

SAMSUNG

SYSTEM AIR CONDITIONER

SINGLE for North America (R-410A, Heat Pump)

INDOOR UNIT

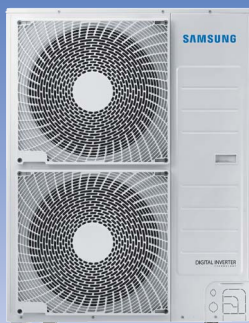
AR36BSHUMGMNCV

OUTDOOR UNIT

AR36BSHUMGMXCV

SERVICE *Manual*

AIR CONDITIONER



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1. Precautions

1-1. Precautions for the Service

- **Use the correct parts when changing the electric parts.**
 - Please check the labels and notices for the model name, proper voltage, and proper current for the electric parts.
- **Fully repair the connection for the types of harness when repairing the product after breakdown.**
 - A faulty connection can cause irregular noise and problems.
- **When disassembling or assembling, make sure that the product is laid down on a work cloth.**
 - Doing so will prevent scratching to the exterior of the rear side of the product.
- **Completely remove dust or foreign substances on the housing, connection, and inspection parts when performing repairs.**
 - This can prevent fire hazards for tracking, short, etc.
- **Please tighten the service valve of the outdoor unit and the valve cap of the charging valve as securely as possible by using a monkey spanner.**
- **Check whether the parts are properly and securely assembled after performing repairs.**
 - These parts should be in the same condition as before the repair.

1-2. Precautions for the Static Electricity and PL

- **Please carefully handle the PCB power terminal during repair and measurement when it is turned on since it is vulnerable to static electricity.**
 - Please wear insulation gloves before performing PCB repair and measurement.
- **Check if the place of installation is at least 2m away from electronic appliances such as TV, video players, and stereos.**
 - This can cause irregular noise or degrade the picture quality.
- **Please make sure the customer does not directly repair the product.**
 - Arbitrary dismantling may result in electric shock or fire.

1-3. Precautions for the Safety

- **Do not pull or touch the power plug or the subsidiary power switch with wet hands.**
 - This may result in electric shock or fire.
- **If the power line or the power plug is damaged, then it must be changed since this is a hazard.**
- **Do not bend the wire too much or position it so that it can be damaged by a heavy object on top.**
 - This may result in electric shock or fire.
- **The use of multiple electric outlets should be prohibited.**
 - This may result in electric shock or fire.
- **Ground the connection if it is necessary.**
 - The connection must be grounded if there is any risk of electrical short due to water or moisture.
- **Unplug the power or turn off the subsidiary power switch when changing or repairing electrical parts.**
 - Doing so will prevent electric shock.
- **Explain to workers that the battery for the remote control needs to be separated for storage purposes when the product will not be used for a long time.**
 - This can cause a problem for the remote control since battery fluid may trickle out.

1-4. Precautions for Handling Refrigerant for Air Conditioner

Environmental Cautions: Air pollution due to gas release

- **Safety Cautions**

If liquid gas is released, then body parts that come into contact with it may experience frostbite/blister/numbness.

If a large amount of gas is released, then suffocation may occur due to lack of oxygen. If the released gas is heated, then noxious gas may be produced by combustion.

- **Container Handling Cautions**

Do not subject container to physical shock or overheating. (Flowage is possible while moving within the regulated pressure.)

1-5. Precautions for Welding the Air Conditioner Pipe

- **Dangerous or flammable objects around the pipe must be removed before the welding.**

- **If the refrigerant is kept inside the product or the pipe, then remove the refrigerant prior to welding.**

If the welding is carried out while the refrigerant is kept inside, the welding cannot be properly performed. This will also produce noxious gas that is a health hazard. This leakage will also explode with the refrigerant and oil due to an increase in the refrigerant pressure, posing a danger to workers.

- **Please remove the oxide produced inside the pipe during the welding with nitrogen gas.**

Using another gas may cause harm to the product or others.

1-6. Precautions for Additional Supplement of Air Conditioner Refrigerant

- **Precisely calculate the refrigerant by using a scale and S-net, and proceed with the test operation.**

Excessive supplement can cause harm to the product since it can cause an inflow of the liquid refrigerant into the compressor.

- **Do not heat the refrigerant container for a forced injection.**

This may cause harm to the product or others since the refrigerant container may burst.

- **Do not operate the product after removing the product safety pressure switch and sensor.**

If the product is blocked inside, then this may cause harm to the product or others due to the excess pressure increase of the refrigerant gas.

1-7. Other Precautions

- **There should be no leakage of the pipes after installation. When withdrawing the refrigerant, the compressor should be stopped before removing the connecting pipe.**

If the compressor is operating while the refrigerant pipe is not correctly connected and the service valve is opened, then air and other substances can enter the pipe. The interior of the refrigerant cycle may then build up excessive high pressure resulting in explosion and damage.

- **If the Wall Mounted type(Wind free) indoor unit is included in the installation combination, please contact us before changing the Capacity correction for heating function to 33kg/cm2g during Outdoor unit key function setting.**

2. Product Specifications

2-1. Product Specifications

Item			CRAC	
			IN	AR36BSHUMGMNCV
			OUT	AR36BSHUMGMXCV
Design	Indoor Unit			
	Outdoor Unit			
	Remote Controller			
Performance	Cooling [Btu/h]		9,500/36,000/39,000	
	Heating [Btu/h]		9,500/40,000/47,000	
Power Consumption	Cooling [W]		900/3,790/4,300	
	Heating [W]		560/4,510/5,820	
EER/COP	Cooling [Btu/hW]		9.5	
	Heating [Btu/hW]		8.85	
Voltage / Frequency			1,2,208-230,60	
Operating Current	Cooling [A]		5.0/16.8/19.1	
	Heating [A]		3.0/20.0/24.0	
Sound Pressure	Indoor Unit [dBA] (H/M/L/Silence)		51/48/46/38	
	Outdoor Unit [dBA] (C/H)		52/54	
Sound Power	Indoor Uint [dBA] (Cooling)		65	
	Outdoor Uint [dBA] (Cooling)		69	
Size	Net Dimension (WxHxD)	Indoor Unit [mm]	1,280 x 253 x 345	
		Outdoor Unit [mm]	940 x 1,210 x 330	
	Shipping Dimension (WxHxD)	Indoor Unit [mm]	1,352 x 326 x 420	
		Outdoor Unit [mm]	995 x 1,388 x 426	
Weight	Net	Indoor Unit [kg]	18.5	
		Outdoor Unit [kg]	86.0	
	Gross	Indoor Unit [kg]	22.0	
		Outdoor Unit [kg]	95.5	
Harness Specifications	Indoor Fan Motor		DB31-00332C	
	Compressor		UG5TK1450FJXSG	
	Outdoor Fan Motor		DB31-00579A	
Piping	High Pressure		Φ9.52	
	Low Pressure		Φ15.88	
Refrigerant Type			R-410A	
Factory Charging [g]			2,900	
Additional Refrigerant (Over 5m, for every 5m) [g]			30	
Basic Piping Length [m]			7.5	
Max. Piping Length [m]			75	
Max. Level Difference [m]			30	
Option Code			0113FF-194593-276975-371700	
			020010-100000-200000-300000	
			030000-100000-200000-300000	
			050000-100000-200000-300000	

2-2. Specifications of optional items

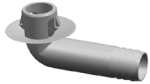
2-2-1. Accessories

■ AR36BSHUMGMNCV

Item	Description	Code No.	Q'ty	Remark
			AR36BSHUMGMNCV	
	ASSY WIRELESS REMOCON	DB96-24901P	1	Indoor Unit
	BATTERY-MN	4301-000121	2	
	MANUAL USERS	DB68-11577A	1	
	MANUAL INSTALL	DB68-11578A	1	
	HOLDER-REMOCON	DB61-06087A	1	
	SCREW-TAPPING(M4*L12)	6002-000213	2	
	CARD WARRNATY	6801-002246	1	

Accessories (cont.)

■ AR36BSHUMGMXCV

Item	Description	Code No.	Q'ty	Remark
			AR36BSHUMGMXCV	
	MANUAL INSTALL	DB68-11579A	1	Outdoor Unit
	RUBBER-LEG	DB73-20134A	4	
	SEAL DRAIN	DB63-10355C	3	
	DRAIN-PLUG OUT	DB67-00806A	1	

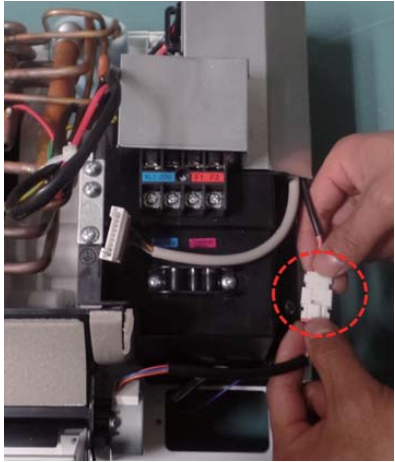
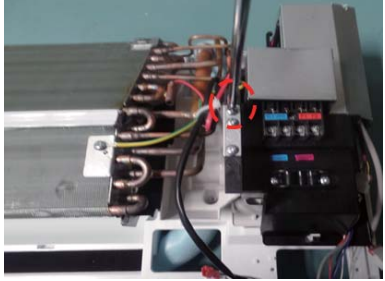
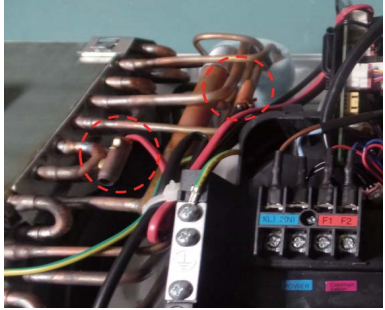
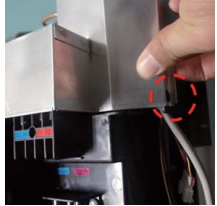
3. Disassembly and Reassembly

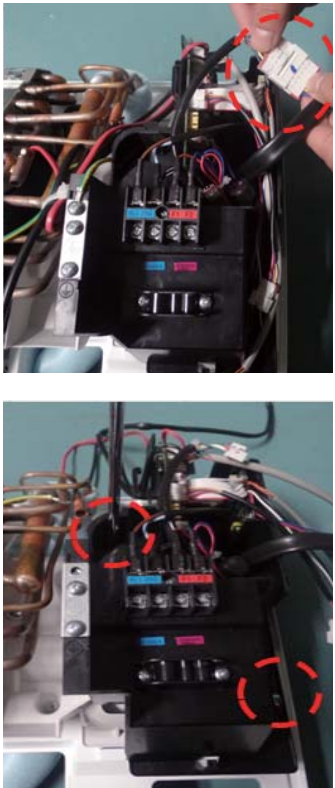
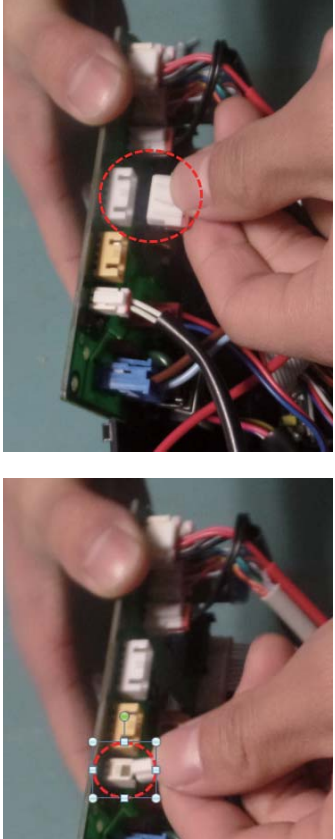
■ Necessary Tools

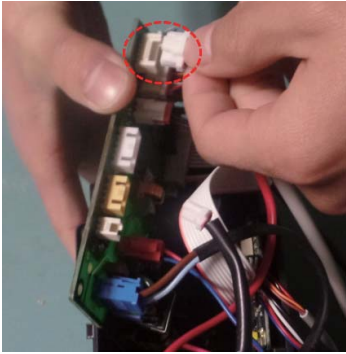
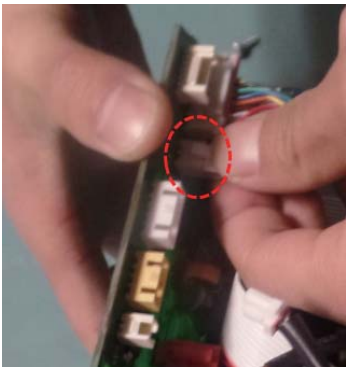
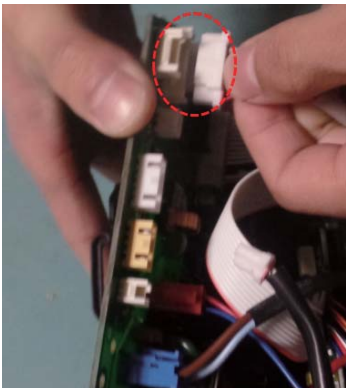
Item	Remarks
+SCREW DRIVER	
Adjustable Wrench (8mm, 10mm, 13mm)	
M6, M8 Hex Wrench	

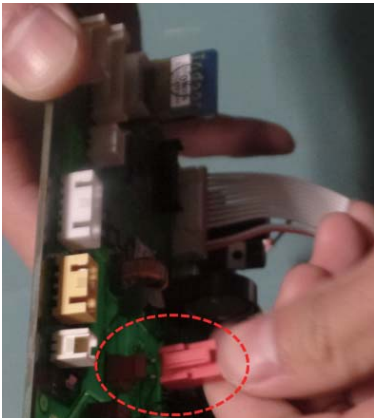
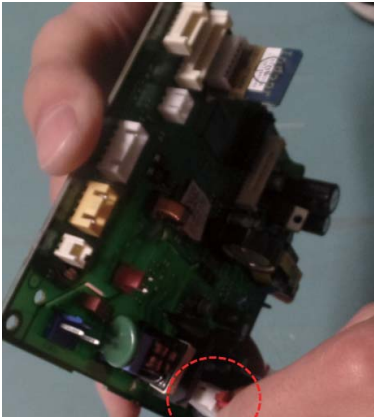
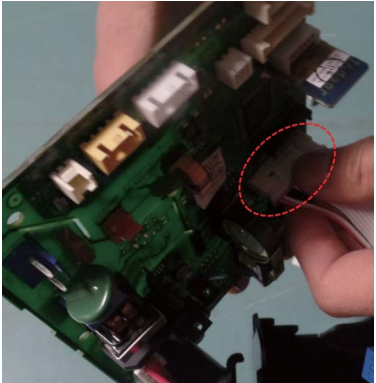
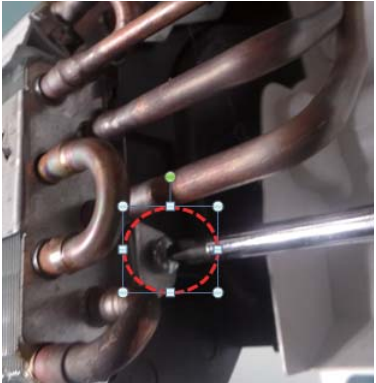
■ RAC(MAX) : AR36BSHUMGMNCV

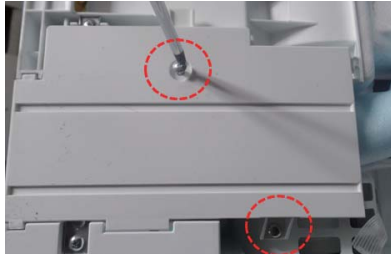
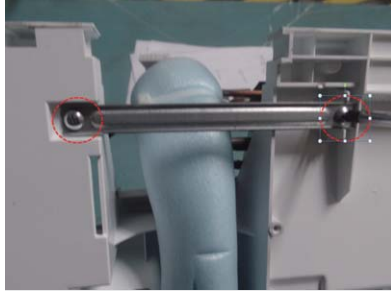
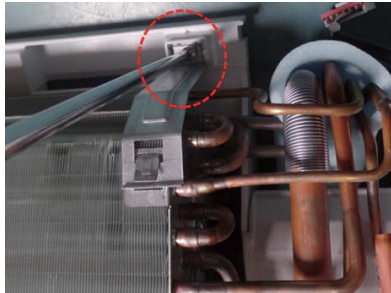
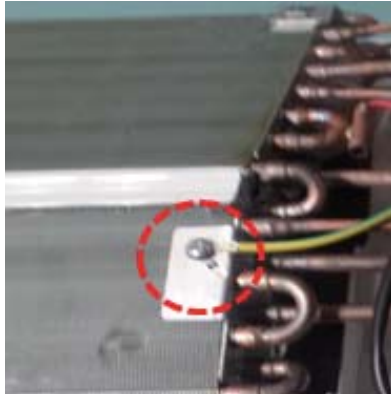
No	Parts	Procedure	Remark
1	Panel-Front	1) Stop the driving of air conditioner and shut off main power supply. 2) Open the FRONT-GRILLE and pull out from the PANEL-FRONT. 3) Detach COVER-TERMINAL from the PANEL FRONT. (use + Screw Driver) 4) Loosen connector wire(white) and detach the temperature sensor wire. 5) To detach the FRONT-PANELthe main frame, unfasten 2 screw at the bottom. (use + Screw Driver) 6) Take off the FRONT-PANEL,lifting up the bottom	    

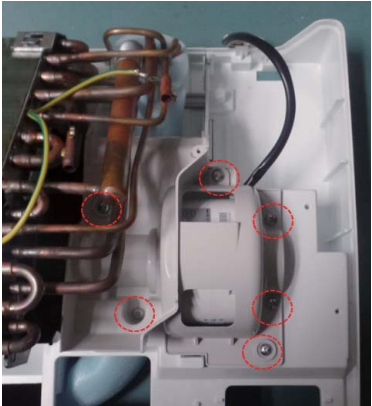
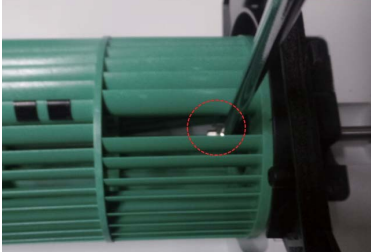
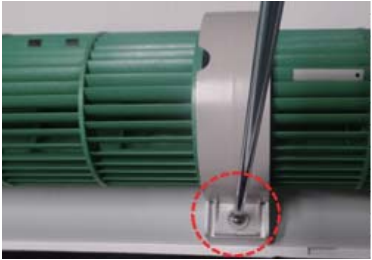
No	Parts	Procedure	Remark
2	TRAY DRAIN	1) Loosen stepping motor wire and detach the hook of main frame. 2) To detach TRAY-DRAIN from the main frame, pull the bottom of the TRAY-DRAIN towards you. 3) To detach TRAY-DRAIN from the main frame, pull the bottom of the TRAY-DRAIN towards you.	  
.3	CONTROL IN	1) Unfasten the earth screw. (use + ScrewDriver) 2) Detach the temperature sensor and Humidity sensor. 3) Detach the temperature sensor.	   

No	Parts	Procedure	Remark
.3	CONTROL IN	4) Loosen MOTOR wires(white). 5) Take off the CASE-CONTROL from the main frame. (use + Screw Driver)	
4	PBA	1) Loosen the STEP UP/DOWN connector (CN802). ⚠ Caution When you separate the connector, pull pressing the locking button. 2) Loosen the FUSE CHK connector (CN140). ⚠ Caution When you separate the connector, pull pressing the locking button.	

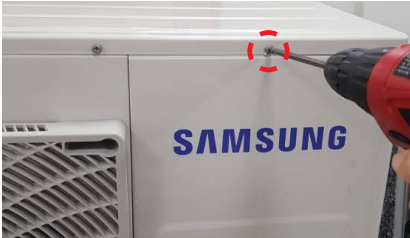
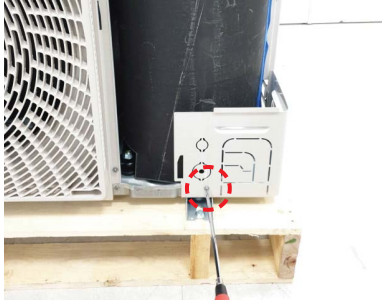
No	Parts	Procedure	Remark
4	PBA	3) Loosen the EVA IN/OUT connector. (CN403) ⚠ Caution When you separate the connector, pull pressing the locking button. 4) Loosen the Humidity sensor connector (CN401). → Option connector. ⚠ Caution The terminal is locking type. So, when you separate terminals, pull pressing the button. 5) Loosen the DISPLAY connector. (CN501). ⚠ Caution The terminal is locking type. So, when you separate terminals, pull pressing the button. 6) Loosen the POWER connector. ⚠ Caution When you separate the connector, pull pressing the locking button.	   

