SAMSUNG

SPLIT-TYPE AIR CONDITIONER

INDOOR UNIT OUTDOOR UNIT

Model Code:

AR18NSFPEWQNEU	AR18NSFPEWQXEU
AR24NSFPEWQNEU	AR24NSFPEWQXEU
AR18NSFHBWKNEU	AR18NSFHBWKXEU
AR24NSFHBWKNEU	AR24NSFHBWKXEU

Basic Code:

AR18MSFPEWQNEU	AR18MSFPEWQXEU
AR18MSFHBWKNEU	AR18MSFHBWKXEU

SERVICE *Manual*

AIR CONDITIONER

AR18NSFPEWQNEU
AR24NSFPEWQNEU

AR18NSFHBWKNEU
AR24NSFHBWKNEU

AR18NSFPEWQXEU
AR24NSFPEWQXEU
AR18NSFHBWKXEU
AR24NSFHBWKXEU

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1. Precautions

1-1 Installing the air conditioner

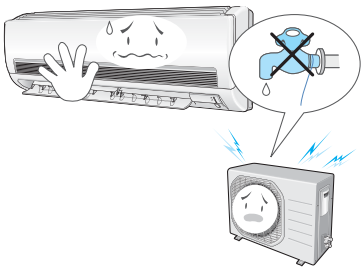
- Users should not install the air conditioner by themselves.
  Ask the dealer or authorized company to install the air conditioner except the window-type air conditioner in U.S.A and Canada.
- If you don't install the air conditioner properly, it may cause a fire, a water leakage or an electric shock.
- You must install the air conditioner according to the national wiring regulations and safety regulations.
- Install the indoor unit higher than 2.5m from the floor to avoid the injury caused by the operation of the fan.
  (except the window-type air conditioner)
- The manufacturer is not responsible for any accidents or injury caused by an incorrect installation.
- When installing the built-in type air conditioner, keep all electric cables such as the power cable and the connection cord in pipes, ducts, or cable channels to protect them from the danger of impact or any other incidents.

1-2 Power supply and circuit breaker

- If the power cord of the air conditioner is damaged, it must be replaced by the manufacturer or a qualified person in order to avoid a hazard.
- The air conditioner must be plugged into an independent circuit if applicable or connect the power cable to the auxiliary circuit breaker.
  An all pole disconnection from the power supply must be incorporated in the fixed wiring with a contact opening of >3mm.
- Do not extend an electric cord to the air conditioner.
- The air conditioner must be plugged in after you complete the installation.

1-3 During operation

- Do not repair the air conditioner at your discretion.
  It is recommended to contact a service center directly.
- Never spill any kind of liquid on the air conditioner.
  If this happens, turn off the air conditioner and contact an authorized service center.
- Do not insert anything between the airflow blades to prevent damage of the inner fan and consequent injury.
  Keep children away from the air conditioner.
- Do not place any obstacles in front of the air conditioner.
- Do not spray any kind of liquid into the indoor unit. If this happens, turn off the air conditioner and contact a service center.
- Make sure that the air conditioner is well ventilated at all times:
  Do not place a cloth or other materials over it.
- Remove the batteries if you don't use the remote control for a long time. (If applicable)
- Use the remote control within 7 meters from the indoor unit. (If applicable)

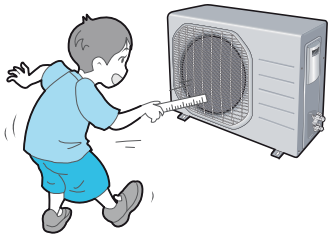


1-4 Disposing of the unit

- **Before the throwing out the air conditioner, remove the batteries from the remote control.**
- **When you dispose of the air conditioner, consult your dealer. If pipes are removed incorrectly, refrigerant may blow out and cause air pollution. When it contacts with your skin, it can cause skin injury.**
- **The package of the air conditioner should be recycled or disposed of properly for environmental reasons.**

1-5 Others

- **Never store or load the air conditioner upside down or sideways to prevent the damage to the compressor.**
- **Young children or infirm persons should be always supervised when they use the air conditioner.**
- **Max current is measured according to IEC standard for safety.**
- **Current is measured according to ISO standard for energy efficiency.**



2. Product Specifications

2-1 The Feature of Product

Cool Summer Offer

On those hot sweltering summer days and long restless nights, there is no better escape from the heat than the cool comforts of home. Your new air conditioner brings an end to exhausting hot summer days and lets you rest. Beat the heat with your own air conditioner this summer.

Cost Efficient System

Your new air conditioner not only provides maximum cooling power in the summer, but also can be an efficient heating method in the winter with the advanced "Heat pump" system. "Heat pump" system is 3 times more efficient compare to the other electrical heating appliance, so you can further reduce its running cost. Now, meet year-round needs with one air conditioner.

Look for Everywhere

The elegant and harmonious design gives priority to the esthetics of your space and complements any of your existing interior décor. With its soft color and rounded-edge shape, the new air conditioner adds class to any room. Enjoy what your air conditioner offers both functionally and esthetically.

good'sleep function

good'sleep function allows you to set a comfortable sleep temperature while saving energy and having sound sleep.

2-2 Product Specifications

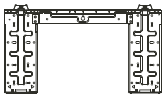
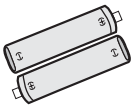
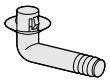
ITEM \ Model				AR18NSFPEWQ/EU		AR24NSFPEWQ/EU		AR18NSFHBWK/EU		AR24NSFHBWK/EU	
				Indoor Unit	Outoor Unit	Indoor Unit	Outoor Unit	Indoor Unit	Outoor Unit	Indoor Unit	Outoor Unit
Type				Wall-mounted		Wall-mounted		Wall-mounted		Wall-mounted	
Performance	Capacity	Cooling	W	1600/5000/6500		1400/6500/7600		1600/5000/6500		1400/6500/7600	
		Heating	(Low/Std/Max)	1200/6000/7200		1200/7400/9200		1200/6000/7200		1200/7400/9200	
	Running Frequency	Cooling	Hz	15/63/83		15/86/105		15/63/83		15/86/105	
		Heating	(Low/Std/Max)	15/74/93		15/92/115		15/74/93		15/92/115	
	Noise	Indoor Unit	dB (H/L)	46		51		46		51	
		Outdoor Unit		57		60		57		60	
	Energy Efficiency Ratio	Cooling	W/W (Std)	3.45		2.85		3.45		2.85	
		Heating		3.43		2.85		3.43		2.85	
	Power		ph-V-Hz	220-240/50/1		220-240/50/1		220-240/50/1		220-240/50/1	
Power	Power Consumtion	Cooling	W (Low/Std/Max)	320/1450/1980		340/2280/2900		320/1450/1980		340/2280/2900	
		Heating		270/1750/2000		280/2595/3200		270/1750/2000		280/2595/3200	
	Operating Current	Cooling	A (Low/Std/Max)	2/6.6/8.7		2.2/10.2/13		2/6.6/8.7		15/86/105	
		Heating		1.7/7.9/9		1.8/11.5/14		1.7/7.9/9		15/92/115	
	Power Factor	Cooling	% (Std)	69/95/98		67/97/96		69/95/98		67/97/96	
		Heating		69/96/96		67/98/99		69/96/96		67/98/99	
Size	Outer Dimension	Width*Height *Depth	mm	1065*298*230	880*638*310	1065*298*230	880*638*310	1065*298*243	880*638*310	1065*298*243	880*638*310
	Weight(Net)		kg	11.4	41.5	11.4	41.5	11.5	41.5	11.5	41.5
	Refrigerant Pipe	Liquid	mm	6.35		6.35		6.35		6.35	
		Gas	mm	12.7		15.88		12.7		15.88	
	Drain Hose		L*D	550*20		550*20		550*20		550*20	
	Compressor	Type		UG9TK3150FE4		UG9TK2150FE4		UG9TK3150FE4		UG9TK2150FE4	
		Motor	Type	8P12S		8P12S		8P12S		8P12S	
	Blower	Type		Cross-flow	Propeller	Cross-flow	Propeller	Cross-flow	Propeller	Cross-flow	Propeller
		motor	Type	Resin/steel/AC	Resin/steel/DC	Resin/steel/AC	Resin/steel/DC	Resin/steel/AC	Resin/steel/DC	Resin/steel/AC	Resin/steel/DC
			Rated Output(W)	-	-	-	-	-	-	-	-
Heat Exchanger				Φ7, 2R*10S*850mm Φ7, 2R*5(6)S*830mm	Φ7W, 2R*28S*906.8mm	Φ7, 2R*10S*850mm Φ7, 2R*5(6)S*830mm	Φ7W, 2R*28S*906.8mm	Φ7, 2R*10S*850mm Φ7, 2R*5(6)S*830mm	Φ7W, 2R*28S*906.8mm	Φ7, 2R*10S*850mm Φ7, 2R*5(6)S*830mm	Φ7W, 2R*28S*906.8mm
Refrigerant Control Unit				EEV		EEV		EEV		EEV	
Refrigerant to Change(R410A)			g	1300		1450		1300		1450	
Proterction Device(OLP)				None		None		None		None	
Operation condition range		Cooling		-10 ~ 46℃		-10 ~ 46℃		-10 ~ 46℃		-10 ~ 46℃	
		Heating		-15 ~ 24℃		-15 ~ 24℃		-15 ~ 24℃		-15 ~ 24℃	

2-3 The Comparative Specifications of Products

ITEM	MODEL	Develop Model	Develop Model	Develop Model	Develop Model
		AR18NSFPEWQ/EU	AR24NSFPEWQ/EU	AR18NSFHBWK/EU	AR24NSFHBWK/EU
Design	Indoor Unit				
	Outdoor Unit				
Net Weight	Indoor Unit (kg)	11.4	11.4	11.5	11.5
	Outdoor Unit (kg)	41.5	41.5	41.5	41.5
Outer Dimension	Indoor Unit (W*H*D)/(mm)	1065*298*230	1065*298*230	1065*298*243	1065*298*243
	Outdoor Unit (W*H*D)/(mm)	880*638*310	880*638*310	880*638*310	880*638*310
Noise	Indoor Unit (dB)	46	51	46	51
	Outdoor Unit (dB)	57	60	57	60
Air Purifying System	Filter	3-CARE FILTER	3-CARE FILTER	3-CARE FILTER	3-CARE FILTER

2-4 Accessory and Option Specifications

2-4-1 Accessories

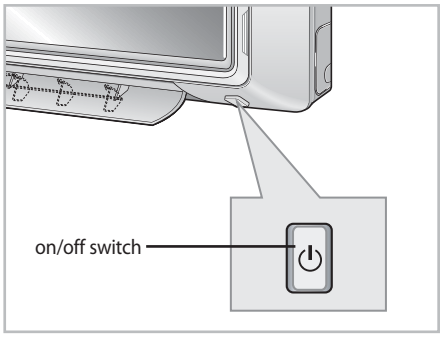
Item	Descriptions	Code-No.	Q'TY	Remark
	Assy Plate Hanger	DB90-02738A	1	Indoor Unit
	Remote Control	DB93-15882Q	1	
	Batteries for Remote Control	4301-000121	2	
	MANUAL USERS	DB68-07547A(AR**NSFP**) DB68-07571A(AR**NSFH**)	1	
	MANUAL INSTALL	DB68-07548A(AR**NSFP**) DB68-07570A(AR**NSFH**)	1	
	Drain Plug	DB67-20011A	1	Outdoor Unit
	Rubber Leg	DB67-01533A	4	

3. Alignment and Adjustments

3-1 Test Mode

■ How to Approach Test Mode

You can approach the Test Mode by pressing the on/off switch of indoor unit for 5 seconds.



■◗ Test Mode Operation Option

After installing the air conditioner, check whether each subordinate is normally operated or not by operating the Test Mode.

- **When an error occurs, display the Error Mode.**
- **Operation Mode :** Cool mode. Operate the cool mode by operating the compressor by force without the compressor ON/OFF according to the set temperature/indoor temperature. (Do not follow the antifreeze control)
- **Up-down louver :** Up-down swing mode
- **Indoor Fan :** High

- Because the Test Mode operate the cool mode by force not related to the set temperature / indoor temperature, check whether each subordinate is operated normally or not after completing installation and must turn off the power of the air conditioner.

3-2-1 Indoor Display Error and Check Method

ERROR MODE				DESCRIPTION
7-SEG	LED1	LED2	LED3	
	OPERATION	TIMER	OPTION	
E101,E102	○	◑	◑	Communication error (indoor <-> outdoor)
E121	○	◑	○	ROOM TH sensor error
E122,E123	◑	◑	○	INDOOR MID,INDOOR IN PIPE-TH sensor error
E154	○	○	◑	Fan error(indoor)
E162	◑	◑	◑	EEPROM error
E163	◑	◑	◑	Option error
FROM E200	◑	○	◑	Outdoor error display
E203	◑	●	●	Time out Comm.(Inv Micom <-> Main Micom)
E422/E554	●	○	◑	EEV or Valve Close error-Self diagnosis /Gas Leak Error
E458	●	●	◑	Out door Fan Error
E461	◑	●	◑	Comp Starting Error
E464	○	●	◑	IPM Over Current(O.C) Error
E465	◑	●	○	Comp V_limit/I_limit Error
E500				Heatsink overheat or IPM overheat

● : LAMP ON ○ : LAMP OFF ◑ : LAMP BLINK

3-2-2 Outdoor LED Display Error and Check Method

LED PATTERN			DESCRIPTION
YEL	GRN	RED	
○	○	○	Power Off / VDD NG
○	◎	●	Normal Operation
○	○	◎	IPM Over Current(O.C)
○	○	●	Abnormal Serial communication
○	●	●	(Display Board:Indoor<->Outdoor)
○	◎	○	Comp Starting error
○	●	◎	DC-Link voltage under/over error PFC over load / HW DC_link over
◎	○	◎	Outdoor temp sensor error (Dual/Single)
◎	○	●	Discharge over temperature (Dual/Single)
◎	◎	○	Discharge temp sensor error (Dual/Single)
◎	◎	●	Current sensor error Heatsink sensor error Input current sensor error
◎	●	○	Comp Vlimit error/Heatsink over temp
◎	●	◎	Coil temp sensor error(Dual/Single)
◎	●	●	1min. Time out Comm. (Main <-> Inverter)
●	○	○	Fan error
○	●	○	EEProm data error
●	○	◎	OTP error
●	○	●	Comp wire missing error
●	◎	○	Operation condition secession (Dual only)
●	◎	◎	DC-Link voltage sensor error
●	◎	●	I-Trip error / PFC Over current
●	●	○	GAS Leak error(Dual/Single)
●	●	◎	AC Line Zero Cross Signal out
●	●	●	Power ON reset(1sec)
◎	○	○	capacity miss match
○	◎	◎	Test Operation Cooling Mode
◎	◎	◎	Test Operation Heating Mode

● LED ON ○ LED OFF ◎ LED BLINKING

3-3 Setting Option Setup Method

ex) Option No. :

Note :

SEG1, SEG7, SEG13, SEG19 need not to be pressed in, so in fact the Option No. we should press in is as below.

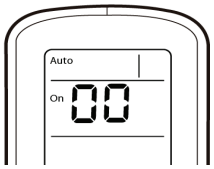
30 00 07 C2 6C 83 10 00 00 00 20 00 00 00 00 00 00 10 00 00

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12	SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
0	3	0	0	0	0	1	7	C	2	6	C	2	8	3	1	0	0	3	0	0	0	0	0
SEG25	SEG26	SEG27	SEG28	SEG29	SEG30	SEG31	SEG32	SEG33	SEG34	SEG35	SEG36	SEG37	SEG38	SEG39	SEG40	SEG41	SEG42	SEG43	SEG44	SEG45	SEG46	SEG47	SEG48
0	2	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	1	3	0	0	0	0	0

Step 1

Enter the Option Setup mode.

1. Tack out the batteries of remote control.
2. Press the temperature (Temp) button simultaneously and insert the battery again.
3. Make sure the remote control display shown as 00 .



Step 2

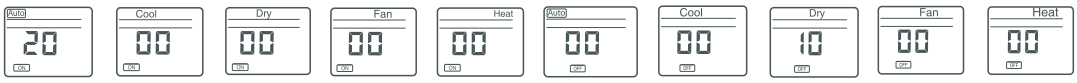
Enter the Options Setup mode and select your options asscording to the following procedure.

	Feature	Display
1	The default value is 00 . Every time you push the (Mode) button, the display panel reads ON Auto ➡ Cool ➡ Dry ➡ Fan ➡ Heat , OFF Auto ➡ Cool ➡ Dry ➡ Fan ➡ Heat repeatedly.	
2	Push the (Fan) button to set the display panel to 3 . Every time you push the (Fan) button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
3	Push the (Mode) button to 00 Every time you push the (Fan) button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
4	Push the (Mode) button to 00 . Push the (Fan) button to set the display panel to 7. Every time you push the (Fan) button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
5	Push the (Mode) button to 00 . Push the (Fan) button to set the display panel to C . Every time you push the (Fan) button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
6	Push the (Fan) button to set the display panel to 2 . Every time you push the (Fan) button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	

	Feature	Display
7	Push the Mode button to . Push the Fan button to set the display panel to 6. Every time you push the Fan button, the display panel reads 0→1→2→3→ ..... →9→A→b→c→d→E→F repeatedly.	Heat 60
8	Push the Fan button to set the display panel to 8. Every time you push the Fan button, the display panel reads 0→1→2→3→ ..... →9→A→b→c→d→E→F repeatedly.	Heat 6C
9	Push the Mode button to . Push the Fan button to set the display panel to 8. Every time you push the Fan button, the display panel reads 0→1→2→3→ ..... →9→A→b→c→d→E→F repeatedly.	Auto 80
10	Push the Fan button to set the display panel to 3. Every time you push the Fan button, the display panel reads 0→1→2→3→ ..... →9→A→b→c→d→E→F repeatedly.	Auto 83
11	Push the Mode button to . Push the Fan button to set the display panel to 1. Every time you push the Fan button, the display panel reads 0→1→2→3→ ..... →9→A→b→c→d→E→F repeatedly.	Cool 10
12	Push the Mode button to .	Dry 00
13	Push the Mode button to .	Fan 00
14	Push the Mode button to .	Heat 00

Step 3 Upon completion of the selection, check you made right selections.

Press the Mode Selection key to set the display part and check the display part.
→ The display part shows like below when each time you press Mode button.



Step 4 Pressing the ON/OFF button ( ) .

When pressing the operation ON/OFF key with the direction of remote control for the sound "Ding" or "Diriring" is heard and the OPERATION ICON(≋) lamp of the display is flickering at the same time, then the input of option is completed.
(If the deriving sound isn't heard, try again pressing the ON/OFF button.)

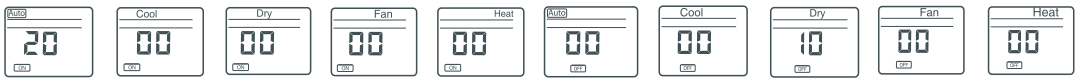
Step 5

Enter the Options Setup mode and select your options asscording to the following procedure.

	Feature	Display
1	Step 1 (Enter the Option Setup mode) is executed. (Seg25 ~ 48 for setting remote control Setup)	
2	Push the Fan Mode button to set the display panerl to 2. Every time you push the Fan button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	Auto 20 ON
3	Push the Mode button to Cool 00.	Cool 00 ON
4	Push the Mode button to Dry 00.	Dry 00 ON
5	Push the Mode button to Fan 00.	Fan 00 ON
6	Push the Mode button to Heat 00.	Heat 00 ON
7	Push the Mode button to Auto 00.	Auto 00 OFF
8	Push the Mode button to Cool 00.	Cool 00 OFF
9	Push the Mode button to Dry 00.	Dry 00 OFF
10	Push the Fan Mode button to set the display panerl to 1. Every time you push the Fan button, the display panel reads 0 → 1 → 2 → 3 → ··· 9 → A → b → c → d → E → F repeatedly.	Dry 10 OFF
11	Push the Mode button to Fan 00.	Fan 00 OFF
12	Push the Mode button to Heat 00.	Heat 00 OFF

Step 6 **Upon completion of the selection, check you made right selections.**

Press the Mode (Mode) Selection key to set the display part and check the display part.
→ The display part shows like below when each time you press Mode button.



Step 7 **Pressing the ON/OFF button ( ) .**

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" or "Diriring" is hea
and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed.
(If the deriving sound isn't heard, try again pressing the ON/OFF button.)

Step 8 **Unit operation test-run.**

First : Remove the battery from the remote control.
Second : Re-insert the battery into the remote control.
Third : Press ON/OFF key with the direction of remote control for set.

■Error mode

1. If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.
2. If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

□Option Items

Model	SEG 1~24	SEG 25~48	SEG 49~72
AR18NSFPEWQ/EU	014005-15625C-27323C-372784	020000-100000-200000-300000	034A4C-113F4A-200000-300001
AR24NSFPEWQ/EU	014005-16629D-27444D-371784	020000-100000-200000-300000	035157-10565C-200000-300001
AR18NSFHBWK/EU	01C005-15625C-27323C-3727A4	020000-100000-200001-300000	034A4C-113F4A-200000-300001
AR24NSFHBWK/EU	01C005-16629D-27444D-3715A4	020000-100000-200001-300000	035157-10565C-200000-300001

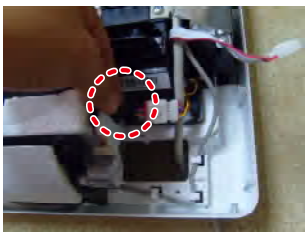
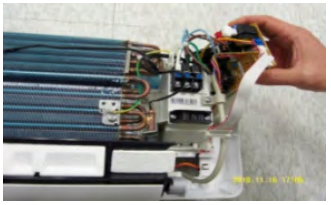
4. Disassembly and Reassembly

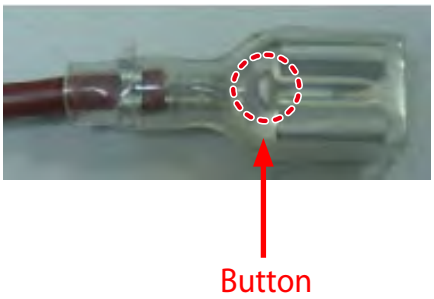
■ Necessary Tools

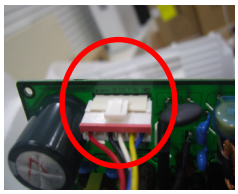
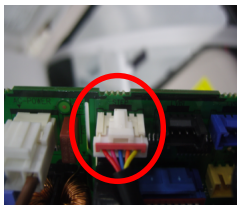
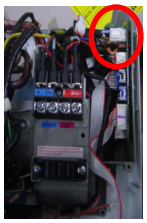
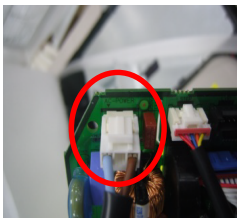
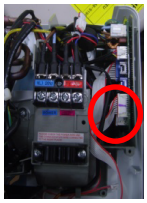
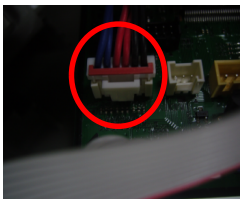
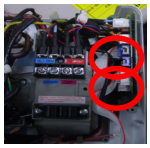
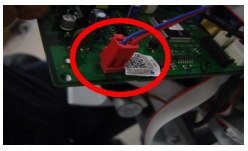
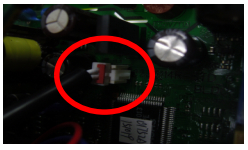
Item	Remark
SCREW DRIVER	
MONKEY SPANNER	

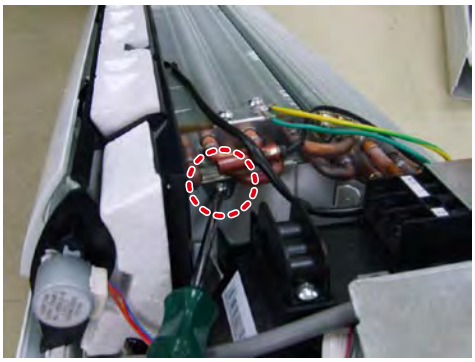
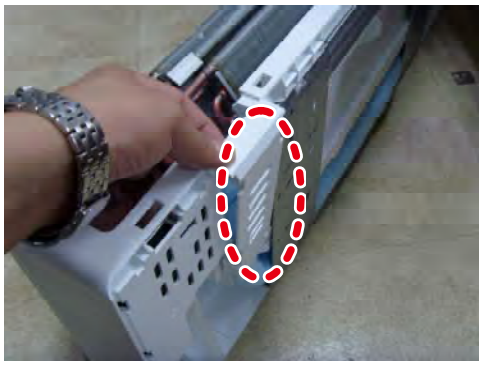
4-1 Indoor Unit

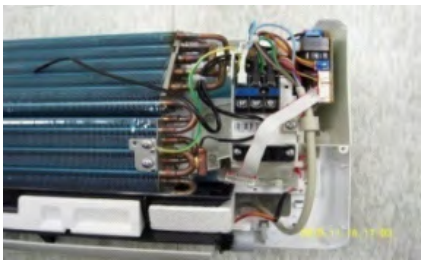
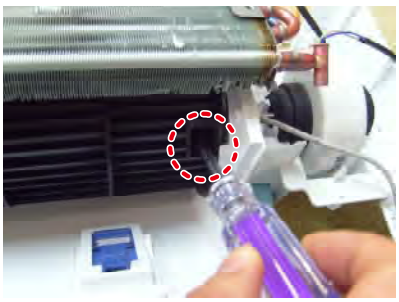
No	Parts	Procedure	Remark
1	PANEL-FRONT	1) Stop the driving of air conditioner and shut off main power supply. 2) Open the FRONT-GRILLE and pull out from the PANEL-FRONT.	
		3) Detach COVER-TERMINAL from the PANEL-FRONT.(use + Screw Driver)	
		4) Loosen connector wire(white) and detach the temperature sensor wire.	
		5) To detach the FRONT-PANEL the 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	CONTROL IN	1) Unfasten the earth screw.(use + Screw Driver)	
		2) Detach COVER-CONTROL from the CASECONTROL.	
		3) Detach the temperature sensor.	
		4) Loosen MOTOR Wire.	
		5) Take off the CASE-CONTROL from the main frame.	

No	Parts	Procedure	Remark
4	PBA	1) Unfasten the screw.	
		2) Cut the cable tie.	
		3) Loosen the terminal block wires. ❊ Caution: The terminal is locking type. So, when you separate terminals, pull pressing the button.  	

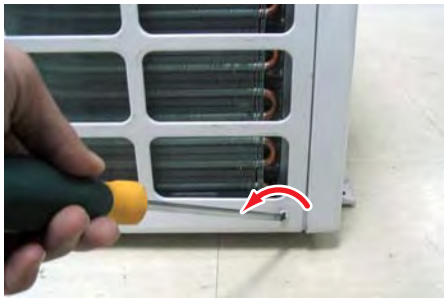
No	Parts	Procedure	Remark
4	PBA	4) Loosen the Motor connector ☒Caution: When you separate the connector, pull pressing the locking button.	
		5) Loosen Stepping MOTOR connector. ☒Caution: When you separate the connector, pull pressing the locking button.	
		6) Loosen Main Power connector. ☒Caution: When you separate the connector, pull pressing the locking button.	 
		7) Loosen the Thermistor wire connector. ☒Caution: When you separate the connector, pull pressing the locking button.	 
		8) Loosen the Communication Wire connector and Terminal-Block Fuse connector ☒Caution: When you separate the connector, pull pressing the locking button.	  

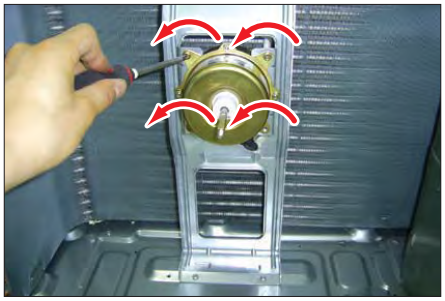
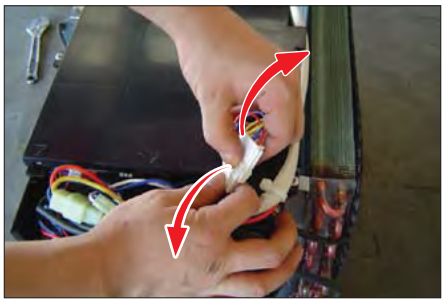
No	Parts	Procedure	Remark
5	EVAPORATOR	1) Unfasten the screw at the right side. (use + Screw Driver)	
		2) Unfasten the screw at the left side. (use + Screw Driver)	
		3) Detach the HOLDER PIPE.	
		4) Take off the EVAPORATOR from the main frame.	

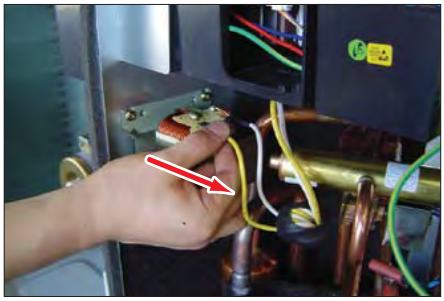
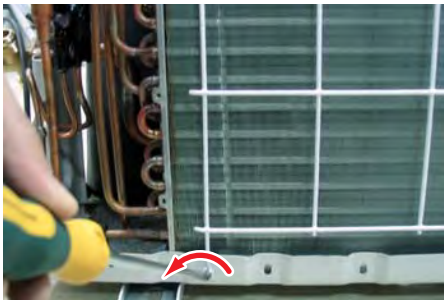
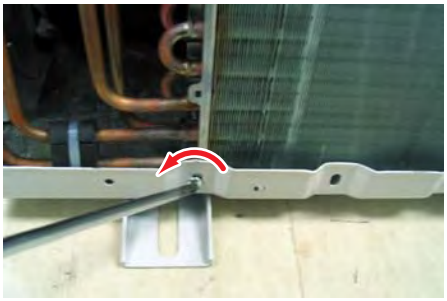
No	Parts	Procedure	Remark
6	FAN MOTOR & CROSS FAN	1) Unfasten the screw in the HOLDER-EVAP on the left side of evaporator.(use + Screw Driver)	
		2) unfasten the 3 points screws in the CASE-CONTROL, and then detach the CASE. (use + Screw Driver)	
		3) unfasten the screw a little.(use + Screw Driver)	
		4) Lift up the evaporator slightly and pull the CROSS-FAN to the left side.	

4-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Common Work	1) Loosen 2 fixing screw(CCW) of the Cover-Control and detach the Cover Control.	
		2) Loosen fixing screws(CCW) and detach the Cabinet-Upper.	
		3) Loosen 2 screw(CCW) fixed to assemble Control Box with Cabinet-Side RH.	
		4) Loosen 6 fixing screws(CCW) and detach the Cabinet-Side RH.	

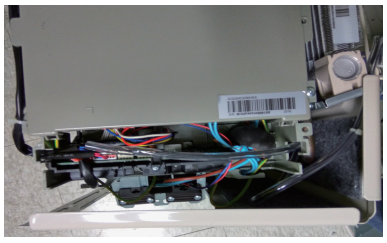
No	Parts	Procedure	Remark
		5) Loosen fixing screws(CCW) of the Cabinet Front.	
		6) Loosen 2 screws(CCW) fixed on the Guide Condenser.	

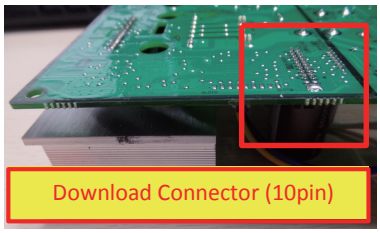
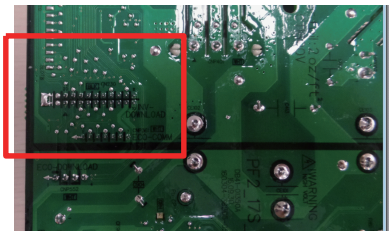
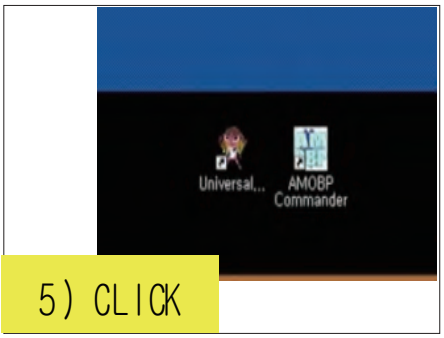
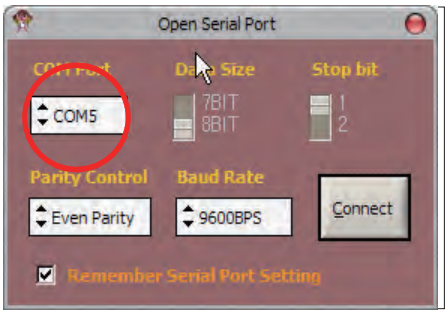
No	Parts	Procedure	Remark
2	Fan ⊠ Motor	1) Detach the Nut Flange like the picture on the right side. (Turn clockwise because the screw is left-handed.)	
		2) Detach the Fan Propeller. 3) Loosen 4 fixing screws(CCW) to detach the Motor.	
		4) Disconnect the wire between Ass'y Control Out and Motor.	
		5) Loosen 2 fixing screws(CCW) and detach the Bracket Motor.	

