SAMSUNG

SYSTEM AIR CONDITIONER

4 WAY CASSETTE SERIES

	INDOOR UNIT	OUTDOOR UNIT
Model :	AC052MN4DKH	AC090MXADKH
	AC071MN4DKH	AC100MXAD✳H
	AC090MN4DKH	AC120MXAD✳H
	AC100MN4DKH	AC140MXAD✳H
	AC120MN4DKH	
	AC140MN4DKH	

SERVICE Manual

AIR CONDITIONER

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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

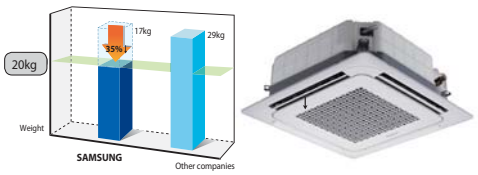
■ **What is four-direction cassette type air conditioner?**

Stylish design and pleasant cooling/heating will provide a pleasant ambience.

Four-direction cassette with powerful three-dimensional cooling and heating from four directions offers gapless pleasant environment and has the right design for high class interior and will provide an extra-stylish look.

■ **Convenient and efficient installation**

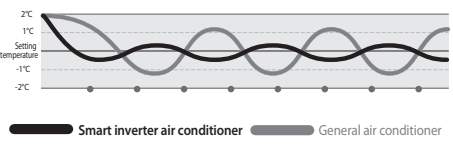
- **Easy installation of ultra-lightweight indoor unit**
  A filter that obviates the need for replacement and/or maintenance up to 1,000~2,000 hours and retains its initial cleanness.



[Comparison of weights with other companies 11kg]

- **Corner separable panel for simple leveling**
  The panel structure with four corners that can be separated enables convenient installation and service as only the required corner can be separated to adjust leveling when necessary.

- **Maintain pleasant temperature with fine temperature control with a resolution of 0.1°C**
  The equipment operates with minimum power to maintain the optimum temperature and it always maintains a pleasant room temperature in small temperature steps of 0.1°C that you may not be able to sense.

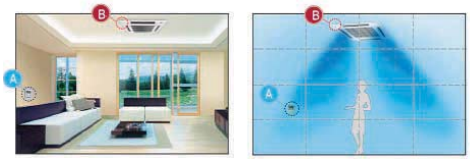


■ Rich and pleasant cooling/heating without gaps

- **Superior heating performance even at -20°C**
  The equipment achieves a stable heating performance with the superior reliability of low temperature heating so that the indoor unit blows air of 40°C or higher in a cold winter when the outside temperature is below -20°C.

- **Pleasant room with a check valve for preventing backflow**
  A check valve is installed to prevent condensed water drained from the indoor unit flowing back into the indoor unit for various reasons such as improper drain pipe installation or power cut, and indoor leak or bad smell by backflow is fundamentally blocked.

- **Function to control optimum room temperature that reduces temperature variation**
  Room temperature sense condition can be set to 'Indoor + average of wired remote controller' to minimize the variation in temperature between the upper and lower levels generated by the effects of indoor air flow so that optimum room temperature will be maintained.



•Temperature setting (A): Indoor unit temperature setting
•Temperature setting (B): Wired remote controller temperature setting

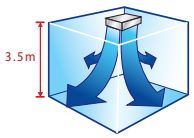
- **Obtained Sterilization Treatment SF mark that removes the threat of mildew.**
  The equipment is very sanitary as an indoor heat exchange unit and filters are treated with world-recognized sterilization treatment technology to prevent the growth of mildew inside the unit.

• Patent registered in Korea, USA, Japan, and Italy
(Patent number: Korea P-082555/ Italy 1294250/USA 594)

- **Convenient control for high ceilings with wind velocity control function**
  When the unit is installed indoors, air flow can be set to reach the floor through the PCB option so that the unit can be installed on a ceiling with a height of 3.5 meters.

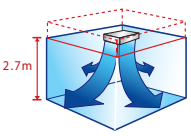
• Indoor PCB option setting

• ON: Increase wind velocity



[When installing on a ceiling of 3m or higher]

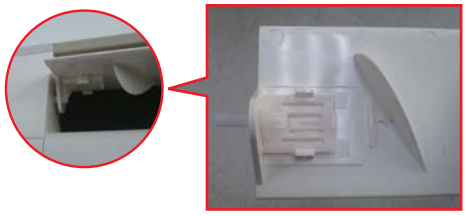
• OFF: Decrease wind velocity



[When installing on a ceiling of 3m or lower]

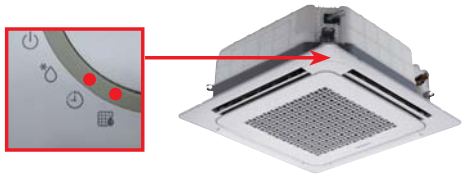
■ Convenience with more added details

- **Easier than Ever to Clean the Blade**
  Other products require you to disassemble and remove the panel in order to clean the blade, but our product is designed so that the blade safely and easily detaches and re-attaches, enabling you to easily clean it.

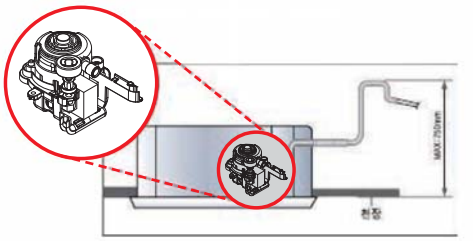


■ Rich and pleasant cooling/heating without gaps (cont.)

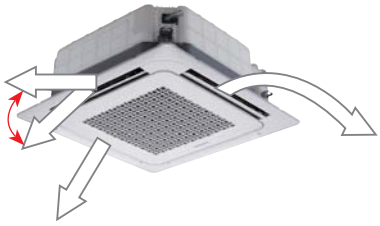
- **Self diagnostic function of indoor unit to minimize inconvenience in case of malfunction**
  If the indoor unit malfunctions due to equipment failure during operation, the type of problem can be checked from the panel display, and the service time and inconvenience can be minimized by submitting a service request based on the information from the self diagnostics of indoor unit.



- **Minimum installation cost by built-in high head drain pump**
  The high head pump is built into the indoor unit and the condensed water generated during the cooling operation will be drained to the outside. The pumping height can be up to 750mm so that drain pip installation can be easier and save time and cost of installation.



- **Individual Blade Control**
  - Capable of realizing optimal air current in accordance to customer preference and diverse structures located in different directions through individual control of each of the 4 blades.
  - Individual control can be realized through both cable and wireless remote control.



2-2 Product Specifications

Product Specifications

Item			Development Model						
			AC090MN4DKH AC090MXADKH	AC100MN4DKH AC100MXADKH	AC100MN4DKH AC100MXADNH	AC120MN4DKH AC120MXADKH	AC120MN4DKH AC120MXADNH	AC052MN4DKH AC071MN4DKH AC140MN4DKH AC140MXADKH	AC052MN4DKH AC071MN4DKH AC140MN4DKH AC140MXADNH
Design	Indoor Unit								
	Outdoor Unit								
	Remote Controller								
Capacity	Cooling[w]		9	10	10	12	12	13.4	13.4
	Heating [W]		10	11.2	11.2	13	13	15.5	15.5
Power input	Cooling[w]		2750	3120	3120	4700	4700	4450	4450
	Heating [W]		2700	3100	3100	3800	3800	4540	4540
EER/COP	Cooling[w]		6.8	6.8	6.8	5.7	5.7	3.01	3.01
	Heating [W]		4.3	4.3	4.3	4.1	4.1	3.41	3.41
Voltage / Frequency			1Φ, 220-240V~/50Hz	1Φ, 220-240V~/50Hz	3Φ, 380-415V 3N~/50Hz	1Φ, 220-240V~/50Hz	3Φ, 380-415V 3N~/50Hz	1Φ, 220-240V~/50Hz	3Φ, 380-415V 3N~/50Hz
Running Current	Cooling[w]		12	13.6	4.8	21.1	7.3	20	7
	Heating [W]		11.6	13.6	4.8	17.1	5.9	19.5	7
Noise	Indoor Unit [dBA] (C/H)		48/48	50/50	48/48	50/50	50/50	50/50	50/50
	Outdoor Unit [dBA] (C/H)		57/59	58/60	58/60	59/61	59/61	60/62	60/62
Size (W*H*D)	Net Dimension (WxHxD)	Indoor Unit [mm]	840*840*288	840*840*288	840*840*288	840*840*288	840*840*288	840*840*288	840*840*288
		Outdoor Unit [mm]	898*898*357	898*898*357	898*898*357	898*898*357	898*898*357	898*898*357	898*898*357
	Shipping Dimension (WxHxD)	Indoor Unit [mm]	940*330*998	940*330*998	940*330*998	940*330*998	940*330*998	940*330*1210	940*330*1210
		Outdoor Unit [mm]	995*426*1096	995*426*1096	995*426*1096	995*426*1096	995*426*1096	995*426*1388	995*426*1388
Weight (kg)	Net	Indoor Unit [kg]	18	18	18	18	18	20	20
		Outdoor Unit [kg]	22	22	22	22	22	24	24
	Shipping	Indoor Unit [kg]	72	72	72	80	80	85	85
		Outdoor Unit [kg]	77	77	77	85	85	94	94
Harness spec	Indoor fan motor		DB31-00577A	DB31-00577A	DB31-00577A	DB31-00577A	DB31-00577A	DB31-00577A	DB31-00577A
	Compressor		UG8T300FUBJUSG	UG8T300FUBJUSG	UG8T300FUCJU	UG5TK1450FJX	UG5TK1450FJX	UG5TK1450FJX	UG5TK1450FJX
	Outdoor fan motor		DB31-00579B	DB31-00579B	DB31-00579B	DB31-00579B	DB31-00579B	DB31-00658A	DB31-00658A
Designed pressure	High presssure		4.1 Mpa	4.1 Mpa	4.1 Mpa	4.1 Mpa	4.1 Mpa	4.1 Mpa	4.1 Mpa
	Low pressure		1.4 Mpa	1.4 Mpa	1.4 Mpa	1.4 Mpa	1.4 Mpa	1.4 Mpa	1.4 Mpa
Refrigerant / Factory charging			3000	3000	3000	3000	3000	3400	3400
Additional refrigerant			50g/m	50g/m	50g/m	50g/m	50g/m	50g/m	50g/m
Basic piping length			5	5	5	5	5	5	5
Max. piping length			50	50	50	50	50	75	75
Max. level different			30	30	30	30	30	30	30
Option code			01407F-195418-275A64-370040	01407F-195429-276470-370040	01407F-195429-276470-370040	01407F-19543A-277882-370040	01407F-19543A-277882-370040	01407F-19543B-278CA0-370040	01407F-19543B-278CA0-370040
			020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000
			030000-100000-200000-300000	030000-100000-200000-300000	030000-100000-200000-300000	030000-100000-200000-300000	030000-100000-200000-300000	030000-100000-200000-300000	030000-100000-200000-300000

2-3 Specifications of optional items

2-3-1 Accessories

Item	Description	Code No.	Q'ty	Remark
	Ass'y drain hose	DB94-02719B	1	Indoor Unit
	Cable-tie	DB65-00191A	6	
	Seal-drain ass'y	DB62-05810A	1	
	Seal-drain ass'y	DB62-05810F	1	
	Seal-drain ass'y	DB62-05810G	1	
	CARD WARRNATY	DB68-02596B	1	
	Rubber Leg	DB73-20134A	4	Outdoor Unit
	ASSY-INSTALLATION MANUAL	DB68-05330A	1	
	BOLT-FLANGE	6011-003975	4	Panel
	ASSY-INSTALLATION MANUAL	DB68-03683A	1	
	CARD WARRNATY	DB68-01675A	1	

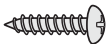
Accessories (cont.)

■ Wireless remote controller (MR-EH00)

Item	Descriptions	Code-No.	Q'TY	Remark
	Wireless remote controller	DB93-15882F	1	Optional
	Batteries for remote controller (specification: AAA type)	4301-000121	2	
	Remote controller holder	DB61-06087A	1	
	M4×16 screw	6002-000581	2	
	User's manual	DB68-05423A	1	

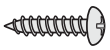
Accessories (cont.)

■ Wired remote controller (MWR-WE10N) [Code No. : DB97-22234A]

Item	Descriptions	Code-No.	Q'TY	Remark
	Wired remote controller	DB93-11251F	1	Optional
	Cable tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	3	
	M4×16 Screw	6002-000474	5	
	User's manual	DB68-03732A	1	
	Installation guide	DB68-03716A	1	

Accessories (cont.)

■ Central controller (MCM-A202DN) [Code No. : DB97-22237A]

Item	Descriptions	Code-No.	Q'TY	Remark
	Central controller	DB93-03425Q	1	Optional
	Cable tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	5	
	M4 X 16 Screw	6002-000474	7	
	User's manual	DB68-03736A	1	
	Installation guide	DB68-03721A	1	

2-3-2 Filter specifications

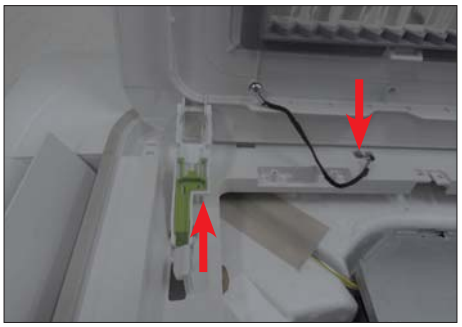
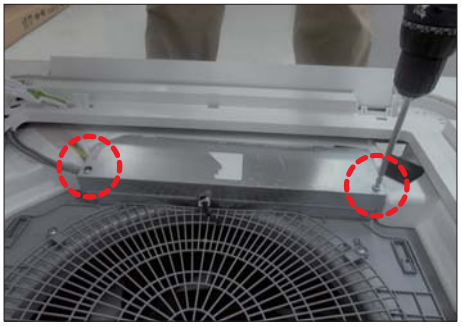
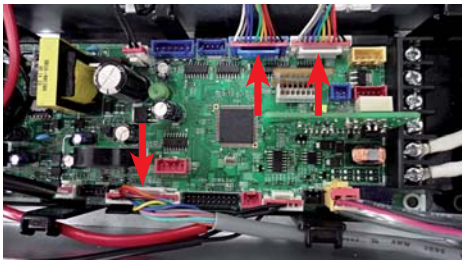
Item	Descriptions	Code-No.	Remark
	Dust filter	DB63-03158A	Basic/ Water wash

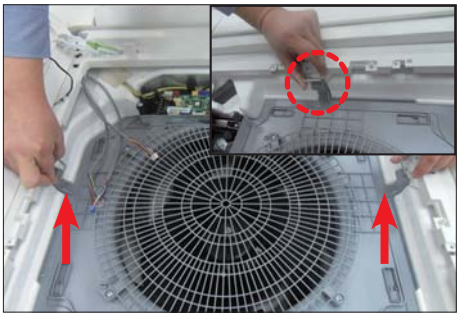
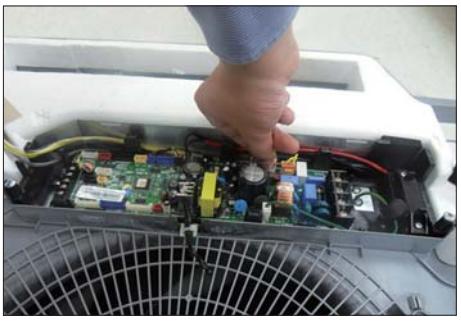
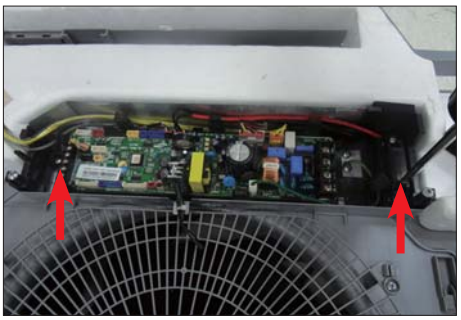
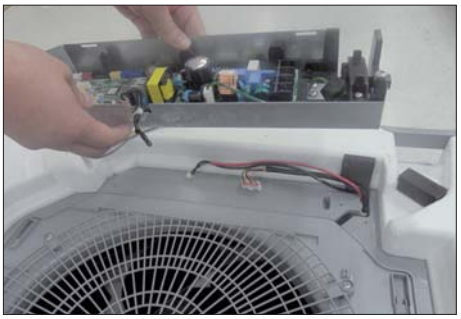
3. Disassembly and Reassembly

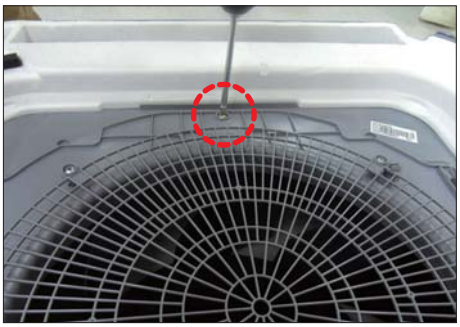
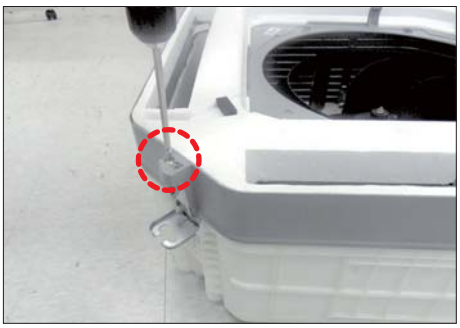
■ Necessary Tools

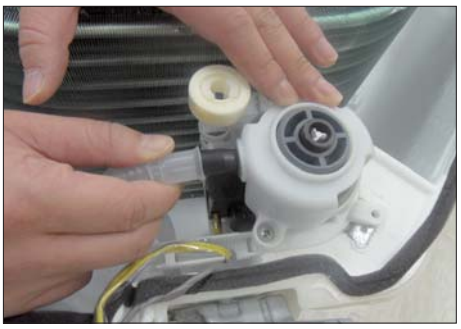
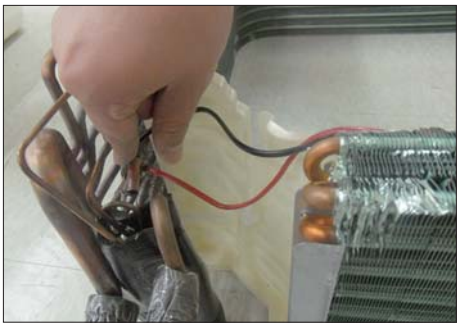
Item	Remarks
+SCREW DRIVER	
Adjustable Wrench (8mm, 10mm, 13mm)	
M6, M8 Hex Wrench	

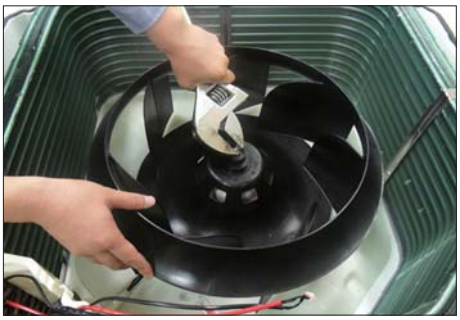
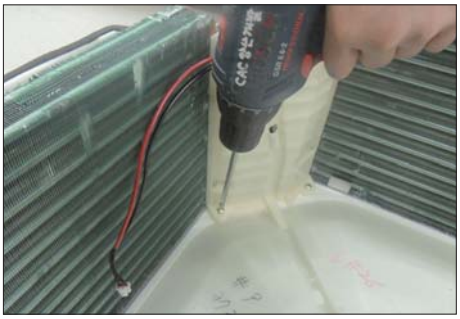
3-1 Indoor unit

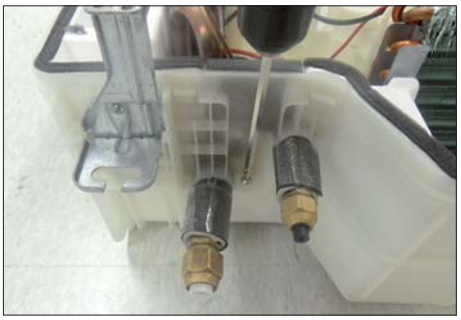
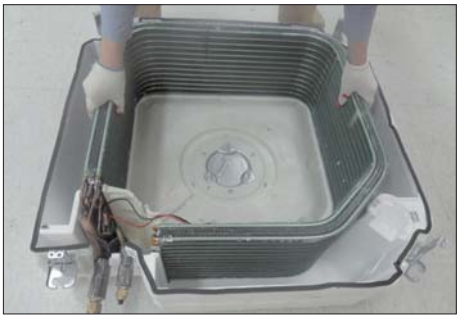
No	Parts	Procedure	Remark
1	Panel	1) Push the handles on both sides of the Samsung logo towards the product's interior to open the Grille.	
		2) Push up the green knob in the Open direction, and detach the white link from the panel. Detach the safety clip.	
		3) Remove the 2 fixed screws to remove the Control-Box Cover. (Use +Screw Driver)	
		4) Remove the Remocon-Receiver and Blade Connector Wire from the PBA. (3EA)	
		5) Push the 4 panel corners and cover downwards to remove it.	

No	Parts	Procedure	Remark
		6) Disassemble the bolts that are assembled with the indoor unit at the 4 panel corners.	
		7) Press the Steel Hangers at both sides of the panel inwards, and rotate them 90 degrees to remove it from the indoor unit's Hock. Remove the panel from the indoor unit.	
2	Control-Box	1) Disconnect the Connector Wire that is connected to the indoor unit's PBA from the PBA.	
		2) Unscrew the 2 fixed screws on both sides of the Control Box, and disassemble the Control Box from the indoor unit. (Use +Screw Driver)	 

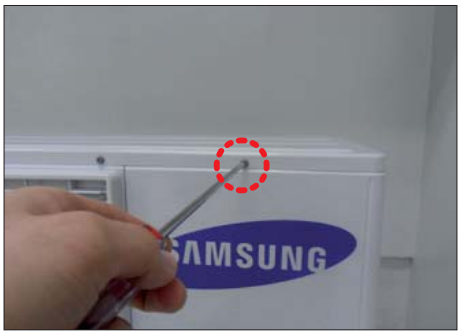
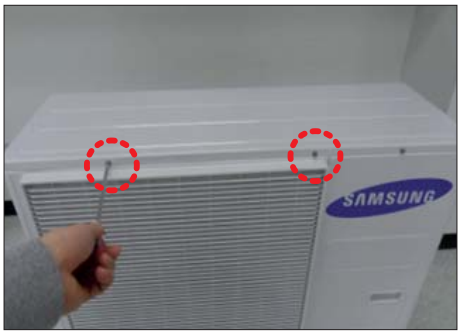
No	Parts	Procedure	Remark
3	Bell-Mouth	1) Unscrew the screw fixed on the Bell-Mouth. (Use +Screw Driver)	
		2) Push the Bell-Mouth in the direction opposite to where it's installed on the Control-Box to remove it.	
4	Drain Pan	1) Unscrew the screws on the 4 corners of the indoor unit. (Use +Screw Driver)	
		2) Remove the Drain Pan from the indoor unit.	

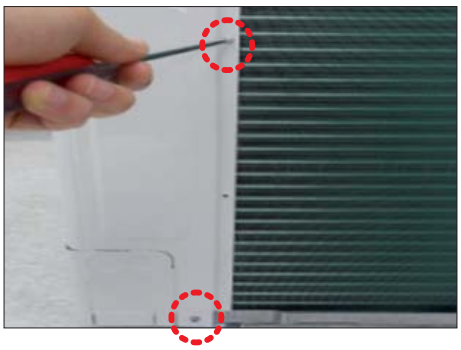
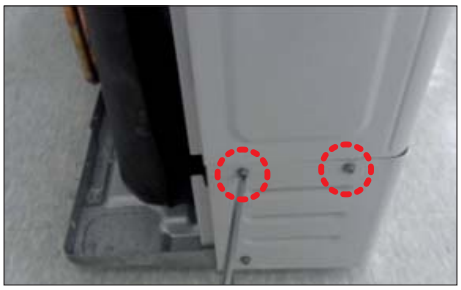
No	Parts	Procedure	Remark
5	Drain Pump & Hose	1) Remove the 2 fixed screws and disconnect the white drainage hose from the Drain Pump. (Use +Screw Driver)	 
		2) Remove the 2 screws and take the Drain-Hose out from the indoor unit to disassemble the transparent Drain-Hose fixed on the side of the indoor unit. (Use +Screw Driver)	
6	Evap. Temperature Sensor	1) Use your hand to remove the temperature sensor attached to the Evap Pipe along with the fixing clip.	

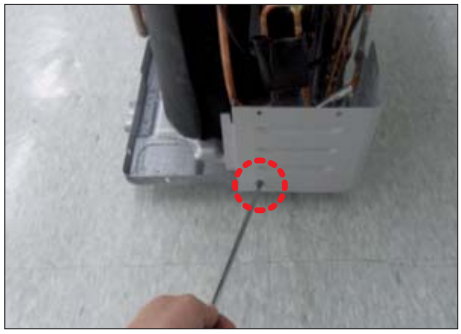
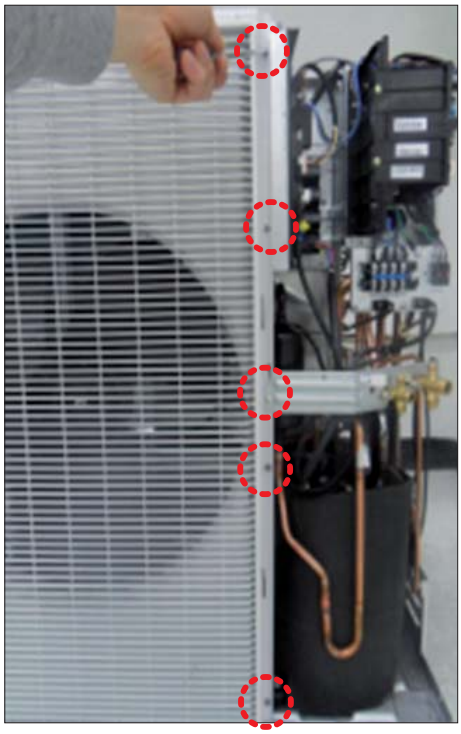
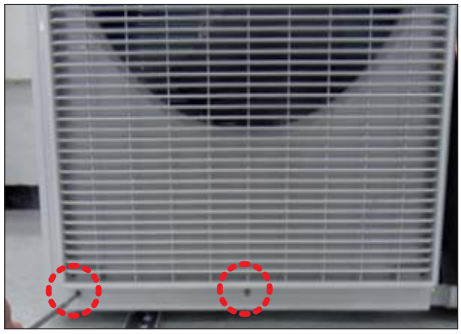
No	Parts	Procedure	Remark
7	Fan & Motor	1) Turn the hexangular nut attached to the top of the Fan counterclockwise to remove it. Take the Fan out of the Motor.	
		2) Turn the three hexangular nuts on the Motor counterclockwise to remove the nuts. Take the Motor Wires attached to these three locations out with your hands prior to removing the Motor.	 
8	Evaporator	1) Remove the screws of the 2 Steel Holder Evaps that are used to fix the Heat Exchanger, and then remove it. (Use +Screw Driver)	
		2) Remove the 2 fixing screws of the Partition Evap at the Heat Exchanger's In/Out Pipe. (Use +Screw Driver)	

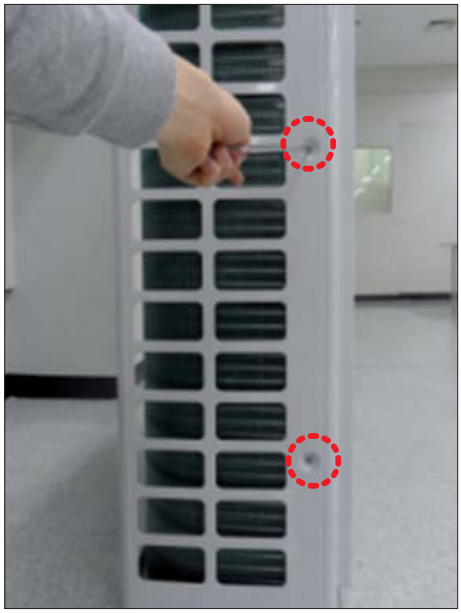
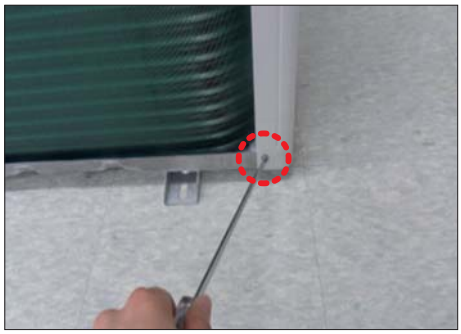
No	Parts	Procedure	Remark
		3) Remove the screw of the Cover Pipe that is used to fix the In/Out Pipe. Remove the In/Out Pipe. (Use +Screw Driver)	
		4) Remove the Heat Exchanger from the indoor unit's cabinet.	
			