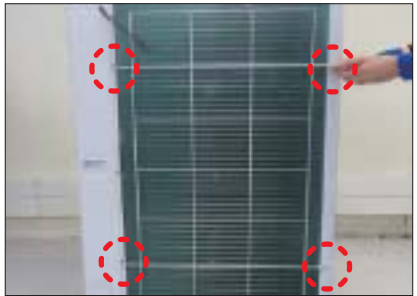
No	Parts	Procedure	Remark
4	PBA	7) Loosen the COMM wire connector (CN303). ⚠ Caution When you take off the PBA, don't touch the components. Please hold the PBA both side. 8) Loosen the Motor connector (CN701). ⚠ Caution When you separate the connector, pull pressing the locking button. 9) Take off the main PBA from the ASS'Y Control in. ⚠ Caution When you take off the PBA, don't touch the components. Please hold the PBA both side.	  
5	EVAPORATOR	1) Unfasten the screw at the right side. (use + ScrewDriver)	

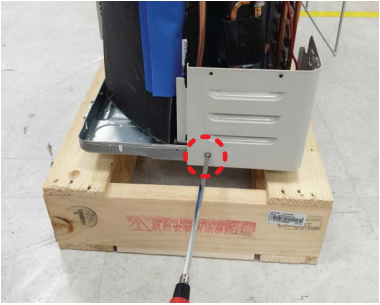
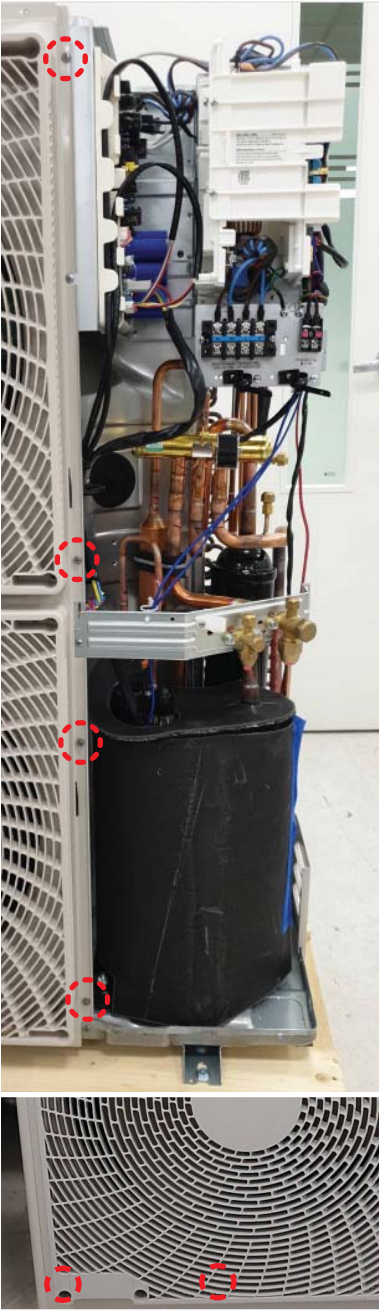
No	Parts	Procedure	Remark
5	EVAPORATOR	2) Unfasten the screw at the left side. (use + ScrewDriver) 3) Detach the HOLDER PIPE. (use + Screw Driver) 4) Detach the BRACKET-EVAP. (use + Screw Driver) 5) Detach the HOLDER EVAP. (use + Screw Driver) 6) Loosen 1 fixing earth screw right side. (use + Screw Driver)	    

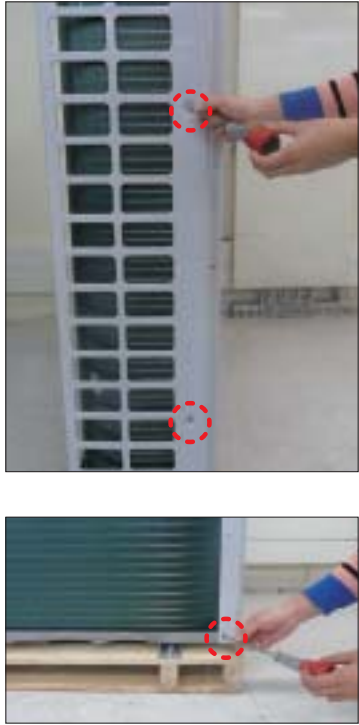
No	Parts	Procedure	Remark
6	FAN MOTOR & CROSS FAN	1) Loosen 6 fixing screws of HOLDER-MOTOR 2) unfasten the screw a little. (use + Screw Driver) 3) unfasten the screw a little and pull the MOTOR FAN to the right side. (use + Screw Driver) 4) Loosen 1 fixing screws of HOLDER-FAN. (use + Screw Driver) 5) unfasten the screw a little. (use + Screw Driver)	    

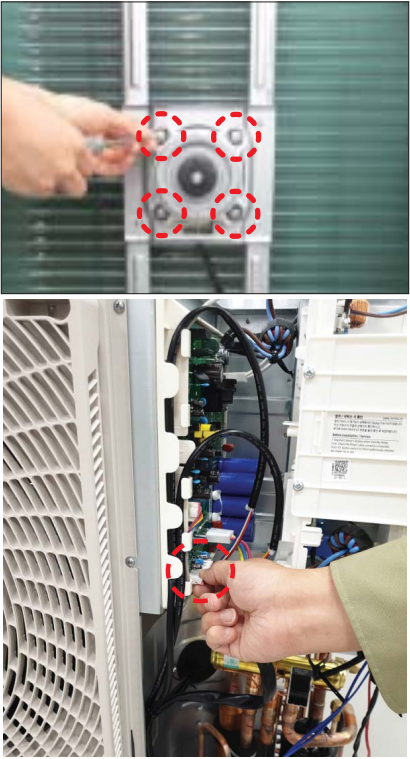
■ AR36BSHUMGMXCV

No.	Parts	Procedure	Remark
1	Cabinet Front RH	⚠ Turn off the power before disassembly necessarily. 1) Remove the 2 screws from the Cabinet Front RH and separate it. (Use + Screw Driver)	 
2	Cabinet Upper	1) Remove the 9 screws which is fixed to each side of Cabinet Upper and separate it. (Use + Screw Driver)	
3	Cabinet-Installation Front Part	1) Remove the 1 screw which is fixed to Cabinet-Installation Front Part and separate it. (Use + Screw Driver)	

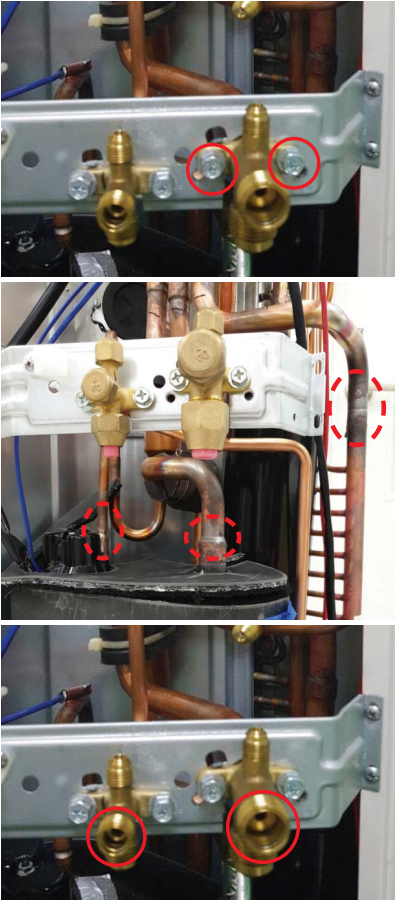
No.	Parts	Procedure	Remark
4	Outdoor Unit Guard	1) Pull out the sensor from the Outdoor Unit Guard and separate it. 2) Remove the 4 screws which is fixed to Outdoor Unit Guard and separate it. (Use + Screw Driver)	 
5	Cabinet Rear RH	1) Pull out the sensor from the Cabinet Rear RH and separate it. 2) Remove the 4 screws which is fixed to each side of Cabinet Rear RH and separate it. (Use + Screw Driver)	 

No.	Parts	Procedure	Remark
6	Cabinet-Installation Rear Part	1) Remove the 1 screw from the Cabinet-Installation Rear Part and separate it.(Use +Screw Driver)	
7	Cabinet Front LF	1) Remove the 9 screws from the Cabinet Front LF and separate it. (Use +Screw Driver)	

No.	Parts	Procedure	Remark
7	Cabinet Front LF		
8	Fan	1) Remove the 2 fixing nuts like the picture on the right side. (Use Hexagon Wrench, Monkey Spanner, Hexagon Socket)	

No.	Parts	Procedure	Remark
9	Motor	1) Separate the Fan Propeller. 2) Remove the 8 screws which is fixed to Motor. (Use +Screw Driver) 3) Separate the Motor Wire connector from the Outdoor Unit Control Part.	
10	Bracket Motor	1) Remove the 2 screws from the Bracket Motor and separate it. (Use +Screw Driver)	

No.	Parts	Procedure	Remark
11	Control Part	1) Separate the 4 connectors from the Outdoor Unit Control part. 2) Remove the 2 screws which is fixed to Control Part. (Use +Screw Driver) 3) Separate the Control Part.	

No.	Parts	Procedure	Remark
12	4 Way Valve	1) First, discharge the refrigerant. 2) Remove the 2 screw which is fixed to Service Valve. (Use +Screw Driver) 3) Separate the inlet and outlet pipes by welding torch. ⚠ If you separate the Compressor, Heat Exchanger or Pipe, please fully discharge refrigerant in the Compressor and then separate the Pipe by welding torch.	
13	EEV Valve	1) Remove the 2 screws which is fixed to Service Valve and separate it. (Use +Screw Driver) 2) Separate the inlet and outlet pipes by welding torch	

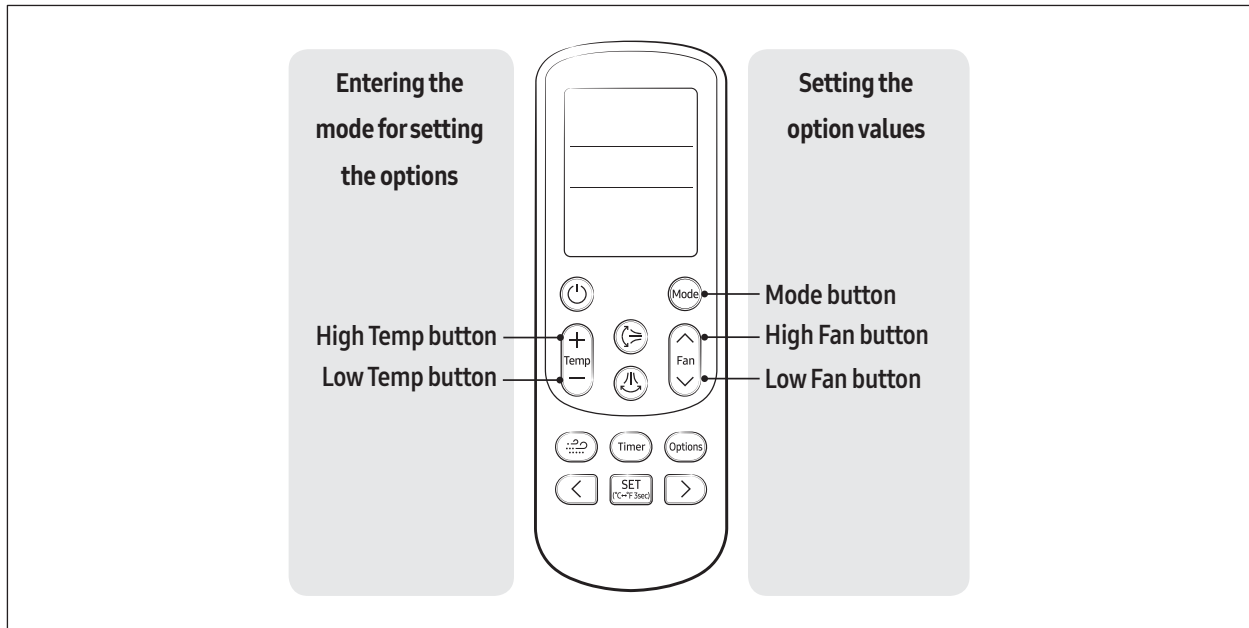
No.	Parts	Procedure	Remark
14	Compressor	1) Remove the 1 fixing nut from the end of Cover and separate it. (Use Hexagon Wrench, Monkey Spanner, Hexagon Socket) 2) Separate the Felt Compressor. 3) Remove the 3 bolts from the bottom of Compressor like the picture on the right side. (Use Hexagon Wrench, Monkey Spanner, Hexagon Socket)	   

4. Troubleshooting

4-1. Setting an indoor unit address and installation option

- ▶ Set the indoor unit address and installation option with remote controller option.
Set the each option separately since you cannot set the ADDRESS setting and indoor unit installation setting option at the same time. You need to set twice when setting indoor unit address and installation option.

4-1-1. The procedure of setting option



Step 1 Entering mode for option setting.

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



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

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



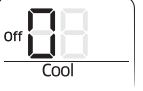
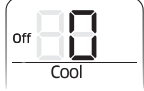
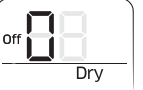
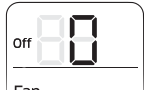
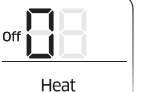
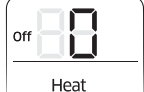
- Option setting is available from SEG1 to SEG 24.
- SEG1, SEG7, SEG13, SEG19 are not set as page option.
- Set the SEG2~SEG6, SEG8~SEG12 in the ON status and SEG14~18, SEG20~24 in the OFF status.

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12	On (SEG1~12)	Off (SEG13~24)
0	X	X	X	X	X	1	X	X	X	X	X	Auto On 00	Auto Off 00
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24		
2	X	X	X	X	X	3	X	X	X	X	X		

4-1-2. The procedure of setting option

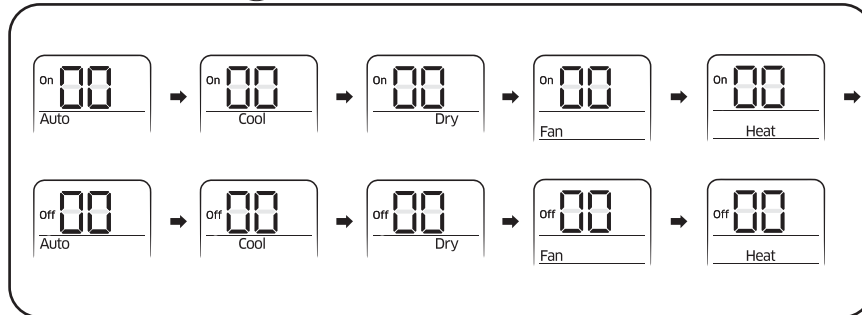
Option setting	Status
1. Setting SEG2, SEG3 option Press Low Fan button(∨) to enter SEG2 value. Press High Fan button(∧) to enter SEG3 value. Each time you press the button, 0 → 1 → ... 9 → 0 will be selected in rotation .	On 00 Auto SEG2 On 00 Auto SEG3
2. Setting Cool mode  Press Mode button to be changed to Cool mode in the ON status .	On 00 Cool
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 → ... 9 → 0 will be selected in rotation .	On 00 Cool SEG4 On 00 Cool SEG5
4. Setting Dry mode  Press Mode button to be changed to DRY mode in the ON status .	On 00 Dry
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 → ... 9 → 0 will be selected in rotation .	On 00 Dry SEG6 On 00 Dry SEG8
6. Setting Fan mode  Press Mode button to be changed to FAN mode in the ON status .	On 00 Fan
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 → ... 9 → 0 will be selected in rotation .	On 00 Fan SEG9 On 00 Fan SEG10
8. Setting Heat mode  Press Mode button to be changed to HEAT mode in the ON status .	On 00 Heat
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 → ... 9 → 0 will be selected in rotation .	On 00 Heat SEG11 On 00 Heat SEG12
10. Setting Auto mode  Press Mode button to be changed to AUTO mode in the OFF status.	off 00 Auto
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 → ... 9 → 0 will be selected in rotation.	off 00 Auto SEG14 off 00 Auto SEG15

The procedure of setting option (cont.)

Option setting	Status
12. Setting Cool mode  Press Mode button to be change to Cool mode in the OFF status.	
13. Setting SEG16, SEG17 option Press Low Fan button(∨) to enter SEG16 value. Press High Fan button(∧) to enter SEG17 value. Each time you press the button, 0 → 1 → ... 8 → 9 will be selected in rotation.	  SEG16SEG17
14. Setting Dry mode  Press Mode button to be change to Dry mode in the OFF status.	
15. Setting SEG18, SEG20 option Press Low Fan button(∨) to enter SEG18 value. Press High Fan button(∧) to enter SEG20 value. Each time you press the button, 0 → 1 → ... 8 → 9 will be selected in rotation.	  SEG18SEG20
16. Setting Fan mode  Press Mode button to be change to Fan mode in the OFF status.	
17. Setting SEG21, SEG22 option Press Low Fan button(∨) to enter SEG21 value. Press High Fan button(∧) to enter SEG22 value. Each time you press the button, 0 → 1 → ... 8 → 9 will be selected in rotation.	  SEG21SEG22
18. Setting Heat mode  Press Mode button to be change to HEAT mode in the OFF status.	
19. Setting SEG23, SEG24 mode Press Low Fan button(∨) to enter SEG23 value. Press High Fan button(∧) to enter SEG24 value. Each time you press the button, 0 → 1 → ... 8 → 9 will be selected in rotation.	  SEG23SEG24

Check the option you have set

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



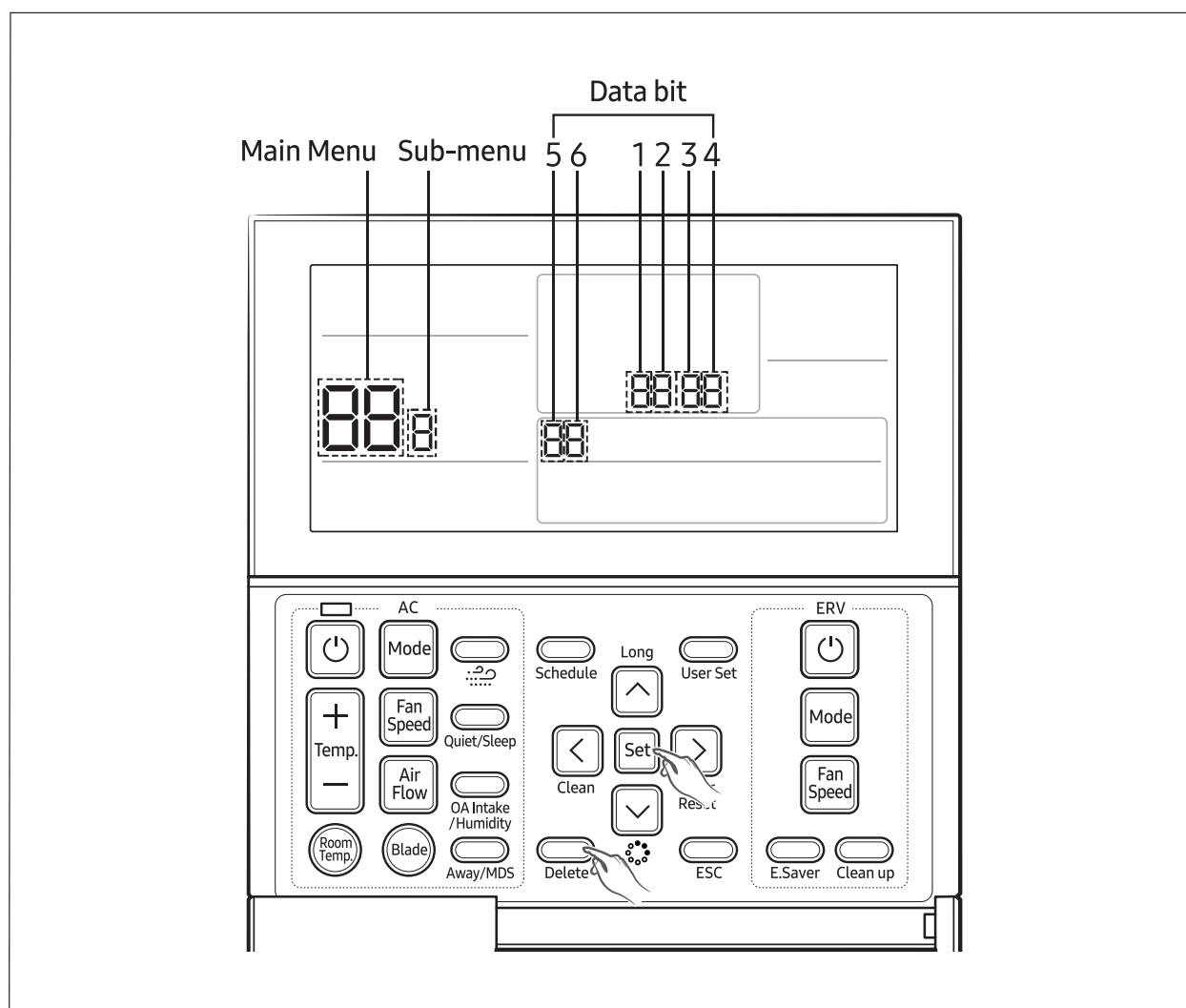
Step 4 Input option

Press the operation button  with the direction of remote control for set.
For the correct option setting, you must input the option twice.

Step 5 Check operation

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

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



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



- 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 the indoor unit addresses

■ AR36BSHUMGMNCV

- The installation options of indoor units are set to 020010-100000-200000-300000 by default.

