

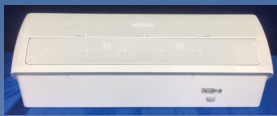
# SAMSUNG

## SPLIT-TYPE AIR CONDITIONER

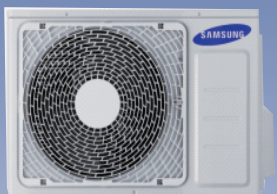
	INDOOR UNIT	OUTDOOR UNIT
MODEL CODE	AR09MSWXCWKNCV AR12MSWXCWKNCV	AR09MSWXCWKXCV AR12MSWXCWKXCV

# SERVICE *Manual*

### AIR CONDITIONER



AR09MSWXCWKNCV  
AR12MSWXCWKNCV



AR09MSWXCWKXCV  
AR12MSWXCWKXCV

### CONTENTS

1. Precautions
2. Product Specifications
3. Alignment and Adjustments
4. Disassembly and Reassembly
5. ASSY CONTROL
6. Electrical Parts List
7. Wiring Diagram
8. PCB Diagram
9. Operating Instructions
10. Troubleshooting
11. Block Diagram
12. Reference Sheet

# Contents

<b>1. Precautions</b> .....	<b>1-1</b>
1-1 Installing the air conditioner .....	1-1
1-2 Power supply and circuit breaker .....	1-1
1-3 During operation .....	1-1
1-4 Disposing of the unit .....	1-2
1-5 Others .....	1-2
<b>2. Product Specifications</b> .....	<b>2-1</b>
2-1 The Feature of Product .....	2-1
2-2 Product Specifications .....	2-2
2-3 The Comparative Specifications of Product .....	2-3
2-4 Accessory and Option Specifications .....	2-4
<b>3. Alignment and Adjustments</b> .....	<b>3-1</b>
3-1 Test Mode .....	3-1
3-2 Display Error and Check Method .....	3-2
3-3 Setting Option Setup Method .....	3-4
3-4 EEPROM Download .....	3-8
<b>4. Disassembly and Reassembly</b> .....	<b>4-1</b>
4-1. Indoor Unit .....	4-2
4-2. Outdoor Unit .....	4-12
<b>5. ASSY CONTROL</b> .....	<b>5-1</b>
5-1 ASSY KIT CODE DB92-04110B .....	5-1
5-2 ASSY CONTROL OUT .....	5-2
5-3 WIFI Case .....	5-3
<b>6. Electrical Parts List</b> .....	<b>6-1</b>
6-1 INDOOR MAIN PCB CODE DB92-04101A .....	6-1
6-2 OUTDOOR MAIN PBA CODE DB92-02866D .....	6-4
6-3 INDOOR DISPLAY PBA CODE DB92-02877A .....	6-10
<b>7. Wiring Diagram</b> .....	<b>7-1</b>
7-1 Indoor Unit .....	7-1
7-2 Outdoor Unit .....	7-2

# Contents

<b>8. PCB Diagram .....</b>	<b>8-1</b>
8-1 INDOOR MAIN PCB CODE DB92-04101A.....	8-1
8-2 OUTDOOR PCB .....	8-2
8-3 DISPLAY PCB .....	8-3
8-4 SUB PCB-RECEIVE .....	8-4
8-5 Wire connecting the indoor unit terminal blocks .....	8-5
<b>9. Operating Instructions.....</b>	<b>9-1</b>
9-1 Name of Each Part.....	9-1
9-2 Wireless Remote Control-Buttons and Display.....	9-2
<b>10. Troubleshooting .....</b>	<b>10-1</b>
10-1 Items to be checked First.....	10-1
10-2 Communication Error.....	10-2
10-2-1 Communication Error .....	10-2
10-2-2 Indoor temperature sensor Error .....	10-3
10-2-3 Indoor fan motor speed detecting error (BLDC fan) .....	10-4
10-2-4 Outdoor temperature sensor error .....	10-5
10-2-5 Outdoor Cond temperature sensor error .....	10-6
10-2-6 Outdoor Discharge temperature sensor error .....	10-7
10-2-7 Operation condition secession error .....	10-8
10-2-8 EEPROM error/OTP error .....	10-9
10-2-9 Outdoor Fan motor error .....	10-10
10-2-10 Compressor starting error .....	10-11
10-2-11 Compressor wire missing error/rotation error .....	10-12
10-2-12 Current sensor error/Input current sensor error .....	10-13
10-2-13 O.C(Over Current) error .....	10-14
10-2-14 No power outdoor (Initial Diagnosis) (Not displayed).....	10-16
10-2-15 When the Up/Down, Left/Right, Grill louver motor does not operate (Initial Diagnosis) (Not displayed) .....	10-17
10-2-16 When the remote control is not receiving .....	10-18
10-2-17 Smart Install error .....	10-19
10-2-18 Outdoor OLP over temperature error (One way Inverter Only).....	10-20
10-2-19 Outdoor Discharge over temperture error.....	10-21
10-3 PCB Inspector Method .....	10-22
10-3-1 Pre-inspection Notices .....	10-22
10-3-2 Inspection procedure .....	10-22
10-3-3 Indoor detailed inspection procedure .....	10-22
10-3-4 Outdoor detailed inspection procedure .....	10-23
<b>11. Block Diagram .....</b>	<b>11-1</b>
11-1 Indoor unit.....	11-1
11-2 Outdoor unit .....	11-2
<b>12. Reference Sheet.....</b>	<b>12-1</b>
12-1 Low Refrigerant Pressure Distribution .....	12-1
12-2 Pressure & Capacity mark.....	12-1
12-3 Q & A for Non-trouble .....	12-2
12-4 Cleaning /Filter Change.....	12-5
12-5 Installation .....	12-6
12-6 Installation Diagram of Indoor Unit and Outdoor Unit .....	12-7
12-7 Reference sheet .....	12-9

---

# 1. Precautions

---

## 1-1 Installing the air conditioner

---

- Uses should not install the air conditioner by themselves.  
Ask the dealer or authorized company to install the air conditioner except 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

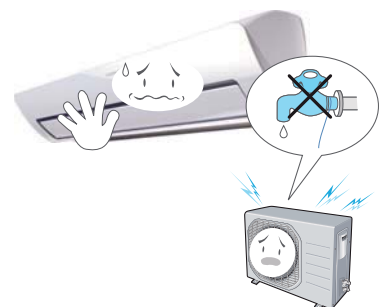
---

- 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 form 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

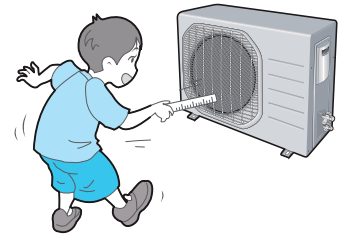
---

- 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

---

#### ■ 2-step cooling

2-step cooling function will quickly cool the room to reach the desired temperature and then it will adjust the fan speed and air flow direction automatically to help you stay comfortable and refreshed.

#### ■ Fast cooling

If you want the strong and cool air, just select Fast function! It will get you the strongest air!

#### ■ Comfort cooling

If you want the comfortable and refreshing air, Comfort function will spread the cool air indirectly to you, so that you can stay comfortable.

#### ■ Single User

Use the Single User function when you're along at home. Aside from energy savings from the inverter technology, the Single User Mode will further minimize your energy consumption and reduce your electricity bill by adjusting the maximum operating capacity of the compressor.

#### ■ Easy Filter

There is no grille to remove before separating the filter from the air conditioner! Therefore, filter can be cleaned easily and more frequently. Constant filter cleaning will prevent dust from entering the product or accumulating on the filter.

#### good'sleep function

good'sleep function will allow you to have deep, good night's sleep by adjusting the temperature, fan speed and air flow direction.

#### ■ Smart Install

When the installation is done, your product will examine itself through trial operation to check if it was installed properly.



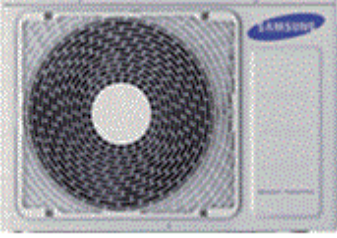
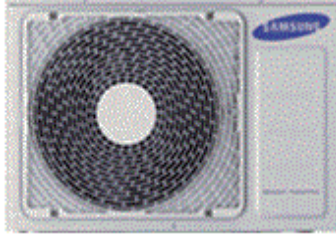
#### ■ Easy Installation

It's so easy to install! You can easily hang the product on the wall and connect the pipes and wires by opening the cover on the bottom of the product. Now you won't have to tilt the product to connect the pipe and the wires!

## 2-2 Product Specifications

Model			AR09MSWXCWKNCV	AR12MSWXCWKNCV
Rating	Mode	Unit	Wall-mounted	Wall-mounted
Capacity	T1 Cool	Btu/h	9000	12000
	T3 Cool	Btu/h	-	-
	Heat	-	11000	13600
Power Input	T1 Cool	W	640	1050
	T3 Cool	W	-	-
	Heat	-	860	1100
Current	T1 Cool	A	3.1	4.9
	T3 Cool	A	-	-
	Heat	-	4.1	5.1
Efficiency	EER	W/W	14.06	11.43
	-	-	-	-
	COP	W/W	12.79	12.36
Dehumidifying		l/hr.	0.8	0.8
Platform	IDU	-	F-RAC-06 (Wind-Free)	F-RAC-06 (Wind-Free)
	ODU	-	SI	SI
Evap	Main	-	Φ7, ( 2R*10S+1R*6S )*635mm, H1.3, N.G.S, 1by2	Φ7, ( 2R*10S+1R*6S )*635mm, H1.3, N.G.S, 1by2
	Sub	-	Φ7, ( 2R*4S+1R*4S )*635mm, H1.3, N.G.S : (F03-4)	Φ7, ( 2R*4S+1R*4S )*635mm, H1.3, N.G.S : (F03-4)
COND	Main	-	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by2by2	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by2by2
Motor In	IDU	-	DB31-00636B	DB31-00636B
	ODU	-	DB31-00647A	DB31-00647A
Power Supply		V/Hz/Φ	220-240/50/1	220-240/50/1
Climate Class		-	T1	T1
Noise	IDU UT,T	dB	43	43
	ODU UT,T	dB	53	53
Net Size (W*D*H)	IDU	mm	828*265*267	828*265*267
	ODU	mm	790*545*285	790*545*285
Weight	IDU	kg	10.1	10.1
	ODU	kg	38.5	38.5
Operation range	Cooling	IDU	16 °C~32 °C	16 °C~32 °C
		ODU	-10 °C~46 °C	-10 °C~46 °C
	Heating	IDU	8 °C to 27 °C	8 °C to 27 °C
		ODU	-15 °C~24 °C	-15 °C~24 °C

**2-3 The Comparative Specifications of Product**

Model		DEVELOPMENT MODEL	
		AR09MSWXCWKNCV	AR12MSWXCWKNCV
Design	Indoor Unit		
	Outdoor Unit		
Net Weight	Indoor Unit	10.1	10.1
	Outdoor Unit	37.5	37.5
Net Dimension	Indoor Unit	828*265*267	828*265*267
	Outdoor Unit	790*285*545	790*285*545
Noise	Indoor Unit	43	43
	Outdoor Unit	53	53
Air Purifying System		EASYCLEAN FILTER	EASYCLEAN FILTER
Indoor Display		88 SEG	88 SEG



## 2-4 Accessory and Option Specifications

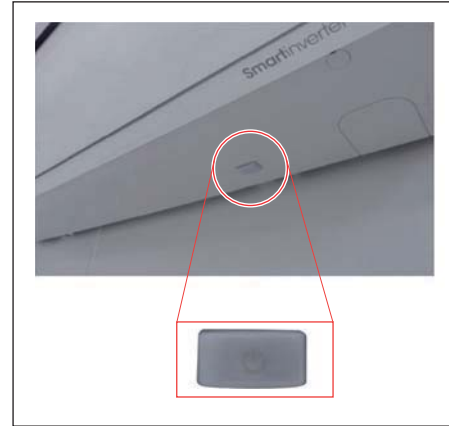
Item	Descriptions	Code No.	Q'ty	Remark
	ASSY HANGER	DB90-07732A (F03-F04)	1	Indoor unit case
	ASSY WIRELESS REMOCON	DB93-15883N	1	
	HOLDER REMOCON	DB61-06087A	1	
	BATTERY	DB47-90024A	2	
	MANUAL USERS AND INSTALL	DB68-07160A	1	
	SCREW-TAPPING	6002-000623	2	
	CAP-SCREW	DB67-01404B	2	

## 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 :** Turbo



#### Note

- Because the test mode operates 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 Display Error and Check Method

### 3-2-1 Indoor Display Error and Check Method

7-SEG	ERROR MODE			DESCRIPTION
	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 and Fan Error
E461	◐	●	◐	Comp. Starting Error
E463	●	○	○	No display about the outdoor condition
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

### 3-2-2 Outdoor LED Display Error and Check method

LED PATTERN			7SEG DISPLAY	DESCRIPTION
YEL	GRN	RED		
○	○	○	-	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
◎	○	●	E463	Outdoor OLP over temperature error
○	◎	◎	-	Test Operation at Cooling Mode
◎	◎	◎	-	Test Operation at 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.

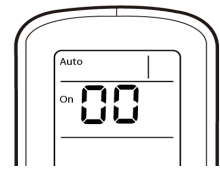
30 00 07 C2 6C 83 10 00 00 00 20 00 00 00 00 00 10 00 00

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

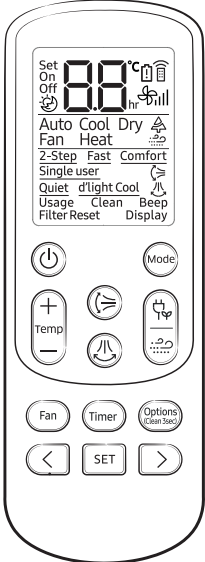























Enter the Option Setup mode.

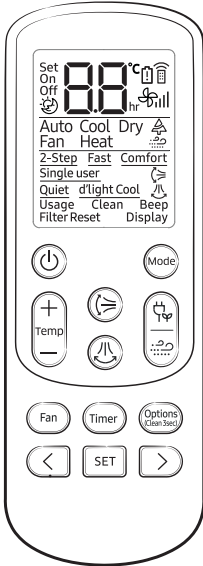













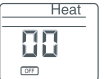
1. Tack out the batteries of remote control.
2. Press the temperature  button simultaneously and insert the battery again.
3. Make sure the remote control display shown as .




#### Step 2

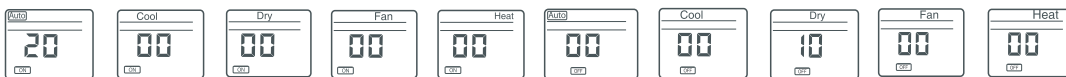
Enter the Options Setup mode and select your options according to the following procedure.

	Feature	Display
	<b>1</b> The default value is  . Every time you push the  button, the display panel reads <b>ON</b> Auto ⇒ Cool ⇒ Dry ⇒ Fan ⇒ Heat , <b>OFF</b> Auto ⇒ Cool ⇒ Dry ⇒ Fan ⇒ Heat repeatedly.	
	<b>2</b> Push the  button to set the display panel to <b>3</b> . Every time you push the  button, the display panel reads <b>0-1-2-3-.....-9-A-B-C-D-E-F</b> repeatedly.	
	<b>3</b> Push the  button to  . Every time you push the  button, the display panel reads <b>0-1-2-3-.....-9-A-B-C-D-E-F</b> repeatedly.	
	<b>4</b> Push the  button to  . Push the  button to set the display panel to <b>7</b> . Every time you push the  button, the display panel reads <b>0-1-2-3-.....-9-A-B-C-D-E-F</b> repeatedly.	
	<b>5</b> Push the  button to  . Push the  button to set the display panel to <b>C</b> . Every time you push the  button, the display panel reads <b>0-1-2-3-.....-9-A-B-C-D-E-F</b> repeatedly.	
	<b>6</b> Push the  button to set the display panel to <b>2</b> . Every time you push the  button, the display panel reads <b>0-1-2-3-.....-9-A-B-C-D-E-F</b> repeatedly.	

	Feature	Display
	<b>7</b> Push the <b>Mode</b> button to  . Push the <b>Fan</b> button to set the display panel to <b>6</b> . Every time you push the <b>Fan</b> button, the display panel reads <b>0</b> → <b>1</b> → <b>2</b> → <b>3</b> →.....→ <b>9</b> → <b>A</b> → <b>b</b> → <b>c</b> → <b>d</b> → <b>E</b> → <b>F</b> repeatedly.	
	<b>8</b> Push the <b>Fan</b> button to set the display panel to <b>8</b> . Every time you push the <b>Fan</b> button, the display panel reads <b>0</b> → <b>1</b> → <b>2</b> → <b>3</b> →.....→ <b>9</b> → <b>A</b> → <b>b</b> → <b>c</b> → <b>d</b> → <b>E</b> → <b>F</b> repeatedly.	
	<b>9</b> Push the <b>Mode</b> button to  . Push the <b>Fan</b> button to set the display panel to <b>8</b> . Every time you push the <b>Fan</b> button, the display panel reads <b>0</b> → <b>1</b> → <b>2</b> → <b>3</b> →.....→ <b>9</b> → <b>A</b> → <b>b</b> → <b>c</b> → <b>d</b> → <b>E</b> → <b>F</b> repeatedly.	
	<b>10</b> Push the <b>Fan</b> button to set the display panel to <b>3</b> . Every time you push the <b>Fan</b> button, the display panel reads <b>0</b> → <b>1</b> → <b>2</b> → <b>3</b> →.....→ <b>9</b> → <b>A</b> → <b>b</b> → <b>c</b> → <b>d</b> → <b>E</b> → <b>F</b> repeatedly.	
	<b>11</b> Push the <b>Mode</b> button to  . Push the <b>Fan</b> button to set the display panel to <b>1</b> . Every time you push the <b>Fan</b> button, the display panel reads <b>0</b> → <b>1</b> → <b>2</b> → <b>3</b> →.....→ <b>9</b> → <b>A</b> → <b>b</b> → <b>c</b> → <b>d</b> → <b>E</b> → <b>F</b> repeatedly.	
	<b>12</b> Push the <b>Mode</b> button to  .	
	<b>13</b> Push the <b>Mode</b> button to  .	
<b>14</b> Push the <b>Mode</b> button to  .		

**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.










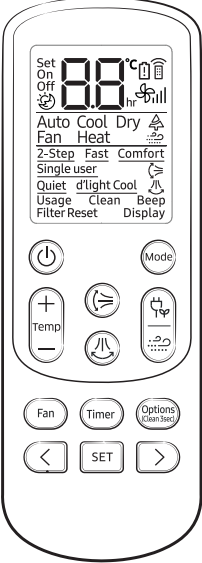


























**Step 4** Pressing the ON/OFF button .


When pressing the operation ON/OFF key with the direction of remote control for the sound "Ding" or "Dirring" 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.)