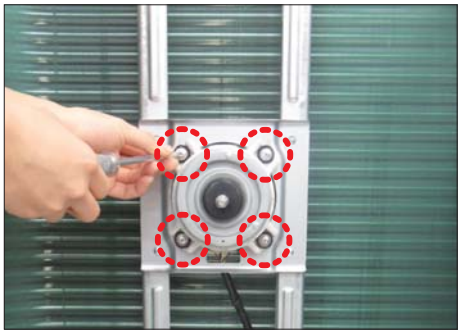
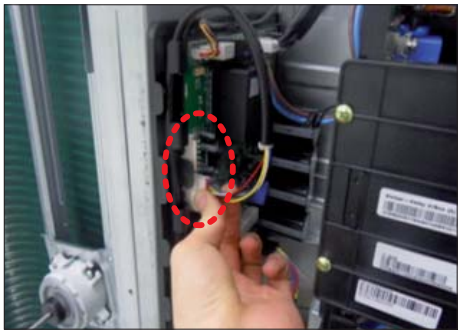
■ AC090/100/120MXAD✳H

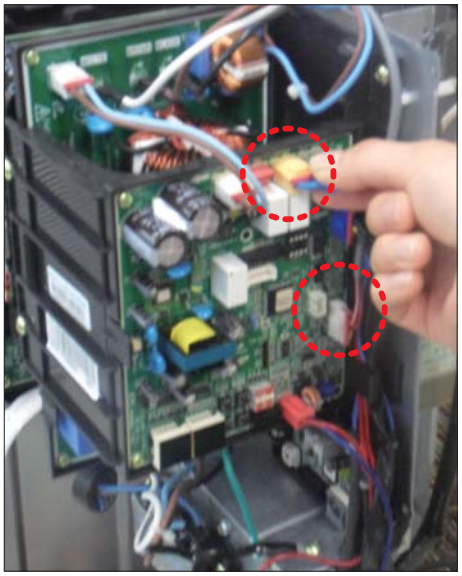
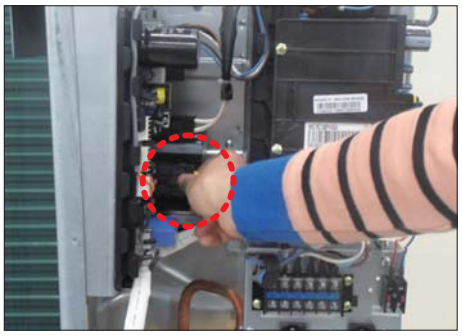
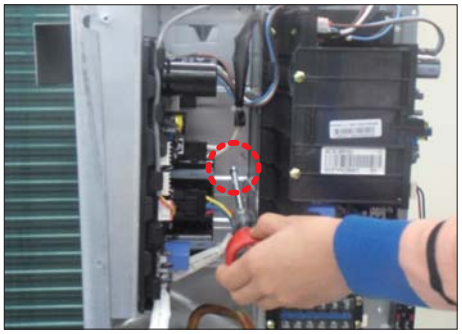
No	Parts	Procedure	Remark
1	Cabi Front RH	⚠ You must turn off the Power before disassembly. 1) Unscrew and remove two mounting screw in the Cabinet Front RH. (Use +Screw Driver)	 
2	Cabi Top	1) Unscrew and remove 9 screws on each side of the Cabinet-Top. (Use +Screw Driver)	
3	Cabi Install Front	1) Unscrew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

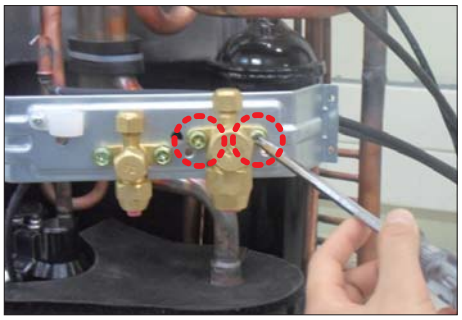
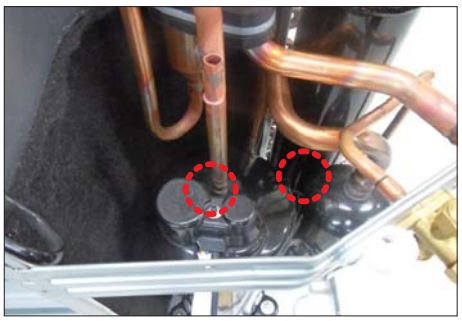
No	Parts	Procedure	Remark
4	Guard Cond	1) Pull the sensor from Guard Cond.	
		2) Unscrew and remove 4 screws in the Guard Cond. (Use +Screw Driver)	
5	Cabi Back RH	1) Pull the sensor from Cabi Back RH.	
		2) Unscrew and remove 4 screws on each side of the Cabinet Back RH. (Use +Screw Driver)	 

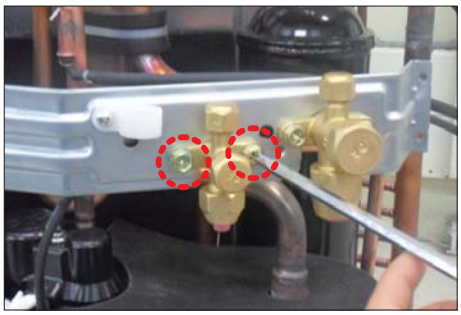
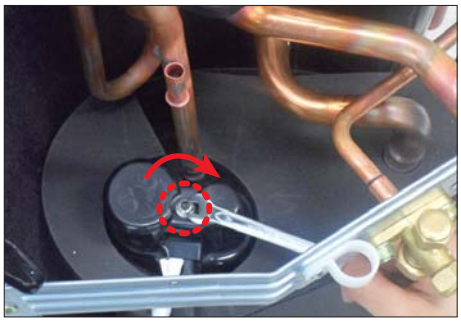
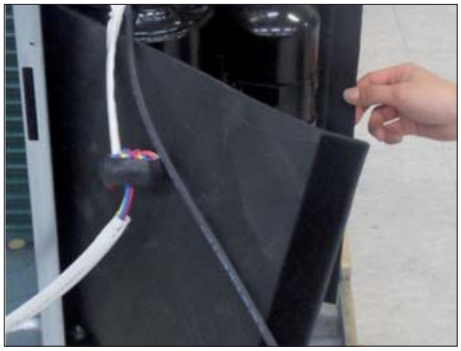
No	Parts	Procedure	Remark
6	Cabi Install Back	1) Unscrew and remove 1 screw in the Cabinet-Install Back. (Use +Screw Driver)	
7	Cabi Front LF	1) Unscrew and remove 10 screws in the Cabinet-Front LF. (Use +Screw Driver)	 

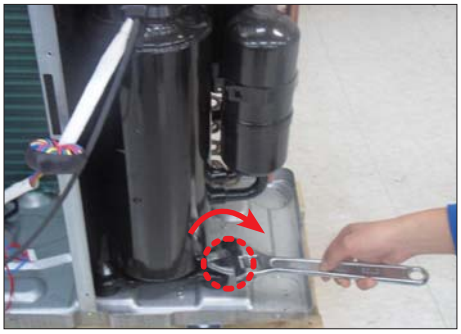
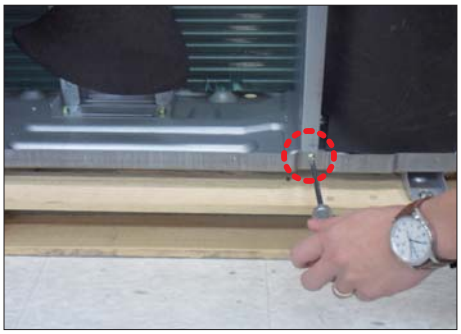
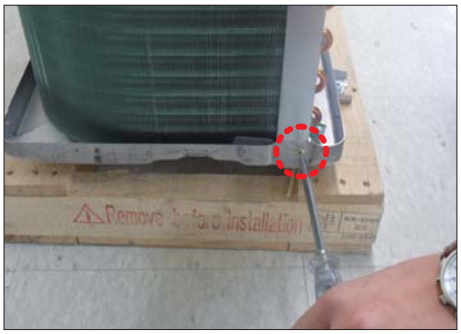
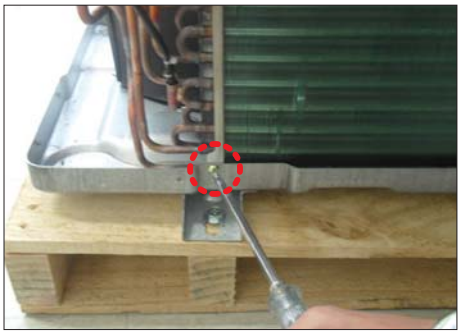
No	Parts	Procedure	Remark
			 
8	Fan	1) Turn 2 mounting nuts as shown in the picture and remove it. (Use Adjustable Wrench)	

No	Parts	Procedure	Remark
9	Motor	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)	

No	Parts	Procedure	Remark
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.	

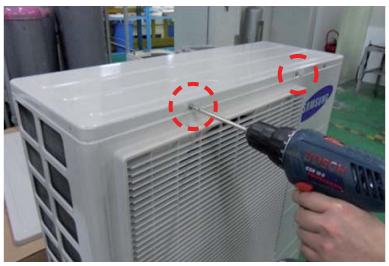
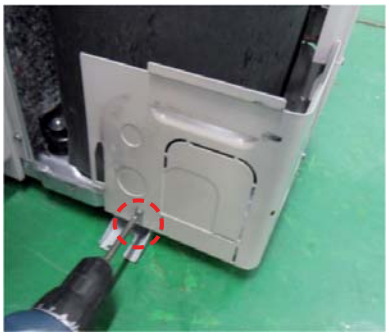
No	Parts	Procedure	Remark
12	Ass'y 4way Valve	1) Purge the Coolant first. 2) Unscrew and remove 2mounting screws in muffler. 3) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver)	 
		4) Separate the pipe from the Entrance/Exit using a welder.	
		⚠ When removing the compressor,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

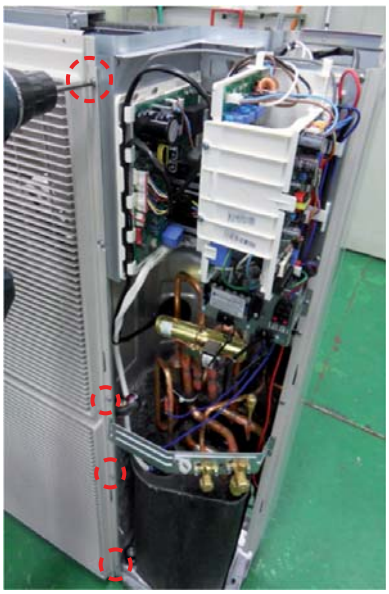
No	Parts	Procedure	Remark
13	Ass;y EEV Valve	1) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver)	
		2) Separate the pipe from the Entrance/Exit using a welder.	
14	Compressor	1) Unscrew and remove 1 mounting nut in Cover Terminal. (Use Adjustable Wrench)	
		2) Separate the Compressor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

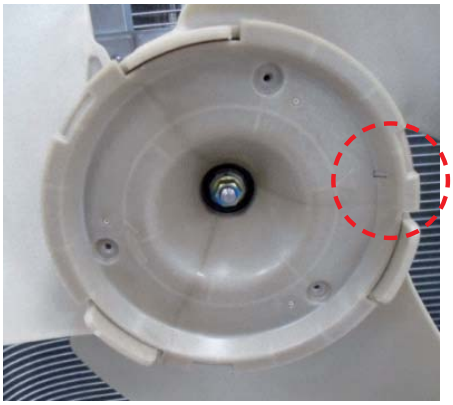
No	Parts	Procedure	Remark
		3) As shown in the picture, unscrew and remove 3 mounting screws from the bottom. (Use Adjustable Wrench)	
15	Cond Out	1) Unscrew and remove 3 screws on each side of the Assy Cond Out. (Use +Screw Driver)	
		2) Separate the Compressor Felt Sound.	 

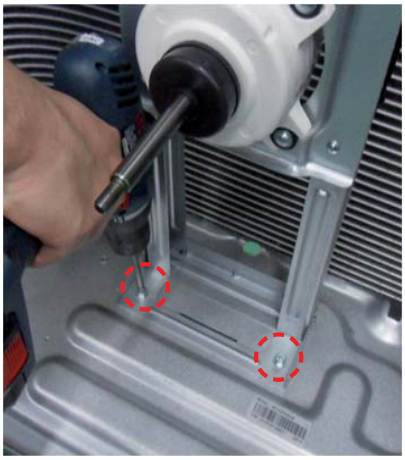
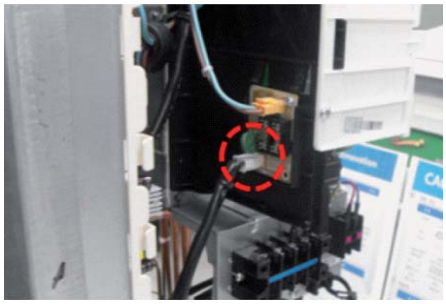
3-2 Outdoor Unit

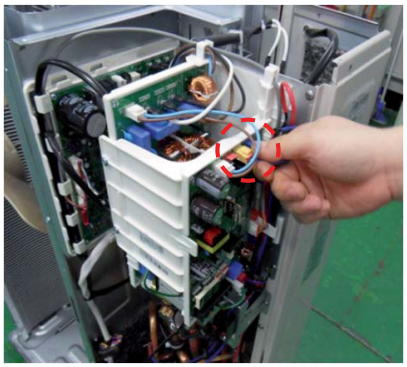
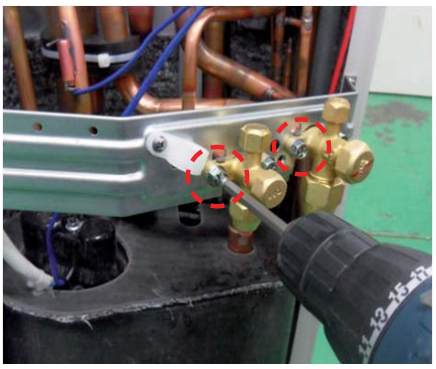
■ AC140MXAD✳H

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

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)	

No	Parts	Procedure	Remark
8	Fan	1) Unscrew and remove 3 screws in the Ass'y Fan Propeller-Total. (Use +Screw Driver)	
		2) Remove the Cover from the Fan Propeller	
		3) Turn 2 mounting nuts as shown in the picture and remove it. (Use Adjustable Wrench)	
		⚠ When you assemble the Fan Propeller and the Cover, must check the rib in the hole.	 

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	Heater	1) Unscrew and remove 4 screws on the Base Out. (Use +Screw Driver) 2) Disconnect the heater wire from the Ass'y Control Out.	 

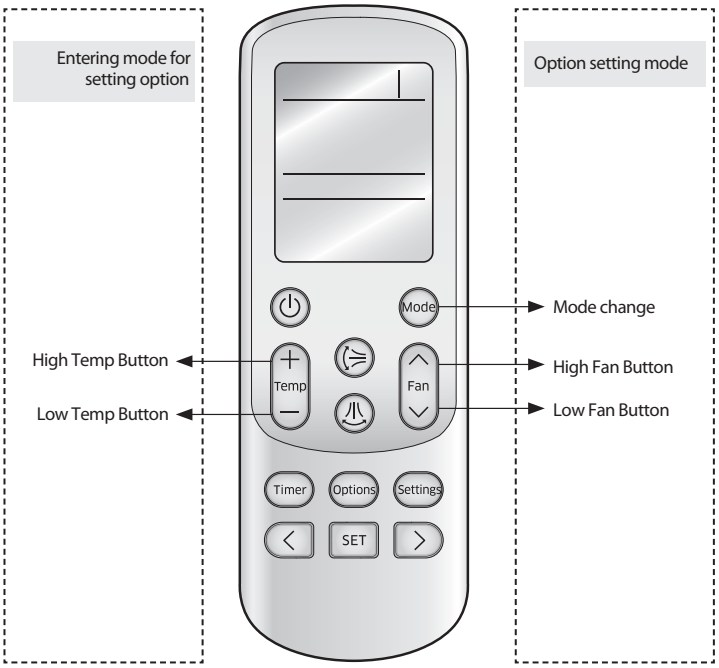
No	Parts	Procedure	Remark
12	Control Out	1) Disconnect 4 Connecters From Ass'y Control Out. 2) Unscrew and remove 1 mounting screw in Control Out. (Use +Screw Driver) 3) Separate Ass'y Control Out.	 
13	Assy 4way Valve	1) Purge the Coolant first. 2) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver) 3) Separate the pipe from the Entrance/Exit using a welder. ⚠ When removing the compressor, Heat Exchanger, and Pipe, purge the Coolant inside the Compressor completely and remove the pipe with a welding flame.	
14	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.	

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.)**

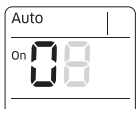
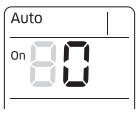
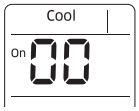
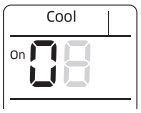
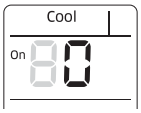
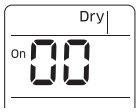
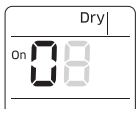
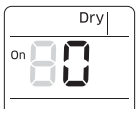
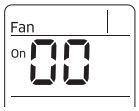
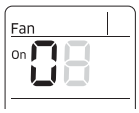
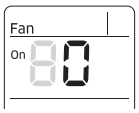
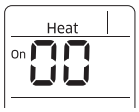
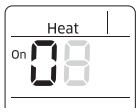
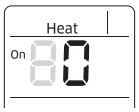
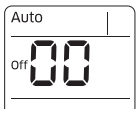
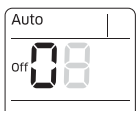
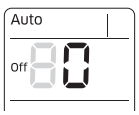
After entering the option setting status, select the option as listed below.

CAUTION
- 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.

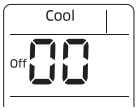
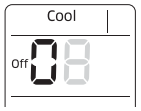
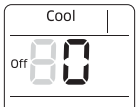
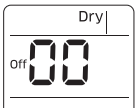
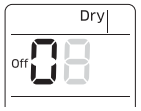
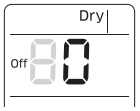
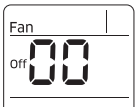
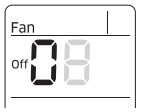
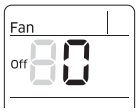
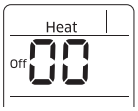
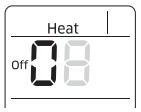
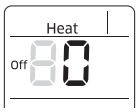
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
0	X	X	X	X	X	1	X	X	X	X	X
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
2	X	X	X	X	X	3	X	X	X	X	X

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

4-1-2 The procedure of setting option

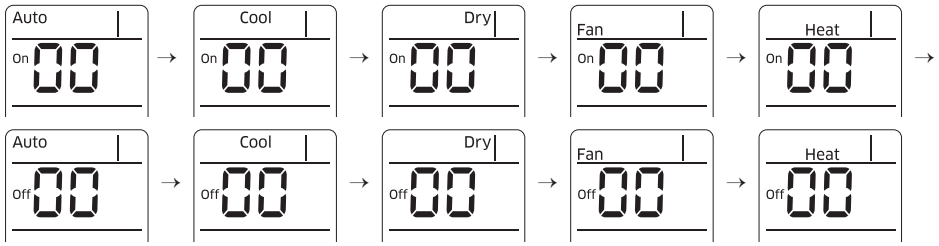
Option setting	Status	
1. Setting SEG2, SEG3 option Press Low Fan button(∨) to enter SEG2 value. Press High Fan button(∧) to enter SEG3 value. Each time you press the button, 0→1→ … E→F will be selected in rotation.	 SEG2	 SEG3
2. Setting Cool mode Mode Press Mode button to be changed to Cool mode in 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 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 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 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 Mode Press Mode button to be changed to AUTO mode in the OFF 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

The procedure of setting option (cont.)

Option setting	Status
12. Setting Cool mode 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 → 1 → … E → F will be selected in rotation.	 SEG16  SEG17
14. Setting Dry mode 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 → 1 → … E → F will be selected in rotation.	 SEG18  SEG20
16. Setting Fan mode 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 → 1 → … E → F will be selected in rotation.	 SEG21  SEG22
18. Setting Heat mode 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 → 1 → … E → F will be selected in rotation.	 SEG23  SEG24

Step 3. Check the option you have set

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



Step 4. Input option

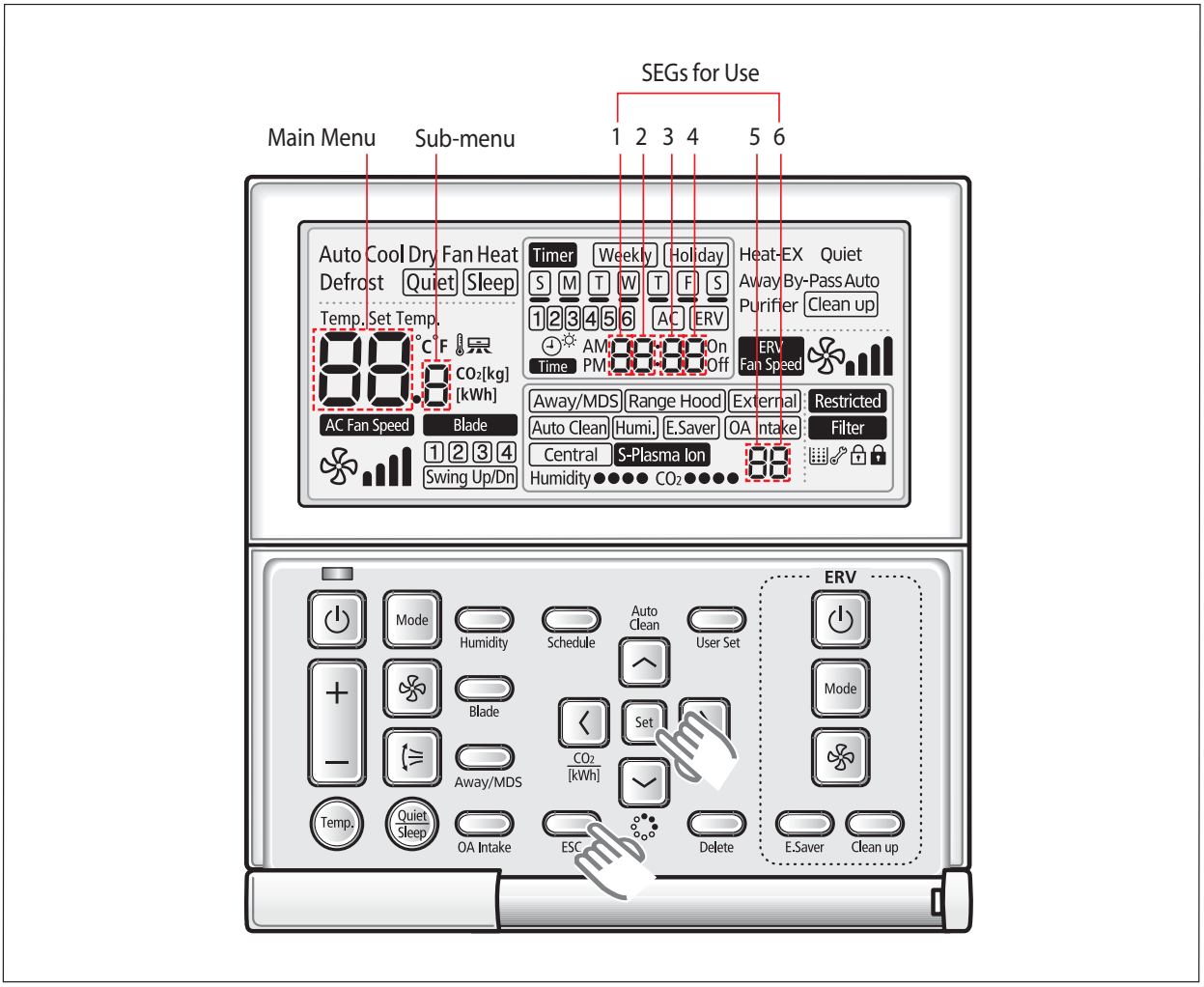
Press the operation button with the direction of remote control for set.

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 [∧]/[∨] buttons, select a main menu number and press the [>] button to enter the sub-menu setting screen.
   ▶ Using the [∧]/[∨] 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 [∧]/[∨] 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.

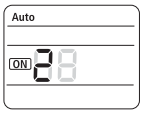
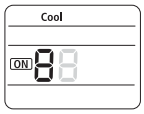
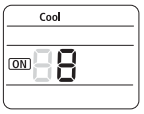
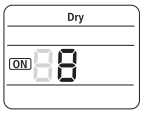
4-1-4 Setting an indoor unit installation option (Suitable for the condition of each installation location)

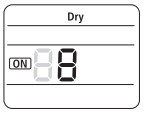
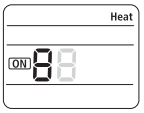
1. Check whether power is supplied or not.
   - When the indoor unit is not plugged in, there should be additional power supply in the indoor unit.
2. The panel(display) should be connected to an indoor unit to receive option.
3. Set the installation option according to the installation condition of 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.

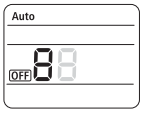
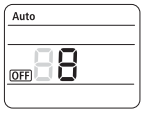
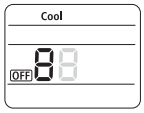
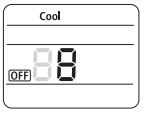
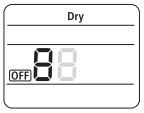
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	2	RESERVED	Exterior temperature sensor	Central control	FAN RPM
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	Drain pump	RESERVED	RESERVED	Indoor unit at heating stop	RESERVED
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	External control	External control output	S-Plasma ion	Buzzer	Number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

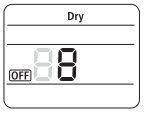
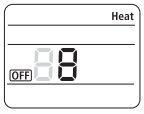
▶ 1WAY/2WAY/4WAY MODEL : Drain pump(SEG8) will be set to 'USE + 3minute delay' even if the drain pump is set to 0.
▶ 1 WAY/2WAY/4WAY,DUCT MODEL : Number of hours using filter(SEG18) will be set to '1000hour' even if the SEG18 is set to exept for 2 or 6.
▶ If you input a number other than 0~4 of the individual 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 wil 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											
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

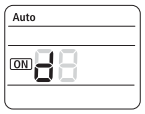
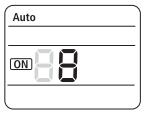
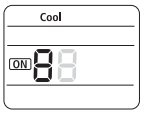
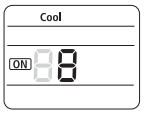
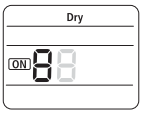
Option	SEG7		SEG8		SEG9	SEG10	SEG11		SEG12
Explanation	PAGE		Use of drain pump		RESERVED	RESERVED	Indoor unit at heating stop Electric modification diagram		RESERVED
Remote Controller Display									
Indication and Details	Indication	Details	Indication	Details			Indication	Details	
	1		0	Disuse			0	Default	
			1	Use			1	Noise reduction operation mode	
			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												
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	1	Operation on	1	Use	1	Non use of buzzer	6	2000 Hour
			2	OFF Control								
			3	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									
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

■ AC052/071/090/100/120/140MXAD✳H

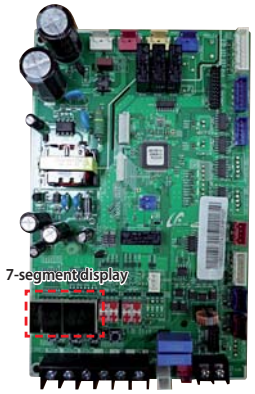
Model	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
Remocon display												
AC052MN4DKH	0	1	4	0	7	F	1	9	5	4	3	B
AC071MN4DKH	0	1	4	0	7	F	1	9	5	4	3	B
AC090MN4DKH	0	1	4	0	7	F	1	9	5	4	1	8
AC100MN4DKH	0	1	4	0	7	F	1	9	5	4	2	9
AC120MN4DKH	0	1	4	0	7	F	1	9	5	4	3	A
AC140MN4DKH	0	1	4	0	7	F	1	9	5	4	3	B
Model	**SEG13**	**SEG14**	**SEG15**	**SEG16**	**SEG17**	**SEG18**	**SEG19**	**SEG20**	**SEG21**	**SEG22**	**SEG23**	**SEG24**
Remocon display												
AC052MN4DKH	2	7	8	C	A	0	3	7	0	0	4	0
AC071MN4DKH	2	7	8	C	A	0	3	7	0	0	4	0
AC090MN4DKH	2	7	5	A	6	4	3	7	0	0	4	0
AC100MN4DKH	2	7	6	4	7	0	3	7	0	0	4	0
AC120MN4DKH	2	7	7	8	8	2	3	7	0	0	4	0
AC140MN4DKH	2	7	8	C	A	0	3	7	0	0	4	0

4-2 Items to check before diagnostics

4-2-1 Test run mode and View mode

■ Display Option Key

KEY	Key Operation	7-segment Display
K1	Press once: Heating test run	H 1 BLANK BLANK
	Press twice: Defrost test run	H 3 BLANK BLANK
K2	Press once: Cooling test run	H 2 BLANK BLANK
K3	Reset	
K4	View mode	Refer to View mode display



■ View mode display

※ Press the K4 switch to view the information on the system status as follows:

No. of Press	Display content	SEG1	SEG2	SEG3	SEG4	Unit
1	Order frequency	1	Three digits	Two digits	One digit	Hz
2	Current frequency	2	Three digits	Two digits	One digit	Hz
3	Number of indoor units	3	Three digits	Two digits	One digit	Unit
4	Out sensor	4	+/-	Two digits	One digit	℃
5	Discharge sensor	5	Three digits	Two digits	One digit	℃
6	Eva-Mid sensor	6	+/-	Two digits	One digit	℃
7	Cond sensor	7	+/-	Two digits	One digit	℃
8	Current	8	Two digits	One digit	First decimal	℃
9	Fan RPM	9	Four digits	Three digits	Two digits	rpm
10	Target discharge temperature	A	Three digits	Two digits	One digit	℃
11	EEV	B	Three digits	Two digits	One digit	step
12	Total indoor unit capacity	C	Two digits	One digit	First decimal	kW
13	Protection control	D	0: Cooling 1: Heating	Protection control 0: no protection control 1: freezing 2: non-stop defrosting 3: overload 4: discharge 5: under-current	Frequency state 0: Normal 1: Hold 2: Down 3: Up_limit 4: Down_limit	-
14	Heatproof plate temperature	E	Three digits	Two digits	One digit	-
15	S/W check	F	-	-	-	-