No	Parts	Procedure	Remark
3	Ass'y Control Out	1) Detach several connectors from the Ass'y Control Out. 2) Detach several connectors from the PCB of Ass'y Control Out. 3) Pull up the Ass'y Control Out.	
4	Heat Exchanger	1) Release the refrigerant at first 2) Loosen fixing screw(CCW) and detach the steel bar. 3) Disassemble the pipes in both inlet and outlet with welding torck. ⚠ Before you disassemble the pipes and Condenser, be sure that there should be no refrigerant remained in the unit.	
		1) Loosen fixing screw(CCW) and detach the Heat Exchanger	

No	Parts	Procedure	Remark
5	Compressor	1) Loosen the fixing nut and detach the Compressor Lead Wire. (Use Monkey Spanner.)	
		2) Loosen the bolts at the bottom of Compressor like the picture on the right side. (Use Monkey Spanner.)	

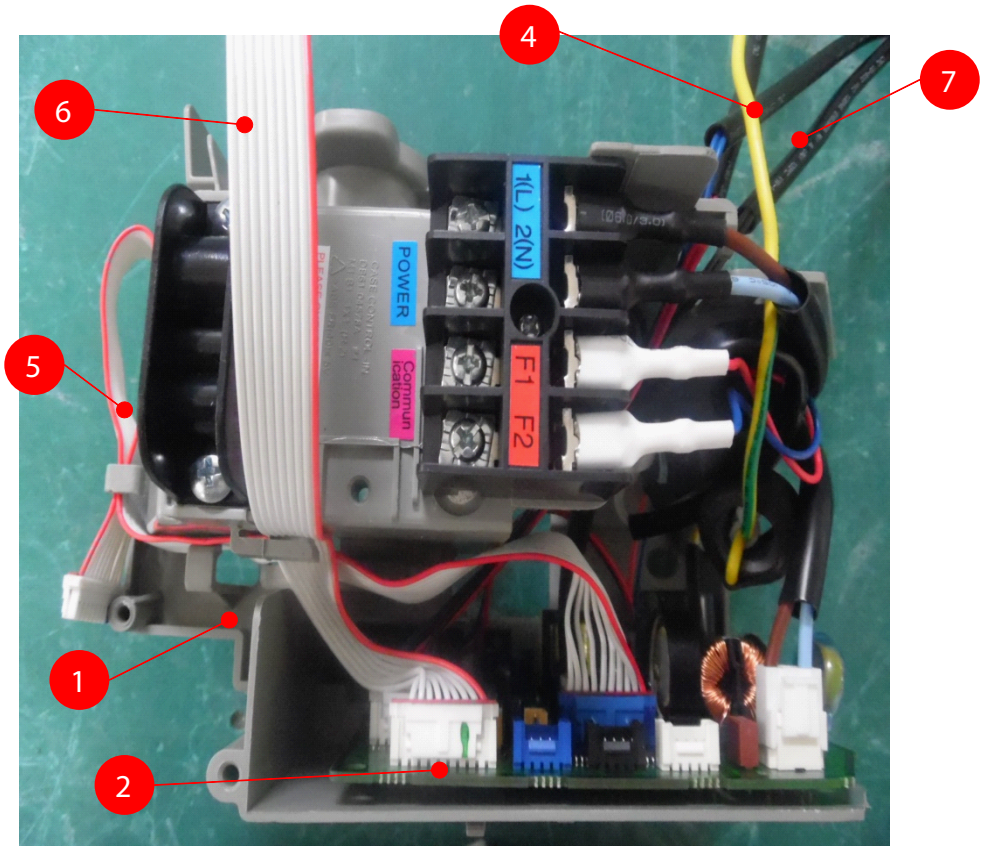
4-3. EEPROM DOWNLOAD

No	Parts	Procedure	Remark
1	Maldives Boracay Normal EER (only)	1) Power off	
		2) Take off the Cabinet : Check the LED off	
		3) Connect PC-Download Jig-PBA	Download Connector (10pin) 

No	Parts	Procedure	Remark
		3) Connect PC-Download Jig-PBA	 
		5) Execute the Universal EEPwriter program	
		6) Select COM Port and connect	
		7) Open the file 8) Start Download	

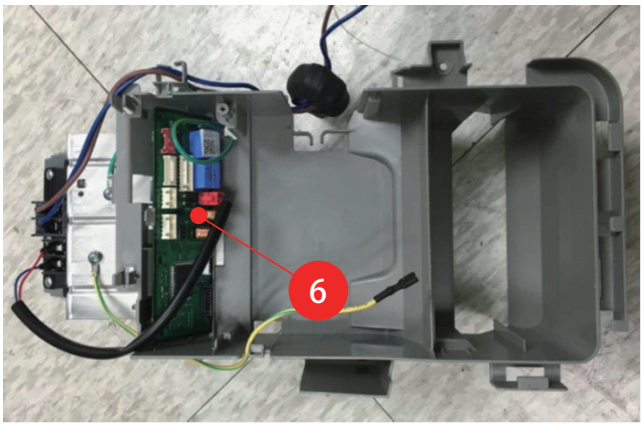
5. Assy Control

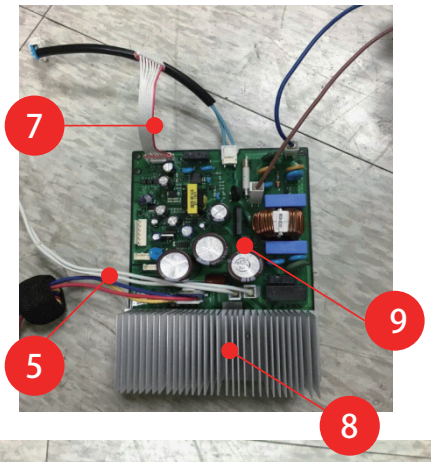
5-1. ASSY KIT(DB92-03975A)

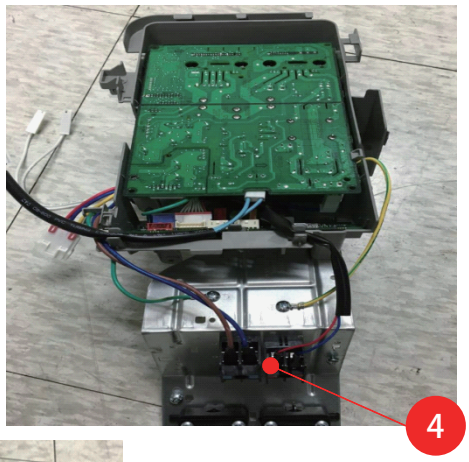


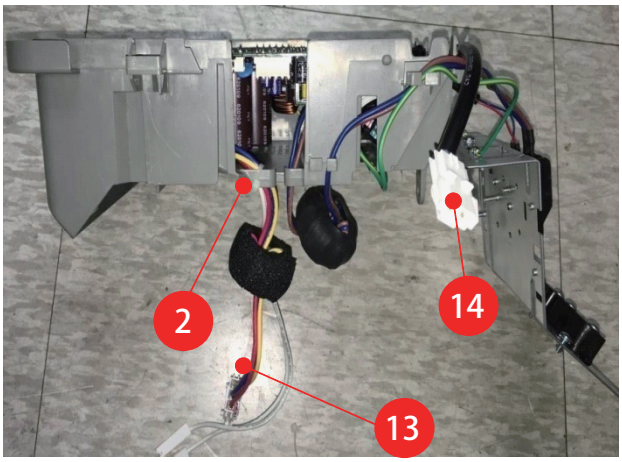
No.	Code	Qty	Description
1	DB90-08954B	1	ASSY CASE CONTROL-ELECTRIC
2	DB93-04695B	1	ASSY CONNECTOR WIRE
3	DB92-03467G	1	ASSY PCB MAIN
4	DB93-06676A	1	ASSY CONNECTOR WIRE
5	DB93-10943H	1	ASSY CONNECTOR WIRE
6	DB93-10918H	1	ASSY CONNECTOR WIRE
7	DB95-05163A	1	ASSY THERMISTOR IN

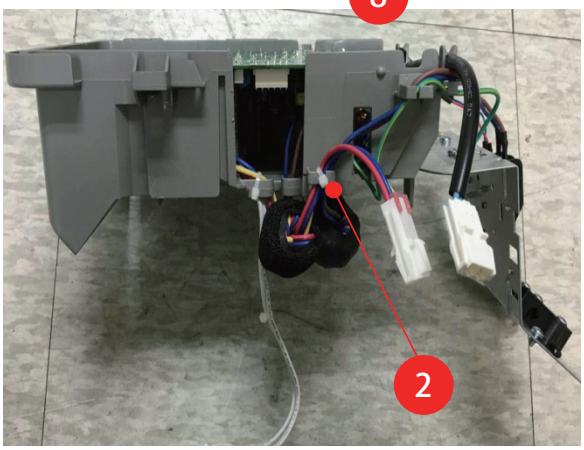
5-2 ASSY CONTROL OUT(DB93-16805B)_18K





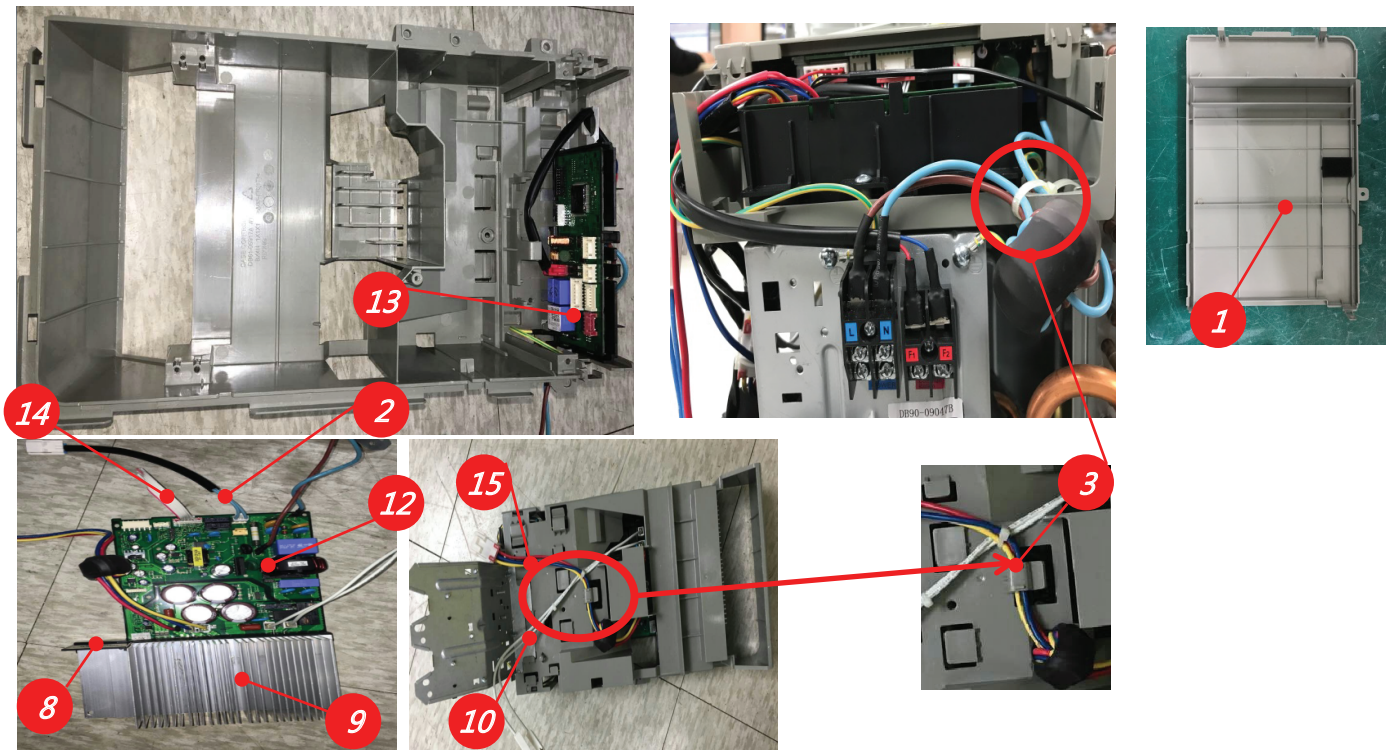






No.	Code	Q'ty	Description
1	DB90-09919A	1	ASSY COVER CONTROL-UP
2	DB65-10088B	2	CABLE TIE
3	DB68-02809A	1	LABEL BAR CODE
4	DB90-08332F	1	ASSY CASE CONTROL
5	DB93-15320A	1	ASSY CONNECTOR WIRE-REACTOR
6	0205-000178	0.002	GREASE-SILICON
7	6002-000630	1	SCREW-TAPPING
8	DB62-12196B	1	HEAT SINK
9	DB91-00933A	4	ASSY-SCREW MACHINE
10	DB92-04025C	1	ASSY PCB INVERTER
11	DB92-04029D	1	ASSY PCB MAIN
12	DB93-07452B	1	ASSY CONNECTOR WIRE-DC SIGNAL
13	DB93-09497E	1	ASSY CONNECTOR WIRE
14	DB93-16403A	1	ASSY CONNECTOR WIRE-AC SIGNAL

5-2 ASSY CONTROL OUT(DB93-16819B)_24K



No.	Code	Q'ty	Description
1	DB90-10861A	1	ASSY CASE CONTROL-UP
2	DB93-16403A	1	ASSY CONNECTOR WIRE-AC SIGNAL
3	DB65-10088B	2	CABLE TIE
4	DB68-02809A	1	LABEL BAR CODE
5	DB90-09047B	1	ASSY CASE CONTROL
6	0205-000178	0.003KG	GREASE-SILICON
7	6002-000536	4	SCREW-TAPPING
8	DB61-05790A	1	SUPPORT-HEAT SINK
9	DB62-12477A	1	HEAT SINK
10	DB93-15320A	1	ASSY CONNECTOR WIRE-REACTOR
11	DB91-00933A	6	ASSY-SCREW MACHINE
12	DB92-04027B	1	ASSY PCB INVERTER
13	DB92-04029D	1	ASSY PCB MAIN
14	DB93-07452B	1	ASSY CONNECTOR WIRE-DC SIGNAL
15	DB93-10988E	1	ASSY CONNECTOR WIRE

6. Electrical Parts List

6-1 INDOOR MAIN PCB - DB92-03467G

Level	Parts Code	Design Loc	Parts Description	Quantity	Unit
. . 1	0201-002354	-	ADHESIVE-COM	0.004	KG
. . 1	0202-001463	SOLDER-WIRE	SOLDER-WIRE	4	G
. . 1	0202-001608	SOLDER-WIRE FLUX	SOLDER-WIRE FLUX	0.2	G
. . 1	0204-004665	FLUX	FLUX	2	G
. . 1	0402-000324	BD71	DIODE-BRIDGE	1	PC
. . 1	1203-002722	REG701	IC-POSI.FIXED REG.	1	PC
. . 1	1203-006089	PW101	IC-PWM CONTROLLER	1	PC
. . 1	1203-007320	IC102	IC-POSI.FIXED REG.	1	PC
. . 1	1404-001413	NTC1	THERMISTOR-NTC	1	PC
. . 1	1405-000160	VA71	VARISTOR	1	PC
. . 1	2201-000987	C107	C-CERAMIC,DISC	1	PC
. . 1	2201-000987	C108	C-CERAMIC,DISC	1	PC
. . 1	2201-000987	C703	C-CERAMIC,DISC	1	PC
. . 1	2201-000987	C704	C-CERAMIC,DISC	1	PC
. . 1	2301-002032	XC71	C-FILM,LEAD-PPF	1	PC
. . 1	2401-004393	CE101	C-AL	1	PC
. . 1	3002-001129	BZ61	BUZZER-PIEZO	1	PC
. . 1	3711-000015	CNS22	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-000203	CNP71	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-000296	CNP72	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-000941	CNS81	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-002001	CNS31	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-003942	CNS11	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-004182	CNS91	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-004236	CNS43	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-004484	CNS61	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-005097	CNS62	HEADER-BOARD TO CABLE	1	PC
. . 1	3711-006678	CNS32	HEADER-BOARD TO CABLE	1	PC
. . 1	3712-001047	CNP73	CONNECTOR-TERMINAL	1	PC
. . 1	DB27-00096A	FT71	COIL CHOKE	1	PC
. . 1	DB67-00942A	VA71-1	CAP	1	PC
. . 1	DB68-05458A	LABEL BAR CODE	LABEL BAR CODE	1	PC
. . 1	DB94-06004A	-	ASSY PCB AUTO	1	PC
. . . . 2	0501-000362	Q801	TR-SMALL SIGNAL	1	PC
. . . . 2	1203-003318	IC101	IC-POSI.ADJUST REG.	1	PC
. . . . 2	2003-002406	R105	R-METAL OXIDE(S)	1	PC
. . . . 2	2201-000285	C102	C-CERAMIC,DISC	1	PC
. . . . 2	2401-000480	C706	C-AL	1	PC
. . . . 2	2401-000480	CE104	C-AL	1	PC
. . . . 2	2401-000480	CE107	C-AL	1	PC
. . . . 2	2401-001415	CE111	C-AL	1	PC
. . . . 2	2401-001838	CE108	C-AL	1	PC
. . . . 2	2401-001838	CE113	C-AL	1	PC
. . . . 2	3601-001209	F702	FUSE-RADIAL LEAD	1	PC
. . . . 2	3601-001765	F701	FUSE-RADIAL LEAD	1	PC
. . . . 2	DB94-06005A	-	ASSY PCB SMD	1	PC
. 3	0202-001933	SOLDER-CREAM	SOLDER-CREAM	1	G
. 3	0402-001192	D103	DIODE-RECTIFIER	1	PC
. 3	0402-001192	D104	DIODE-RECTIFIER	1	PC
. 3	0402-001741	D701	DIODE-RECTIFIER	1	PC
. 3	0402-001795	D101	DIODE-RECTIFIER	1	PC
. 3	0402-001795	D102	DIODE-RECTIFIER	1	PC
. 3	0406-001204	CD81	DIODE-TVS	1	PC

6. Electrical Parts List

6-1 INDOOR MAIN PCB - DB92-03467G

Level	Parts Code	Design Loc	Parts Description	Quantity	Unit
......3	0406-001204	CD82	DIODE-TVS	1	PC
......3	0406-001204	CD83	DIODE-TVS	1	PC
......3	0501-000465	Q601	TR-SMALL SIGNAL	1	PC
......3	0501-000465	Q702	TR-SMALL SIGNAL	1	PC
......3	0501-000465	Q802	TR-SMALL SIGNAL	1	PC
......3	0501-002296	Q701	TR-SMALL SIGNAL	1	PC
......3	0506-000175	IC05	TR-ARRAY	1	PC
......3	0506-000175	IC10	TR-ARRAY	1	PC
......3	0604-001002	PC03	PHOTO-COUPLER	1	PC
......3	0604-001002	PC04	PHOTO-COUPLER	1	PC
......3	0604-001002	PC05	PHOTO-COUPLER	1	PC
......3	0604-001002	PC101	PHOTO-COUPLER	1	PC
......3	0801-000393	IC08	IC-CMOS LOGIC	1	PC
......3	1006-001325	IC07	IC-BUS TRANSCEIVER	1	PC
......3	1202-000104	IC12	IC-VOLTAGE COMP.	1	PC
......3	1203-006245	IC03	IC-VOL. DETECTOR	1	PC
......3	2007-000033	R826	R-CHIP	1	PC
......3	2007-000040	R113	R-CHIP	1	PC
......3	2007-000070	R717	R-CHIP	1	PC
......3	2007-000076	R601	R-CHIP	1	PC
......3	2007-000076	R602	R-CHIP	1	PC
......3	2007-000076	R716	R-CHIP	1	PC
......3	2007-000078	R703	R-CHIP	1	PC
......3	2007-000078	R706	R-CHIP	1	PC
......3	2007-000078	R805	R-CHIP	1	PC
......3	2007-000080	R107	R-CHIP	1	PC
......3	2007-000084	R707	R-CHIP	1	PC
......3	2007-000087	R708	R-CHIP	1	PC
......3	2007-000090	R604	R-CHIP	1	PC
......3	2007-000090	R701	R-CHIP	1	PC
......3	2007-000090	R704	R-CHIP	1	PC
......3	2007-000090	R705	R-CHIP	1	PC
......3	2007-000090	R723	R-CHIP	1	PC
......3	2007-000090	R801	R-CHIP	1	PC
......3	2007-000090	R802	R-CHIP	1	PC
......3	2007-000090	R803	R-CHIP	1	PC
......3	2007-000090	R804	R-CHIP	1	PC
......3	2007-000090	R806	R-CHIP	1	PC
......3	2007-000116	R825	R-CHIP	1	PC
......3	2007-000124	R603	R-CHIP	1	PC
......3	2007-000130	R715	R-CHIP	1	PC
......3	2007-000138	R515	R-CHIP	1	PC
......3	2007-000138	R516	R-CHIP	1	PC
......3	2007-000138	R518	R-CHIP	1	PC
......3	2007-000138	R519	R-CHIP	1	PC
......3	2007-000138	R520	R-CHIP	1	PC
......3	2007-000138	R539	R-CHIP	1	PC
......3	2007-000138	R542	R-CHIP	1	PC
......3	2007-000138	R809	R-CHIP	1	PC
......3	2007-000140	R538	R-CHIP	1	PC
......3	2007-000140	R545	R-CHIP	1	PC
......3	2007-000140	R815	R-CHIP	1	PC
......3	2007-000140	R901	R-CHIP	1	PC
......3	2007-000141	R814	R-CHIP	1	PC

6. Electrical Parts List

6-1 INDOOR MAIN PCB - DB92-03467G

Level	Parts Code	Design Loc	Parts Description	Quantity	Unit
......3	2007-000143	R511	R-CHIP	1	PC
......3	2007-000143	R512	R-CHIP	1	PC
......3	2007-000143	R513	R-CHIP	1	PC
......3	2007-000148	R111	R-CHIP	1	PC
......3	2007-000148	R501	R-CHIP	1	PC
......3	2007-000148	R502	R-CHIP	1	PC
......3	2007-000148	R507	R-CHIP	1	PC
......3	2007-000148	R514	R-CHIP	1	PC
......3	2007-000148	R521	R-CHIP	1	PC
......3	2007-000148	R522	R-CHIP	1	PC
......3	2007-000148	R523	R-CHIP	1	PC
......3	2007-000148	R524	R-CHIP	1	PC
......3	2007-000148	R525	R-CHIP	1	PC
......3	2007-000148	R526	R-CHIP	1	PC
......3	2007-000148	R527	R-CHIP	1	PC
......3	2007-000148	R528	R-CHIP	1	PC
......3	2007-000148	R529	R-CHIP	1	PC
......3	2007-000148	R534	R-CHIP	1	PC
......3	2007-000148	R543	R-CHIP	1	PC
......3	2007-000148	R544	R-CHIP	1	PC
......3	2007-000148	R807	R-CHIP	1	PC
......3	2007-000148	R808	R-CHIP	1	PC
......3	2007-000148	R810	R-CHIP	1	PC
......3	2007-000148	R813	R-CHIP	1	PC
......3	2007-000148	R816	R-CHIP	1	PC
......3	2007-000148	R903	R-CHIP	1	PC
......3	2007-000148	R904	R-CHIP	1	PC
......3	2007-000157	R902	R-CHIP	1	PC
......3	2007-000303	R702	R-CHIP	1	PC
......3	2007-000385	R724	R-CHIP	1	PC
......3	2007-000455	R712	R-CHIP	1	PC
......3	2007-000475	R709	R-CHIP	1	PC
......3	2007-000476	R101	R-CHIP	1	PC
......3	2007-000476	R102	R-CHIP	1	PC
......3	2007-000476	R103	R-CHIP	1	PC
......3	2007-000476	R104	R-CHIP	1	PC
......3	2007-000583	R714	R-CHIP	1	PC
......3	2007-000614	R112	R-CHIP	1	PC
......3	2007-000924	R720	R-CHIP	1	PC
......3	2007-000924	R721	R-CHIP	1	PC
......3	2007-000924	R722	R-CHIP	1	PC
......3	2007-000939	R711	R-CHIP	1	PC
......3	2007-000979	R713	R-CHIP	1	PC
......3	2007-001313	R404	R-CHIP	1	PC
......3	2007-001313	R405	R-CHIP	1	PC
......3	2007-001313	R406	R-CHIP	1	PC
......3	2007-001313	R505	R-CHIP	1	PC
......3	2007-001313	R811	R-CHIP	1	PC
......3	2007-001433	R618	R-CHIP	1	PC
......3	2007-007313	R401	R-CHIP	1	PC
......3	2007-007313	R402	R-CHIP	1	PC
......3	2007-007313	R403	R-CHIP	1	PC
......3	2007-007455	R110	R-CHIP	1	PC
......3	2007-009922	R301	R-CHIP	1	PC
......3	2007-009922	R302	R-CHIP	1	PC

6. Electrical Parts List

6-1 INDOOR MAIN PCB - DB92-03467G

Level	Parts Code	Design Loc	Parts Description	Quantity	Unit
......3	2007-009922	R303	R-CHIP	1	PC
......3	2007-010635	R106	R-CHIP	1	PC
......3	2203-000257	C705	C-CER, CHIP	1	PC
......3	2203-000257	C801	C-CER, CHIP	1	PC
......3	2203-000438	C516	C-CER, CHIP	1	PC
......3	2203-000438	C520	C-CER, CHIP	1	PC
......3	2203-000438	C901	C-CER, CHIP	1	PC
......3	2203-000440	C715	C-CER, CHIP	1	PC
......3	2203-001071	C519	C-CER, CHIP	1	PC
......3	2203-001083	C711	C-CER, CHIP	1	PC
......3	2203-005249	C101	C-CER, CHIP	1	PC
......3	2203-005249	C103	C-CER, CHIP	1	PC
......3	2203-005249	C104	C-CER, CHIP	1	PC
......3	2203-005249	C106	C-CER, CHIP	1	PC
......3	2203-005249	C510	C-CER, CHIP	1	PC
......3	2203-005249	C514	C-CER, CHIP	1	PC
......3	2203-005249	C702	C-CER, CHIP	1	PC
......3	2203-005249	C710	C-CER, CHIP	1	PC
......3	2203-005249	C712	C-CER, CHIP	1	PC
......3	2203-005249	C802	C-CER, CHIP	1	PC
......3	2203-005249	C803	C-CER, CHIP	1	PC
......3	2203-005249	C805	C-CER, CHIP	1	PC
......3	2203-005249	C806	C-CER, CHIP	1	PC
......3	2203-005249	C807	C-CER, CHIP	1	PC
......3	2203-005249	C902	C-CER, CHIP	1	PC
......3	2203-006158	C401	C-CER, CHIP	1	PC
......3	2203-006158	C402	C-CER, CHIP	1	PC
......3	2203-006158	C403	C-CER, CHIP	1	PC
......3	2203-006158	C517	C-CER, CHIP	1	PC
......3	2203-006158	C522	C-CER, CHIP	1	PC
......3	2203-006158	C529	C-CER, CHIP	1	PC
......3	2203-006158	C530	C-CER, CHIP	1	PC
......3	2203-006158	C531	C-CER, CHIP	1	PC
......3	2203-006158	C533	C-CER, CHIP	1	PC
......3	2203-006158	C809	C-CER, CHIP	1	PC
......3	2203-006460	C512	C-CER, CHIP	1	PC
......3	2203-006496	C707	C-CER, CHIP	1	PC
......3	2203-006960	C708	C-CER, CHIP	1	PC
......3	2203-007456	C509	C-CER, CHIP	1	PC
......3	2203-007456	C515	C-CER, CHIP	1	PC
......3	2203-007456	C518	C-CER, CHIP	1	PC
......3	2203-007456	C521	C-CER, CHIP	1	PC
......3	2203-007456	C523	C-CER, CHIP	1	PC
......3	2203-007456	C526	C-CER, CHIP	1	PC
......3	2203-007456	C528	C-CER, CHIP	1	PC
......3	2203-007456	C551	C-CER, CHIP	1	PC
......3	2203-007456	C552	C-CER, CHIP	1	PC
......3	2203-007486	C804	C-CER, CHIP	1	PC
......3	2402-001145	C701	C-AL, SMD	1	PC
......3	2402-001145	CE102	C-AL, SMD	1	PC
......3	2802-001211	X501	RESONATOR-CERAMIC	1	PC
......3	DB41-01296A	PCB MAIN	PCB MAIN	1	PC
......3	DB91-01752A	MIC04	ASSY MICOM	1	PC
........4	0903-001864	-	IC-MICROCONTROLLER	1	PC
..1	DC26-00043A	TRAN1	TRANS SWITCHING	1	PC

6. Electrical Parts List

6-2 OUTDOOR MAIN PCB(DB92-04029D)

Parts Code	Design Loc	Parts Description	Quantity	Unit
0204-005754	COATING	COATING	0.004	PC
DB68-05458A	LABEL BAR CODE	LABEL BAR CODE	1	PC
DB94-06515A	-	ASSY PCB MANUAL	1	PC
0201-002354	ADHESIVE-COM	ADHESIVE-COM	0.001	KG
0202-001463	SOLDER-WIRE	SOLDER-WIRE	6	G
0202-001608	SOLDER-WIRE FLUX	SOLDER-WIRE FLUX	0.2	G
0204-004665	FLUX	FLUX	3	G
2301-001935	C308	C-FILM,LEAD	1	PC
2301-001935	C309	C-FILM,LEAD	1	PC
2301-001935	C310	C-FILM,LEAD	1	PC
2301-001935	C311	C-FILM,LEAD	1	PC
3711-000012	CN291	HEADER-BOARD TO CABLE	1	PC
3711-000177	CN301	HEADER-BOARD TO CABLE	1	PC
3711-000999	CN281	HEADER-BOARD TO CABLE	1	PC
3711-001084	CN261	HEADER-BOARD TO CABLE	1	PC
3711-002001	CN230	HEADER-BOARD TO CABLE	1	PC
3711-003846	CN251	HEADER-BOARD TO CABLE	1	PC
3711-006337	CN701	CONNECTOR-HEADER	1	PC
3711-007817	CN271	HEADER-BOARD TO BOARD	1	PC
3712-001047	CN302	CONNECTOR-TERMINAL	1	PC
DB27-00082A	L302	COIL CHOKE	1	PC
DB27-00090A	L301	COIL CHOKE	1	PC
DB68-05458A	LABEL BAR CODE	LABEL BAR CODE	1	PC
DB94-06511A	-	ASSY PCB AUTO	1	PC
1404-001194	PTC301	THERMISTOR-PTC	1	PC
DB27-00034A	BEAD301	COIL CHOKE	1	PC
DB94-06512A	-	ASSY PCB SMD	1	PC
0202-001933	SOLDER-CREAM	SOLDER-CREAM	1	G
0406-001204	TD301	DIODE-TVS	1	PC
0406-001204	TD302	DIODE-TVS	1	PC
0406-001204	TD303	DIODE-TVS	1	PC
0506-000175	IC701	TR-ARRAY	1	PC
0601-002345	LED801	LED	1	PC
0601-002419	LED803	LED	1	PC
0601-002679	LED802	LED	1	PC
0801-000393	IC302	IC-CMOS LOGIC	1	PC
1006-001325	IC301	IC-BUS TRANSCEIVER	1	PC
1203-006245	IC230	IC-VOL. DETECTOR	1	PC
2007-000116	R304	R-CHIP	1	PC
2007-000148	R201	R-CHIP	1	PC
2007-000148	R202	R-CHIP	1	PC
2007-000148	R203	R-CHIP	1	PC
2007-000148	R204	R-CHIP	1	PC
2007-000148	R205	R-CHIP	1	PC
2007-000148	R206	R-CHIP	1	PC
2007-000148	R207	R-CHIP	1	PC
2007-000148	R208	R-CHIP	1	PC
2007-000148	R209	R-CHIP	1	PC
2007-000148	R210	R-CHIP	1	PC