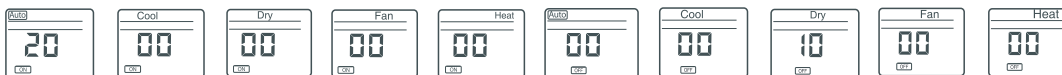
## Step 5

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


	Feature	Display
	<p>1 Step 1 (Enter the Option Setup mode) is executed. (Seg25 ~ 48 for setting remote control Setup)</p>	
	<p>2 Push the  Mode button to set the display panel to 2. Every time you push the  button, the display panel reads 0-1-2 → 3 → ... 9-A-b → c → d → E → F repeatedly.</p>	
	<p>3 Push the  button to </p>	
	<p>4 Push the  button to </p>	
	<p>5 Push the  button to </p>	
	<p>6 Push the  button to </p>	
	<p>7 Push the  button to </p>	
	<p>8 Push the  button to </p>	
	<p>9 Push the  button to </p>	
	<p>10 Push the  Mode button to set the display panel to 1. Every time you push the  button, the display panel reads 0-1-2 → 3 → ... 9-A-b → c → d → E → F repeatedly.</p>	
	<p>11 Push the  button to </p>	
	<p>12 Push the  button to </p>	

**Step 6** 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 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 "Diring" 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 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

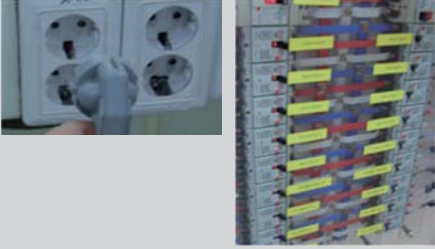
Model	Option code
AR09MSWXCWKNCV	011E25-17EA4A-271920-3724D4
AR12MSWXCWKNCV	011E25-17EA6B-272328-3714D4




## 3-4 EEPROM Download (485 communication model)

### Method#1 : Using Communication line

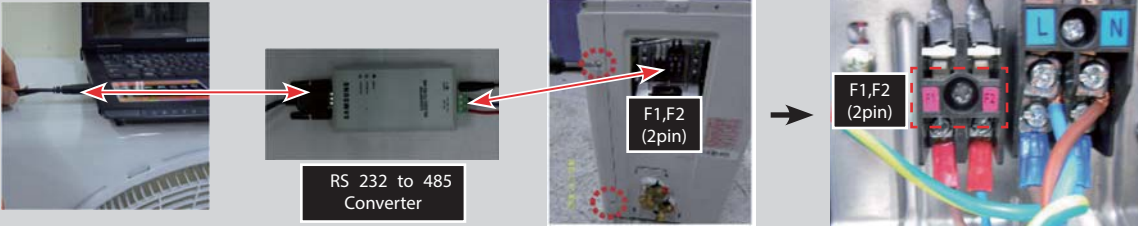
1) Power off




2) Take off the side cover




3) Connect PC-Download Jig-PBA



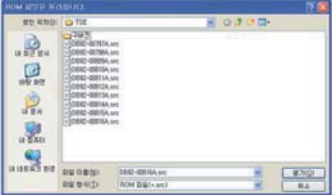
4) Execute the **Inverter Download** program




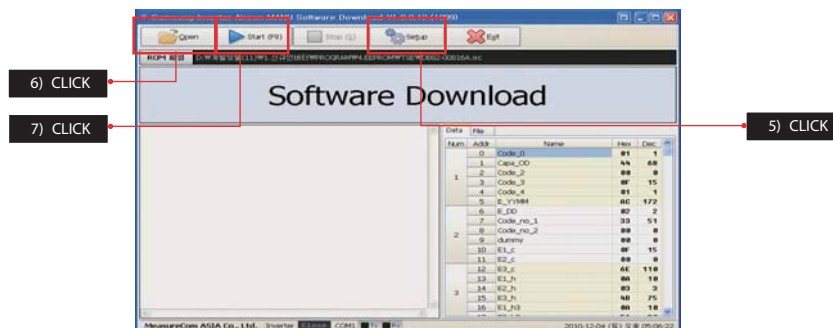
5) Select COM Port and connect



6) Open the file (\*.src)



7) Click the Start button and **reset the power**

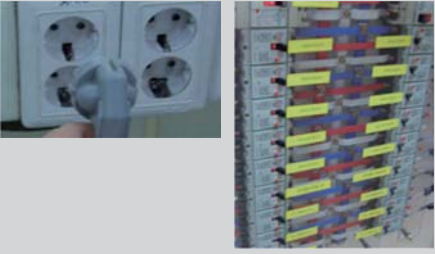
6) CLICK

7) CLICK


5) CLICK

## Method#2 : Using Serial line



1) Power off



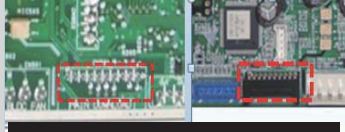
2) Take off the Cabinet : Check the LED off




3) Connect PC-Download Jig-PBA

Download connector (10pin)



Download connector (2 pin, Black)



Download connector (1 pin, Black)


- 1) DB41- 1 1 A : C 2 1
- 2) DB41- 1 2 9 A : C 2 1
- 3) DB41- 1 2 3 A : C 5 1 2
- 4) DB41- 1 8 1 B : C 3 7

PI 1:R D, 2:T D, 9: D, 1 : CC

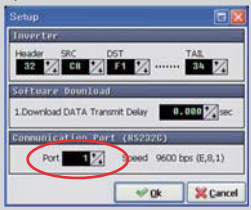
PI 1:R D, 2:T D, 9: D, 1 : CC

RS 232 to Serial Download Converter

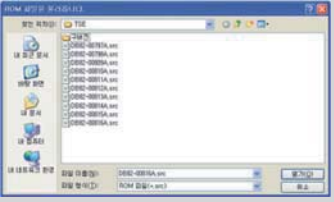
4) Execute the **Inverter Download** program




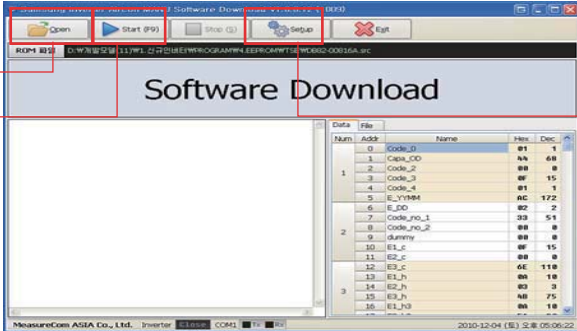
5) Select COM Port and connect



6) Open the file (\*.src)



7) Click the Start button




6) CLICK

7) CLICK

5) CLICK

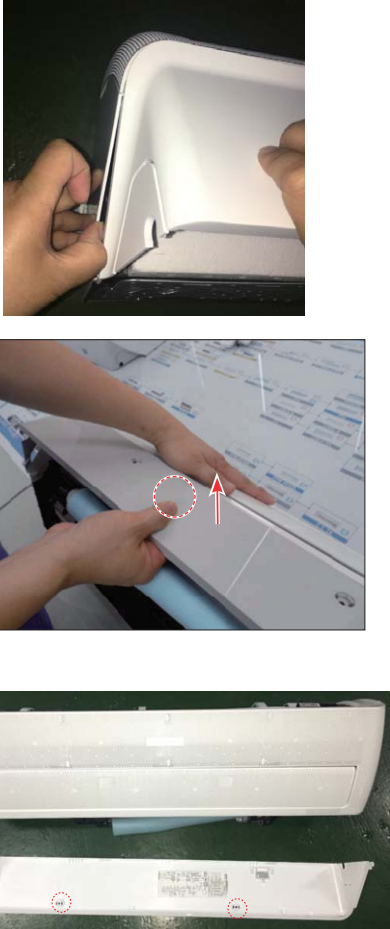
## 4. Disassembly and Reassembly


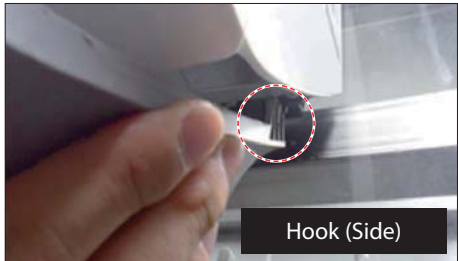
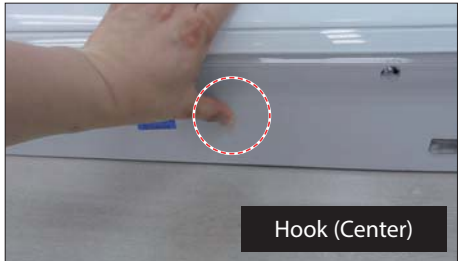


### ■ Necessary Tools

m e t l	k r a m e R
<p>+SCREW DRIVER Q'ty 1 ea. To assembly and disassembly the screw</p>	
<p>MONKEY SPANNER Q'ty 1 ea. To assembly and disassembly the Fan motor and Compressor</p>	
<p>- SCREW DRIVER Q'ty 1 ea. To assembly and disassembly the screw</p>	

4-1. Indoor Unit

No.	Parts	Procedure	Remark						
1	PANEL-FRONT	<p>1) Stop the driving of air conditioner and shut off main power supply.</p> <p>2) Detach FILTER PRE from the PANEL FRONT.</p> <p>3) Cover Panel is assembled on bottom of indoorunit as shown in the figure.</p> <p>Remove the Cap Screw as shown on the right side and then remove the screw and separate the Cover Panel.</p>	   						
		<p>4) Cover Panel is fixed to body by Hook in center area and side area.</p>	 <table border="1" data-bbox="970 1756 1433 1912"> <thead> <tr> <th colspan="2" data-bbox="970 1756 1251 1789">HOOK</th> </tr> </thead> <tbody> <tr> <td data-bbox="970 1789 1091 1845">F03,F04</td> <td data-bbox="1091 1789 1433 1845">   </td> </tr> <tr> <td data-bbox="970 1845 1091 1912">F05</td> <td data-bbox="1091 1845 1433 1912">   </td> </tr> </tbody> </table>	HOOK		F03,F04	 	F05	 
HOOK									
F03,F04	 								
F05	 								

No.	Parts	Procedure	Remark
		<p>5) Separate the hook after pushing both end of Cover Panel as shown in the figure.(Watch out for the damage of the hook)</p> <p>6) Raise front part upward obliquely as shown in the figure and then remove the hooks.</p>	

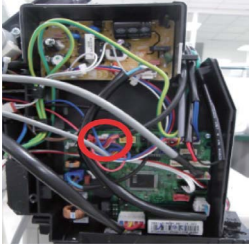


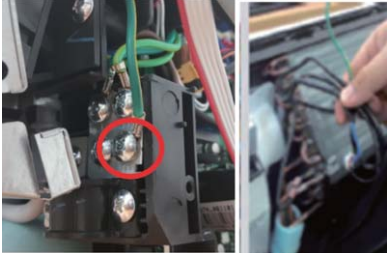

No.	Parts	Procedure	Remark
		<p><b>⚠ Caution:</b></p> <p>Assembly of Cover Panel after service end.</p> <ul style="list-style-type: none"> <li>- Reassembly is in the reverse order of the removal.</li> <li>- Piping and drain hose must be careful not to damage and Progress must be done with both hands.</li> </ul>	  <p style="text-align: right;">Hook (Side)</p>  <p style="text-align: right;">Hook (Center)</p>  <p style="text-align: right;">Screw</p>  <p style="text-align: right;">Cap Screw</p>


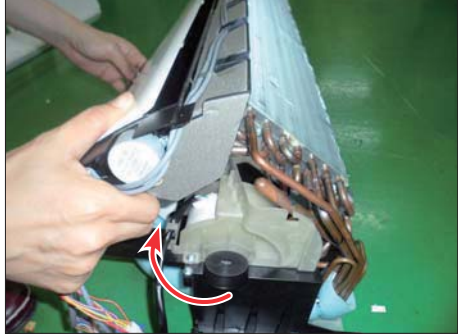
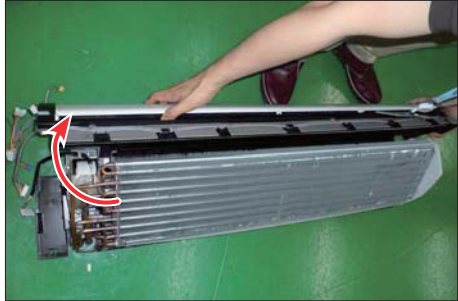



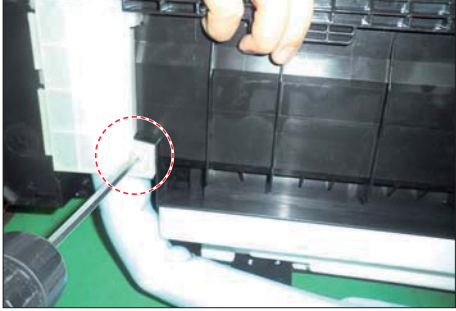

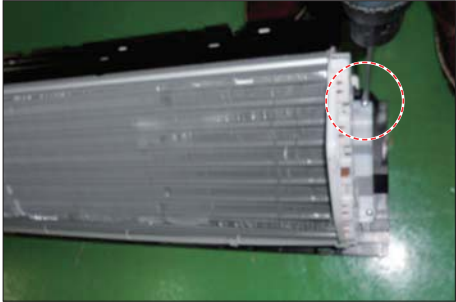



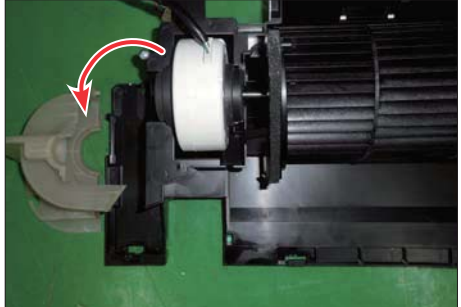





No.	Parts	Procedure	Remark
2	CONTORL IN	<p>11) seperate Blade motor connect wire. Along with a picture</p> <p>12) Loosen MOTOR Wire.</p> <p><b>⚠ Caution:</b> When you separate the connector, pull pressing the locking button.</p> <p>13) Loosen the Thermistor wires, Display wire and Humidity wire connector.</p> <p><b>⚠ Caution:</b> When you separate the connector, pull pressing the locking button.</p> <p>14) Loosen the ground wire.</p> <p>15) Loosen the remote control PCB wire connector.</p> <p><b>⚠ Caution:</b> When you separate the connector, pull pressing the locking button.</p>	    





No.	Parts	Procedure	Remark
3	EVAPORATOR	<p>16) Take off the CASE-CONTROL from the main frame after loosen the remaining connector.</p> <p><b>▲ Caution:</b> When you separate the connector, pull pressing the locking button.</p>	
4	TRAY DRAIN	<p>17) To detach TRAY-DRAIN from the main frame, pull the bottom of the TRAY-DRAIN towards you.</p>	  

No.	Parts	Procedure	Remark
6	EVAPORATOR	<p>18) Detach the HOLDER PIPE.</p> <p>19) Unfasten the screw at the left side. (use + Screw Driver)</p> <p>20) Unfasten the screw at the right side. (use + Screw Driver)</p> <p>21) To detach Evaporator from the main frame, pull the bottom of the Evaporator towards you.</p>	   

No.	Parts	Procedure	Remark
7	FAN MOTOR & CROSS FAN	<p>22) Unfasten the screw. (use + Screw Driver)</p> <p>23) Detach the FAN Motor case.</p> <p>24) Unfasten the screw a little. (use + Screw Driver)</p> <p>25) Pull the CROSS-FAN to the left side.</p>	   

No.	Parts	Procedure	Remark
8	Assy SPI Lamp	<p>26) Remove the Assy SPI Lamp from the Back Body as shown on the right side.</p> <p><b>⚠ Caution:</b></p> <ul style="list-style-type: none"> <li>- Confirm Seal of backside necessarily after replace of Assy SPI Lamp.</li> <li>- Seal should be close adhesion to SPI Lamp.</li> <li>- Measure as shown on the right side since replace.</li> </ul> <p>(If the seal is not close adhesion perfectly : Defectiveness can happen)</p>	

## 4- 2 Outdoor Unit


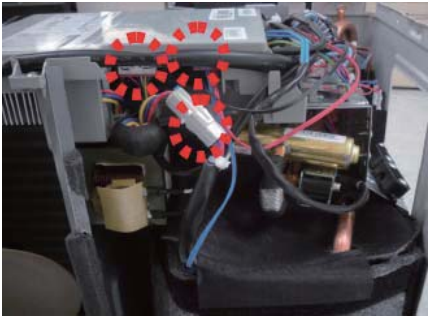
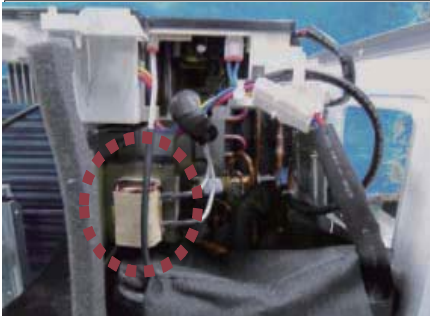

No	Parts	Procedure	Remark
1	Common Work	<p>1) Loosen 1 fixing screw(CCW) of the Cover-Side. (Use +Screw Driver.)</p> <p>2) Loosen each 5 screws(CCW) on both right and left Cabinet Side edges and a fixing screw on the Cabinet Front lower to detach the Cabinet Front. (Use +Screw Driver.)</p> <p>3) Detach the Cabinet Upper like the picture.</p> <p>4) Loosen 2 screw(CCW) fixed to assemble Plate Control Out with Cabinet-Side RH. (Use +Screw Driver.)</p>	   

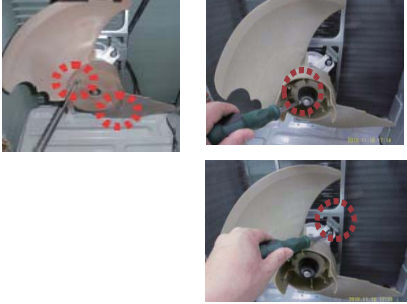

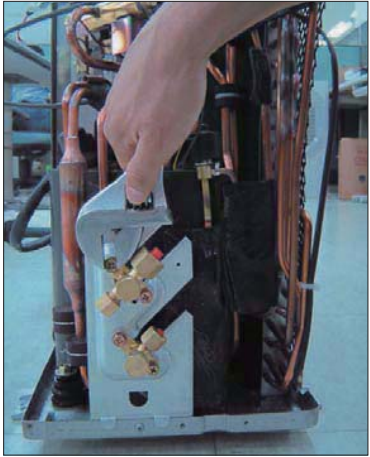

No	Parts	Procedure	Remark
1	Common Work	<p>5) Loosen 2 screw(CCW) on the right side of Cabinet Front. (Use +Screw Driver)</p> <p>6) Loosen 2 screw(CCW) on the left side of Cabinet Front. (Use +Screw Driver)</p> <p>7) Loosen 3 screw(CCW) on the front side of Cabinet Front. (Use +Screw Driver)</p>	  



No	Parts	Procedure	Remark
		<p>8) Loosen 4 fixing screws(CCW) on the rear side of Cabinet-Side RH. (Use +Screw Driver.)</p> <p>9) Loosen 3 screws(CCW) fixed to assemble Bracket Valve with Cabinet-Side RH. (Use +Screw Driver.)</p>	 

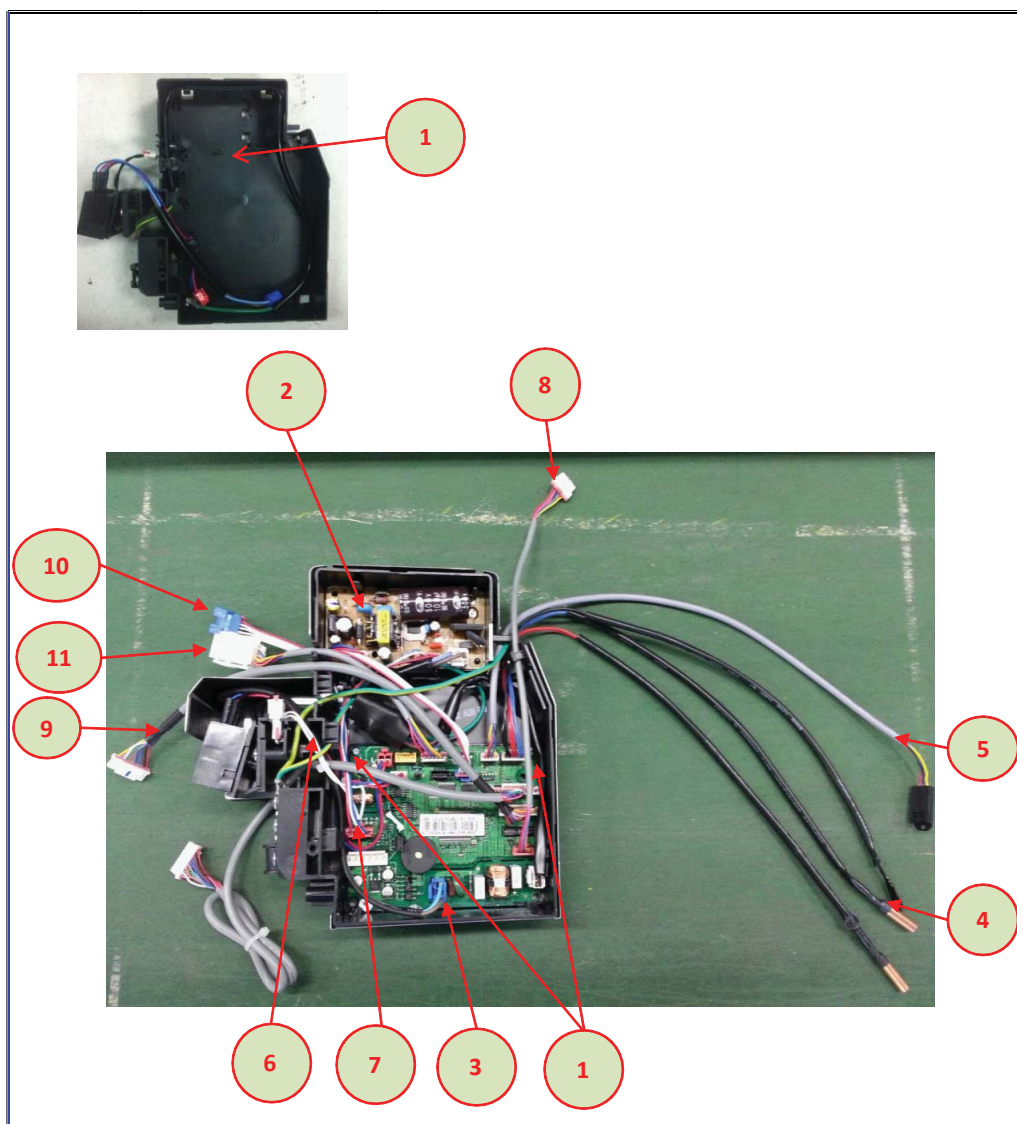


No	Parts	Procedure	Remark
2	Ass'y Control Out	<ol style="list-style-type: none"> <li>1) Detach the Motor Wire from the PCB of Ass'y Control Out.</li>   <li>2) Detach several connectors from the PCB of Ass'y Control Out.</li>   <li>3) Detach 2 Connect Wires from Reactor.</li>   <li>4) Loosen 1 screw(CCW) fixed to assemble Ass'y Control Out with Partition. (Use +Screw Driver.)</li> </ol>	   