Ver.1(Long Press once)	Main MICOM version	Year (Hex)	Month (Hex)	Date (Two digits)	Date (One digit)
Ver.2(Short press once after Ver.1)	Inverter MICOM version	Year (Hex)	Month (Hex)	Date (Two digits)	Date (One digit)
Ver.3(Short press once after Ver.2)	E2P version	Year (Hex)	Month (Hex)	Date (Two digits)	Date (One digit)

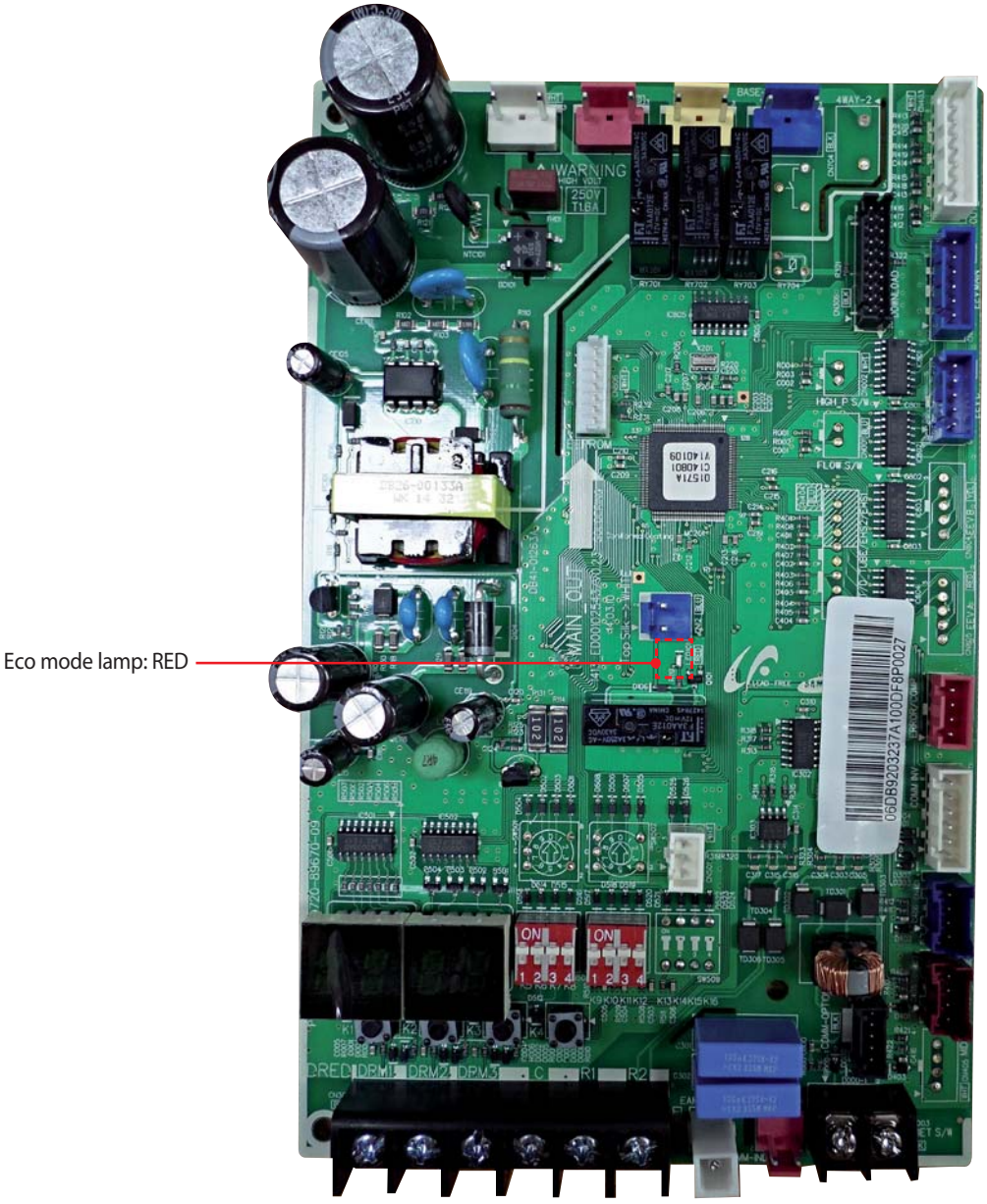
※ Press the K4 button long (Main MICOM version) → Press once more shortly → Press shortly one more time (E2P version)

Test run mode and view mode (Continued)

■ **DIP Switch Options**

<table>
<tr><th></th><th>ON</th><th>OFF</th></tr>
<tr><td>K5</td><td>Set an auto address.</td><td>Set a manual address.</td></tr>
<tr><td>K6</td><td>Snowdrift prevention control not used.</td><td>Snowdrift prevention control used.</td></tr>
<tr><td>K7
K8</td><td colspan="2"><table>
<tr><th>K7</th><th>K8</th><th></th></tr>
<tr><td>ON</td><td>ON</td><td>Silent control not used</td></tr>
<tr><td>ON</td><td>OFF</td><td>Silent control used Step_1</td></tr>
<tr><td>OFF</td><td>ON</td><td>Silent control used Step_2</td></tr>
<tr><td>OFF</td><td>OFF</td><td>Silent control used Step_3</td></tr>
</table></td></tr>
<tr><td>K9</td><td>Auto silent mode</td><td>Manual silent mode</td></tr>
</table>

4-2-2 Eco Mode [Power Saving Mode]



Mode	Display				Eco Mode Lamp
	Segment 1	Segment 2	Segment 3	Segment 4	RED
Eco Mode	BLANK	BLANK	BLANK	BLANK	On
Eco Mode Exit	Press K3 to go out from the eco mode. At the driving signal or test run (cooling/heating) of the user, the mode is released.				Off

4-2-3 Four directions cassette type

Error Mode				Cause	Measures	Product operation with error			Diagnosis method
Operation	Defrost	Timer	Filter			Outdoor heat exchanger compressor	Outdoor heat exchanger fan	Indoor heat exchanger fan	
◑	X	X	X	Power reset	-	operation-off	operation-off	operation-off	-
X	◑	X	X	Error of room temperature sensor in the indoor unit (Open/ Short)	• Check indoor temperature sensor connection. • Check indoor temperature sensor's resistance value to see if it's short/open.	operation-off	operation-off	operation-off	-
◑	◑	X	X	Error of heat exchanger IN/OUT sensor in the indoor unit (Open/Short)	• Check EVA IN/OUT sensor connection. • Check EVA IN/OUT sensor's resistance value to see if it's short/open.	operation-off	operation-off	operation-off	-
X	X	◑	X	Error of fan motor in the indoor unit	• Check the connection of motor connector • Check the speed of the motor fan	operation-off	operation-off	operation-off	-
◑	X	◑	X	Error of the outdoor temperature sensor Error of the condensor temperature sensor Error of the discharge temperature sensor	• Check indoor temperature sensor connection. • Check indoor temperature sensor's resistance value to see if it's short/open.	operation-off	operation-off	operation-off	-
X	◑	◑	X	No communication for 2 minutes between indoor and outdoor unit (communication error for more than 2 minutes)	• Check connection between indoor and outdoor heat exchangers' communication cables	operation-off	operation-off	operation-off	-
X	◑	◑	◑	Error of outdoor unit	• Check error occurred with outdoor heat exchanger. • TERMINAL Block thermal FUSE error.(OPEN)	operation-off	operation-off	operation-off	-
X	X	◑	◑	Detection of the float switch	• Check float switch connection. • Check whether the drain has been filled with water.	operation-off	operation-off	operation-off	-
◑	◑	◑	◑	EEPROM error EEPROM option error	• Check if there is damage with EEPROM component. • Check the indoor model to set the options. • Inspection for match between indoor and outdoor machine models	operation-off	operation-off	operation-off	-
◑	X	◑	◑	Outdoor valve clogging error.	• High pressure check valve clogging.	operation-off	operation-off	operation-off	-

◯ : On ◑ : Blink X : Off

4-2-4 Wired remote controller

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

Error mode	Contents	Measure	Product operation in error condition	Error type
			Outdoor unit/ Compressor/Indoor unit	
101	Indoor unit communication error	Check the communication cable of indoor unit. Check the DC output voltage at the communication terminal.	Operation Off	Communication error
108	Duplicated address setting error	Check address setting of Indoor units.	Operation Off	Communication error
109	No response error address from indoor unit	Check indoor unit's quantity setting in outdoor unit. Check electriacl connection and setting.	Operation Off	Communication error
121	Indoor temperature sensor (open/short error)	Check indoor unit room temperature sensor. Check indoor unit PCB connector CN41. (White)	Operation Off	Indoor sensor error
122	Indoor unit Eva In sensor (Open/Short)	Check indoor unit pipe sensor. Check indoor PCB connector CN41.(White)	Operation Off	Indoor sensor error
153	Indoor floating switch secondary detection	Check indoor unit float sensor. Check indoor PCB connector CN5. (black)	Operation Off	Self diagnostic error
202	Indoor/outdoor communication error (1 min)	Check the communication connection between indoor and outdoor units. Check the power line and communication cable connection status	Operation Off	Communication error
203	Communication error between indoor/outdoor INV↔MAIN MICOM (1 min)	Check MAIN MICOM . Check INVERTER MICOM.	-	Communication error
221	Outdoor temperature sensor error	Check sensor connection status. Check sensor location. Check sensor resistance.	Operation Off	Outdoor sensor error
231	COND temperature sensor error	Check sensor connection status. Check sensor location. Check sensor resistance.	Operation Off	Outdoor sensor error
251	[Inverter] Emission temperature sensor error	Check sensor connection status. Check sensor location. Check sensor resistance.	Operation Off	Outdoor sensor error
403	Detection of Indoor Freezing (when Comp. Stops)	Check whether the indoor unit air intake is blocked. Check the operation of the indoor fan.	Operation Off	Outdoor unit protection control error
404	Protection of Outdoor Overload (when Comp. Stops)	Check sensor connection status. Check sensor location. Check sensor resistance.	Operation Off	Outdoor unit protection control error
416	Emission temperature excessively high	No error. (DISCHARGE temperature control)	-	Outdoor unit protection control error
422	High pressure blockage error (Refrigerant completely Leakage error)	Check whether the outdoor unit service valve is open. Check the connection of the pipes. Check the operation of the EEV. Check for refrigerant leakage. (Completely leakage).	Operation Off	Self diagnostic error
440	Heating operation blocked	Check the operation setting state. Check temperature sensor.	Operation Off	Self diagnostic error
441	Cooling operation blocked	Check the operation setting state . Check temperature senso.	Operation Off	Self diagnostic error
458	Outdoor fan 1 error	Check input power connection status. Check the connection status between the motor and outdoor unit PCB. Check indoor/outdoor fuse.	Operation Off	Self diagnostic error
461	[Inverter] Compressor startup error	Check the compressor connection status. Check the resistance between difference phases of the compressor.	Operation Off	Outdoor unit protection control error
462	[Inverter] Total current error/ PFC over current error	Check the input power Check the coolant charging status Check the normal operation of outdoor fan	Operation Off	Outdoor unit protection control error

Wired remote controller (cont.)

Error mode	Contents	Measure	Product operation in error condition	Error type
			Outdoor unit/ Compressor/Indoor unit	
463	OLP Overheat and Comp. Stop	Reconfirm the opening of the service valve. Check for leaks from the connection part of the pipe and product or from the pipe joint. Change the outdoor unit location and direction. Refill the coolant after checking the leaking part. Reinstall the outdoor unit set.	Operation Off	Outdoor unit protection control error
464	[Inverter] IPM over current error	Check coolant charging Check the compressor connection status and normal operation Check the obstacles around the indoor and outdoor units Check whether the outdoor unit service valve is open Check whether the indoor/outdoor installation pipe/ wiring are correct	Operation Off	Outdoor unit protection control error
465	Compressor V limit error	Check the compressor connection status Check the resistance between difference phases of the compressor	Operation Off	Outdoor unit protection control error
466	DC LINK over/low voltage error	Check input power Check AC power connection	Restart in 3 minutes	Outdoor unit protection control error
467	[Inverter] Compressor rotation error	Check the compressor connection status Check the resistance between difference phases of the compressor	Operation Off	Outdoor unit protection control error
468	[Inverter] Current sensor error	Check EEPROM DATA Check the normal operation of PCB	Operation Off	Outdoor unit protection control error
469	[Inverter] DC LINK voltage sensor error	Check the input power connection Check the status of RY21 and R200 in the INVERTER PCB	Operation Off	Outdoor unit protection control error
470	EEPROM Read/Write error	-	Operation Off	Outdoor unit protection control error
471	[Inverter] OTP error	Check EEPROM DATA Check the normal operation of PCB	Operation Off	Outdoor unit protection control error
472	AC ZERO CROSSING SIGNAL OUT error	Check the input power status	Operation Off	Outdoor unit protection control error
473	Compressor LOCK error	Check the compressor connection status Check the resistance between difference phases of the compressor	Operation Off	Outdoor unit protection control error
475	Outdoor fan 2 error	Check the input power connection status Check the connection status of the motor and the outdoor unit PCB Check the indoor/outdoor unit fuse	Operation Off	Self diagnostic error
500	IPM Overheat Error for Outdoor Unit Inverter Comp.	Change the location of the outdoor unit if the temperature is abnormally high when the heatproof plate is checked. Reconnect the screws. Replace the outdoor unit fan. Replace the PBA of the outdoor unit.	Operation Off	Outdoor unit protection control error
554	Gas leak error	Check the coolant charging status Check the indoor EVA sensor Check if the outdoor unit service value is open Check that the indoor/outdoor installation pipe/wiring are correct	Operation Off	Self diagnostic error
556	Capacities not matched	Check the option code of the indoor unit	Operation Off	Outdoor unit protection control error

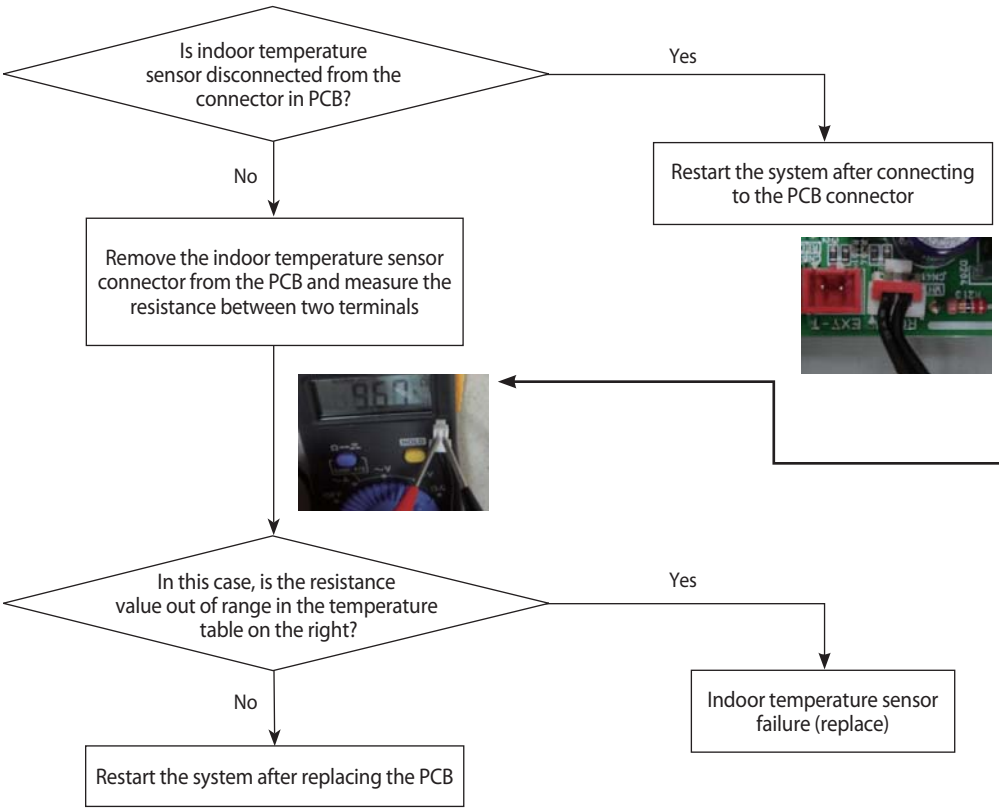
Wired remote controller (cont.)

Error mode	Contents	Measure	Product operation in error condition	Error type
			Outdoor unit/ Compressor/Indoor unit	
601	Communication error between the indoor unit and wired remote controller	Check the connection wire between the indoor unit and the wired remote controller	Normal operation	Wired remote controller error
602	Communication error between the Master and Slave wired remote controllers	Check the option switch for defining the Master and Slave (only one Master and one Slave can exist)	Normal operation	Wired remote controller error
606	COM1/COM2 cross installation error	Check that wired remote controller is connected to the COM2 terminal of the indoor unit	Normal operation	Wired remote controller error
6EA	Wired remote controller COM2 option setting error	Check that Com1, Com2 setting DIP switch is set to Com2	Normal operation	Wired remote controller error

4-3 Troubleshooting by symptoms

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

Indoor unit display	X (Operation) ◑ (Defrost) X (Timer) X (Filter)
Symptom	In case of open or short circuit of indoor temperature sensor
Failure	Short or leakage of the corresponding sensor

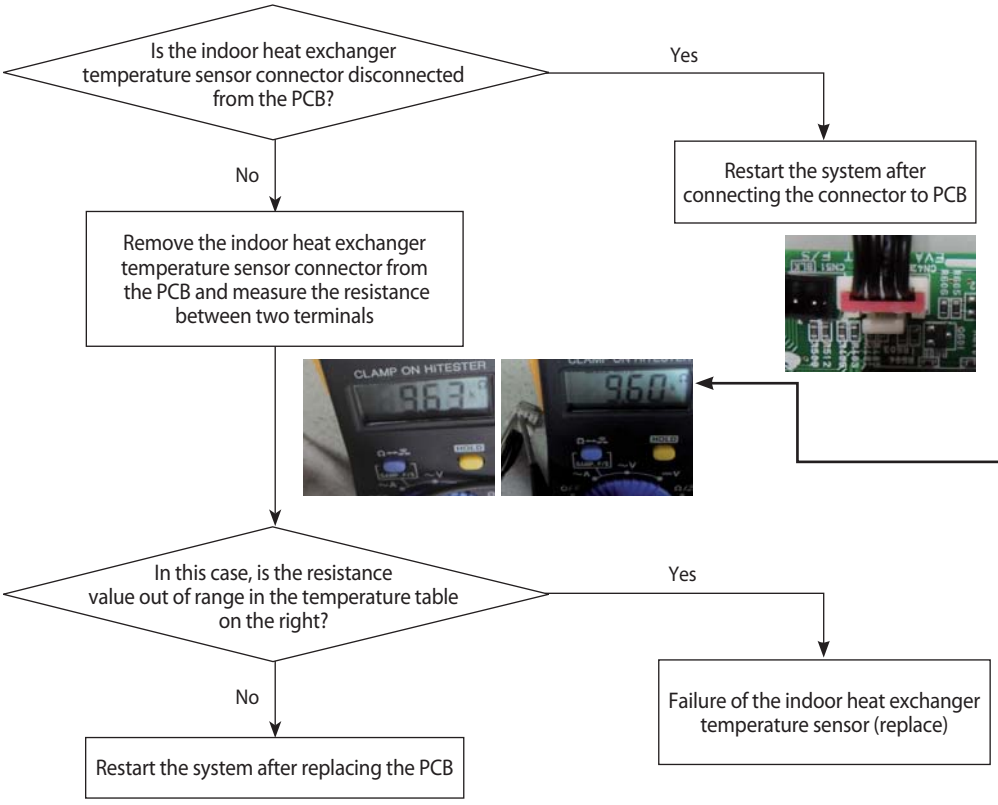


<Temperature sensor resistance value>

Current temperature (°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

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

Indoor unit display	◑ (Operation) ◑ (Defrost) X (Timer) X (Filter)
Symptom	Short or open circuit of indoor heat exchanger temperature sensor
Failure	Short or open circuit in the corresponding sensor

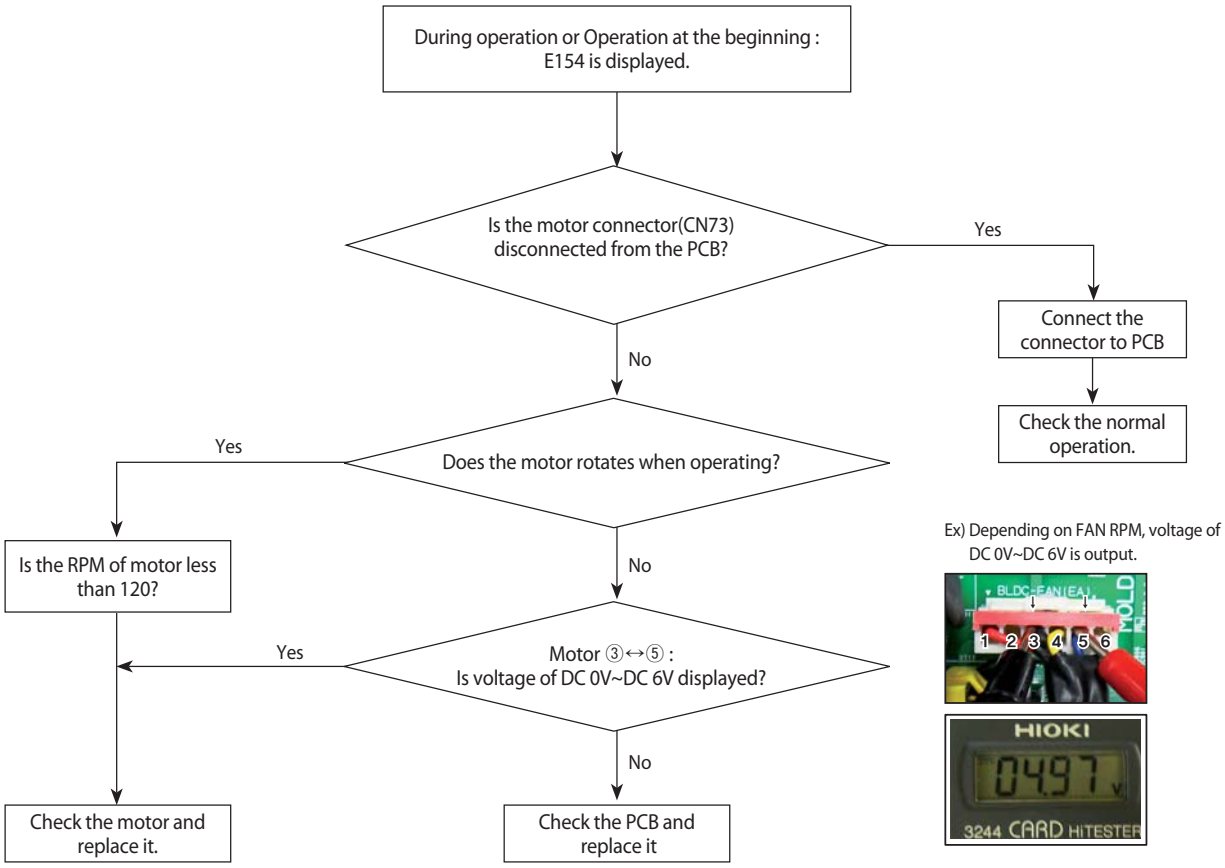


<Temperature sensor resistance value>

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

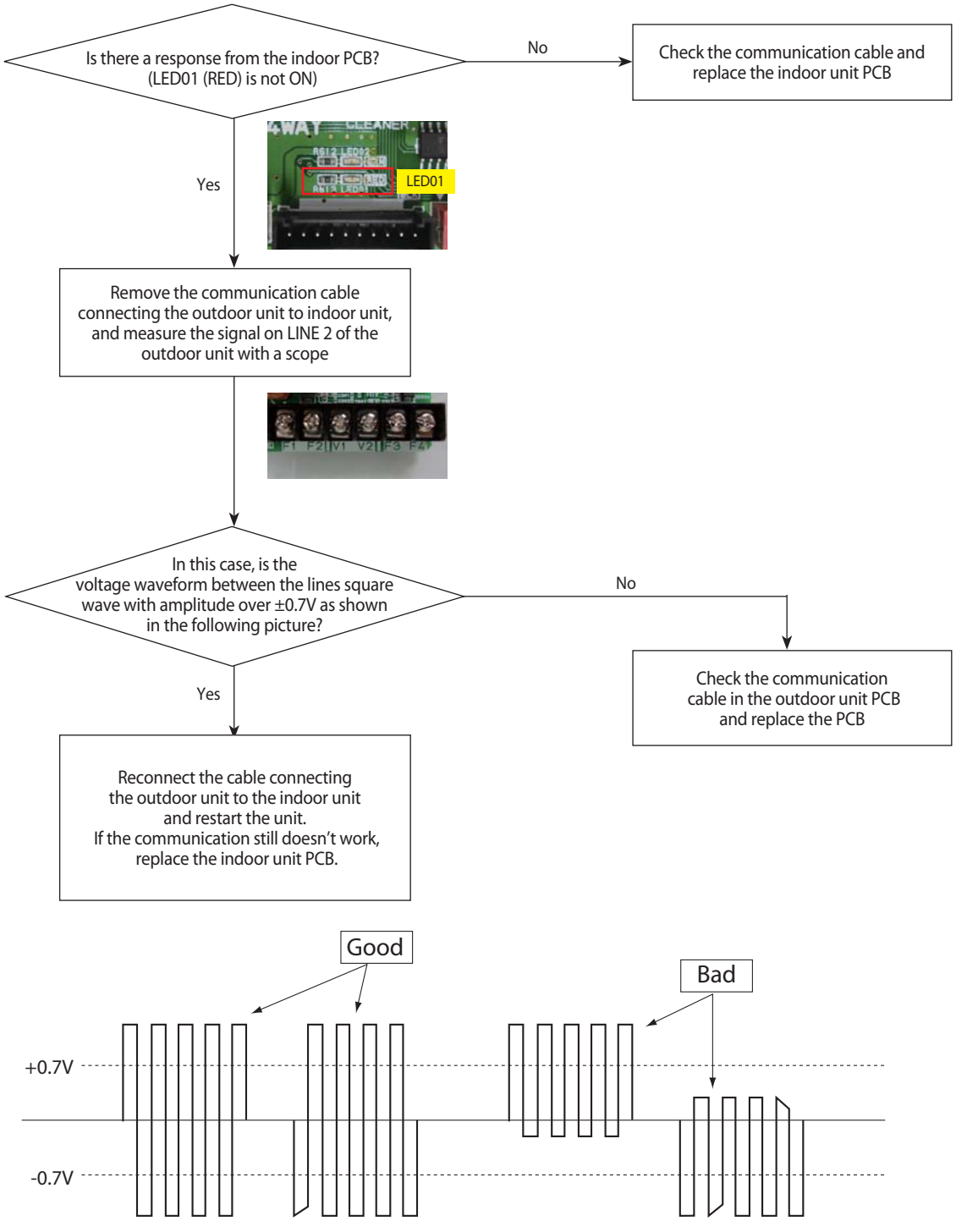
4-3-3 Indoor FAN error

Indoor unit display	X (Operation) X (Defrost) ◑ (Timer) X (Filter)
Symptom	Indoor unit fan does not run /Runs at excessive high speed and stops.
Failure	. Motor connector break away . Indoor unit FAN does not run : Defective motor or PBA



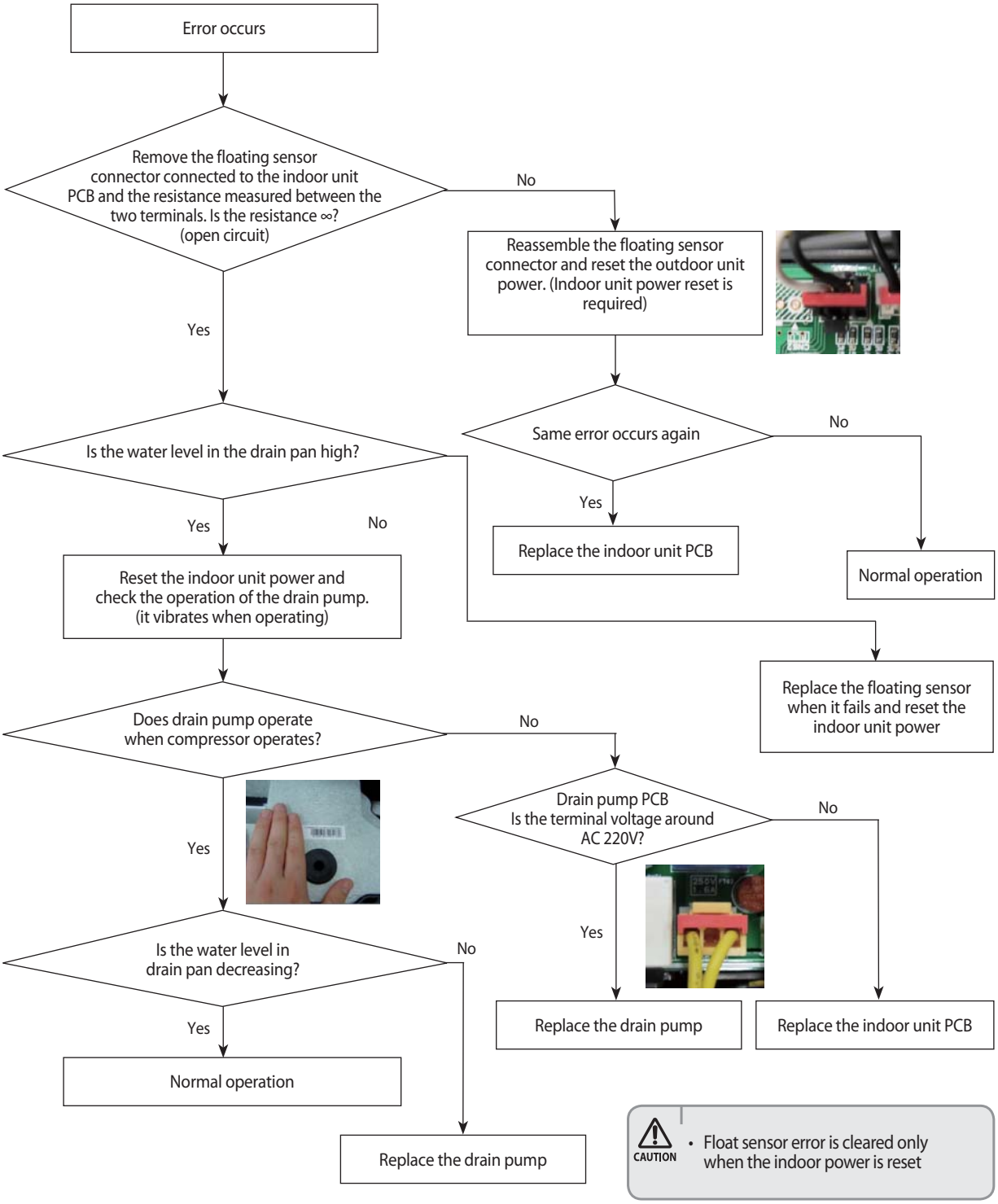
4-3-4 Communication error after finishing Tracking