Option No. for an indoor unit : 02XXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3	SEG4			SEG5		SEG6
Function	Page		Mode		Reserved	Use of external room temperature sensor / Minimizing fan operation when thermostat is off ¹⁾			Central control		Reserved
Indication and details	Indication	Details	Indication	Details		Indication	Details		Indication	Details	
	0		2				Use of external room temperature sensor	Minimizing fan operation when ther- mostat is off	0	Disuse	
						0	Disuse	Disuse			
						1	Use	Disuse			
						2	Disuse	Use(Heating)			
						3	Use	Use(Heating)			
						4	Disuse	Use(Cooling)			
						5	Use	Use(Cooling)	1	Use	
						6	Disuse	Use (Cooling/Heating)			
						7	Use	Use (Cooling/Heating)			
						8	Disuse	Use (Cooling Ultra low speed)			
						9	Use	Use (Cooling Ultra low speed)			
						A	Disuse	Use (Heating/Cooling Ultra low speed)			
						B	Use	Use (Heating/Cooling Ultra low speed)			
						Option	SEG7				
Function	Page		Use of drain pump		Reserved	Reserved		Reserved		Reserved	
Indication and details	Indication	Details	Indication	Details							
	1		0	Disuse							
8			Use external drain pump								

Option	SEG13		SEG14			SEG15		SEG16	SEG17		SEG18	
Function	Page		Use of external control			Setting the output of external control		Reserved	Buzzer control		Maximum filter usage time ³⁾	
Indication and details	Indication	Details	Indication	Details		Indication	Details		Indication	Details	Indication	Details
	2		0	Disuse	Slave, Existing control	0	Thermo on		0	Use of buzzer	2	1000 hours
			1	On/Off								
			2	Off								
			3	Window On/Off								
			4	Disuse	Master, Existing control							
			5	On/Off								
			6	Off								
			7	Window On/Off								
			8	Disuse	Slave, Reverse control	1	Operation On		1	Disuse of buzzer	6	2000 hours
			9	On/Off								
			A	Off								
			B	Window On/Off								
			C	Disuse	Master, Reverse control							
			D	On/Off								
			E	Off								
F			Window On/Off									

Option	SEG19		SEG20			SEG21		SEG22	SEG23		SEG24
Function	Page		Individual control with remote control ⁵⁾			Heating setting compensation ⁴⁾		Reserved	Reserved	Reserved	
Indication and details	Indication	Details	Indication	Details		Indication	Details				
	3		0 or1	Indoor1		0	Default				
			2	Indoor2		1	3.6 °F(2 °C)				
			3	Indoor3		2	9 °F(5 °C)				
			4	Indoor4							

- 1) SEG4: By SEG4 setting, Minimizing fan operation when thermostat is off.
- Fan operates for 20 seconds at an interval of 5 minutes in heat mode.
- Fan stops or operates Ultra low in Cooling when thermostat is off.
- 2) SEG11: Compensation of the wind-free fan RPM option adjusts 20 rpm per 1 step.
- 3) SEG18: If you set the Maximum filter usage time option to a value other than 2 and 6, it is automatically set to 2 (1000 hours).
- 4) SEG20: If you set the Individual control with remote control option to a value other than 0 to 4, it is automatically set to 0 (Indoor1)
- 5) SEG21: Default value of Heating setting compensation is 9°F(5°C).

4-1-5. Changing the addresses and options individually

When you want to change the value of a specific option, refer to the following table and follow the steps in Common steps for setting the addresses and options

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Function	Page		Mode		Type of the option to change		Tens position of the option number		Units position of the option number		New value	
Indication and details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		D		Option type	0 to F	Tens position value	0 to 9	Units position value	0 to 9e	New value	0 to F

Example: Changing the Buzzer control (SEG17) option of the functional options to 1 disuse.

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Function	Page		Mode		Type of the option to change		Tens position of the option number		Units position of the option number		New value	
Indication	0		D		2		1		7		1	

4-2. Model-specific option code

Item	Model	SEG												Static Pressure
		1	2	3	4	5	6	7	8	9	10	11	12	
CRAC	AR36BSHUMGMNCV	0	1	1	3	F	F	1	9	4	5	9	3	
		13	14	15	16	17	18	19	20	21	22	23	24	
		2	7	6	9	7	5	3	7	1	7	0	0	

4-3. Diagnostic Checklist

4-3-1. Test operation mode and check mode

■ Display Options key

Key	Push type	Mode	Display			
			SEG 1	SEG 2	SEG 3	SEG 4
K1	Short	1st	Heating test mode	H	1	8
		2nd	Defrost test mode ¹⁾	H	3	8
		3rd	End Key operation	8	8	8
K2	Short	1st	Cooling test mode	H	2	8
		2nd	Inverter check	H	4	8
		3rd	Pump down	H	6	8
		4th	Not Used/No Function	H	8	8
		5th	Inverter Fault Detection (Comp#1)	H	A	8
		6th	Auto trial operation	H	E	8
		7th	Auto check ²⁾ (Installation commissioning mode)	H	E	8
K3	Short	8th	End Key operation	8	8	8
		1st	Reset Release Eco mode	8	8	8

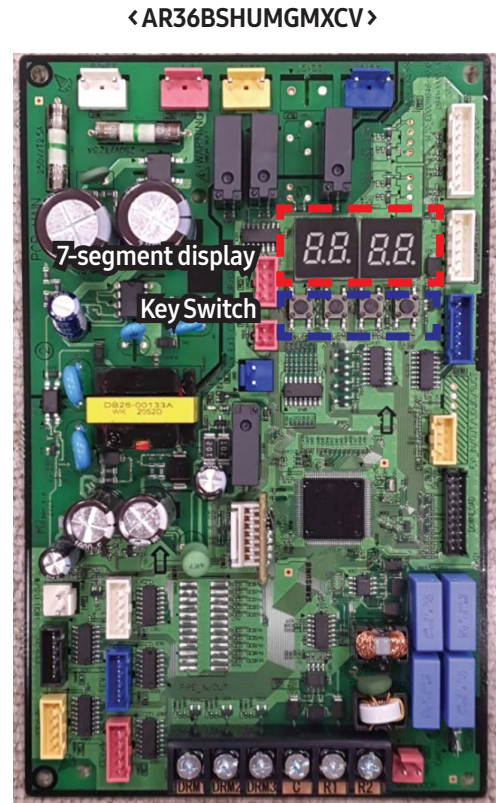
¹⁾ Defrost test mode

Condition 1: The outdoor temperature is below 10°C.

Condition 2: All the temperature conditions should meet the defrost conditions.

²⁾ Auto check (Installation commissioning mode)

To ensure normal operation of the product, first make sure to complete auto check.



4-3-2. Error code [indoor]

■ RAC : AR36BSHUMGMNCV

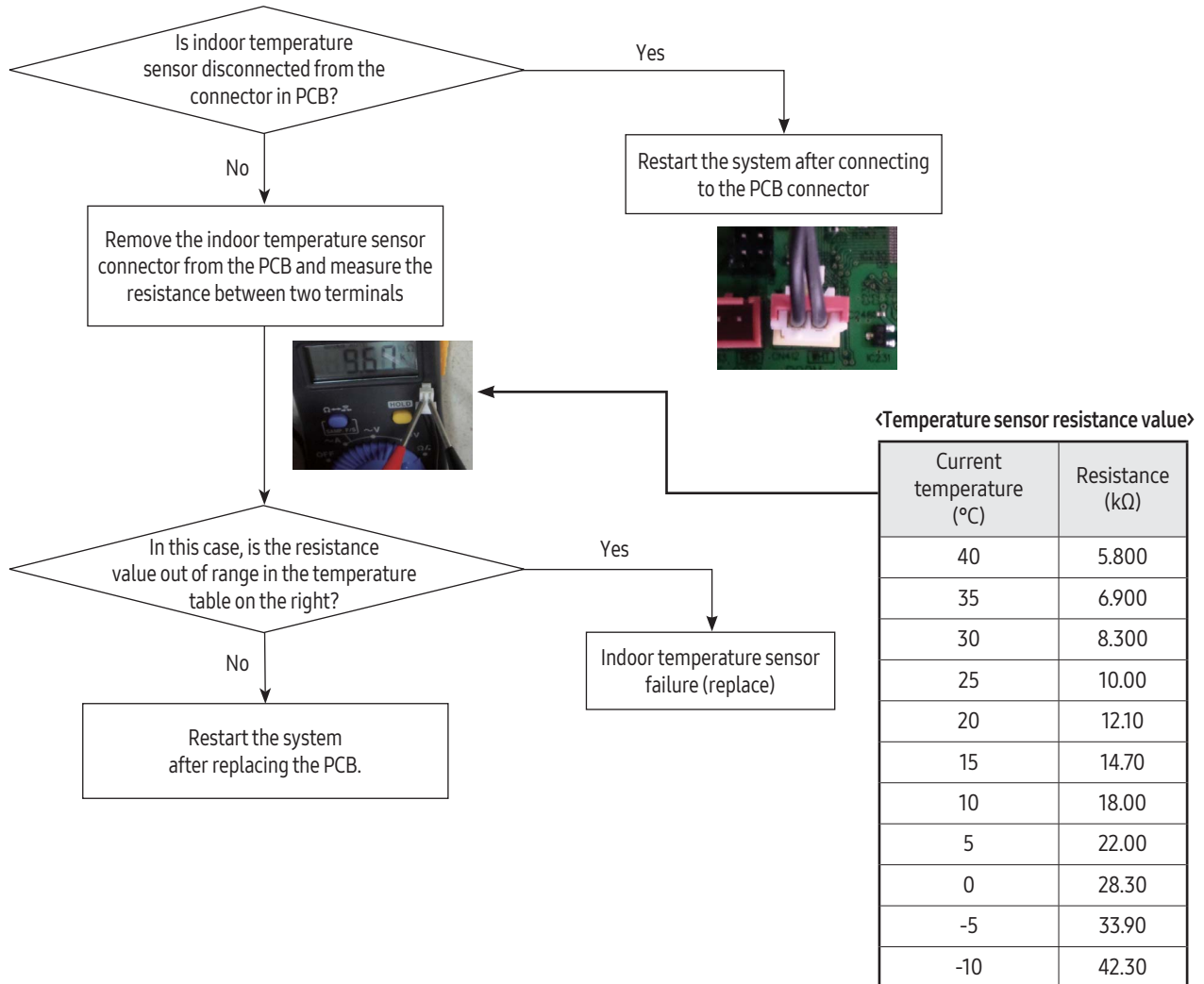
Abnormal condition	Error code	LED Display		
				
Error on indoor temperature sensor (Short or Open)	E121	X		X
1. Error on Eva-in sensor (Short or Open) 2. Error on Eva-out sensor (Short or Open) 3. Discharge sensor error (Short or Open)	E122 E123 E126			X
Indoor fan error	E154	X	X	
1. Error on outdoor temperature sensor (Short or Open) 2. Error on cond sensor 3. Error on discharge sensor Other outdoor unit sensor error that is not on the above list	E221 E237 E251		X	
1. When there is no communication between the indoor-outdoor units for 2 minutes 2. Communication error received from the outdoor unit 3. 3 minute tracking error on outdoor unit 4. Communication error after tracking due to unmatching number of installed units 5. Error due to repeated communication address 6. Communication address not confirmed Other outdoor unit communication error that is not on the above list	E101 E102 E202 E201 E108 E109	X		
Self diagnosis error display 1. Error due to opened EEV (2nd detection) 2. Error due to closed EEV (2nd detection) 3. Eva in sensor is detached 4. Eva out sensor is detached 5. Thermal fuse error (Open)	E151 E152 E128 E129 E198			
1. COND mid sensor is detached 2. Refrigerant leakage (2nd detection) 3. Abnormally high temperature on Cond (2nd detection) 4. Low pressure s/w (2nd detection) 5. Abnormally high temperature on discharged air on outdoor unit (2nd detection) 6. Indoor operation stop due to unconfirmed error on outdoor unit 7. Error due to reverse phase detection 8. Comp stop due to freeze detection (6th detection) 9. High pressure sensor is detached 10. Low pressure sensor is detached 11. Outdoor unit copression ration error 12. Outdoor sump down_1 prevetion control 13. Compressor down due to low pressure sensor prevention control_1 14. Simultaneous opening of cooling/heating MCU SOL valve (1st detection) 15. Simultaneous opening of cooling/heating MCU SOL valve (2nd detection) Other outdoor unit self-diagnosis error that is not on the above list"	E241 E554 E450 E451 E416 E559 E425 E403 E301 E306 E428 E413 E410 E180 E181			
EEPROM error	E162			

● : On, ◐ : Flickering, X : Off

4-4. Troubleshooting by symptoms

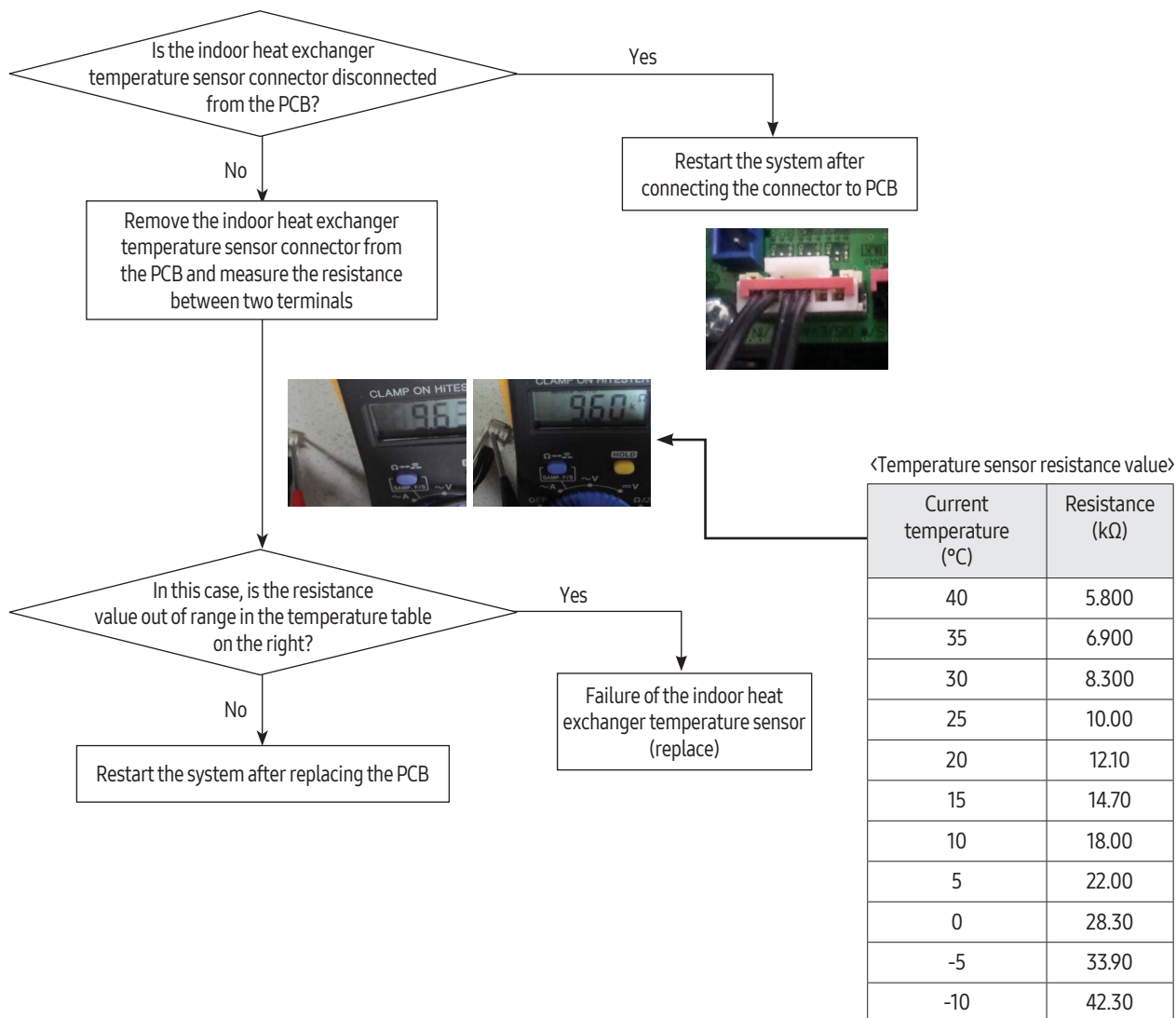
4-4-1. Indoor temperature sensor error (E121)

Judgment method	Refer to checking method, as shown below.
Symptom	If the indoor temperature sensor is open or short circuit.



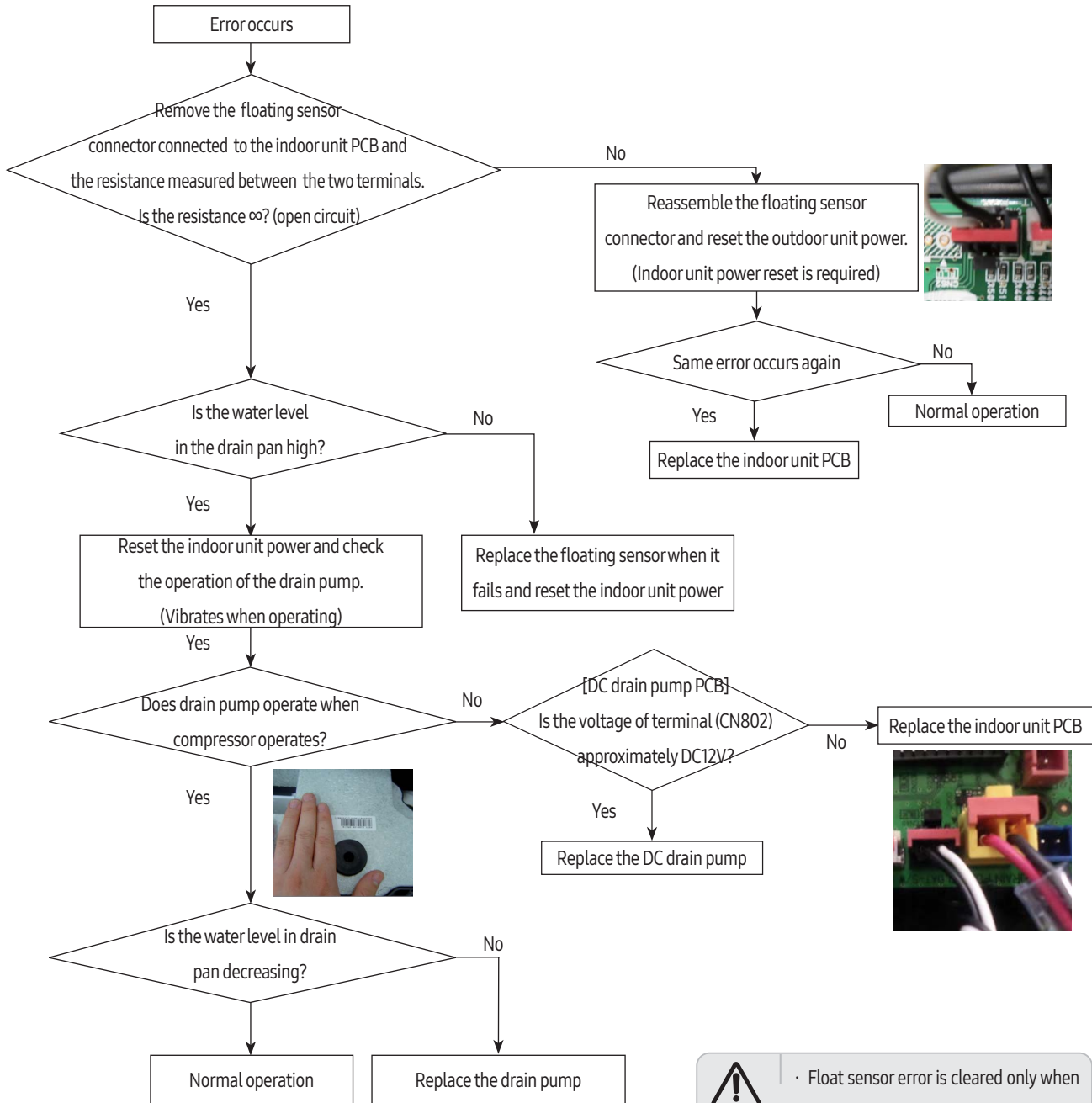
4-4-2. Indoor heat exchanger temperature sensor error (E122)

Judgment method	Refer to checking method, as shown below
Symptom	If the short or open circuit of indoor heat exchanger temperature sensor.