No	Parts	Procedure	Remark
3	Fan & Motor	<ol style="list-style-type: none"> <li>1) Release 2 screw at CAP FAN</li> <li>2) Release Nut at Fan Boss</li> <li>3) Release 3 screws st Motor Bracket.</li> <li>4) Detach Motor Wire from the Assy Control Out.</li> </ol>	
4	Heat Exchanger	<ol style="list-style-type: none"> <li>1) Loosen 1 fixing screws(CCW) on both sides. (Use +Screw Driver.)</li> <li>2) Disassemble the pipes in both inlet and outlet with welding torch.</li> <li>3) Detach the Heat Exchanger.</li> </ol> <p style="color: red;">⚠ Before you disassemble the pipes and Condenser, be sure that there should be no refrigerant remained in the unit.</p>	
5	Ass'y Valve 4-Way & Ass'y Valve EEV	<ol style="list-style-type: none"> <li>1) Loosen 4 bolts(CCW) fixed to assemble Valve Service with Bracket Valve like the picture on the right side. (Use Monkey Spanner.)</li> <li>2) Disassemble the pipes assembled the suction and discharge sides of the Compressor with welding torch.</li> </ol>	
6	Compressor	<ol style="list-style-type: none"> <li>1) Loosen the Nut(CCW) of Terminal Cover. (Use Monkey Spanner.)</li> <li>2) Detach the Terminal Cover and detach the Connect Comp Wire from Compressor.</li> <li>3) Disassemble the Felt Comp Sound.</li> <li>4) Loosen the 3 bolts(CCW) at the bottom of Compressor like the picture on the right side. (Use Monkey Spanner.)</li> </ol>	

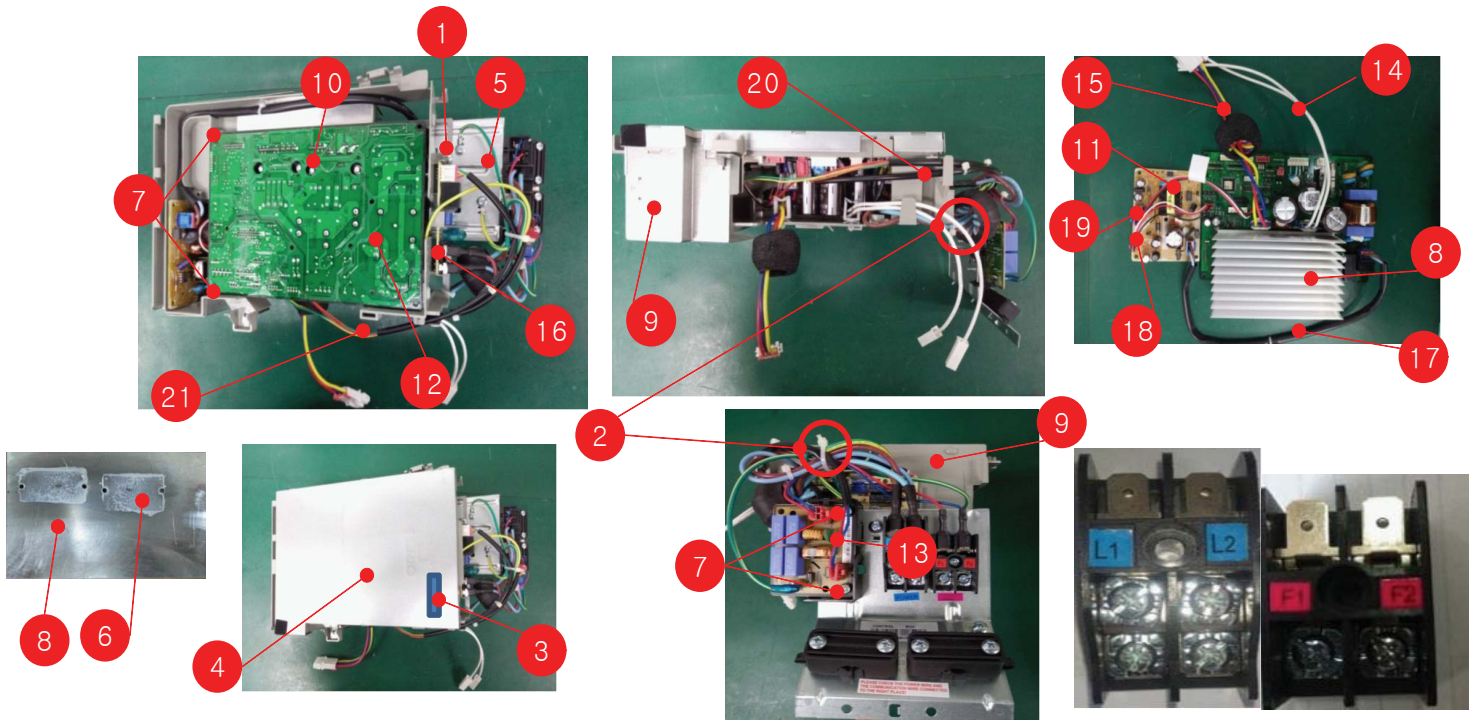
## 5. ASSY CONTROL

### 5-1 ASSY KIT CODE DB92-04110B



No	NAME	CODE	Q'ty	unit
1	ASSY CASE ELECTRIC	DB90-07972G	1	ea
2	SMPS PBA 11W	DB92-02861A	1	ea
3	MAIN PBA STD#4	DB92-04101A	1	ea
4	ASSY THERMISTOR	DB95-05163A	1	ea
5	SENSOR HUMIDITY	DB32-00241A	1	ea
6	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-14207A	1	ea
7	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-14208A	1	ea
8	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-15445A	1	ea
9	ASSY CONNECTOR WIRE-DISPLAY	DB93-14209B	1	ea
10	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-14205A	1	ea
11	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-14218B	1	ea
12	SCREW-TAPPING	6002-000630	2	ea

## 5-2 ASSY CONTROL OUT



NO	CODE NO	QTY	NAME
1	6002-000527	1	SCREW-TAPPING
2	DB65-10088B	2	CABLE TIE
3	DB68-02809A	1	LABEL BAR CODE
4	DB90-07729A	1	ASSY COVER CONTROL-UP
5	DB90-08330F	1	ASSY CASE CONTROL
6	0205-000178	0.002KG	GREASE-SILICON
7	6002-000536	4	SCREW-TAPPING
8	DB62-11646A	1	HEAT SINK
9	DB90-07833A	1	ASSY CASE CONTROL
10	DB91-00933A	4	ASSY-SCREW MACHINE
11	DB92-02862A	1	ASSY MODULE
12	DB92-02866D	1	ASSY PCB MAIN
13	DB92-03777A	1	ASSY PCB SUB
14	DB93-09493F	1	ASSY CONNECTOR WIRE
15	DB93-09497E	1	ASSY CONNECTOR WIRE
16	DB93-13220A	1	ASSY PCB SUB-HEATER
17	DB93-14275A	1	ASSY CONNECTOR WIRE-POWER
18	DB93-14276A	1	ASSY CONNECTOR WIRE-DC SIGNAL
19	DB93-14277B	1	ASSY CONNECTOR WIRE-DC SIGNAL
20	DB93-15742A	1	ASSY CONNECTOR WIRE-DC SIGNAL
21	DB93-15008A	1	ASSY CONNECTOR WIRE



### 5-3 WIFI Case(Only for wifi model)

No	Parts	Procedure	Remark
1	CASE	Separate Case-WIFI Top from Case-WIFI Button	
2	BUTTON	Separate Case-WIFI Top from Case-WIFI Button	
3	SCREW	Detach SCREW from Case-WIFI Button	
4	WIRE	Detach Assy Connector Wire from Case-WIFI Button  *Caution When you separate the connector, pull pressing the locking button	
5	PBA	Separate PBA WIFI from Case-WIFI Button	

## 6. Electrical Parts List

### 6-1 INDOOR MAIN PCB CODE DB92-04101A

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
0201-001528	COATING	ADHESIVE-SIL	LDC2577D,Y/GRN,175CPS,-	2	G
0201-001982	ADHESIVE-SIL	ADHESIVE-SIL	TSE3854DS-W,White,2.2,MIL-A-46146B,UL94V-0	0.0037	KG
0202-001338	SOLDER-BAR	SOLDER-BAR	Lead-free Solder BAR,W20L350H8,99.3Sn/0.7Cu/	0.17	G
0202-001463	SOLDER-WIRE	SOLDER-WIRE	LFC2-W3.0,D3,99.79Sn/0.2Cu/0.01P,No Flux	1.51	G
0204-004665	FLUX	FLUX	KSP-70M-S,MIXTURE,NO,FLUX,13%	0.14	G
0204-005794	SOLVENT	SOLVENT	S-1000,(CH3)2CHOH,100%,0.79	1	G
0502-000245	Q701	TR-POWER	KSB1151-Y,PNP,1300mW,TO-126,160-320	1	PC
1405-001239	VA71	VARISTOR	680V,560VDC,6000A,17x10mm,TP,1120V,350pF,U	1	PC
2301-002032	XC71	C-FILM,LEAD-PPF	100nF,10%,275V,TP,12.5X6X12.0	1	PC
2301-002032	XC72	C-FILM,LEAD-PPF	100nF,10%,275V,TP,12.5X6X12.0	1	PC
3002-001139	BZ61	BUZZER-PIEZO	80dB,9V,2KHz,BK	1	PC
3711-000024	CN76	HEADER-BOARD TO CABLE	BOX,3P,1R,2.5MM,STRAIGHT,SN,WHT	1	PC
3711-000177	CN21	HEADER-BOARD TO CABLE	1WALL,2P,1R,3.96MM,STRAIGHT,SN,RED	1	PC
3711-000203	CN75	HEADER-BOARD TO CABLE	1WALL,2P,1R,7.92mm,STRAIGHT,SN,WHT,11.82x	1	PC
3711-000296	CN72	HEADER-BOARD TO CABLE	1WALL,6P,1R,3.96MM,STRAIGHT,SN,WHT	1	PC
3711-000941	CN81	HEADER-BOARD TO CABLE	BOX,4P,1R,2.5mm,STRAIGHT,SN,YEL	1	PC
3711-000998	CN77	CONNECTOR-HEADER	BOX,5P,1R,2.5MM,STRAIGHT,SN,RED	1	PC
3711-000999	CN61	HEADER-BOARD TO CABLE	BOX,5P,1R,2.5mm,STRAIGHT,SN,WHT,5.8x14.9x2	1	PC
3711-002001	CN31	HEADER-BOARD TO CABLE	BOX,20P,2R,2.0mm,STRAIGHT,SN,BLK,5.0X22.0X	1	PC
3711-003404	CN71	HEADER-BOARD TO CABLE	1WALL,2P,1R,7.92mm,STRAIGHT,SN,BLU	1	PC
3711-003845	CN91	HEADER-BOARD TO CABLE	BOX,11P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-004122	CN32	HEADER-BOARD TO CABLE	BOX,14P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-004236	CN43	HEADER-BOARD TO CABLE	BOX,6P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-004379	CN42	HEADER-BOARD TO CABLE	BOX,4P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-005096	CN63	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,BLK	1	PC
3711-005097	CN62	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,BLU	1	PC
DB27-00096A	FT71	COIL CHOKE	CV1615280,COIL CHOKE,28.0mH,+50---30%,268.	1	PC
DB27-00102A	FT81	COIL CHOKE	1.0mH,2.5A,8.4x3.4,Mn-Zn,4,DIP	1	PC
DB94-06665A		ASSY PCB AUTO	MAIN,AR9500M,120*98,N,230V,19V,12V,5V,WIN	1	PC
0501-000362	Q801	TR-SMALL SIGNAL	KSC2328A-Y,NPN,1000mW,TO-92L,TP,160-320	1	PC
1404-001194	PTC2	THERMISTOR-PTC	39ohm,20%,220/240V,270Vac,1.2A,TP	1	PC
3601-001765	F701	FUSE-RADIAL LEAD	250V,3.15A,TIME-LAG,Thermoplastic,8.5x8mm	1	PC
3711-005098	CN51	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,RED	1	PC
DB94-06666A		ASSY PCB SMD	MAIN,AR9500M,120*98,N,230V,19V,12V,5V,WIN	1	PC
0202-001933	SOLDER-CREAM	SOLDER-CREAM	LFM-48W TM-HP,D20-38um,96.5Sn/3Ag/0.5Cu,F	0.32	G
0402-001741	D701	DIODE-RECTIFIER	S1M,1000V,1A,SMA,TP	1	PC
0406-001005	TD420	DIODE-TVS	SM05.6V,20MAV,TP	1	PC
0406-001005	TD501	DIODE-TVS	SM05.6V,20MAV,TP	1	PC
0406-001204	CD81	DIODE-TVS	SMBJ5.0CA,6.4/-/7.25V,600W,SMB	1	PC
0406-001204	CD82	DIODE-TVS	SMBJ5.0CA,6.4/-/7.25V,600W,SMB	1	PC
0406-001204	CD83	DIODE-TVS	SMBJ5.0CA,6.4/-/7.25V,600W,SMB	1	PC
0501-000465	Q501	TR-SMALL SIGNAL	MMBT3904,NPN,350mW,SOT-23,TP,30-300	1	PC
0501-000465	Q702	TR-SMALL SIGNAL	MMBT3904,NPN,350mW,SOT-23,TP,30-300	1	PC
0504-001080	Q601	TR-DIGITAL	KRC246S,NPN,200mW,2.2K/10Kohm,SOT-23,TP	1	PC
0504-001080	Q802	TR-DIGITAL	KRC246S,NPN,200mW,2.2K/10Kohm,SOT-23,TP	1	PC
0506-000175	IC05	TR-ARRAY	2003,NPN,7,1000mW,SOP-16,TP,1000	1	PC
0506-000175	IC06	TR-ARRAY	2003,NPN,7,1000mW,SOP-16,TP,1000	1	PC
0604-001002	PC03	PHOTO-COUPLER	TR,100-600%,170mW,SOP-4,TP	1	PC
0604-001002	PC04	PHOTO-COUPLER	TR,100-600%,170mW,SOP-4,TP	1	PC
0604-001002	PC05	PHOTO-COUPLER	TR,100-600%,170mW,SOP-4,TP	1	PC
0801-000393	IC08	IC-CMOS LOGIC	74HC86,OR GATE,SOP,14P,150MIL,QUAD,ST,-,2.0	1	PC
1006-001325	IC07	IC-BUS TRANSCEIVER	SO,8P,4.9x3.8mm,SINGLE,ST,PLASTIC,5V,-40to+	1	PC
1202-000104	IC11	IC-VOLTAGE COMP.	393,SOP,8P,150MIL,DUAL,36V,CMOS,PLASTIC,18	1	PC
1203-006245	IC03	IC-VOL. DETECTOR	KIA7033AT,TSM,3P,2.9x1.6x0.7mm,PLASTIC,3.3V	1	PC
1203-007526	IC02	IC-POS.FIXED REG.	7815,TO-252,3Z30,6.6*6.1mm,14.4/15.6V,1.3W,	1	PC
2007-000039	R717	R-CHIP	0ohm,1%,1/10W,TP,1608	1	PC
2007-000043	R703	R-CHIP	1Kohm,1%,1/10W,TP,1608	1	PC
2007-000043	R706	R-CHIP	1Kohm,1%,1/10W,TP,1608	1	PC
2007-000043	R805	R-CHIP	1Kohm,1%,1/10W,TP,1608	1	PC
2007-000043	R815	R-CHIP	1Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R701	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R704	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R705	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R723	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R801	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R802	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R803	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R804	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R816	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000116	R825	R-CHIP	120ohm,5%,1/10W,TP,1608	1	PC
2007-000143	R511	R-CHIP	4.7Kohm,5%,1/16W,TP,1005	1	PC
2007-000143	R512	R-CHIP	4.7Kohm,5%,1/16W,TP,1005	1	PC
2007-000143	R513	R-CHIP	4.7Kohm,5%,1/16W,TP,1005	1	PC
2007-000143	R552	R-CHIP	4.7Kohm,5%,1/16W,TP,1005	1	PC

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
2007-000148	R412	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R413	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R502	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R503	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R504	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R505	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R506	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R521	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R522	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R523	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R524	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R525	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R526	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R527	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R528	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R529	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R530	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R531	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R532	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R533	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R534	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R543	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R544	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R551	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R555	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R556	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R557	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R807	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R808	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R810	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R824	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R826	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R903	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R904	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000157	R902	R-CHIP	47Kohm,5%,1/16W,TP,1005	1	PC
2007-000162	R820	R-CHIP	100Kohm,5%,1/16W,TP,1005	1	PC
2007-000162	R821	R-CHIP	100Kohm,5%,1/16W,TP,1005	1	PC
2007-000171	R831	R-CHIP	0ohm,5%,1/16W,TP,1005	1	PC
2007-000171	R833	R-CHIP	0ohm,5%,1/16W,TP,1005	1	PC
2007-000171	R835	R-CHIP	0ohm,5%,1/16W,TP,1005	1	PC
2007-000171	R837	R-CHIP	0ohm,5%,1/16W,TP,1005	1	PC
2007-000171	R839	R-CHIP	0ohm,5%,1/16W,TP,1005	1	PC
2007-000171	R843	R-CHIP	0ohm,5%,1/16W,TP,1005	1	PC
2007-000299	R702	R-CHIP	10Kohm,1%,1/4W,TP,3216	1	PC
2007-000385	R115	R-CHIP	14.3Kohm,1%,1/4W,TP,3216	1	PC
2007-000455	R712	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	PC
2007-000475	R709	R-CHIP	1Mohm,1%,1/10W,TP,1608	1	PC
2007-000583	R714	R-CHIP	22Kohm,1%,1/10W,TP,1608	1	PC
2007-000763	R601	R-CHIP	330ohm,1%,1/10W,TP,1608	1	PC
2007-000763	R602	R-CHIP	330ohm,1%,1/10W,TP,1608	1	PC
2007-000763	R716	R-CHIP	330ohm,1%,1/10W,TP,1608	1	PC
2007-000828	R715	R-CHIP	39Kohm,1%,1/10W,TP,1608	1	PC
2007-000869	R707	R-CHIP	4.7Kohm,1%,1/10W,TP,1608	1	PC
2007-000924	R112	R-CHIP	470Kohm,1%,1/4W,TP,3216	1	PC
2007-000924	R113	R-CHIP	470Kohm,1%,1/4W,TP,3216	1	PC
2007-000924	R114	R-CHIP	470Kohm,1%,1/4W,TP,3216	1	PC
2007-000939	R711	R-CHIP	47Kohm,1%,1/10W,TP,1608	1	PC
2007-000979	R713	R-CHIP	5.6Kohm,1%,1/10W,TP,1608	1	PC
2007-001068	R708	R-CHIP	6.8Kohm,1%,1/10W,TP,1608	1	PC
2007-001313	R404	R-CHIP	330ohm,5%,1/16W,TP,1005	1	PC
2007-001313	R405	R-CHIP	330ohm,5%,1/16W,TP,1005	1	PC
2007-001313	R406	R-CHIP	330ohm,5%,1/16W,TP,1005	1	PC
2007-001313	R410	R-CHIP	330ohm,5%,1/16W,TP,1005	1	PC
2007-001313	R411	R-CHIP	330ohm,5%,1/16W,TP,1005	1	PC
2007-001313	R811	R-CHIP	330ohm,5%,1/16W,TP,1005	1	PC
2007-001433	R618	R-CHIP	12Kohm,1%,1/10W,TP,1608	1	PC
2007-007306	R508	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R515	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R516	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R517	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R518	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R519	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
2007-007306	R520	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R539	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R542	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R553	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R809	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R905	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R906	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R907	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R908	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R909	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R910	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007313	R401	R-CHIP	6.8Kohm,1%,1/16W,TP,1005	1	PC
2007-007313	R402	R-CHIP	6.8Kohm,1%,1/16W,TP,1005	1	PC
2007-007313	R403	R-CHIP	6.8Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R538	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R545	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R806	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R901	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-009922	R301	R-CHIP	300Kohm,1%,1/4W,TP,3216,T0.55	1	PC
2007-009922	R302	R-CHIP	300Kohm,1%,1/4W,TP,3216,T0.55	1	PC
2007-009922	R303	R-CHIP	300Kohm,1%,1/4W,TP,3216,T0.55	1	PC
2203-000257	C705	C-CER,CHIP	10nF,10%,50V,X7R,TP,1608	1	PC
2203-000257	C801	C-CER,CHIP	10nF,10%,50V,X7R,TP,1608	1	PC
2203-000438	C508	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C516	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C520	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C901	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000440	C715	C-CER,CHIP	1nF,10%,50V,X7R,TP,1608	1	PC
2203-001071	C519	C-CER,CHIP	0.056nF,5%,50V,COG,TP,1608	1	PC
2203-001083	C711	C-CER,CHIP	0.005nF,0.1pF,50V,NPO,TP,1608	1	PC
2203-005249	C501	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C513	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C514	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C702	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C704	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C710	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C712	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C713	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C802	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C803	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C805	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C806	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C807	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-006158	C401	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C402	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C403	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C410	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C411	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C412	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C517	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C521	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C522	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C529	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C530	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C531	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C533	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C809	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006496	C707	C-CER,CHIP	2.2nF,10%,50V,X7R,1608	1	PC
2203-006960	C708	C-CER,CHIP	1000nF,10%,50V,X7R,TP,2012	1	PC
2203-007456	C509	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C512	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C515	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C518	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C523	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C526	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C528	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C551	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C552	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C808	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007486	C804	C-CER,CHIP	1000nF,10%,50V,X5R,TP,1608	1	PC
2402-000120	C706	C-AL,SMD	10uF,20%,50V,GP,TP,6.6X6.6X5.4MM	1	PC
2402-001145	C701	C-AL,SMD	47uF,20%,50V,GP,TP,6.3X7.7mm	1	PC
2402-001145	C703	C-AL,SMD	47uF,20%,50V,GP,TP,6.3X7.7mm	1	PC
2802-001211	X501	RESONATOR-CERAMIC	8MHz,0.5%,TP,3.2x1.3x0.9 mm	1	PC
DB41-01362A	PCB MAIN	PCB MAIN	FR-4,2Layer,T1.6,120*98.4,WIND FREE, A-STD#4	1	PC
DB91-01837A	IC04	ASSY MICOM	17K_RAC_A3050_Inverter,STM-1632-OA,HART-m	1	PC
0903-001864	-	IC-MICROCONTROLLER	HART-M310,QFP,100P,20x14mm,8MHz,5V,600mV	1	PC