Indoor unit display	X (Operation) ◑ (Defrost) ◑ (Timer) X (Filter)
Symptom	Communication error between the indoor and outdoor unit for two minutes
Failure	Communication error between the indoor unit and outdoor unit



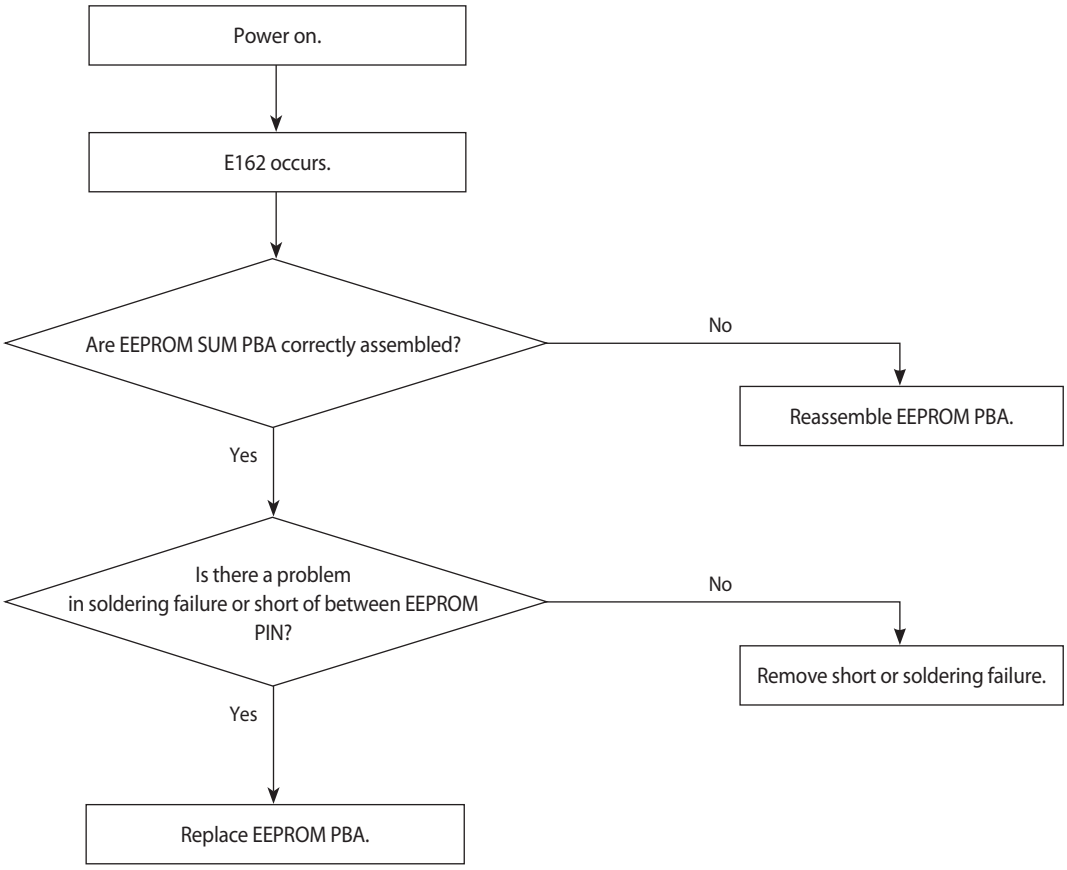
4-3-5 Indoor unit float sensor error

Indoor unit display	X (Operation) X (Defrost) ◑ (Timer) ◑ (Filter)
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



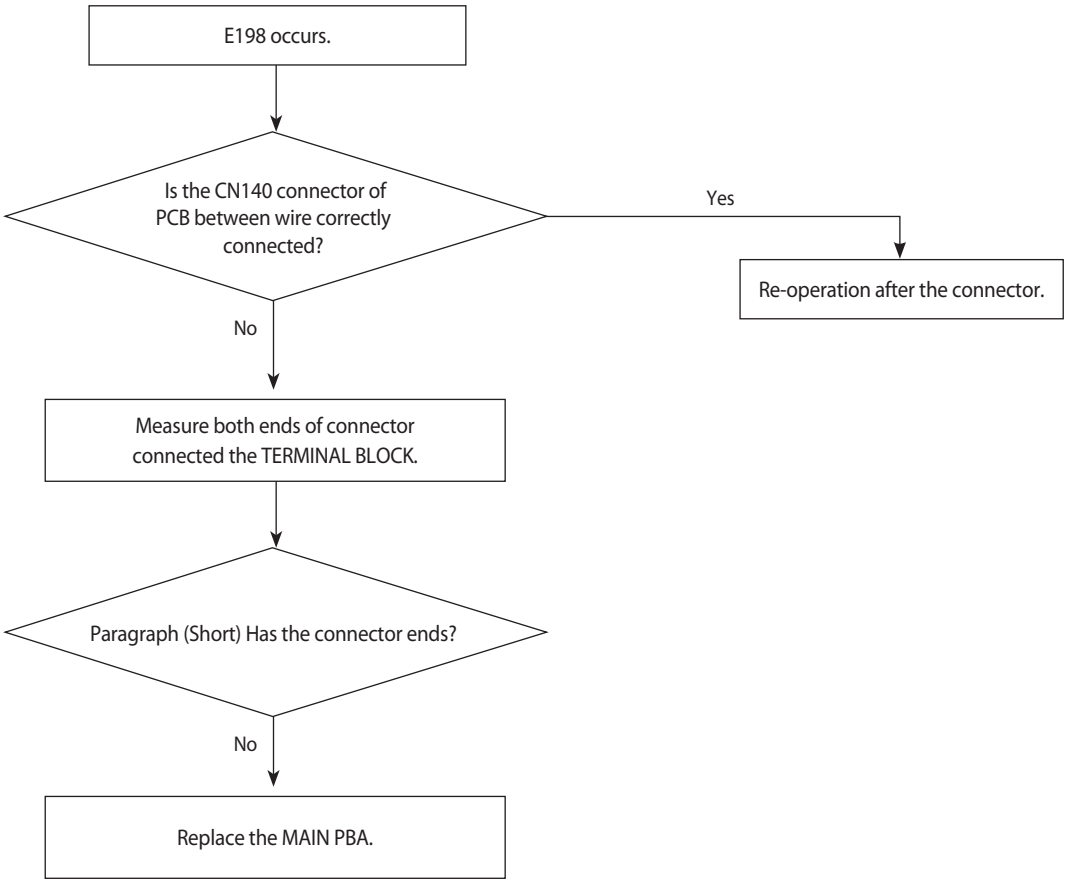
4-3-6 EEPROM circuit failure

Indoor unit display	◑ (Operation) ◑ (Defrost) ◑ (Timer) X (Filter)
Symptom	EEPROM circuit failure
Failure	EEPROM component failure, EEPROM circuit parts missing/damaged/soldering failure



4-3-7 Thermal Fuse Open Error

Indoor unit display	X (Operation) ◑ (Defrost) ◑ (Timer) ◑ (Filter)
Symptom	Thermal Fuse Open Error
Failure	Check the connection of the CN140 wire. Check the connection of the terminal block. (Temperature rise by untightening a screw/ Termal Fuse open

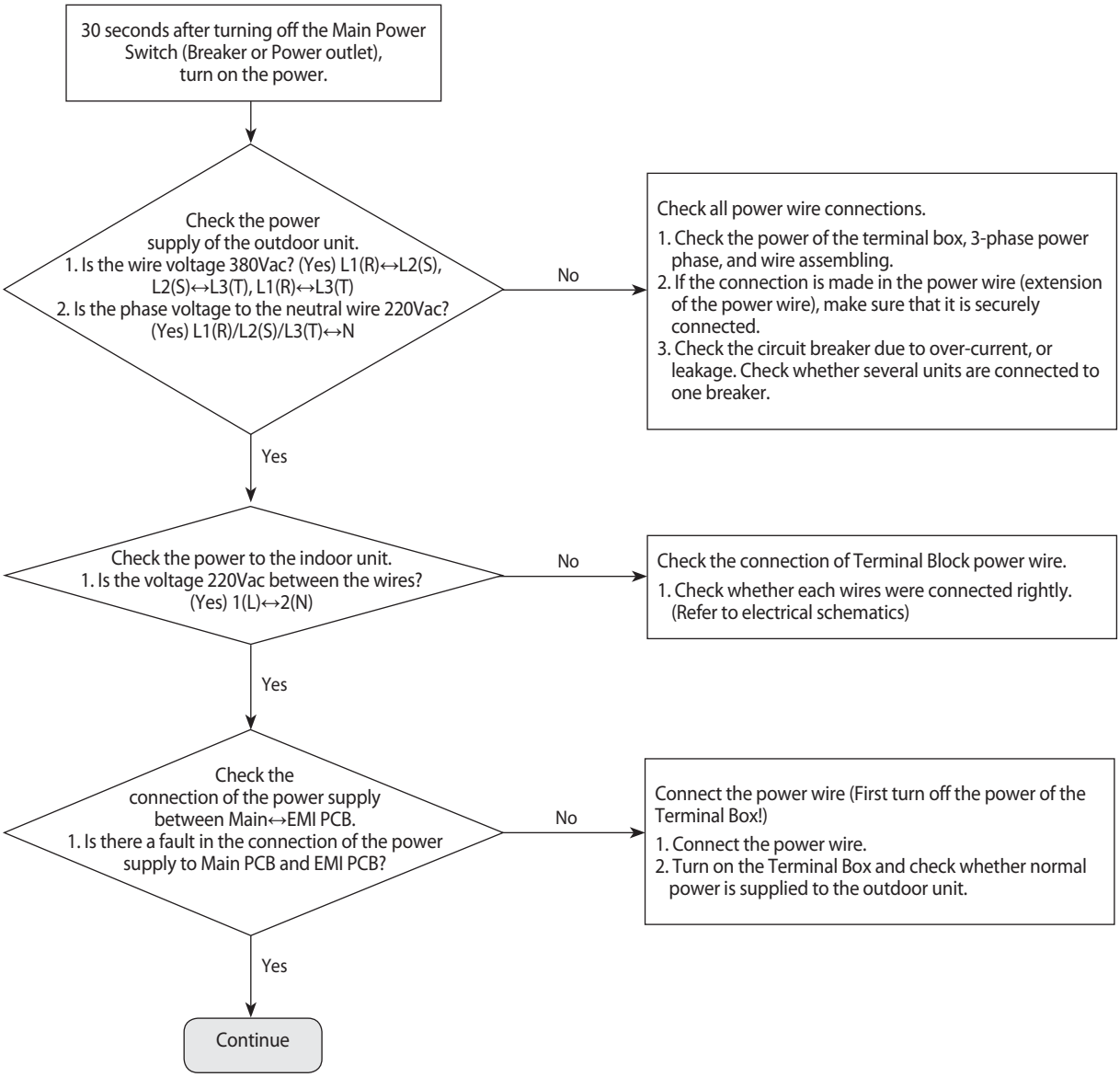


4-3-8 When the outdoor unit power is not ON - Initial Diagnosis : 3-phase products

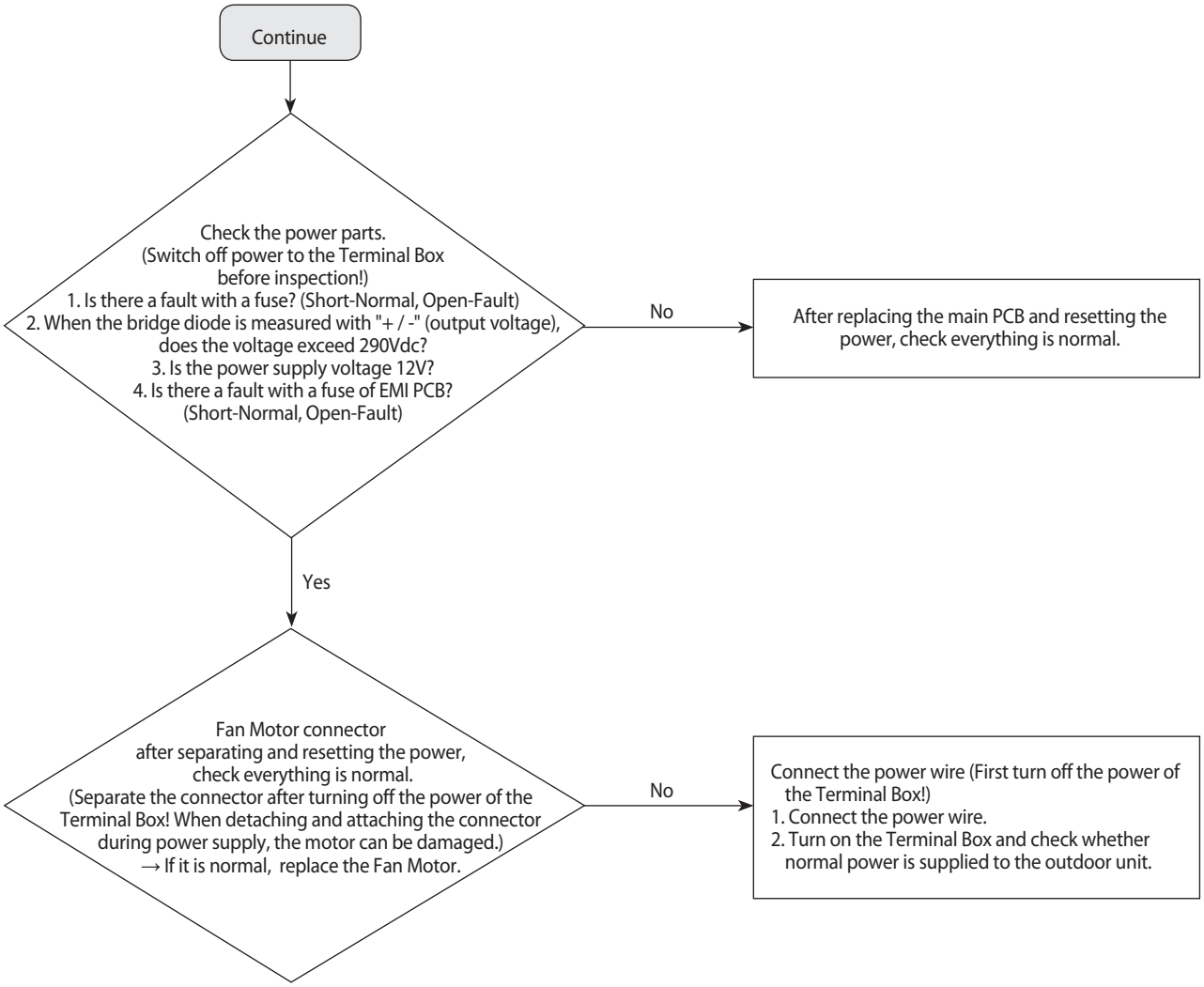
1. Test items
   1) Check the power connection of outdoor unit.
   2) Check the whole connection part of the power wire.
   3) Check the power on the indoor unit.
   4) Check the connection of the power wire of the Terminal Block.
   5) Check the connection of the power wire between the Main↔EMI PBA of the outdoor unit.
   6) Connect the power wire. (Never forget to turn off the power of the Terminal Box).
   7) Check the power supply parts. (Check after turning off the power of the Terminal Box!)
   8) Check everything is normal after separating the fan motor connector and resetting the power.
   (Separate the connector after turning off the power of the Terminal Box! When detaching and attaching the connector during power supply, the motor can be damaged.))

   - 7-segment off.
   - Conduct the following test if the mode is not Eco-mode (power saving mode).

2. Check procedure



When the outdoor unit power is not ON - Initial Diagnosis : 3-phase products (cont.)

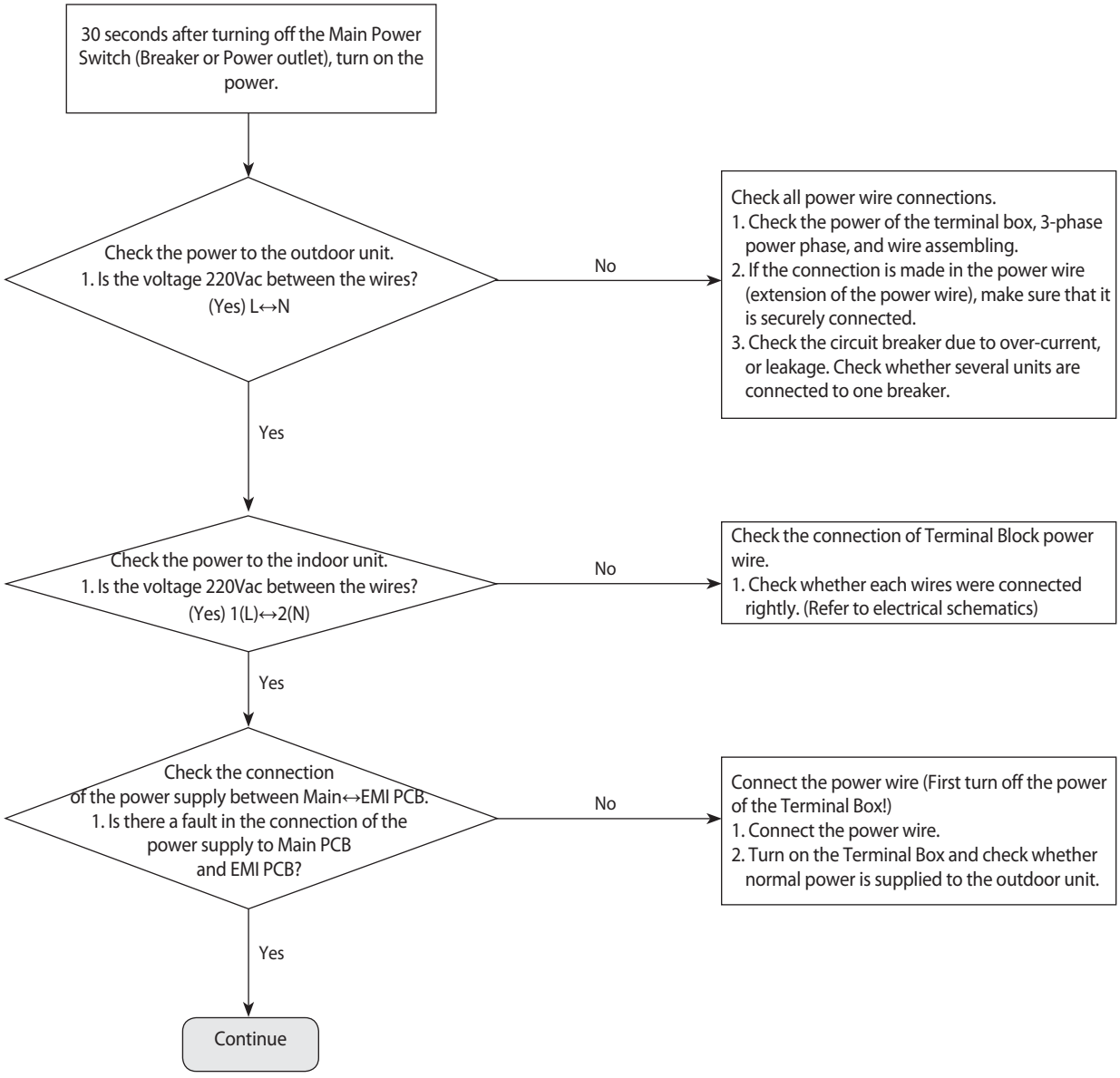


When the outdoor unit power is not ON - Initial Diagnosis : 1-phase products

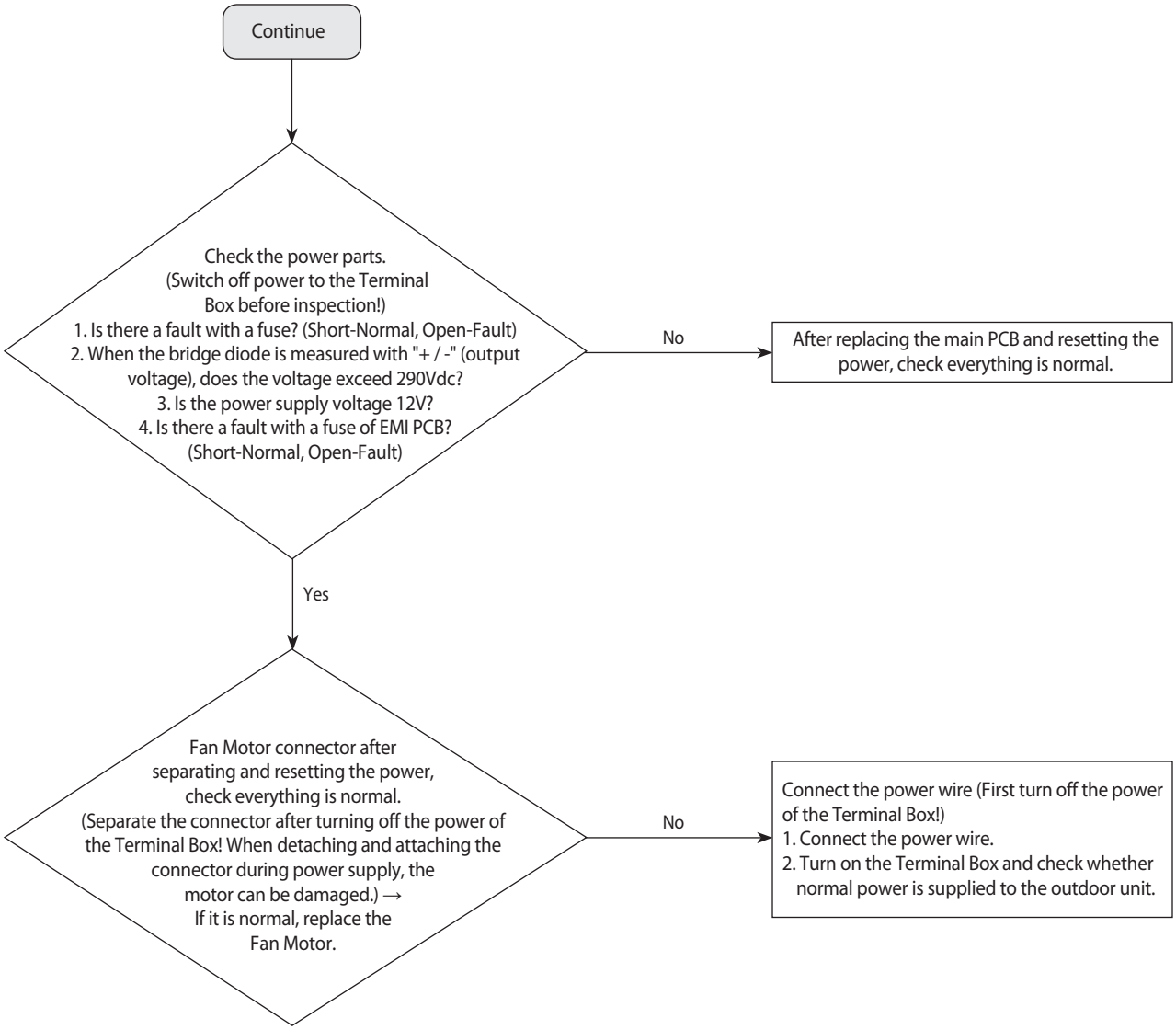
1. Test items
   1) Check the power connection of outdoor unit.
   2) Check the whole connection part of the power wire.
   3) Check the power on the indoor unit.
   4) Check the connection of the power wire of the Terminal Block.
   5) Check the connection of the power wire between the Main↔EMI PBA of the outdoor unit.
   6) Connect the power wire. (Never forget to turn off the power of the Terminal Box).
   7) Check the power supply parts. (Check after turning off the power of the Terminal Box!)
   8) Check everything is normal after separating the fan motor connector and resetting the power.
   (Separate the connector after turning off the power of the Terminal Box! When detaching and attaching the connector during power supply, the motor can be damaged.)

   - 7-segment off.
   - Conduct the following test if the mode is not Eco-mode (power saving mode).

2. Check procedure



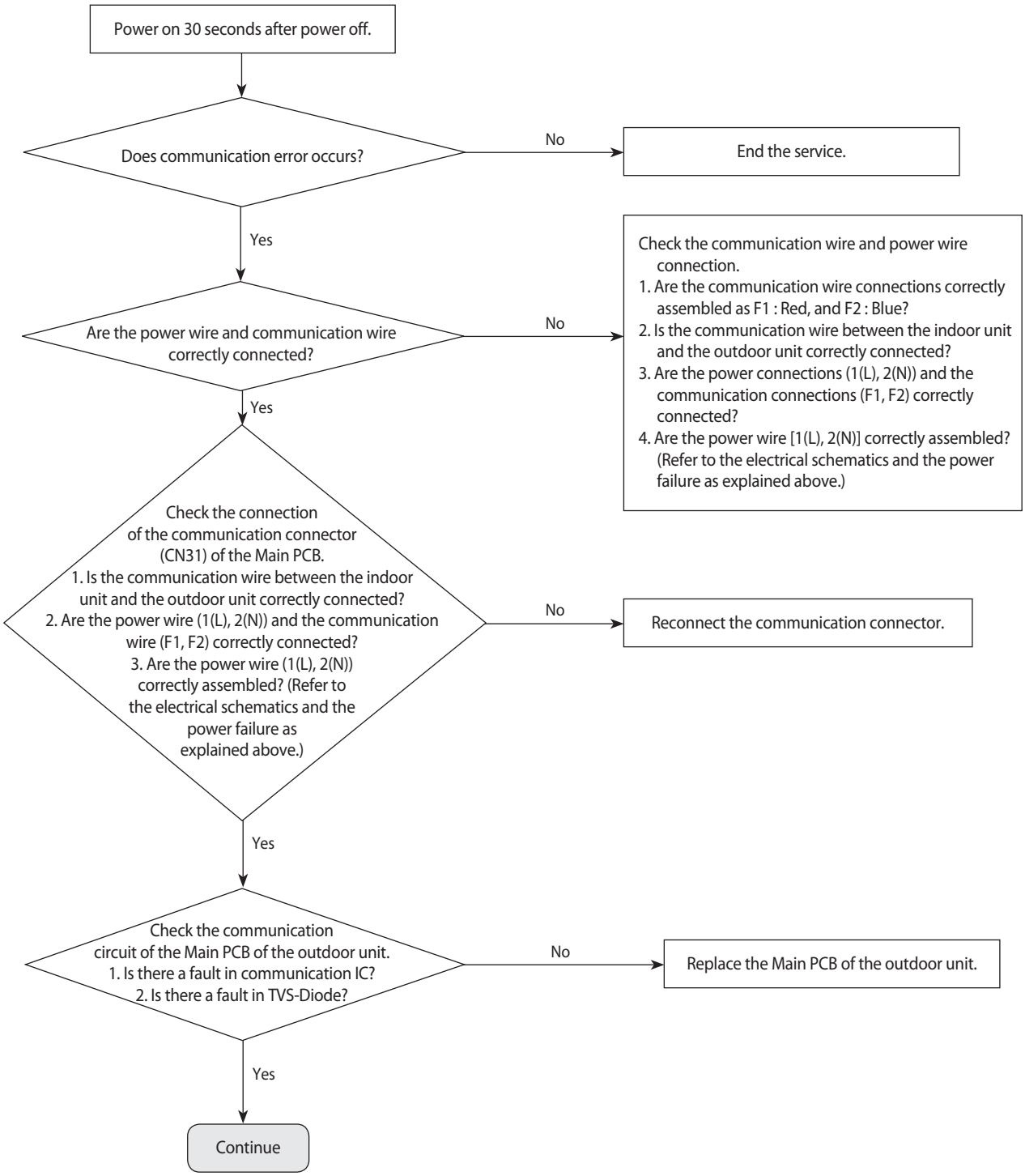
When the outdoor unit power is not ON - Initial Diagnosis : 1-phase products (cont.)



4-3-9 Indoor/outdoor communication error (1min.) (Error Code : E202)

1. Test items
   1) Check the communication wire and power wire connection.
   2) Check the communication connector connection.
   - CN31 of outdoor unit Main PCB .
   3) Check the communication circuit on the PCB.