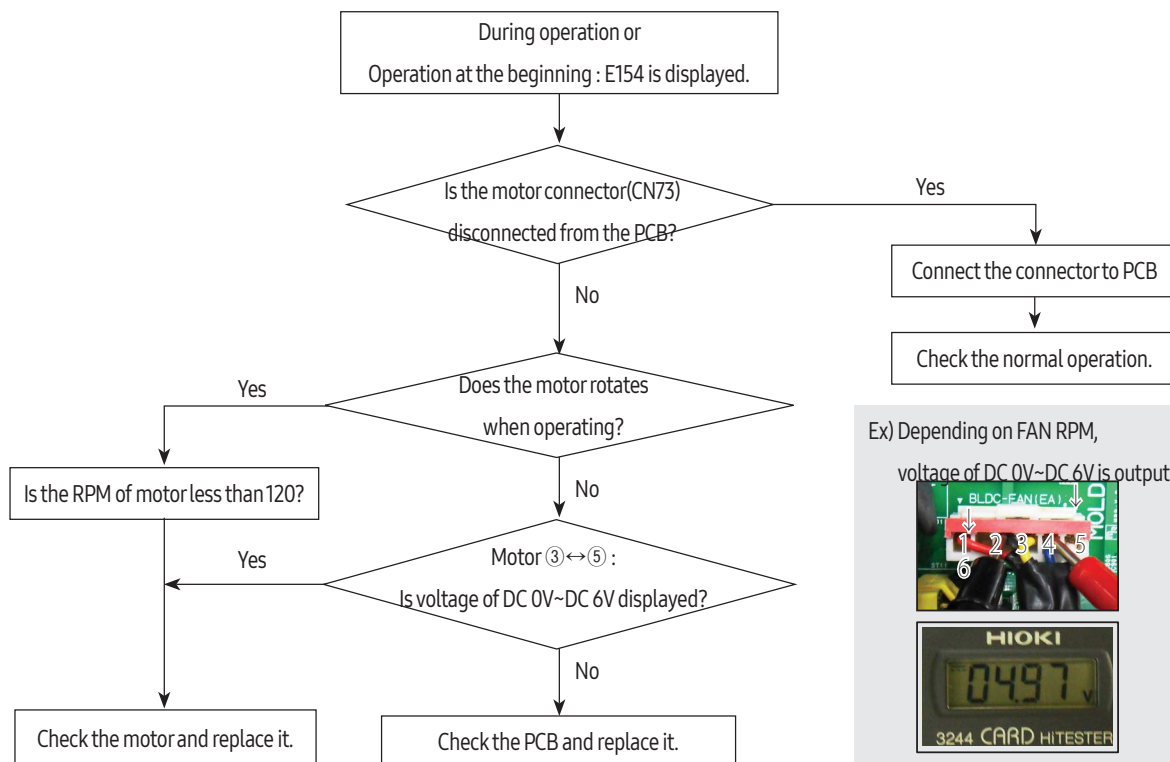
4-4-3. Indoor unit float sensor error (E153)

Judgment method	Refer to checking method, as shown below
Symptom	If the increase in the drain pan water level due to failure of the indoor unit drain pump or indoor unit float switch is open and that state is maintained for more than one minute.



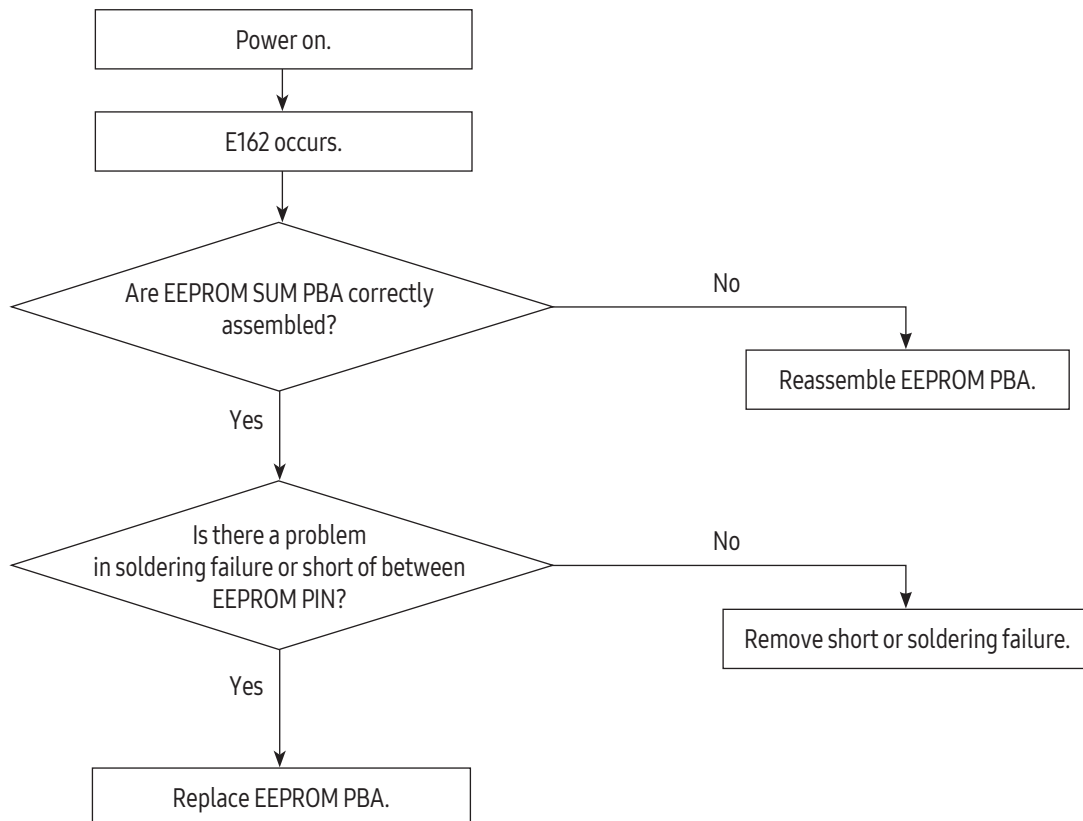
4-4-4. Indoor Fan error (E154)

Judgment method	Refer to checking method, as shown below
Symptom	If the motor connector break away / Indoor unit Fan does not operate by motor or PBA defectiveness.



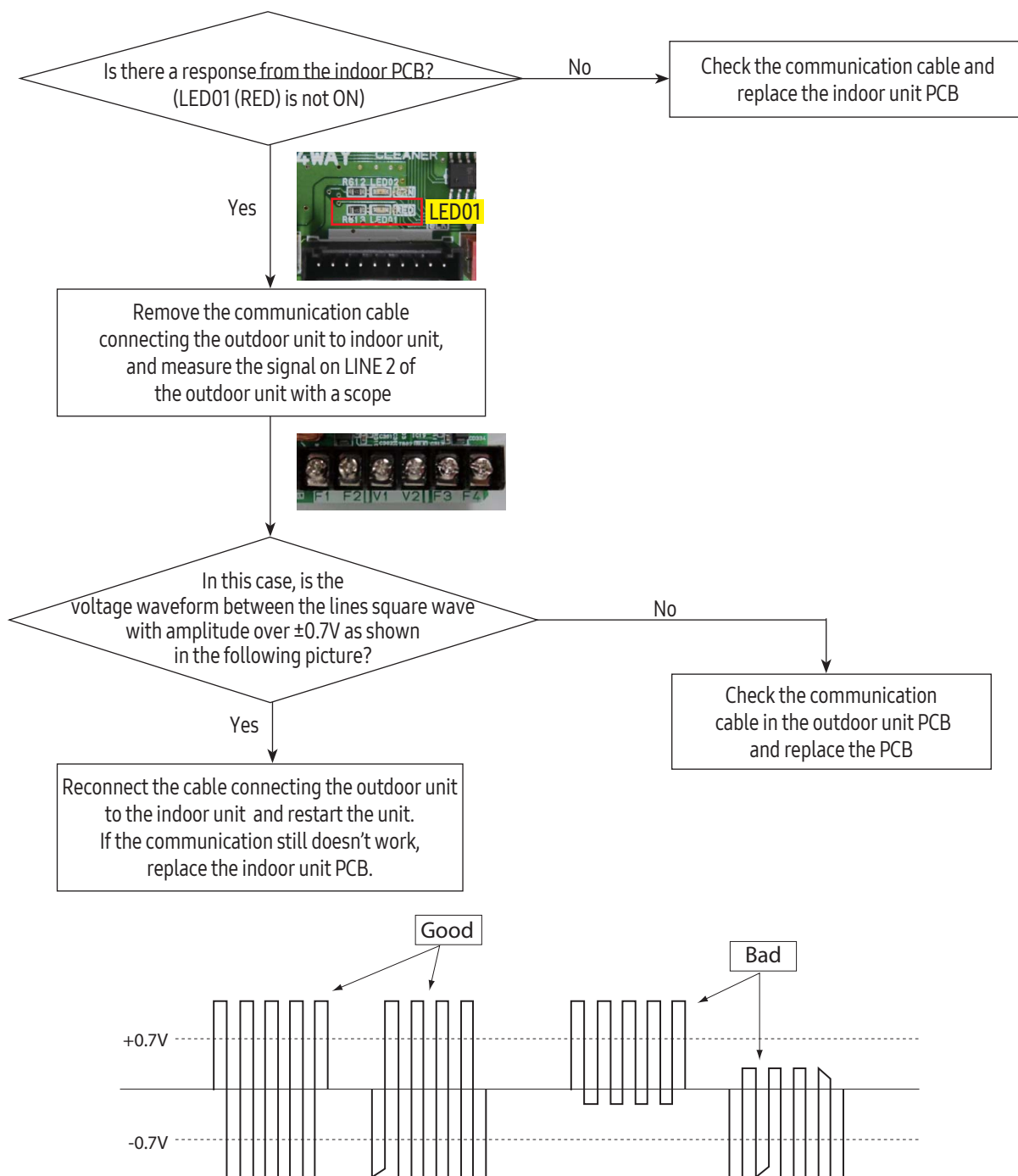
4-4-5. EEPROM circuit failure (E162)

Judgment method	Refer to checking method, as shown below
Symptom	If the EEPROM component defective. (EEPROM circuit parts missing / damaged / soldering failure)



4-4-6. Communication error after finishing Tracking (E202)

Judgment method	Refer to checking method, as shown below
Symptom	Communication error between the indoor and outdoor unit for two minutes



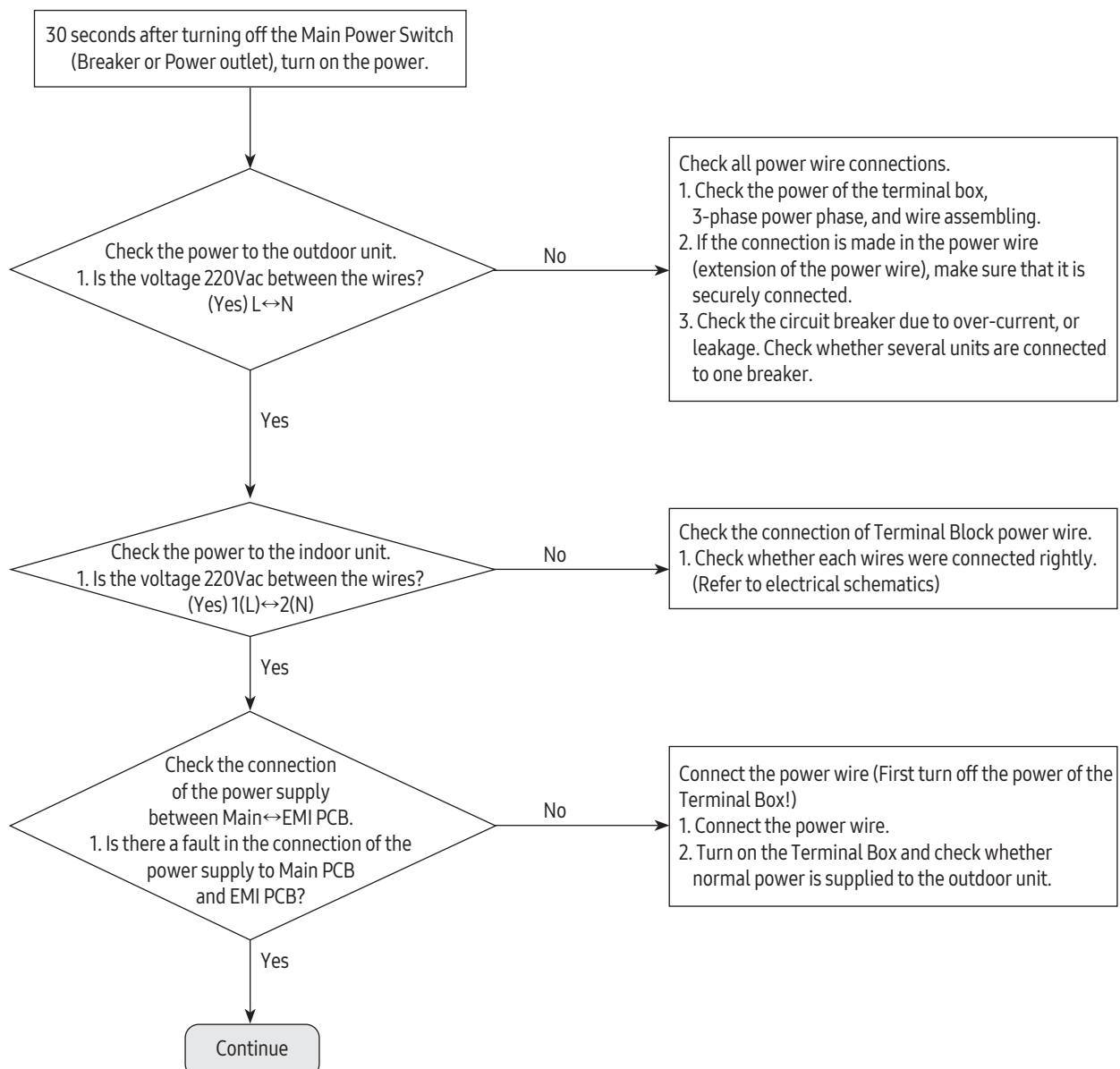
4-4-7. When the outdoor unit power is not ON - Initial Diagnosis : 1-phase products

1. Test items

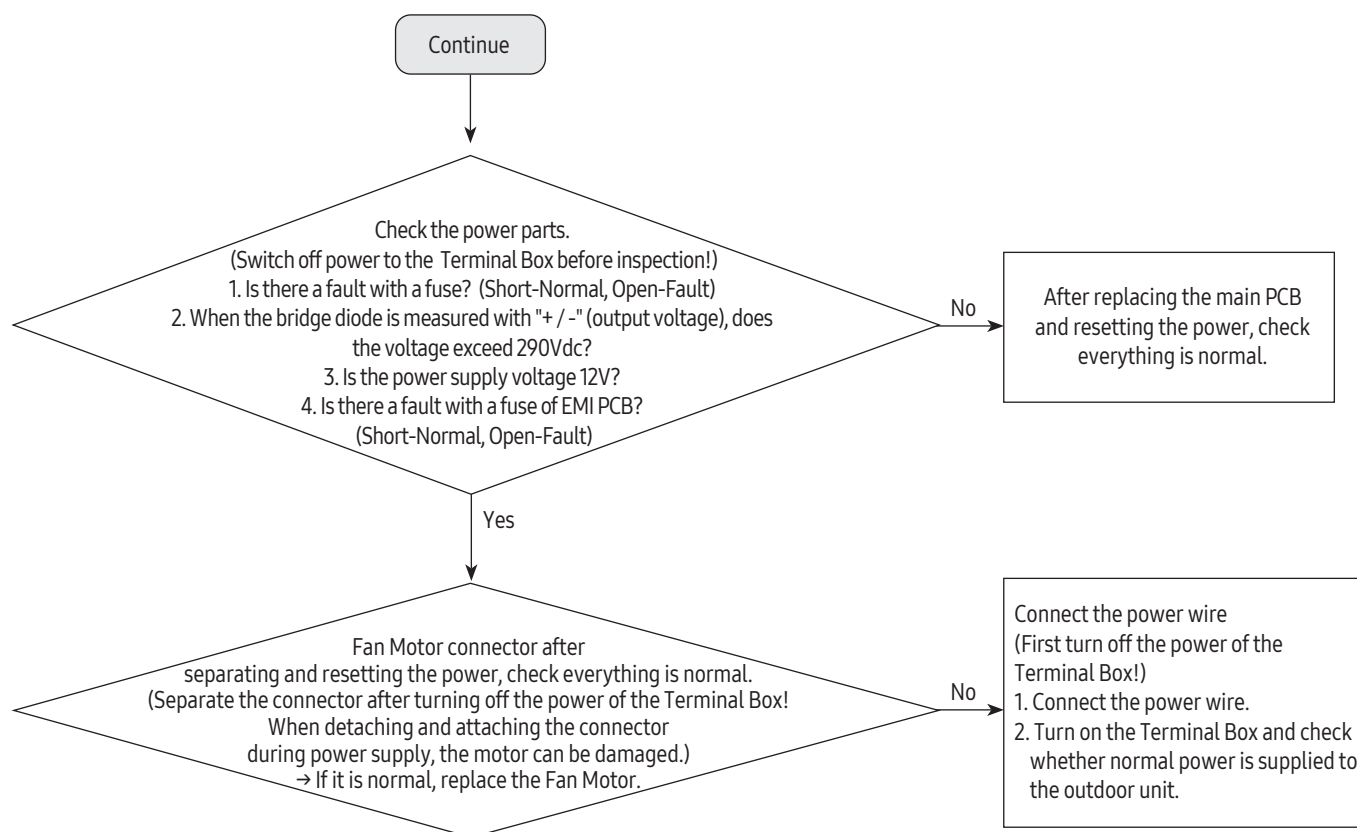
- 1) Check the power connection of outdoor unit.
- 2) Check the whole connection part of the power wire.
- 3) Check the power on the indoor unit.
- 4) Check the connection of the power wire of the Terminal Block.
- 5) Check the connection of the power wire between the Main ↔ EMI PBA of the outdoor unit.
- 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



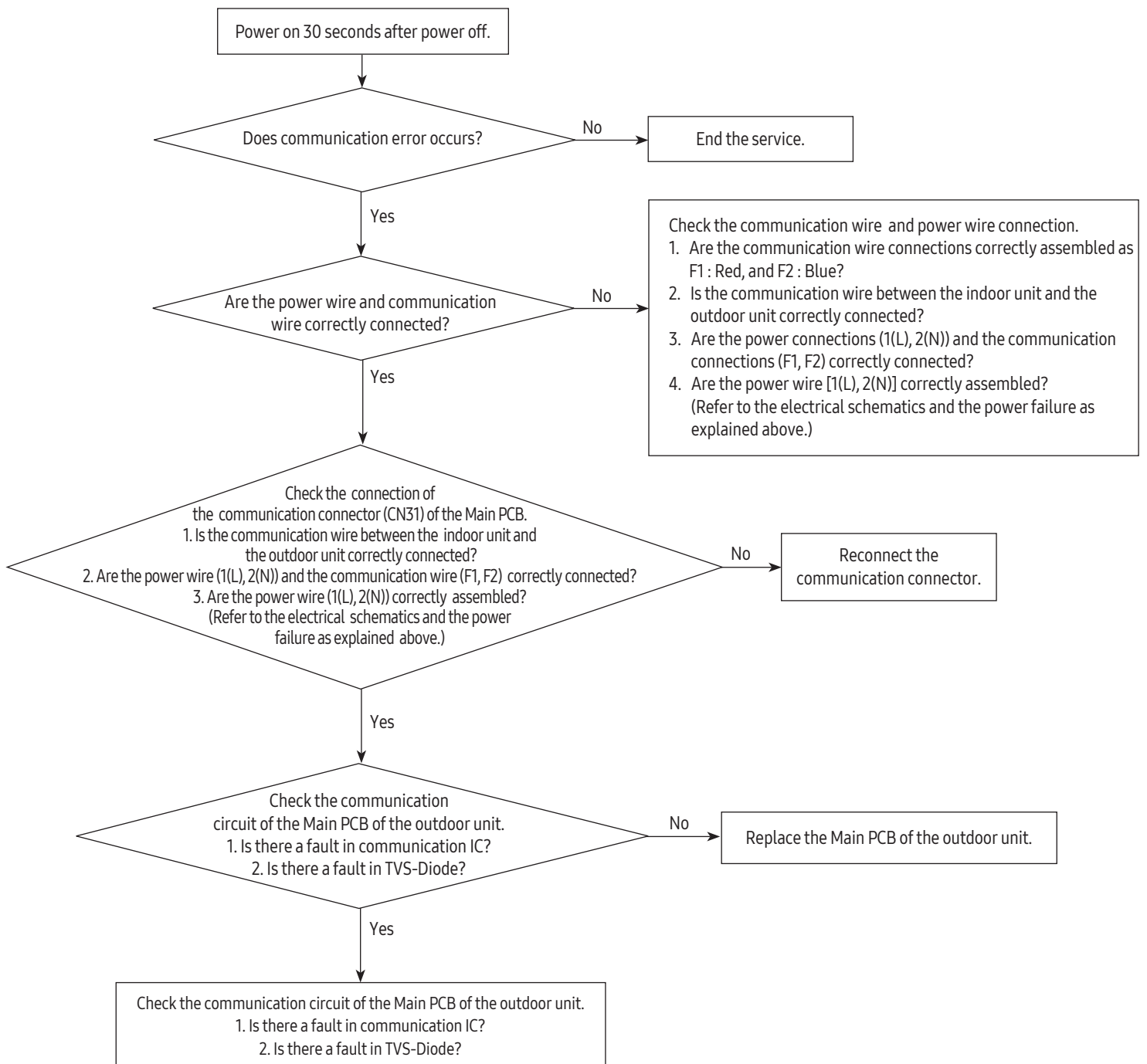
When the outdoor unit power is not ON - Initial Diagnosis : 1-phase products (Cont.)