6-2 OUTDOOR MAIN PCB

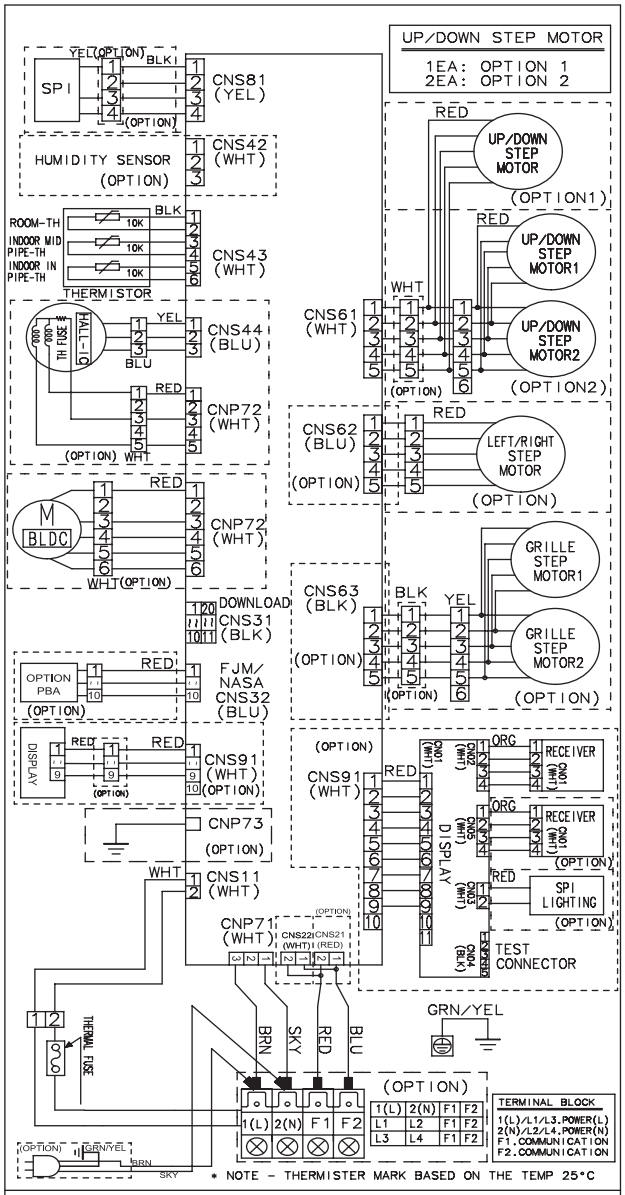
Parts Code	Design Loc	Parts Description	Quantity	Unit
2007-000148	R212	R-CHIP	1	PC
2007-000148	R213	R-CHIP	1	PC
2007-000148	R214	R-CHIP	1	PC
2007-000148	R215	R-CHIP	1	PC
2007-000148	R216	R-CHIP	1	PC
2007-000148	R217	R-CHIP	1	PC
2007-000148	R218	R-CHIP	1	PC
2007-000148	R219	R-CHIP	1	PC
2007-000148	R220	R-CHIP	1	PC
2007-000148	R221	R-CHIP	1	PC
2007-000148	R222	R-CHIP	1	PC
2007-000148	R223	R-CHIP	1	PC
2007-000148	R237	R-CHIP	1	PC
2007-000148	R238	R-CHIP	1	PC
2007-000148	R239	R-CHIP	1	PC
2007-000148	R240	R-CHIP	1	PC
2007-000148	R241	R-CHIP	1	PC
2007-000148	R242	R-CHIP	1	PC
2007-000148	R250	R-CHIP	1	PC
2007-000148	R271	R-CHIP	1	PC
2007-000148	R272	R-CHIP	1	PC
2007-000148	R284	R-CHIP	1	PC
2007-000148	R285	R-CHIP	1	PC
2007-000148	R286	R-CHIP	1	PC
2007-000148	R306	R-CHIP	1	PC
2007-000148	R307	R-CHIP	1	PC
2007-000148	R308	R-CHIP	1	PC
2007-000148	R309	R-CHIP	1	PC
2007-000148	R310	R-CHIP	1	PC
2007-000171	R312	R-CHIP	1	PC
2007-000455	R251	R-CHIP	1	PC
2007-000455	R253	R-CHIP	1	PC
2007-000614	R252	R-CHIP	1	PC
2007-000614	R254	R-CHIP	1	PC
2007-000763	R255	R-CHIP	1	PC
2007-000763	R256	R-CHIP	1	PC
2007-000763	R257	R-CHIP	1	PC
2007-000763	R258	R-CHIP	1	PC
2007-000869	R801	R-CHIP	1	PC
2007-000869	R802	R-CHIP	1	PC
2007-000869	R803	R-CHIP	1	PC
2007-001433	R225	R-CHIP	1	PC
2007-007306	R224	R-CHIP	1	PC
2007-007306	R231	R-CHIP	1	PC
2007-007306	R232	R-CHIP	1	PC
2007-007306	R233	R-CHIP	1	PC
2007-007306	R234	R-CHIP	1	PC
2007-007306	R235	R-CHIP	1	PC
2007-007306	R243	R-CHIP	1	PC
2007-007306	R244	R-CHIP	1	PC

6-2 OUTDOOR MAIN PCB

Parts Code	Design Loc	Parts Description	Quantity	Unit
2007-007306	R245	R-CHIP	1	PC
2007-007306	R246	R-CHIP	1	PC
2007-007306	R247	R-CHIP	1	PC
2007-007306	R248	R-CHIP	1	PC
2007-007306	R249	R-CHIP	1	PC
2007-007306	R261	R-CHIP	1	PC
2007-007306	R262	R-CHIP	1	PC
2007-007306	R263	R-CHIP	1	PC
2007-007306	R264	R-CHIP	1	PC
2007-007306	R273	R-CHIP	1	PC
2007-007306	R274	R-CHIP	1	PC
2007-007306	R275	R-CHIP	1	PC
2007-007306	R276	R-CHIP	1	PC
2007-007306	R281	R-CHIP	1	PC
2007-007306	R282	R-CHIP	1	PC
2007-007306	R283	R-CHIP	1	PC
2007-007306	R291	R-CHIP	1	PC
2007-007306	R292	R-CHIP	1	PC
2007-007318	R303	R-CHIP	1	PC
2007-007318	R305	R-CHIP	1	PC
2007-007318	R311	R-CHIP	1	PC
2007-007942	R211	R-CHIP	1	PC
2203-000438	C211	C-CER,CHIP	1	PC
2203-000438	C219	C-CER,CHIP	1	PC
2203-000438	C220	C-CER,CHIP	1	PC
2203-000438	C281	C-CER,CHIP	1	PC
2203-000438	C282	C-CER,CHIP	1	PC
2203-000438	C283	C-CER,CHIP	1	PC
2203-001071	C210	C-CER,CHIP	1	PC
2203-002285	C302	C-CER,CHIP	1	PC
2203-002285	C303	C-CER,CHIP	1	PC
2203-005249	C251	C-CER,CHIP	1	PC
2203-005249	C252	C-CER,CHIP	1	PC
2203-005249	C253	C-CER,CHIP	1	PC
2203-005249	C254	C-CER,CHIP	1	PC
2203-005249	C701	C-CER,CHIP	1	PC
2203-005249	C702	C-CER,CHIP	1	PC
2203-006158	C202	C-CER,CHIP	1	PC
2203-006158	C203	C-CER,CHIP	1	PC
2203-006158	C206	C-CER,CHIP	1	PC
2203-006158	C209	C-CER,CHIP	1	PC
2203-006158	C212	C-CER,CHIP	1	PC
2203-006158	C215	C-CER,CHIP	1	PC
2203-006158	C216	C-CER,CHIP	1	PC
2203-006158	C218	C-CER,CHIP	1	PC
2203-006158	C248	C-CER,CHIP	1	PC
2203-006158	C304	C-CER,CHIP	1	PC
2203-006158	C305	C-CER,CHIP	1	PC
2203-006158	C306	C-CER,CHIP	1	PC
2203-006158	C307	C-CER,CHIP	1	PC
2203-007306	C261	C-CER,CHIP	1	PC
2203-007306	C262	C-CER,CHIP	1	PC
2203-007456	C201	C-CER,CHIP	1	PC
2203-007456	C204	C-CER,CHIP	1	PC
2203-007456	C205	C-CER,CHIP	1	PC
2203-007456	C207	C-CER,CHIP	1	PC
2203-007456	C208	C-CER,CHIP	1	PC
2203-007456	C213	C-CER,CHIP	1	PC
2203-007456	C214	C-CER,CHIP	1	PC
2203-007456	C217	C-CER,CHIP	1	PC
2802-001211	X201	RESONATOR-CERAMIC	1	PC
DB41-01352A	PCB	PCB MAIN	1	PC
DB91-01825A	IC231	ASSY MICOM	1	PC
0903-001864	-	IC-MICROCONTROLLER	1	PC

7. Wiring Diagram

7-1 Indoor Unit



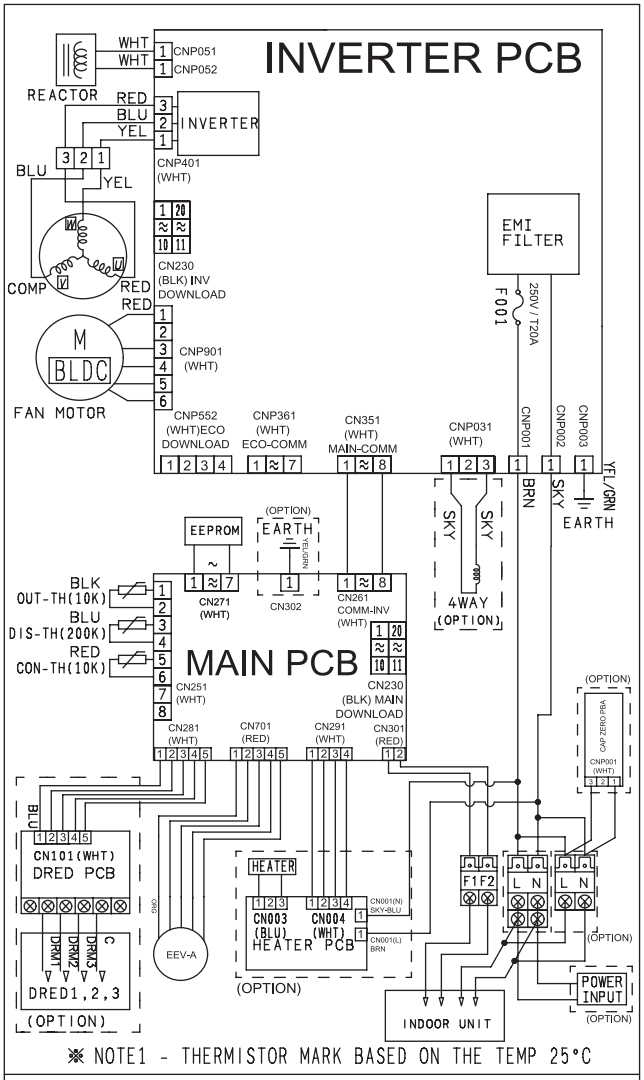
ERROR MODE				
7-SEG	LED1 OPERATION	LED2 TIMER	LED3 OPTION	DESCRIPTION
E101,E102	○	◑	◑	Communication error (indoor <-> outdoor)
E121	○	◑	○	ROOM TH sensor error
E122,E123	◑	◑	○	INDOOR MID,INDOOR IN PIPE-TH sensor error
E154	○	○	◑	Fan error(indoor)
E162	◑	◑	◑	EEPROM error
E163	◑	◑	◑	Option error
FROM E200	◑	○	◑	etc. Error
E203	◑	●	●	Time out Comm.(Inv Micom <-> Main Micom)
E422/E554	●	○	◑	EEV or Valve Close error-Self diagnosis
E458	●	●	◑	Out door Fan Error
E461	◑	●	◑	Comp Starting Error
E464	○	●	◑	IPM Over Current(O,C) Error
E465	◑	●	○	Comp V_limit/I_limit Error
E500	◑	●	○	Heatsink overheat or IPM overheat

● : LAMP ON ○ : LAMP OFF ◑ : LAMP BLINK

* Note *
If the Set doesn't work (No power), check the Thermal fuse of Terminal block OPEN or SHORT with Multimeter.
* Measure the Thermal fuse housing PIN#1 ~ 2 :
OPEN(disconnection) -> defective product

CODE NO:DB68-05092A | INDOOR-UNIT

DB68-05092A-4

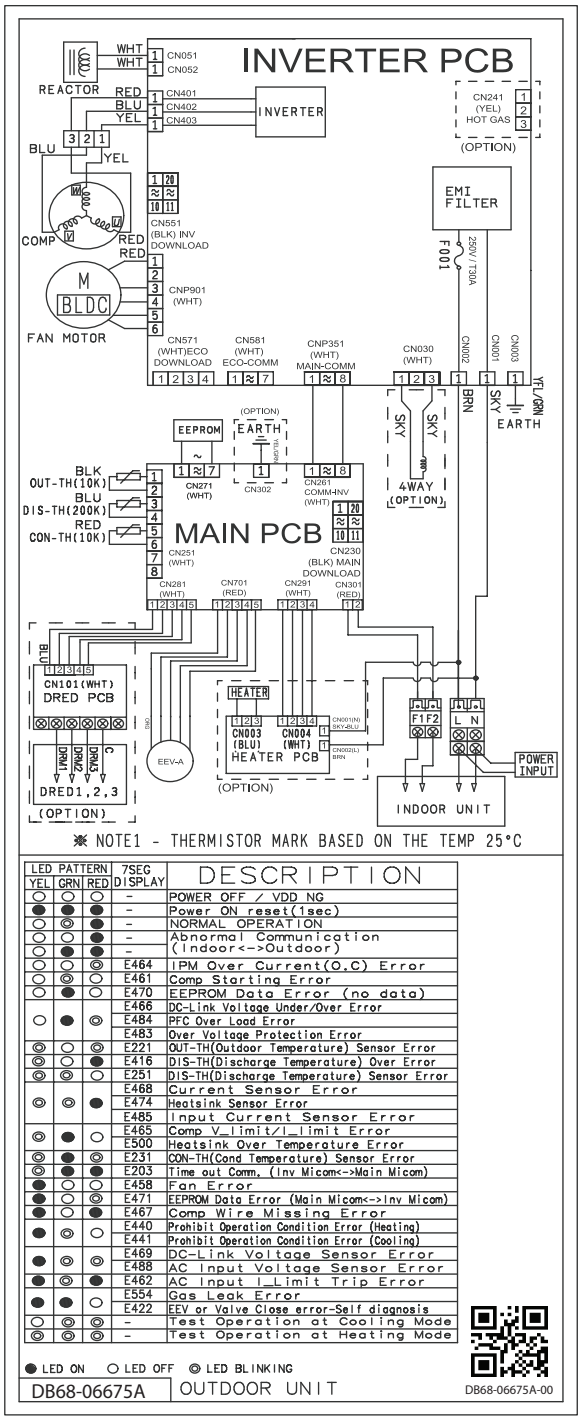


LED PATTERN YEL	LED PATTERN GRN	LED PATTERN RED	7SEG DISPLAY	DESCRIPTION
○	○	○	-	POWER OFF / VDD NG
●	●	●	-	Power ON reset(1sec)
○	◎	●	-	NORMAL OPERATION
○	○	●	-	Abnormal Communication (Indoor<->Outdoor)
○	●	●	-	
○	○	◎	E464	IPM Over Current(O.C) Error
○	◎	○	E461	Comp Starting Error
○	●	○	E470	EEPROM Data Error (no data)
○	●	◎	E466	DC-Link Voltage Under/Over Error
			E484	PFC Over Load Error
			E483	Over Voltage Protection Error
◎	○	◎	E221	OUT-TH(Outdoor Temperature) Sensor Error
◎	○	●	E416	DIS-TH(Discharge Temperature) Over Error
◎	◎	○	E251	DIS-TH(Discharge Temperature) Sensor Error
◎	◎	●	E468	Current Sensor Error
			E474	Heatsink Sensor Error
			E485	Input Current Sensor Error
◎	●	○	E465	Comp V_limit/I_limit Error
			E500	Heatsink Over Temperature Error
◎	●	◎	E231	CON-TH(Cond Temperature) Sensor Error
◎	●	●	E203	Time out Comm. (Inv Micom<->Main Micom)
●	○	○	E458	Fan Error
●	○	◎	E471	EEPROM Data Error (Main Micom<->Inv Micom)
●	○	●	E467	Comp Wire Missing Error
●	◎	○	E440	Prohibit Operation Condition Error (Heating)
			E441	Prohibit Operation Condition Error (Cooling)
●	◎	◎	E469	DC-Link Voltage Sensor Error
			E488	AC Input Voltage Sensor Error
●	◎	●	E462	AC Input I_Limit Trip Error
●	●	○	E554	Gas Leak Error
			E422	EEV or Valve Close error-Self diagnosis
○	◎	◎	-	Test Operation at Cooling Mode
◎	◎	◎	-	Test Operation at Heating Mode

● LED ON ○ LED OFF ◎ LED BLINKING

DB68-06674A OUTDOOR UNIT

DB68-06674A-1



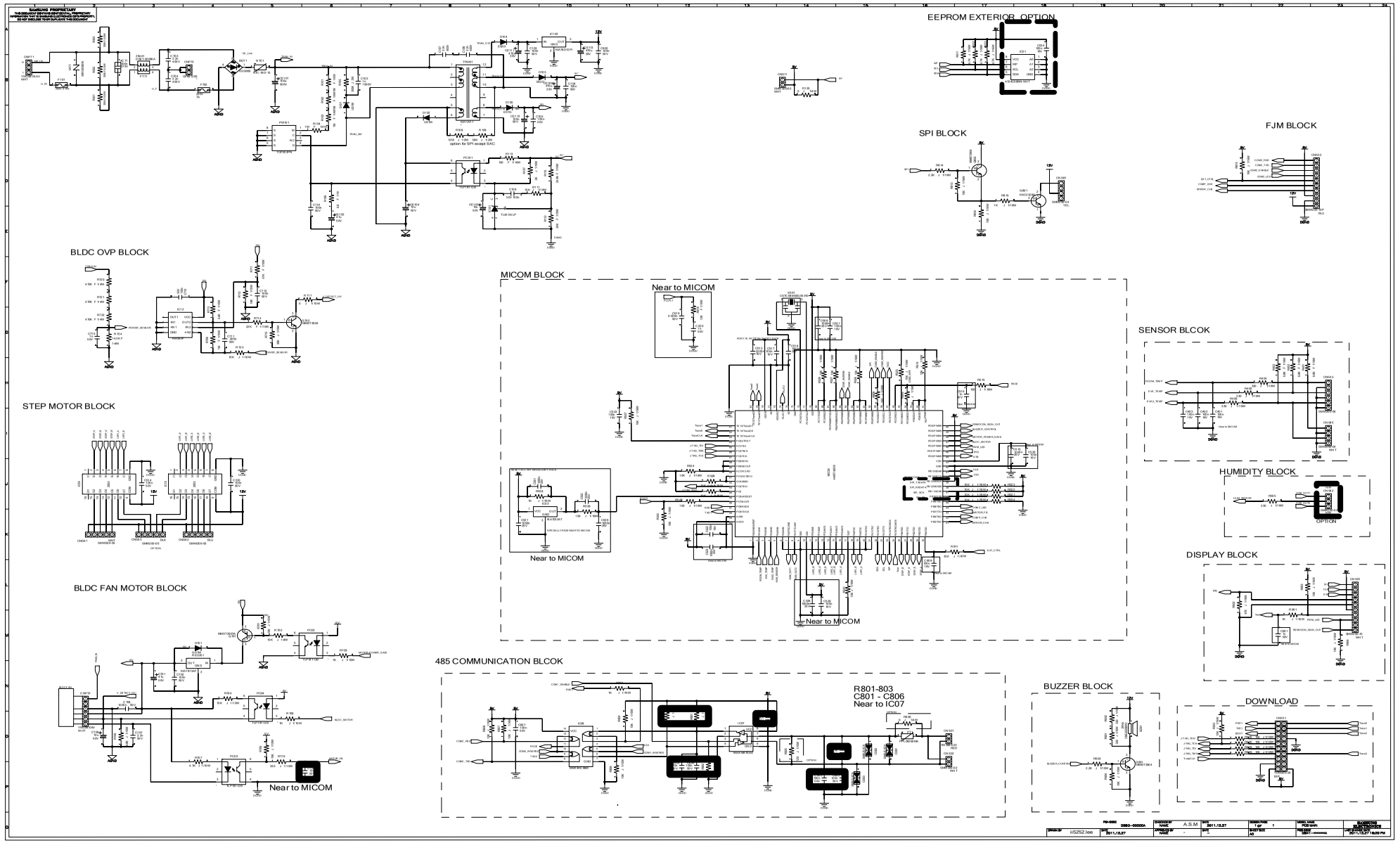
LED PATTERN YEL	LED PATTERN GRN	LED PATTERN RED	7SEG DISPLAY	DESCRIPTION
○	○	○	-	POWER OFF / VDD NG
●	●	●	-	Power ON reset(1sec)
○	◎	●	-	NORMAL OPERATION
○	○	●	-	Abnormal Communication
○	●	●	-	(Indoor<->Outdoor)
○	○	◎	E464	IPM Over Current(O.C) Error
○	◎	○	E461	Comp Starting Error
○	●	○	E470	EEPROM Data Error (no data)
○	●	◎	E466	DC-Link Voltage Under/Over Error
			E484	PFC Over Load Error
			E483	Over Voltage Protection Error
◎	○	◎	E221	OUT-TH(Outdoor Temperature) Sensor Error
◎	○	●	E416	DIS-TH(Discharge Temperature) Over Error
◎	◎	○	E251	DIS-TH(Discharge Temperature) Sensor Error
◎	◎	●	E468	Current Sensor Error
			E474	Heatsink Sensor Error
			E485	Input Current Sensor Error
◎	●	○	E465	Comp V_limit/I_limit Error
			E500	Heatsink Over Temperature Error
◎	●	◎	E231	CON-TH(Cond Temperature) Sensor Error
◎	●	●	E203	Time out Comm. (Inv Micom<->Main Micom)
●	○	○	E458	Fan Error
●	○	◎	E471	EEPROM Data Error (Main Micom<->Inv Micom)
●	○	●	E467	Comp Wire Missing Error
●	◎	○	E440	Prohibit Operation Condition Error (Heating)
			E441	Prohibit Operation Condition Error (Cooling)
●	◎	◎	E469	DC-Link Voltage Sensor Error
			E488	AC Input Voltage Sensor Error
●	◎	●	E462	AC Input I_Limit Trip Error
			E554	Gas Leak Error
●	●	○	E422	EEV or Valve Close error-Self diagnosis
○	◎	◎	-	Test Operation at Cooling Mode
◎	◎	◎	-	Test Operation at Heating Mode

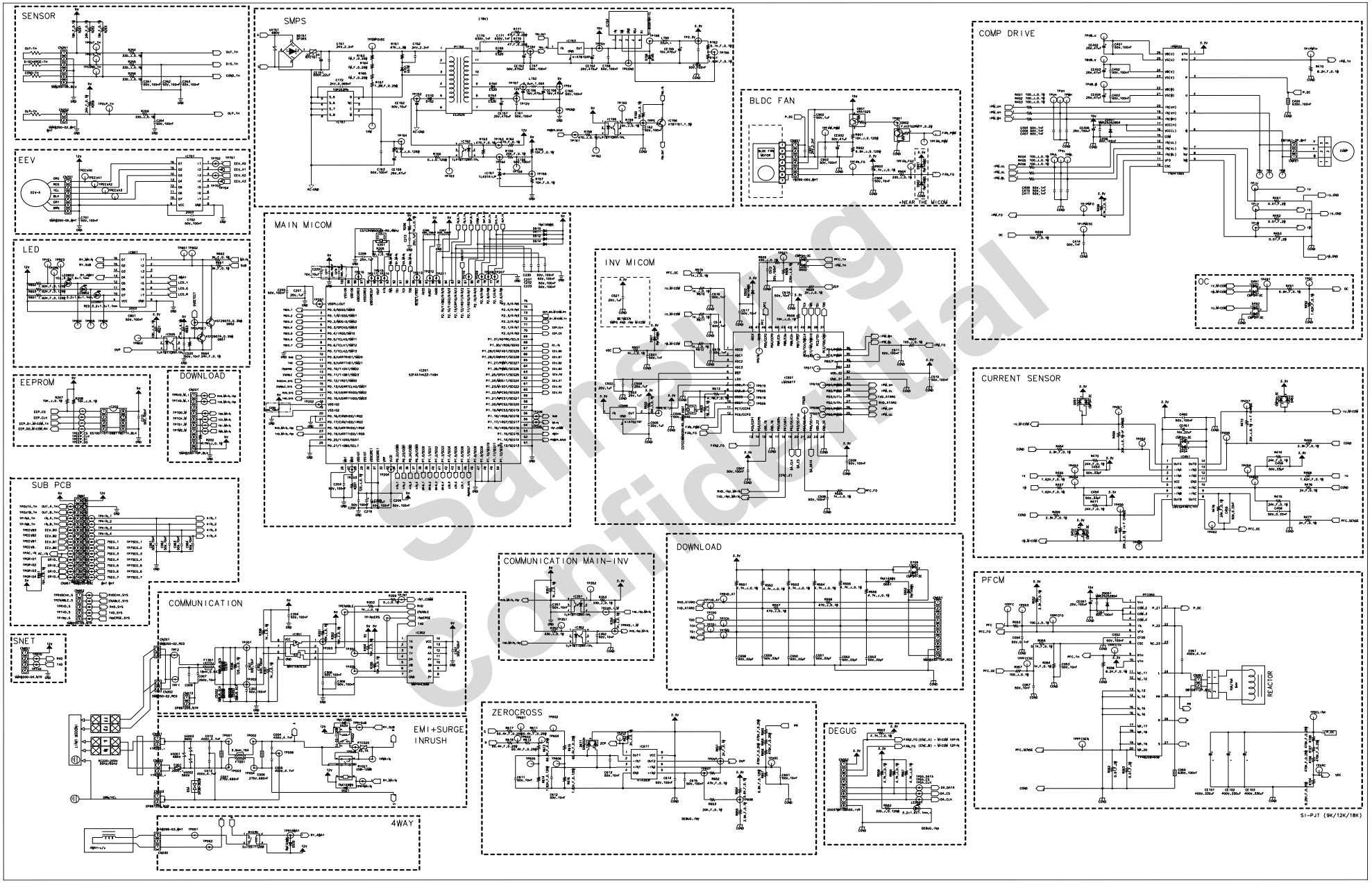
● LED ON ○ LED OFF ◎ LED BLINKING

DB68-06675A OUTDOOR UNIT DB68-06675A-00

8. Schematic Diagram

8-1 Indoor Unit





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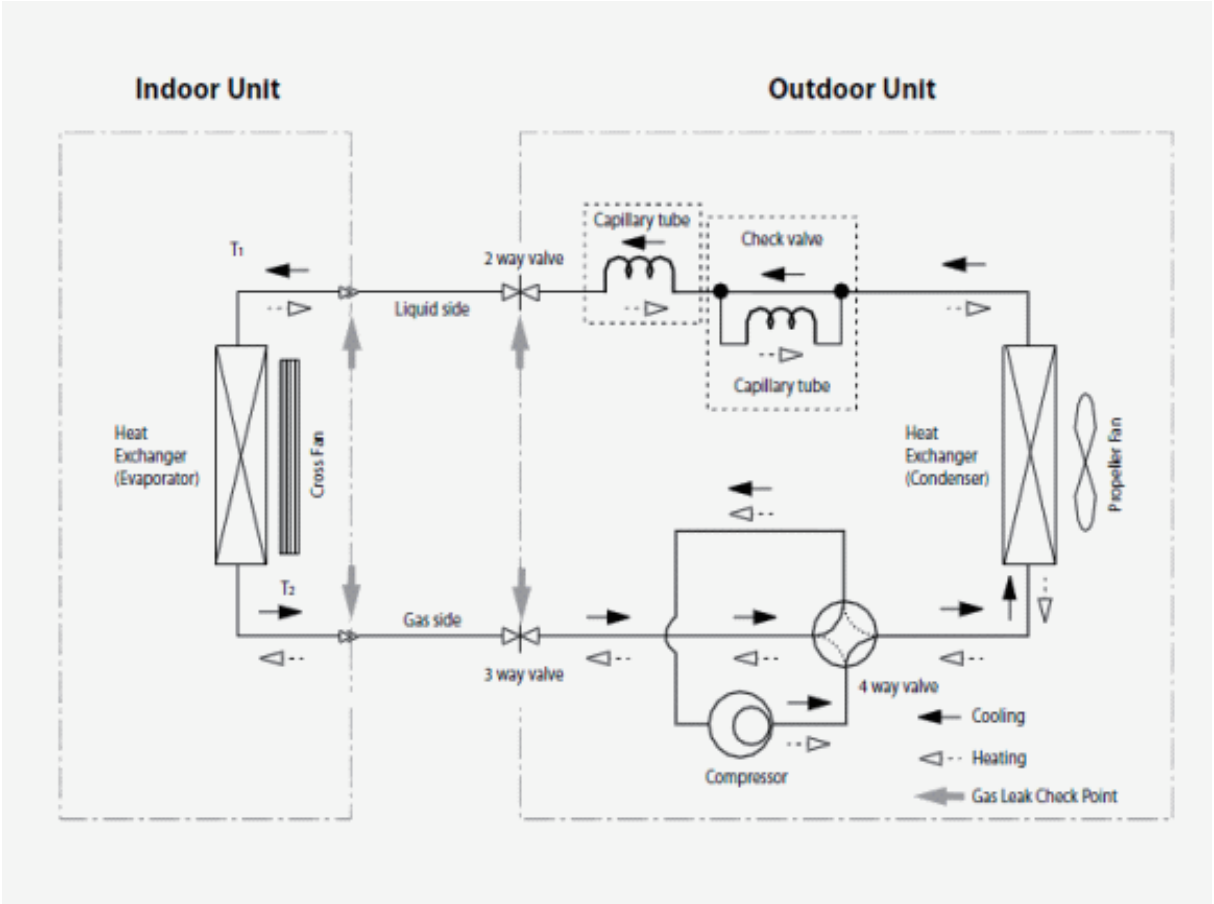
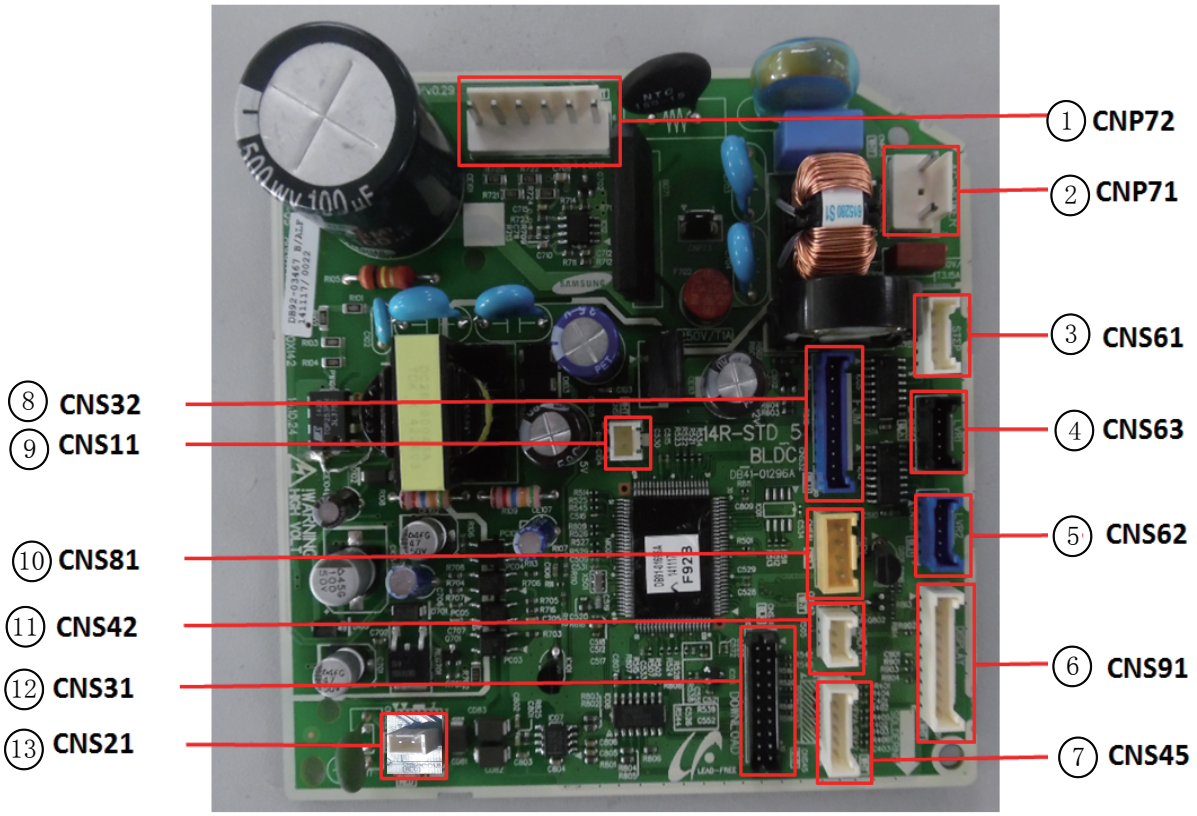

Indoor Unit
Outdoor Unit
T1
2 way valve
Capillary tube
Check valve
Liquid side
Capillary tube
Heat Exchanger (Evaporator)
Cross Fan
Heat Exchanger (Condenser)
Propeller Fan
T2
Gas side
3 way valve
4 way valve
Cooling
Heating
Compressor
Gas Leak Check Point