## 6-2 OUTDOOR MAIN PBA(DB92-02866D)

Parts Code	Design Loc	Quantity	Spec.
0202-001338	SOLDER-BAR	0.47	Lead-free Solder BAR, W20L350H8, 99.3Sn/0.7Cu/0.01P
0202-001463	SOLDER-WIRE	4.27	LFC2-W3.0, -, D3, 99.79Sn/0.2Cu/0.01P, -
0204-004665	FLUX	0.43	KSP-70M-S, 14%, FLUX
0204-005794	SOLVENT	1	S-1000, (CH3)2CHOH, 100%, 0.79
1404-001498	PTC020	1	40ohm, 25%, 290Vac, 7A, TR
1405-000154	VA002	1	560V, 460Vdc, 4500A, 17.5x7.5mm, BK, 920V, 600pF
1405-000154	VA003	1	560V, 460Vdc, 4500A, 17.5x7.5mm, BK, 920V, 600pF
1405-001239	VA001	1	680V, 560Vdc, 6000A, 17x7.3mm, BK, 1120V, 350pF
1405-001239	VA401	1	680V, 560Vdc, 6000A, 17x7.3mm, BK, 1120V, 350pF
2201-000540	C425	1	4.7nF, 20%, 2000V, Y5U, 12x5mm, 10mm
2201-002002	C004	1	4.7nF, 20%, 400V, Y5U, 16x6mm, 10mm
2201-002002	C005	1	4.7nF, 20%, 400V, Y5U, 16x6mm, 10mm
2201-002002	C012	1	4.7nF, 20%, 400V, Y5U, 16x6mm, 10mm
2201-002002	C013	1	4.7nF, 20%, 400V, Y5U, 16x6mm, 10mm
2301-001285	C001	1	680nF, 10%, 275V, BK, 31x11x21mm
2301-001285	C006	1	680nF, 10%, 275V, BK, 31x11x21mm
2306-000123	C412	1	100nF, 5%, 630V, BK, 26x16.5x8.5mm
2401-004874	CE101	1	330uF, 20%, 400V, BK, 25.4*50, 10mm
2401-004874	CE102	1	330uF, 20%, 400V, BK, 25.4*50, 10mm
2401-004874	CE103	1	330uF, 20%, 400V, BK, 25.4*50, 10mm
3501-001154	RY022	1	12V, 200mW, 3000mA, 1FormA, 10ms, 10ms
3501-001154	RY030	1	12V, 200mW, 3000mA, 1FormA, 10ms, 10ms
3501-001279	RY021	1	12V, 400mW, 16000mA, 1FormA, 15ms, 5ms
3711-000177	CN301	1	1WALL, 2P, 1R, 3.96MM, STRAIGHT, SN, RED
3711-000203	CN030	1	1WALL, 2P/3P, 1R, 7.92mm, STRAIGHT, SN, WHT, 8.5x11.8 2x3.2mm
3711-000296	CN901	1	1WALL, 6P, 1R, 3.96MM, STRAIGHT, SN, WHT
3711-000760	CN551	1	BOX, 20P, 2R, 2MM, ANGLE, SN, BLK
3711-002001	CN201	1	BOX, 20P, 2R, 2MM, STRAIGHT, SN, BLK
3711-003404	CN150	1	1WALL, 2P, 1R, 7.92mm, STRAIGHT, SN, BLU
3711-003843	CN251	1	BOX, 8P, 1R, 2mm, STRAIGHT, SN, WHT
3711-007656	CN402	1	BOX, 3, 1R, 6mm, STRAIGHT, WHT
3711-007659	CN401	1	BOX, 2, 1R, 7.92mm, STRAIGHT, WHT
3711-007817	CN501	1	3WALL, 7P, 1R, 2mm, STRAIGHT, SN, WHT
3712-001047	CN003	1	TAB, MALE, N, 0.5/4.75mm
3712-001139	CN001	1	TAB, MALE, 6.35x0.8mm
3712-001139	CN002	1	TAB, MALE, 6.35x0.8mm
4719-002483	PFC050	1	Smart Power Module, FPAB20BH60B, 600V, 20A, 89W, 20kHz, PFCM
4719-002484	IPM400	1	Smart Power
DB27-00097A	FT001	1	CC-35-15SS, SI, 3.5mH, +50~-30%, 15mohm Max, 15A, - 25~+115
DB61-05296A	SUPPORT-IC	1	AFX-HD233A, PA66, FR50, BLACK
DB61-05916A	SUPPORT-PCB	1	XS01 V2MD, PA+GF40, BLACK
DB68-02809A	-	1	ART, 45, 15, E-PASS
DB94-04846A	-	1	OUTDOOR, COLD AREA, A3050, 197*142, NEW PF#2, DB92- 02866D
0504-001044	Q151	1	KRA226M, PNP, 400MW, 2.2K/10K, TO-92M, TP
2201-002427	C901	1	2.2nF, K(10%), 2000V, Y5P, 12.5x5mm, 7.5mm
2401-000303	CE162	1	100uF, 20%, 25V, WT, TP, 6.3x11mm, 5mm
2401-000303	CE163	1	100uF, 20%, 25V, WT, TP, 6.3x11mm, 5mm
2401-001838	CE151	1	470uF, 20%, 25V, WT, TP, 10x16, 5mm
2401-002438	CE902	1	47uF, 20%, 50V, WT, TP, 6.3x11, 5mm
2401-003224	CE152	1	470uF, 20%, 16V, WT, TP, 8x11.5, 5mm
2401-003585	CE901	1	220uF, 20%, 35V, WT, TP, 8x11.5mm, 5
3601-001538	F001	1	1250V, 15A, TIME-LAG, CERAMIC, 6.35x31.8mm
3711-000015	CN203	1	BOX, 2P, 1R, 2.5mm, STRAIGHT, SN, WHT, 5.8X7.4X7.0mm
3711-000024	CN202	1	BOX, 3P, 1R, 2.5MM, STRAIGHT, SN, WHT
3711-000879	CN152	1	BOX, 3P, 1R, 2.5mm, STRAIGHT, SN, BLU
3711-000880	CN151	1	BOX, 3P, 1R, 2.5MM, STRAIGHT, SN, RED
3711-000998	CN701	1	BOX, 5P, 1R, 2.5MM, STRAIGHT, SN, RED

# OUTDOOR MAIN PBA(DB92-02866D)

3711-000999	CN204	1	BOX, 5P, 1R, 2. 5mm, STRAIGHT, SN, WHT
3711-004182	CN206	1	BOX, 10P, 1R, 2mm, STRAIGHT, SN, WHT
3711-005096	CN205	1	BOX, 5P, 1R, 2MM, STRAIGHT, SN, BLK
4715-001093	DSA001	1	3600V, 20%, 2000A, -, AXIAL
DB94-04847A	-	1	OUTDOOR, COLD AREA, A3050, 197*142, NEW PF#2, DB92-02866D
0202-001459	SOLDER-CREAM	1	S3X58-M405, D20~38um, 96. 5Sn/3Ag/0. 5Cu, FLUX 5%
0401-001099	D020	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D021	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D030	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D152	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D153	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D454	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D500	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D501	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D502	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D503	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D504	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D505	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D507	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D508	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D904	1	1N4148WS, 75V, 150mA, SOD-323, TP
0401-001099	D905	1	1N4148WS, 75V, 150mA, SOD-323, TP
0402-001795	D903	1	US1M, 1000V, 1A, SMA, TP
0403-001499	ZD401	1	MMSZ5252B, 22. 8/25. 2V, 500mW, SOD-123, TP
0403-001499	ZD420	1	MMSZ5252B, 22. 8/25. 2V, 500mW, SOD-123, TP
0404-001020	D491	1	BAT54C, 30V, 200mA, SOT-23, TP
0404-001020	D492	1	BAT54C, 30V, 200mA, SOT-23, TP
0406-001204	TD301	1	SMBJ5. 0CA, 6. 4/-/7. 25V, 600W, SMB
0406-001204	TD302	1	SMBJ5. 0CA, 6. 4/-/7. 25V, 600W, SMB
0406-001204	TD303	1	SMBJ5. 0CA, 6. 4/-/7. 25V, 600W, SMB
0501-000465	Q551	1	MMBT3904, NPN, 350mW, SOT-23, TP, 30-300
0504-001008	Q351	1	RN2427, PNP, 200mW, 2. 2K/10Kohm, SOT-23, TP
0504-001008	Q352	1	RN2427, PNP, 200mW, 2. 2K/10Kohm, SOT-23, TP
0504-001008	Q901	1	RN2427, PNP, 200mW, 2. 2K/10Kohm, SOT-23, TP
0504-001008	Q903	1	RN2427, PNP, 200mW, 2. 2K/10Kohm, SOT-23, TP
0504-001080	Q902	1	KRC246S, NPN, 200mW, 2. 2K/10Kohm, SOT-23, TP
0506-000175	IC061	1	2003, NPN, 7, 1000mW, SOP-16, ST, 1000
0506-000175	IC701	1	2003, NPN, 7, 1000mW, SOP-16, ST, 1000
0506-000175	IC702	1	2003, NPN, 7, 1000mW, SOP-16, ST, 1000
0601-002423	LED801	1	SMD (REVERSE), RED, 3. 2x1. 6mm, 639nm, 3. 2x1. 6x1. 1mm
0601-002955	LED803	1	SMD (REVERSE), YEL, 1. 6x1. 5mm, 588nm, 3. 2x1. 6x1. 1mm
0601-002956	LED551	1	SMD (REVERSE), GRN, 1. 6x1. 5mm, 3. 2x1. 6x1. 1mm
0601-002956	LED802	1	SMD (REVERSE), GRN, 1. 6x1. 5mm, 3. 2x1. 6x1. 1mm
0604-001172	PC151	1	TR, 150-300, 200mW, SOP, TP
0604-001172	PC351	1	TR, 150-300, 200mW, SOP, TP
0604-001172	PC352	1	TR, 150-300, 200mW, SOP, TP
0801-000393	IC302	1	74HC86, OR GATE, SOP, 14P, 150MIL, QUAD, ST, -2. 0/6. 0V, 0. 26V, -40to+85C, 180mW, 4. 2V, 1uA,
1006-001325	IC301	1	ISL81487LIBZ, SO, 8P, 4. 9x3. 8mm, SINGLE, ST, PLASTIC, 5V, -40to+85C, 520mW, 1. 1, 1. 5/5. 0V
1201-002946	IC451	1	TSSOP, TR, 14P, 5x4. 4x1. 2mm, 100, 5. 5V, -40to+85C, 63dB, 1. 1nA, 1nA, 1. 7mV
1203-002835	IC154	1	7805, 3P, 6. 6x6. 1mm, PLASTIC, 4. 8V/5. 2V, 1. 3W, -40to+85, 1A, TP
1203-002986	IC155	1	7812, 3P, 6. 6x6. 1mm, PLASTIC, 11. 5/12. 5V, 1. 3, 150C, 1A, TP
1203-004967	IC502	1	KIA7042AT, TSM, 3P, 2. 9x1. 6mm, PLASTIC, 4. 2V, 350mW, -30to+75C, 20mA, -, -
2007-000043	R424	1	1Kohm, 1%, 1/10W, TP, 1608
2007-000070	R309	1	0ohm, 5%, 1/10W, TP, 1608
2007-000074	R152	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R210	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R213	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R233	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R234	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R401	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R402	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R403	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R404	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R405	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R406	1	100ohm, 5%, 1/10W, TP, 1608

## OUTDOOR MAIN PBA(DB92-02866D)

2007-000074	R407	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R420	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R422	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R516	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R519	1	100ohm, 5%, 1/10W, TP, 1608
2007-000074	R562	1	100ohm, 5%, 1/10W, TP, 1608
2007-000076	R153	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R255	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R256	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R257	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R258	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R352	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R353	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R512	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R567	1	330ohm, 5%, 1/10W, TP, 1608
2007-000076	R904	1	330ohm, 5%, 1/10W, TP, 1608
2007-000078	R303	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R307	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R308	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R351	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R354	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R503	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R504	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R505	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R508	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R509	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R515	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R529	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R530	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R556	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R557	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R558	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R560	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000078	R563	1	1Kohm, 5%, 1/10W, TP, 1608
2007-000080	R522	1	2Kohm, 5%, 1/10W, TP, 1608
2007-000082	R421	1	3.3Kohm, 5%, 1/10W, TP, 1608
2007-000084	R211	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R212	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R214	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R215	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R216	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R217	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R218	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R219	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R220	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R408	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R501	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R506	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R507	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R510	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R511	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R517	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R518	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R520	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R521	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R523	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R524	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R525	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R526	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R527	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R534	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R535	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R536	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000084	R903	1	4.7Kohm, 5%, 1/10W, TP, 1608
2007-000090	R301	1	10Kohm, 5%, 1/10W, TP, 1608

## OUTDOOR MAIN PBA(DB92-02866D)

2007-000090	R302	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R304	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R305	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R528	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R532	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R533	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R551	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R552	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R553	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R554	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R555	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R559	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000090	R565	1	10Kohm, 5%, 1/10W, TP, 1608
2007-000109	R531	1	1Mohm, 5%, 1/10W, TP, 1608
2007-000116	R306	1	120ohm, 5%, 1/10W, TP, 1608
2007-000124	R564	1	2.2Kohm, 5%, 1/10W, TP, 1608
2007-000140	R202	1	1Kohm, 5%, 1/16W, TP, 1005
2007-000140	R205	1	1Kohm, 5%, 1/16W, TP, 1005
2007-000143	R207	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R221	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R222	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R223	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R224	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R225	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R226	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R227	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R228	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R229	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R230	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R231	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000143	R232	1	4.7Kohm, 5%, 1/16W, TP, 1005
2007-000148	R203	1	10Kohm, 5%, 1/16W, TP, 1005
2007-000148	R204	1	10Kohm, 5%, 1/16W, TP, 1005
2007-000148	R206	1	10Kohm, 5%, 1/16W, TP, 1005
2007-000170	R201	1	1Mohm, 5%, 1/16W, TP, 1005
2007-000239	R491	1	1.5Kohm, 1%, 1/10W, TP, 1608
2007-000256	R455	1	1.6Kohm, 1%, 1/10W, TP, 1608
2007-000256	R457	1	1.6Kohm, 1%, 1/10W, TP, 1608
2007-000256	R468	1	1.6Kohm, 1%, 1/10W, TP, 1608
2007-000300	R901	1	10Kohm, 5%, 1/8W, TP, 2012
2007-000385	R101	1	14.3Kohm, 1%, 1/4W, TP, 3216
2007-000385	R105	1	14.3Kohm, 1%, 1/4W, TP, 3216
2007-000455	R251	1	18Kohm, 1%, 1/10W, TP, 1608
2007-000455	R253	1	18Kohm, 1%, 1/10W, TP, 1608
2007-000491	R561	1	2.2Kohm, 1%, 1/10W, TP, 1608
2007-000536	R492	1	200ohm, 1%, 1/10W, TP, 1608
2007-000537	R154	1	200ohm, 1%, 1/4W, TP, 3216
2007-000537	R155	1	200ohm, 1%, 1/4W, TP, 3216
2007-000537	R156	1	200ohm, 1%, 1/4W, TP, 3216
2007-000537	R157	1	200ohm, 1%, 1/4W, TP, 3216
2007-000537	R158	1	200ohm, 1%, 1/4W, TP, 3216
2007-000614	R252	1	24Kohm, 1%, 1/10W, TP, 1608
2007-000614	R254	1	24Kohm, 1%, 1/10W, TP, 1608
2007-000614	R469	1	24Kohm, 1%, 1/10W, TP, 1608
2007-000614	R470	1	24Kohm, 1%, 1/10W, TP, 1608
2007-000614	R471	1	24Kohm, 1%, 1/10W, TP, 1608
2007-000614	R472	1	24Kohm, 1%, 1/10W, TP, 1608
2007-000614	R473	1	24Kohm, 1%, 1/10W, TP, 1608
2007-000614	R474	1	24Kohm, 1%, 1/10W, TP, 1608
2007-000651	R475	1	27Kohm, 1%, 1/10W, TP, 1608
2007-000683	R454	1	3.3Kohm, 1%, 1/10W, TP, 1608
2007-000683	R459	1	3.3Kohm, 1%, 1/10W, TP, 1608
2007-000683	R466	1	3.3Kohm, 1%, 1/10W, TP, 1608
2007-000763	R476	1	330ohm, 1%, 1/10W, TP, 1608
2007-000763	R477	1	330ohm, 1%, 1/10W, TP, 1608

## OUTDOOR MAIN PBA(DB92-02866D)

2007-000872	R801	1	4.7Kohm, 5%, 1/8W, TP, 2012
2007-000872	R802	1	4.7Kohm, 5%, 1/8W, TP, 2012
2007-000872	R803	1	4.7Kohm, 5%, 1/8W, TP, 2012
2007-000924	R102	1	470Kohm, 1%, 1/4W, TP, 3216
2007-000924	R103	1	470Kohm, 1%, 1/4W, TP, 3216
2007-000924	R104	1	470Kohm, 1%, 1/4W, TP, 3216
2007-000924	R106	1	470Kohm, 1%, 1/4W, TP, 3216
2007-000924	R107	1	470Kohm, 1%, 1/4W, TP, 3216
2007-000924	R108	1	470Kohm, 1%, 1/4W, TP, 3216
2007-000979	R478	1	5.6Kohm, 1%, 1/10W, TP, 1608
2007-001071	R902	1	6.8Kohm, 5%, 1/8W, TP, 2012
2007-001175	R409	1	8.2Kohm, 1%, 1/10W, TP, 1608
2007-001175	R423	1	8.2Kohm, 1%, 1/10W, TP, 1608
2007-001175	R427	1	8.2Kohm, 1%, 1/10W, TP, 1608
2007-010245	R410	1	0.01ohm, 1%, 2W, TP, 6432
2007-010245	R411	1	0.01ohm, 1%, 2W, TP, 6432
2007-010245	R412	1	0.01ohm, 1%, 2W, TP, 6432
2007-010245	R425	1	0.01ohm, 1%, 2W, TP, 6432
2007-010245	R426	1	0.01ohm, 1%, 2W, TP, 6432
2203-000236	C421	1	0.1nF, 5%, 50V, COG, TP, 1608
2203-000257	C222	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000257	C223	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000257	C224	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000257	C225	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000257	C301	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000257	C351	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000257	C352	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000257	C422	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000257	C423	1	10nF, 10%, 50V, X7R, TP, 1608
2203-000440	C404	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C405	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C406	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C408	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C409	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C410	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C411	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C501	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C504	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C505	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C506	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C507	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C508	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C510	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C512	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C523	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000440	C904	1	1nF, 10%, 50V, X7R, TP, 1608
2203-000783	C455	1	0.33nF, 5%, 50V, COG, TP, 1608
2203-000783	C458	1	0.33nF, 5%, 50V, COG, TP, 1608
2203-002002	C453	1	0.033nF, 5%, 50V, NP0, TP, 1608
2203-002002	C454	1	0.033nF, 5%, 50V, NP0, TP, 1608
2203-002002	C459	1	0.033nF, 5%, 50V, NP0, TP, 1608
2203-002002	C515	1	0.033nF, 5%, 50V, NP0, TP, 1608
2203-002002	C516	1	0.033nF, 5%, 50V, NP0, TP, 1608
2203-002002	C517	1	0.033nF, 5%, 50V, NP0, TP, 1608
2203-002002	C518	1	0.033nF, 5%, 50V, NP0, TP, 1608
2203-002002	C519	1	0.033nF, 5%, 50V, NP0, TP, 1608
2203-002398	C524	1	22nF, 10%, 50V, X7R, TP, 1608
2203-005249	C061	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C151	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C152	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C153	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C154	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C162	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C163	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C220	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C221	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C251	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C252	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C253	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C254	1	100nF, 10%, 50V, X7R, TP, 1608