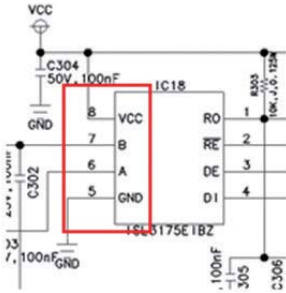
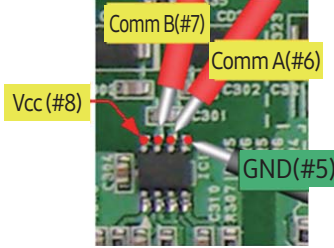
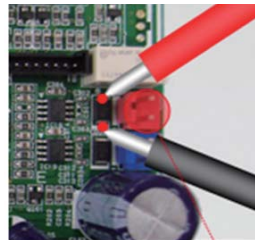
4-4-8. Indoor/outdoor communication error (1min.) (Error Code : E202)

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.)

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		

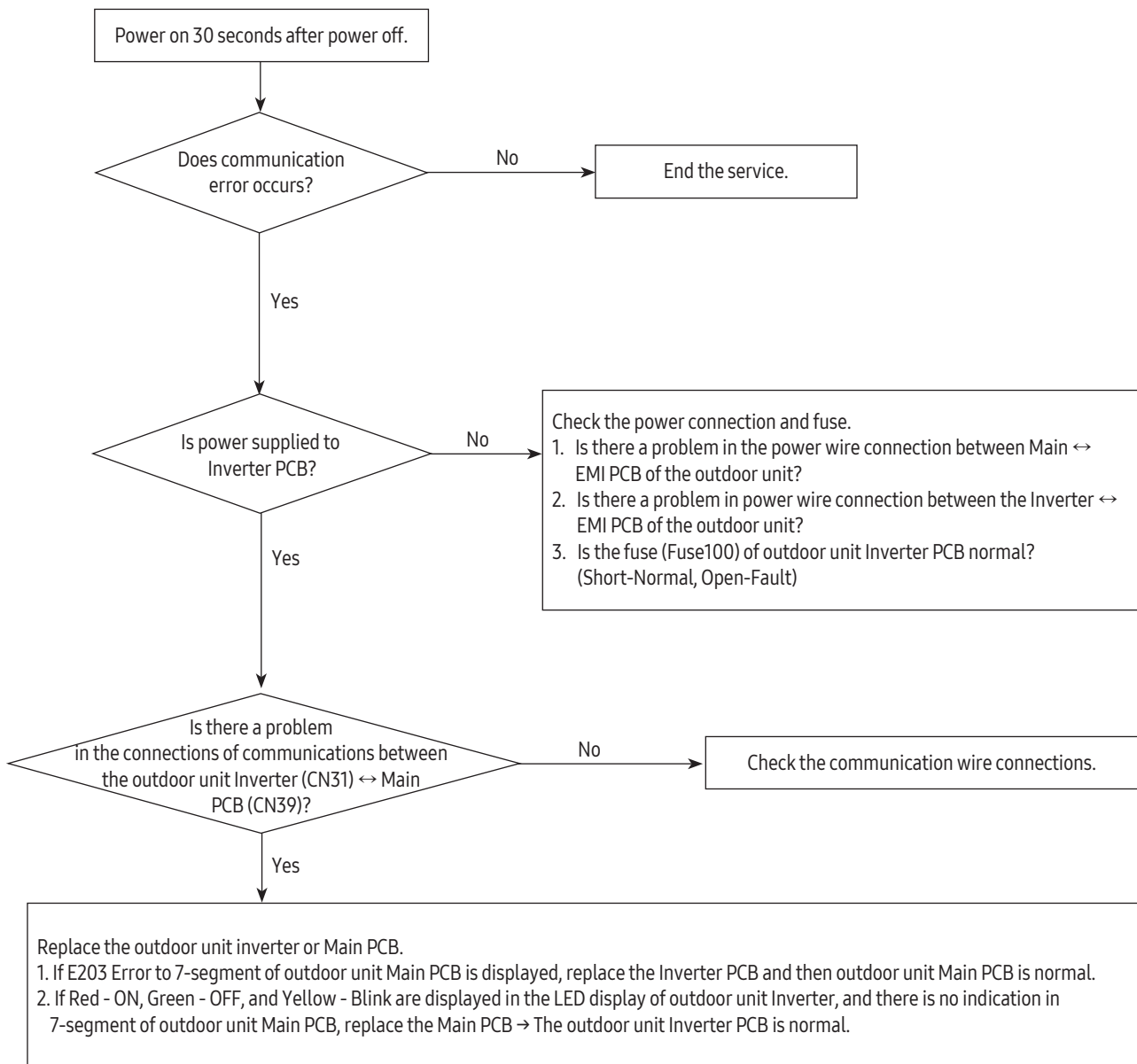
Communication IC Measuring (Port)	Steady-state Measuring Value	Remark
	COM 1(RED)	
#6 - #5	0.9kΩ ~ 1.2kΩ	Measuring after separating the communicatio connection
#7 - #5	0.9kΩ ~ 1.2kΩ	
#8 - #5	4.7Vdc ~ 5.3Vdc	
TVS-Diode Measuring		Steady-state Measuring Value
Both ends of diode		1kΩ or above

4-4-9. 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

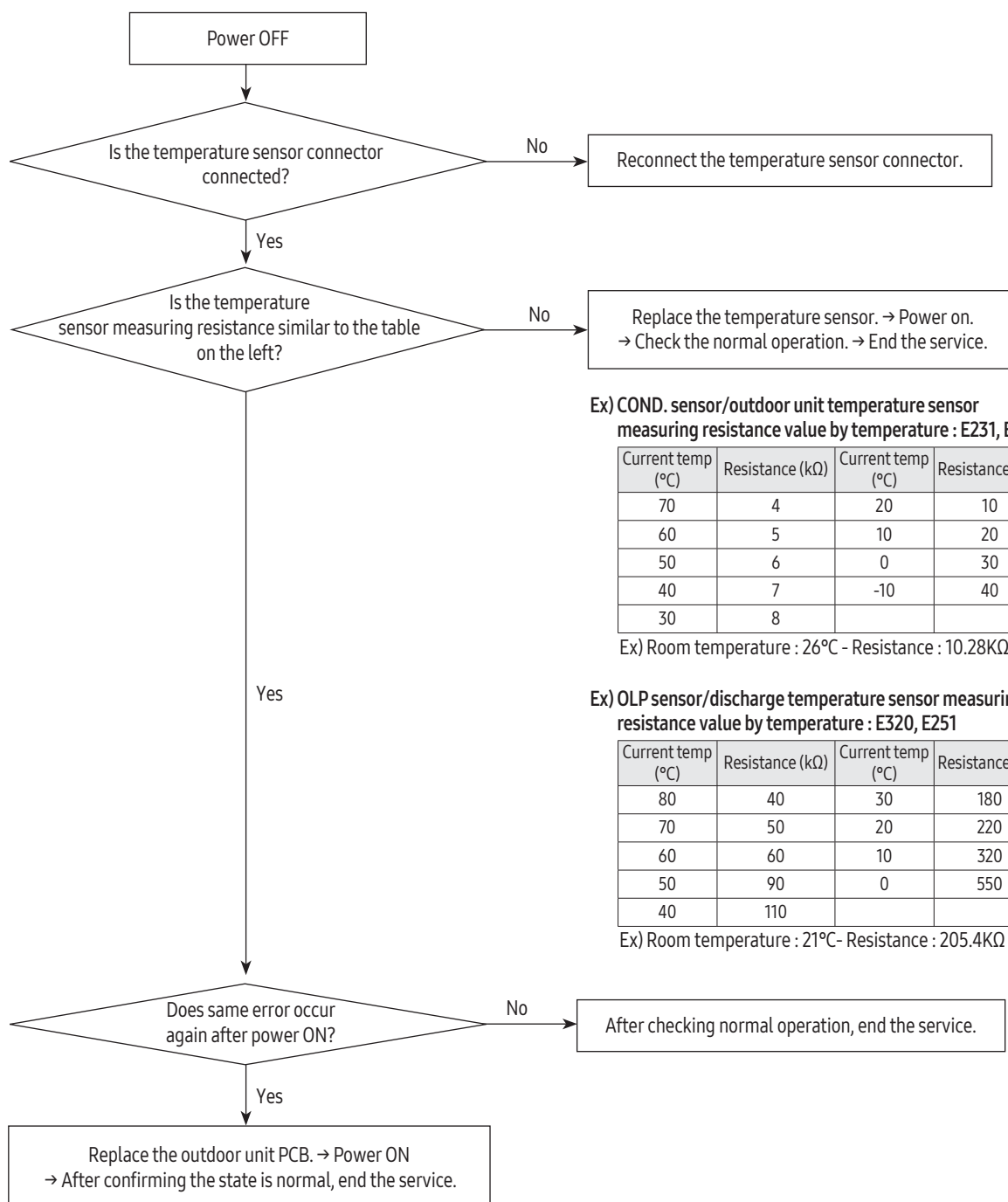


4-4-10. Outdoor sensor error(Error Code : E221, E231, E251, E320)

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

2. Check procedure

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



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

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

Ex) Room temperature : 26°C - Resistance : 10.28KΩ

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

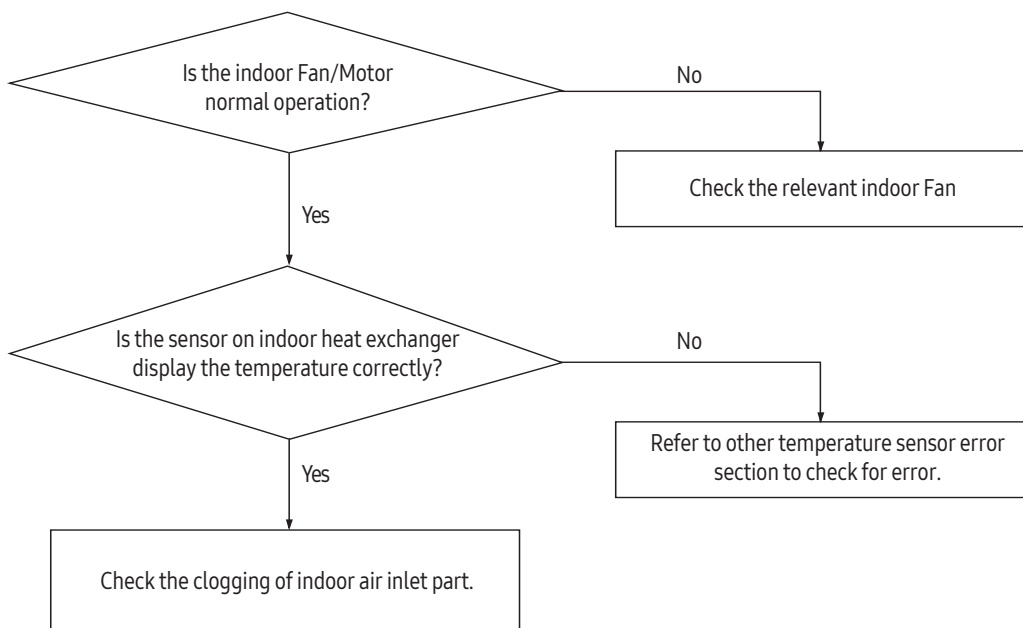
Current temp (°C)	Resistance (kΩ)	Current temp (°C)	Resistance (kΩ)
80	40	30	180
70	50	20	220
60	60	10	320
50	90	0	550
40	110		

Ex) Room temperature : 21°C - Resistance : 205.4KΩ

4-4-11. 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

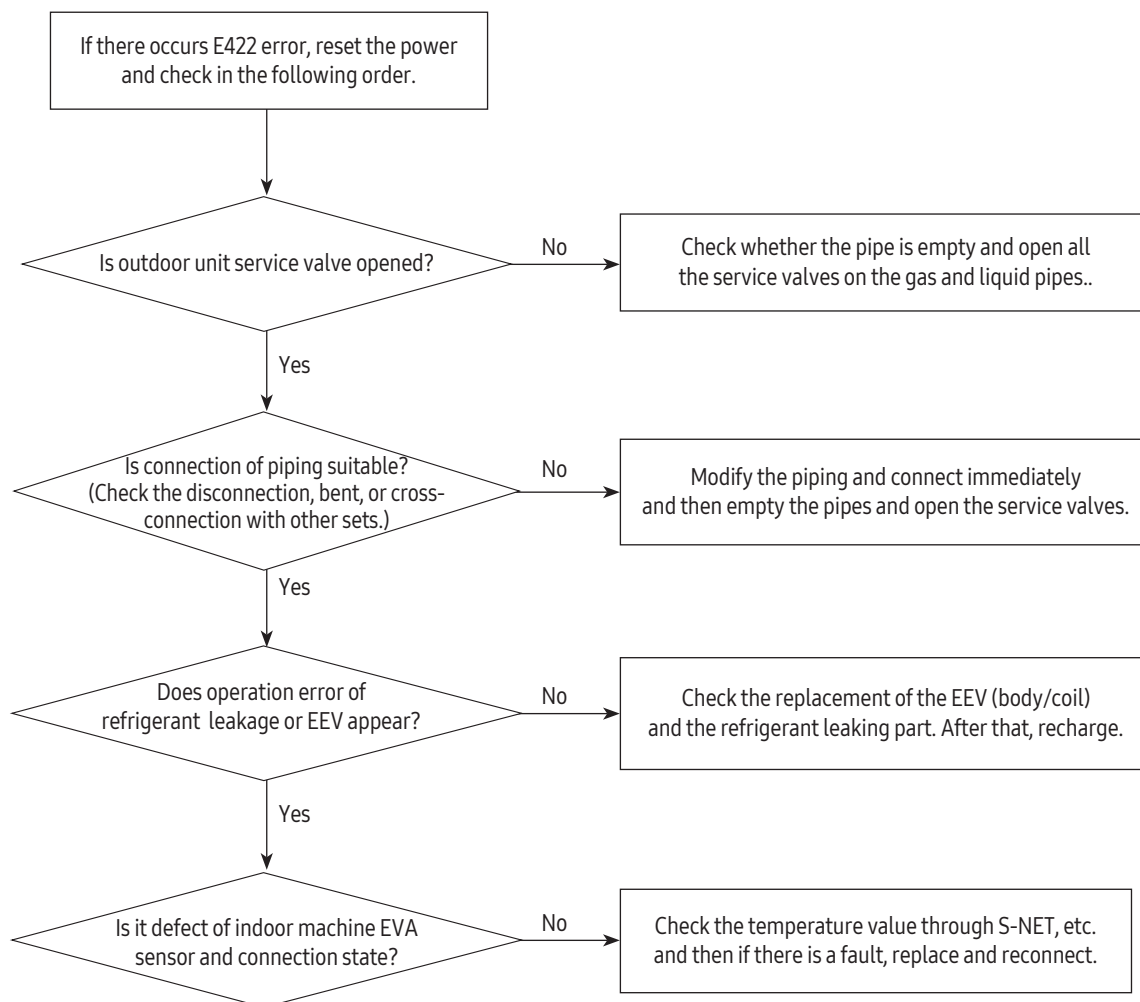


4-4-12. Pipe blockage error (Error Code : E422)

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

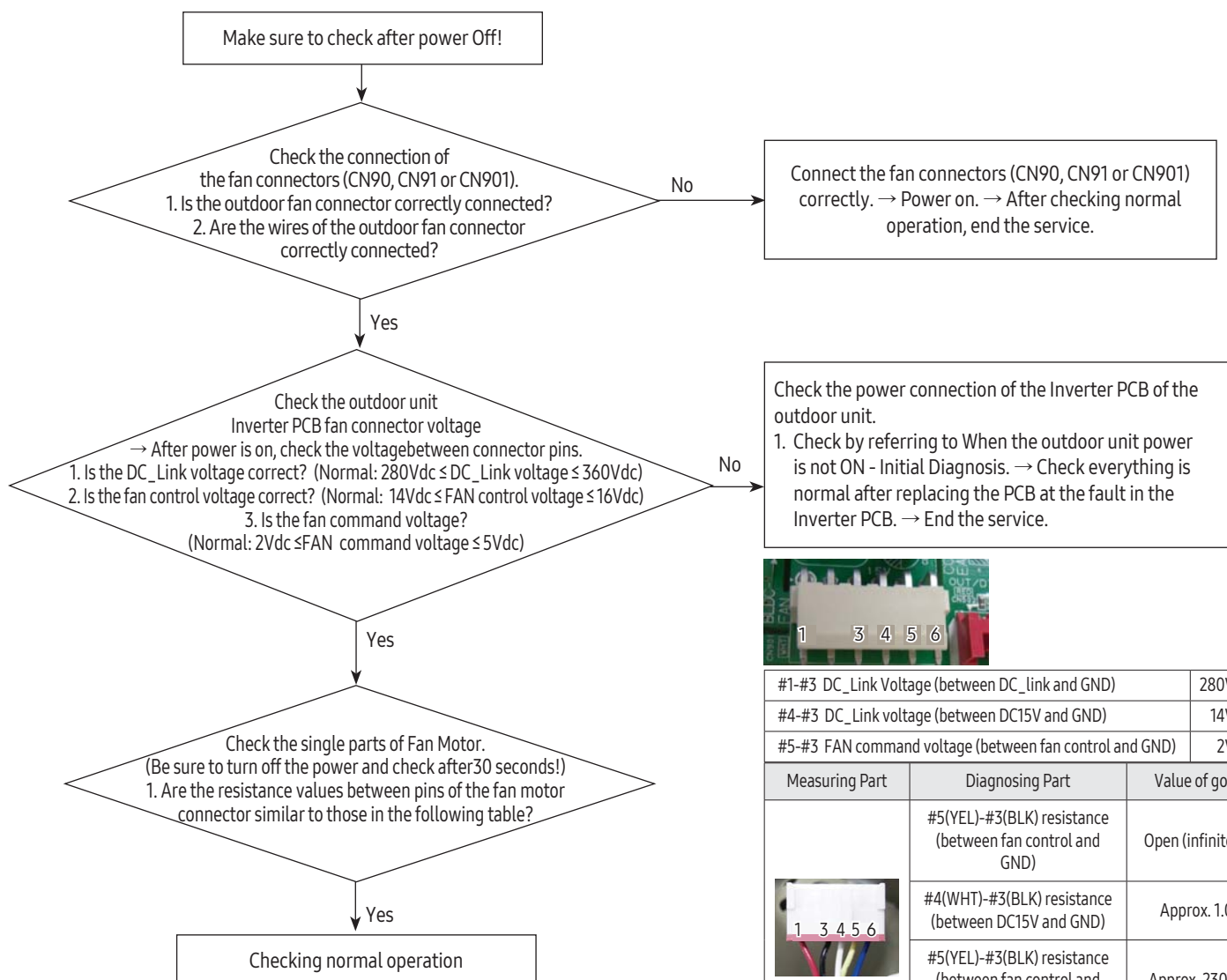


4-4-13. Outdoor unit Fan error (Error Code : E458, E475)

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



#1-#3 DC_Link Voltage (between DC_link and GND)		280Vdc ~ 360Vdc
#4-#3 DC_Link voltage (between DC15V and GND)		14Vdc ~ 16Vdc
#5-#3 FAN command voltage (between fan control and GND)		2Vdc ~ 5Vdc
Measuring Part	Diagnosing Part	Value of good product
 Motor Connector	#5(YEL)-#3(BLK) resistance (between fan control and GND)	Open (infinite resistance)
	#4(WHT)-#3(BLK) resistance (between DC15V and GND)	Approx. 1.0kΩ ~ 3kΩ
	#5(YEL)-#3(BLK) resistance (between fan control and GND)	Approx. 230kΩ ~ 280kΩ
	#6(BLU)-#3(BLK) resistance (between feedback and GND)	Some MΩ or more or open (infinite resistance value)

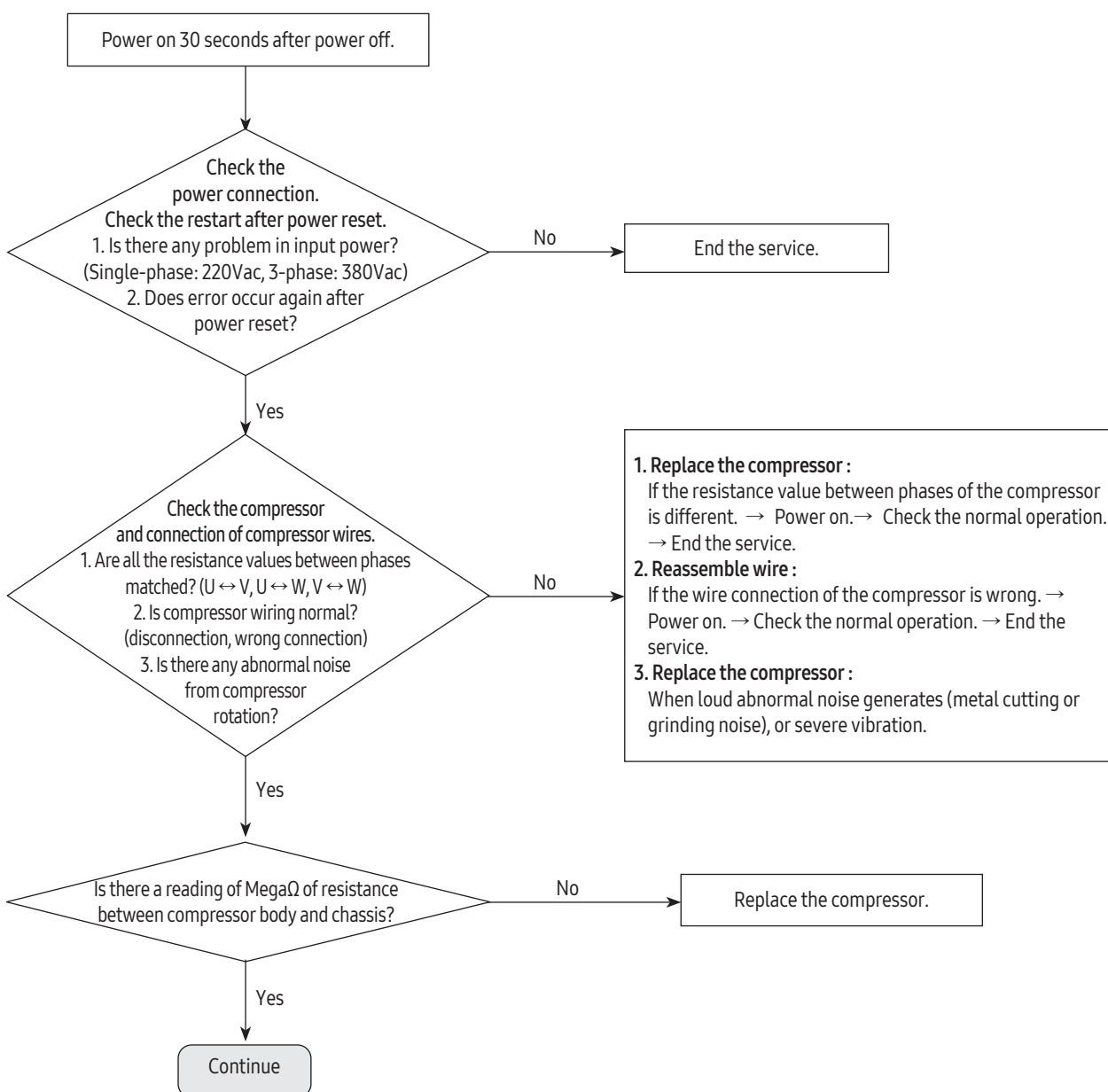
- ※ At least 30 seconds after power is OFF, attach/detach the fan motor connector!
→ Threatened to cause secondary damage to the motor and the PCB.
- ※ Check the Inverter PCB or Fan Motor single parts and only if there is a fault, replace!
- ※ Do not replace the Main PCB of the outdoor unit relating 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.

