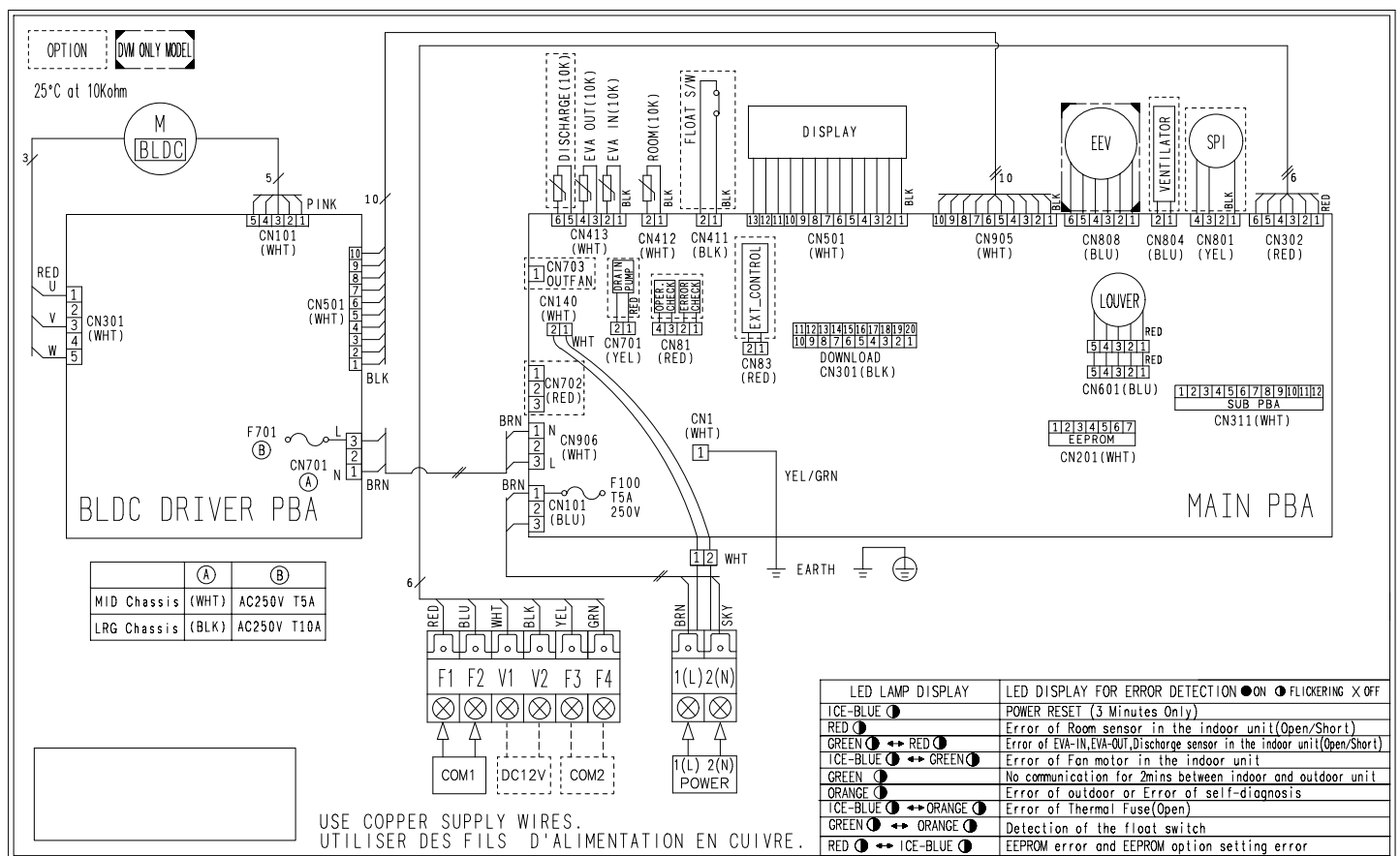
5-2-3 EMI PCB



<p>① L1-AC POWER L phase L1 : BRN</p>	<p>② N1-AC POWER N phase N1 : SKY-BLU</p>	<p>③ CN01-AC POWER #1-#3 : AC 220~240V</p>
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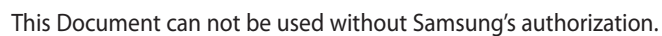
6. Wiring Diagram