## OUTDOOR MAIN PBA(DB92-02866D)

2203-005249	C302	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C303	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C304	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C305	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C306	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C307	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C401	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C402	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C403	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C407	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C420	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C424	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C460	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C503	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C509	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C511	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C514	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C520	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C521	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C525	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C526	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C527	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C701	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C702	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C703	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C704	1	100nF, 10%, 50V, X7R, TP, 1608
2203-005249	C903	1	100nF, 10%, 50V, X7R, TP, 1608
2203-006158	C201	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006158	C203	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006158	C204	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006158	C206	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006158	C207	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006158	C208	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006158	C210	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006158	C211	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006158	C212	1	100nF, 10%, 16V, X7R, TP, 1005, 0.5T
2203-006460	C522	1	2200nF, 10%, 16V, X5R, TP, 1608, -
2203-006960	C902	1	1000nF, 10%, 50V, X7R, TP, 2012
2203-007456	C202	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2203-007456	C205	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2203-007456	C209	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2203-007456	C213	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2203-007456	C214	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2203-007456	C226	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2203-007456	C227	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2203-007456	C228	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2203-007456	C229	1	1000nF, 10%, 25V, X5R, TP, 1005, 0.5T
2402-001183	CE451	1	22uF, 20%, 16V, WT, TP, 5.3X5.3X6MM
2402-001268	CE153	1	100uF, 20%, 25V, WT, TP, 8x6.3mm
2402-001268	CE404	1	100uF, 20%, 25V, WT, TP, 8x6.3mm
2402-001268	CE420	1	100uF, 20%, 25V, WT, TP, 8x6.3mm
2402-001368	CE401	1	47uF, 20%, 25V, TP, 6.3x4.9mm
2402-001368	CE402	1	47uF, 20%, 25V, TP, 6.3x4.9mm
2402-001368	CE403	1	47uF, 20%, 25V, TP, 6.3x4.9mm
2802-001165	X201	1	4MHZ, 0.5%, TP, 4.5x2.0x1.15mm
2802-001211	X501	1	8MHZ, 0.1%, TP, 3.2X1.3X0.9MM
DB41-01227A	PCB MAIN	1	FR-4, 2Layer, 142*197, PF#2, OUTDOOR, 20z, 142*197
DB91-01517A	IC501	1	Soc 1Phase PF2, PF3, STM-125F-0A, HART-1910, 64LQFP, ROM 64KB
0903-001843	-	1	HART-1910, LQFP, 64Z30, 12x12mm, 8MHz, 5V, 600mW, -40to+85C, 12KB, 64KB, Inverter SOC, Inverter SOC
DB98-31449A	ASSY-LABEL MICOM	1	QFP, 64P, WHT, 9*9
DB91-01615A	IC201	1	RAC A3050 Outdoor Micom Nordic, STM-140B-0A, S3FM02G, 128TQFP, ROM 384KB
DB09-00596A	-	1	S3FM02G, 128P, DC3V, TQFP, -40~+85, 384K
DB98-31449A	ASSY-LABEL MICOM	1	QFP, 64P, WHT, 9*9

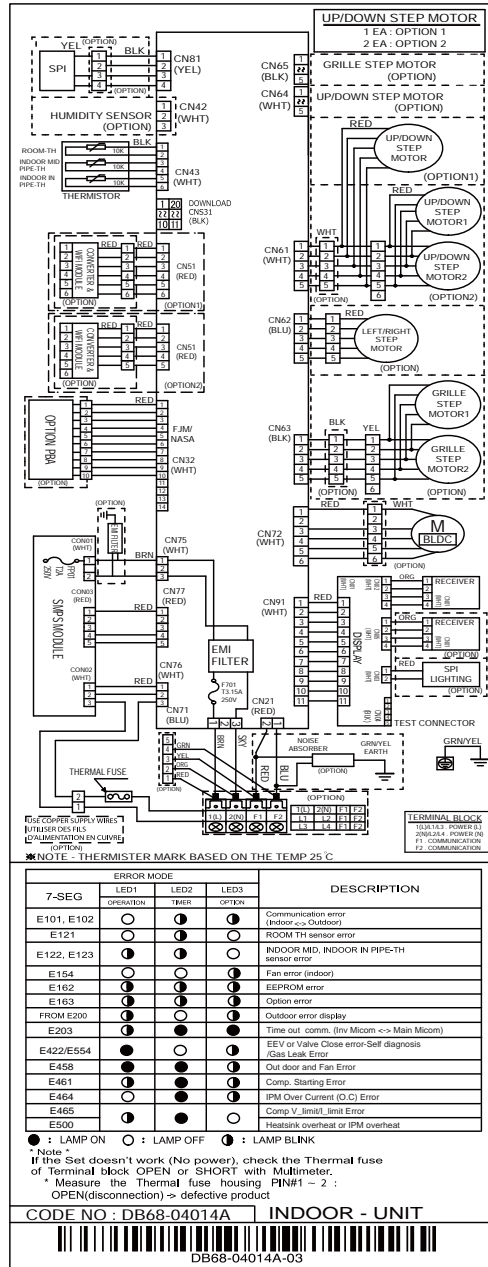


## 6-3 INDOOR DISPLAY PBA(DB92-02877A)

Parts Code	Design Loc	Parts Description	Spec.	Q'Ty
DB92-02877A	001	ASSY PCB DISPLAY	BETTER,BEST,A3050,64*36	1
0201-001528	ADHESIVE-SIL	ADHESIVE-SIL	LDC2577D,Y/GRN,175CPS,-	5
0202-001338	SOLDER-BAR	SOLDER-BAR	LeeD-free Solder BAR,W20L350H8,99.3Sn/0.7Cu/0.01P	0.18
0202-001463	SOLDER-WIRE	SOLDER-WIRE	LFC2-W3.0,D3,99.79Sn/0.2Cu/0.01P	1.62
0202-001608	SOLDER-WIRE FLUX	SOLDER-WIRE FLUX	LFC7-107,D0.8,99.3Sn/0.7Cu/0.01P,Flux3-4%	0.05
0204-004665	FLUX	FLUX	KSP-70M-S,MIXTURE,NO,FLUX,13%	0.5
0204-005794	SOLVENT	SOLVENT	S-1000,(CH3)2CHOH,100%,0.79	0.5
3711-003845	CN01	HEADER-BOARD TO CABLE	BOX,11P,1R,2mm,STRAIGHT,SN,WHT	1
3711-003942	CN03	HEADER-BOARD TO CABLE	BOX,2P,1R,2mm,STRAIGHT,SN,WHT,5.98x5.1x7.7mm	1
3711-004379	CN02	HEADER-BOARD TO CABLE	BOX,4P,1R,2mm,STRAIGHT,SN,WHT	1
3711-004379	CN05	HEADER-BOARD TO CABLE	BOX,4P,1R,2mm,STRAIGHT,SN,WHT	1
3711-005096	CN04	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,BLK	1
DB07-00188A	IC02	LED DISPLAY	WHITE,TRAY,390x360,29.0x23.0x13.5	1
DB94-04274A	ASSY PCB AUTO	ASSY PCB AUTO	INDOOR,A3050,64*36,N,DISPLAY BETTER,BEST,DB92-02877A	1
0601-003285	LED1	LED	ROUND,WHT,3.1mm,3.9x5.4mm	1
0601-003285	LED2	LED	ROUND,WHT,3.1mm,3.9x5.4mm	1

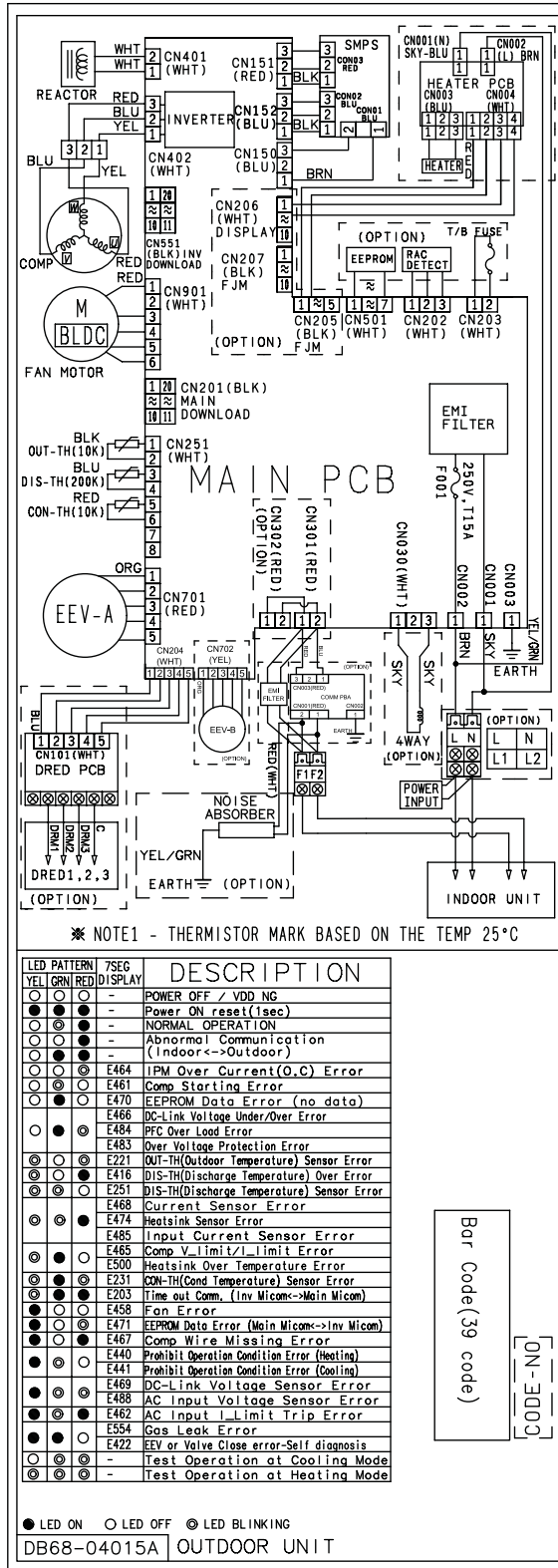
# 7. Wiring Diagram

## 7-1 Indoor Unit



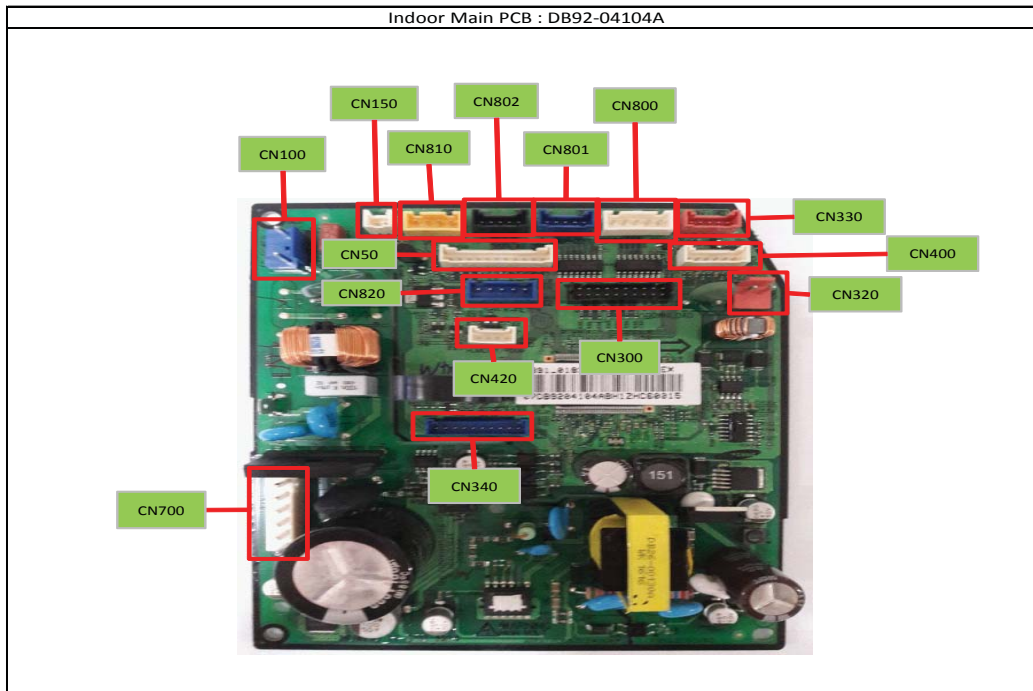


# 7-2 Outdoor Unit



# 8. PCB Diagram

## 8-1 Indoor Main PCB-DB92-04104A



### CN340 : FJM BLOCK

- #1 : COM2\_RXD
- #2 : COM2\_TXD
- #3 : COM2\_ENABLE
- #4 : COM2\_LED
- #5 : EXT\_CTRL
- #6 : COMP\_CHK
- #7 : ERROR\_CHK
- #8 : 5VCC
- #9 : GND
- #10 : 12V

### CN150 : THERMAL FUSE BLOCK

- #1 : THERMAL\_FUSE
- #2 : SGND

### CN300 : DOWNLOAD

- #1 : RXD1
- #2 : TXD1
- #3 : BOOT
- #4 : J-TAG\_TDO
- #5 : J-TAG\_TCK
- #6 : J-TAG\_TDI
- #7 : J-TAG\_TMS
- #8 : TraceCLK
- #9 : GND
- #10 : VCC
- #11 : NULL
- #12 : NULL
- #13 : NULL
- #14 : Trace3
- #15 : NULL
- #16 : NULL
- #17 : GND
- #18 : Trace2
- #19 : Trace1
- #20 : Trace0

### CN500 : DISPLAY

- #1 : DIO
- #2 : CLK
- #3 : STB
- #4 : IRQ
- #5 : GND
- #6 : 5VCC
- #7 : Vout
- #8 : PWM\_LED
- #9 : TEST\_RX
- #10 : NULL
- #11 : NULL

### CN320 : 485 COMMUNICATION

- #1 : RXD1
- #2 : TXD1

### CN330 : WiFi BLOCK

- #1 : MAIN\_RX-WiFi\_TX
- #2 : MAIN\_TX-WiFi\_RX
- #3 : WiFi\_RESET
- #4 : GND
- #5 : 12V

### CN100 : SPMS

- #1 : L
- #2 : NULL
- #3 : N

### CN820 : FILTER BLOCK

- #1 : SGND
- #2 : L\_K1\_MODE
- #3 : L\_K1\_PS
- #4 : K1\_FB
- #5 : 12V

### CN420 : HUM/TEMP BLOCK

- #1 : 5V\_VCC
- #2 : GND
- #3 : H\_ROOM\_TEMP
- #4 : HUM\_SENSOR

### CN700 : BLDC FAN

- #1 : 310V
- #2 : NULL
- #3 : PGND
- #4 : 15V
- #5 : BLDC\_MOTOR
- #6 : MOTOR\_FB

### CN800 : STEP-UP/DOWN

- #1 : 12V
- #2 : O5
- #3 : O4
- #4 : O3
- #5 : O2

### CN801 : STEP MOTOR-L/R

- #1 : 12V
- #2 : O5
- #3 : O6
- #4 : O7
- #5 : O1

### CN810 : SPI BLOCK

- #1 : SPI
- #2 : NULL
- #3 : 12V
- #4 : NULL

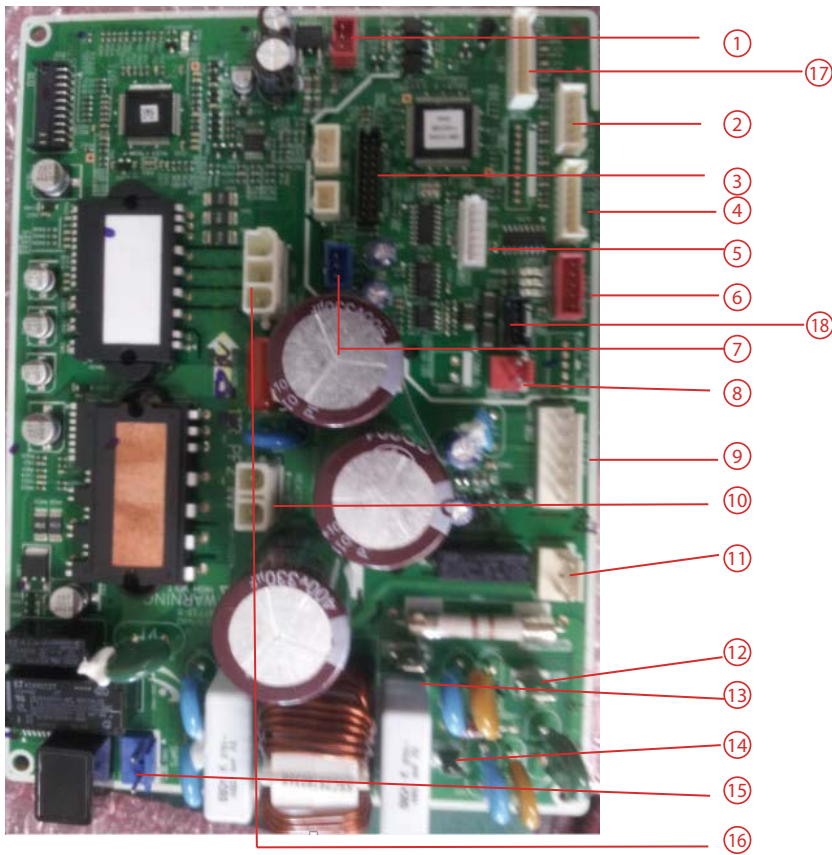
### CN400 : SENSOR BLOCK

- #1 : ROOM\_TEMP
- #2 : GND
- #3 : EVA\_TEMP
- #4 : GND
- #5 : EVA2\_TEMP
- #6 : GND

### CN802 : STEP MOTOR-2

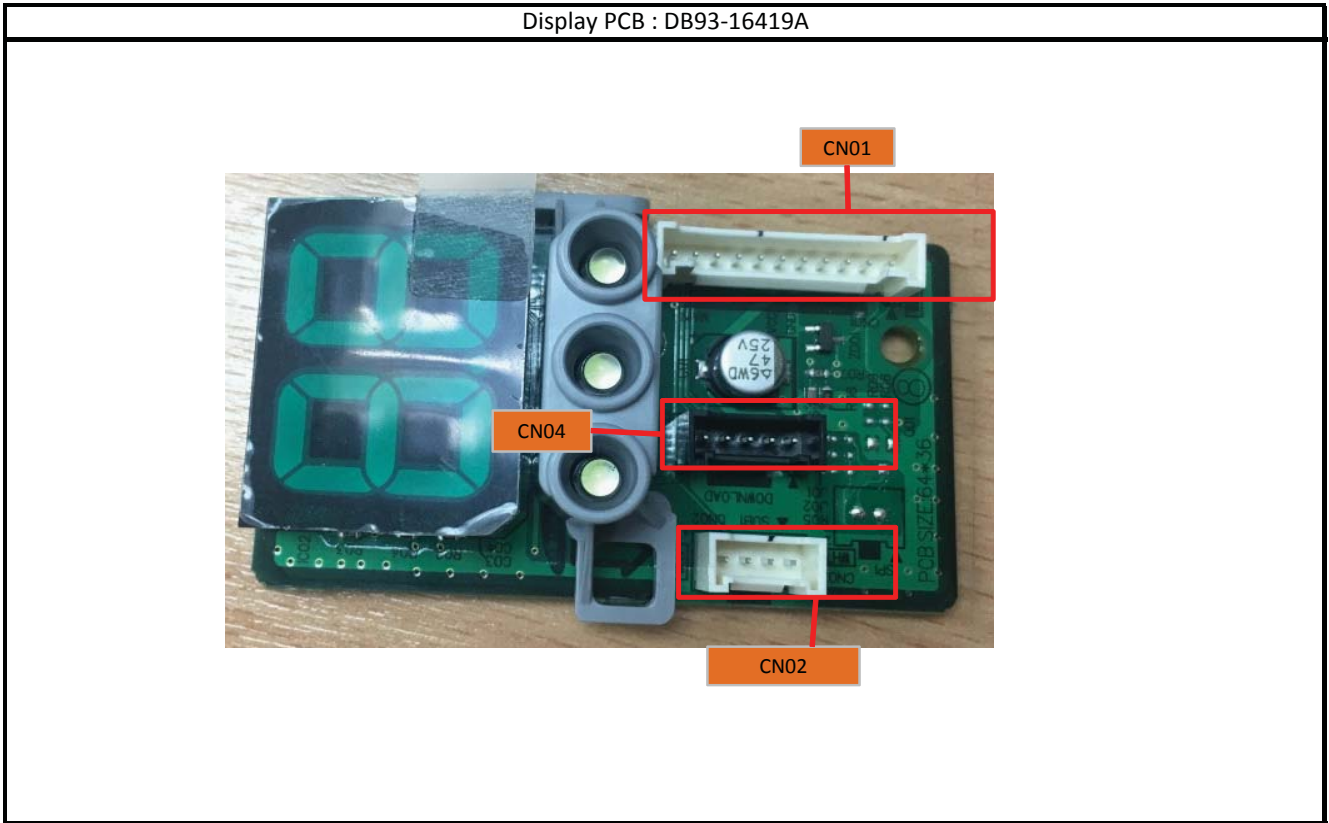
- #1 : 12V
- #2 : O1
- #3 : O2
- #4 : O3
- #5 : O4