4-4-14. Compressor starting error / rotation error (Error Code : E461, E467)

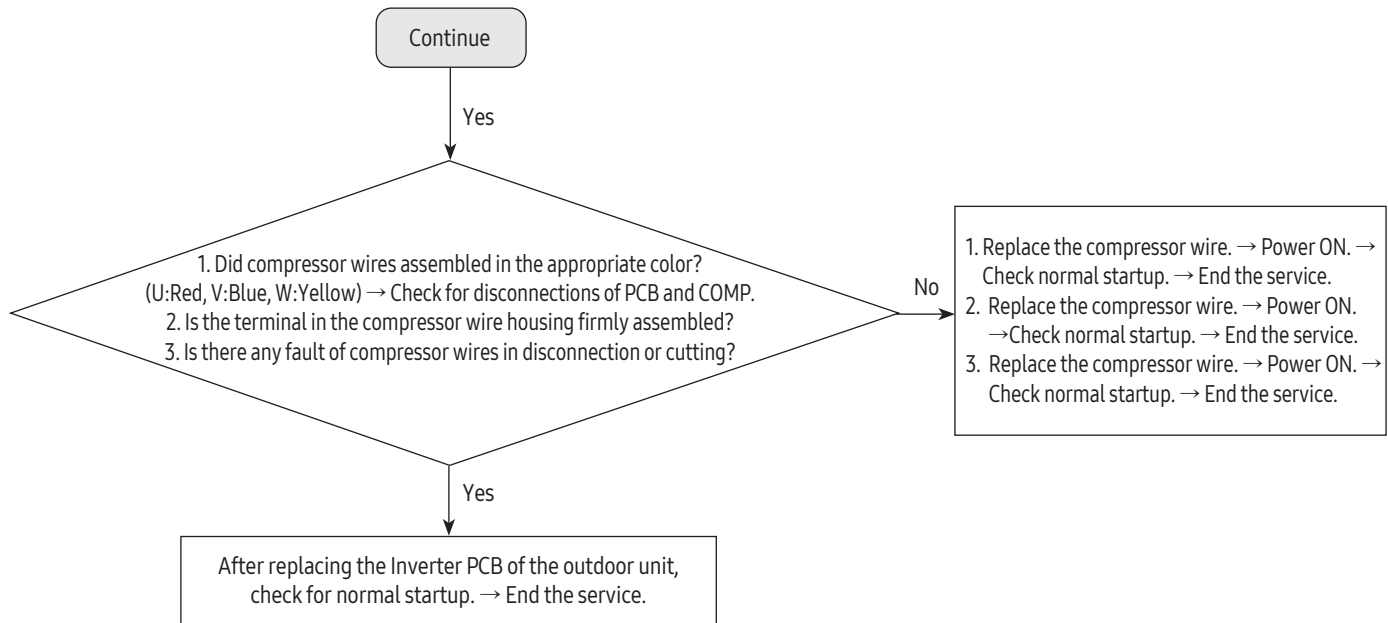
1. Test items

- 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!

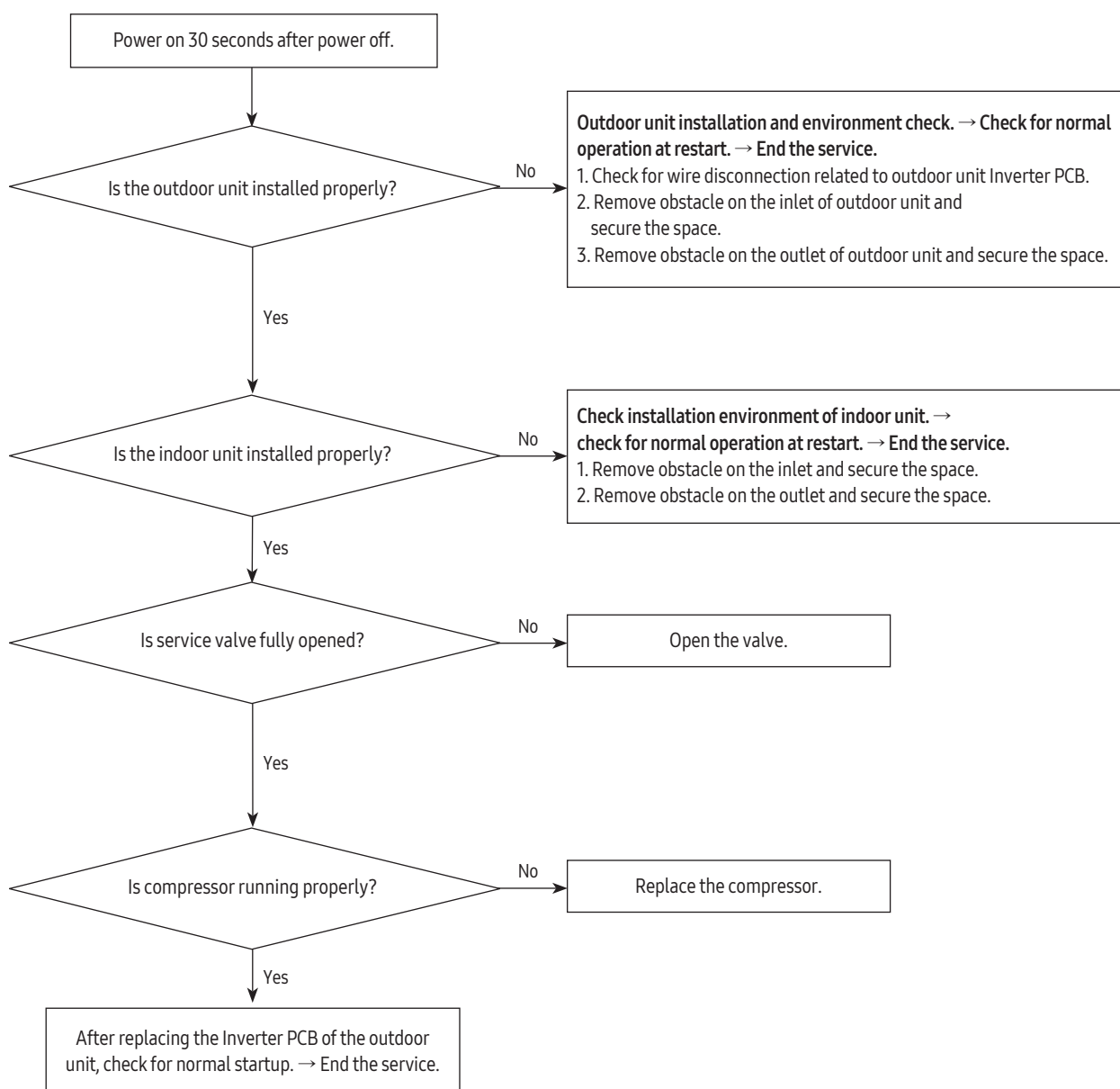
→ When the service valve is closed, the defects may be caused by differential pressure when starting the compressor.

4-4-15. 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

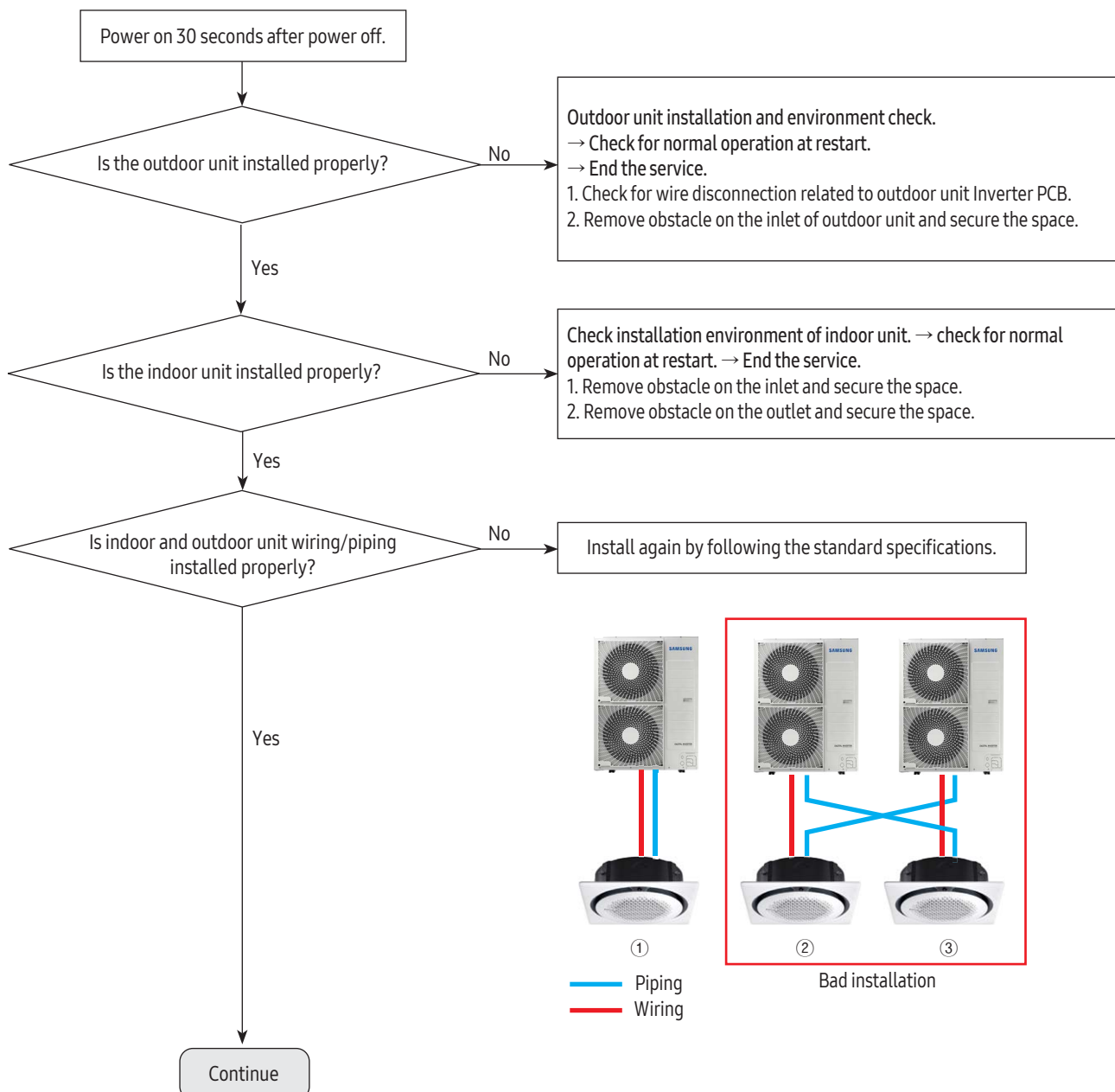


4-4-16. IPM (Over Current) error (Error Code : E464)

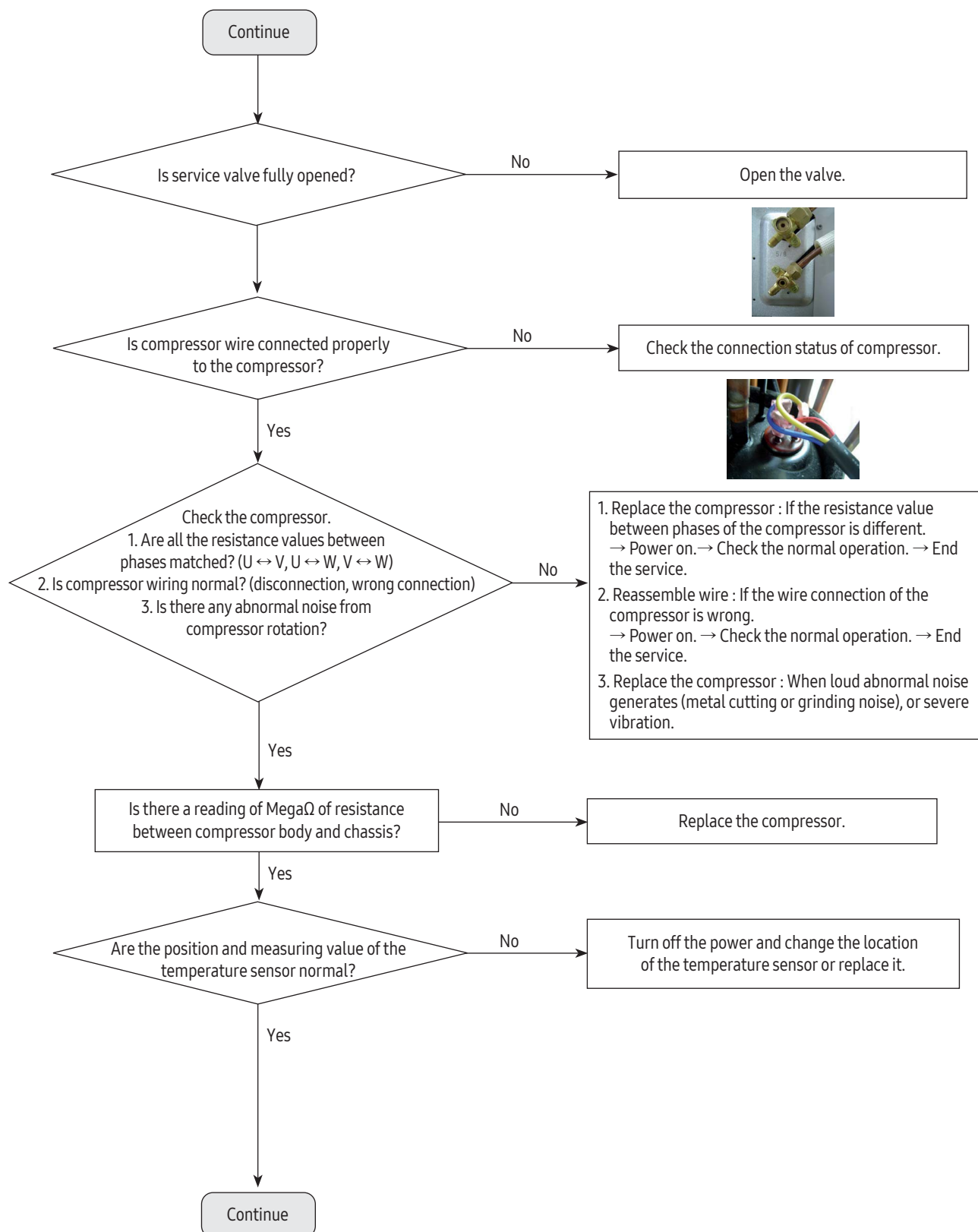
1. Test items

- 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.
→ 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.

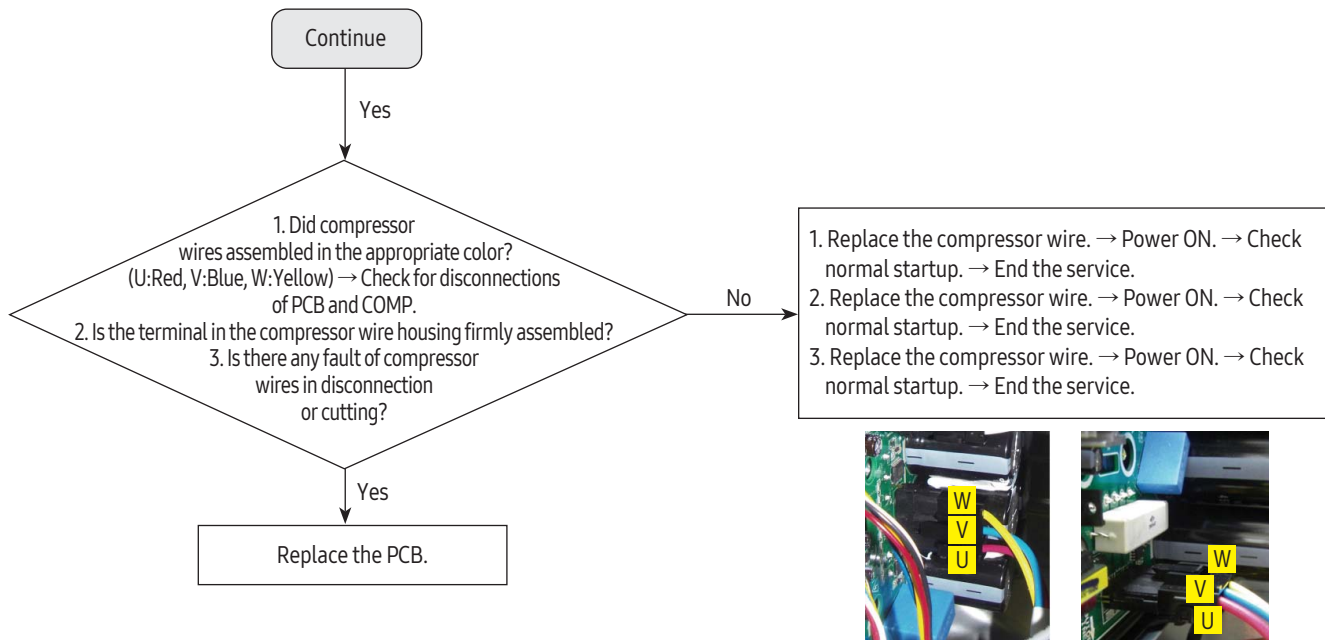
2. Check procedure



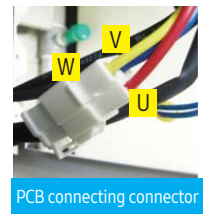
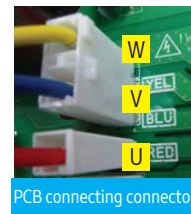
IPM (Over Current) error (Error Code : E464) (Cont.)



IPM (Over Current) error (Error Code : E464) (Cont.)



- ※ 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.