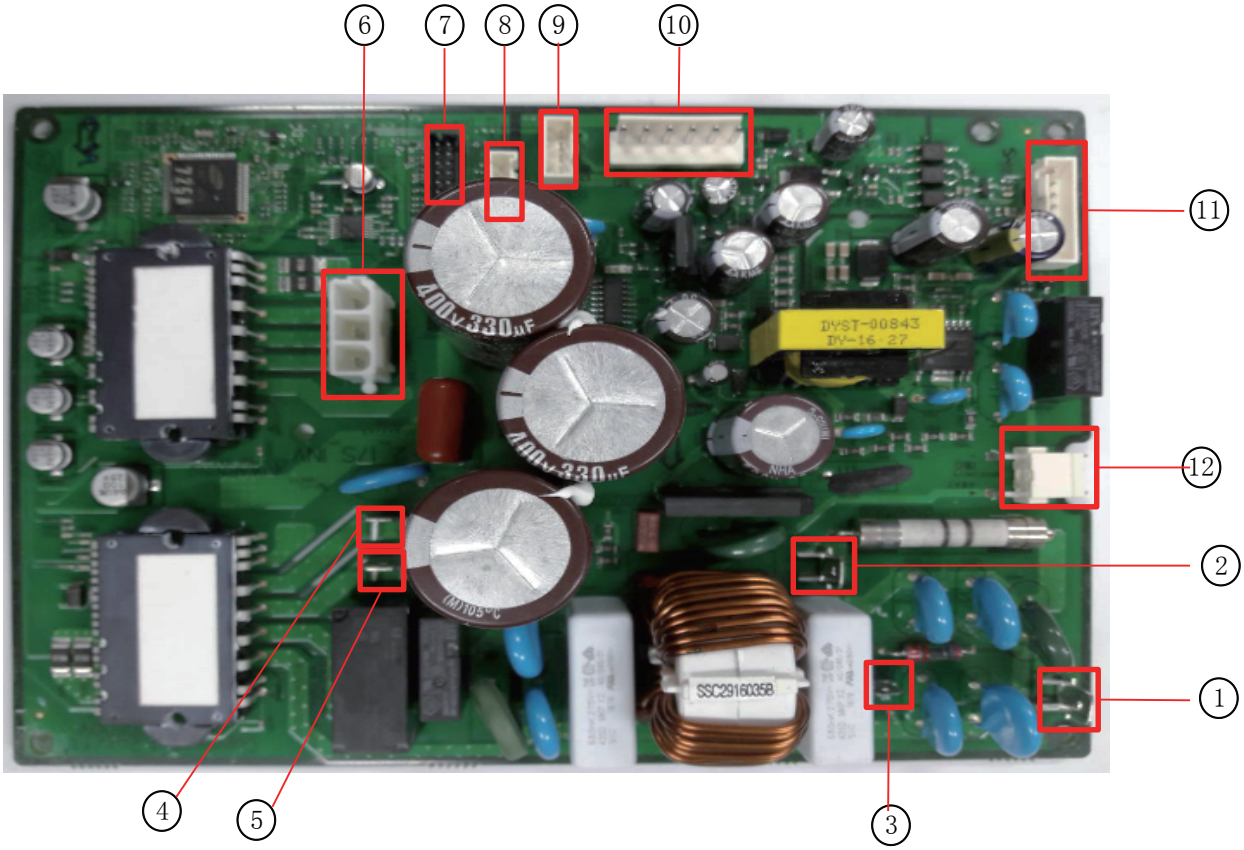
8. PCB Diagram

8-4 Indoor Main PCB--DB92-03467G



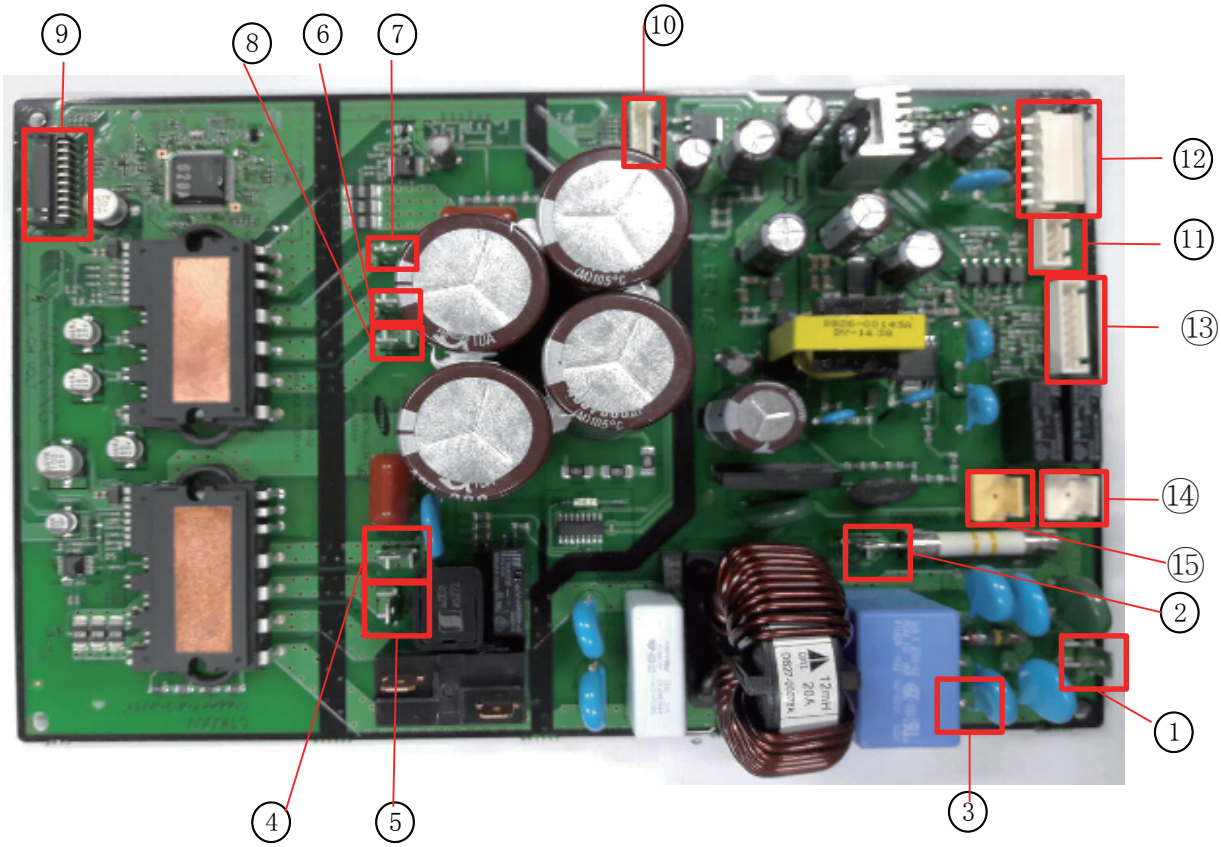
1 CNP72 - BLDC-MOTOR #1 : DC 310V #3 -6 : Bldc driving singal output	**2 CNP71 - -N/OUTFAN/4-WAY** #1 : POWER-N #3 : OUTFAN RELAY signal #5 : 4-WAY RELAY signal	**3 CNS61 -STEP MOTOR** #1 : 12V #2 -5 : STEP MOTOR signal	**4 CNS63 -STEP MOTOR** #1 : 12V #2 -5 : STEP MOTOR signal
5 CNS62 -STEP MOTOR #1 : 12V #2 -5 : STEP MOTOR signal	**6 CNS91 - DISPLAY** #1- #4 : DIO ; CLK ; STB ; IRQ #5 : GND #6 : VCC #7 : Vout #8 : PWM_LED #9 : ROOM_TEMP	**7 CNS45 - TEMPERATURE SENSOR** #1,#2 : ROOM SENSOR #3,#4 : EVA MID SENSOR #5,#6 : EVA IN SENSOR	**8 CNS32 - FJM/NASA** #1~#7, #11~ #14 : FJM/NASA SIGNAL #8 : DC 5V #9 : GND #10 : DC 12V
9 CNS11 - 12V #1: 12V Signal	**10 CNS81 -SPI** #1 : SPI Signal #2 : GND #3 : DC 12V	**11 CNS42 - HUMIDITY SENSOR** #1: EVA_TEMP #2: GND	**12 CNS31 - DOWNLOAD** #1,4,5,6: Download Signal #2 : VCC #3: GND
13 CNS21-COMM #1 : Signal 1 #2 : Signal 2			

8-5 Outdoor PCB INVERTER_18K



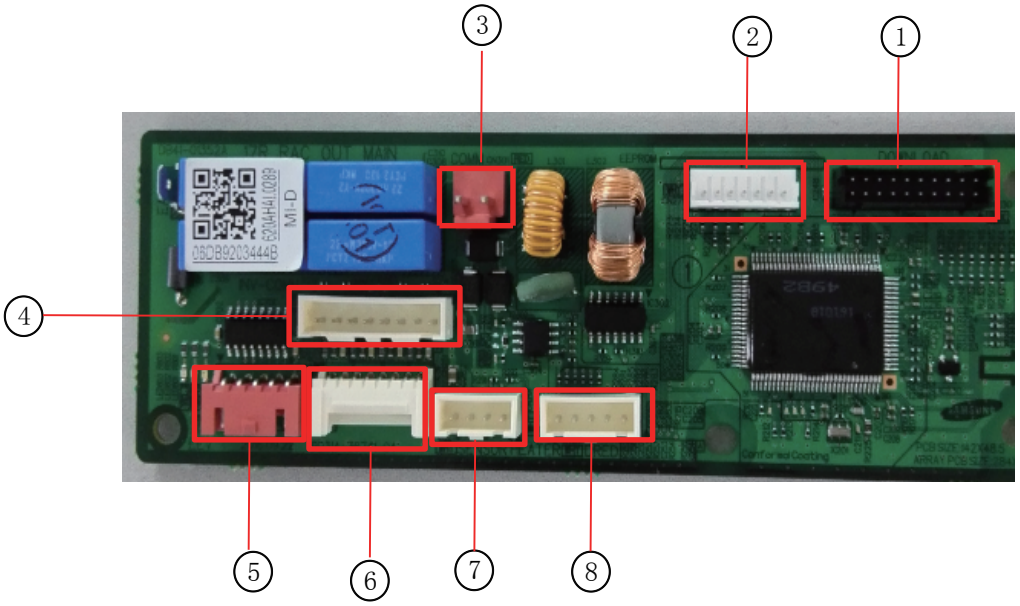
① CNP001 : POWER N	② CNP002 : POWER L	③ CNP003 : POWER EARTH	④ CNP052 : REACTOR
⑤ CNP051 : REACTOR	⑥ CNP401 : COMP #1 : W phase #2 : V phase #3 : U phase	⑦ CN203 : INV DOWNLOAD Inv PBA S/W Download	⑧ CNP361 : ECO-COMM
⑨ CNP552	⑩ CNP901 : BLDC FAN #1 : DC310V #3 : 15V #4 : PGND #5 : BLDC FAN POWER SAVE #6 : BLDC FAN Feedback	⑪ CN351 : MAIN-INV COMM #1 : INV_RXD-MAIN_TXD #2 : INV_TXD-MAIN_RXD #3 : 5V #4 : SGND #5 : 12V #6 : Power save #7 : 4WAY singal	⑫ CNP031 : 4-WAY

8-5 Outdoor PCB INVERTER_24K



① CN001 : POWER N	② CN002 : POWER L	③ CN003 : POWER EARTH	④ CNP051 : REACTOR
⑤ CNP052 : REACTOR	⑥ CN401 : COMP(U phase)	⑦ CN402 : COMP(V phase)	⑧ CN403 : COMP(W phase)
⑨ CN551 : INV-DOWNLOAD Inv PBA S/W Download	⑩ CN581 : ECO-COMM.	⑪ CN571 : ECO-DOWNLOAD	⑫ CNP901 : BLDC MOTOR #1 : DC310V #3 : 15V #4 : PGND #5 : BLDC FAN POWER SAVE #6 : BLDC FAN Feedback
⑬ CN351 : MAIN - COMM #1 : INV_RXD-MAIN_TXD #2 : INV_TXD-MAIN_RXD #3 : 5V #4 : SGND #5 : 12V #6 : Power save #7 : 4WAY singal	⑭ CN030 : 4-WAY VALVE	⑮ CN241 : HOT GAS	

8-5 Outdoor PCB MAIN



① **CN230 : DOWNLOAD** : Main PBA S/W Download	② **2. CN271 : EEPROM**	③ **CN301 : 485 COMM** #1 : F1 #2 : F2	④ **CN261 : MAIN-INV COMM** #1 : INV_TXD-MAIN_RXD #2 : INV_RXD-MAIN_TXD #3 : 5V #4 : SGND #5 : 12V #6 : Power save #7 : 4WAY singal
⑤ **CN701 : EEV-A**	⑥ **CN251 : SENSOR** #1-#2 : OUTDOOR_TEMP #3-#4 : DISCHARGE_TEMP #5-#6 : COND_TEMP #7-#8 : OLP_TEMP	⑦ **CN291 : HEATER(OPTION)** #1 : 12V #2 : SGND #3 : Heater L #4 : Heater N	⑧ **CN281 : DRED(OPTION)** #1 : DRED1 signal #2 : DRED2 signal #3 : DRED3 signal #4 : SGND #4 : 5V

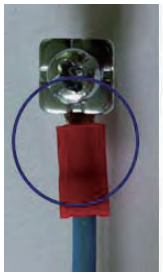
8-6. Wire connecting the indoor unit terminal blocks

1. Terminal press of Ring terminal shall be set facing up before connecting wire.

Is inverted

Terminalhasbeencut.

2. There shall be no empty space between Ring terminal and Screw after Clamp.
   If not, there exists a possibility of fire which can be caused by electric heat in the connecting part.



①

②

③

④

⑤

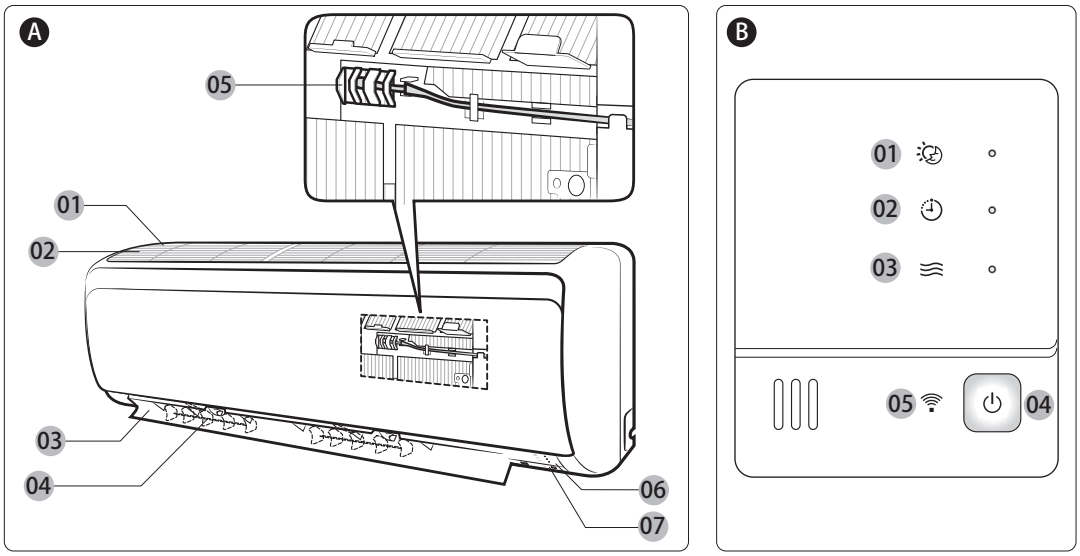
⑥

①, ② : Good
③ Bad : Ring terminal is connected reversely
④ Bad : Not clamped Screw
⑤ Bad : In the gap between Ring terminal & Screw
⑥ Bad : Unused Ring Terminal

9. Operating Instructions

9−1 Name of Each Part

9−1−1 Indoor Unit



A Indoor Unit Overview

EN

For the product componeat images related to each section, see the pages at the front of this manual.

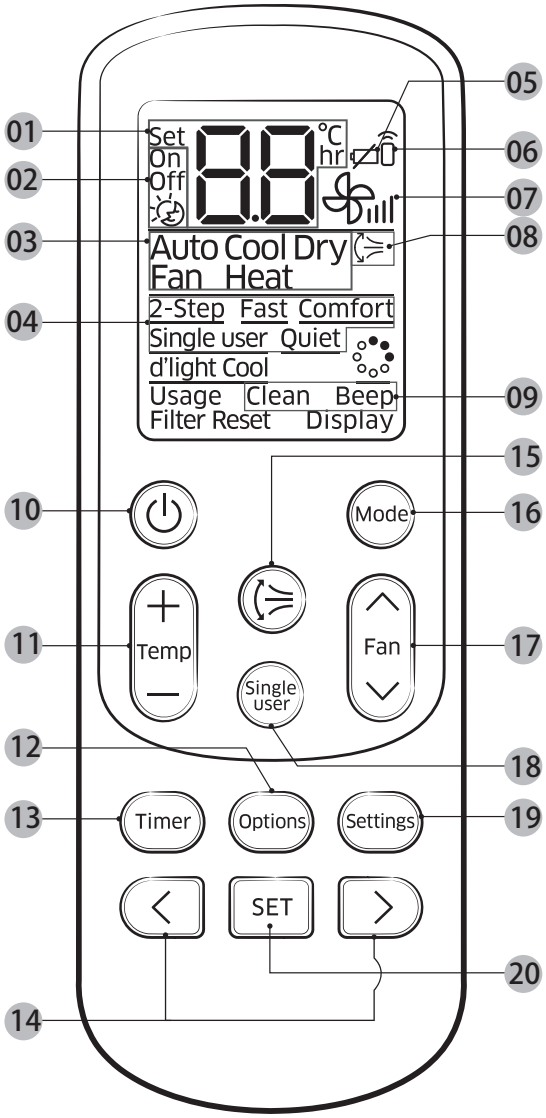
01 Air intake
02 Air filter
03 Air flow blade (up and down)
04 Air flow blade (left and right)
05 Room temperature sensor
06 Display
07 Power button / Remote control receiver

B Display

01 good'sleep indicator
02 Timer indicator / Auto clean indicator
03 Operation indicator
04 Power button
05 Remote controller receiver

9-1-2 Outdoor Unit

AR18NSFPEWQXEU
AR24NSFPEWQXEU
AR18NSFHBWKXEU
AR24NSFHBWKXEU



Remote Control Overview

01 Set temperature indicator
02 Timer option indicator
03 Operation mode indicator
04 Options indicator
05 Low battery indicator
06 Transmit indicator
07 Fan speed indicator
08 Vertical air swing indicator
09 Settings indicator
10 Power button
11 Temperature button
12 Options button
13 Timer button
14 Direction button / Selection button
15 Vertical air swing button
16 Mode button
17 Fan speed button
18 Single user button
19 Settings button
20 SET button

10. Troubleshooting

10-1 Items to be checked first

1. The input voltage should be rating voltage ±10% range.
   The air conditioner may not operate properly if the voltage is out of this range.

2. Is the line cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 5 cables.
   Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
   Otherwise the air conditioner may not operate properly.

3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the air conditioner.

NO	Operation of air conditioner	Explanation
1	The OPERATION indication LED(BLUE) blinks when a power plug of the indoor unit is plugged in for first time.	It indicates power is on. The LED stops blinking if the operation ON/OFF button on the remote control unit is pushed.
2	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. **[In case of heat pump model]** In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew.
3	Fan speed setting is not allowed in DRY mode.	The speed of the indoor fan is set to LL in DRY mode. Fan speed is selected automatically in AUTO mode.
4	Compressor stops operation intermittently in Dry mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
5	Timer LED(ORANGE) of the indoor unit lights up and the air conditioner does not operate.	Timer is being activated and the unit is in ready mode. The unit operates normally if the timer operation is cancelled.
6	The compressor stops intermittently in a COOL mode or DRY mode, and fan speed of the indoor unit decreases.	The compressor stops intermittently or the fan speed of the indoor unit decreases to prevent inside/outside air frozen depending on the inside/outside air temperature.
7	**[In case of heat pump model]** Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continus operation for up to 9 minutes(maximum) until the deice is completed.
8	**[In case of heat pump model]** The compressor and indoor fan stop intermittenly in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
9	**[In case of heat pump model]** Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation.

10-2 Communication Error

10-2-1 Communication Error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E101/E102	Communication error(Indoor<->outdoor)
◎	●	●		

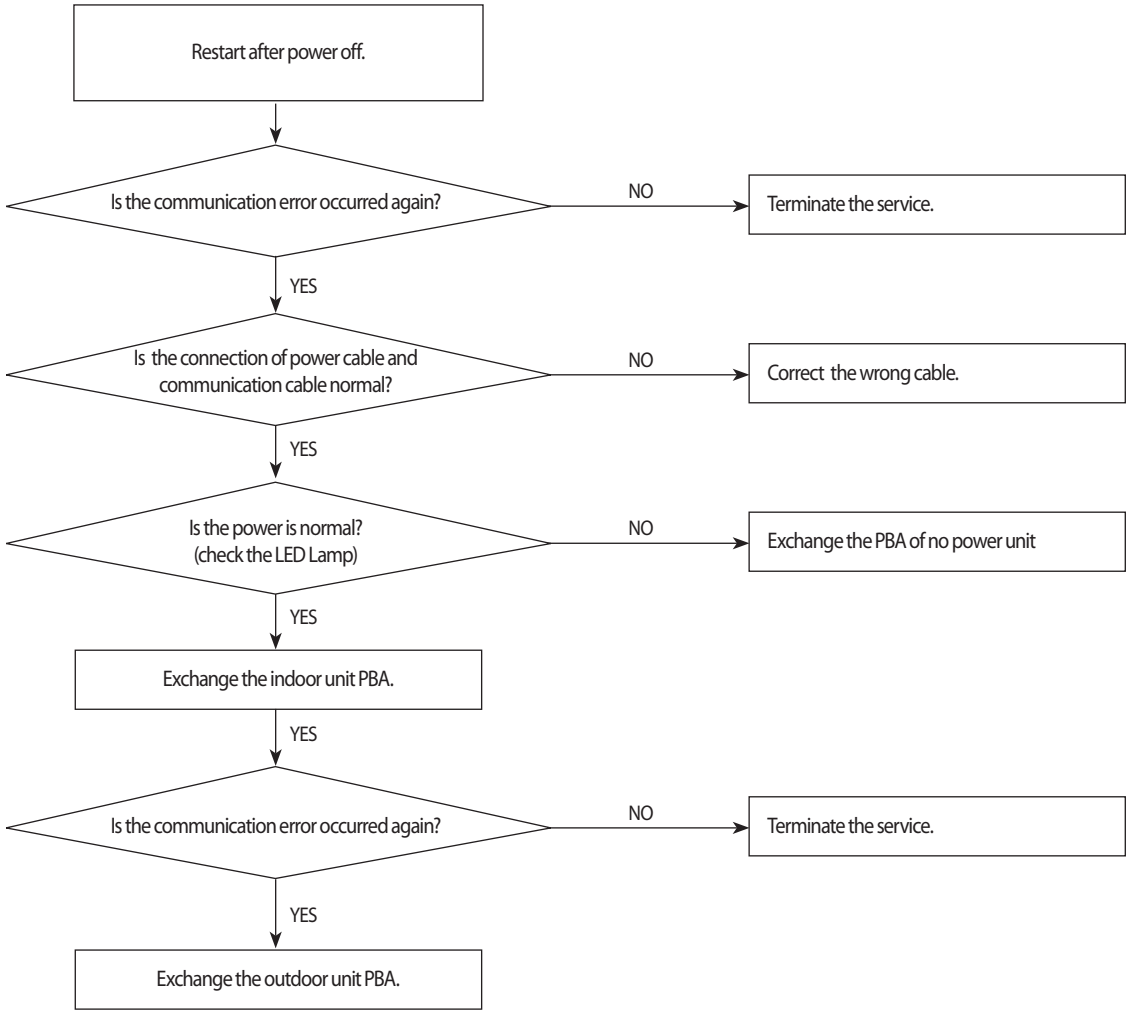
Outdoor display

◎	●	●	1min. Time out Comm.
○	○	●	Abnormal Communication
○	●	●	

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the cable between the indoor unit and outdoor unit connected correctly?
   2) Isn't the power cable and communication cable cross?

2. Troubleshooting procedure



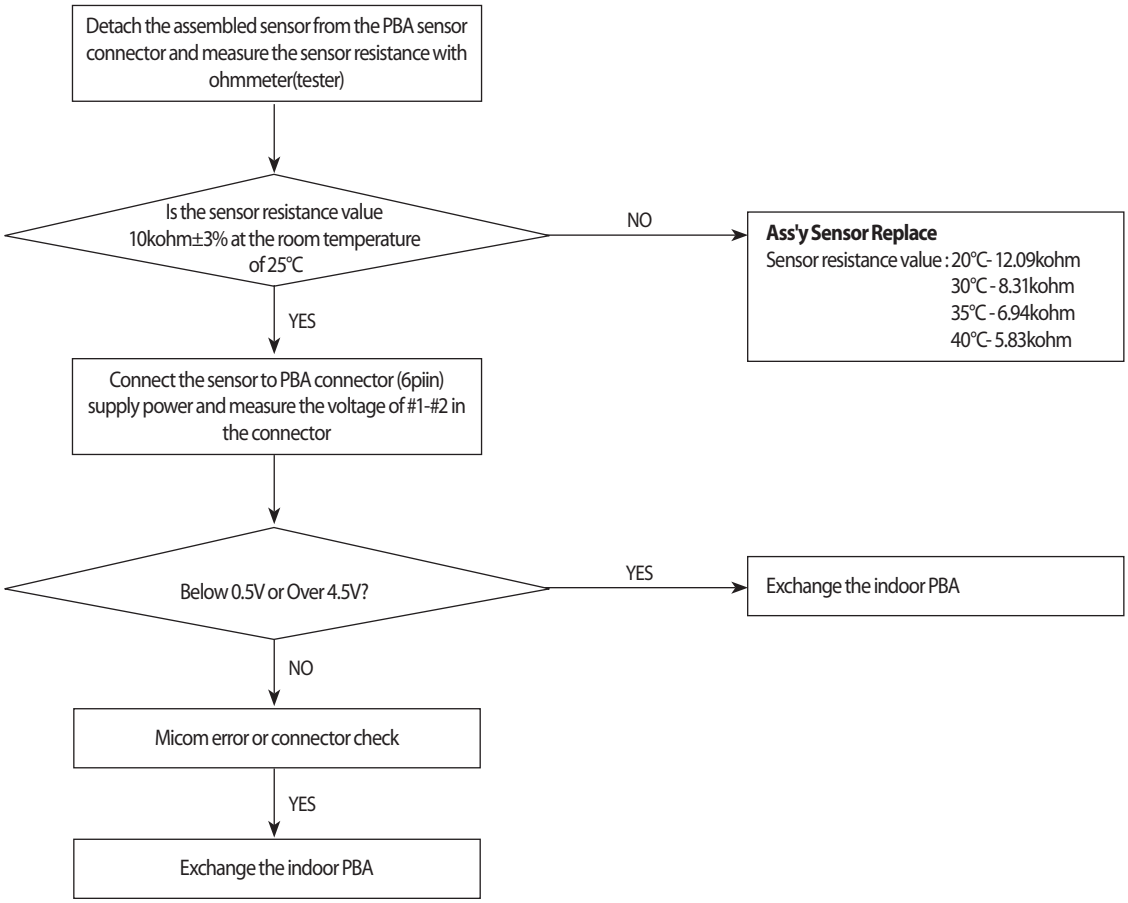
10-2-2 Indoor temperature sensor Error

Indoor display

7-SEG DISPLAY	DESCRIPTION
E121	Indoor room temp sensor error

1. Checklist :
   1) Is the indoor units temperature sensor connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?

2. Troubleshooting procedure



10-2-3 Indoor Eva-in temperature sensor error

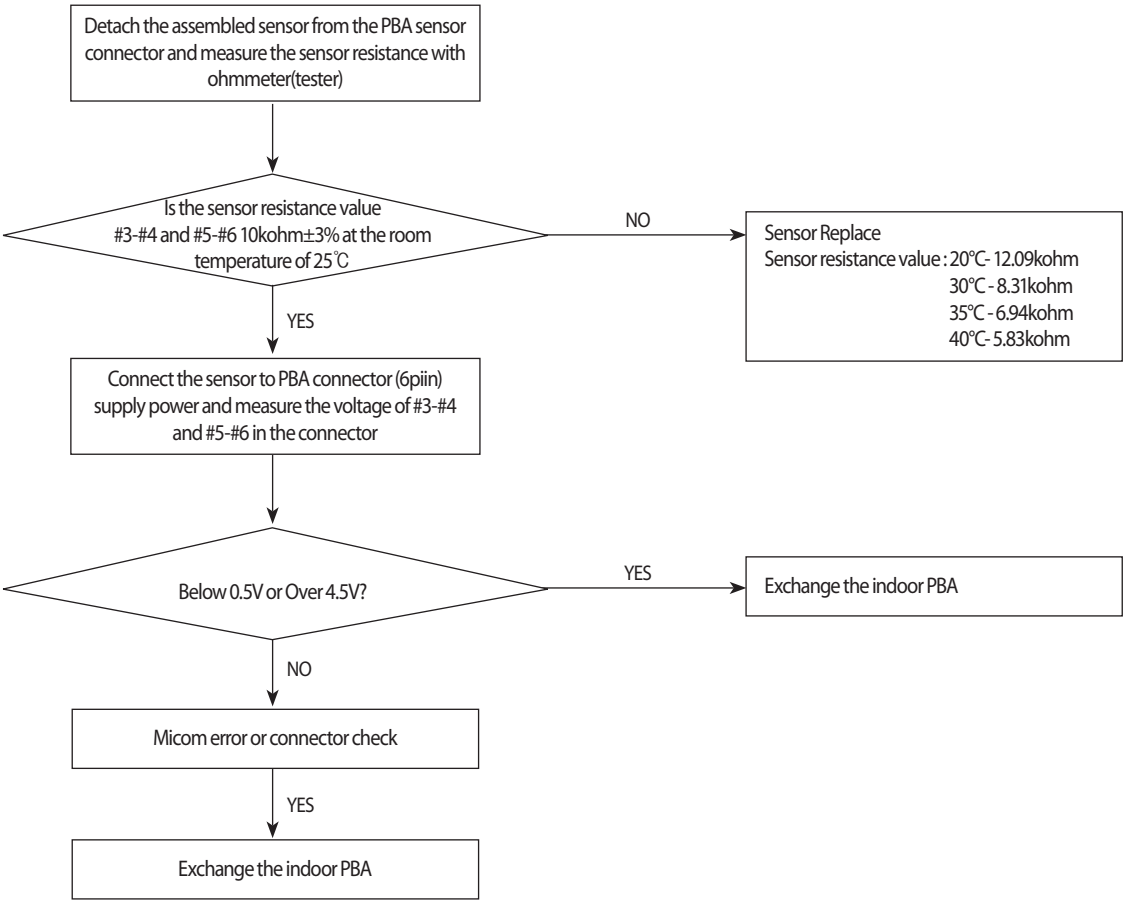
Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E122,E123	Indoor MID, Indoor IN PIPE-TH sensor error
◎	◎	○		

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the indoor units temperature sensor connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?