6-1 Indoor Unit



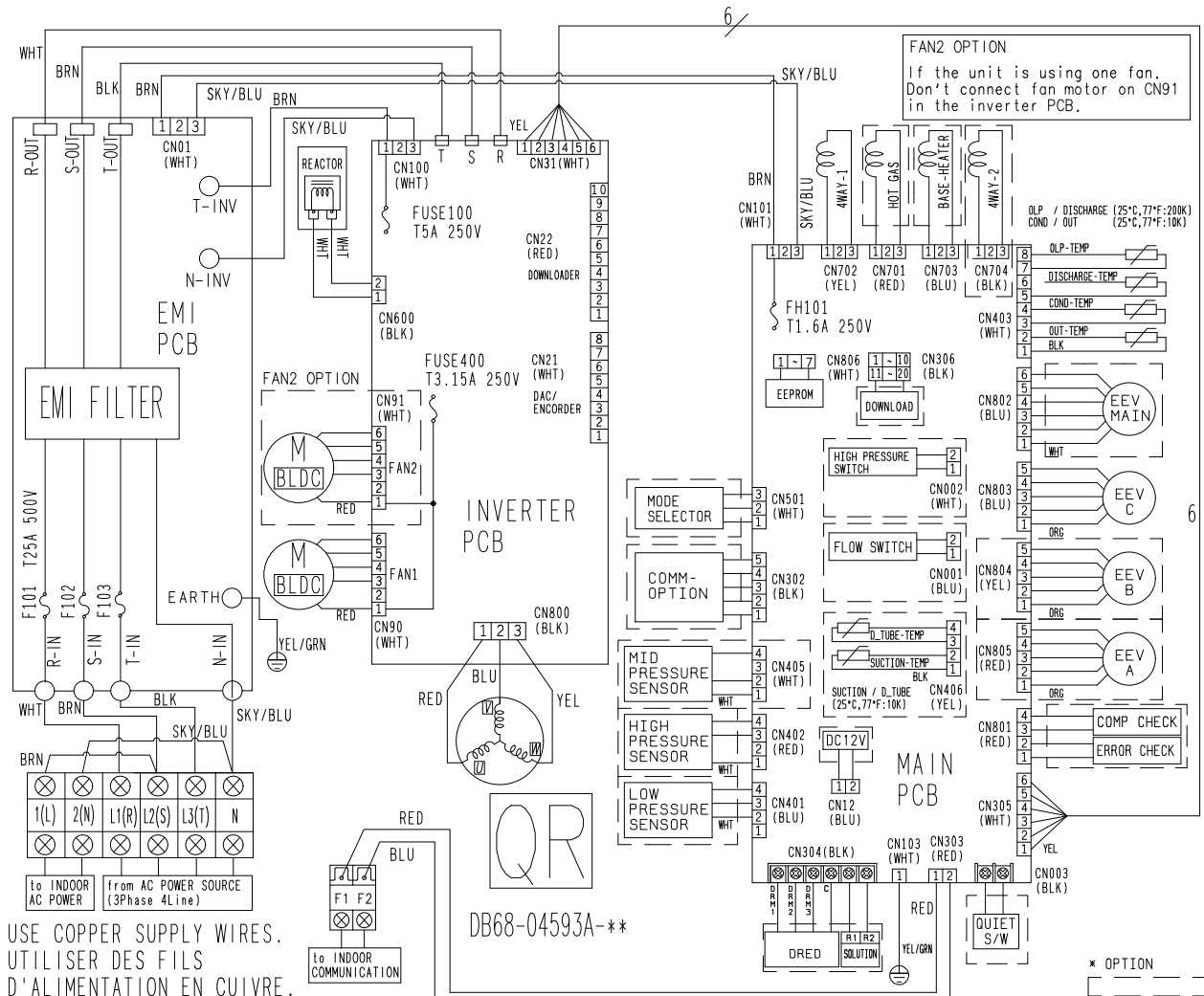
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■ AC100JXADEH, AC120JXADEH, AC140JXADEH