4-4-17. DC LINK over-current / low-voltage error (Error Code : E466)

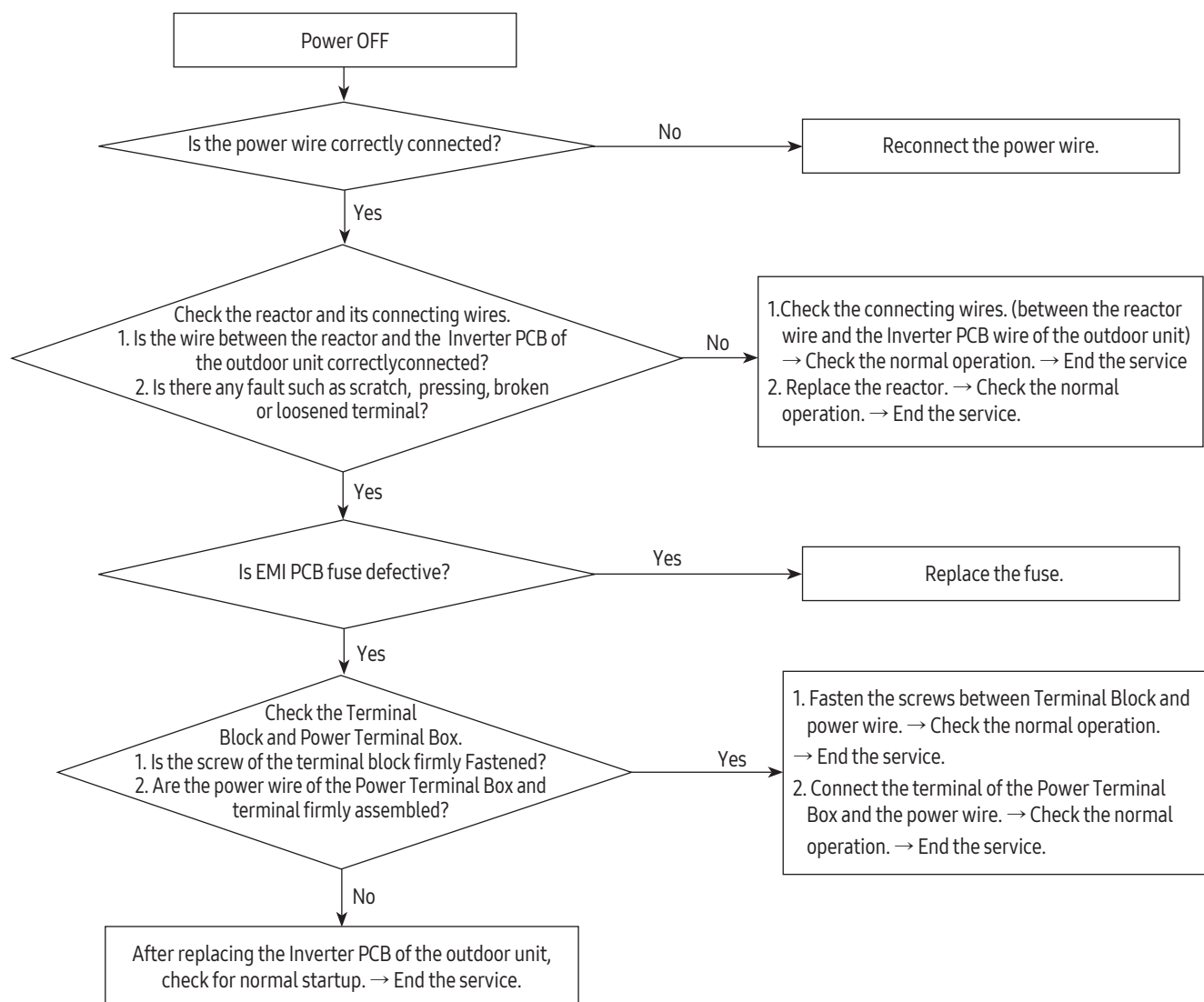
H/W DC_Link Over Voltage Error (Error Code : E483)

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

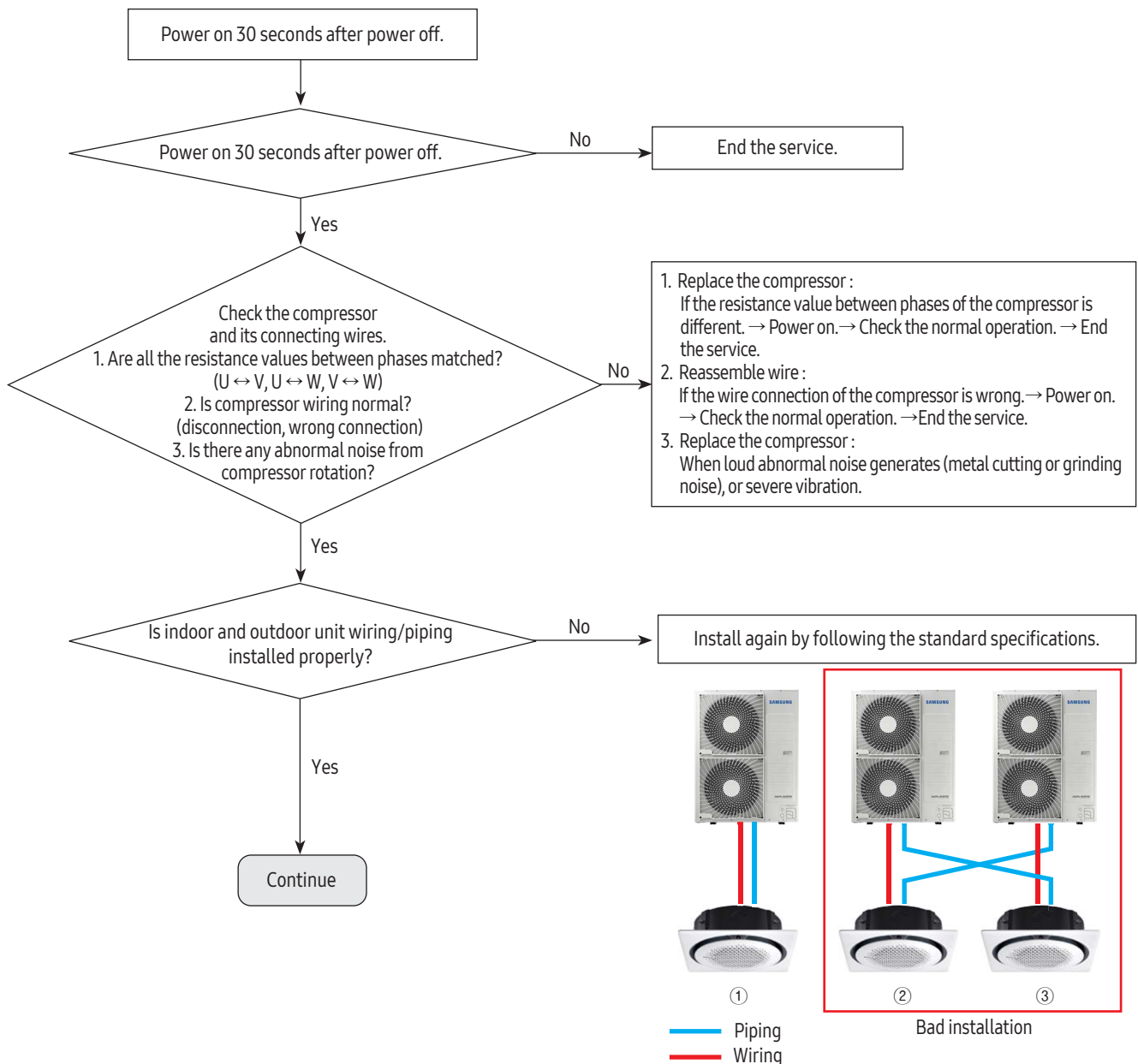


4-4-18. Gas leakage error (Error Code : E554)

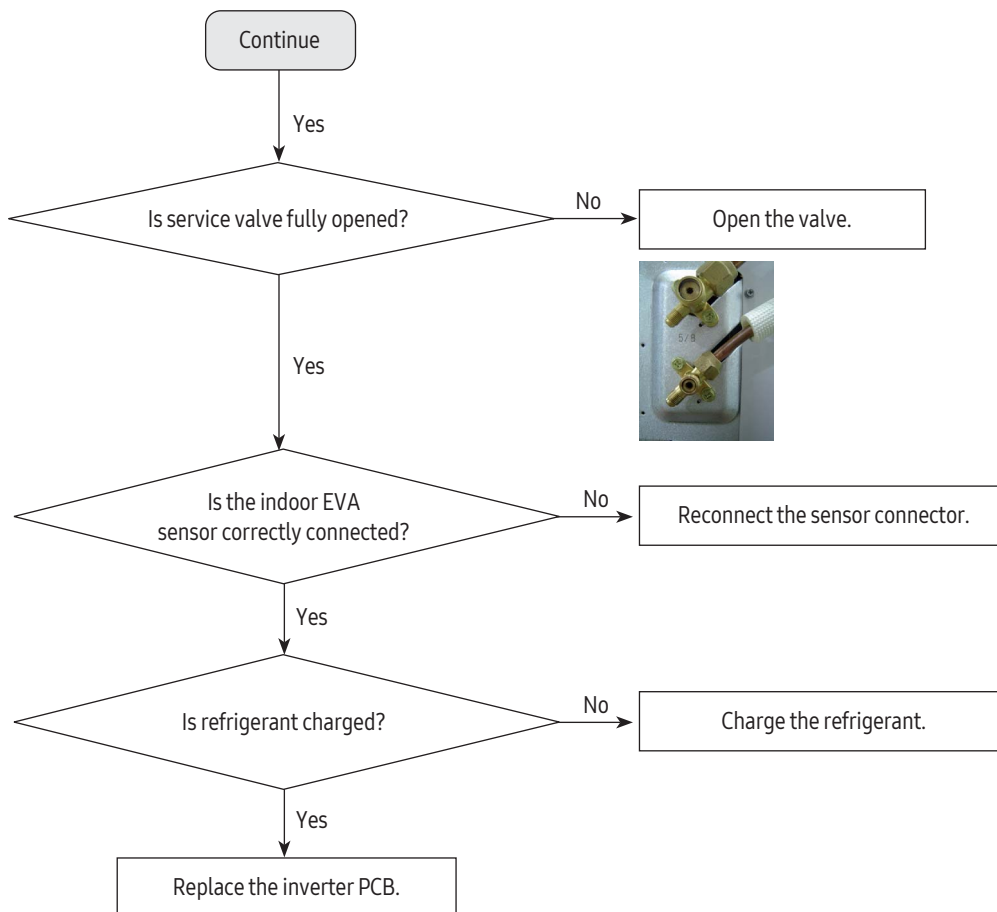
1. Test items

- 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) (Cont.)



4-4-19. 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 inconsistency error : E556
 - Check the model name between the outdoor and indoor unit and re-enter the option code to the indoor unit.
10. 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.
11. 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.
12. 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.
13. OLP overHeating and compressor stop : E463
 - Check the opening of the sub valve.
 - Check the amount of the cooling water.

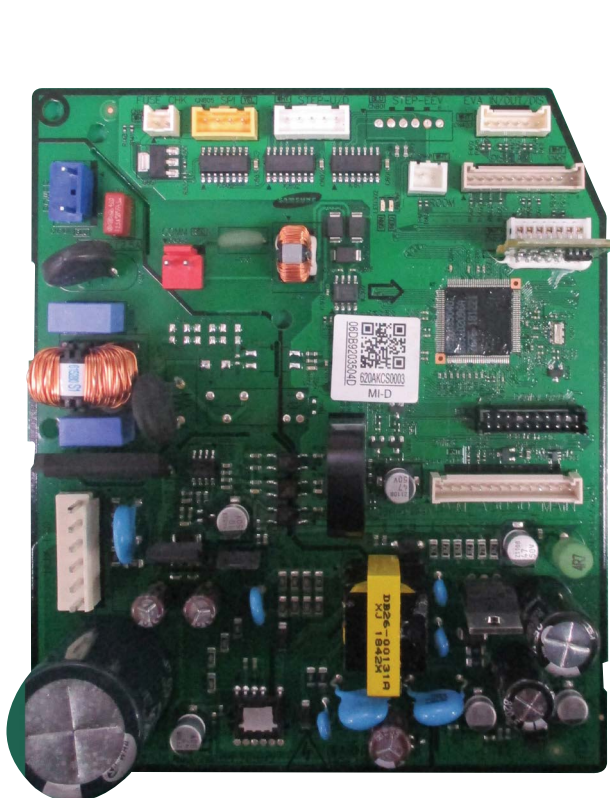
Others (Cont.)

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

5. PCB Diagram and Parts List

5-1. Indoor Unit Main PBA

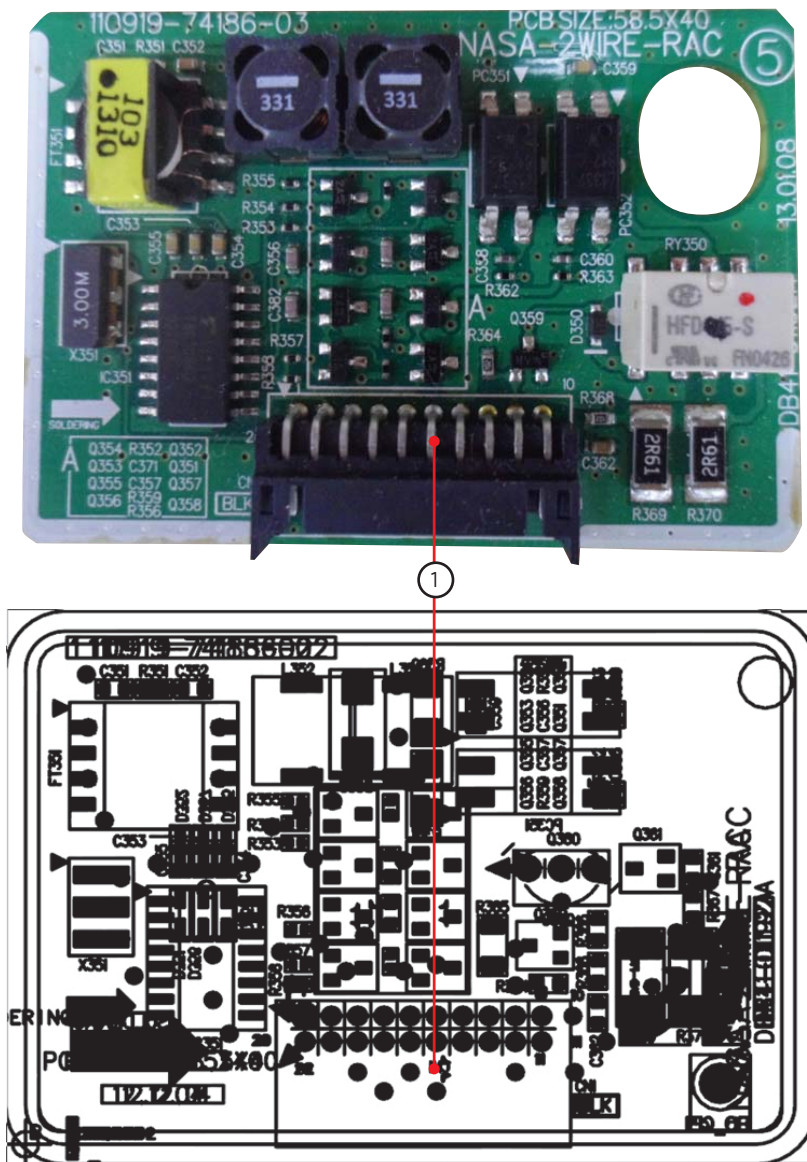
■ RAC : AR36BSHUMGMNCV



① CNP101-POWER #1 : AC POWER(L) #3 : AC POWER(N)	② CN303-COM1 #1 : COM2(F3) #2 : COM2(F4)	③ CN701-BLDC FAN #1 : DC 310V #2 : GND #3 : DC15V #4 : FAN RPM #5 : RPM FEEDBACK	④ CN140-FUSE CHECK #1 : THERMAL FUSE SIGNAL #2 : GND
⑤ CN805-SPI #1 : GND #2 : GND #4 : SPISIGNAL(DC12V)	⑥ CN802-STEP UP/DOWN #1 : DC12V #2~5 : LOUVER SIGNAL	⑦ CN403-EVA IN/OUT/DIS #1 : EVA IN SENSOR #2 : GND #3 : EVA OUT SENSOR #4 : GND #5 : DISCHARGE SENSOR #6 : GND	⑧ CN501-DISPLAY #1 : LED_0 #2 : LED_1 #3 : LED_2 #4 : AUTO_SW #5 : GND #6 : DC5V #7 : REMOCON SIGNAL NPUT #8 : LED_SPI
⑨ CN401-ROOM #1 : ROOM SENSOR #2 : GND	⑩ CN201-EEPROM #1 : GND #3 : DC 5V #4 : EEPROM_SELECT #5 : EEPROM_SO #6 : EEPROM_SI #7 : EEPROM_CLK	⑪ CN302-DOWNLOAD	⑫ CN301-to 2WIRE SUB #1 : COM2_Tx #2 : COM2_Rx #3 : COM2_INVERSE #4 : COM2_ENABLE #5 : EXT_CTRL #6 : COMP_OPER_CHECK #7 : ERROR_CHECK #8 : COM2_PS_OUT(DC5V) #9 : GND #10 : DC12V #11 : COM2_PTCRL_MICOM #12 : COM2_VCHECK_A #13 : COM2_VCHECK_B #14 : COM2_VCHECK_AD

5-2. Indoor Unit Sub PBA

■ RAC : AR36BSHUMGMNCV



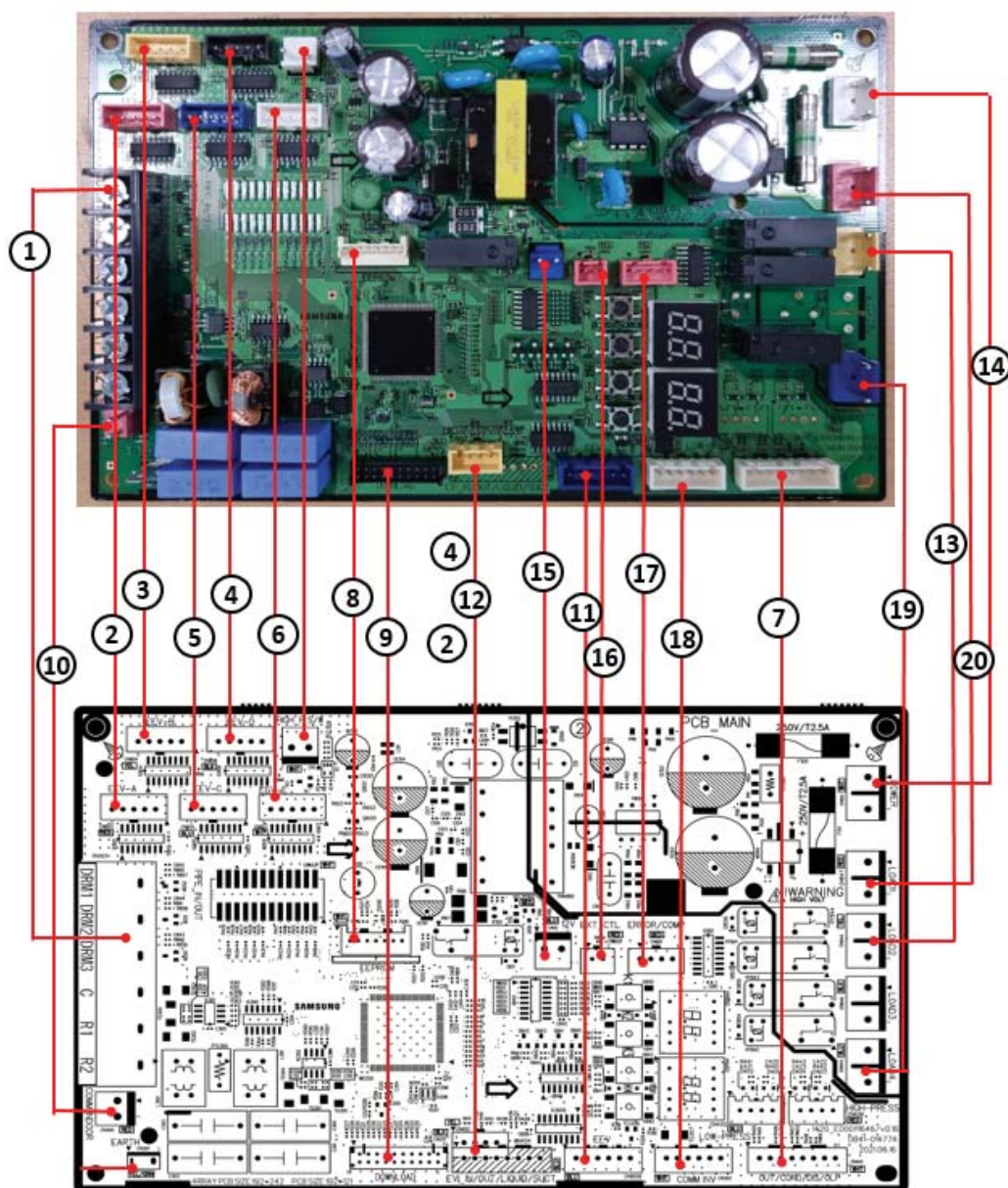
① CN1-2WIRES COMM.