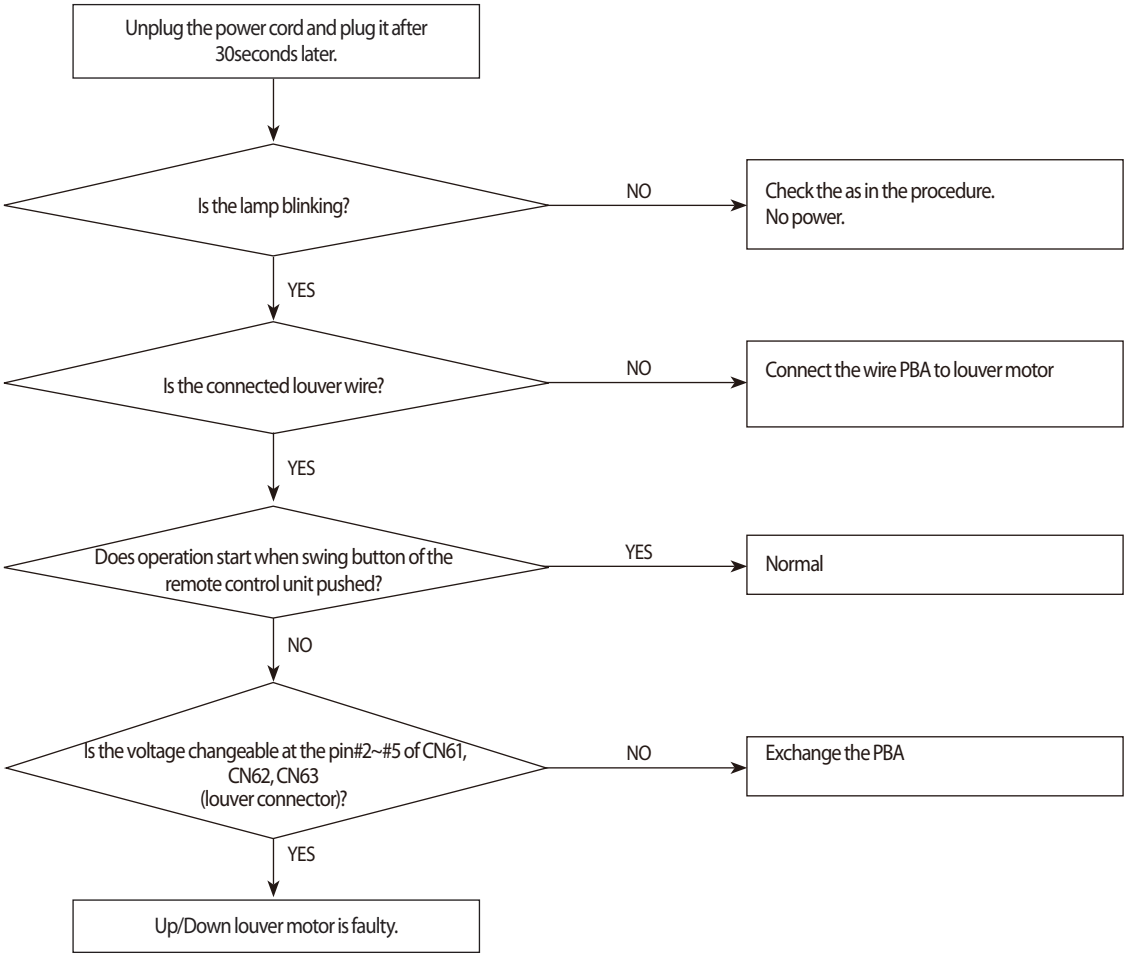
2. Troubleshooting procedure



10-2-4 When the Up/Down, Left/Right, Grill louver motor does not operate (Initial Diagnosis) (Not displayed)

1. Checklist :
   1) Is the input power voltage normal?
   2) Is the Up/Down louver motor properly connected with the connector? (CN61, CN62, CN63)

2. Troubleshooting procedure



10-2-5 Indoor fan motor speed detecting error (BLDC fan)

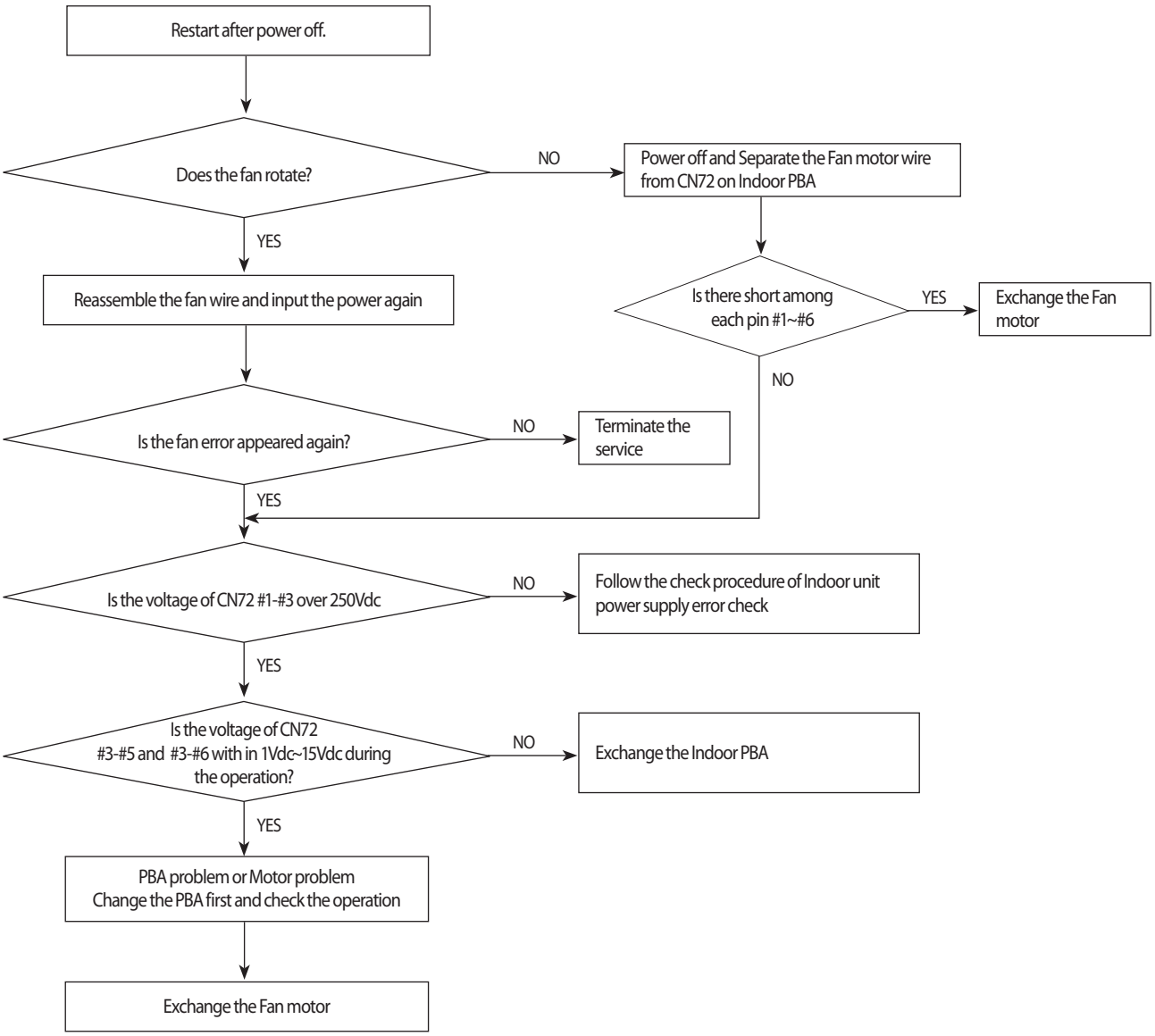
Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E154	Indoor fan error
○	○	◎		

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the indoor units fan motor properly connected with the connector(CN72)?
   2) Is the AC voltage correct?

2. Troubleshooting procedure



10-2-6 Outdoor temperature sensor error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E221	Outdoor temperature sensor error
◎	○	◎		

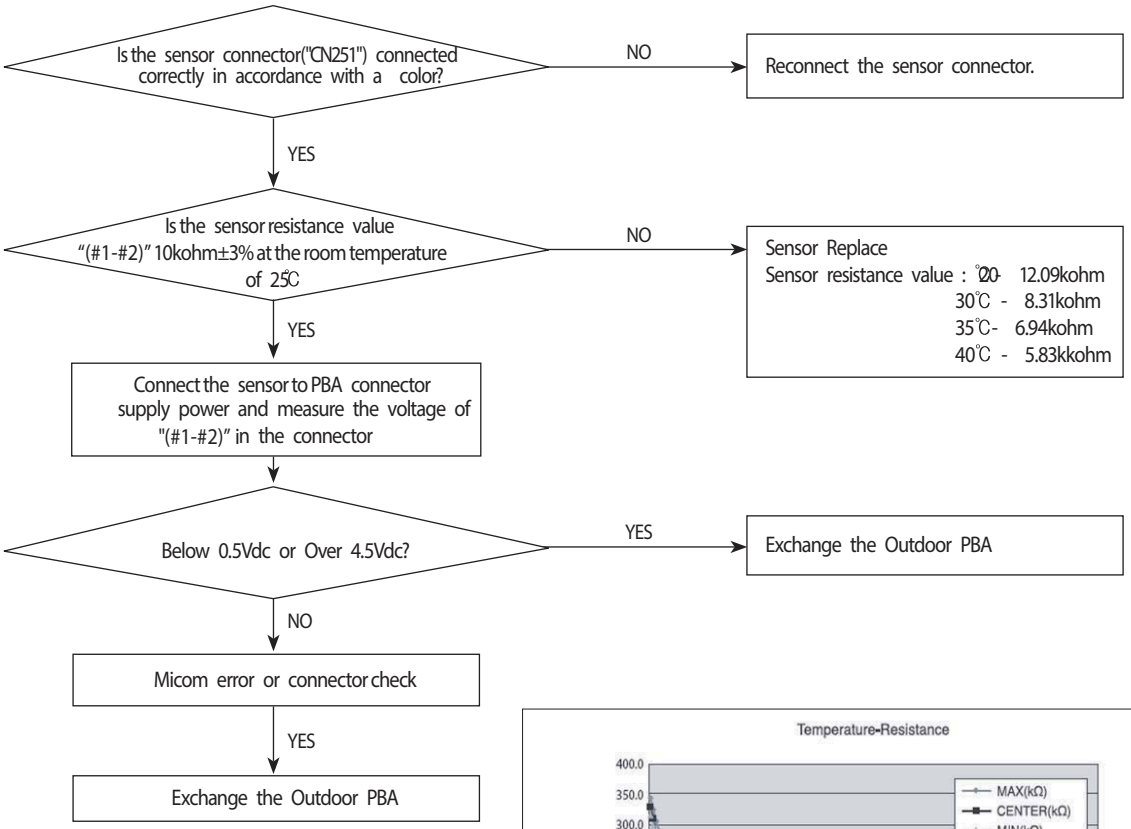
Outdoor display

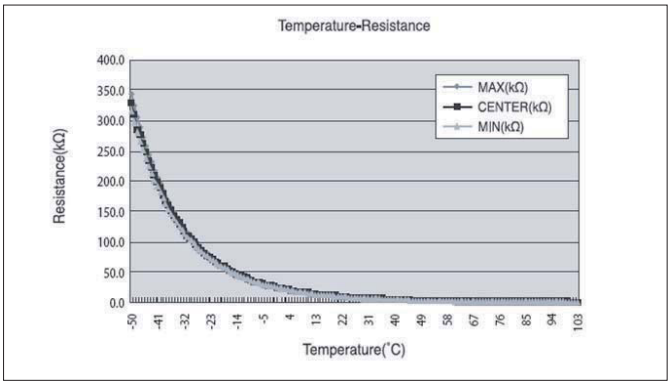
◎	○	◎	Outdoor temperature sensor error

● LED ON ◎ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure





10-2-7 Outdoor Cond temperature sensor error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E231	Outdoor Cond temperature sensor error
◎	○	◎		

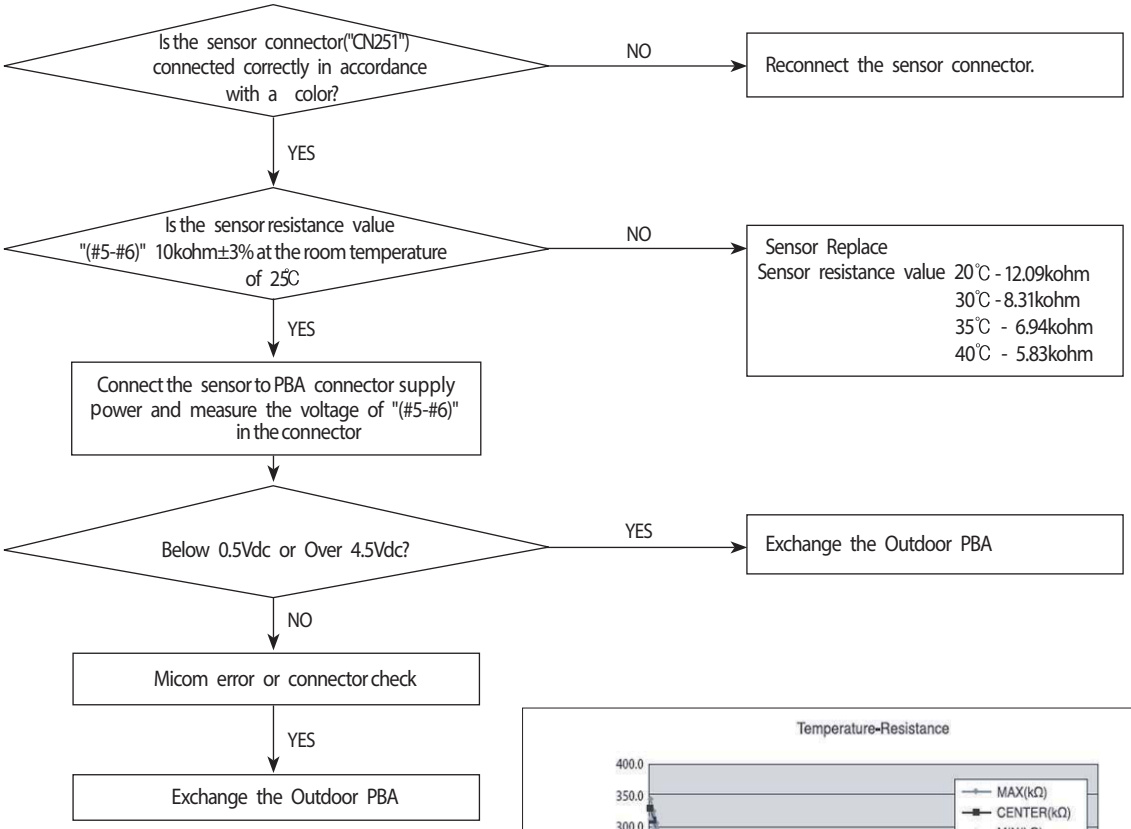
Outdoor display

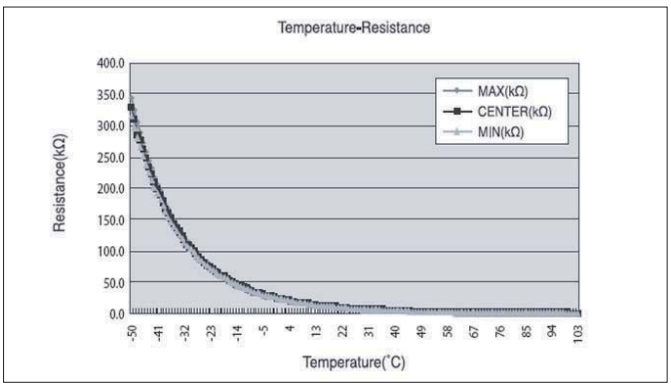
◎	●	◎	Outdoor Cond temperature sensor error

● LED ON ◎ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure





10-2-8 Outdoor Discharge temperature sensor error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E251	Outdoor Discharge temperature sensor error
◎	○	◎		

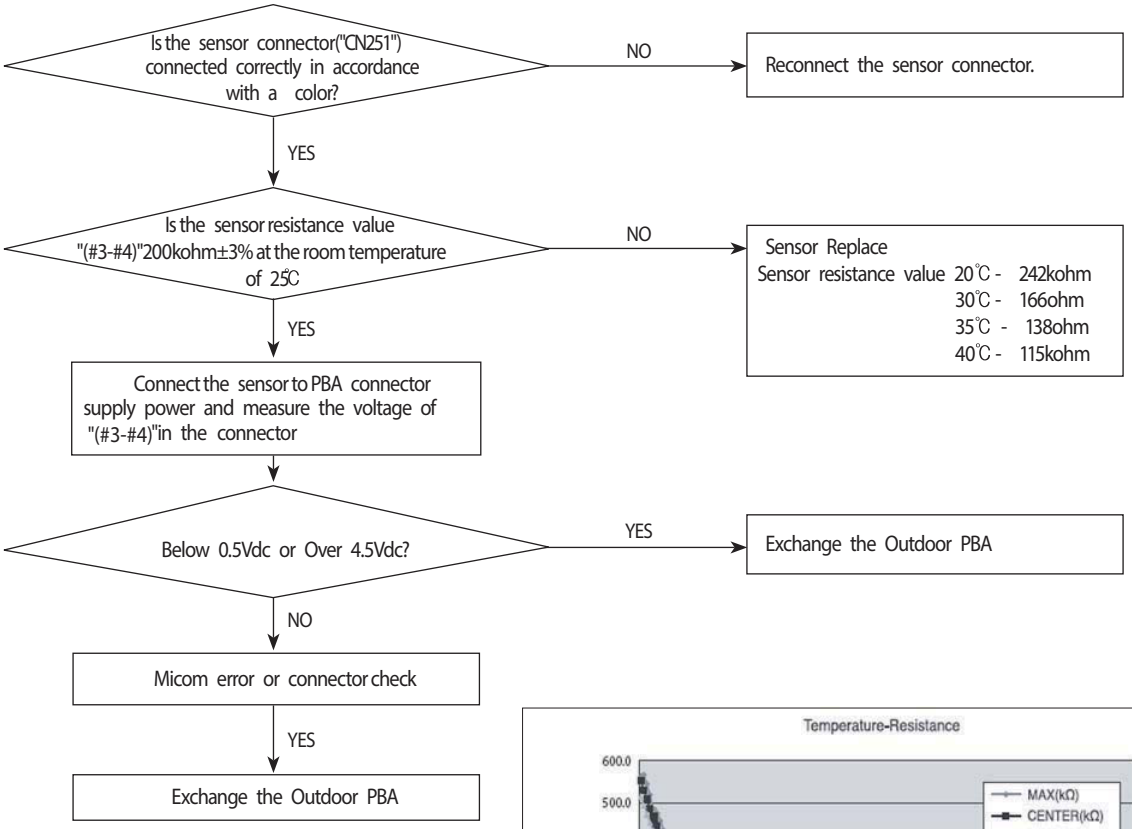
Outdoor display

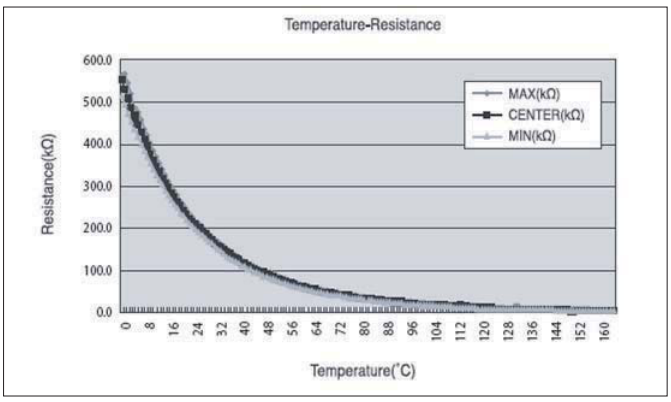
◎	◎	○	Outdoor Discharge temperature sensor error

● LED ON ◎ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure





10-2-9 Outdoor Discharge over temperature error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E416	Outdoor Discharge ove temperature error
◎	○	◎		

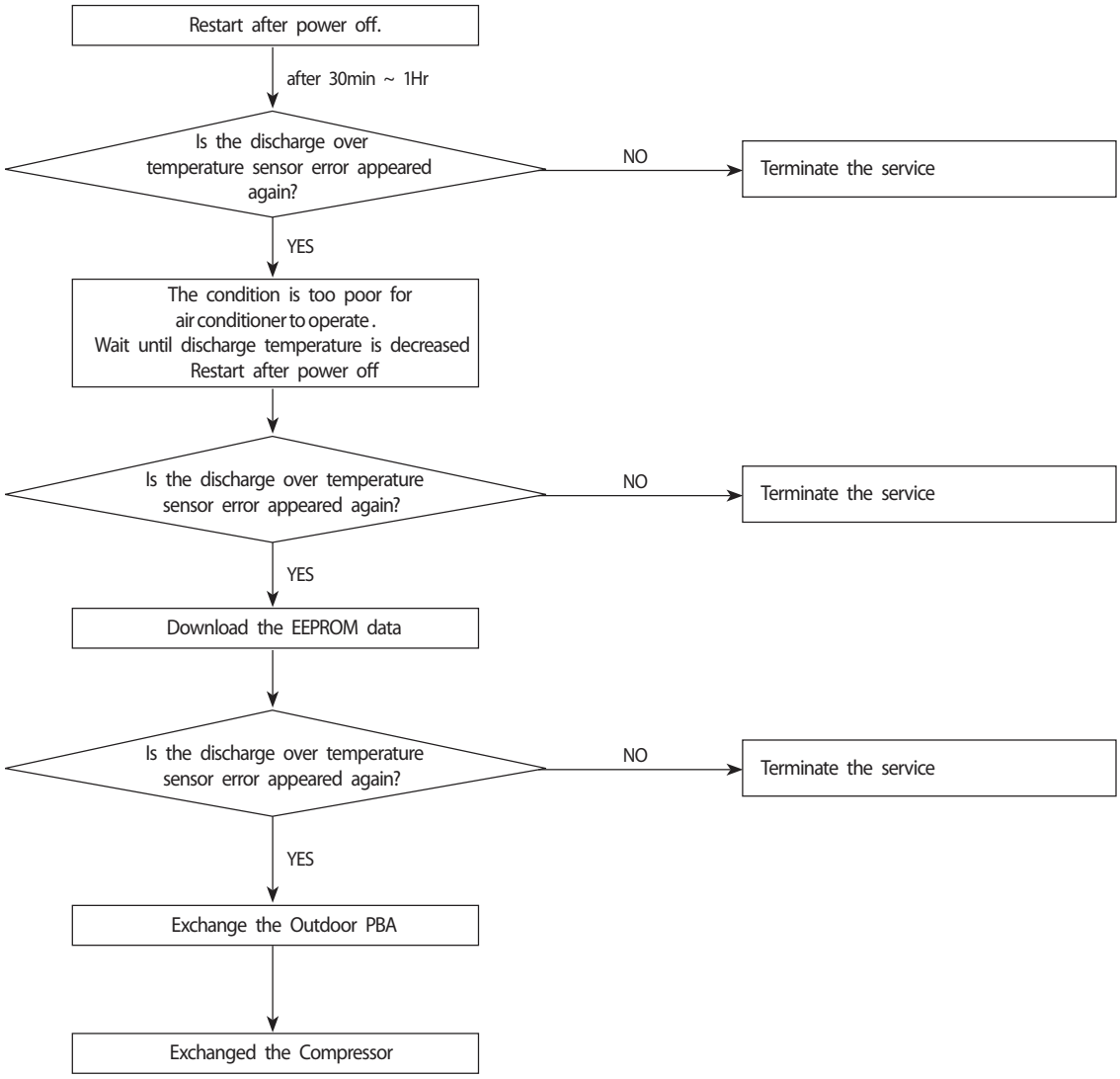
Outdoor display

◎	◎	●	Outdoor Discharge over temperature error

● LED ON ◎ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure



10-2-10 Outdoor Fan motor error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E458	Outdoor fan error
◎	○	◎		

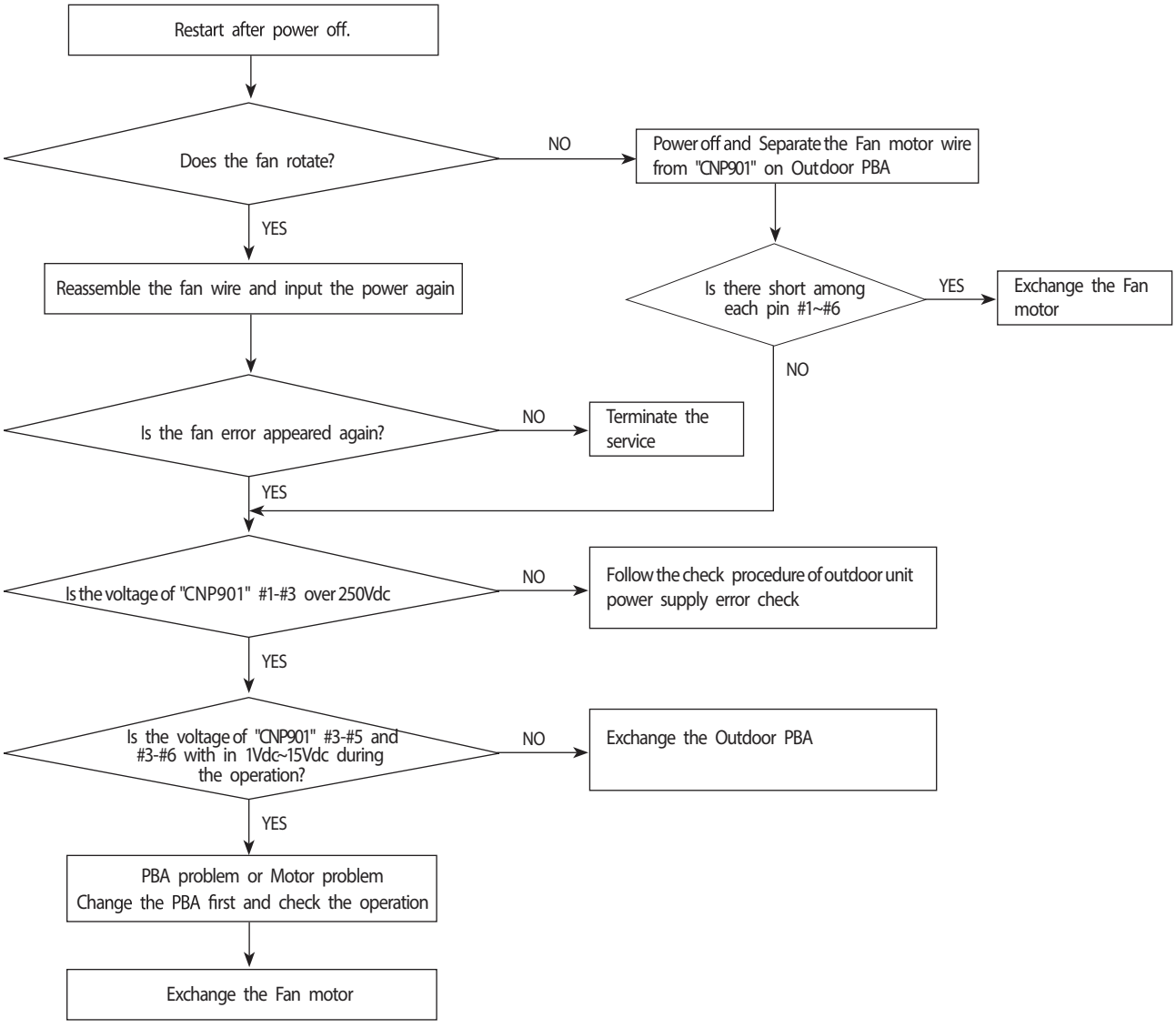
Outdoor display

●	○	○	Outdoor fan error

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Are the input power voltage and the power connection correct?
   2) Is the motor wire connected to the outdoor PBA correctly?
   3) Is there no assembly error or non-assembly in the terminal of motor wire connector?
   4) Is there no obstacle at the surrounding of motor and propeller?

2. Troubleshooting procedure



10-2-11 Compressor starting error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E461	Comp starting error
◎	○	◎		

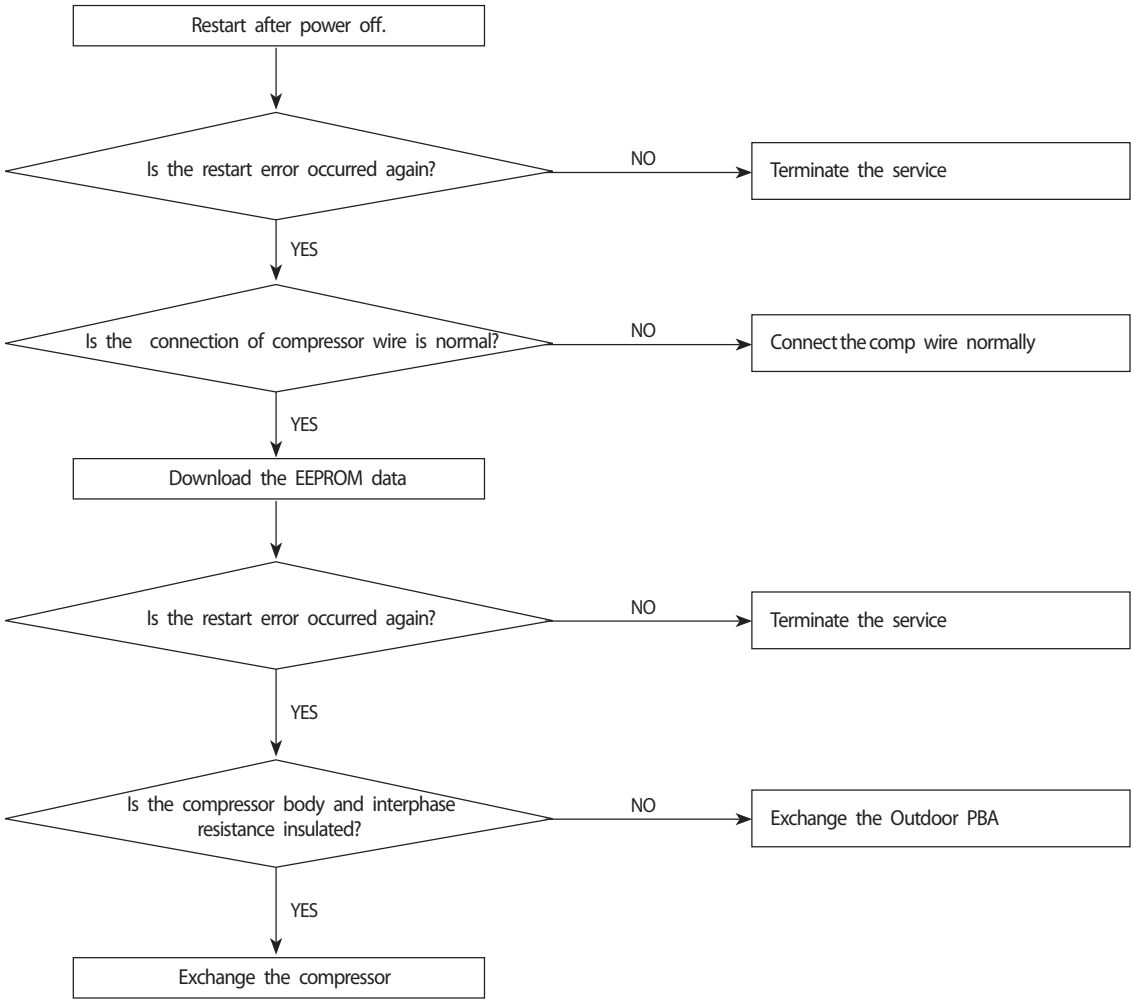
Outdoor display

○	◎	○	Comp starting error

● LED ON ◎ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure



10-2-12 Compressor wire missing error/rotation error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E467	Compressor wire missing errorr/rotation error
◎	○	◎		

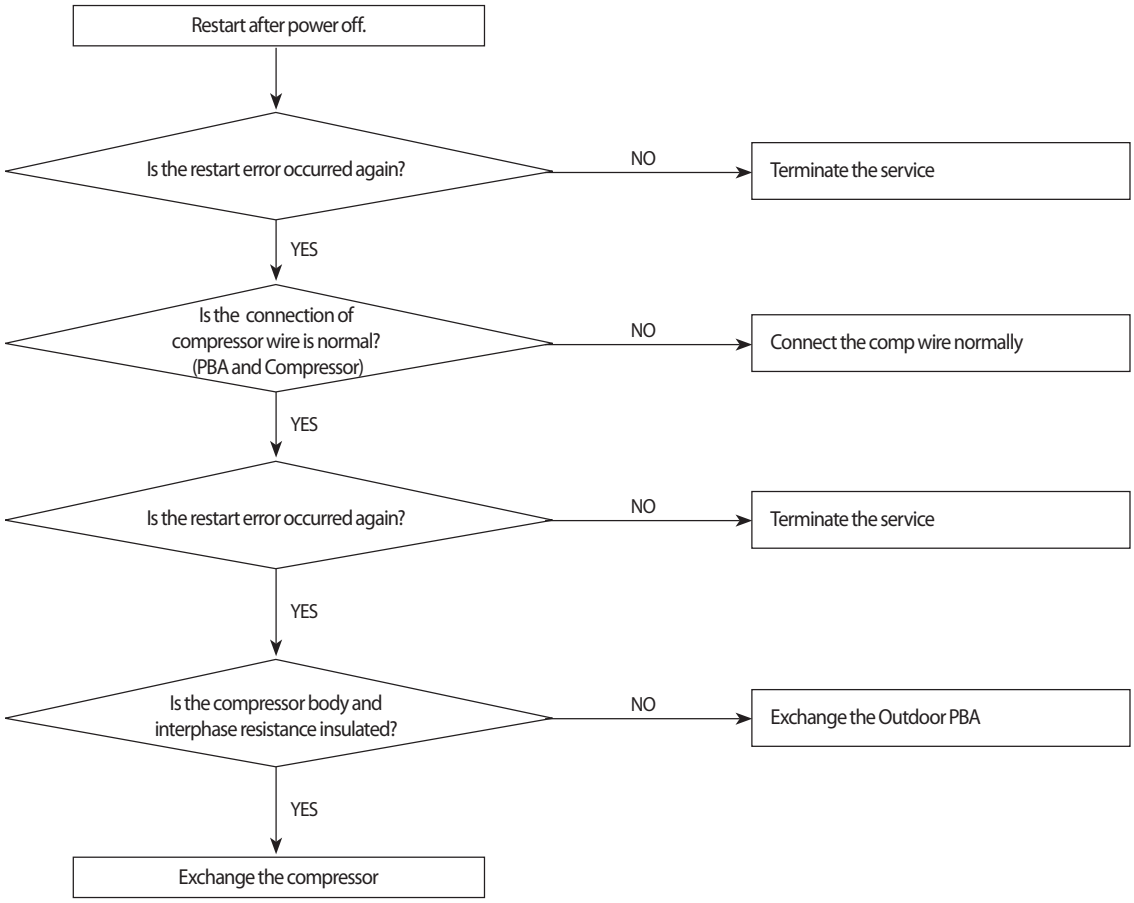
Outdoor display

●	○	●	Compressor wire missing error/rotation error

● LED ON ◎ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure



10-2-13 O.C(Over Current) error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E464	IPM Over Current(O.C) Error
◎	○	◎		