## 8-2 Outdoor PCB\_AR09,12KSWSPWKXCV;AR18KSFDPDWQXCV



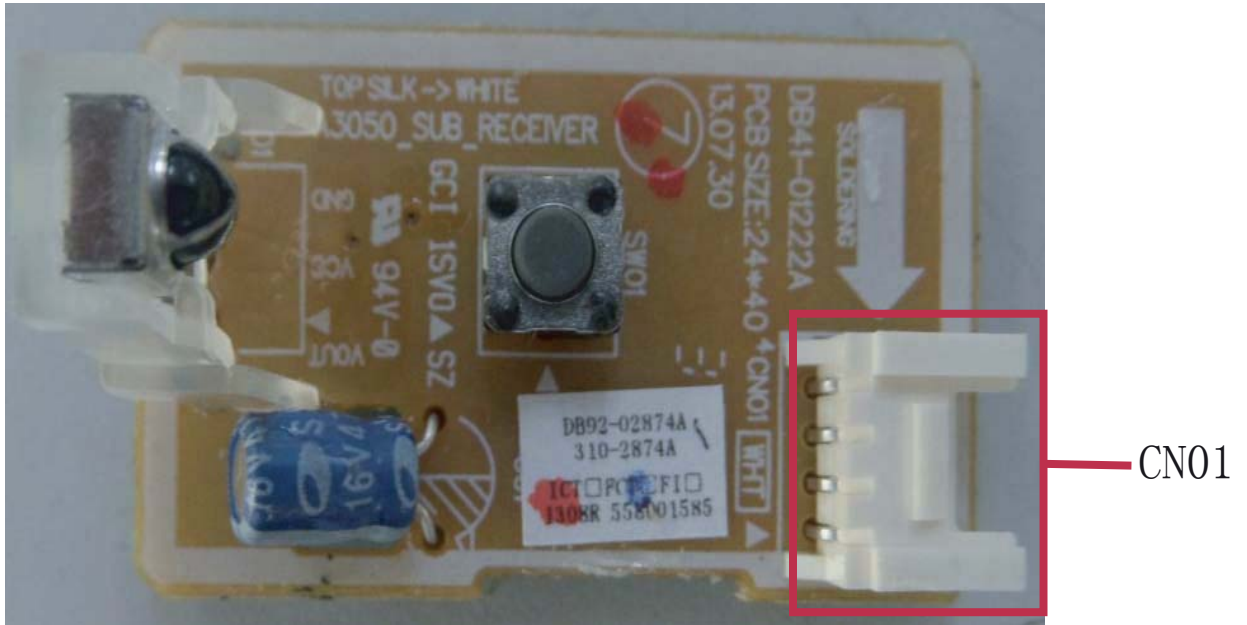
<b>⑰</b> CN206 Heater Drive signal
#1: Heater 1 Signal
#2: Heater 2 Signal
<b>⑱</b> CN205 DC Power
#1: 12V
#2: GND

<b>① CN151 - SMPS INV</b> #1 : 15V #2 : GND #3 : ENABLE	<b>② CN204 - DRED</b> #1 : DRED1 #2 : DRED2 #3 : DRED3 #4 : GND #5 : 5V	<b>③ CN201- DOWNLOAD-MAIN</b> #1 ~ #20 : DOWNLAOD	<b>④ CN251 - SENSOR</b> #1,#2 : OUT SENSOR #3,#4 : DISCHARGE SENSOR #5,#6 : COND SENSOR
<b>⑤ CN501 - EEPROM</b> #1 : GND #3 : 5V #4 : EEP CS #5 : EEP_SO/MICOM RX #6 : EEP_SI_MICOM_TX #7 : EEP CLK	<b>⑥ CN701 - EEV-A</b> #1~#4 : EEV SIGNAL #5 : 12V	<b>⑦ CN152 - SMPS MAIN</b> #1 : 12V #2 : GND #3 : 5V	<b>⑧ CN301 - COMMUNICATION</b> #1 : F1 #2 : F2
<b>⑨ CN901 - FAN</b> #1 : DC 310~340V #2 : N.C #3 : AGND #4 : DC 15V #5 : FAN RPM #6 : FAN FEEDBACK	<b>⑩ CN401- REACTOR</b> #1 : REACTOR1 #2 : REACTOR2	<b>⑪ CN030 - 4WAY</b> #1,#3 : AC220~240V	<b>⑫ CN001 - POWER-N</b> #1 : N
<b>⑬ CN002 - POWER-L</b> #1 : L	<b>⑭ CN003 - EARTH</b> #1 : EARTH	<b>⑮ CN150 - SMPS AC</b> #1,#3 : AC220~240V	<b>⑯ CN402 - COMP</b> #1 : W #2 : V #3 : U



CN01		CN02		CN04	
#1	DIN/DOUT	#1	GND	#1	DIN/DOUT
#2	CLK	#2	Vout	#2	CLK
#3	STB	#3	5VDC	#3	STB
#4	IRQ	#4	IRQ	#4	SWITCH INPUT
#5	GND			#5	GND
#6	5VDC				
#7	Vout				
#8	PWM_LED				
#9	TEST_RX				
#10	TEST_TX				
#11	MODE0				

## 8-4 SUB PCB--RECEIVE-DB92-02874A



<p><b>CN01 - RECEIVE</b></p> <p>#1:GND #2:Vout #3:Vcc #4:SW</p>			

## 8-5 Wire connecting the indoor unit terminal blocks

---

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

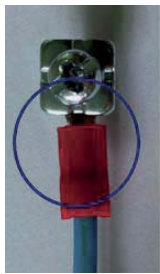


Is inverted



Terminal has been cut.

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.



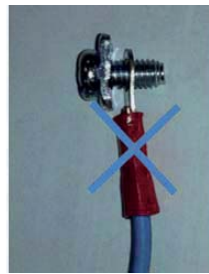
①



②



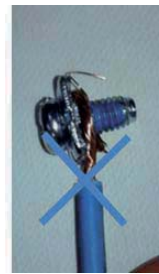
③



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

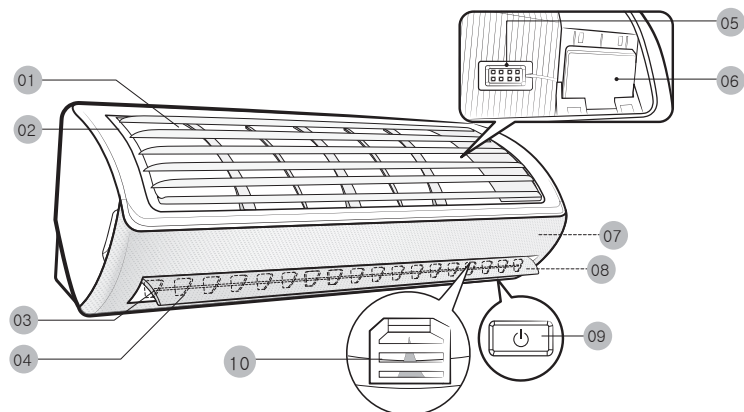
### 9-1 Name of Each Part

#### 9-1-1 Indoor Unit

The design and shape are subject to change according to the model.

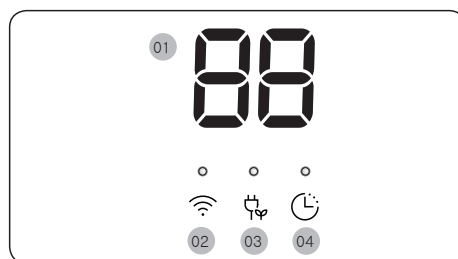
#### ■ Main Parts

The actual product may differ slightly from the image depicted below.



- |                                    |  |
|------------------------------------|--|
| 01 Air intake                      | 06 Wi-Fi module                          |
| 02 Air filter                      | 07 Wind-free panel                       |
| 03 Air flow blade (up and down)    | 08 Display                               |
| 04 Air flow blade (left and right) | 09 Power button /Remote control receiver |
| 05 Room temperature sensor         | 10 (Inside) Virus doctor                 |

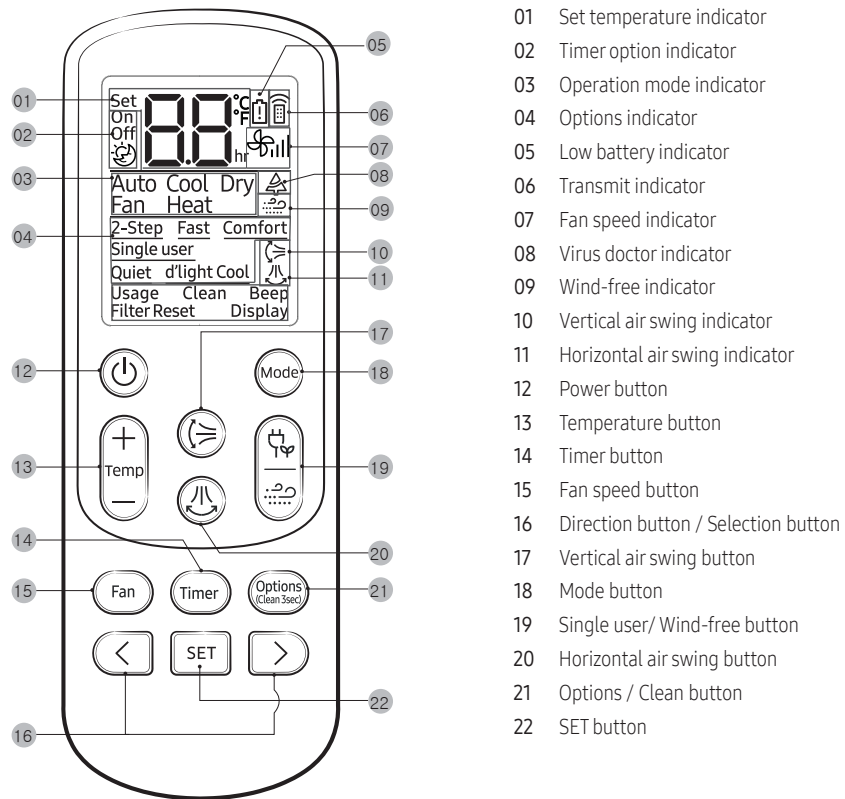
#### ■ Display



- |    |  |
|----|--|
| 01 | Temperature indicator<br>Filter reset indicator (CF)<br>Electricity consumption indicator<br>Auto clean indicator (C!)<br>Defrost indicator (dF) |
| 02 | Wi-Fi indicator  |
| 03 | Single user indicator  |
| 04 | Timer indicator<br>good'sleep indicator<br>Auto clean indicator  |



## 9-2 Wireless Remote control-Buttons and Display







## 10. Troubleshooting

### 10-1 Items to be checked first

- The input voltage should be rating voltage  $\pm 10\%$  range.  
The air conditioner may not operate properly if the voltage is out of this range.
- 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.
- 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. <b>[ In case of heat pump model ]</b> 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	<b>[In case of heat pump model]</b> 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 continues operation for up to 9 minutes(maximum) until the deice is completed.
8	<b>[In case of heat pump model]</b> The compressor and indoor fan stop intermittently 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	<b>[In case of heat pump model]</b> 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

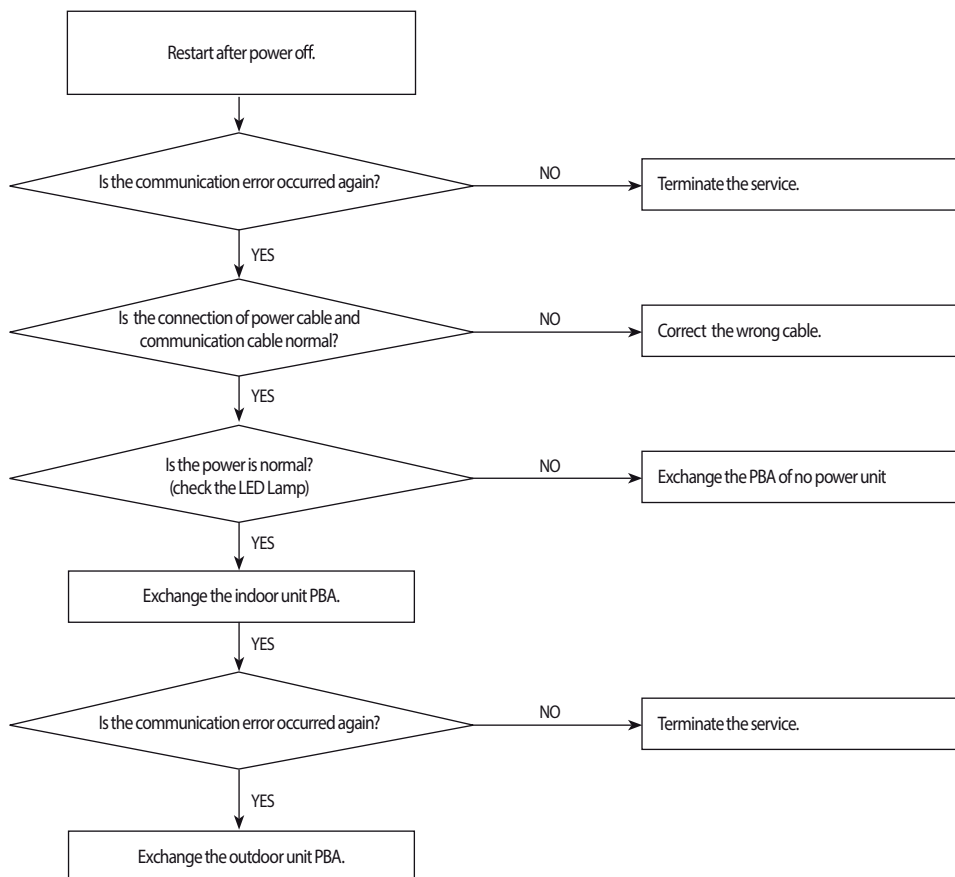
◎	●	●	1 min. Time out Comm.
○	○	●	Abnormal Communication
○	●	●	

● 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

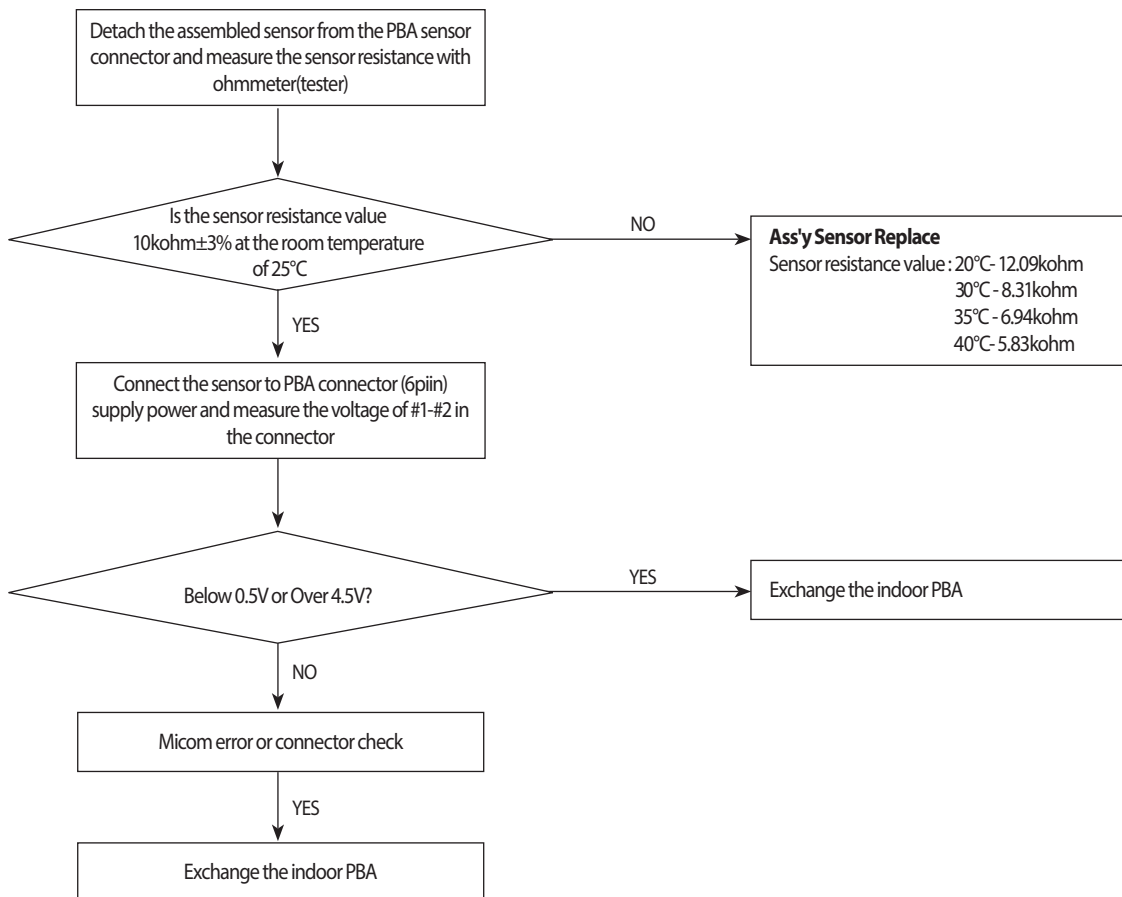
3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E121	Indoor room temp sensor error
○	◎	○		

● 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



### 10-2-3 Indoor fan motor speed detecting error (BLDC fan)

#### Indoor display

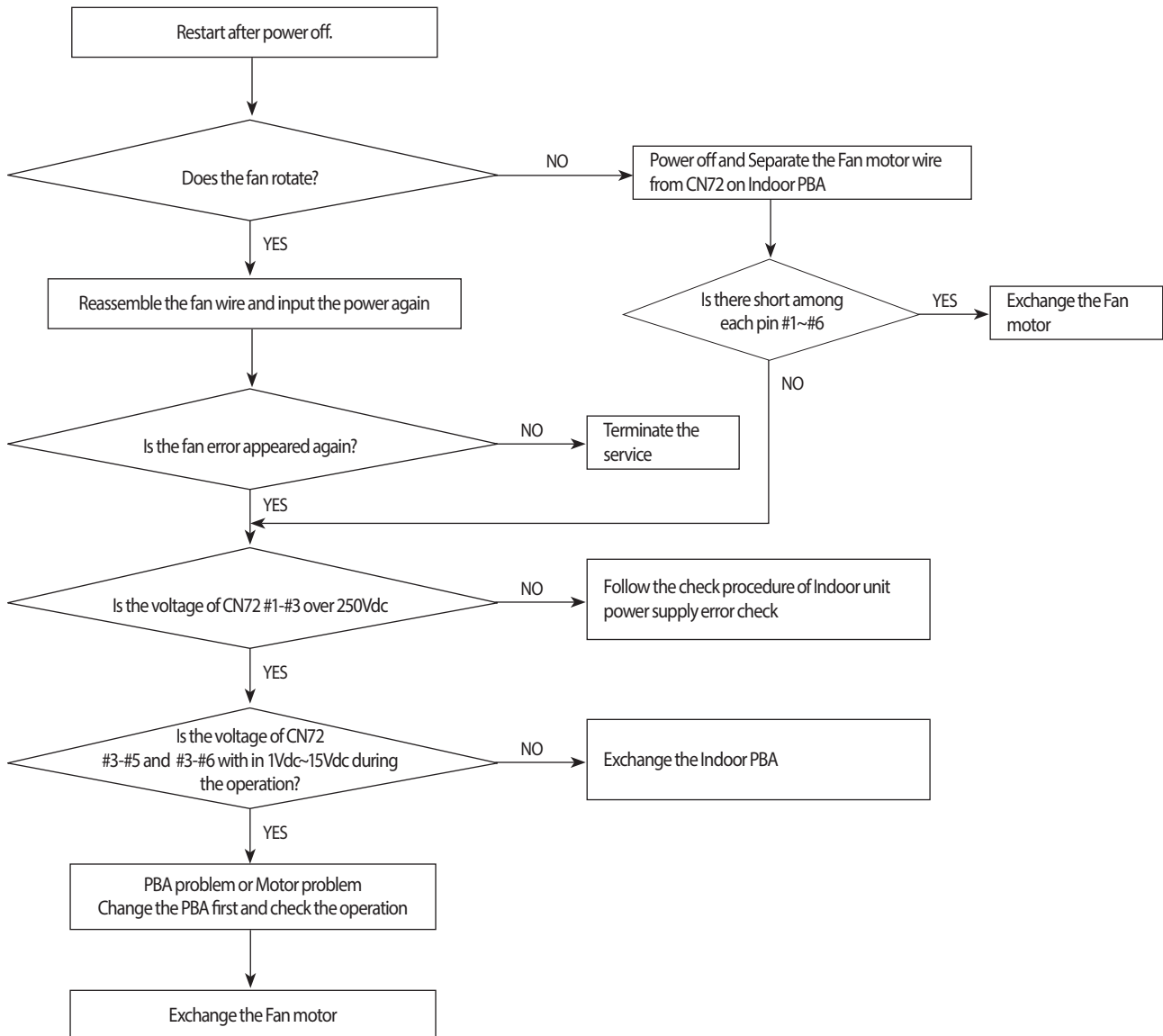
3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E154	Indoor fan error
○	○	◎		