Outdoor unit

■ AC100JXADGH, AC120JXADGH, AC140JXADGH

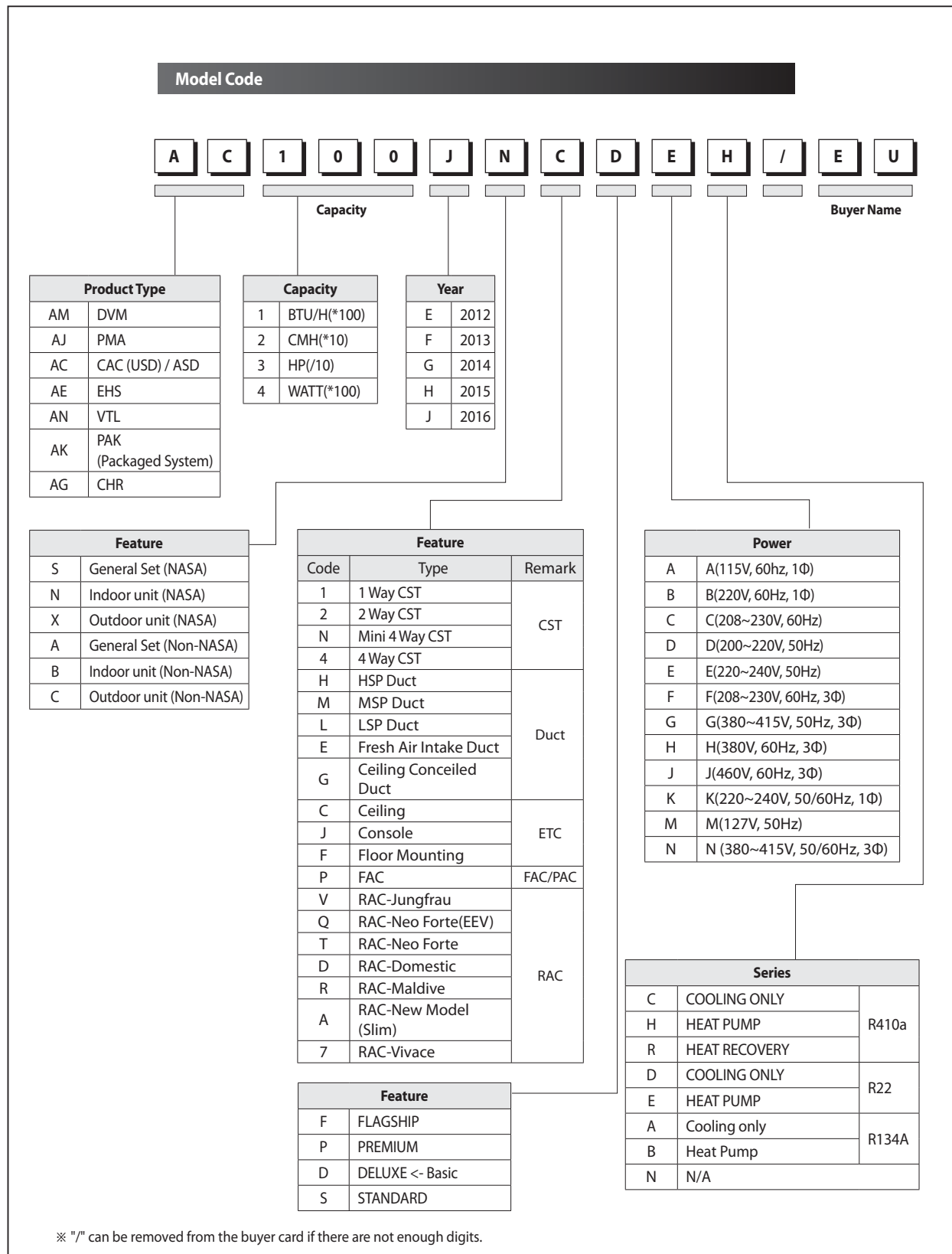


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7. Reference Sheet

7-1 Index for Model Name

7-1-1 Indoor Unit



7-1-2 Outdoor Unit

Model Code

A
C
1
0
0
J
X
A
D
E
H
/
E
U

Capacity
Year
Buyer Name

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

Capacity	
1	BTU/H(*100)
2	CMH(*10)
3	HP(/10)
4	WATT(*100)

Year	
E	2012
F	2013
H	2014
J	2015
K	2016
L	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		
A	Inv+Side+General Temp	CAC
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	
4Way : 4 , MSP Duct: M , Ceiling: C		