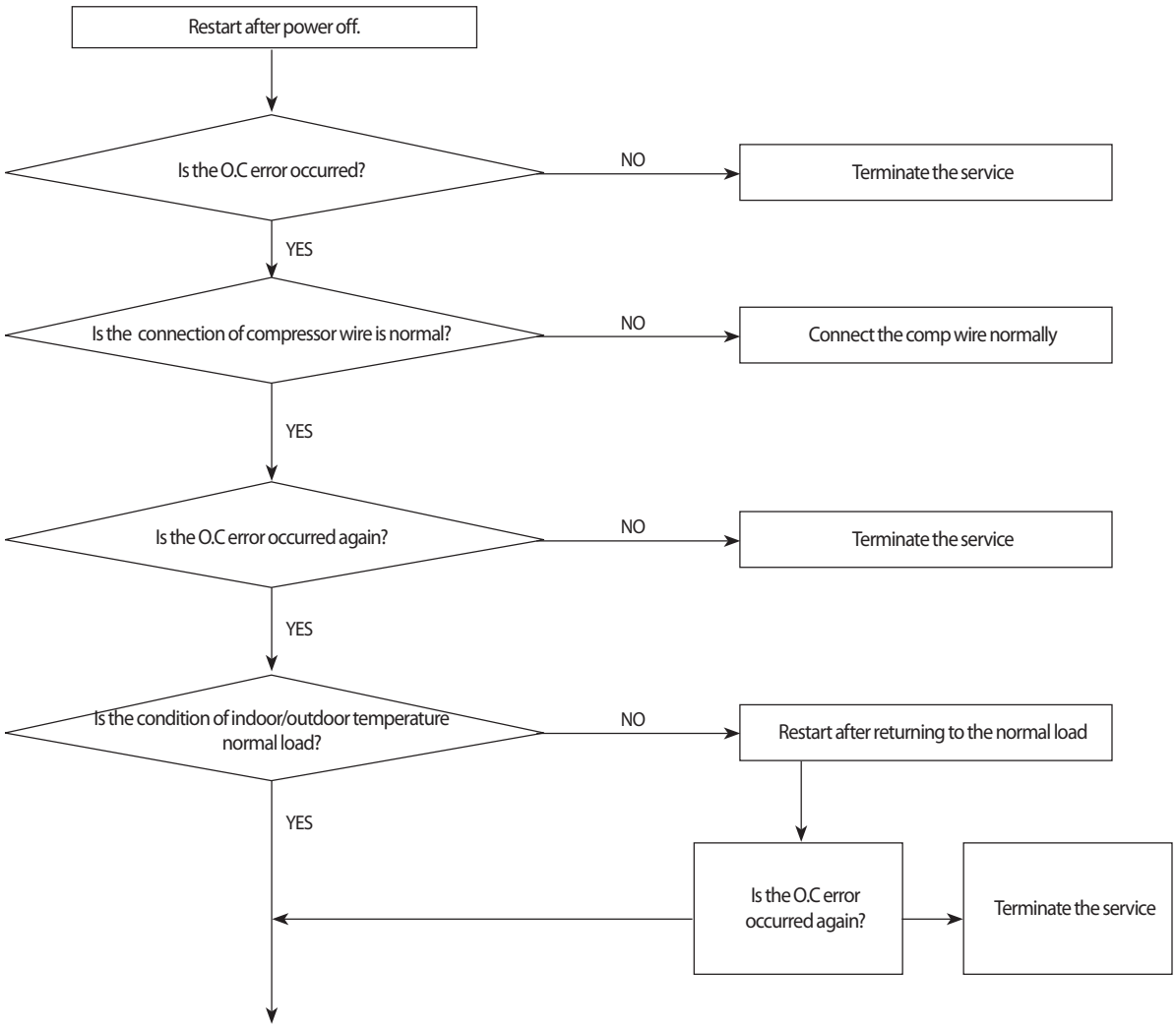
Outdoor display

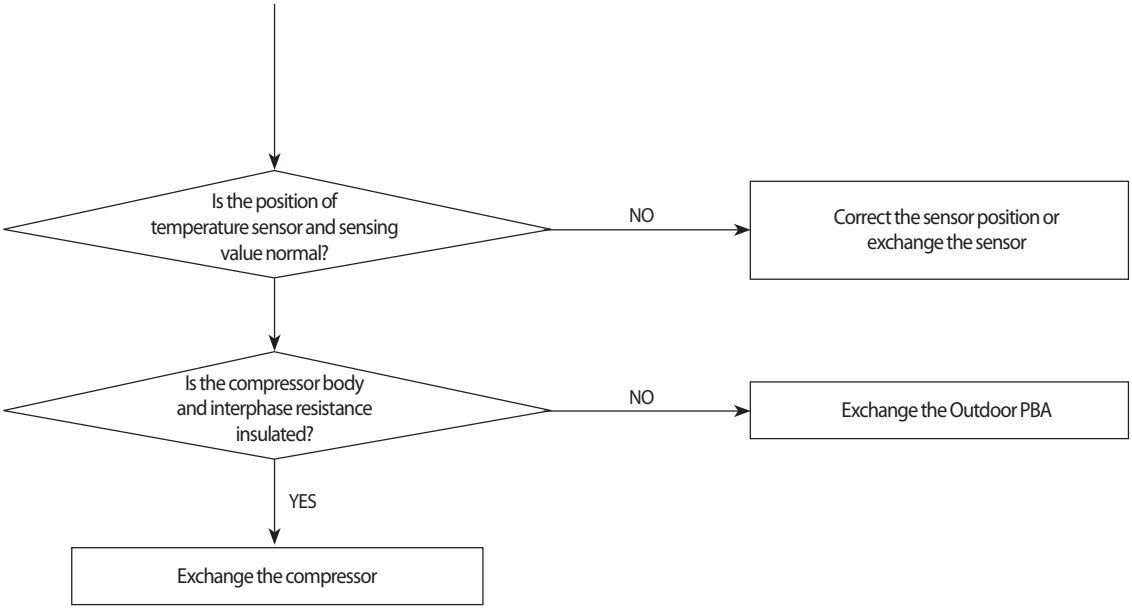
○	○	◎	IPM Over Current(O.C) Error

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the IPM Shunt resistance value correct? Check the resistor is opened
   2) Is the condition of surrounding temperature abnormal overload?
   3) Is there any problem as like the temperature sensor separation or measurement value error?
   4) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure




Is the position of temperature sensor and sensing value normal?
NO
Correct the sensor position or exchange the sensor
Is the compressor body and interphase resistance insulated?
NO
Exchange the Outdoor PBA
YES
Exchange the compressor

10-2-14 DC_link voltage sensor error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E469	DC_link voltage sensor error
◎	○	◎		

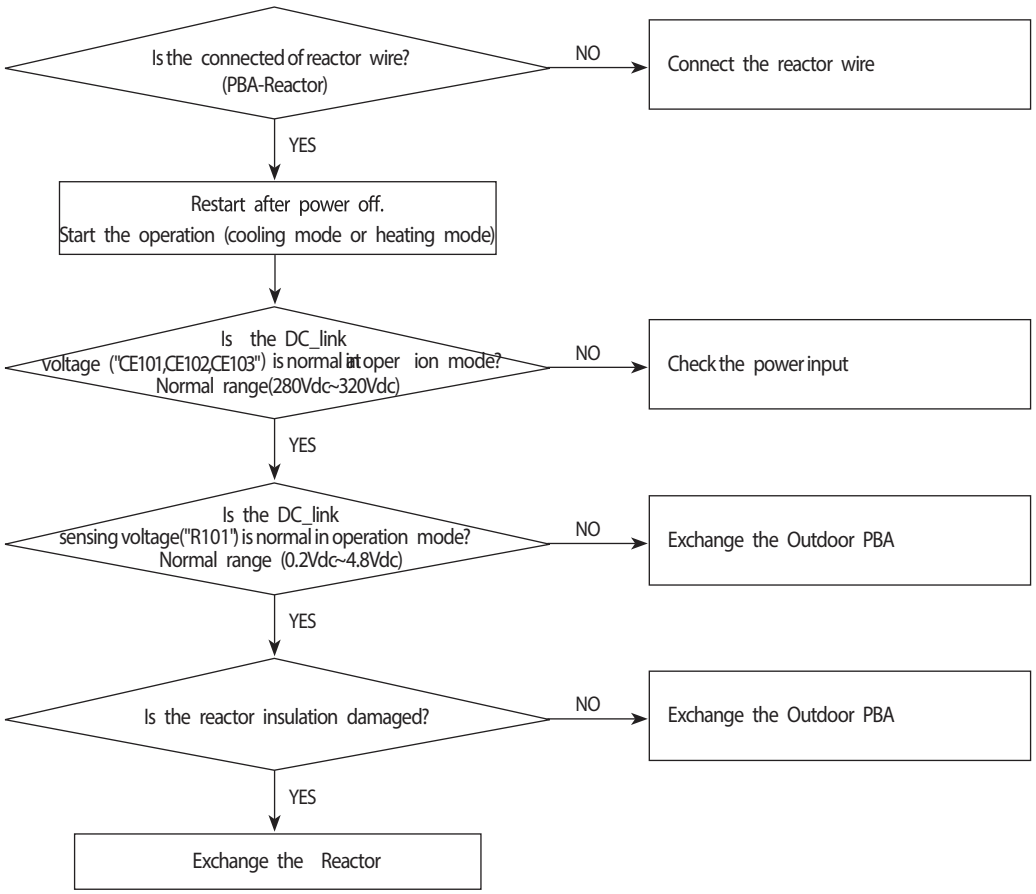
Outdoor display

●	◎	◎	DC_link voltage sensor error

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the input voltage of outdoor terminal block is normal?
   2) Is the reactor wire connected?

2. Troubleshooting procedure



10-2-15 DC_link voltage sensor error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E488	AC Input Voltage Sensor Error
◎	○	◎		

Outdoor display

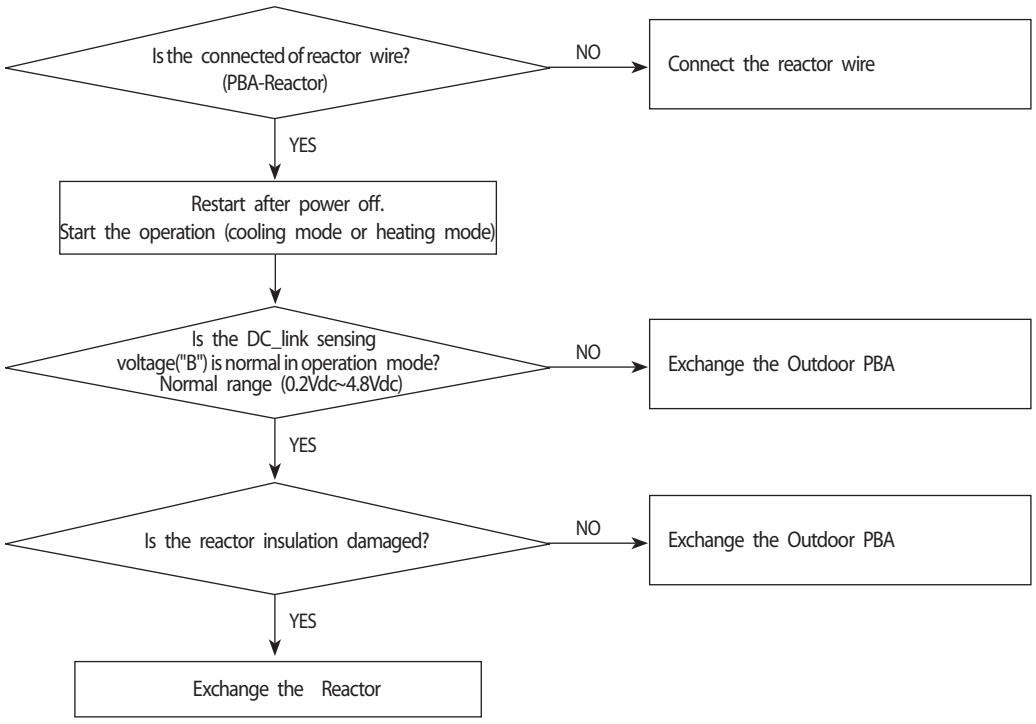
●	◎	◎	AC Input Voltage Sensor Error

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the input voltage of outdoor terminal block is normal?
   2) Is the reactor wire connected?
   3) Is the PFC resistor("A") value is normal? (Outdoor PBA)

2. Troubleshooting procedure

MODEL	"A"	"B"
DB92-02866A/2867A	R105,R106,R107,R108	R105



10-2-16 DC_link voltage under/over error, H/W DC-link Over voltage protection error/PFC over load

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E466	DC-Link voltage under/over error
◎	○	◎	E483	Over Voltage Protection Error
			E484	PFC over load

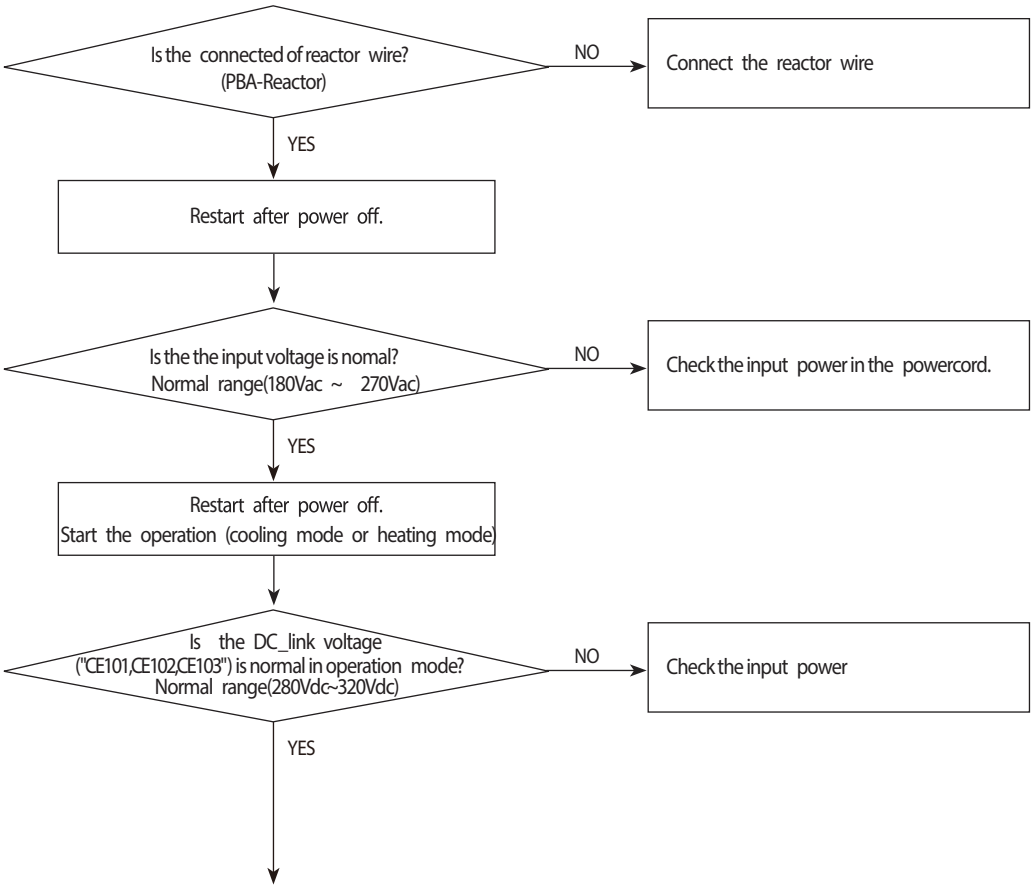
Outdoor display

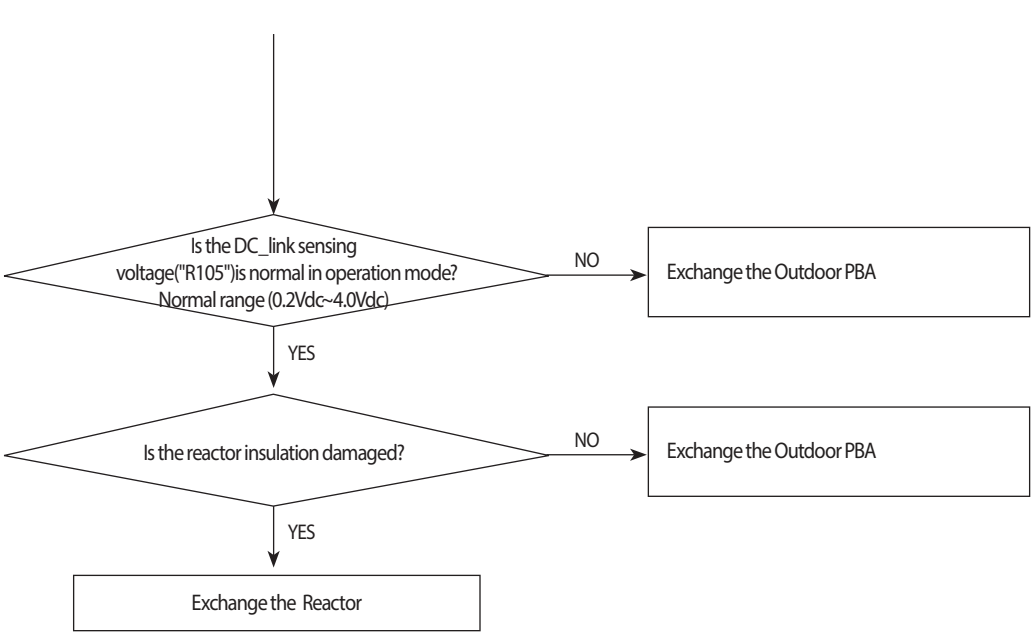
○	●	◎	DC-Link voltage under/over error
			PFC over load
			Over Voltage Protection Erro

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the input voltage of outdoor terminal block is normal?
   2) Is the input voltage is higher than 300Vac?
   3) Is the reactor wire connected?

2. Troubleshooting procedure




Is the DC_link sensing
voltage("R105")is normal in operation mode?
Normal range (0.2Vdc~4.0Vdc)
NO
Exchange the Outdoor PBA
YES
Is the reactor insulation damaged?
NO
Exchange the Outdoor PBA
YES
Exchange the Reactor

10-2-17 I_trip error, PFC over current

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E462	AC Input I_Limit Trip Error
◎	○	◎		

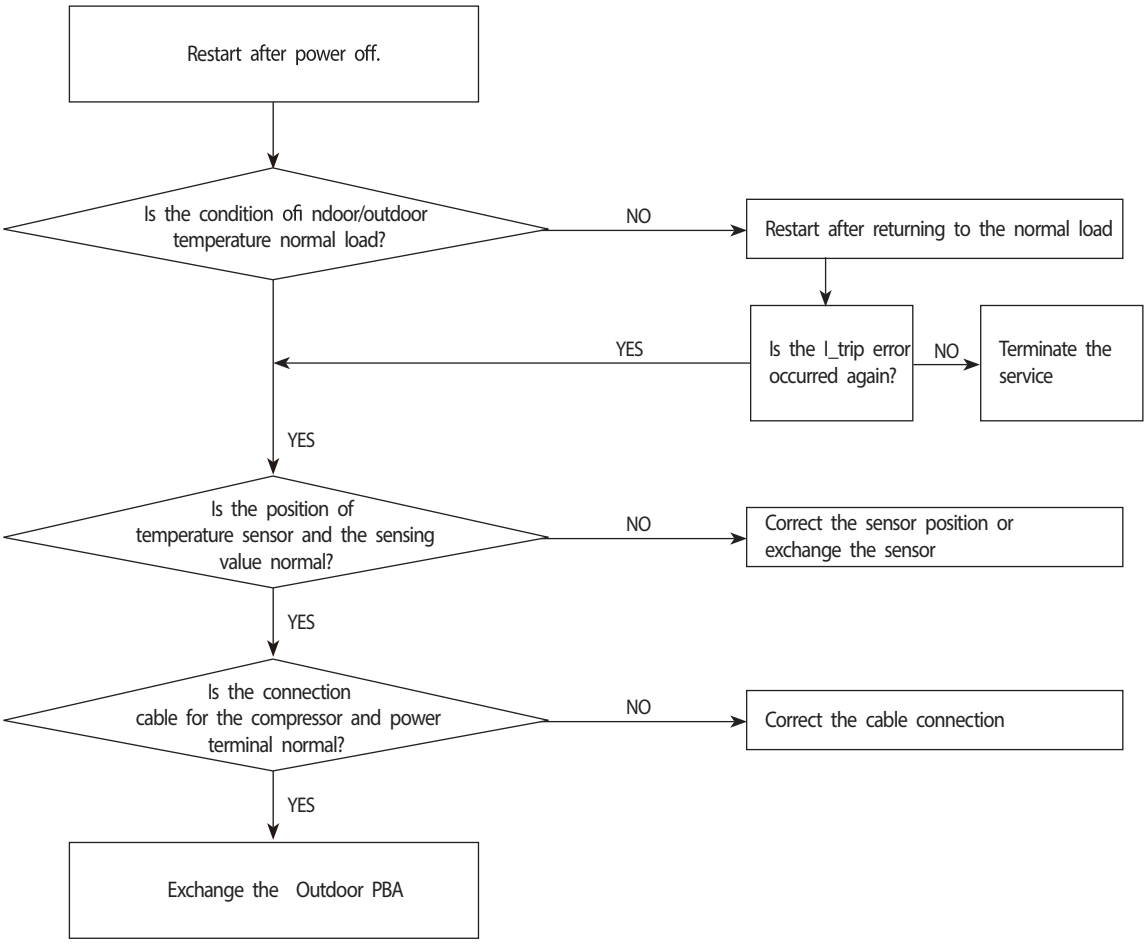
Outdoor display

●	◎	●	AC Input I_Limit Trip Error

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the PFC Shunt("R410,R411") resistance value correct? Check the resistor is opened
   2) Is the condition of surrounding temperature abnormal overload?
   3) Is there any problem as like the temperature sensor separation or measurement value error?
   4) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure



10-2-18 Current sensor error/Input current sensor error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3		
◎	○	◎	E462	AC Input I_Limit Trip Error

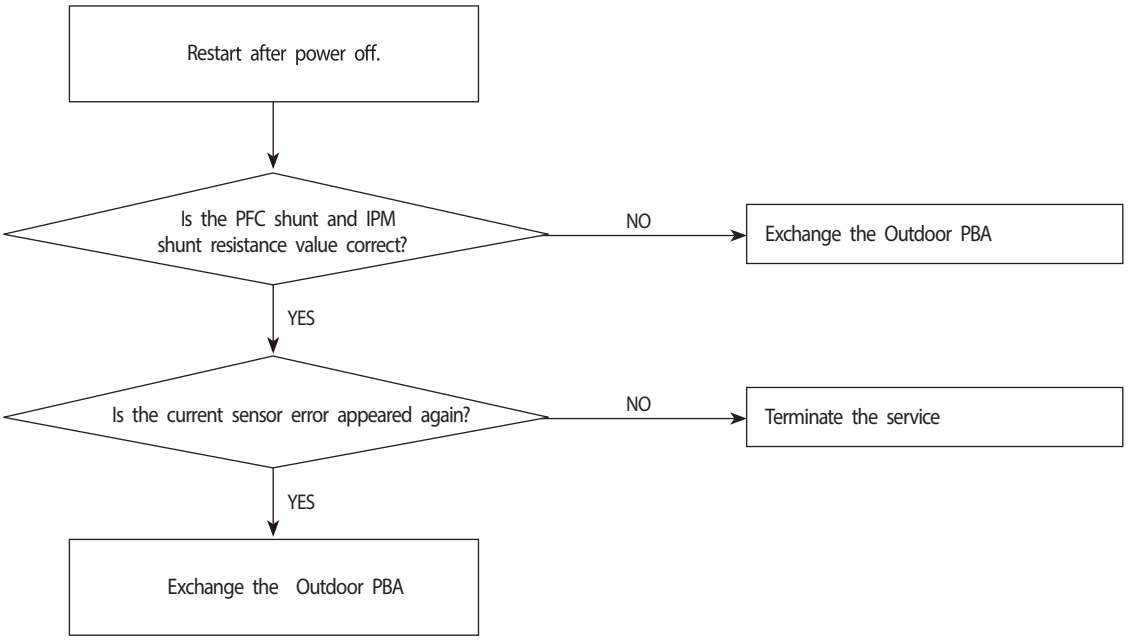
Outdoor display

◎	◎	●	Current sensor error
			Input current sensor error

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the PFC Shunt("R701,R702") resistance value correct? Check the resistor is opened
   2) Is the IPM Shunt("R410,R411") resistance value correct? Check the resistor is opened
   3) Is there no short or open around "IC451" ?

2. Troubleshooting procedure



10-2-19 Heatsink sensor error/Heatsink over heat

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3		
◎	○	◎	E474	Heatsink sensor error
			E500	Heatsink Over Temperature Error

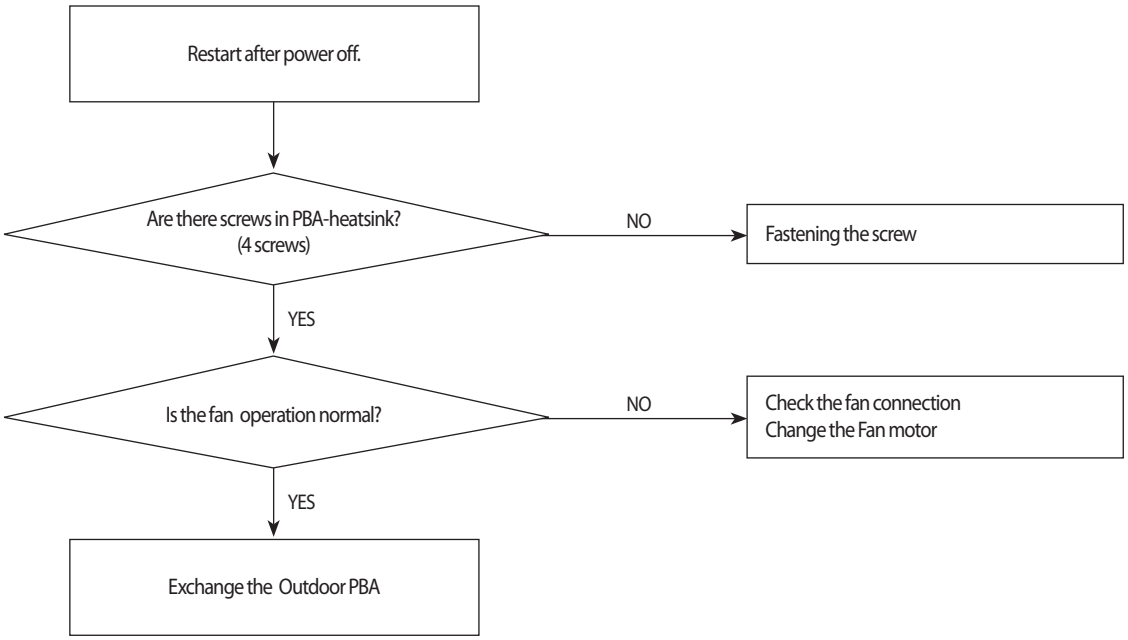
Outdoor display

◎	◎	●	Heatsink sensor error
◎	●	○	Heatsink Over Temperature Error

● LED ON ◎ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure



10-2-20 Comp Vlimit error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3		
◎	○	◎	E465	Comp V_limit/I_limit Error

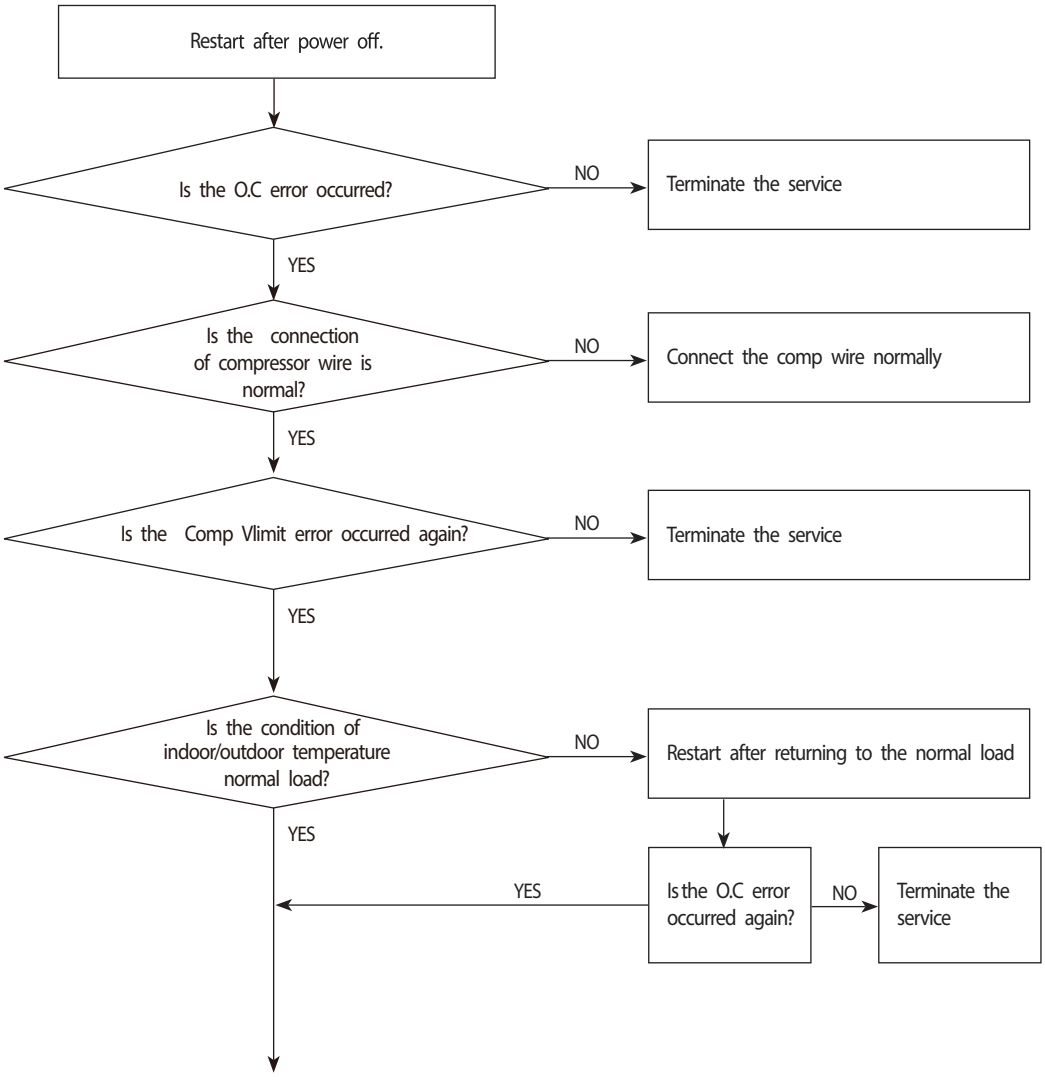
Outdoor display

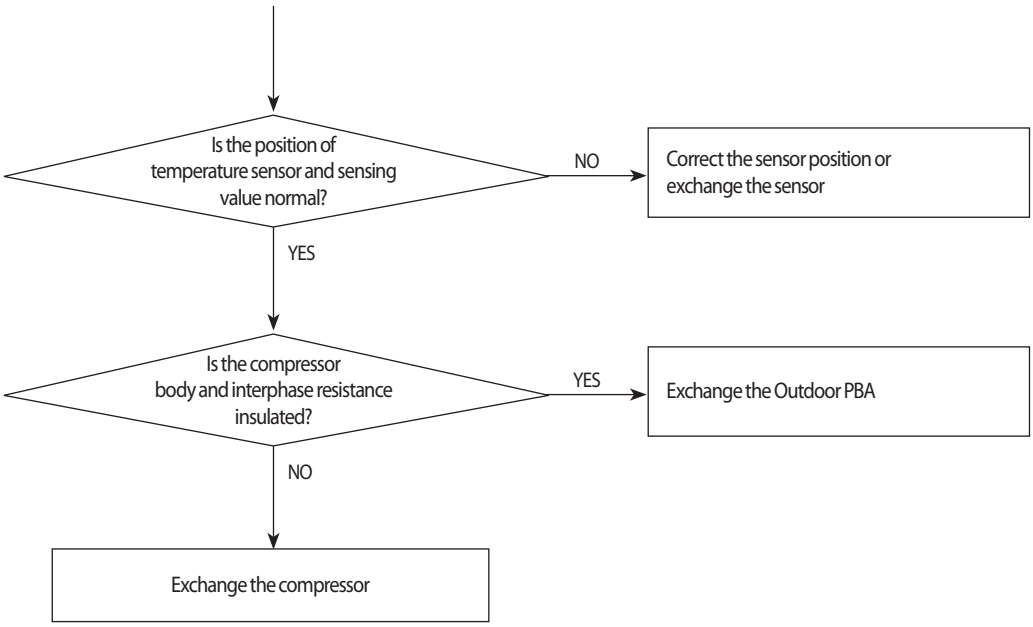
◎	●	○	Comp V_limit/I_limit Error

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the IPM Shunt("R701,R702") resistance value correct? Check the resistor is opened
   2) Is the condition of surrounding temperature abnormal overload?
   3) Is there any problem as like the temperature sensor separation or measurement value error?
   4) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure




Is the position of temperature sensor and sensing value normal?
NO
Correct the sensor position or exchange the sensor
YES
Is the compressor body and interphase resistance insulated?
YES
Exchange the Outdoor PBA
NO
Exchange the compressor

10-2-21 EEPROM error/OTP error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3		
◎	○	◎	E470	EEPROM Data Error (no data)
			E471	OTP errorEEPROM Data Error (Main Micom→Inv Micom)

Outdoor display

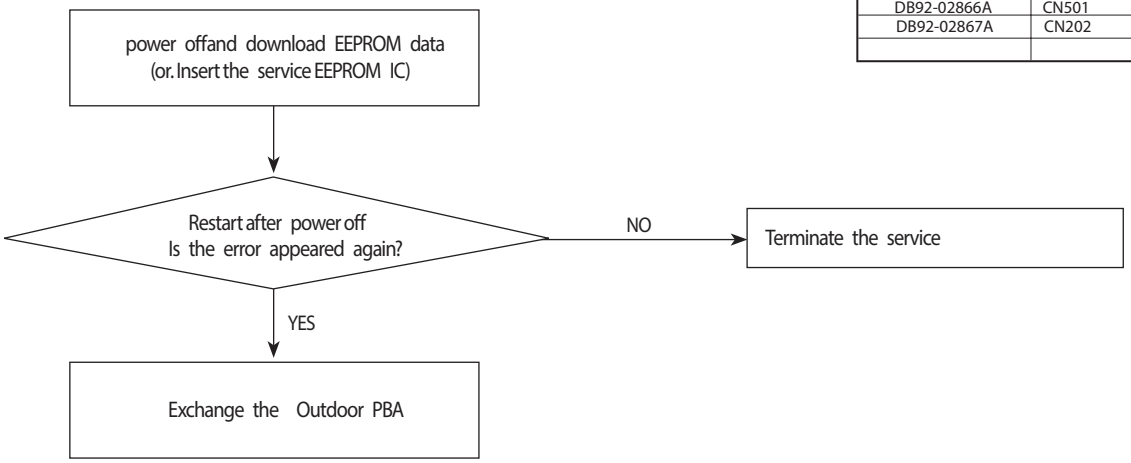
○	●	○	EEPROM Data Error (no data)
●	○	◎	OTP errorEEPROM Data Error (Main Micom Inv Micom)

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is there a short around micom?
   2) Is there a short around "A"?
   3) Did you download or insert EEPROM IC, after changing outdoor PBA?