2. Check procedure

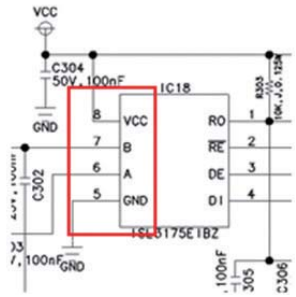
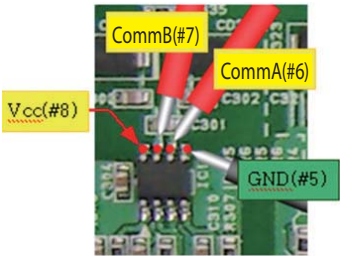
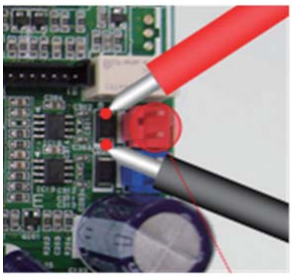


Indoor/outdoor communication error (1 min.) (Error Code: E202) (cont.)

Continue

Yes

Check the communication circuit of the Main PCB of the outdoor unit.
1. Is there a fault in communication IC?
2. Is there a fault in TVS-Diode?

Measuring Part	Communication IC Measuring Part (Circuit Diagram)	Example of Measuring Communication IC	Example of Measuring TVS-Diode
Location			
Measuring Point	#5-GND, #6- Communication A, #7- Communication B, #8-Vcc		

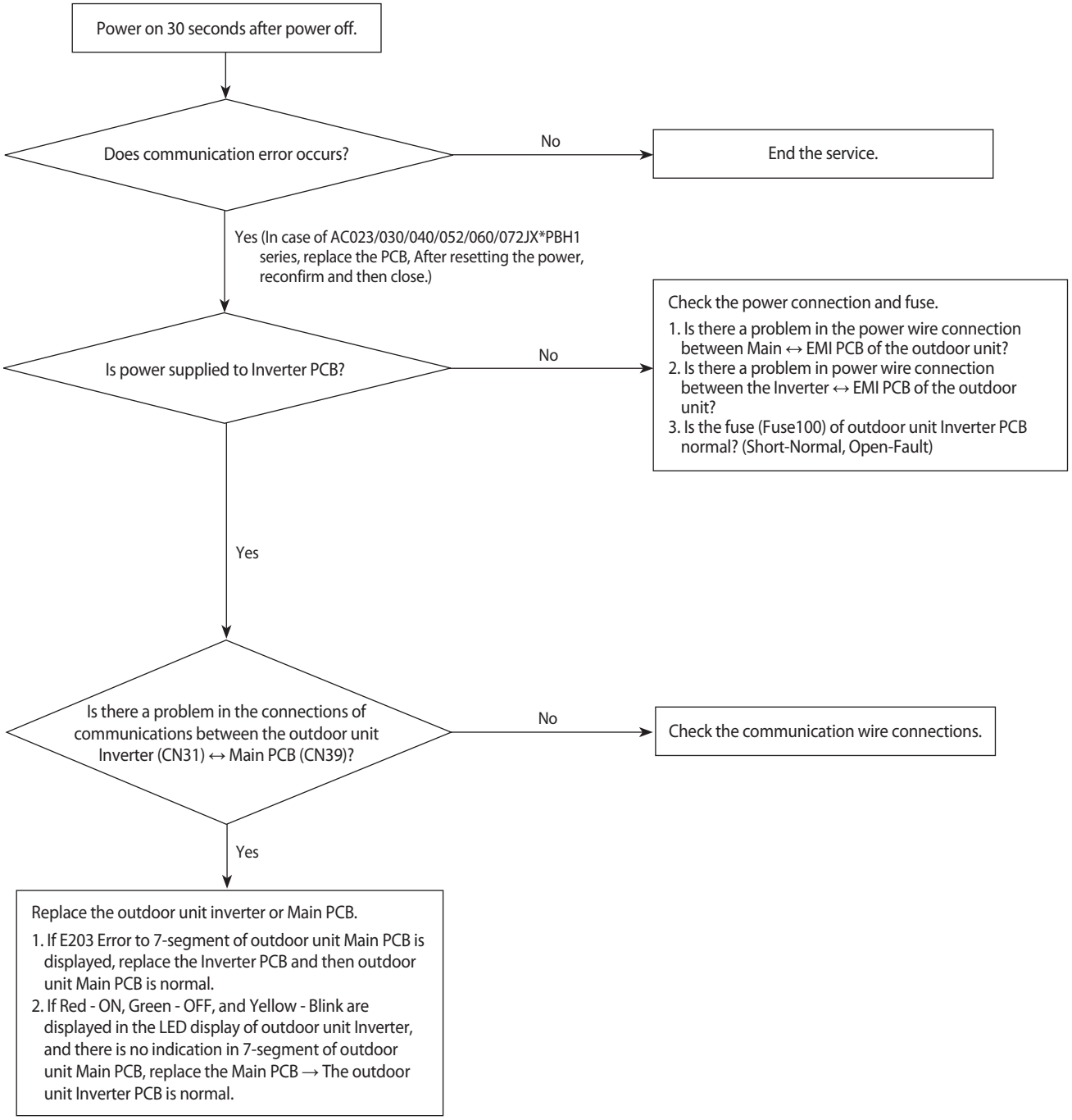
Communication IC Measuring (Port)	Steady-state Measuring Value	Remark
	COM 1(RED)	
#6 - #5	0.9kΩ ~ 1.2kΩ	Measuring after separating the communicatio connection
#7 - #5	0.9kΩ ~ 1.2kΩ	
#8 - #5	4.7Vdc ~ 5.3Vdc	

TVS-Diode Measuring	Steady-state Measuring Value
Both ends of diode	1kΩ or above

4-3-10 Communication error between outdoor unit INV ↔ MAIN MICOM (1 min.)(Error Code: E203)

1. Test items
   1) Is power supplied to outdoor unit Inverter PCB?
   2) Check the power wire connection and fuse.
   3) Is there a problem in the communication wire connections between the outdoor unit Inverter (CN31) ↔ Main PCB (CN39)?
   4) Check the communication wire connections.

2. Check procedure

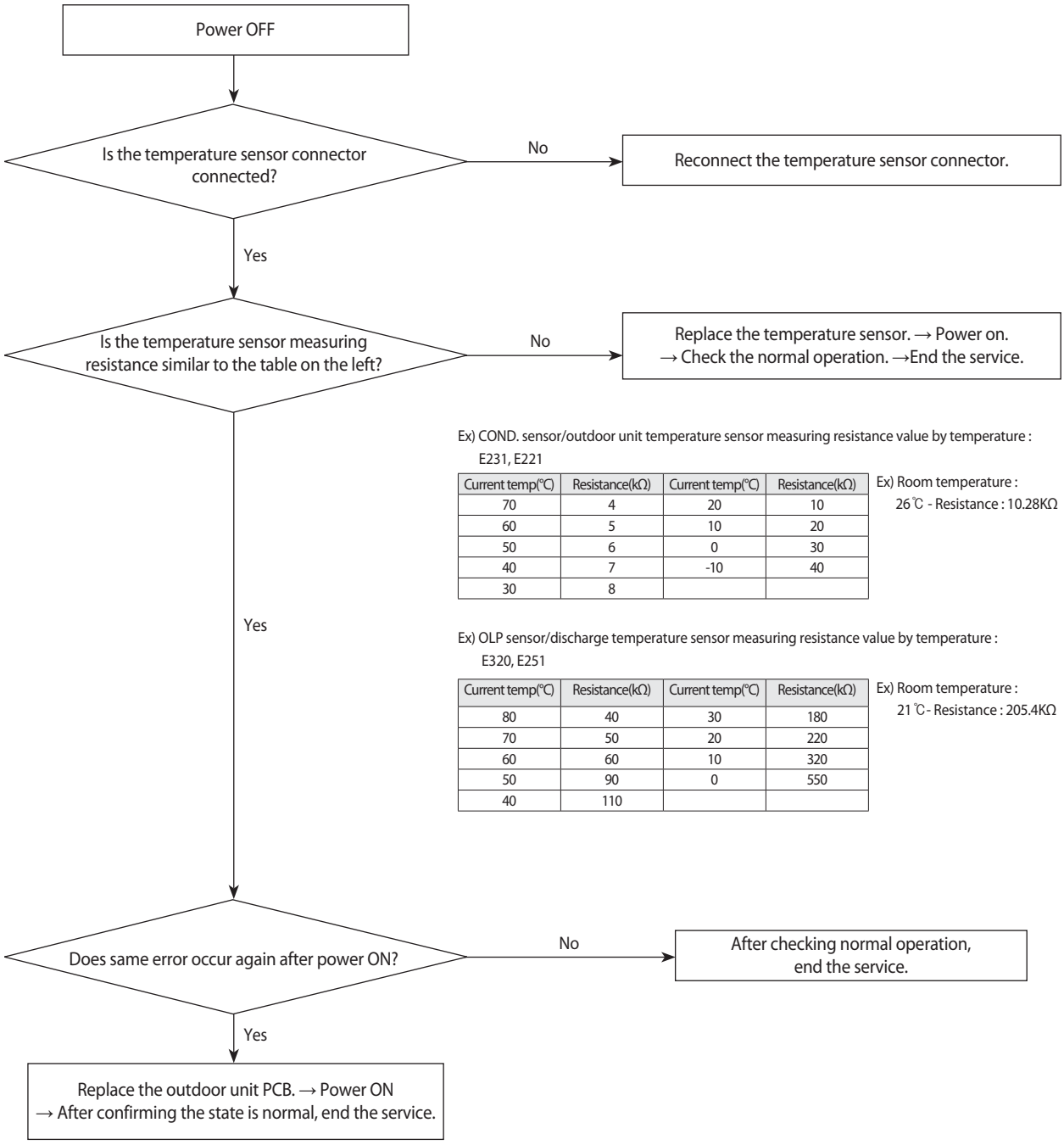


4-3-11 Outdoor sensor error(Error Code : E221, E231, E251, E320)

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

Error CODE	Description
E221	Outdoor temperature sensor error
E231	Outdoor temperature sensor error
E251	Outdoor temperature sensor error
E320	Outdoor OLP sensor error

2. Check procedure



Ex) COND. sensor/outdoor unit temperature sensor measuring resistance value by temperature : E231, E221

Current temp(℃)	Resistance(kΩ)	Current temp(℃)	Resistance(kΩ)
70	4	20	10
60	5	10	20
50	6	0	30
40	7	-10	40
30	8		

Ex) Room temperature : 26℃ - Resistance : 10.28KΩ

Ex) OLP sensor/discharge temperature sensor measuring resistance value by temperature : E320, E251

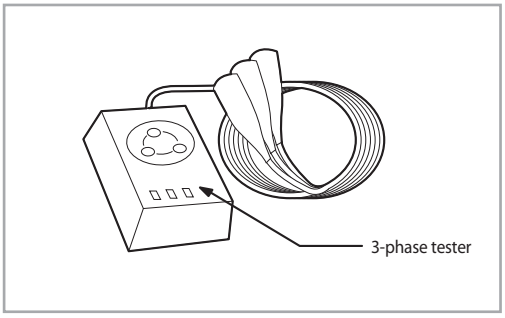
Current temp(℃)	Resistance(kΩ)	Current temp(℃)	Resistance(kΩ)
80	40	30	180
70	50	20	220
60	60	10	320
50	90	0	550
40	110		

Ex) Room temperature : 21℃ - Resistance : 205.4KΩ

4-3-12 Reverse phase / Loss phase detection (3-phase outdoor unit) (Error Code : E425)

1. When power is on, it checks the power status used for 3-phase power compressor.
   When the order of 3-phase L1(R) – L2(S) – L3(T) is changed (Reverse phase) or there is a phase that does not supply power (Loss phase), it will display E425 and the air conditioner will stop operating. E425

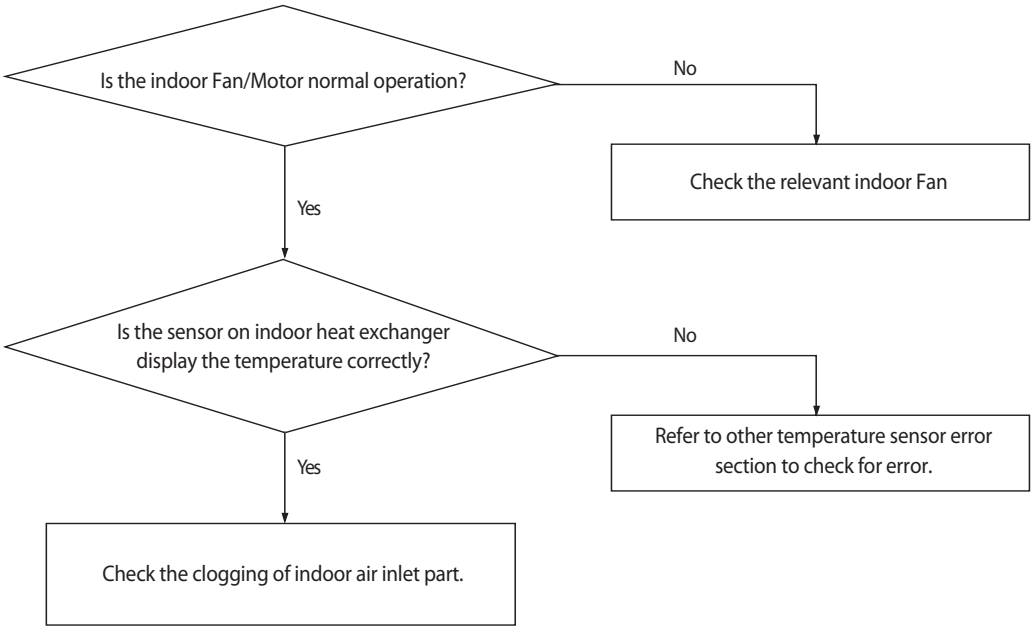
   1) Check the voltage on L1(R) – L2(S) phase/ L1(R) – L3(T) phase/ L2(S) – L3(T) phase.
   2) When there is any terminal that does not have normal voltage, check the external power of the air conditioner and take appropriate measures.
   3) If 3-phase power is normal check the phase of the power wire using 3-phasetester. If it shows reverse phase, change the current power wire connection.
   4) After completing above, press reset key (K3) then check the power again.



4-3-13 Compressor down due to freezing control (Error Code : E403)

1. Test items
   1) Check the normal operation of indoor Fan/Motor.
   2) Check the normal operation of indoor EEV.
   3) Check the IN/OUT sensor of indoor heat exchanger.
   3) Check the clogging of indoor air inlet part.

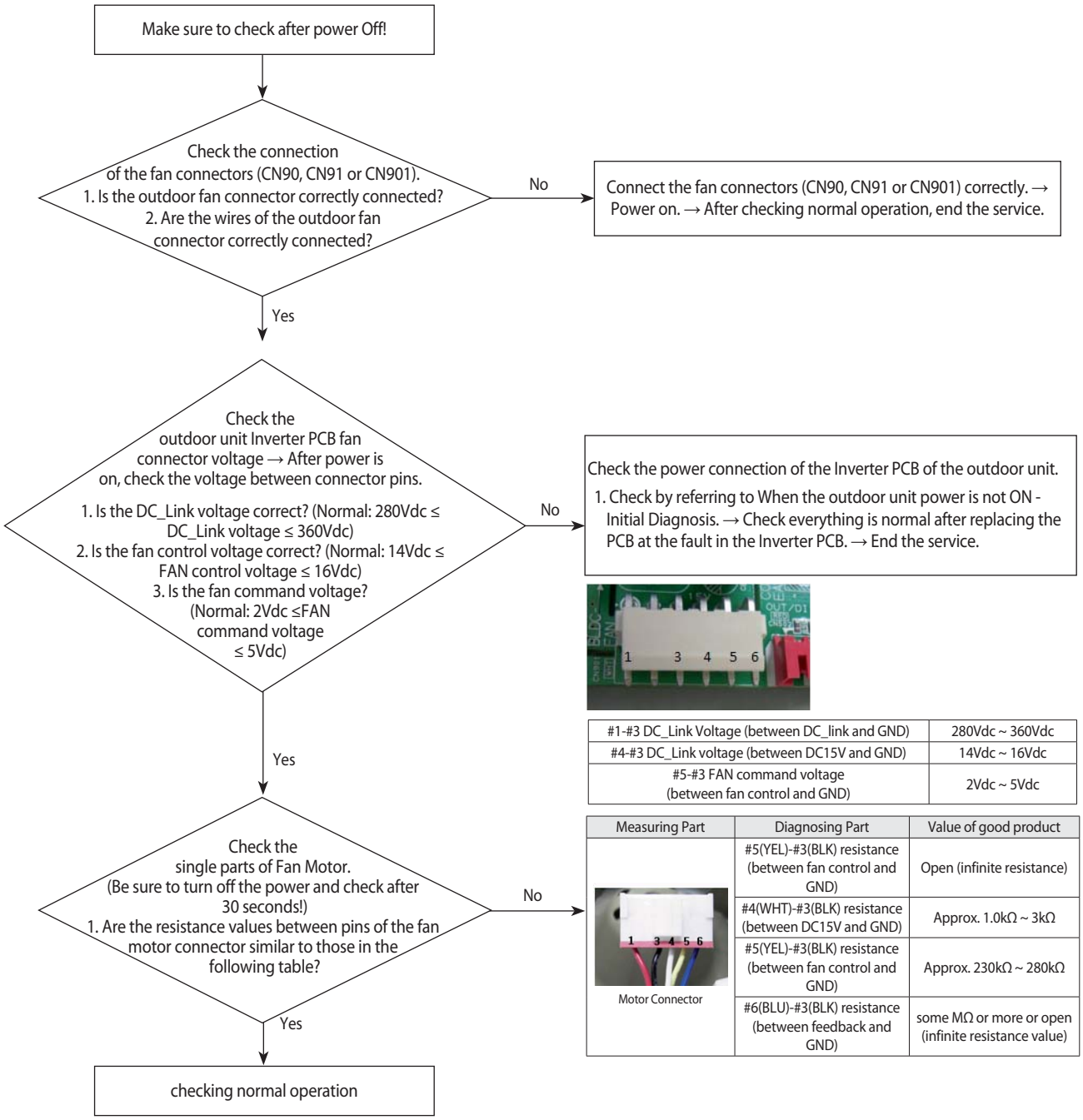
2. Check procedure



4-3-14 Outdoor unit Fan error (Error Code : E458, E475)

1. Test items
   1) Check the connection of Fan connectors (CN90, CN91)
   2) Check the voltage of the fan motor connector in the inverter PBA of the outdoor unit.
   3) Check the power connection of the outdoor unit Inverter PCB.
   4) Check the Fan Motor single parts. (Be sure to turn off the power and separate the motor connector after 30 seconds!)

2. Check procedure

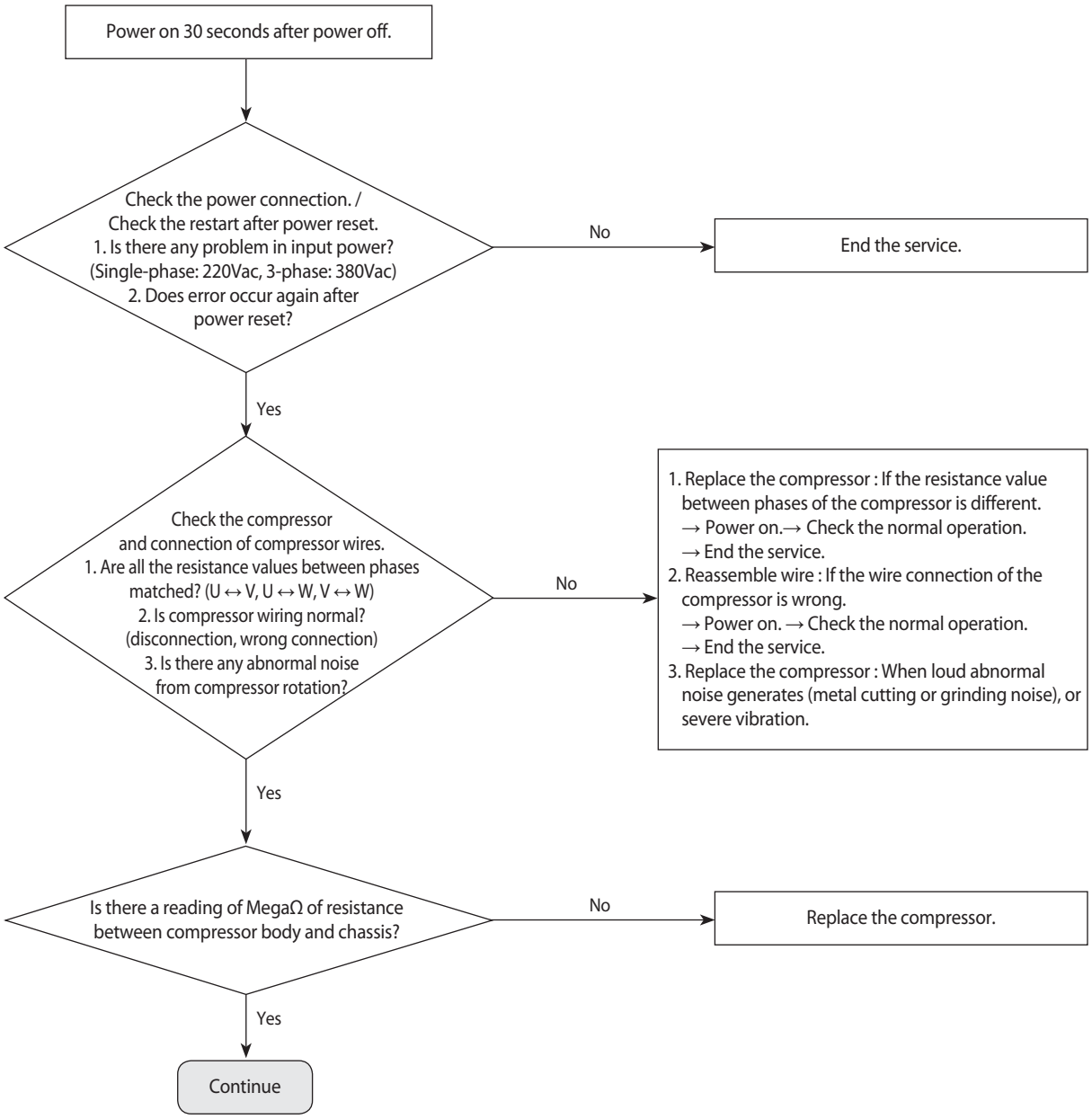


※ At least 30 seconds after power is OFF, attach/detach the fan motor connector! → Threatened to cause secondary damage to the motor and the PCB.
※ Check the Inverter PCB or Fan Motor single parts and only if there is a fault, replace!
※ Do not replace the Main PCB of the outdoor unit relating to the fault in the Fan Motor!
→ If the error is indicated on 7-segment of the Main PCB of the outdoor unit, the Main PCB of the outdoor unit has no fault.
→ In case of a control problem, it is possible to solve with S/W update.

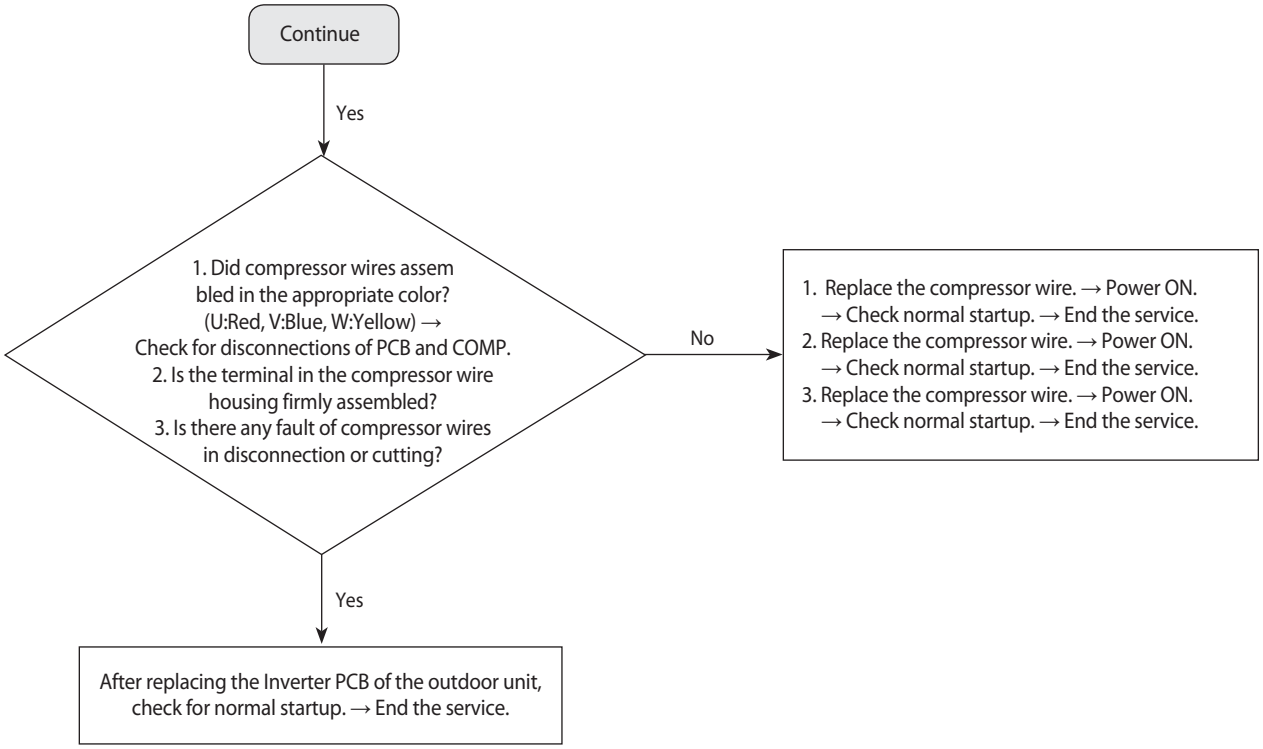
4-3-15 Compressor starting error / rotation error (Error Code : E461, E467)

1. Test items
   1) Check the power connection. / Check the restart after power reset.
   2) Check the compressor and the state of the compressor wire assembling.
   3) Check the defective for compressor wire single parts.

2. Check procedure



Compressor starting error / rotation error (Error Code : E461, E467) (cont.)

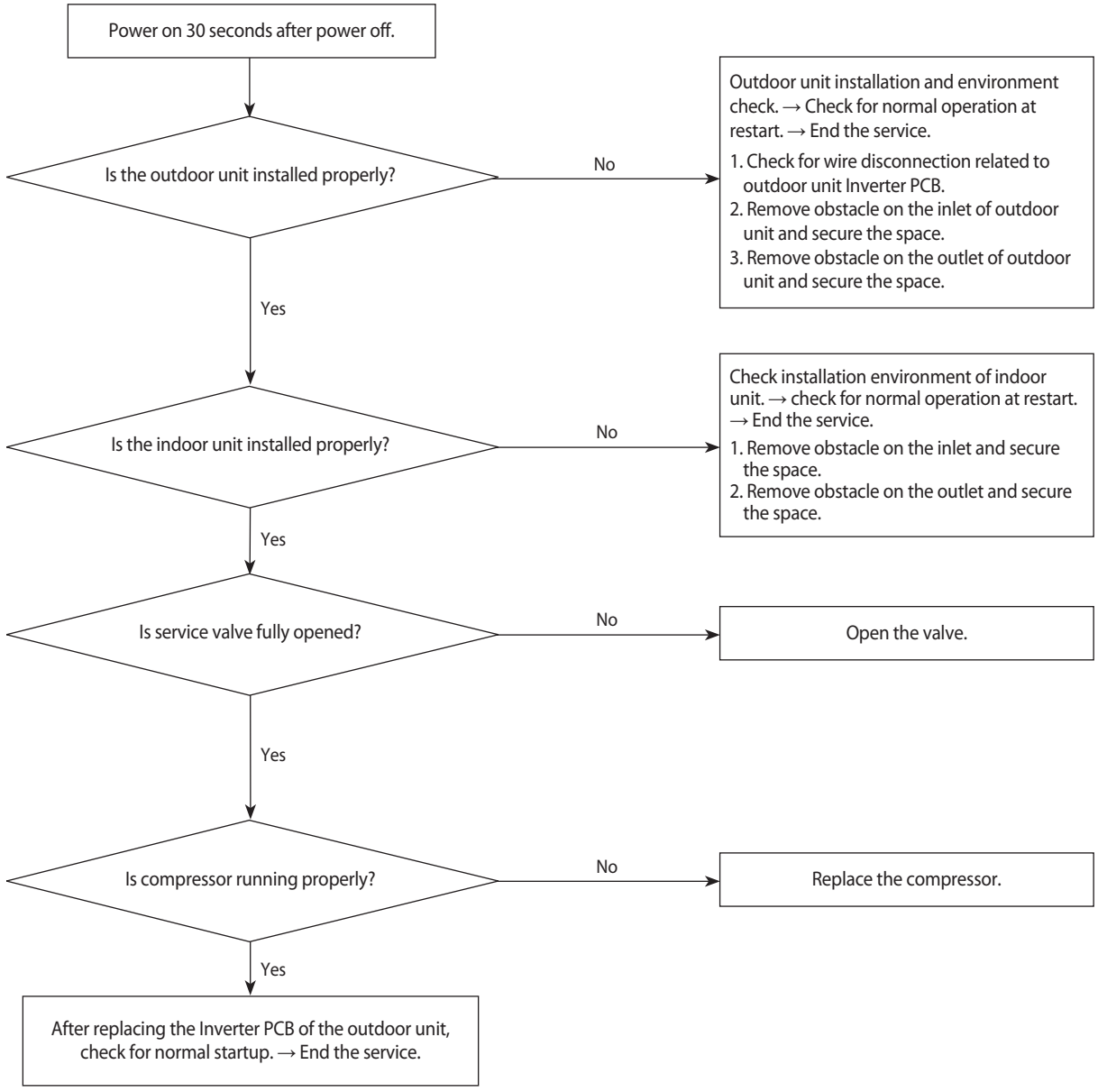


※ E461, E467 Error-related, EMI / outdoor unit Main / Indoor unit Main PCB do not replace!
→ This error is related to the compressor and Inverter PCB. (Not related to the above PCB)
※ Ensure that the service valve is open!
→ When the service valve is closed, the defects may be caused by differential pressure when starting the compressor.