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)

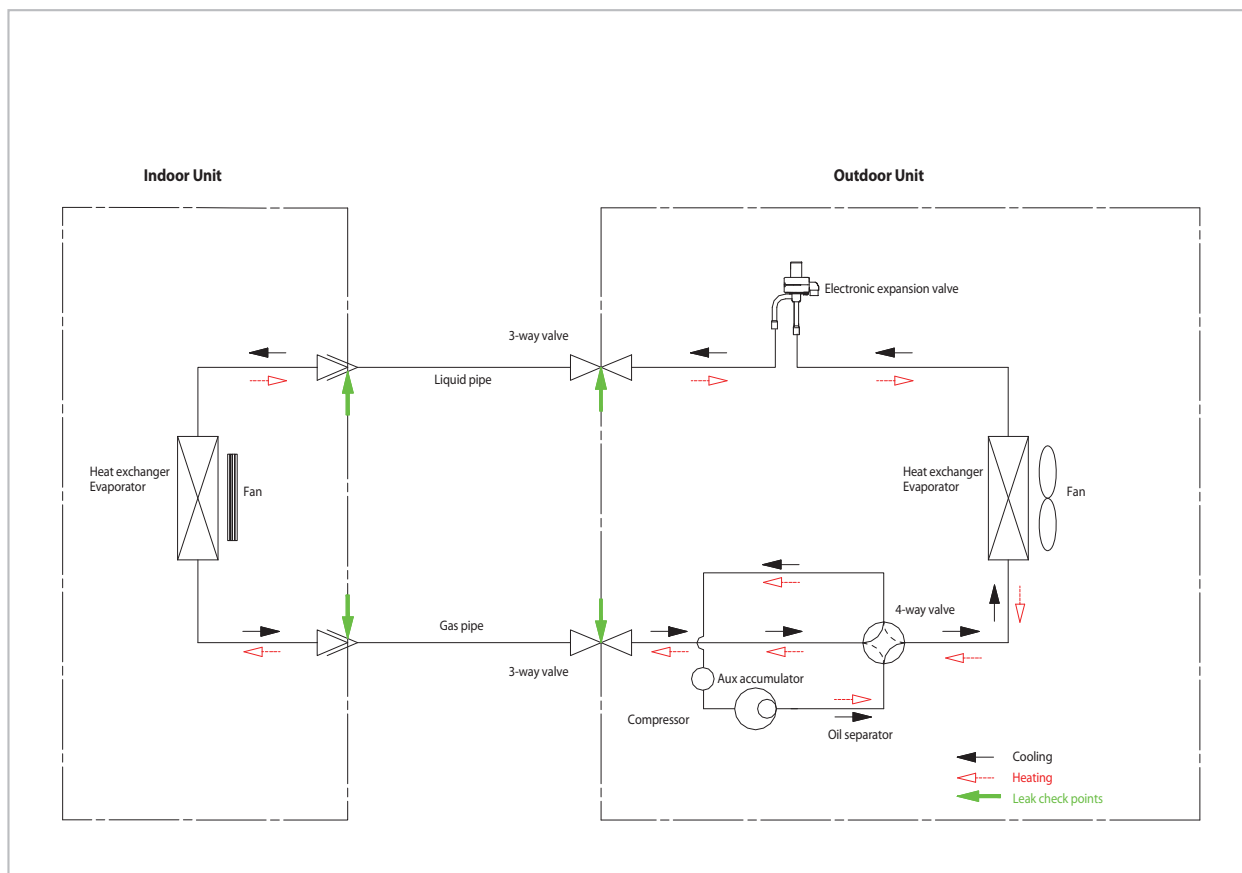
Feature	
F	FLAGSHIP
P	PREMIUM
D	DELUXE ⇔ Basic
S	STANDARD
L	FLAGSHIP + TROPICAL
R	PREMIUM + TROPICAL
T	DELUXE + TROPICA ⇔ Basic Model
N	STANDARD + TROPICAL

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	

※ * MCD: Dummy mock-up model

※ "/" 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.)



GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
Europe, CIS, Mideast & Africa	gspn1.samsungcsportal.com
Asia	gspn2.samsungcsportal.com
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