● 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



## 10-2-4 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
---	---	---	----------------------------------

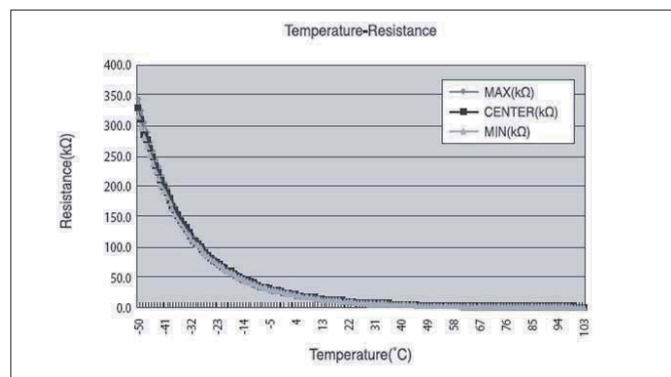
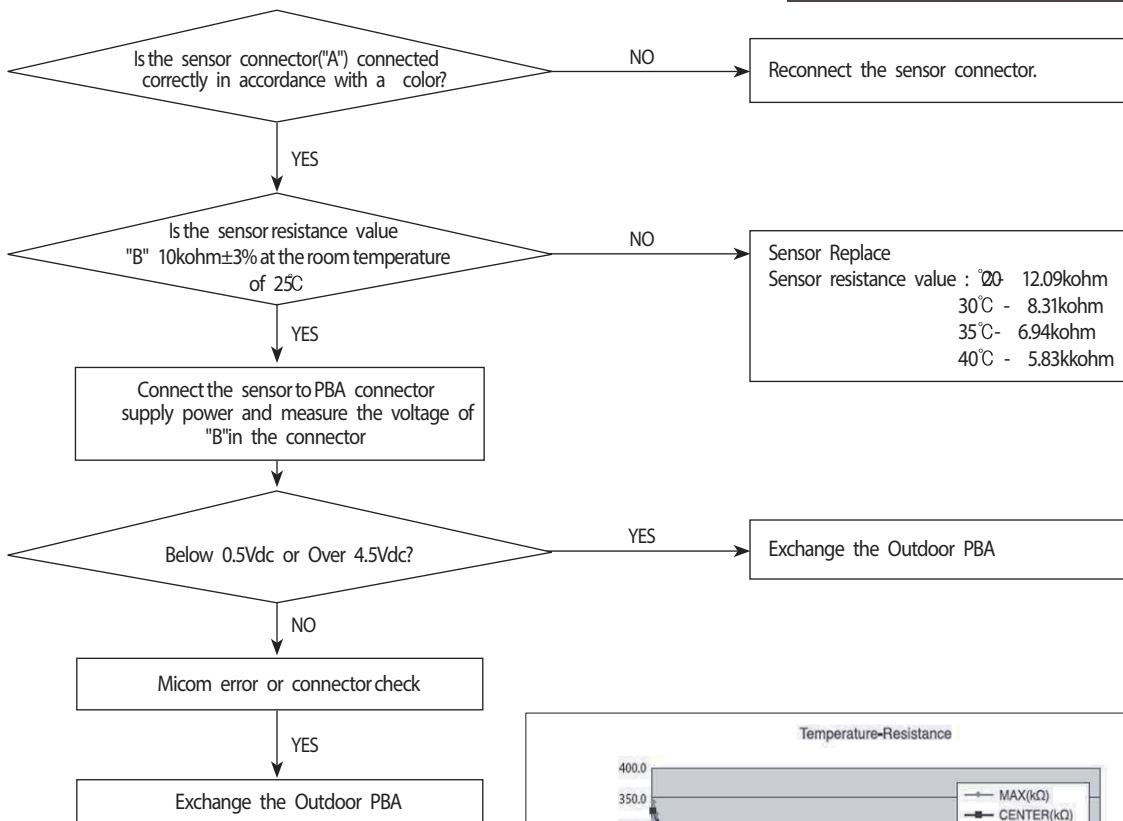
● LED ON    ⊙ LED BLINKING    ○ LED OFF

#### 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?

MODEL	"A"	"B"
ALL	CN251	CN251 #1-#2

#### 2. Troubleshooting procedure



## 10-2-5 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
---	---	---	---------------------------------------

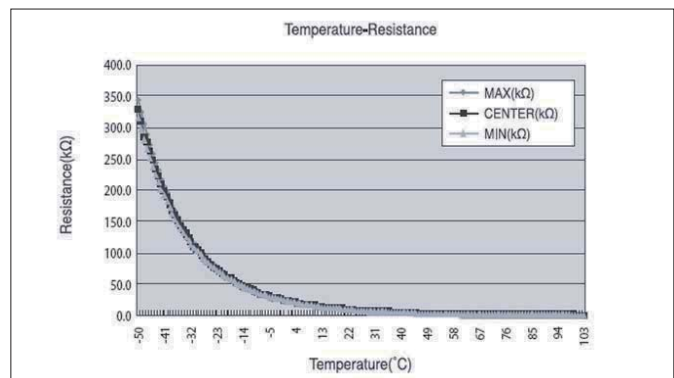
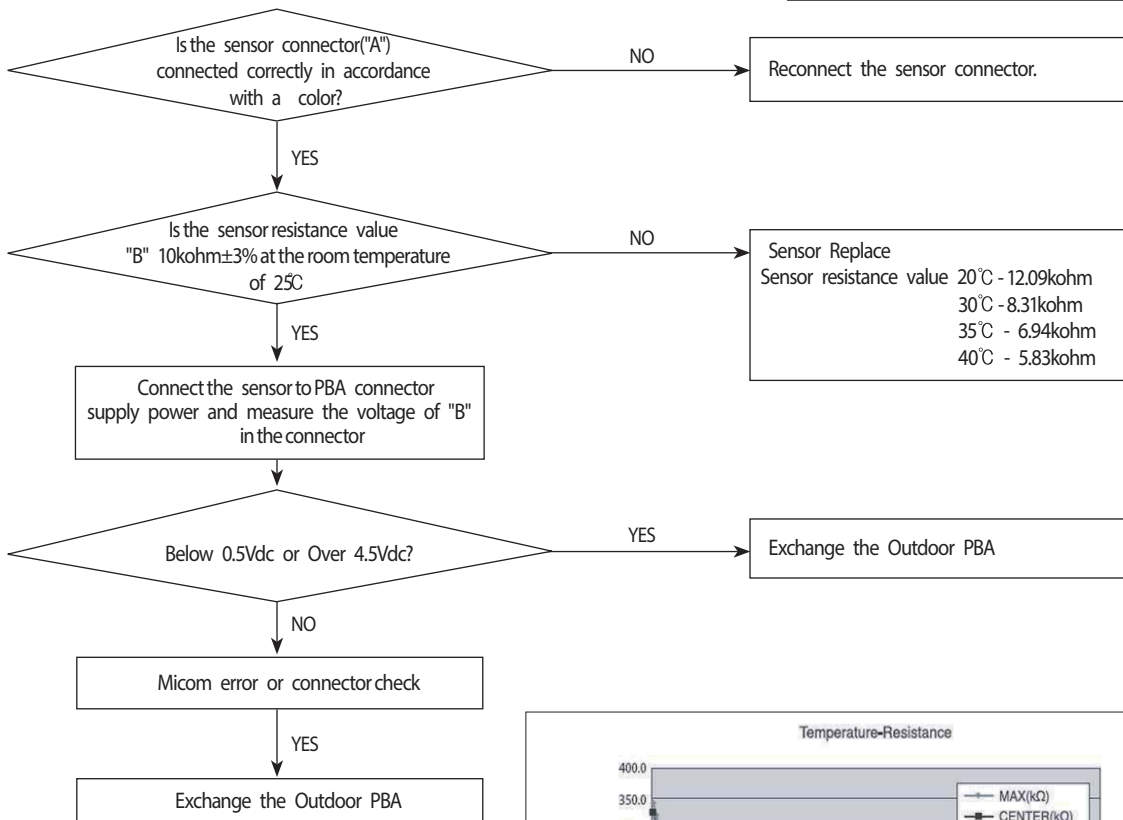
● LED ON    ⊙ LED BLINKING    ○ LED OFF

#### 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

MODEL	"A"	"B"
ALL	CN251	CN251 #5-#6



## 10-2-6 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
---	---	---	--

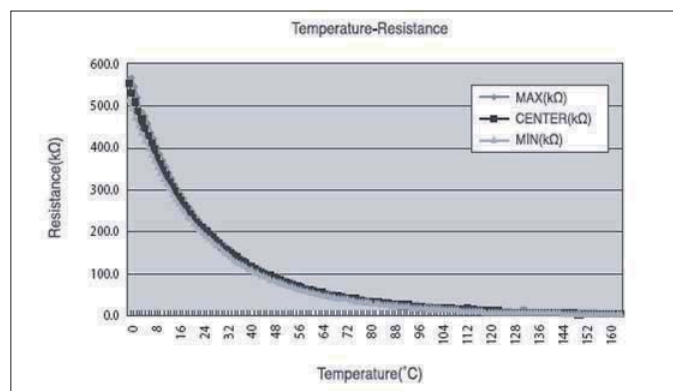
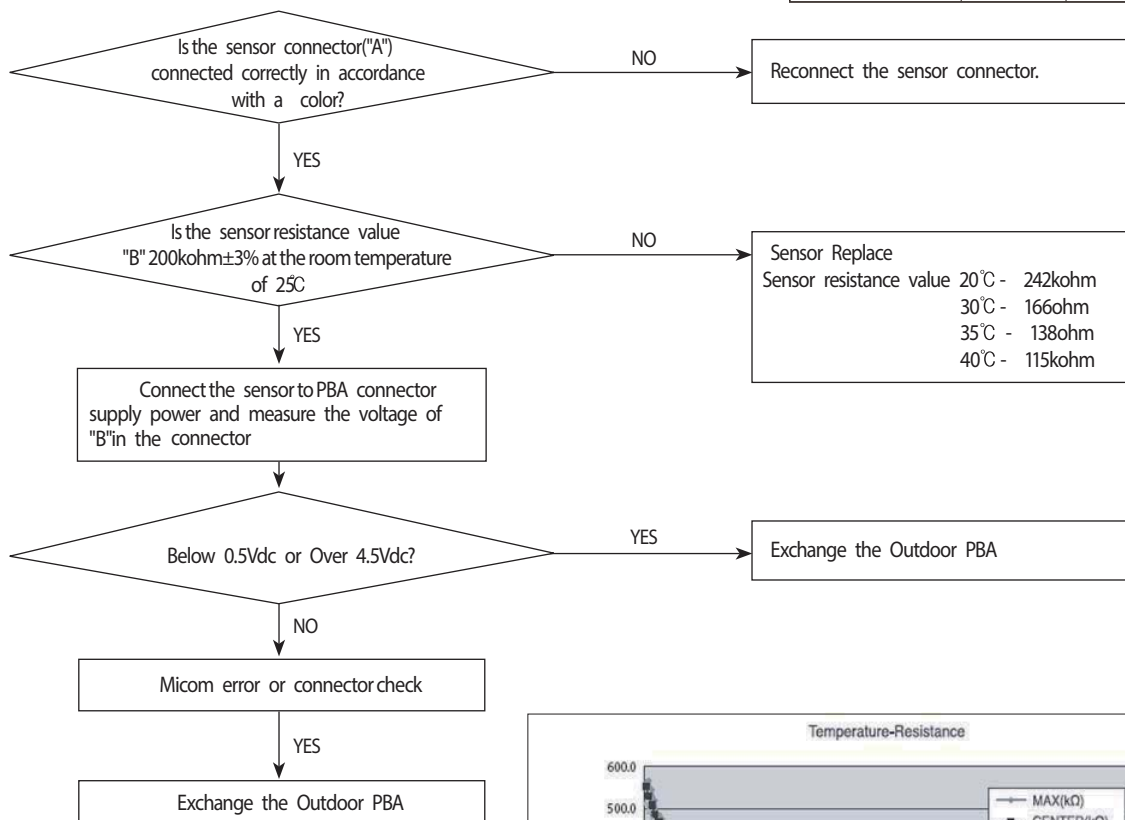
● LED ON    ⊙ LED BLINKING    ○ LED OFF

#### 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?

MODEL	"A"	"B"
ALL	CN251	CN251 #3-#4

#### 2. Troubleshooting procedure



## 10-2-7 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

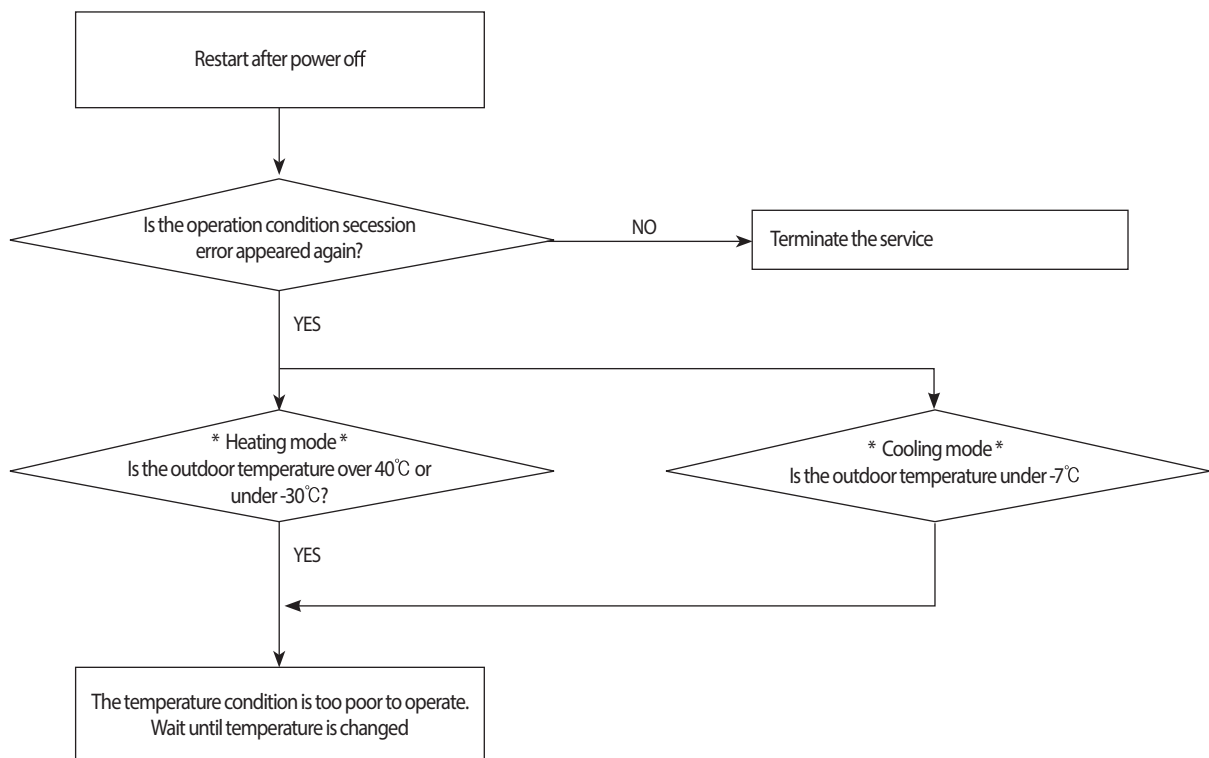
●	◎	○	Operation condition secession
---	---	---	-------------------------------

● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

- 1) Check the temperature around the outdoor unit.

#### 2. Troubleshooting procedure





## 10-2-8 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

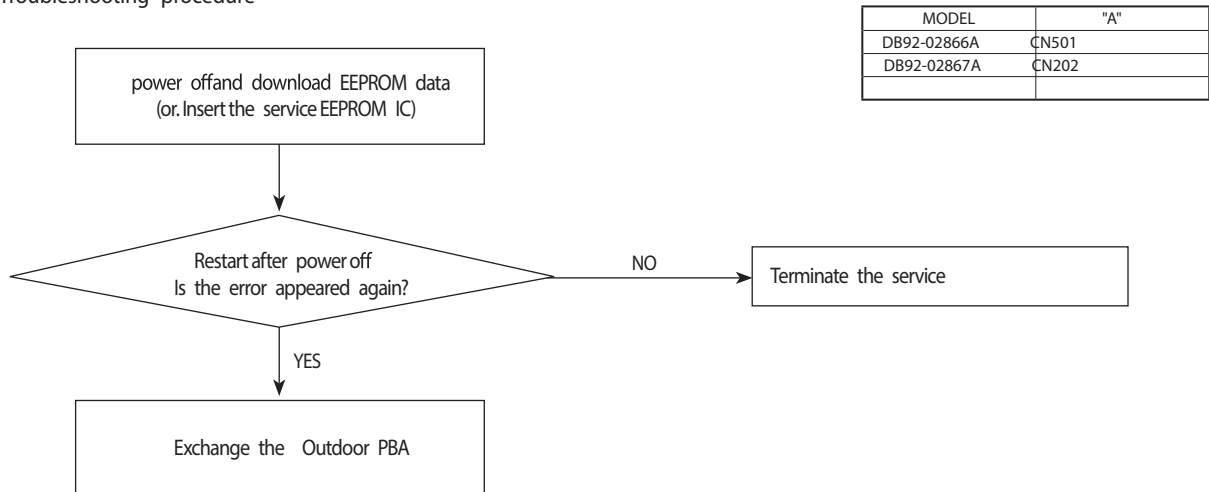
○	●	○	EEPROM Data Error (no data)
●	○	◎	OTP errorEEPROM Data Error (Main Micom→Inv Micom)

● 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



## 10-2-9 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
---	---	---	-------------------

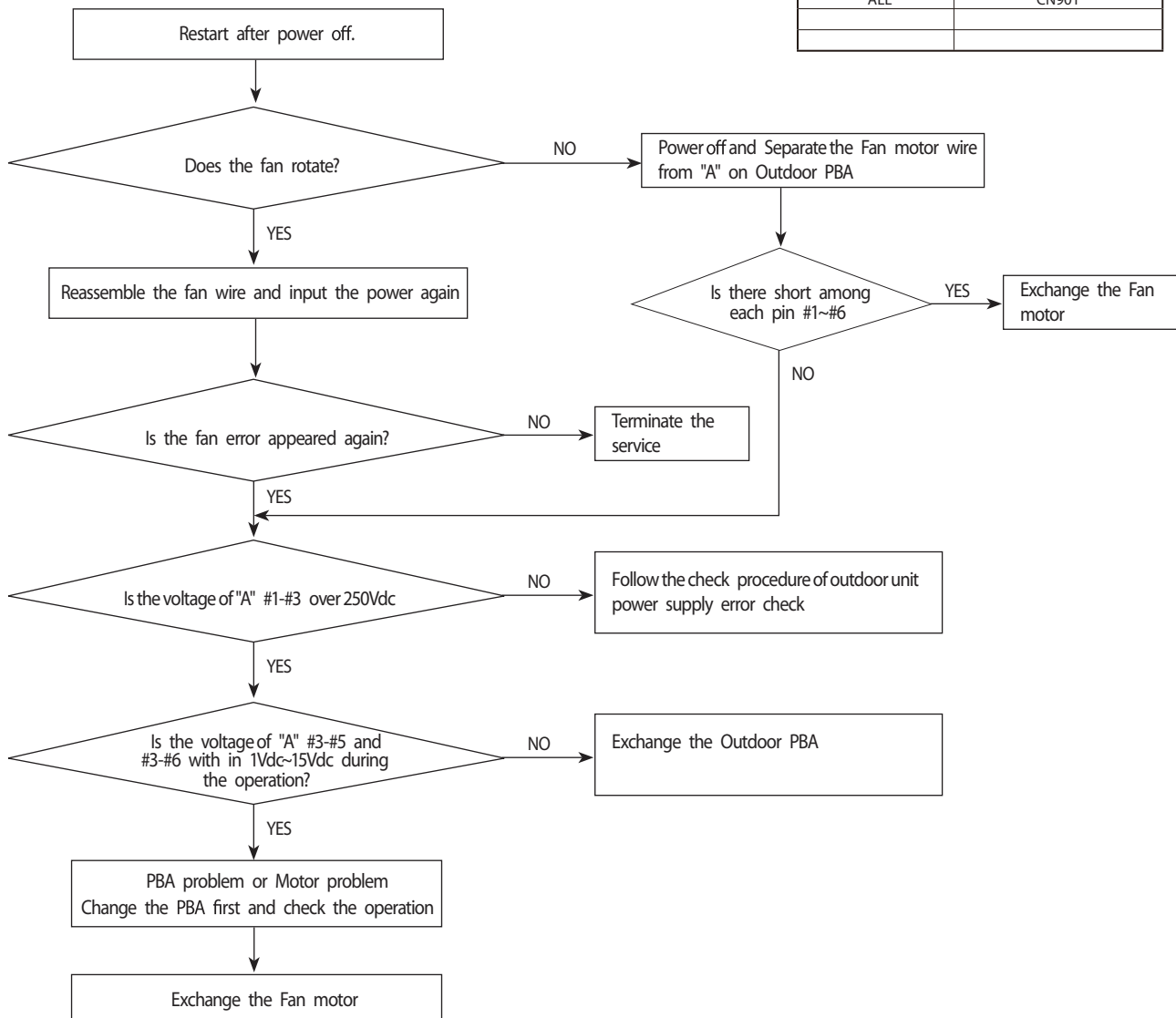
● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 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