4-3-16 Full current error / PFC over-current error (Error Code : E462, E484)

1. Test items
   1) Check the power connection. / Check the restart after power reset.
   2) Install outdoor unit and check environment.
      → Check for wire disconnection related to outdoor unit Inverter PCB and check the installation environment.
   3) Check the indoor unit installation environment.
   4) Check the opening of service valve.

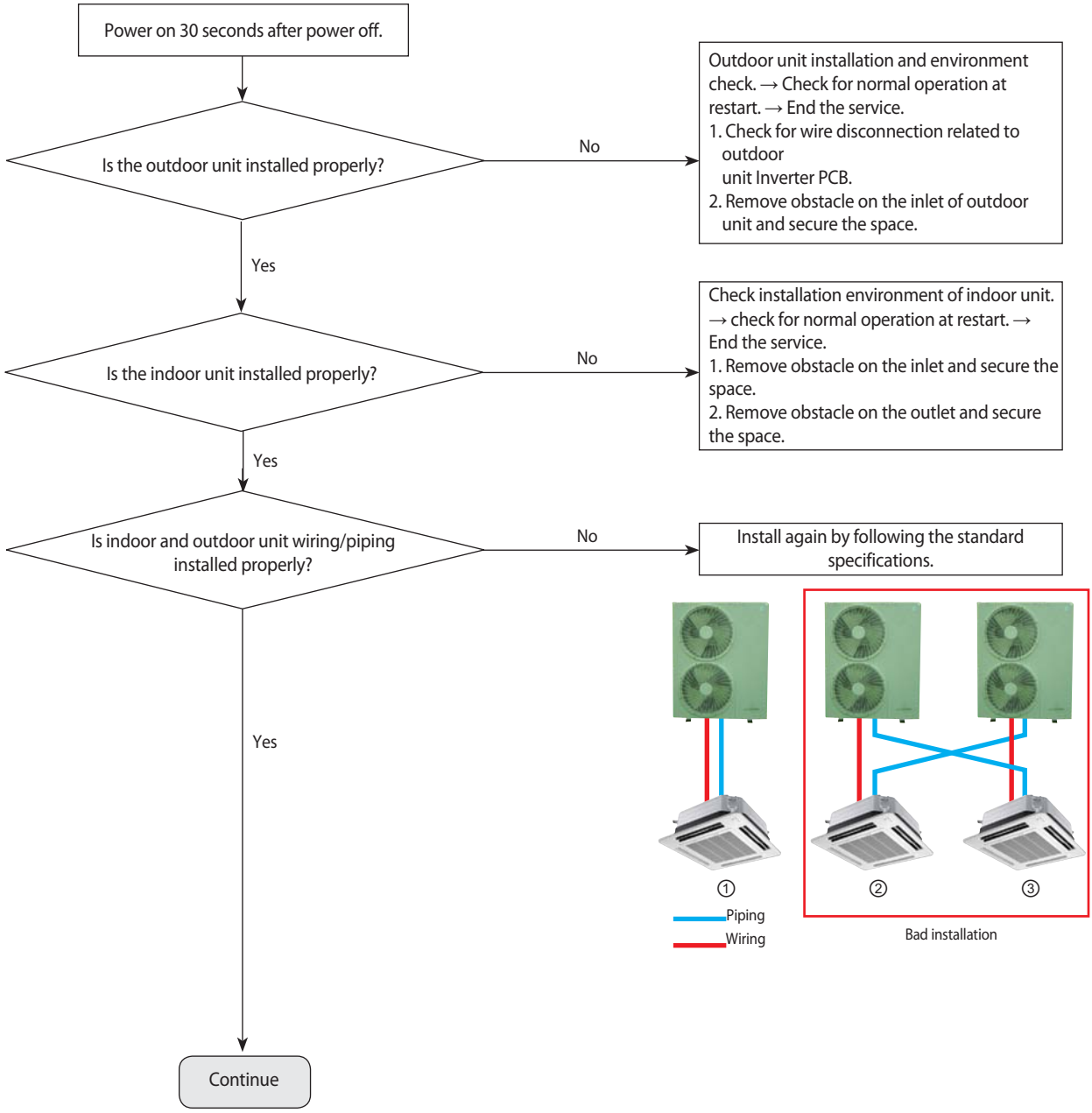
2. Check procedure



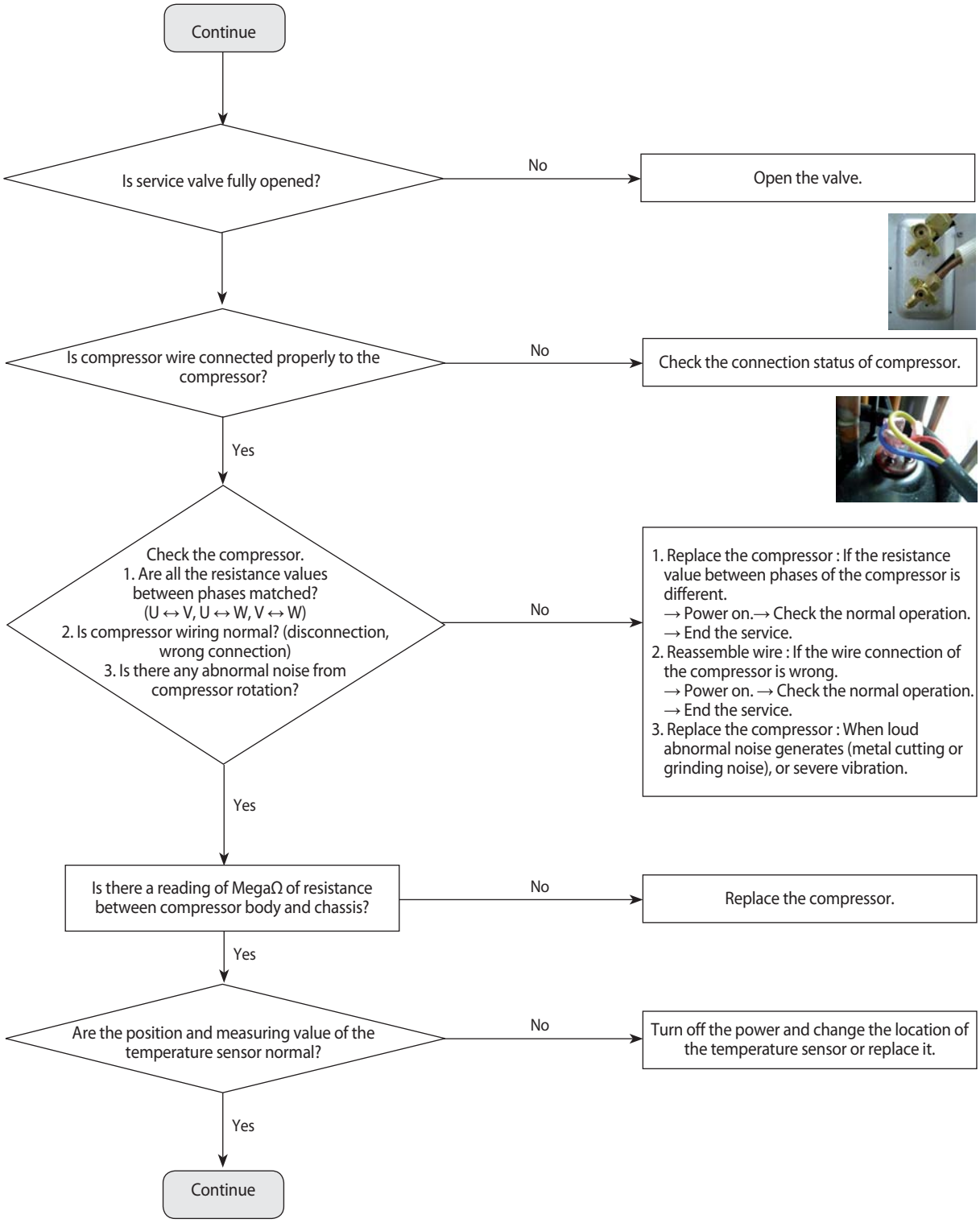
4-3-17 IPM IPM (Over Current) error (Error Code : E464)

1. Test items
   11) Check the power connection. / Check the restart after power reset.
   2) Install outdoor unit and check environment.
   → Check for wire disconnection related to outdoor unit Inverter PCB and check the installation environment.
   → After having installed several units, please check that communication wires are not interchanged with piping.
   3) Check the indoor unit installation environment.
   4) Check the opening of service valve.
   5) Check the status of compressor assembly and wiring.
   6) Check the defective for compressor wire single parts.

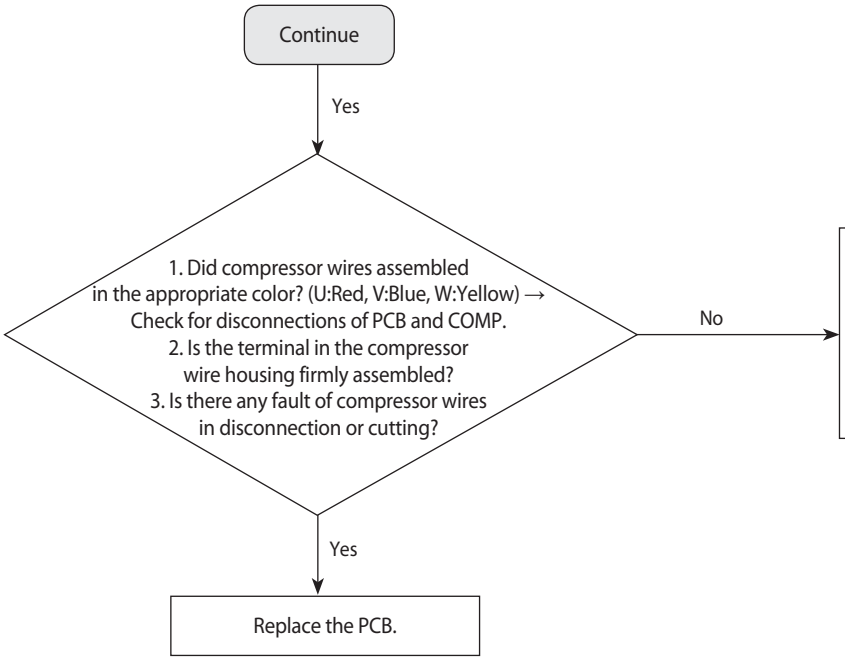
2. Check procedure



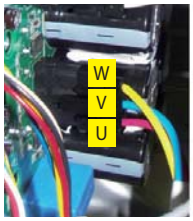
IPM over(Over Current) error (Error Code : E464)(cont.)



IPM over(Over Current) error (Error Code : E464)(cont.)

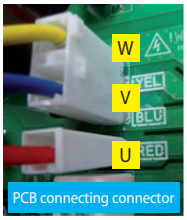


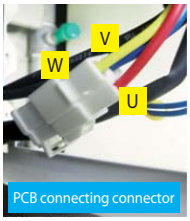
1. Replace the compressor wire. → Power ON.
   → Check normal startup. → End the service.
2. Replace the compressor wire. → Power ON.
   → Check normal startup. → End the service.
3. Replace the compressor wire. → Power ON.
   → Check normal startup. → End the service.



[RC✳✳✳✳HXH series]

[RC090✳✳✳✳/RC100✳✳✳✳/
RC110✳✳✳✳/ RC130✳✳✳✳/
RC145✳✳✳✳/RC160✳✳✳✳ series]





[RC060✳✳✳✳/RC072✳✳✳✳ series]

※ E46 Error-related, EMI / outdoor unit Main / Indoor unit Main PCB do not replace!
→ This error is related to the Inverter PCB. (Not related to the above PCB)

※ Ensure that the service valve is open!
→ When the service valve is closed, the defects may be caused by differential pressure when starting the compressor.

4-3-18 DC LINK over-current / low-voltage error (Error Code : E466)
H/W DC_Link Over Voltage Error (Error Code : E483)
AC Input Voltage Sensor Error (Error Code : E488

1. Test items

   1) Check the power connection. / Check the restart after power reset.

   → Is there a fault in input power? (Single-phase : 220Vac, 3-phase : 380Vac)

   → Does error occur again at operation after power is reset?

2) Check the connection of the power, and check whether the jointed power connection exists.

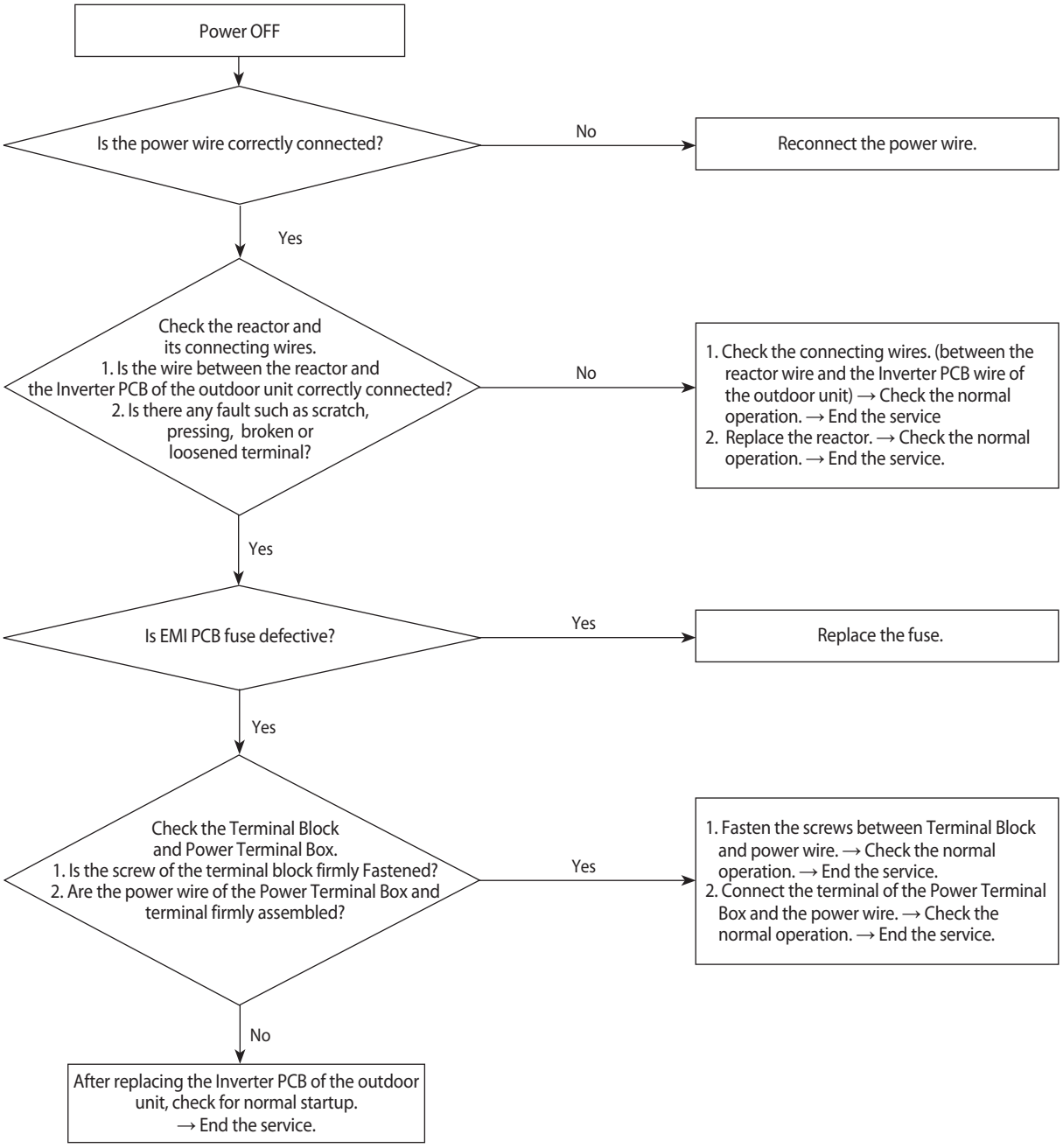
   → After having installed several units, please check that communication wires are not interchanged with piping.

3) Check the reactor and its connecting wires.

4) Check the fuses of EMI PBA.

5) Check the Terminal Block and Power Terminal Box and the wire assembly.

2. Check procedure



4-3-19 Gas leakage error(Error Code : E554)

1. Test items

1) Check the power connection. / Check the restart after power reset.

→ Is there a fault in input power? (Single-phase : 220Vac, 3-phase : 380Vac)

→ Does error occur again at operation after power is reset?

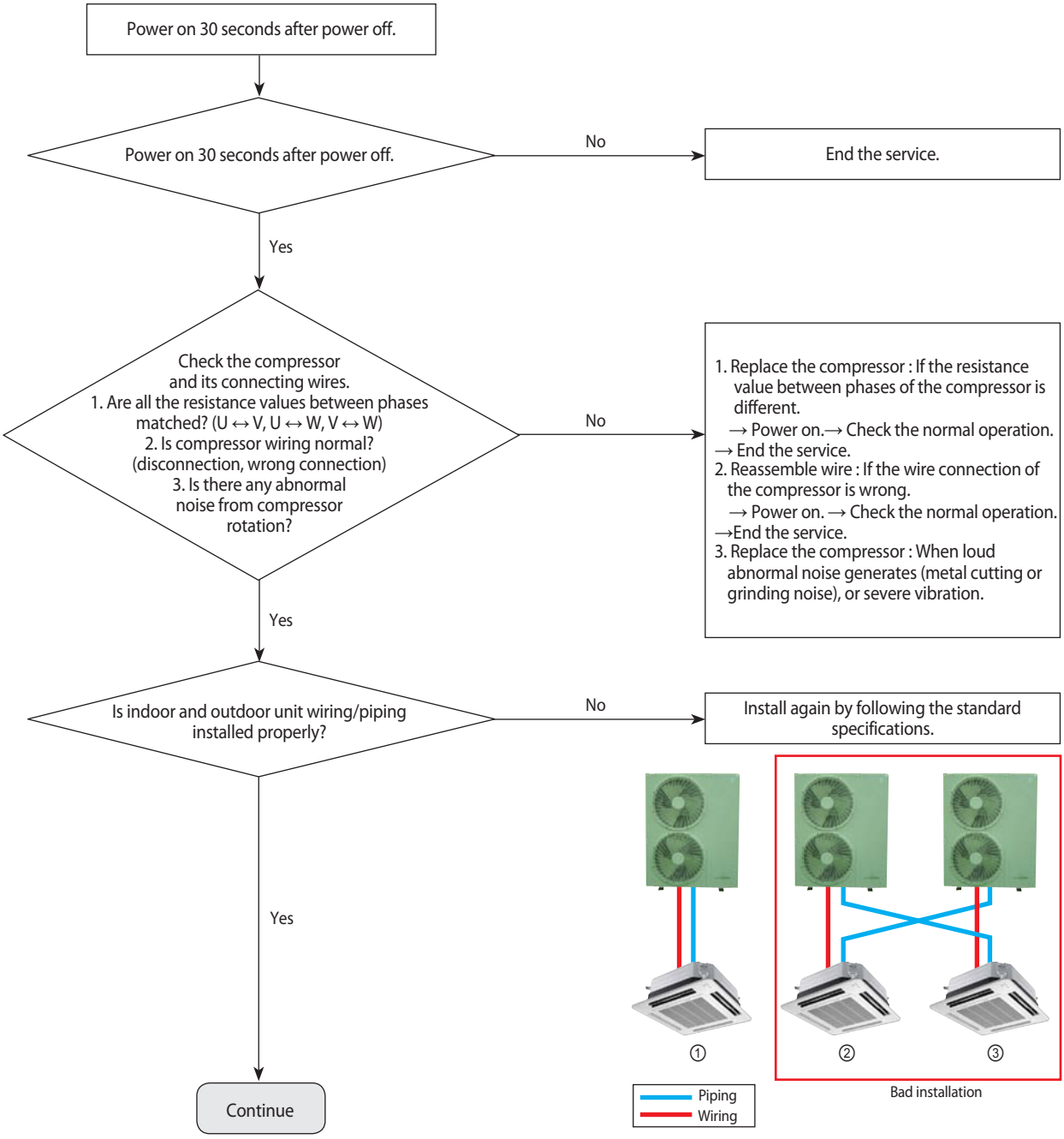
2) Check the compressor and the state of compressor wire assembling.

3) Check the outdoor unit installation environment.

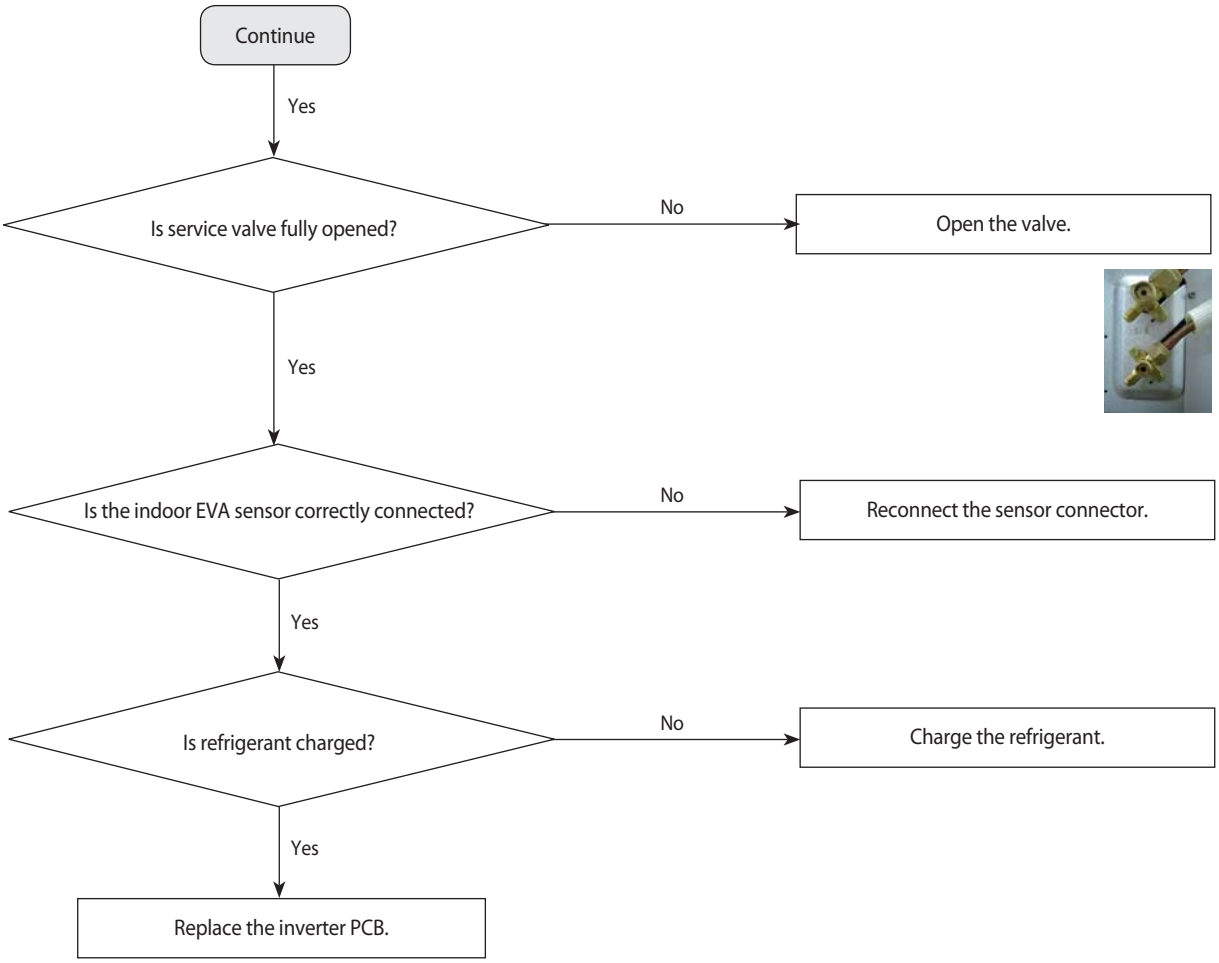
→ Check for disconnection of the wires regarding the Inverter PCB of the outdoor unit and check the installation environment.

→ At the site where several units were installed at the same time, check whether communication wire and pipes have been wrongly connected!

2. Check procedure



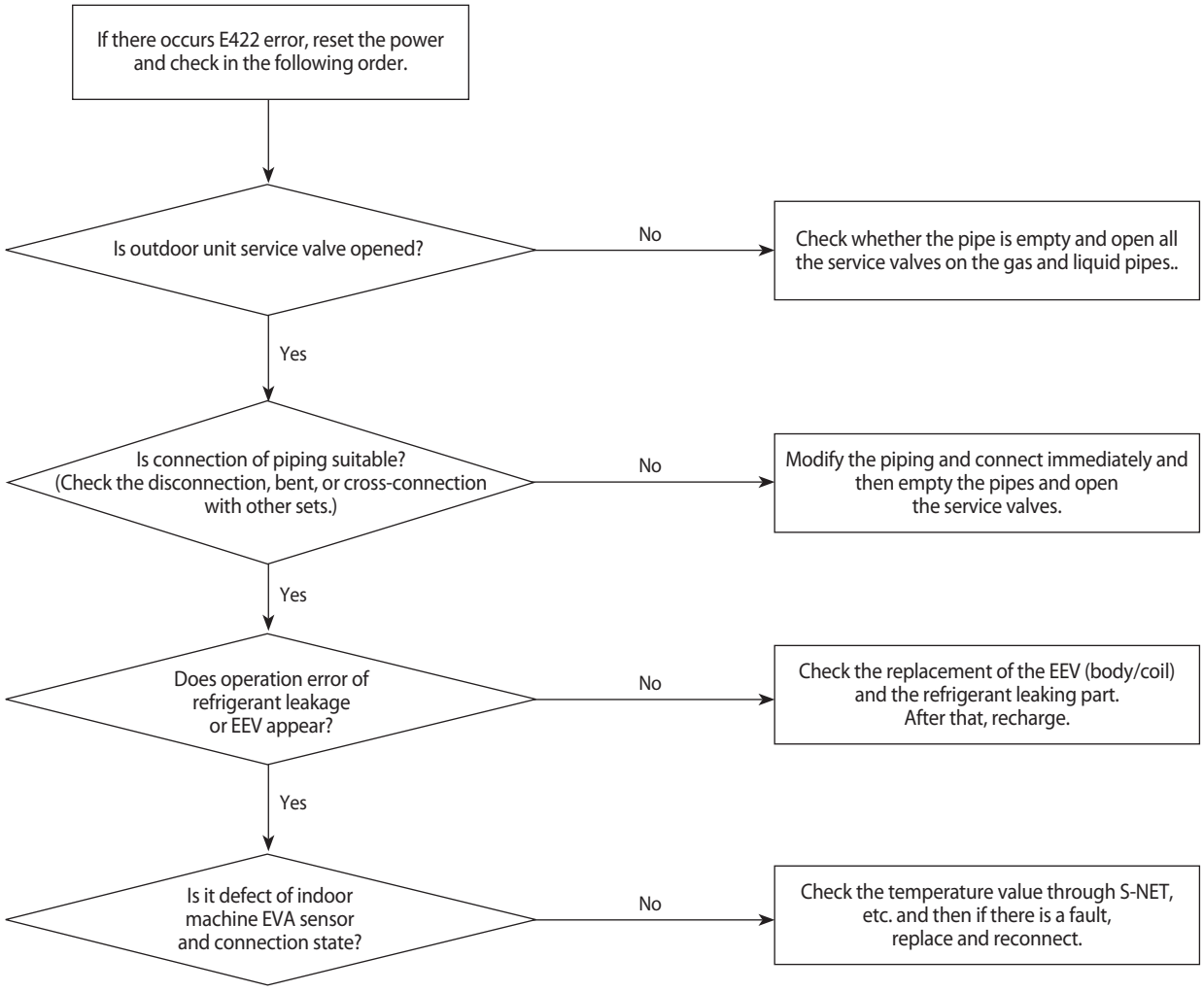
Gas leakage error(Error Code : E554) (Continue)



4-3-20 Pipe blockage error(Error Code : E422)

1. Test items
   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



4-3-21 Smart install mode was not carried out (Error Code : E508)

Smart install mode?

When installing the air conditioner the first time, the installation status and fault status and performance of the product is a self-diagnostic function to determine comprehensively..

(The corresponding model is necessarily the general operation can be carried out when the smart install mode.)

Installation procedures of smart install mode

(1) Check the installation status of air conditioner.

▶ Check the power wire, communication wire, power connection, service valve opening, additional amount of refrigerant.

▶ When supplying power upon installation, a warning (error) of not having run in the installation smart install mode is displayed and the product will not run properly.

Model	Indoor unit	Outdoor unit
360 Cassette	Red lights up	E508

(2) Enter the smart install mode.

▶ Enter of the outdoor unit : Press for at the same time 5 seconds K 1, K 4 switches.