2. Troubleshooting procedure

MODEL	"A"
DB92-02866A	CN501
DB92-02867A	CN202



10-2-22 Operation condition secession error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3		
◎	○	◎	E440	Prohibit Operation Condition Error (Heating)
			E441	Prohibit Operation Condition Error (Cooling)

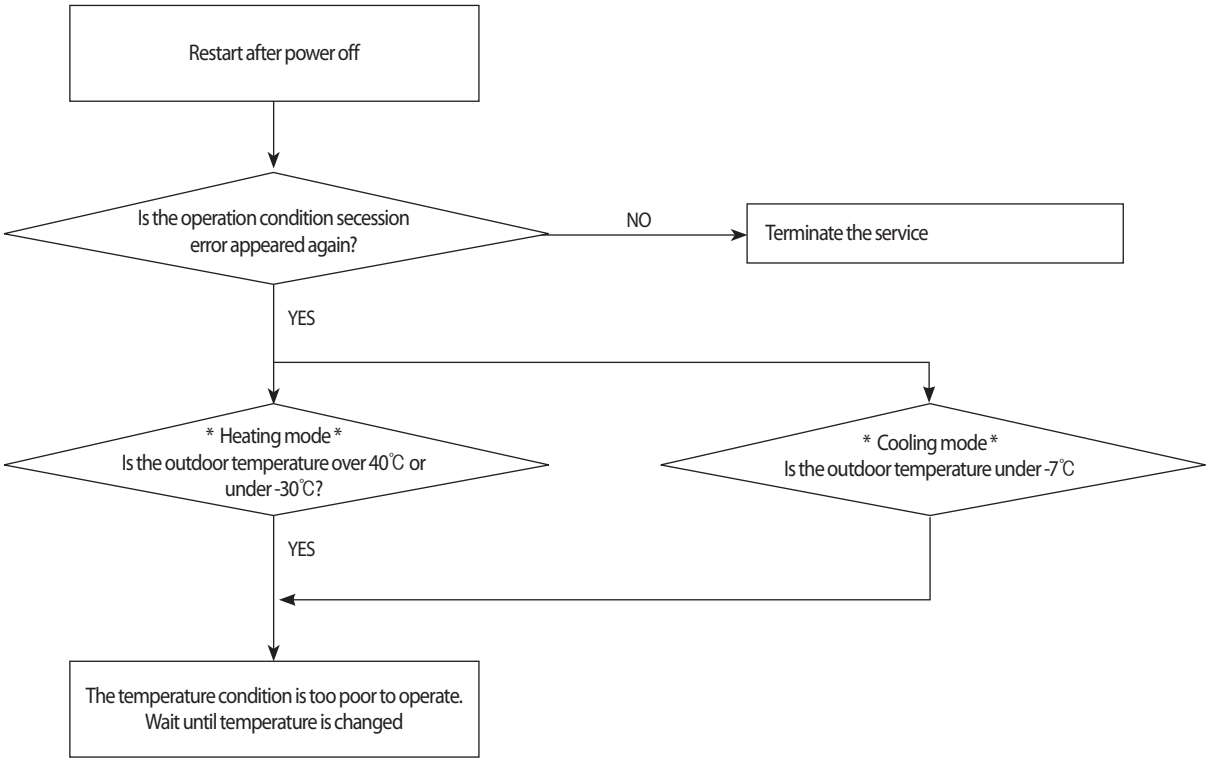
Outdoor display

●	◎	○	Operation condition secession

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Check the temperature around the outdoor unit.

2. Troubleshooting procedure



10-2-23 Gas leak error

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3		
◎	○	◎	E554	GAS Leak error

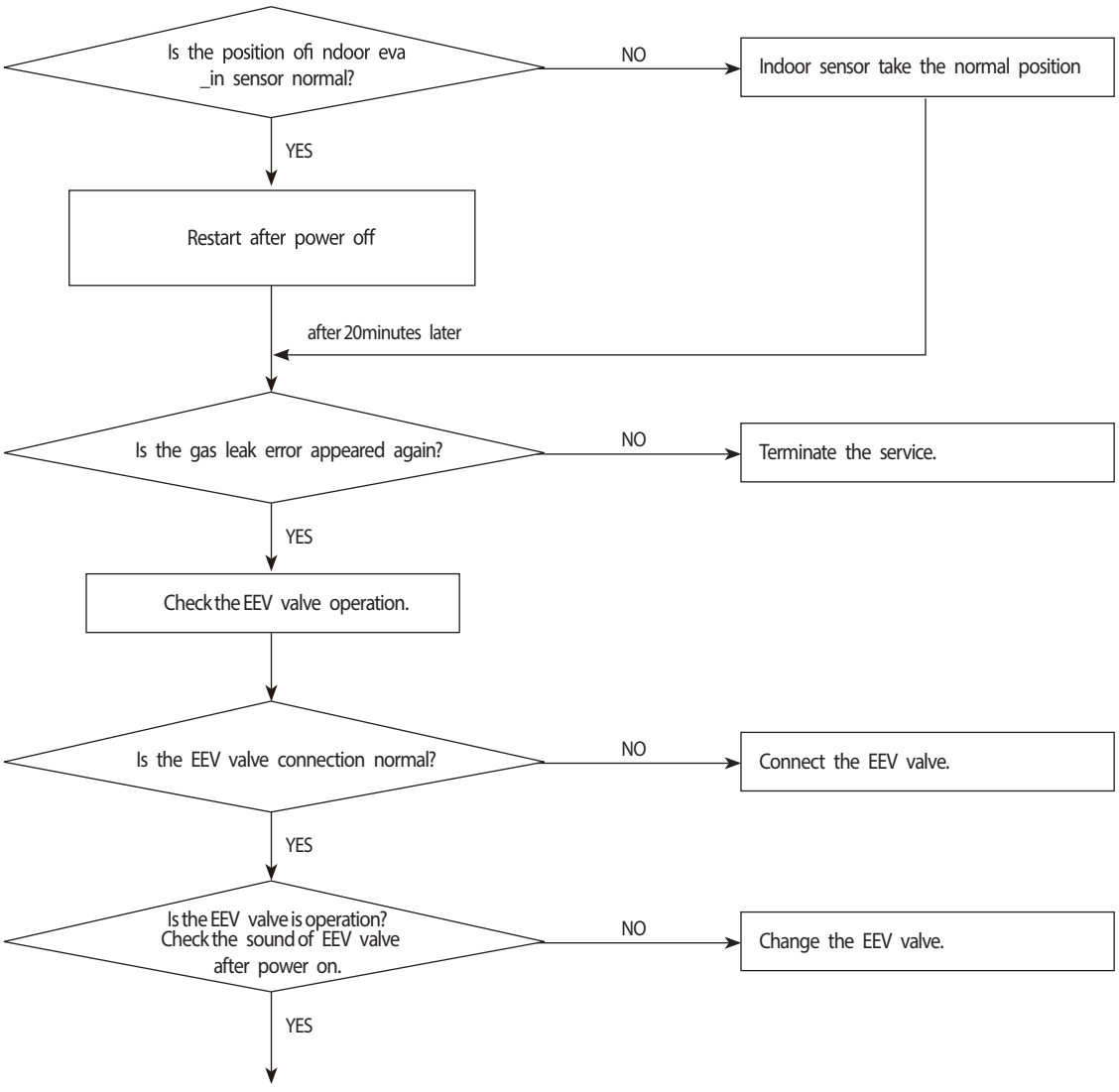
Outdoor display

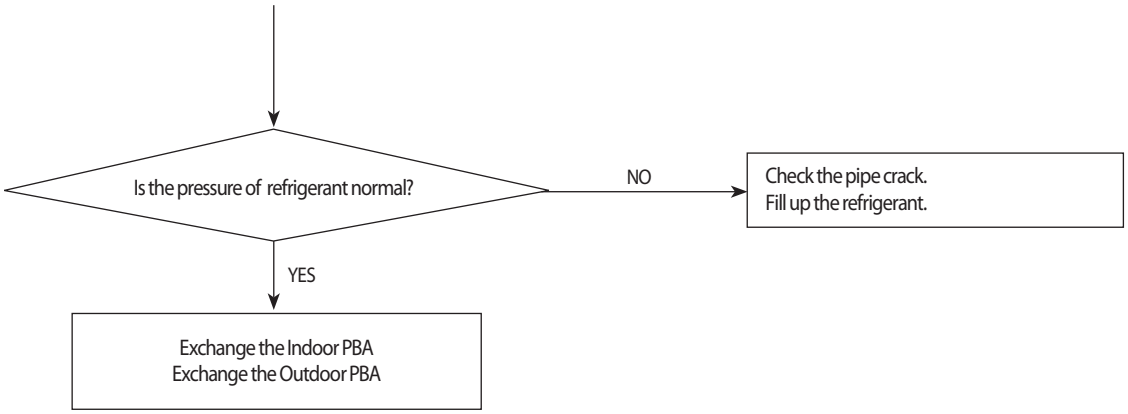
●	●	○	GAS Leak error

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the position ofi ndoor Eva_in sensor normal?
   2) Check the pipe crack
   3) Check the EEV valve connection("CN701 ") in Outdoo unit
   4) Check the refrigerant was charged

2. Troubleshooting procedure



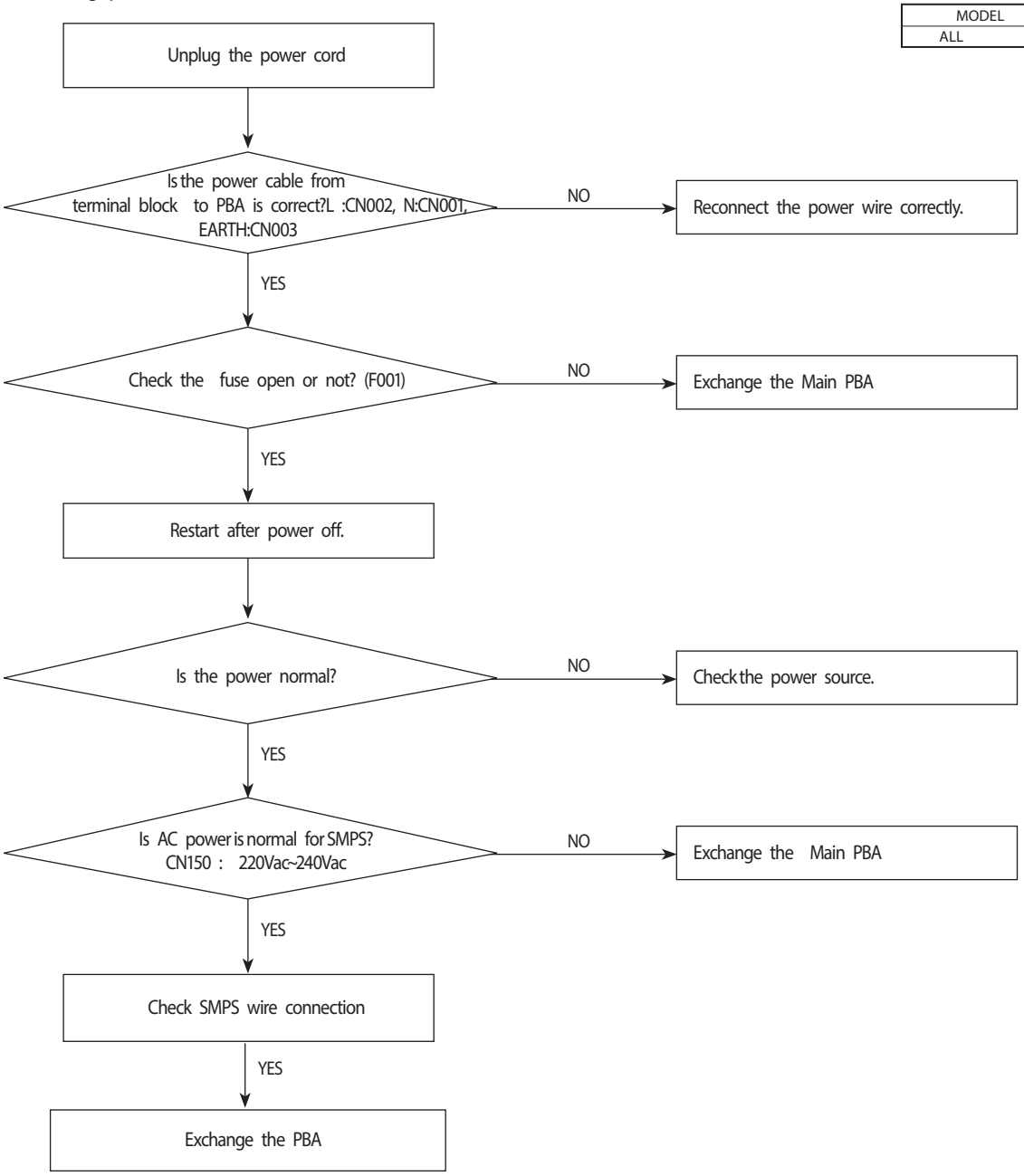

Is the pressure of refrigerant normal?
NO
Check the pipe crack.
Fill up the refrigerant.
YES
Exchange the Indoor PBA
Exchange the Outdoor PBA

10-2-24 No power outdoor (Initial Diagnosis) (Not displayed)

1. Checklist :
    1) Is input power normal?
    2) Is AC power linked correctly? (L,N,E)
    3) Is mis-wiring between communication wire and Power wire?
    4) Is mis-wiring between Main PBA and SMPS PBA wire?
    5) Is input voltage of SMPS AC in Main PBA (CN150) normal?
    6) Is the voltage of SMPS DC in Main PBA (CN151,CN152) normal?

2. Troubleshooting procedure

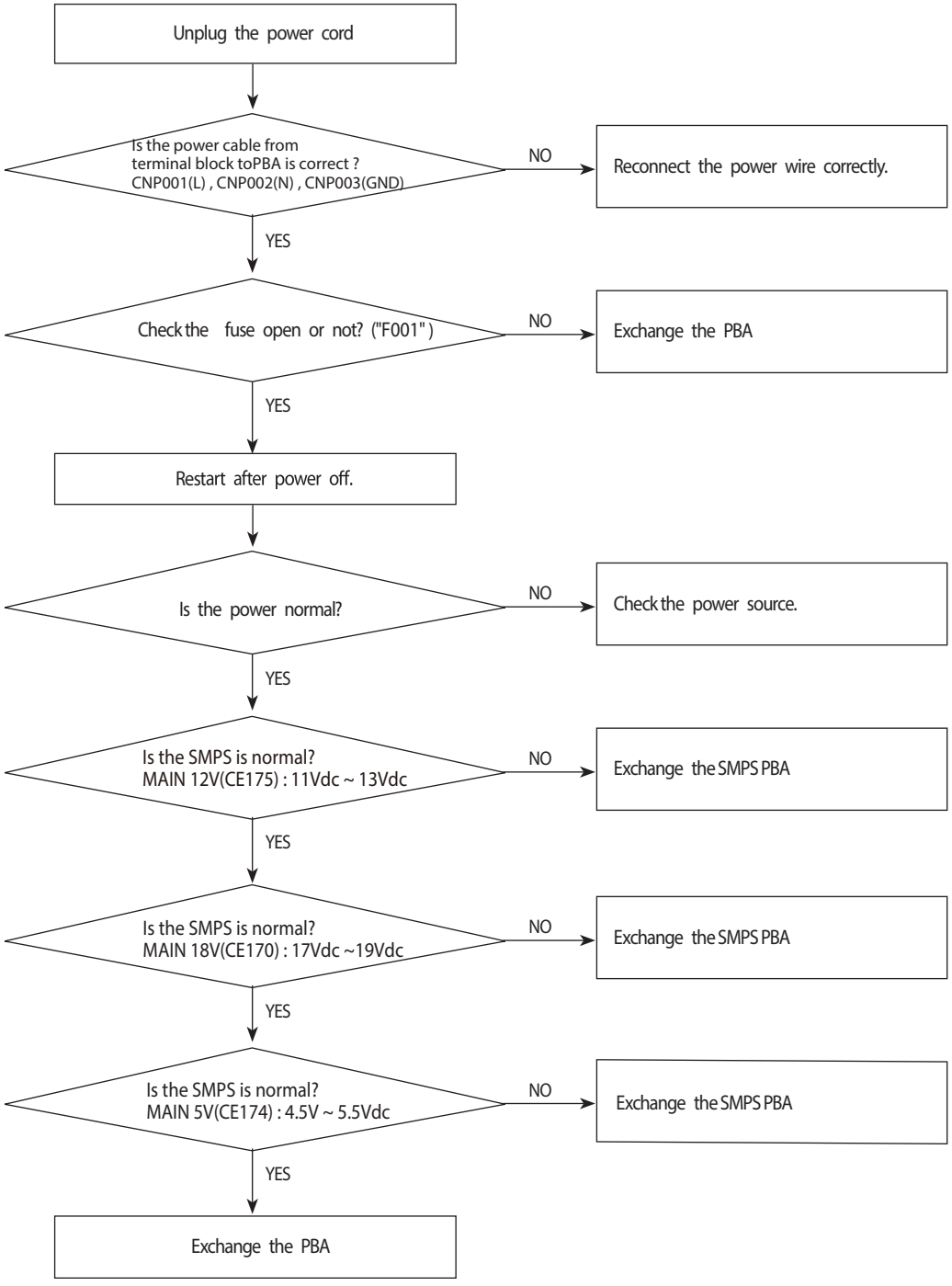
MODEL
ALL



10-2-25 No power outdoor (Initial Diagnosis) (Not displayed)

1. Checklist :
    1) Is input power normal?
    2) Is AC power linked correctly? (L,N,E)
    3) Is mis-wiring between communication wire and Power wire?
    4) Is input voltage of SMPS DC-link capacitor("CE101") normal?
    5) Is the voltage of SMPS DC normal?

2. Troubleshooting procedure



10-2-26 When the remote control is not receiving

1. Checklist :
    1) Check if the connector was normally assembled.
    2) Check the battery in remote control
    3) All the lights out and check again : Change electronic typed to a fluorescent light
    4) Put the set in operation and check the voltage of display PBA
    5) Replace the display PBA

10-2-27 EEV or Valve Close error-Self diagnosis

Indoor display

3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3		
◎	○	◎	E422	EEV or Valve Close error-Self diagnosis

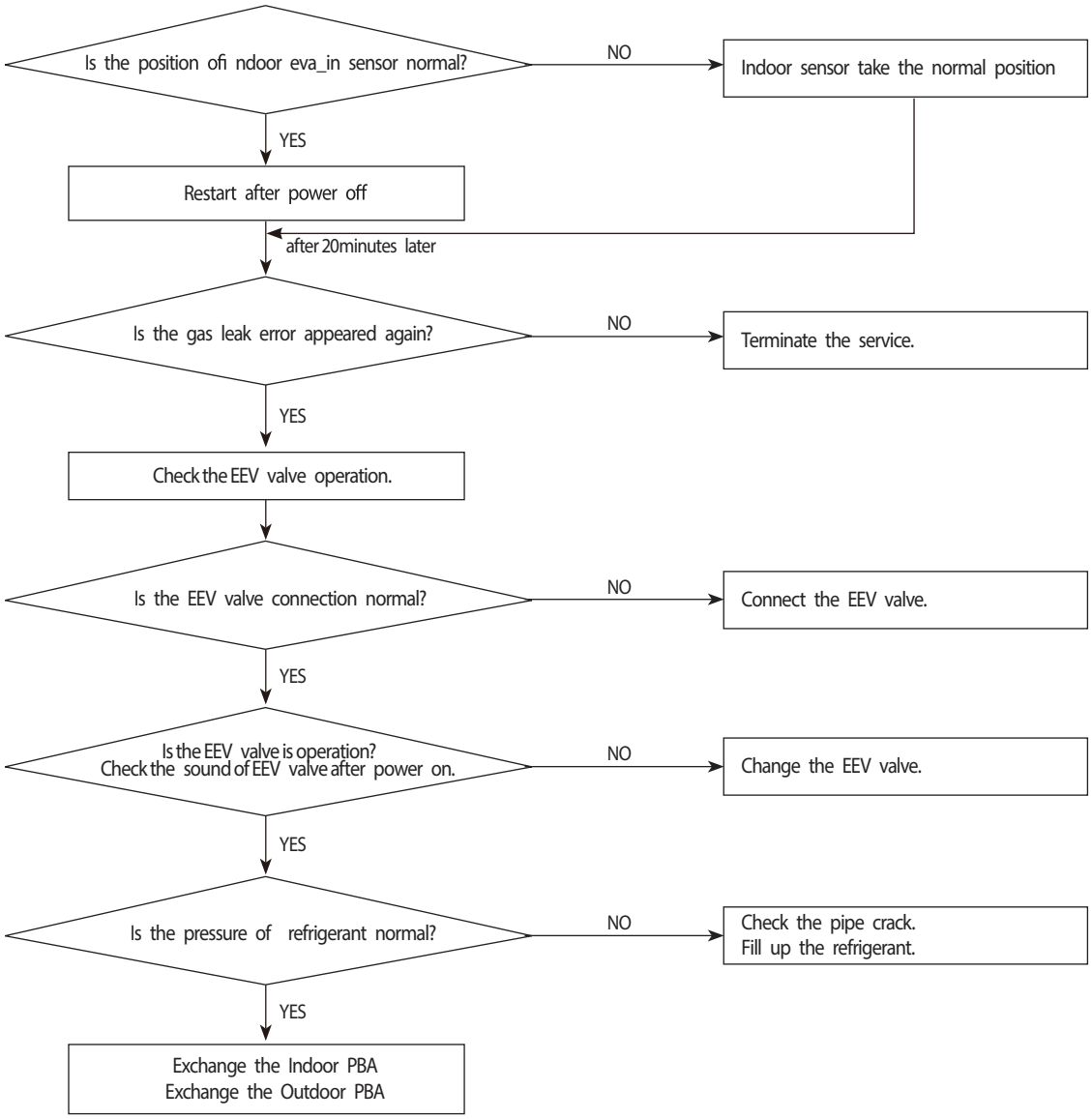
Outdoor display

●	●	○	EEV or Valve Close error-Self diagnosis

● LED ON ◎ LED BLINKING ○ LED OFF

1. Checklist :
   1) Is the position ofi ndoor Eva_in sensor normal?
   2) Check the pipe crack
   3) Check the EEV valve connection("CN701") in Outdoor unit
   4) Check the refrigerant was charged

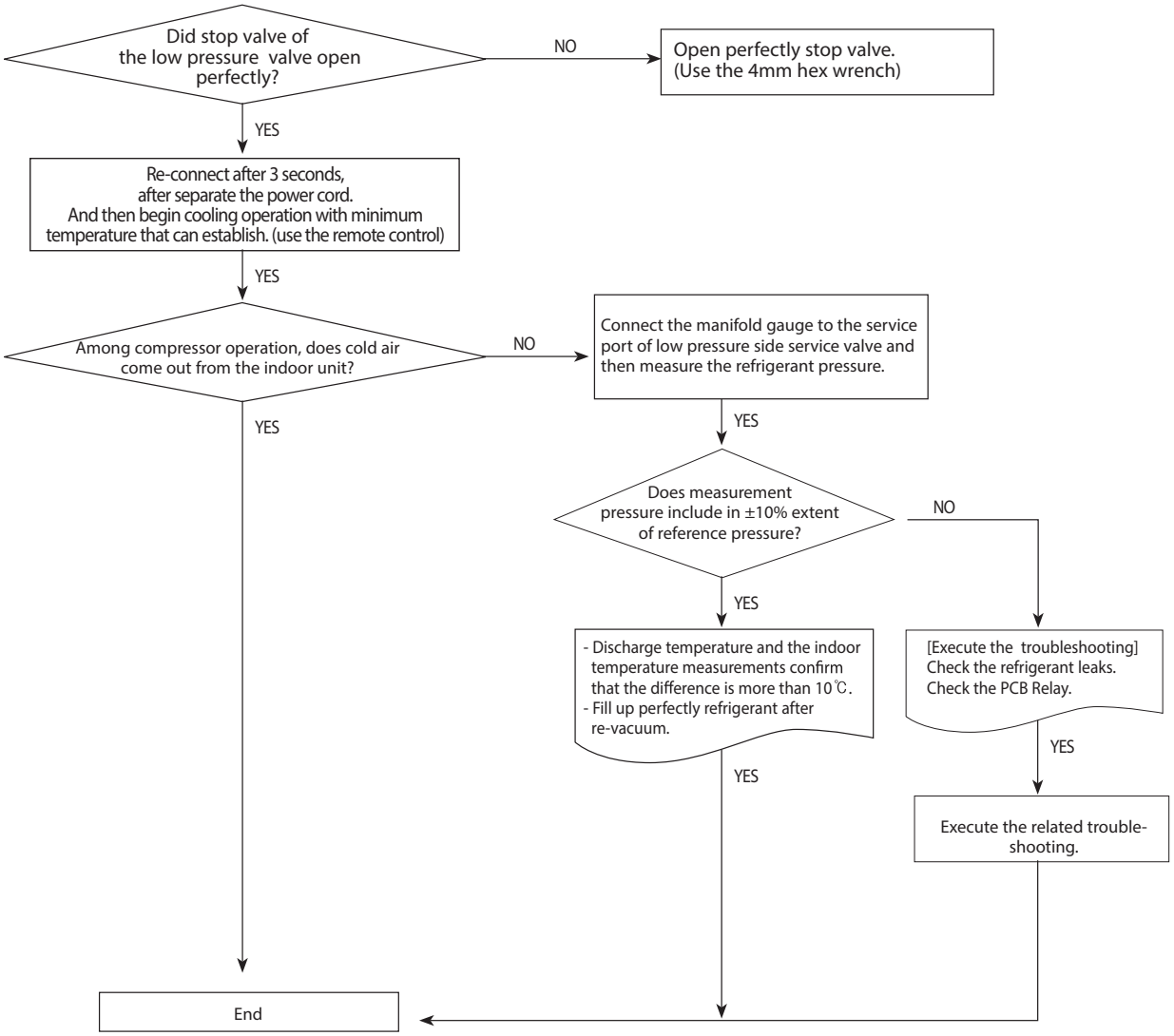
2. Troubleshooting procedure



10-2-28 Smart Install error

1. Checklist :
   1) Check the leakage region.(Use leakage detection liquid or soapy water)
   2) When leakage region is found from service valve and piping connection flare nut part : After the related measures to check the refrigerant supplements and operation.
   3) If the leakage region is pipe welding part : Weld leakage region after refrigerant gas release.(Brass parts should only apply)
   4) If the leakage region is surface area (Heat exchanger or pipe welding region is not) : Replace parts.
   5) Check the PBA Relay
      - Display of indoor unit : Ensure that the operating pilot lamp has been lighted.
      - Ensure that the Relay input voltage of indoor unit PBA is normally.(If the PBA is defective, replace)

2. Troubleshooting procedure



10-2-31 Pre-inspection Notices

1. Check if you pulled out the AC power plug when you eliminate the PCB or front panel
2. Don't hold the PCB side not impose excessive force on it to eliminate the PCB
3. Don' t pull the lead wire but hold the whole housing to connect or disconnect a connector to the PCB
4. In case of outdoor PCB disassembly, check first the complete discharge of condenser after 1 minute power off

10-2-32 Inspection procedure

1. Check connector connection and peeling of PCB or bronze coating pattern when you think the PCB is broken
2. The PCB is composed of 3 parts
   - Indoor Main part : MICOM and surrounding circuit, relay, fan motor sensing and driving circuit, temperature sensing circuit power circuit of SMPS, buzzer circuit. Communication circuit
   - Display part : LED lamp, Switch, Remote-control module
   - Inverter Main part : MICOM and surround circuit, fan motor sensing and driving circuit, compressor driving circuit power circuit of SMPS, PFC control circuit, 4way circuit, communication circuit, Main part : EEV control circuit , Temperature sensing circuit,Communication. circuit OPTION(HEATER , DRED)

10-2-33 Indoor detailed inspection procedure

No	procedure	Inspection Method	Cause
1	Plug out and pull the PCB out of the control box Check the PCB fuse	1) Is 1st fuse disconnected? 2) Is 2nd fuse disconnected?	. Over current . Indoor Fan motor short . AC part and pattern short of Indoor PBA
2	Supply power If the operating lamp twinkles at this time , the above 1)~3) have no relation	Check the power voltage	
		1) Is the BD71 input voltage 200Vac~240Vac?	. Power cord is fault, Fuse open, Wrong Power cable Wiring, AC part is faulty
		2) Is the voltage between both terminal of IC02 pin #1-#2 12Vdc?	. Switching Trans of Power circuit is faulty
		3) Is the voltage between both terminal of IC02 pin #2-#3 5Vdc?	. Power circuit is faulty, Load short
3	Press the ON/OFF button 1. Fan speed(high) 2. Continuous Operation	1) Is the voltage over AC 180V being imposed on terminal #3-#5 of fan motor connector (CN72)?	. Fan motor of the indoor is faulty
		2) The fan motor of the indoor unit doesn't run	. Fan motor connector(CN72) is faulty
		3) The power voltage between terminal #3-#5 of the connector(CN72) is 0V	. PBA is faulty