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

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5-3. Outdoor Unit Main PBA

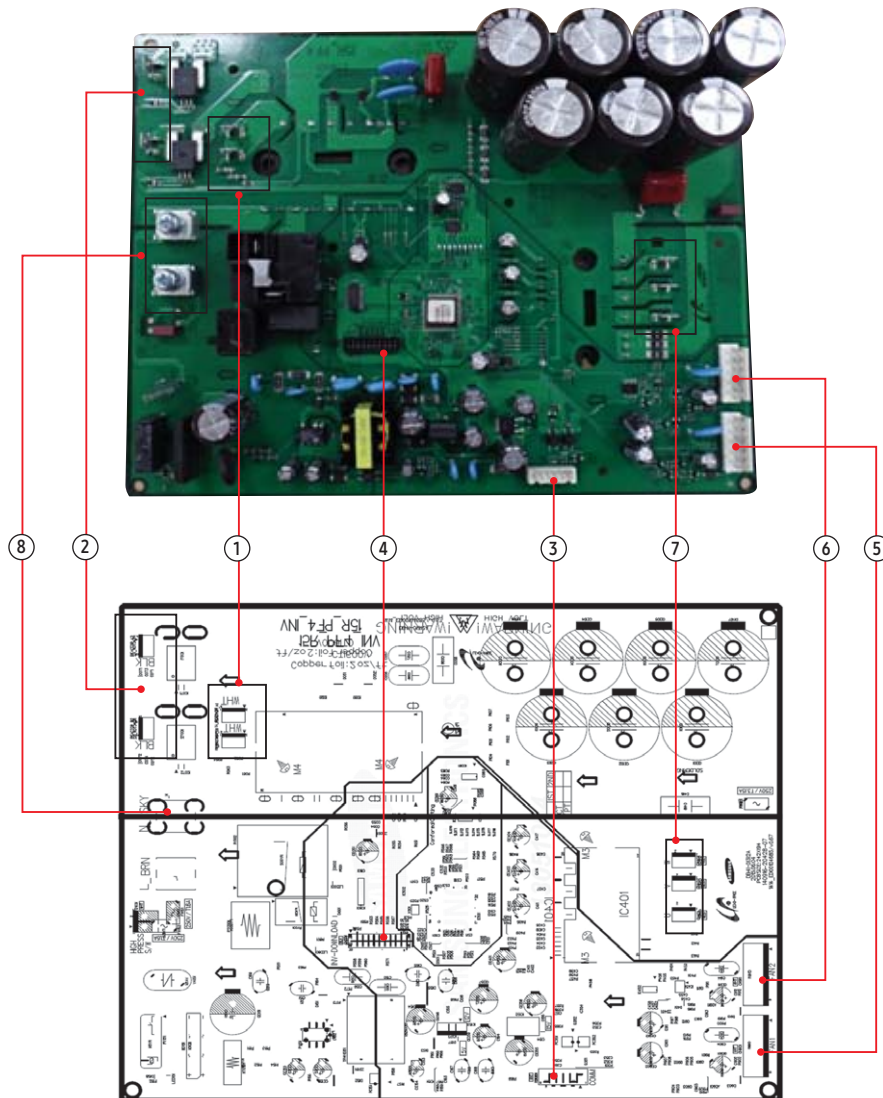
■ RAC : AR36BSHUMGMXCV



① CN303 - DRED & UPPER CTRL #1 : DRED SIGNAL(DRM1) #2 : DRED SIGNAL(DRM2) #3 : DRED SIGNAL(DRM3) #4 : GND #5 : R1 #6 : R2	② CN803 - EEV A #1 : EEV A SIGNAL #2 : EEV A SIGNAL #3 : EEV A SIGNAL #4 : EEV A SIGNAL #5 : GND	③ CN804 - EEV B #1 : EEV B SIGNAL #2 : EEV B SIGNAL #3 : EEV B SIGNAL #4 : EEV B SIGNAL #5 : GND	④ CN806 - EEV D #1 : EEV D SIGNAL #2 : EEV D SIGNAL #3 : EEV D SIGNAL #4 : EEV D SIGNAL #5 : GND
⑤ CN805 - MAIN EEV #1 : EEV D SIGNAL #2 : EEV D SIGNAL #3 : EEV D SIGNAL #4 : EEV D SIGNAL #5 : GND	⑥ CN807 - EEV E #1 : EEV A SIGNAL #2 : EEV A SIGNAL #3 : EEV A SIGNAL #4 : EEV A SIGNAL #5 : GND	⑦ CN401 - THERMISTOR #1 : OUTDOOR SENSOR #3 : DISCHARGE SENSOR #5 : CONDENSOR SENSOR #7 : OLP SENSOR #2,4,6,8 : GND	⑧ CN200 - EEPROM #1 : GND #2 : - #3 : 5V #4 : EEPROM SIGNAL #5 : EEPROM SIGNAL #6 : EEPROM SIGNAL #7 : EEPROM SIGNAL
⑨ CN306 - DOWNLOAD #1~20 : DOWNLOAD SIGNAL	⑩ CN303 - ODU↔IDU COMM #1 : F1 #2 : F2	⑪ CN809 - MAIN EEV (EDM) #1 : EEV A SIGNAL #2 : EEV A SIGNAL #3 : EEV A SIGNAL #4 : EEV A SIGNAL #5 : GND	⑫ CN402 - THERMISTOR #1 : ESC IN THERMISTOR #3 : ESC OUT THERMISTOR #2,4 : GND
⑬ CN844 - 4WAY VALVE #1 : L - L PHASE OUTPUT #2 : - #3 : N - N PHASE OUTPUT	⑭ CN101 - AC POWER INPUT #1 : L - LIVE POWER INPUT #2 : - #3 : N - NEUTRAL POWER INPUT	⑮ CN12 - DC12V #1 : 12V #2 : GND	⑯ CN800-EXTERNAL CONTROL #1 : GND #2 : 외부입력
⑰ CN801 - ERROR CHECK.COMPCHECK #1 : DC 12V #2 : ERROR CHECK #3 : DC 12V #4 : COMP CHECK	⑱ CN302 - MAIN↔INV COMM #1 : TXD #2 : RXD #3 : GND #4 : DC 5V #5 : DC 12V #6 : INV POWER CTRL	⑲ CN845 - BASE HEATER #1 : N - NEUTRAL POWER OUTPUT #2 : - #3 : L - RELAY CONTACT OUTPUT	⑳ CN846 - AC-LOAD #1 : N - NEUTRAL POWER OUTPUT #2 : - #3 : L - RELAY CONTACT OUTPUT

5-4. Outdoor Unit inverter PBA

■ PF4 : AR36BSHUMGMXCV

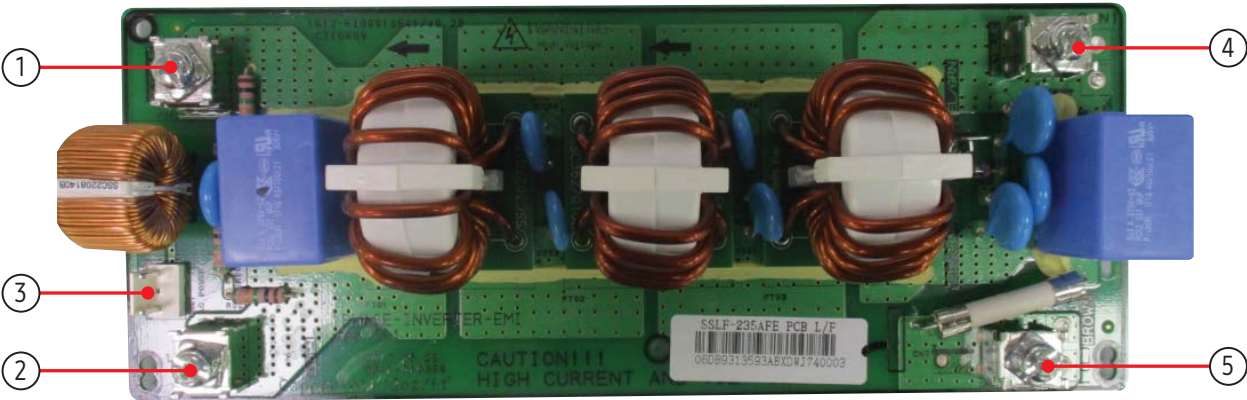


① REACTOR : A1/B1 #REACTOR - A1 :WHT #REACTOR - B1 :WHT	② REACTOR : A2/B2 #REACTOR - A2 : BLK #REACTOR - B2 : BLK	③ CN351 : Main COMM #1 : RXD #2 : TXD #3 : GND #4 : DC 5V #5 : DC 12V #6 : INV,SMPs SIGNAL	④ CN551 : DOWNLOAD
⑤ CN901 : Fan 1 #1 : DC 310V #3 : GND #4 : DC 15V #5 : FAN RPM #6 : FAN RPM FEEDBACK	⑥ CN911 : Fan 2 #1 : DC 310V #3 : GND #4 : DC 15V #5 : FAN RPM #6 : FAN RPM FEEDBACK	⑦ CN401 : COMP #1 : COMP-U PHASE #2 : COMP-V PHASE #3 : COMP-W PHASE	⑧ L,N : AC POWER #L_BRN : AC POWER(L)/BRN #N_SKY : AC POWER(N)/SKY

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5-5. Outdoor Unit EMI PBA

■ AR36BSHUMGMXCV

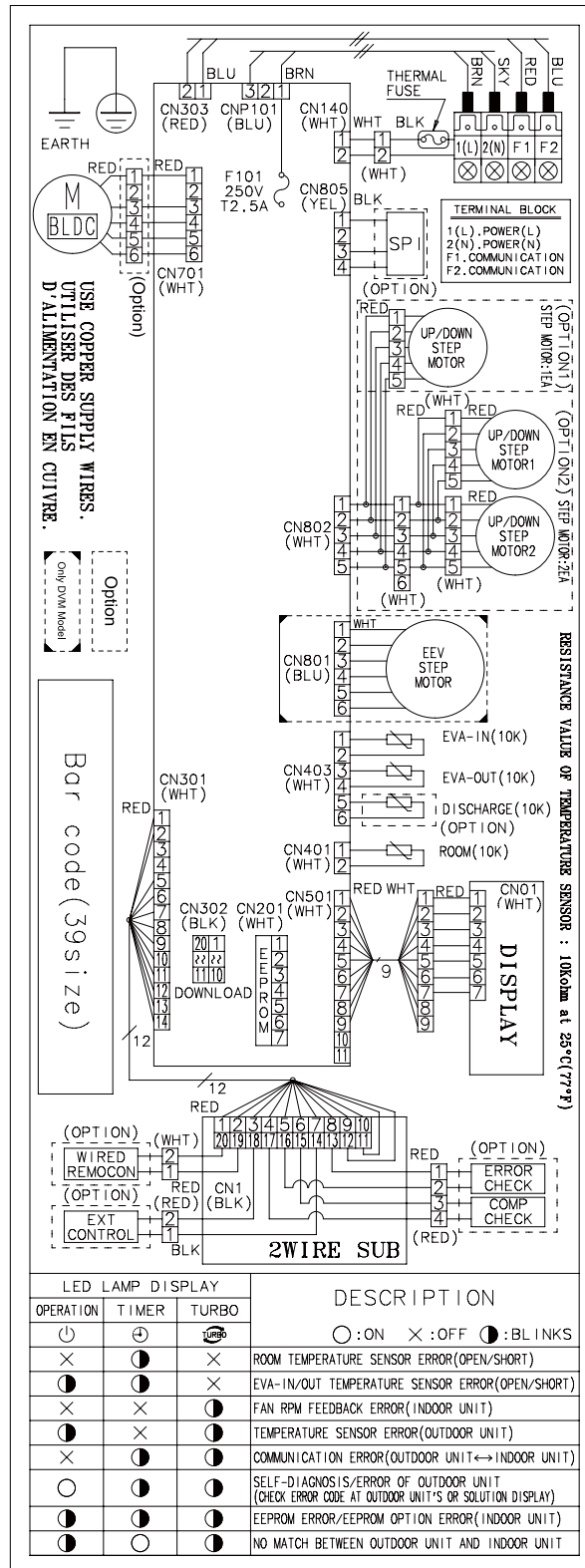


① N1: AC POWER(N) #1: AC POWER(N)	② L1: AC POWER(L) #1: AC POWER(L)	③ CN01: POWER #1: AC POWER(L) #3: AC POWER(N)	④ CN5: AC POWER(N) #1: AC POWER(N)
⑤ CN4: AC POWER(L) #1: AC POWER(L)			

6. Wiring Diagram

6-1. Indoor Unit

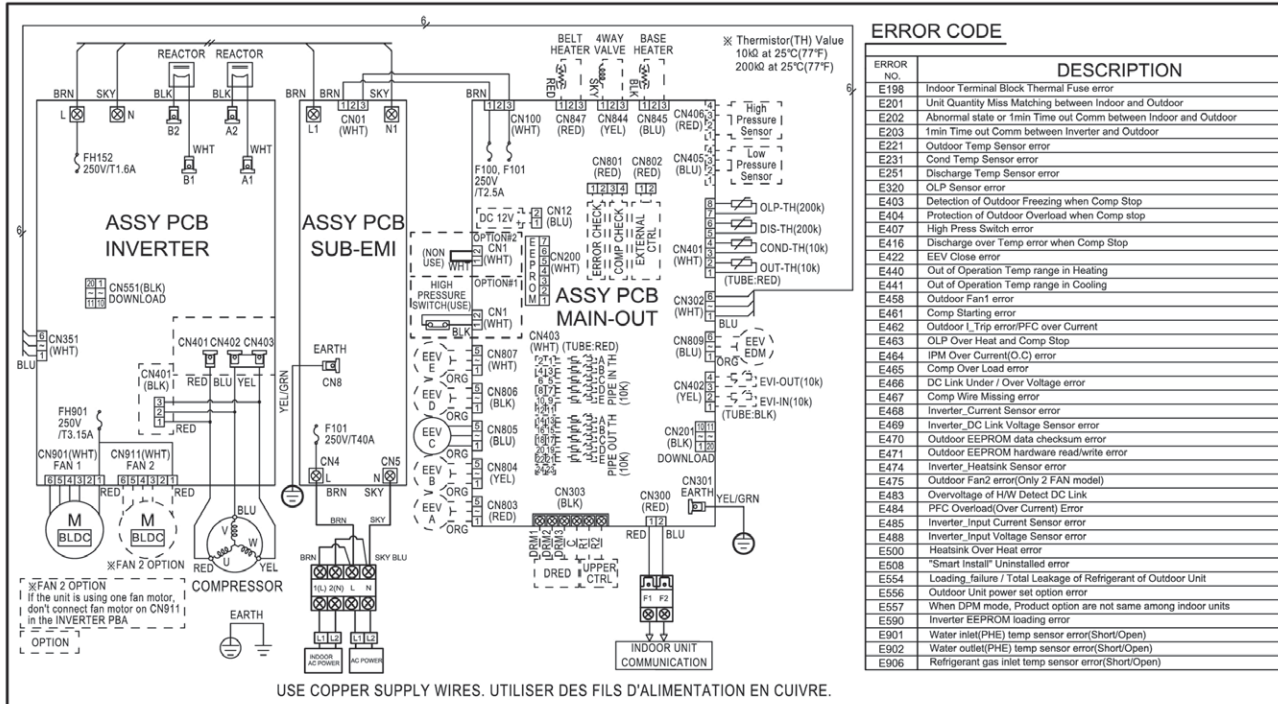
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6-2. Outdoor unit

■ PF#4 : AR36BSHUMGMXCV



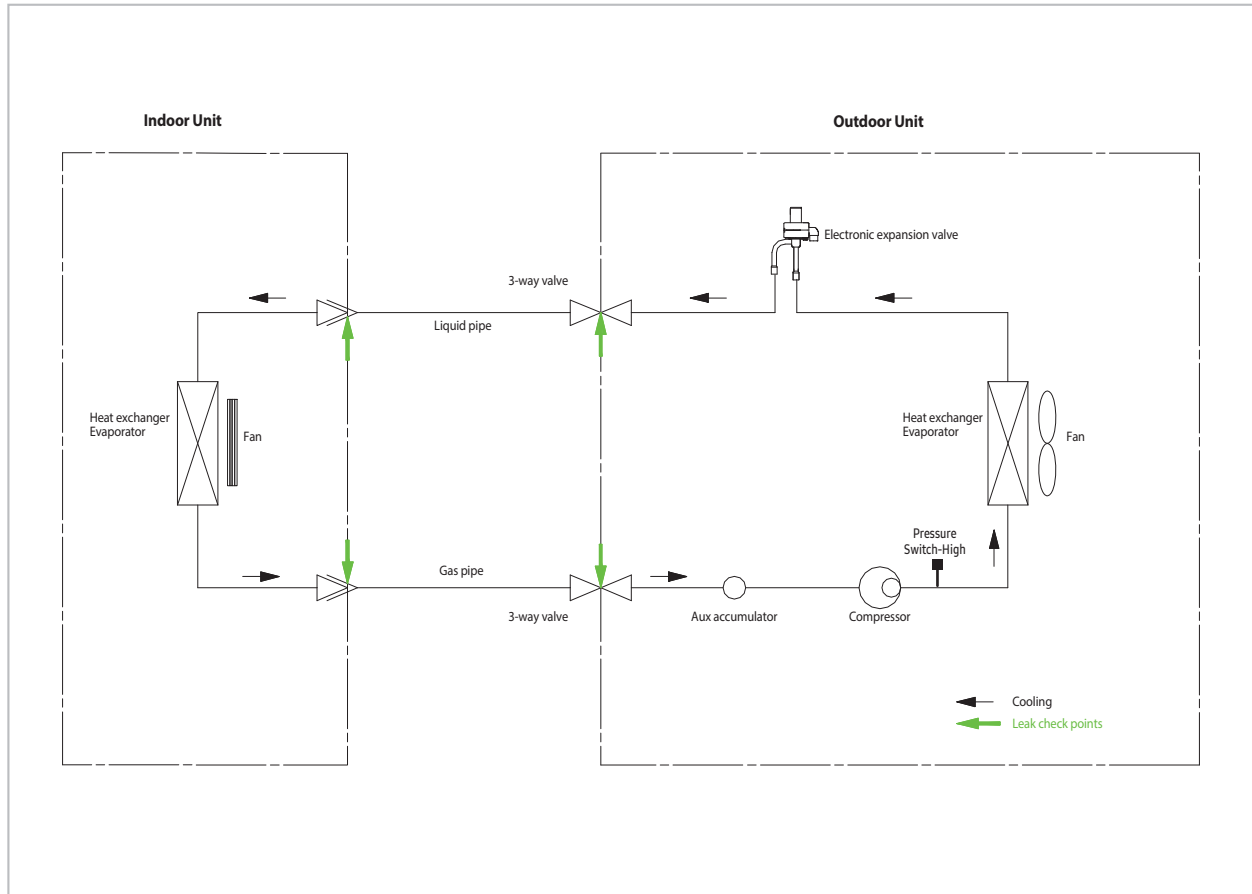
7. Reference Sheet

7-1. Index for Model Name

7-1-1. Indoor Unit

Digit NO	1	2	3	4	5	6		7		8		9		10	11	12		13	14										
	제품군		용량 (K BTU)		출시년도	Type (Ref, Inv. ONOFF)		Feature		Design		Series		Color code		Product type		거래선											
Code	A	R	1	2	T	X		F		C		A		W	K	N		E	U										
	AR	RAC	7	7K BTU/H	T : 2020	S	INV. HP R410A	A	MDS+PM1.0 Filter +PM1.0 Sensor +Wi-Fi	A	Wind-Free GEO	A	1st MODEL	WK	DA White	/	CBU SET												
	AF	FAC	9	9K BTU/H		V	INV. CO R410A	B	MDS +PM1.0 Filter +Wi-Fi	C	Wind-Free AIRISE	B	2nd MODEL	RG	Rose Gold (FAC)	N	CBU IDU												
			12	12K BTU/H		X	INV. HP R32	C	MDS + Wi-Fi + Tri-care Filter	Y	GEO	C	3rd MODEL			X	CBU ODU												
			18	18K BTU/H (5.0kw)		Y	INV. CO R32	D	MDS + Wi-Fi	Z	AIRISE	D	4th MODEL			1	CKD SET												
			24	24K BTU/H (7.2kw)		Q	ONOFF HP R410a	E	Wi-Fi +Tri-care Filter	B	AF9500 (B1 3구)	E	5th MODEL			U	CKD IDU												
						30	30K BTU/H	R	ONOFF CO R410a	F	Wi-Fi					F	6th MODEL			W	CKD ODU								
						P	ONOFF HP R22	G	Tri-care Filter	G	7th MODEL					2	SKD SET												
																					Y	SKD IDU							
																					C	ONOFF CO R22	H	-					Z
					J																MDS + Tri-Care Filter	A	FAC (PM1.0 Filter +WIFI)						
									B	FAC(WIFI)																			

7-2. Refrigerating Cycle Diagram



■ CONDENSER

High temperature and high pressure gas state refrigerant 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 refrigerant is compressed and sent to the cycling system.

■ EVAPORATOR

Liquid refrigerant 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, refrigerant injection, refrigerant purging, and indoor-outdoor unit connection.

■ ACCUMULATOR

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



GSPN (GLOBAL SERVICE PARTNER NETWORK)

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

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