▶ Enter of the remote control : Press for at the same time 4 seconds [Power] + [Set] + [Mode] buttons.

▶ The progress status of installation smart install mode is shown in "00~99"(%).

▶ The smart install may take about 10 minutes.

Model	Indoor unit	Outdoor unit
360 Cassette	It is blinking in sequence. (Ice blue → Yellow green → Blue → Red → Ice blue)	"H" "H" "r" "d" After lasting for 3 minutes "H" "H" "00~99" display.

(3) The installation smart install mode is complete.

▶ Success in the installation smart install mode : The unit will enter a general operation standby mode upon blinking to show a success.

Indoor unit	Outdoor unit
Indicator light of main unit switches off.	"H" "H" "n" "H" After blinking for 10 seconds. It will enter the general operation stand by mode.

▶ Smart Install failure: Error code blink

※ In the event of Error Error code reference, please carry a house from scratch after an action mode for the Smart Install Error.

Precautions

▶ When needing to have additional piping before entering the installation smart install mode, charge refrigerant additionally according to the manual. At this time, it is possible to run the cooling test (K2 switch once) and heating test (K1 switch once).

▶ When the installation smart Install mode is not run, the remote control and main unit button will not work. [E508 (Smart install mode was not carried out) error displayed.]

▶ The installation smart install mode operation may be interrupted by pressing the K3 switch. [Display the E508 (Smart install mode was not carried out) error upon interruption.]

▶ While running in the installation smart install mode, the installation smart Install mode operation may not be interrupted even by pressing the K1 or K2 switch.

▶ While running in the installation smart install mode, the system status information may be checked by pressing the K4 switch.

▶ When pressing the K1 and K4 switches for 5 seconds upon successfully running in the installation smart install mode, the system will run the installation smart install mode again.

▶ When having an error in the installation smart install mode, operation in the installation smart install mode may be interrupted.

Please run the installation smart install mode again upon taking appropriate action for the error. (Refer to troubleshooting)

▶ When the installation smart install mode is not completed successfully even after resolving all the errors, the unit will not work, displaying an error code of E508 (Smart install mode was not carried out).Upon resolving the problem, try to complete running the installation smart install mode.

※ Displayed E508 is not a malfunction, it is indication that did not carried out the smart Install mode after air conditioner installation.

4-3-22 Others

1. EEPROM option error (E163) : Reset the options.

2. Temperature fuse error : E198
   - If the Terminal Box temperature rise fuse is disconnected, replace the PCB.
   - Check the wiring connector of temperature fuse.

3. Current sensor error : Upload EEPROM to the Main PCB of the outdoor unit.
   - After checking for normal operation of PCB, replace the inverter PCB.

4. Compressor Vlimit error : E465
   - If the compressor is abnormally run, replace the compressor and then ensure that it works normally.
   → If the compressor is normally run, check the assembling between the heatproof plate and the Inverter PCB and then if there is no abnormality, replace the Inverter PCB.

5. DC link voltage sensor error : E469
   - Error occurs when DC LINK value is not normal (DC LINK VOLTAGE: 280~320V)
   - Check the value of DC link when error occurs and check the reactor disconnection

6. EEPROM read/write error : E470
   - Error occurs when there is no EEPROM data in the set.
   - Check the model name and insert EEPROM for corresponding model or load the EEPROM data.

7. Input current sensor error : E485
   - Detect the input sensor while the set is in stop status to check if there's any problem.
   - When error occurs, turn on/off the power for number of time and if same error occurs while the power is off, replace the Inverter PCB.

8. OTP error : E471
   - Upload EEPROM to the Main PCB of the outdoor unit.

9. Capacity inconsistence error : E556
   - Check the model name between the outdoor and indoor unit and re-enter the option code to the indoor unit.

10. 3-phase power wire disconnection : E424
    - Check for disconnection of the 3-phase (open) power wire, and check the disconnected EMI PBA fuse.

11. Outdoor unit freezing detection (at the stop of the compressor) : E403
    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 blockage.

12. Outdoor unit compressor discharging temperature protection control : E416
    - Check for lack of refrigerant.
    - Check the blockage of the solenoid valve.
    - Check the malfunction of the exhaust temperature sensor.
    - Check the EEV.

13. Error of impossibility to operate heating at outdoor temperature exceeding 30°C : E440
    Error of impossibility to operate cooling at outdoor temperature of -5°C or under : E441
    - It is not the error code in the product and it is a specification to protect the product by limiting the temperature scope of use.
    - Use by referring to the temperature scope of use on the product manual, etc.

14. OLP overheating and compressor stop : E463
    - Check the opening of the sub valve.
    - Check the amount of the cooling water.
    - Check the OLP sensor.

15. Current sensor error : E468
    - Check the EEPROM data.
    - Check the PCB operation.

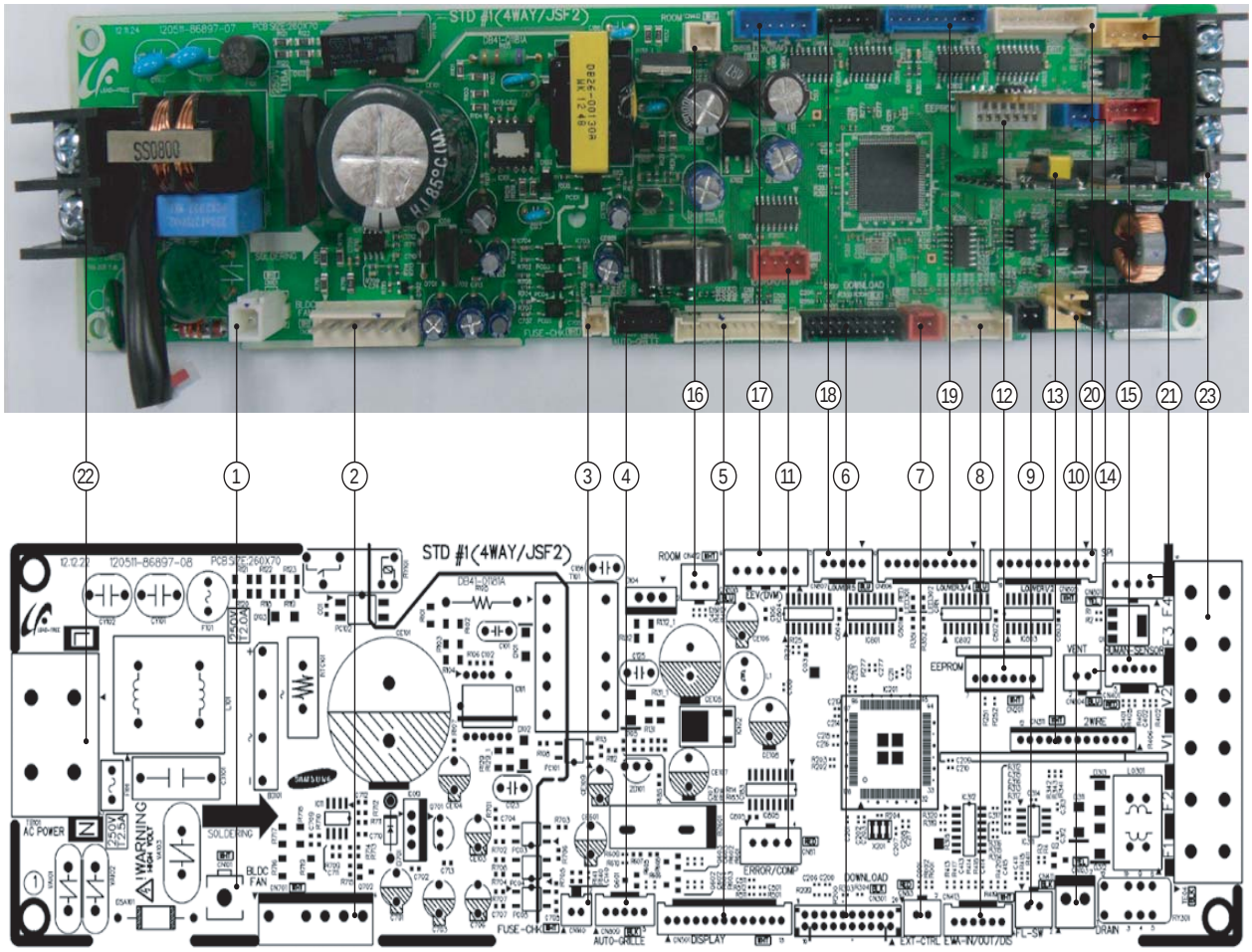
16. IPM (IGBT Module) or PFCM temperature sensor error : E474
    IPM overheat error for outdoor unit inverter compressor : E500
    - Check whether IPM is correctly assembled on the heatproof plate.
    - Check whether the inlet is blockage.
    - If there is a defect, replace the IPM.

17. How to check Booster Fan
    1) In case of do not not operate 1 Booster Fan
       Action method : Remove the Booster Fan connector wire and cross-assembling the another Booster Fan wire and then horizontally or intermediate or swing operate.
       Type ①: When the existing Booster Fan does not operate, replace the Booster Fan.
       Type ②: If type 1 is not defective, Booster Fan Wire 4 (Red Wire),
       3 (Black Wire) pin voltage : When it is more than 2.7V, replace the PCB.
    2) In case of do not operate 3 Booster Fan (all Fan)
       Action method : horizontally or intermediate or swing set up.
       Type ①: Booster Fan Wire 1 (Orange Wire), 3 (Black Wire) pin voltage : When it is less than DC12V, replace the PCB.
       Type ②: If type 1 is not defective, Booster Fan Wire 4 (Red Wire),
       3 (Black Wire) pin voltage : When it is more than 2.7V, replace the PCB.
       Type ③: If type 2 is not defective, Booster Fan Wire 2 (White Wire),
       3 (Black Wire) pin voltage : When it is approximately 5V, replace the PCB.

5. PCB Diagram and Parts List

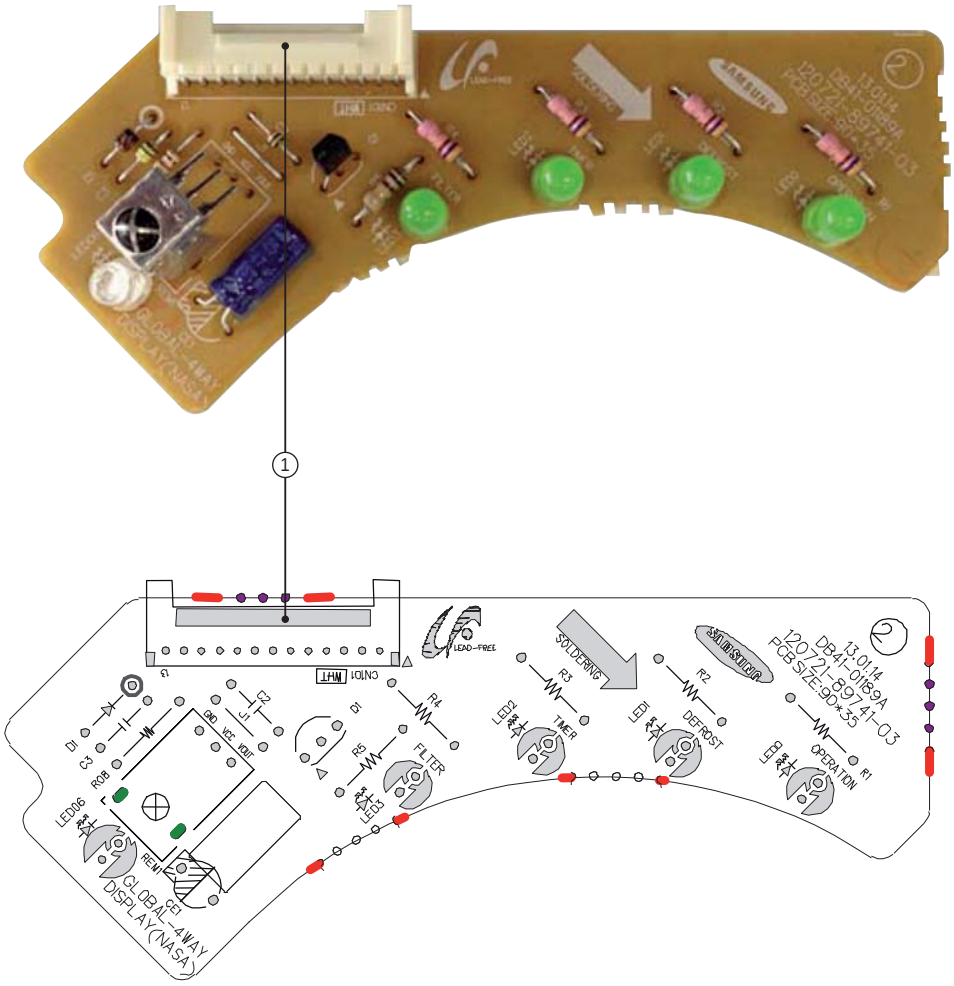
5-1 Indoor Unit

5-1-1 MAIN PCB



① CN101-GND	② CN701-BLDC MOTOR	③ CN140-FUSE CHECK	④ CN809-AUTOMATIC ELEVATING GRILLE	⑤ CN501-DISPLAY
#1 : GND	#1: DC310V #3 : GND #4 : DC15V #5 : FAN RPM #6 : RPM FEEDBACK	#1: FUSE CHECK SIGNAL #2: GND	#1 : DC12V #4 : REMOCON SIGNAL #5 : GND	#1: DC 12V #2: LED_0 #3: LED_1 #4: LED_2 #5: LED_3 #6: LED_4 #7: LED_5 #8: REMOCON OUTPUT SIGNAL #9: AUTO SWITCH #10: REMOCON INPUT SIGNAL #11: GND #12: DC5V #13: GND
⑥ CN301-DOWNLOAD	⑦ CN83-EXT CTRL	⑧ CN413: THERMISTOR	⑨ CN411- FLOAT SWITCH	⑩ CN103-DRAIN PUMP
	#1: GND #2: EXT-CTRL SIGNAL	#1:EVA-IN THERMISTOR #2:GND #3 : EVA-OUT THERMISTOR #4 : GND #5 : DISCHARGE THERMISTOR #6 : GND	#1: F/S SIGNAL #2: GND	#1: D/P POWER(DC12V) #2: GND
⑪ CN81-ERROR/COMP CHECK	⑫ CN201-EEPROM	⑬ CN311-2WIRED REMOCON	⑭ CN804-VENTILATOR	⑮ CN401-HUMAN SENSING SENSOR
#1: DC12V #2: ERROR SIGNAL OUTPUT(GND) #3: DC12V #4: COMP/OPER. SIGNAL OUTPUT(GND)	#1: GND #3: DC5V #4: EEPROM_SELECT #5: EEPROM_SO #6: EEPROM_SI #7: EEPROM_CLK	#1:DC12V #2:COM2_PCTRL_MICOM #3:COM2_VCHECK_A #4:COM2_VCHECK_B #5:COM2_MICOM_AD #6:DC5V #8:COM2_C #9:COM2_D #10:COM2_TXD #11:COM2_RXD #12:GND	#1: DC12V #2: VENTILATOR SIGNAL OUTPUT (GND)	#1: DC12V #2: HUMAN SENSING SENSOR COMM(TXD) #3: HUMAN SENSING SENSOR COMM(RXD) #4: GND
⑯ CN412-INDOOR THERMISTOR	⑰ CN808-EEV	⑱ CN807-LOUVER5	⑲ CN806-LOUVER3/4	⑳ CN805-LOUVER1/2
#1:INDOOR THERMISTOR #2:GND	#1~#4: EEV SIGNAL OUTPUT #5: DC12V #6:DC12V	#1:DC12V #2~#5: LOUVER SIGNAL OUTPUT	#1 : DC12V #2~#5: LOUVER SIGNAL OUTPUT #6 : DC12V #7~#10: LOUVER SIGNAL OUTPUT	#1:DC12V #2~#5: LOUVER SIGNAL OUTPUT
㉑ (21) CN801-SPI	㉒ TB101-AC POWER	㉓ TE04-COMMUNICATION		
#1: GND #2: GND #3: SPI SIGNAL OUTPUT(DC12V)	#1: POWER(L) #2: POWER(N)	#1: COM1(F1) #2: COM1(F2) #3: V1(DC12V) #4: V2(GND) #5: COM2(F3) #6: COM2(F4)		

5-1-2 Panel PCB

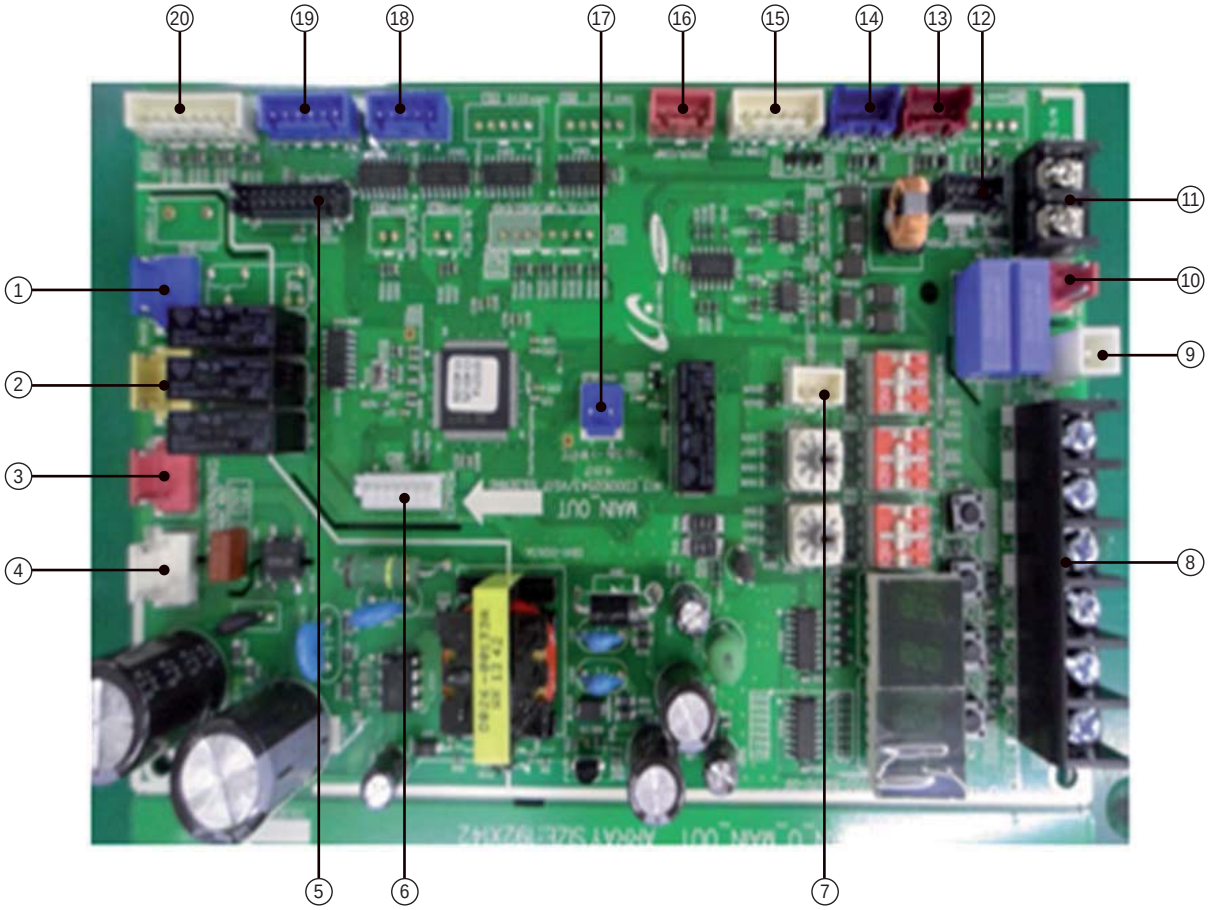


① **CN01-DISPLAY**

#1 : DC12V
#2~6 : LED Control Signal
#7 : Not used
#8 : Remocon Signal Out
#9 : Not used
#10 : Remocon Signal In
#12 : Vcc
#13 : Not used

5-2 Outdoor Unit

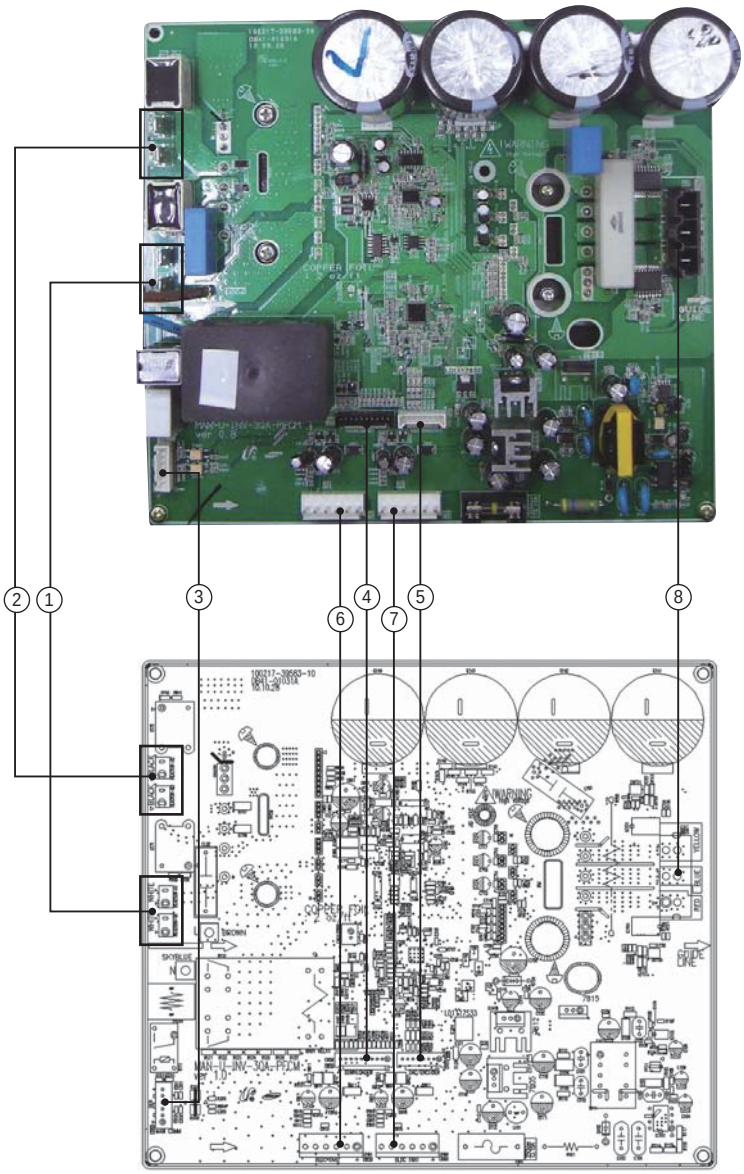
5-2-1 MAIN PCB



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

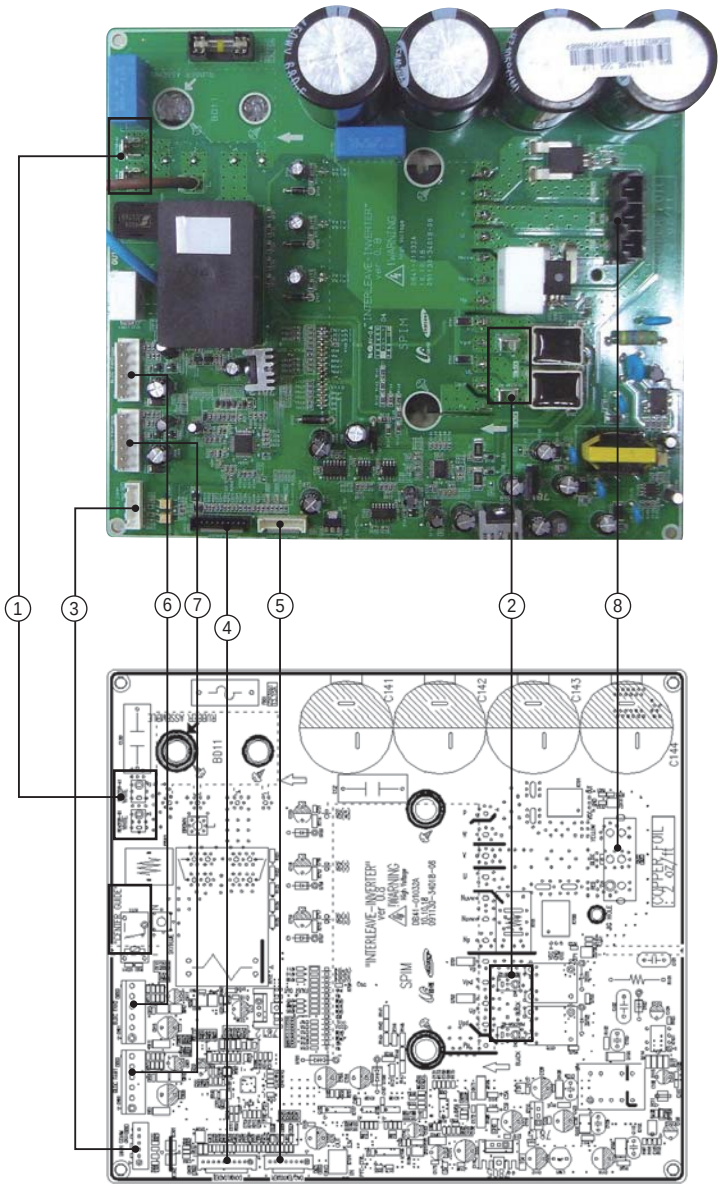
■ AC071JXSCEH



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

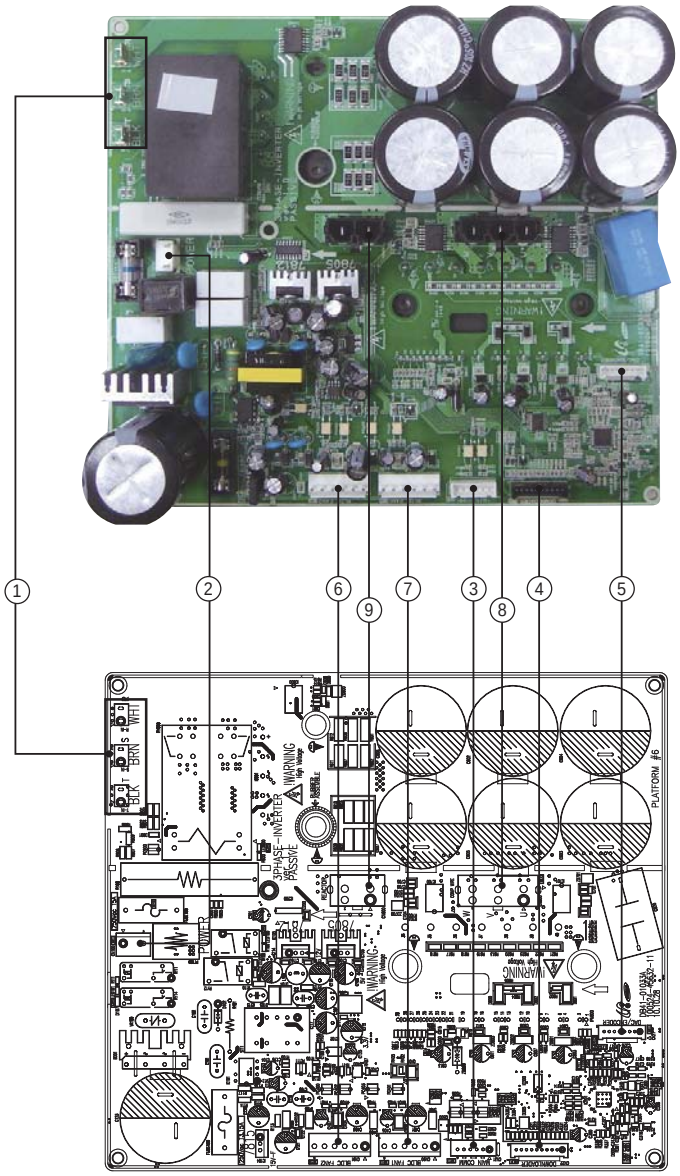
5-2-2 INVERTER PCB

■ AC100JXSCEH



① Reactor-A1/B1	② Reactor-A2/B2	③ CN531 – Main COMM	④ CN02-Downloader
#Reactor-A2 : WHT #Reactor-B2 : WHT	#Reactor-A2 : BLK #Reactor-B2 : BLK	#1 : RXD, #2 : TXD, #3 : GND #4 : DC5V, #5 : DC12V #6 : INV, SMPS Signal	#1 : RXD_ATARO #2 : TXD_ATARO #3, #8 : N.C #4~#7 : DATA signal #9 : GND, #10 : DC5V
⑤ CN21-DAC/ENCODER	**⑥ CN91-FAN2**	**⑦ CN90-FAN1**	**⑧ CN71-COMP**
For S/W engineer debugging	#1 : DC 360V #2 : N.C #3 : GND #4 : DC 15V #5 : FAN RPM #6 : FAN RPM feedback	#1 : DC 360V #2 : N.C #3 : GND #4 : DC 15V #5 : FAN RPM #6 : FAN RPM feedback	#1 : COMP. U-phase(RED) #2 : COMP. V-phase(BLU) #3 : COMP. W-phase(YEL)