10-2-34 Outdoor detailed inspection procedure

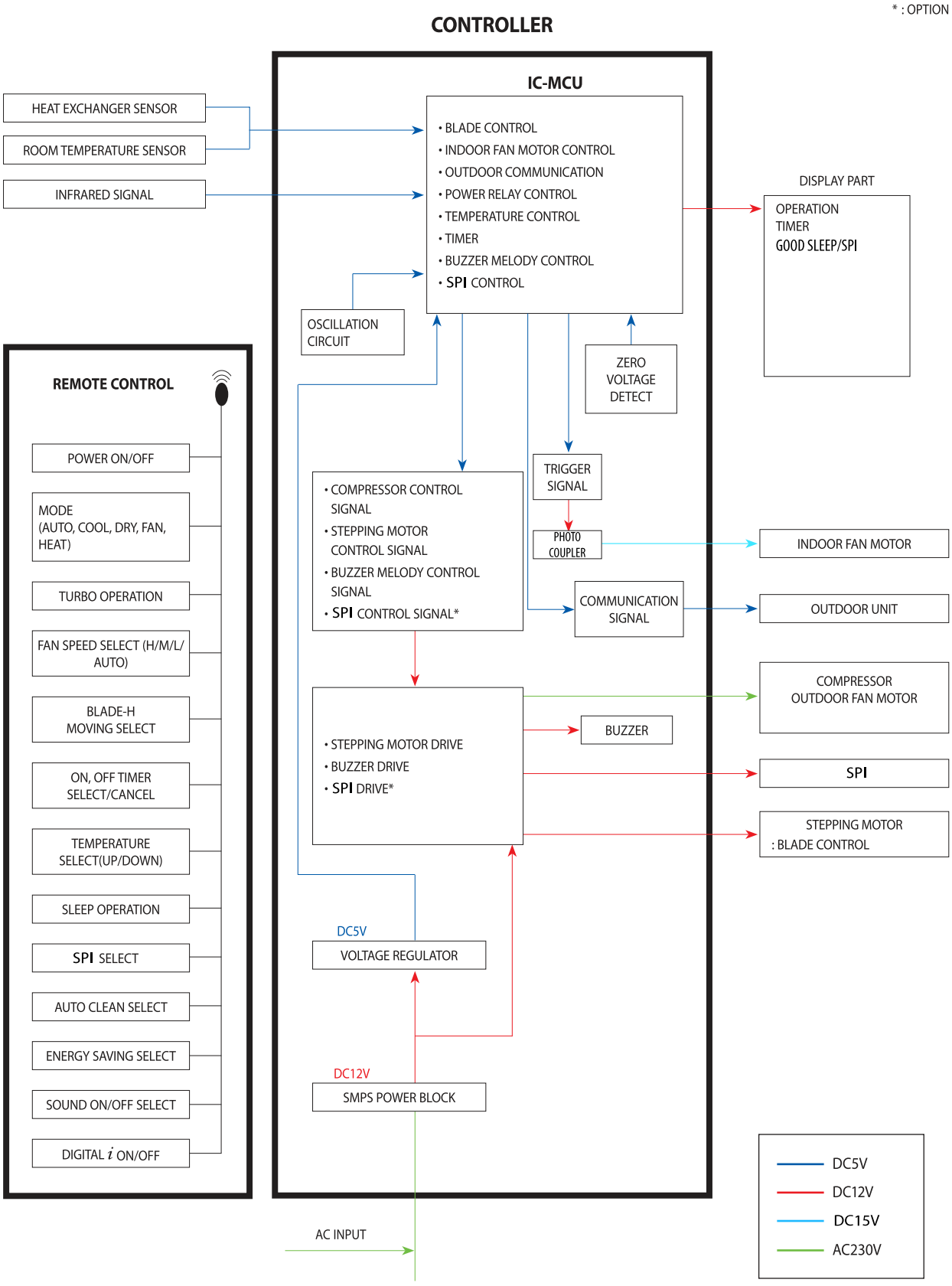
No	procedure	Inspection Method	Cause
1	Plug out and pull the PCB out of the control box Check the PCB fuse (Wait 3 minutes after power off)	1) Is 1st fuse disconnected? 2) Is indoor PBA faulty?	. Over current . AC part and pattern short of Indoor PBA . AC part and pattern short of Outdoor PBA
2	Check the Wiring	1) Is the Compressor wire connected clockwise? 2) Is the Reactor wire connected normal? 3) Is the Fan wire connected normal? 4) Is the 4way wire connected normal? 5) Is the sensor wire connected	. Wrong assembly . Installation(service) condition is bad
3	Supply power and operate the set (Use Remote-control, button in indoor set)	Check the power voltage	
		1) Is the voltage between Terminal block "L", "N" 220V ~ 24VAC?	. Power cord is faulty, Indoor PBA fault, Wrong Power cable Wiring
		2) Is the PFC050(#3-#4) input voltage 200Vac~240Vac?	. L,N,E wire wrong wiring (Terminal Block-PBA) . Fuse open . PT 021 OPEN . RY021, RY022 is faulty . Inverter Micom(IC501)error
		3) Is the CE151 voltage 280Vdc~320dc?	. Power circuit is faulty . Load short
		3) Is the CE101 voltage 280Vdc~320dc?	. PFC050 is faulty . Reactor wire is wrong connection
		4) Is the SMPS is normal? MAIN 12V(CE175) : 11Vdc ~ 13Vdc	. Switching Trans of Power circuit is faulty
		5) Is the SMPS is normal? MAIN 18V(CE170) : 17Vdc ~19Vdc	. Switching Trans of Power circuit is faulty
		6) Is the SMPS is normal? MAIN 5V(CE174) : 4.5V ~ 5.5Vdc	. Switching Trans of Power circuit is faulty . Load short
4	Check the LED lamp display	1) Normal : RED on, GRN blink, YEL off 2) Abnormal - All off : check no power - abnormal display : check error mode	. L,N,C wire wrong wiring . Outdoor PBA is faulty

10-3 Main Part Inspection Method

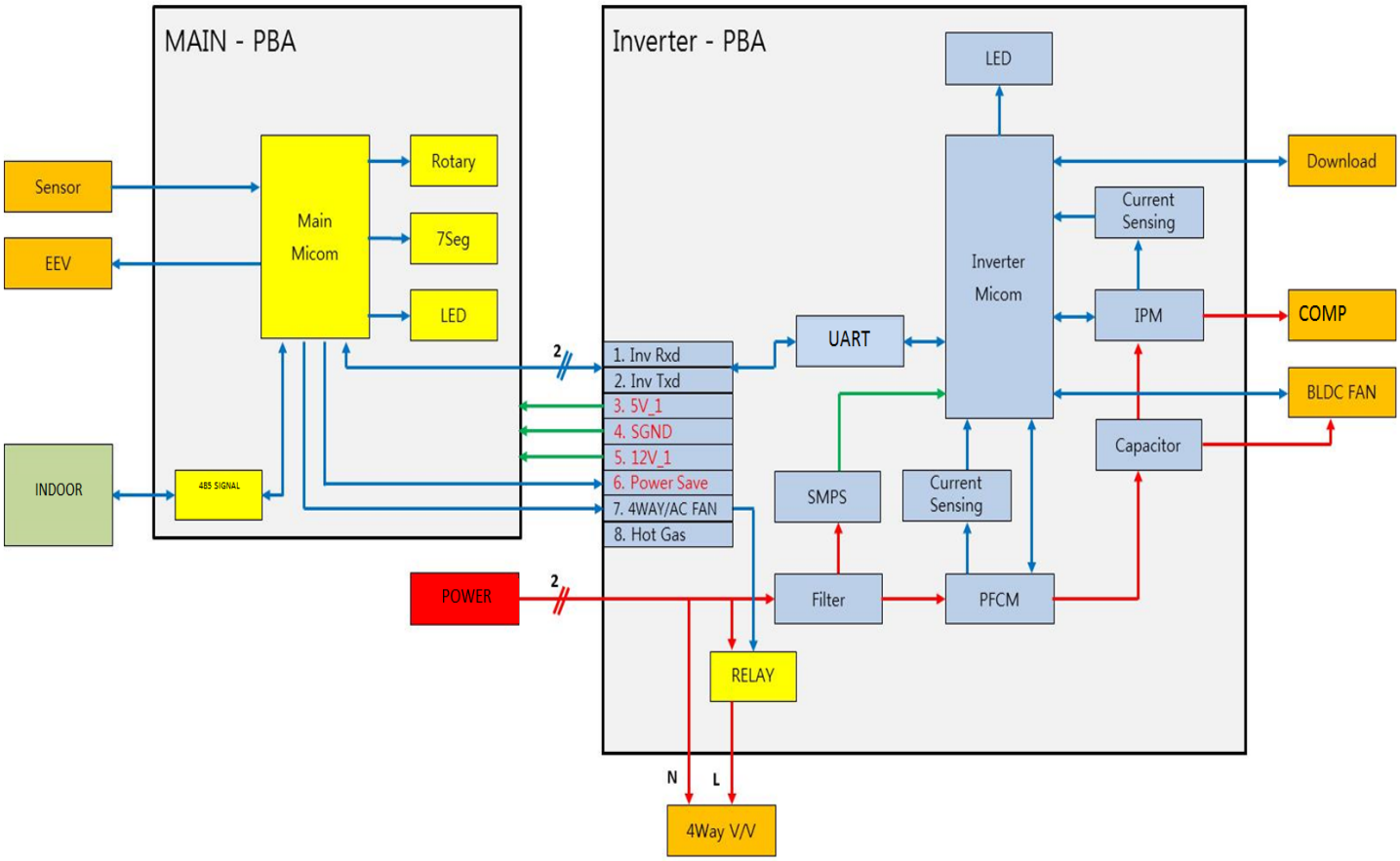
<table>
<tr><th>Part</th><th colspan="2">Breakdown Inspection Method</th></tr>
<tr><td rowspan="3">Room Temperature Sensor</td><td colspan="2">Measure resistance with a tester</td></tr>
<tr><td>Normal</td><td>At the normal temperature 37kΩ~ 8.3kΩ(-7˚C~+30˚C)</td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
<tr><td rowspan="3">Room Fan Motor</td><td colspan="2">Measure the resistance between terminals of the connector (CN72) with a tester.</td></tr>
<tr><td>Normal</td><td>At the normal temperature (10˚C ~ 30˚C)
<table>
<tr><th>Compare terminal</th><th>Resistance</th><th>Remark</th></tr>
<tr><td>Yellow, Blue</td><td>404.4Ω ± 10%</td><td>Main</td></tr>
<tr><td>Yellow, Red</td><td>340Ω ± 10%</td><td>Sub</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
<tr><td rowspan="3">Stepping Motor</td><td colspan="2">Measure the resistance between the red wire and each terminal wire with a tester.</td></tr>
<tr><td>Normal</td><td>About 300Ω at the normal temperature (20˚C ~ 30˚C)</td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
</table>

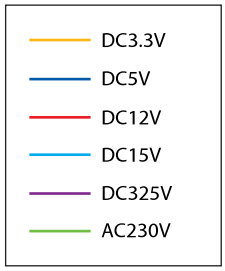
11. Block Diagram

11-1 Indoor Unit



11-2 Outdoor Unit





12 .Reference Sheet

Index for Model Name

Model Code

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th
Project		Capacity		Sell	Feature		Series		Color		Unit	Export	
A	R	2	4	N	S	F	P	E	W	Q	N/X	E	U
A	R	2	4	N	S	F	H	B	W	K	N/X	E	U

ITEM	1ST	2ND
RAC	A	R

Item	Reference	3TH	4TH
1	Export	1	2
2	Export	1	8
3	Export	2	4

Item	5TH
13Year	F
14Year	H
15Year	J
16Year	K
17Year	M

Item	6TH
INVERTER HP	S
INVERTER CO	V

Item1	Item2	7TH
Export	The virus doctor (The India / Latin America A / PAC K besides)	S
Export	NO virus doctor (the India / Latin America A / PAC K besides)	F
Special instructions: About AR**FSSSCUR/SA ,the 7TH is "S", but there is no virus doctor in these models.		

9TH DIGIT		
Export	1st MODEL	A
Export	2nd	B
Export	3rd MODEL	C
Export	4th MODEL	D
Export	5th MODEL	E

Item 1	Item 2	Item 3		8TH
Export	RAC	FMC FLG (BEST)	1ST MODEL	F
Export	RAC	FMC DLX (Better)	1ST MODEL	D
Export	RAC	FMC STD (Good1)	1ST MODEL	S
Export	RAC	FMC ENT (Good2)	1ST MODEL	N
Export	RAC	RAC Maldive	1ST MODEL	P

Item1	Item2	12TH
Export	SET	/
Export	IN	N
Export	OUT	X

Project	Color Name	Division Component	Sinkeolreo code
Maldives	DA White	Deco	WQ
	PM Gray	Deco	GM
	Midnight Blue	Deco	UR
	Urban silver	Deco	SN
	Cipria Gold	Deco	FA

Project	Color Name	Division Component	Sinkeolreo code
Boracay	DA White	Deco	WK
	PM Gray	Deco	GM
	Midnight Blue	Deco	UR
	Urban silver	Deco	SN
	Cipria Gold	Deco	FA

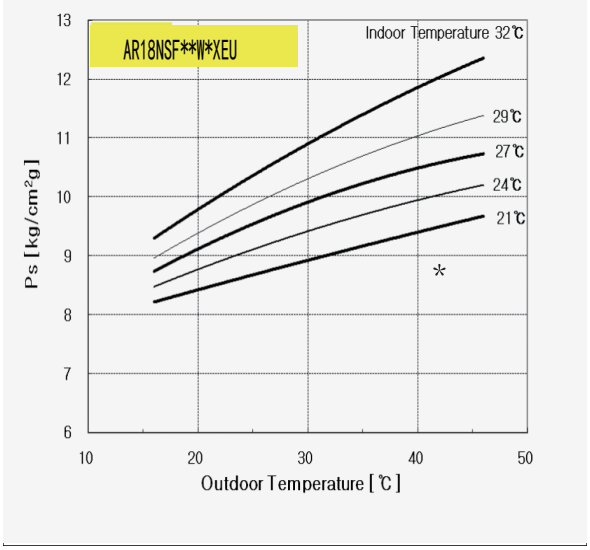
Item	The existing code	The sales area	CIS Desription	The integrated code (13TH,14TH)
1	XEU	EUROPE	EUROPE (XEU)	EU

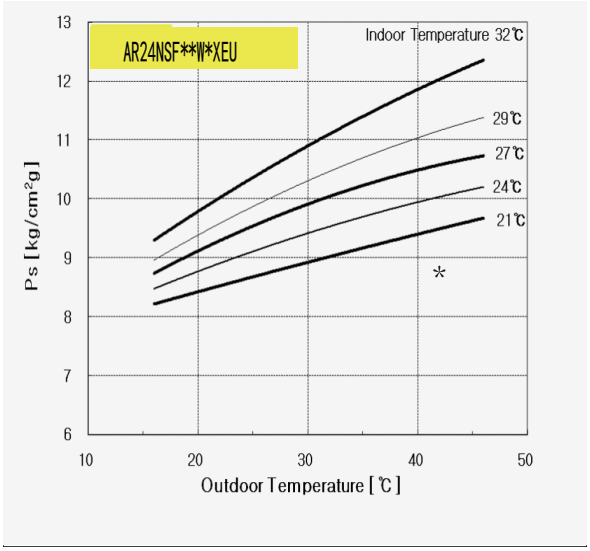
12-2 Low Refrigerant Pressure Distribution

Note : • Please measure the refrigerant pressure after the air conditioner operates on testing cooling mode during more than 10 minutes.

☐Indoor Temp. Variation : 20°C ~ 32°C
☐Outdoor Temp. Variation : -5°C ~ 45°C

Low Refrigerant Pressure Distribution





■ Power/Heat

W	cal/s	kcal/h	Btu/h	HP	kg·m/s	lb·m/s
1	0.23885	0.85985	3.4121	0.001341	0.10197	0.73756
4.1868	1	3.6	14.286	0.0056146	0.42693	3.088
1.163	0.27778	1	3.9683	0.0015596	0.11859	0.85778
0.29307	0.06999	0.252	1	$3.9302x10^{-4}$	0.029885	0.21616
745.7	178.11	641.19	2,544.4	1	76.04	550
9.8067	2.3423	8.4322	33.462	0.013151	1	7.233
1.3558	0.32383	1.1658	4.6262	0.0018182	0.13826	1

Classification	Class	Description
Cooling	**Q**	**The cooling is weak.**
	A	When it is hot outside, its cooling capacity decreases due to the increase of the ambient temperature. When the dust filter gets blocked or warm outside air gets in, the cooling capacity will decrease. So, make sure to clean the dust filter frequently, prevent heat loss by closing the doors and insulate the cooling area by using curtains, blinds, shades or window tinting.
	Q	**The cooling is good generally. But, it gets weak when it is considerably hot.**
	A	It occurs when the outdoor unit is exposed to direct sun light and heat-up air is not ventilated well.So, set up a sunblind over the outdoor unit and keep stuff away from the unit to increase the ventilation. When the cooling capacity decreases during a heat wave, clean the heat exchanger of the outdoor unit or spray some cold water to the heat exchanger to increase the cooling capability.
	Q	**The cooling is weak. Does it need refrigerant charging?**
	A	It is not correct charging refrigerant regularly. Except that you have moved in several times or the connection pipes are broken, the refrigerant does not run low. So, when refrigerant is additionally charged, it could be costly and cause a product's failure. When the refrigerant leaks, all of it will escape in a short time resulting in cooling failure and no water coming out of the drain hose. So, if water comes out from the drain hose, it indicates the normal operation of the product and it does not need refrigerant charging.
	Q	**It fails to do cooling.**
	A	When the air conditioner is set to Ventilation or the desired temperature is set higher than the current temperature, it fails to do cooling. In this case, select Cooling or set the desired temperature lower.
Leakage	**Q**	**It floods the floor.**
	A	Place the drain hose properly. When it is not placed properly, the drain water would flow back flooding the floor. So, straighten out the drain hose for the water to be drained well.
	Q	**Water drips at the drain connection (service valve) of the outdoor unit.**
	A	When a glass bottle is taken out of the refrigerator, moisture gets condensed on its surface due to the temperature differences. The same principle applies to the air conditioner. When cold refrigerant goes through the copper tube, moisture gets condensed on the surface of the tube and the connection areas. To prevent the water condensation, the pipes are insulated. But, the connection areas of the outdoor unit are not insulated for the purpose of maintenance or repair, and water gets condensed due to the temperature differences and drips down. Generally, it evaporates right away. But, when it drips much during muggy days, put a water pan on the floor.
	Q	**It leaks even though a drain pump is used.**
	A	It occurs when the drain pump is plugged out or it is out of order. Check the power of the drain pump and the position of the drain hose, and when the pump is faulty, contact the drain pump manufacturer. Samsung Electronics do not manufacture drain pumps. So, we are not able to correct the drain pump problems.
Smells	**Q**	**Whenever the air conditioner is turned on, it irritates my eyes and gives me a headache.**
	A	There are no components in the air conditioner irritating the eyes and sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, it occurs at a interior renovated place, a pharmacy, a gasoline handling place, a tire shop, a second-hand book shop or an electronic component handling place; when its chemical or musty smells are sucked in and sent out, it can be misled that the air conditioner generates them. So, find and root out the problem or refresh the room frequently.

Classification	Class	Description
Smells	Q	**Whenever the air conditioner is turned on, it stinks.**
	A	There are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. These kinds of organic materials noxious to human bodies. So, we recommend against the use of them.
	Q	**Whenever the air conditioner is turned on, it smells sour.**
	A	When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out the problem or refresh the room frequently.
	Q	**Whenever the air conditioner is turned on, it smells musty.**
	A	It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of Ventilation to prevent must. When the product is kept without drying up the inside with Ventilation, mold would grow inside resulting in must. So, open the windows and switch on the Ventilation function to get rid of the saturated smell inside.
	Q	**Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.**
	A	It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.
	Q	**It sends out bad smells.**
	A	When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the Ventilation function.
Operation	Q	**It won't start.**
	A	There is a power failure or it is plugged out. Also, check if the power distribution panel is switched off.
	Q	**It goes off during operation.**
	A	When the hot air does not escape properly, it goes off during operation. It occurs when it does not ventilate properly because the outdoor unit is covered, the back of the outdoor unit is blocked by a cardboard or a plywood panel, and the front of the outdoor unit is blocked by the closed window or other obstacles. Clear the above obstacles from the outdoor unit.
	Q	**It generally works properly. But, when it's considerably hot, it goes off during operation.**
	A	It occurs when the outdoor unit is exposed to direct sunlight and the hot air does not escape properly. Set up a sun blind over the outdoor unit and clear the neighboring obstacles from the outdoor unit to provide good ventilation. When it goes off frequently during a heat wave, it would prevent the turn-off and increase the cooling capacity cleaning the outdoor unit or spraying some water to the heat exchanger.
	Q	**The remote controller won't operate.**
	A	When the batteries run out or the transmitter or receiver of the remote controller is blocked by obstacles, change the batteries or keep the obstacles away from the controlling area. Also, the remote controller may not work under intensive light from a 3-wave length lamp or a neon sign due to the EMI. In this case, take the remote controller closer to the receiver.

Classification	Class	Description
Installation	**Q**	**Who installs the air conditioner? (Relocation/Re-installation)**
	A	When relocating or re-installing the air conditioner, make sure to contact Samsung Electronics Service Center or Authorized Service Agent and have them to do the job. (If not, it could cause personal injury or product damage.) The cost for the relocation/re-installation of the air conditioner is subject to the customer's expense. There is a cost table. But, our service engineer needs to visit to total up the cost correctly. When you move in, make sure to contact Samsung Electronics Service Center or Authorized Service Agent in advance to streamline the process.
	Q	**Is it possible to install the outdoor unit outside?**
	A	It is possible to install it at a designated place in the apartment or on the rooftop nearby. But, it's illegal hanging an angle iron case with the outdoor unit in it outside the apartment. Also, it is illegal obstructing passers-by with the outdoor unit installed outside.
	Q	**What can be done to install the outdoor unit facing the road because it is a commercial building?**
	A	The following is an excerpt from Building Code going into effect from JUNE 1st 2005. "The exhaust pipe of a cooling or ventilation facility installed in a building adjacent to the streets of commercial or residential areas shall be installed higher than 2 m to prevent the exhaust air from blowing directly to passers-by and the current facilities shall be corrected by MAY 31st 2005." So, please install it higher than 2 m or not to blow the hot exhausting air directly to passers-by.
	Q	**What about installing a windscreen during installation not to blow hot air directly to passers-by?**
	A	When the hot air from the front of the outdoor unit is blocked, the product's performance will be affected and it will fail to operate properly. So, keep it at least 300mm away from its surrounding walls and give it good ventilation.

12–5 Cleaning/Filter Change

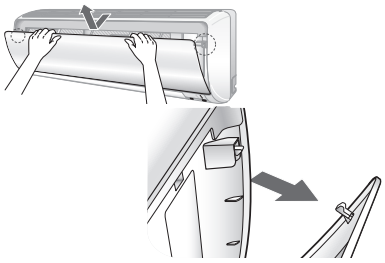
12–5–1 Cleaning your Air Conditioner

To get the best possible use out of your air conditioner, you must clean it regularly to remove the dust that accumulates on the air filter.

⚠ • Before cleaning your air conditioner, ensure that you have switched off the breaker used for the unit.

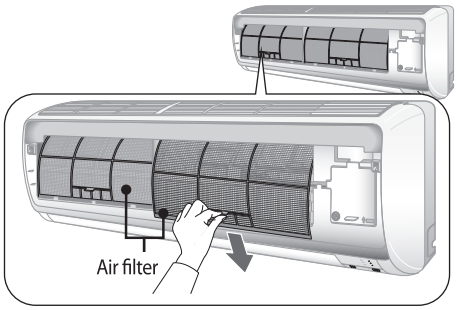
Opening the panel

Tightly grab top of the front panel and pull it down to open.
Then slightly lift the panel up.



Removing the Air filter

Grab the handle and lift it up. Then, pull the Air filter towards you and slide it down.



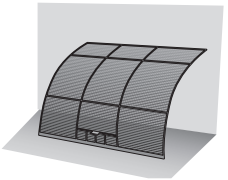
Cleaning the air filter

Washable foam based air filter captures large particles from the air. The filter is cleaned with a vacuum or by hand washing.

Open the panel and put the Air filter out.

Clean the Air filter with a vacuum cleaner or soft brush. If dust is too heavy, rinse it with running water.

Dry the Air filter in a ventilated area.



Insert the Air filter back in its original position and close the front panel.

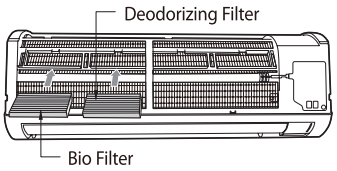
NOTE

- Clean the Air filter every 2 weeks or when the filter clean reminder lights up. Cleaning term may differ depending on the usage and environmental conditions. In dusty area, clean it once a week.
- If you turn off the air conditioner by pressing **Power** ⏻ button, the filter clean reminder will be turned off.
- If the Air filter dries in a confined (or humid) area, odors may generate. If it occurs, re-clean and dry it in a well-ventilated area.

12-5-2 Cleaning Deodorizing and Bio filter (Option)

To remove minute dust particles and odors, deodorizing and Bio filter are installed in the air conditioner.
You should clean the filters every 3 months.

1. Open the upper front grille by pulling the lower right and left tabs of the grille.
2. Pull out the deodorizing and Bio filter.
3. Wash the filters with clean water, then dry them in the shade.
4. Insert the filters into the original position.
   Note : • You can change the position of filters with each other.
5. Close the front grille.



12-6 Installation

12-6-1 Before Installation

Keep the air conditioner outlet and inlet free from its surroundings.
In case of installation, keep the symmetry and fix it to prevent vibration.
The pipe length shall meet the standard as far as possible.

12-6-2 Installation Procedure

■ Location

Install the product in an area to guarantee the best cooling effect, convenience of piping and electric work, and inexistence of vibration or wind.

■ Wall Drilling

Drill the wall downward in a diameter of 60 to 65mm.

■ Fixing Indoor Unit & Outdoor Unit

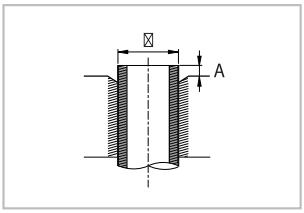
Fix the air conditioner indoor unit securely to the wall. Secure the outdoor unit in a suitable position.

■ Pipe Spooling & Connecting

You shall cut the pipe with a pipe cutter and grind all the burrs of the cut surface.
Pipe expansion may continue until the pipe surface becomes uneven or torn apart.
Be sure to use a torque wrench to tighten pipes or flare nuts.

<Torque & Depth>

Outer Diameter(D)	Torque(kgf·cm)	Depth(A)
6.35mm(1/4")	140~170	1.3mm
9.52mm(3/8")	250~280	1.8mm
12.70mm(1/2")	380~420	2.0mm
15.88mm(5/8")	440~480	2.2mm
19.05mm(3/4")	990~1,210	2.2mm



■ Leak Test

Put an inert gas like nitrogen in the outdoor unit pipe and put soap bubbles or other test liquids on the pipe surface for the leak test.

■ Drain Hose Connecting

Install the drain hose downward to drain water naturally. Be sure to pour water into the hose to check if it drains well.

■ Electric & Earth Work

Electric and earth work shall meet the "Electric Facility Technology Standard" and the "Internal Wire Regulation" of the Electric Business Laws.

■ Inspection & Trial Run

Upon completion of the tests, you shall make a trial run while you explain the main functions of the air conditioner to finish the installation.

12–7 Installation Diagram of Indoor Unit and Outdoor Unit

12–7–1 Air-Purge Procedure

1) Connect each assembly pipe to the appropriate valve on the outdoor unit and tighten the flare nut.

2) Connect the charging hose of low pressure side of manifold gauge to the packed valve having a service port as shown at the figure.

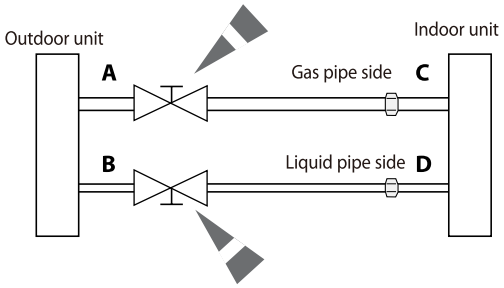
3) Open the valve of the low pressure side of manifold gauge counter-clockwise.

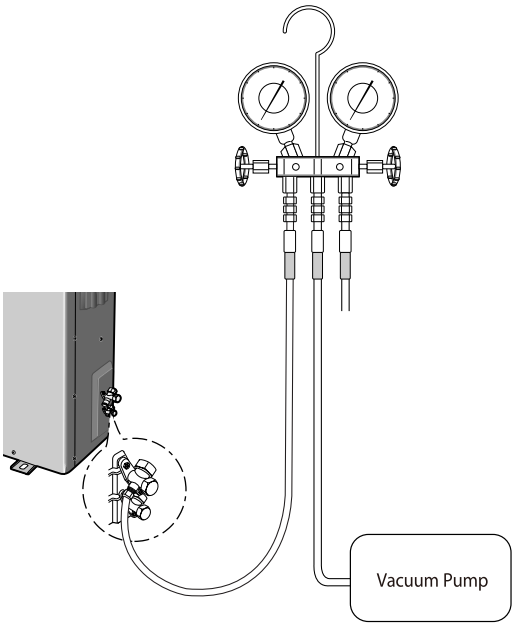
4) Purge the air from the system using vacuum pump for about 30 minutes.
   - Make sure that pressure gauge show -0.1MPa(-76cmHg) after about 30 minutes.
   - This procedure is very important in order to avoid gas leak.
   - Turn off the vacuum pump.
   - Close the valve of the low pressure side of manifold gauge clockwise.
   - Remove the hose of the low pressure side of manifold gauge.

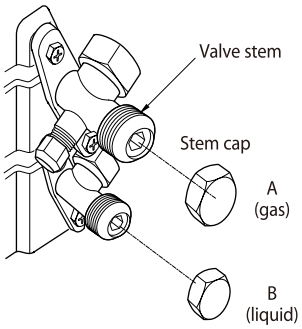
5) Set valve cork of both liquid side and gas side of packed valve to the open position.

6) Mount the valve stem nuts and the service port cap to the valve, and tighten them at the torque of 183kgf•cm with a torque wrench.

7) Check for gas leakage.
   - At this time, especially check for gas leakage from the 3 way valve's stem nuts, and from the service port cap.







12-7-2 "Pump down" Procedure

Pump down will be carried out when an evaporator is replaced or when the unit is relocated in another area.

1) Remove the caps from the 3 way valve and the 3-Way valve.

2) Turn the 3-Way valve clockwise to close and connect a pressure gauge (low pressure side) to the service valve, and open the 3 way valve again.

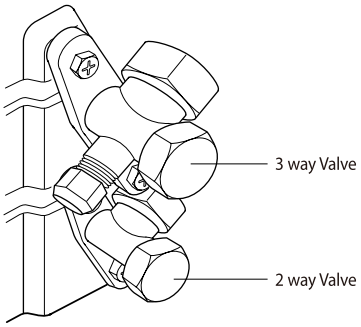
3) Set the unit to cool operation mode. (Check if the compressor is operating.)

4) Turn the 3-Way valve clockwise to close.

5) When the pressure gauge indicates "0" turn the 3-Way valve clockwise to close.

6) Stop operation of the air conditioner.

7) Close the cap of each valve.



Remarks

Relocation of the air conditioner

- Refer to this procedure when the unit is relocated.
- Carry out the pump down procedure (refer to the details of 'pump down').
- Remove the power cord.
- Disconnect the assembly cable from the indoor and outdoor units.
- Remove the flare nut connecting the indoor unit and the pipe.
- At this time, cover the pipe of the indoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Disconnect the pipe connected to the outdoor unit.
  At this time, cover the valve of the outdoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Make sure you do not bend the connection pipes in the middle and store together with the cables.
- Move the indoor and outdoor units to a new location.
- Remove the mounting plate for the indoor unit and move it to a new location.

12-7-3 POWER SUPPLY

Working Voltage	176V ~ 264V
Voltage Imbalance	Within a 3% Deviation from Each Voltage at the Main Terminal of Outdoor Unit
Starting Voltage	Higher than 80% of the Rated Voltage

12-7-4 WORKING RANGE

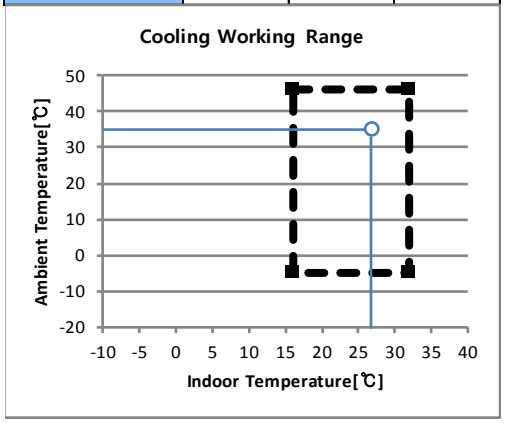
Applicable models:

AR18NSFPEWQNEU AR18NSFHBWKNEU
AR24NSFPEWQNEU AR24NSFHBWKNEU

The temperature range is indicated in the following table.

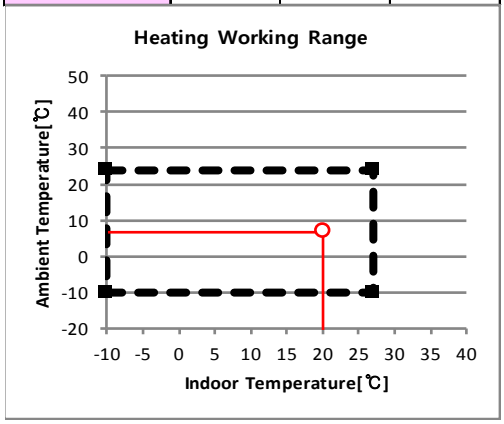
Cooling

Working Range	Min(℃)	Max(℃)	Rated(℃)
Outdoor	-5	46	35
Indoor	16	32	27



Heating

Working Range	Min(℃)	Max(℃)	Rated(℃)
Outdoor	-10	24	7
Indoor	-	27	20



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