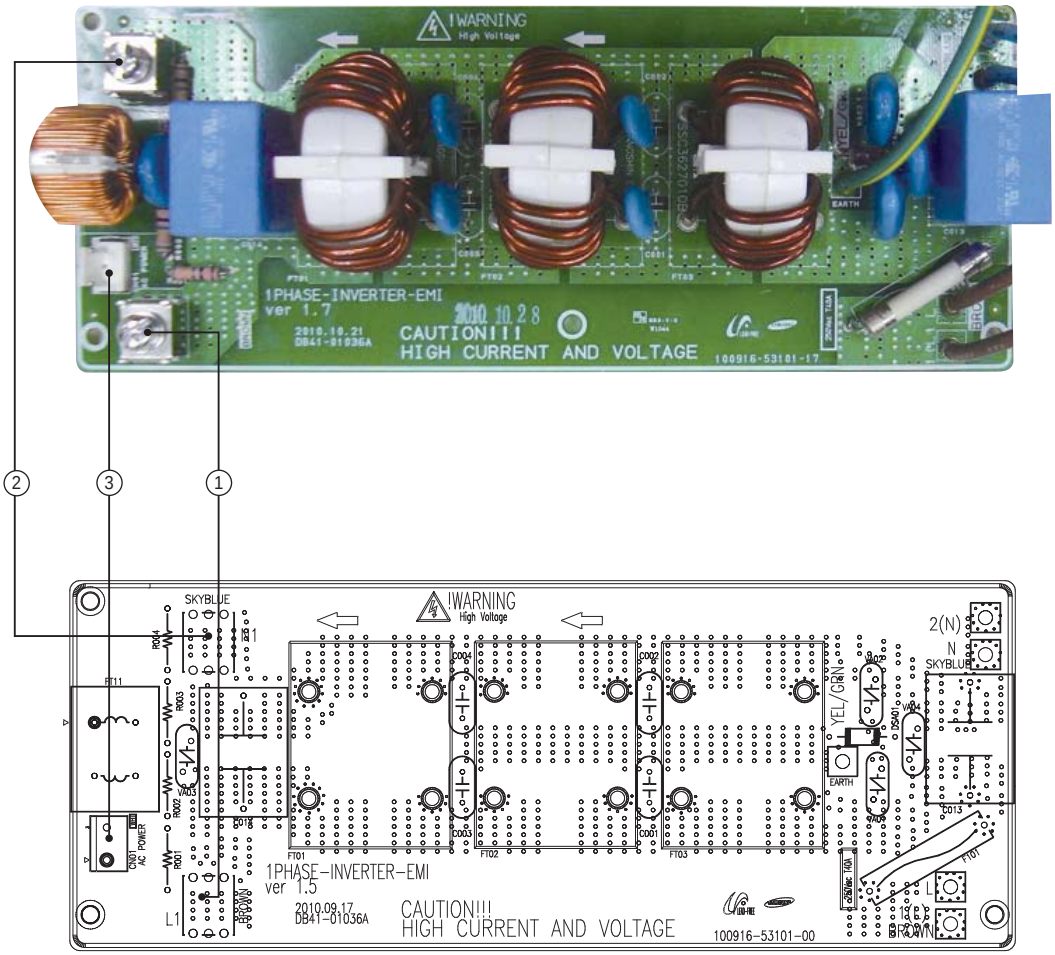
■ AC100JXSCGH, AC125JXSCGH



① **RST-AC POWER 3phase** #R : AC 380~400V : WHT #S : AC 380~400V : BRN #T : AC 380~400V : BLK	② **CN100-AC POWER** #1-#3 : AC 220~240V	③ **CN31-MAIN COMM** #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 **CN800-COMP.** #1 : COMP. U-phase(RED) #2 : COMP. V-phase(BLU) #3 : COMP. U-phase(YEL)
⑨ **CN600-REACTOR** #1-#2 : DCL Reactor			

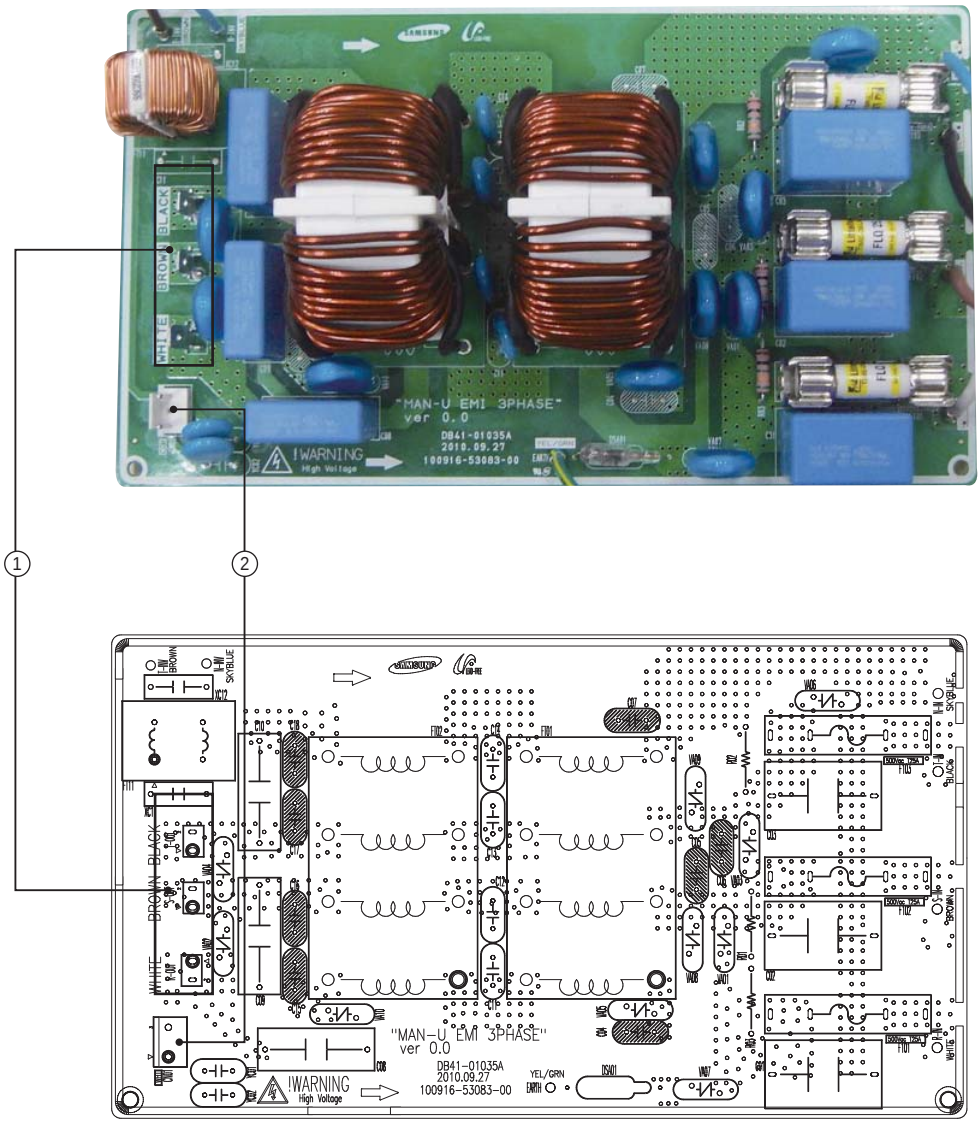
5-2-3 EMI PCB

■ AC071JXSCEH, AC100JXSCEH



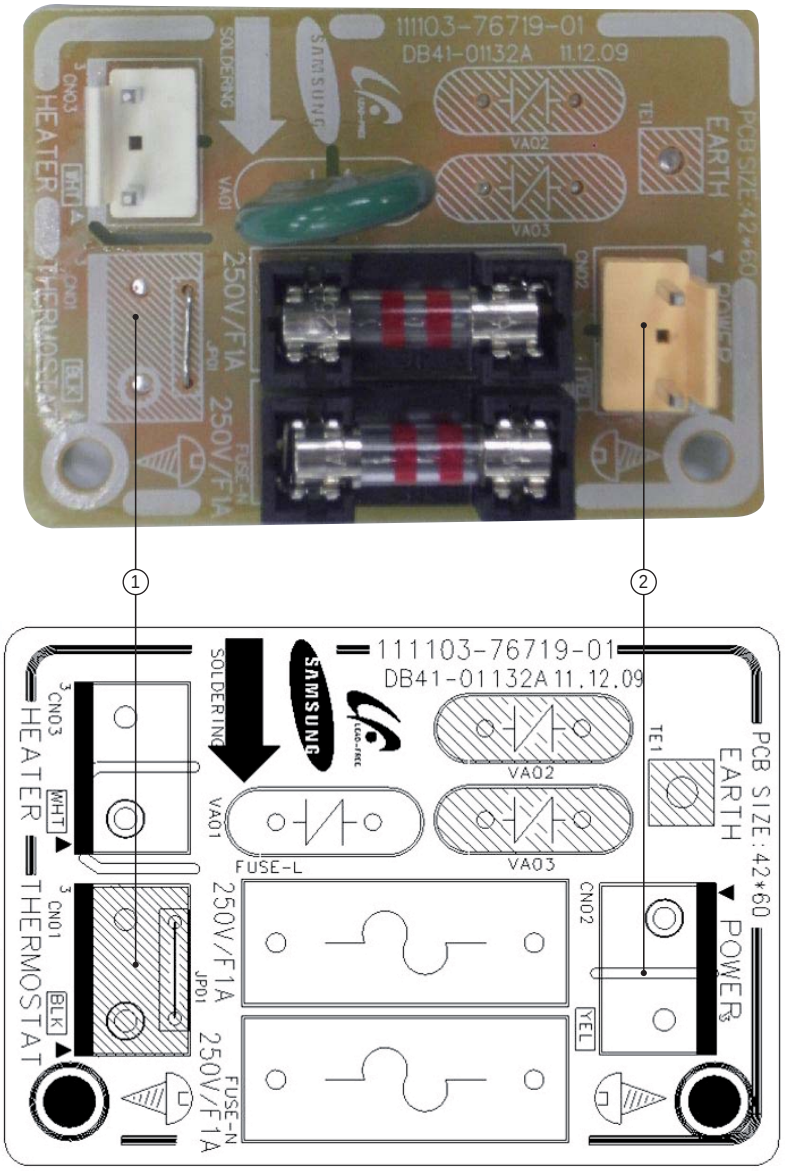
① L1-AC POWER L phase	② N1-AC POWER N phase	③ CN01-AC POWER
L1 : BRN	N1 : SKY-BLU	#1-#3 : AC 220~240V

■ AC100JXSCGH, AC125JXSCGH



① RST-AC POWER 3phase	② CN100-AC POWER
#R : AC 380~400V : WHT #S : AC 380~400V : BRN #T : AC 380~400V : BLK	#1-#3 : AC 220~240V

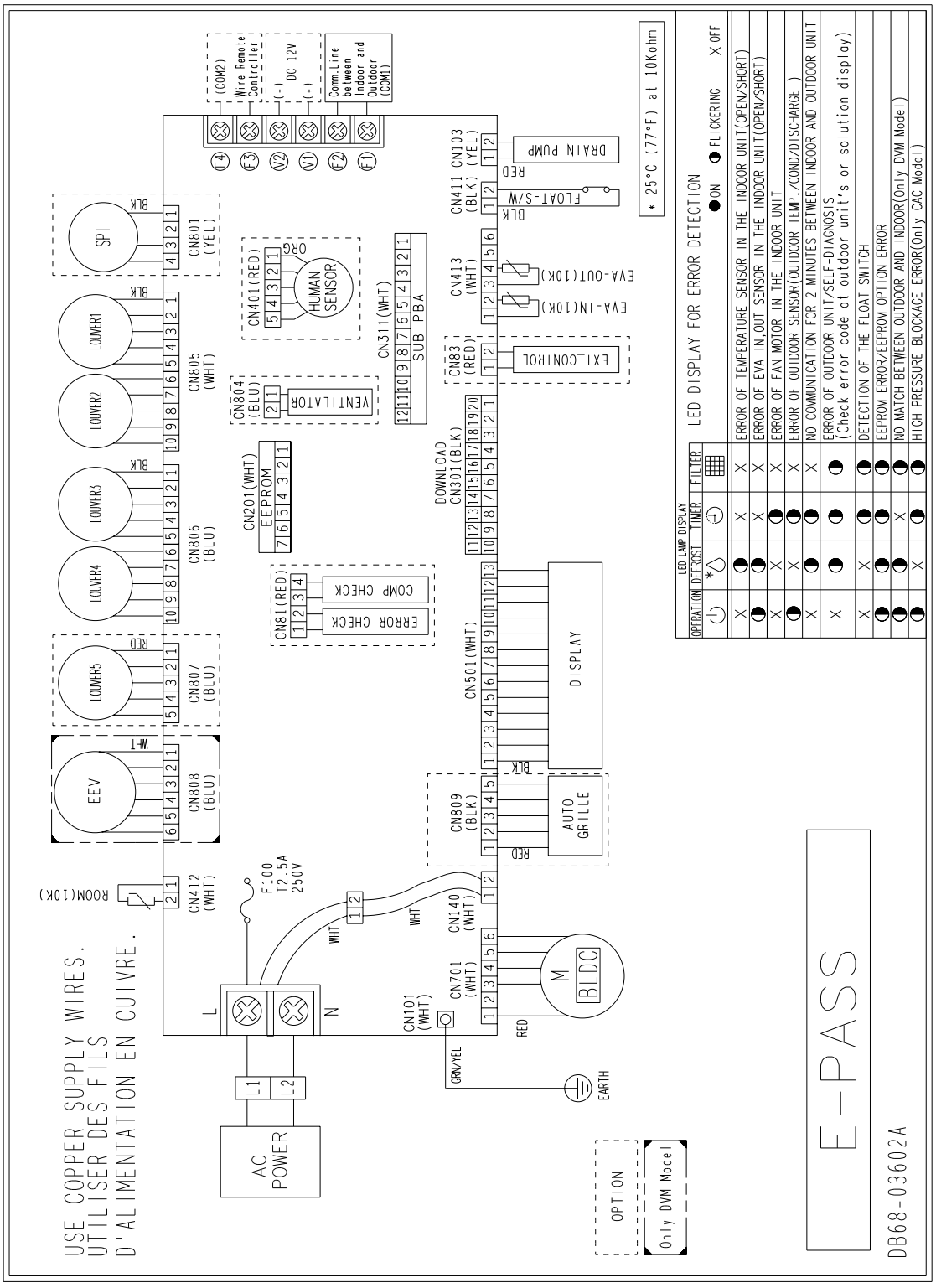
5-2-4 Heater PCB



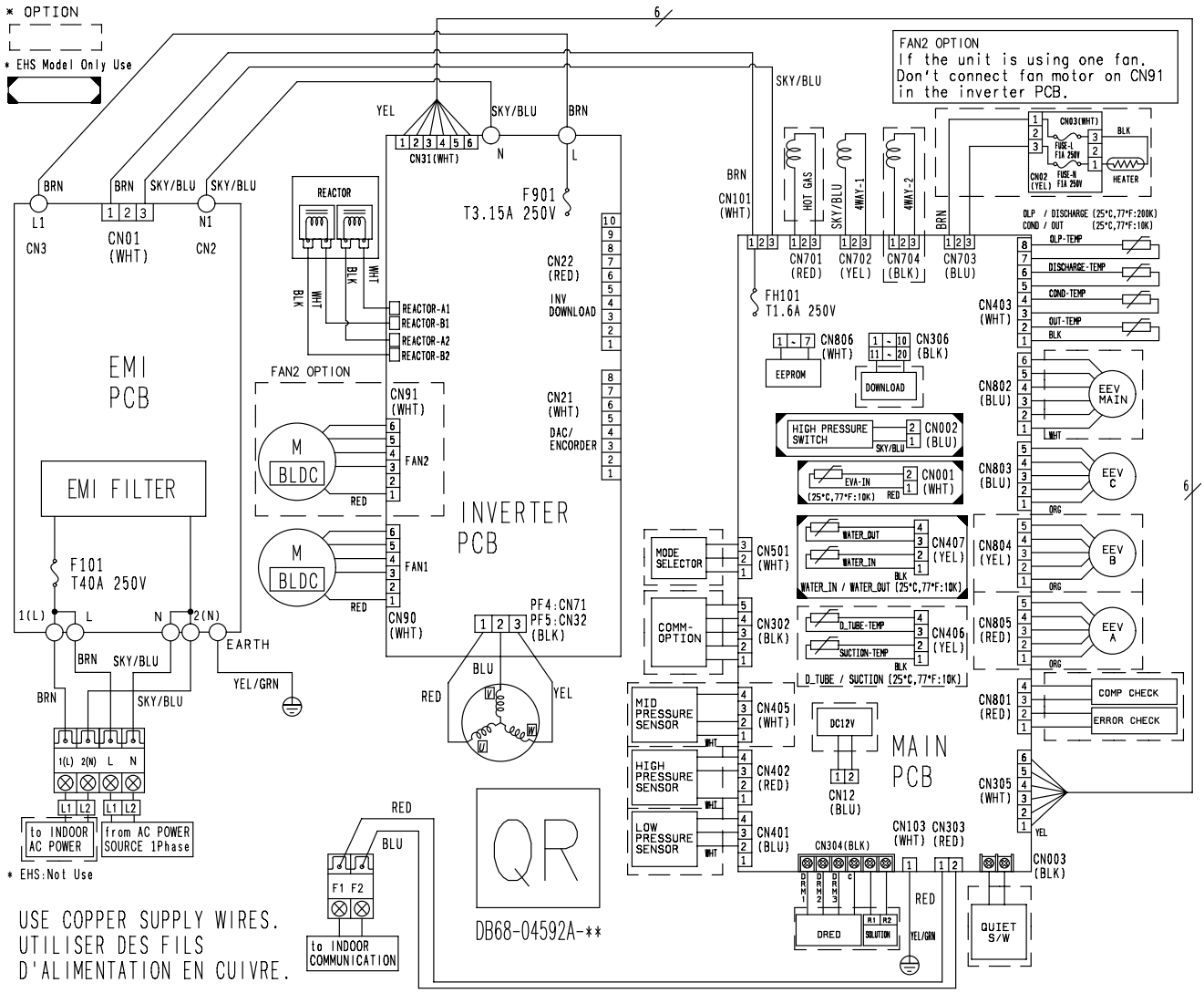
① AC POWER INPUT	② AC POWER OUTPUT
#1 AC POWER LINE - LIVE #2 AC POWER LINE - NEUTRAL	#1 AC POWER LINE - LIVE #2 AC POWER LINE - NEUTRAL

6. Wiring Diagram

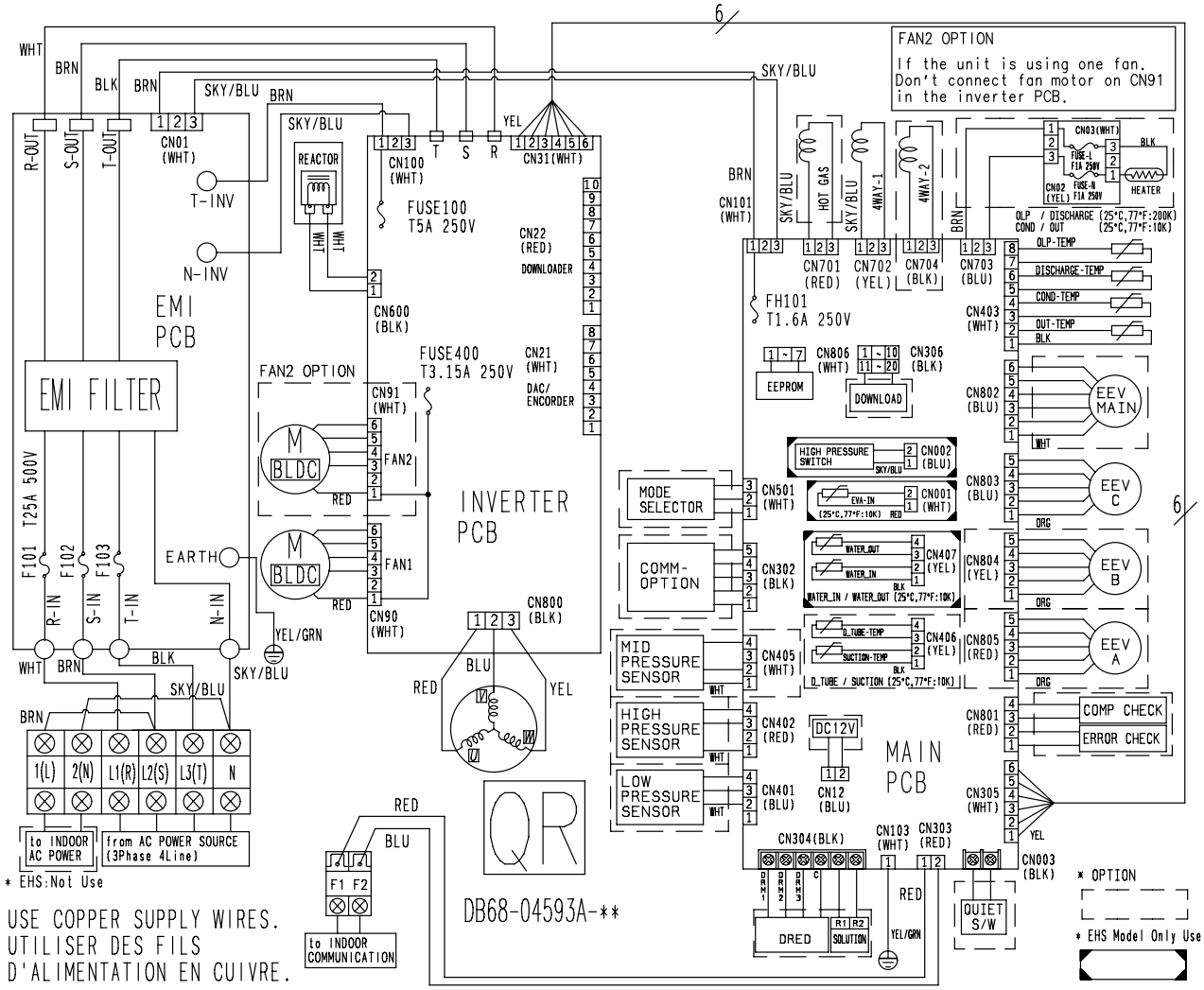
6-1 Indoor Unit



■ AC071JXSCEH, AC100JXSCEH



■ AC100JXSCGH, AC125JXSCGH



7. Reference Sheet

7-1 Index for Model Name

7-1-1 Indoor Unit

Model Code

A	C	1	2	5	J	N	4	C	E	H	/	E	U
		Capacity										Buyer Name	

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

Year	
E	2012
F	2013
G	2014
H	2015
J	2016

Separator	
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)

Separator		
1	1 WAY CST	CST
2	2 WAY CST	
N	MINI 4 WAY CST	
4	4 WAY CST	
H	HSP DUCT	Duct
M	MSP DUCT	
L	LSP DUCT	
E	FRESH AIR INTAKE DUCT	
G	CEILING CONCEILED DUCT	
C	CEILING	ETC
J	CONSOLE	
F	FLOOR MOUNTING	

Rating Voltage	
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)

Chassis Category	
F	FLAGSHIP
P	PREMIUM
D	DELUXE <- Basic
S	STANDARD
C	Low Temp.

Mode		
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.

Index for Model Name (cont.)

7-1-2 Outdoor Unit

Model Code

A	C	1	2	5	J	X	S	C	G	H	/	E	U
		Capacity										Buyer Name	

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

Year	
E	2012
F	2013
G	2014
H	2015
J	2016

Separator	
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)

Separator		
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		

Rating Voltage	
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)

Chassis Category	
F	FLAGSHIP
P	PREMIUM
D	DELUXE <- Basic
S	STANDARD
R	UNIVERSAL
C	DELUXE + Low Tepm.

Mode		
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	

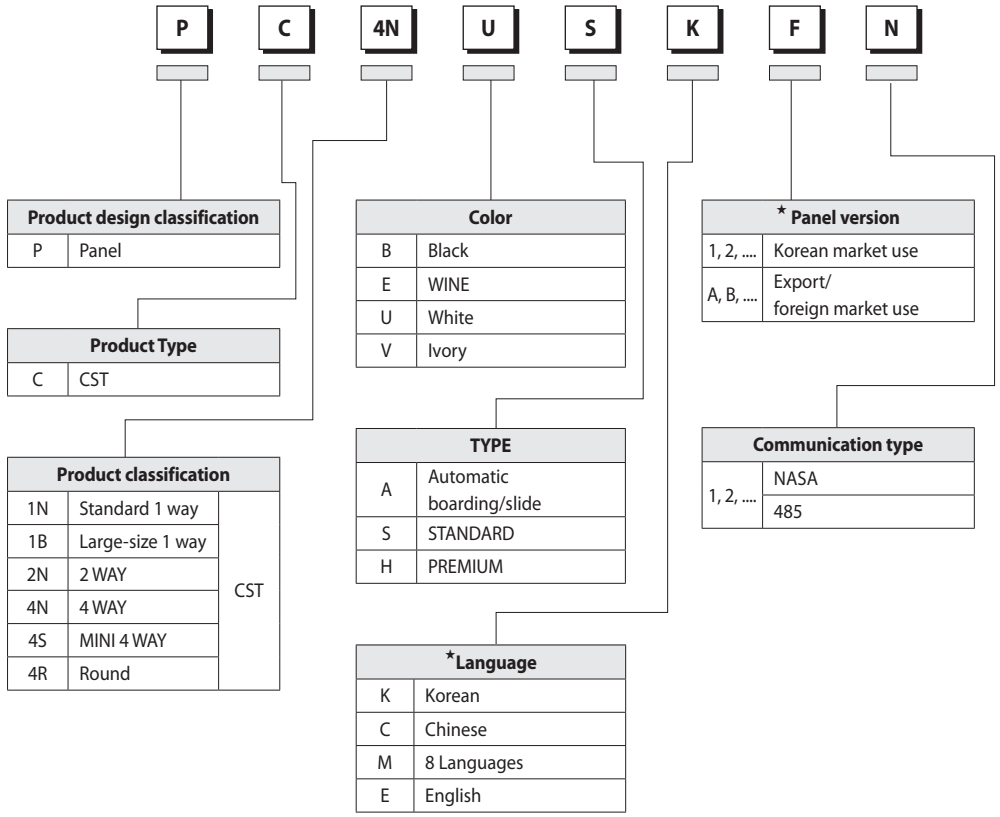
※★ MCD: Dummy mock-up model

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

Index for Model Name (cont.)

7-1-3 Panel

Model Code



Product design classification	
P	Panel

Product Type	
C	CST

Product classification		
1N	Standard 1 way	CST
1B	Large-size 1 way	
2N	2 WAY	
4N	4 WAY	
4S	MINI 4 WAY	
4R	Round	

Color	
B	Black
E	WINE
U	White
V	Ivory

TYPE	
A	Automatic boarding/slide
S	STANDARD
H	PREMIUM

★Language	
K	Korean
C	Chinese
M	8 Languages
E	English

★ Only display the Global 4 way with Korean/ English K separator.

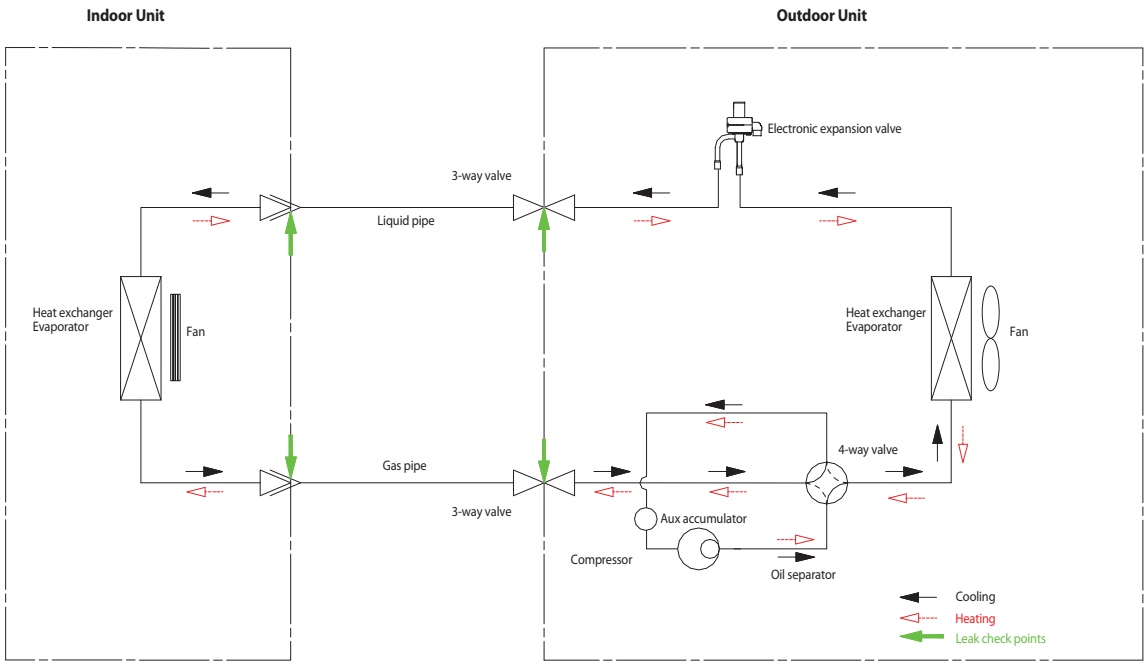
	Pattern	Waffle	Stripe
Global 4 Way Panel	Korean market use	1	5
	Export/ foreign market use	A	E

★ Panel version	
1, 2, ...	Korean market use
A, B, ...	Export/ foreign market use

Communication type	
1, 2, ...	NASA
	485

※ Model name for the column/bundle packaging is "~S".

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

GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
Europe, CIS, Mideast & Africa	gspn1.samsungcsportal.com
Asia	gspn2.samsungcsportal.com
North & Latin America	gspn3.samsungcsportal.com
China	china.samsungportal.com

Code No. AC-00172E_1