MODEL	"A"
ALL	CN901



## 10-2-10 Compressor starting error

### Indoor display

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

### Outdoor display

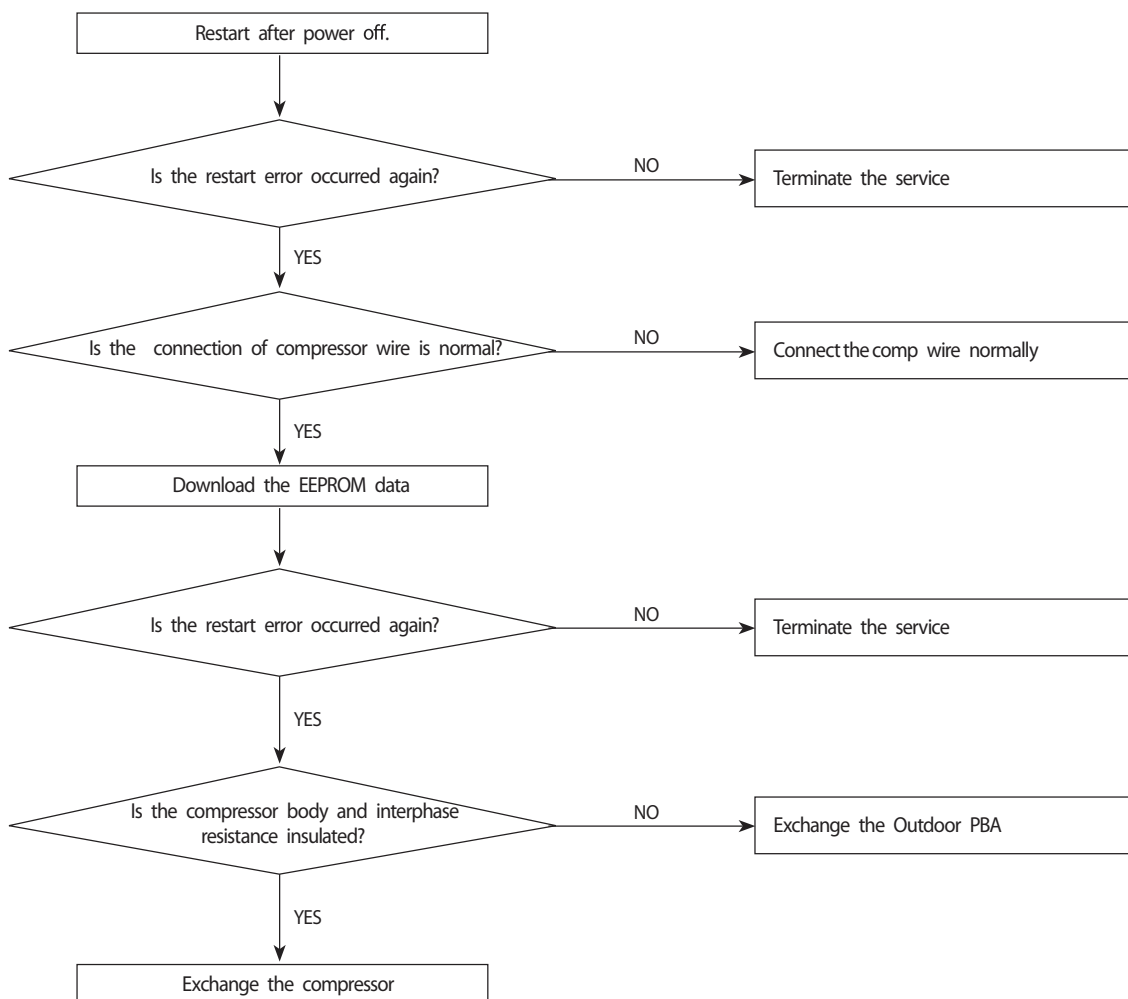
○	⊙	○	Comp starting error
---	---	---	---------------------

● 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



## 10-2-11 Compressor wire missing error/rotation error

### Indoor display

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

### Outdoor display

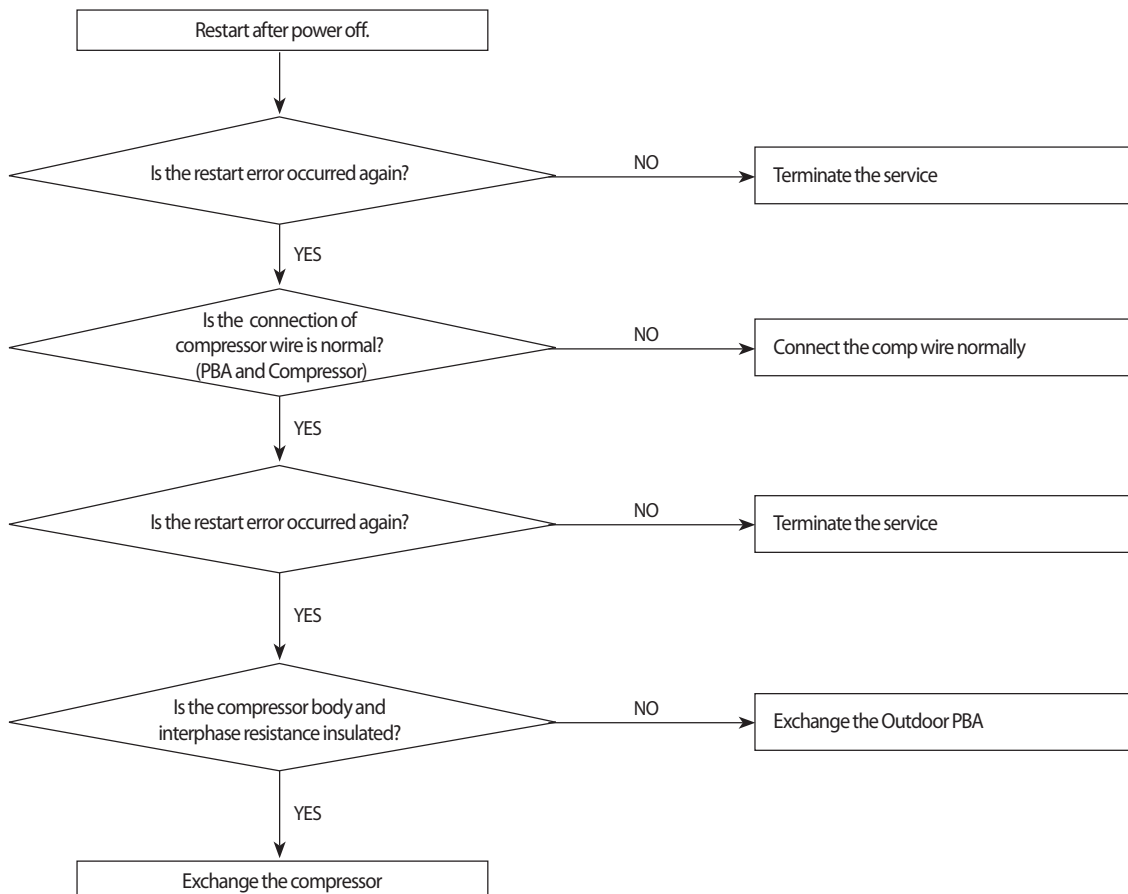
●	○	●	Compressor wire missing error/rotation error
---	---	---	--

● 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



## 10-2-12 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

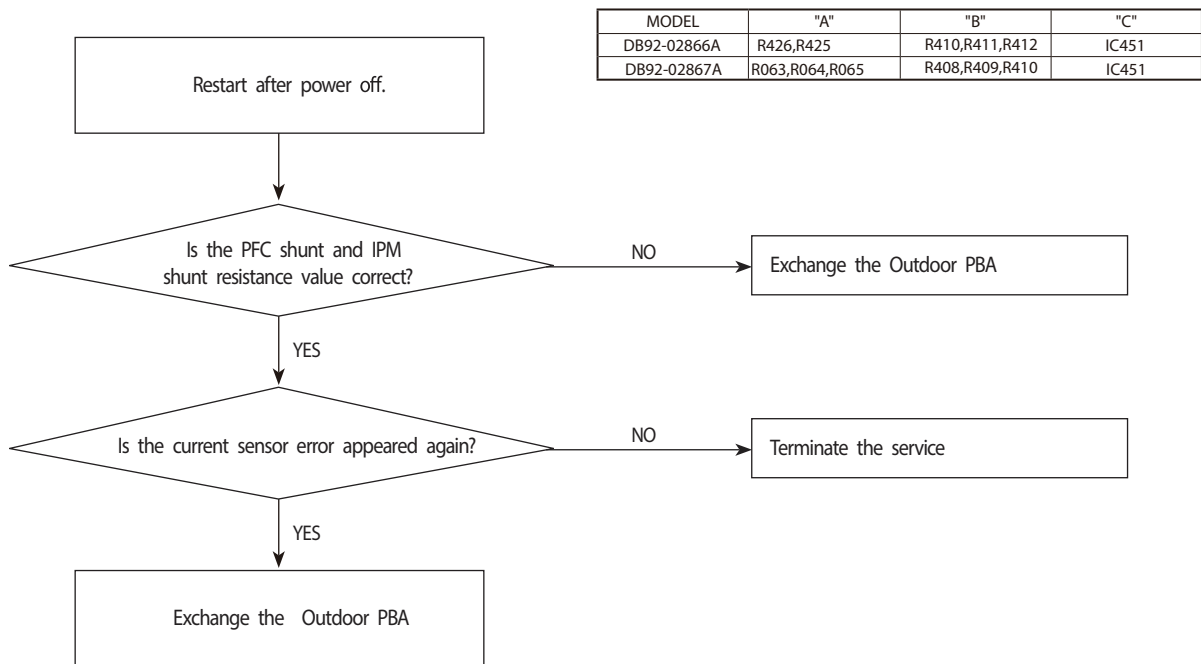
●	⊙	○	Current sensor error
●	⊙	○	Input current sensor error

● LED ON    ⊙ LED BLINKING    ○ LED OFF

#### 1. Checklist :

- 1) Is the PFC Shunt("A") resistance value correct? Check the resistor is opened
- 2) Is the IPM Shunt("B") resistance value correct? Check the resistor is opened
- 3) Is there no short or open around "C"?

#### 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

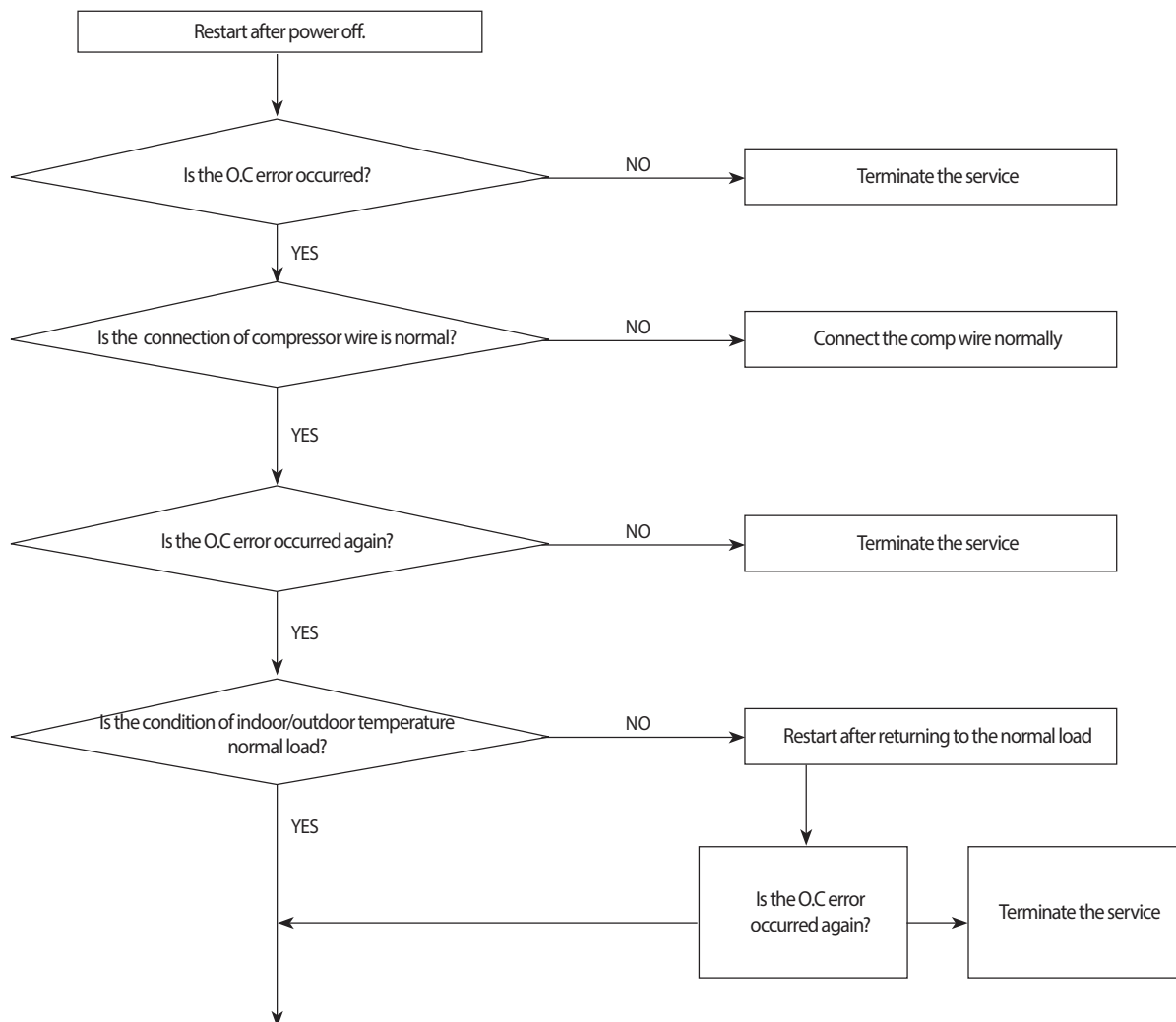
○	○	◎	IPM Over Current(O.C) Error
---	---	---	-----------------------------

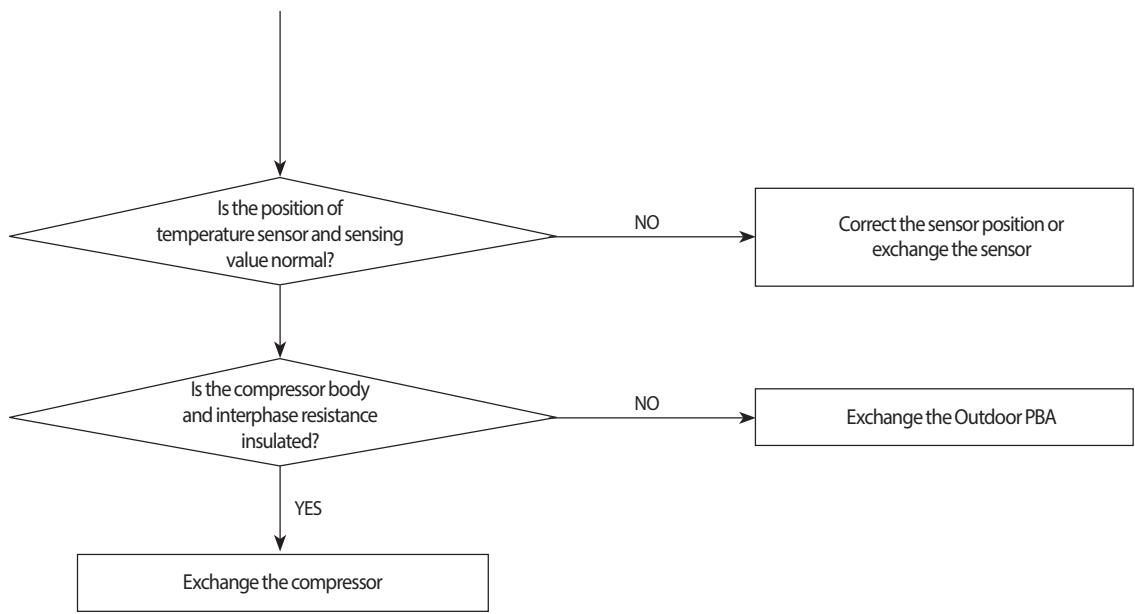
● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 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



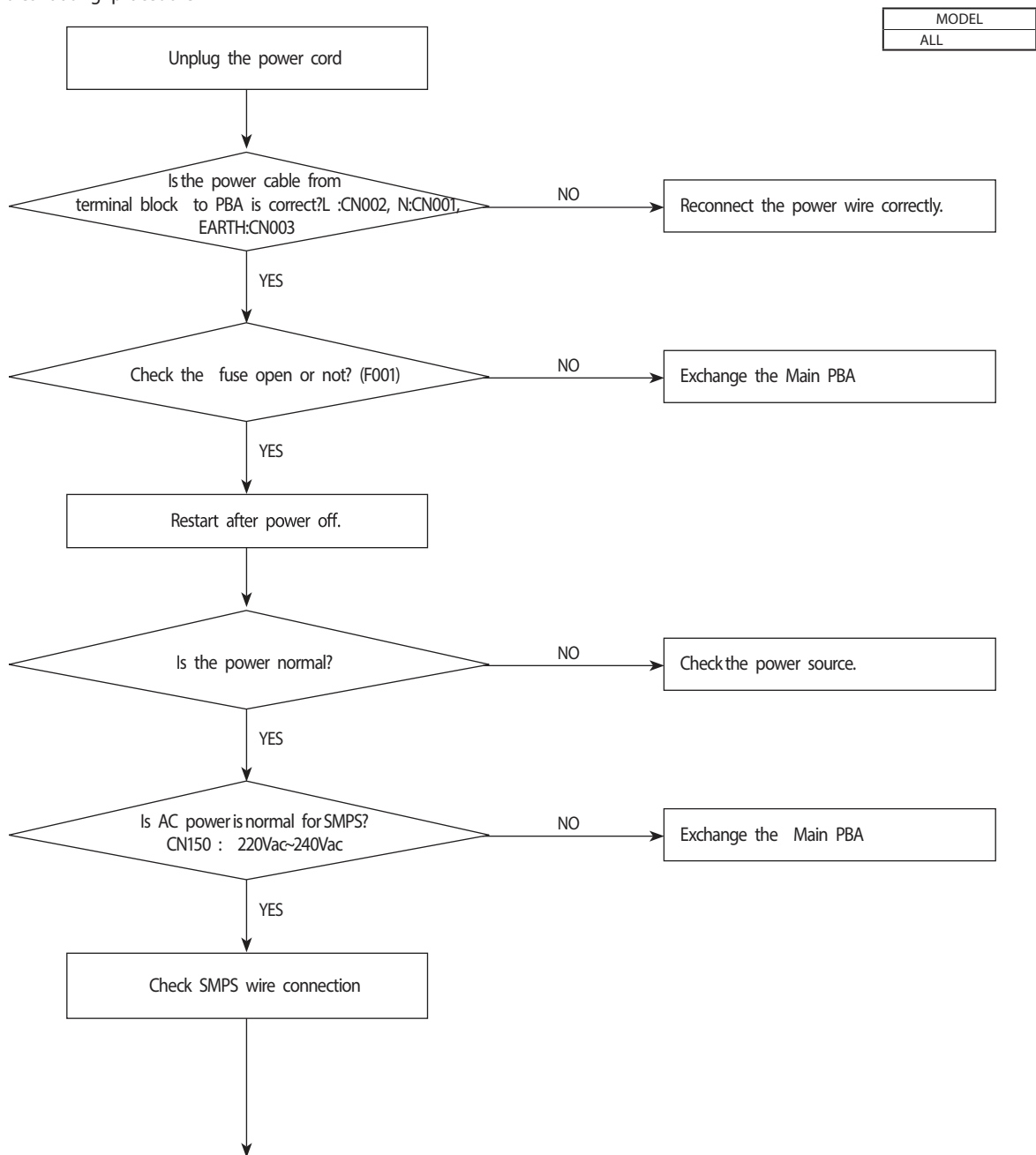


## 10-2-14 No power outdoor (Initial Diagnosis) (Not displayed)

### 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



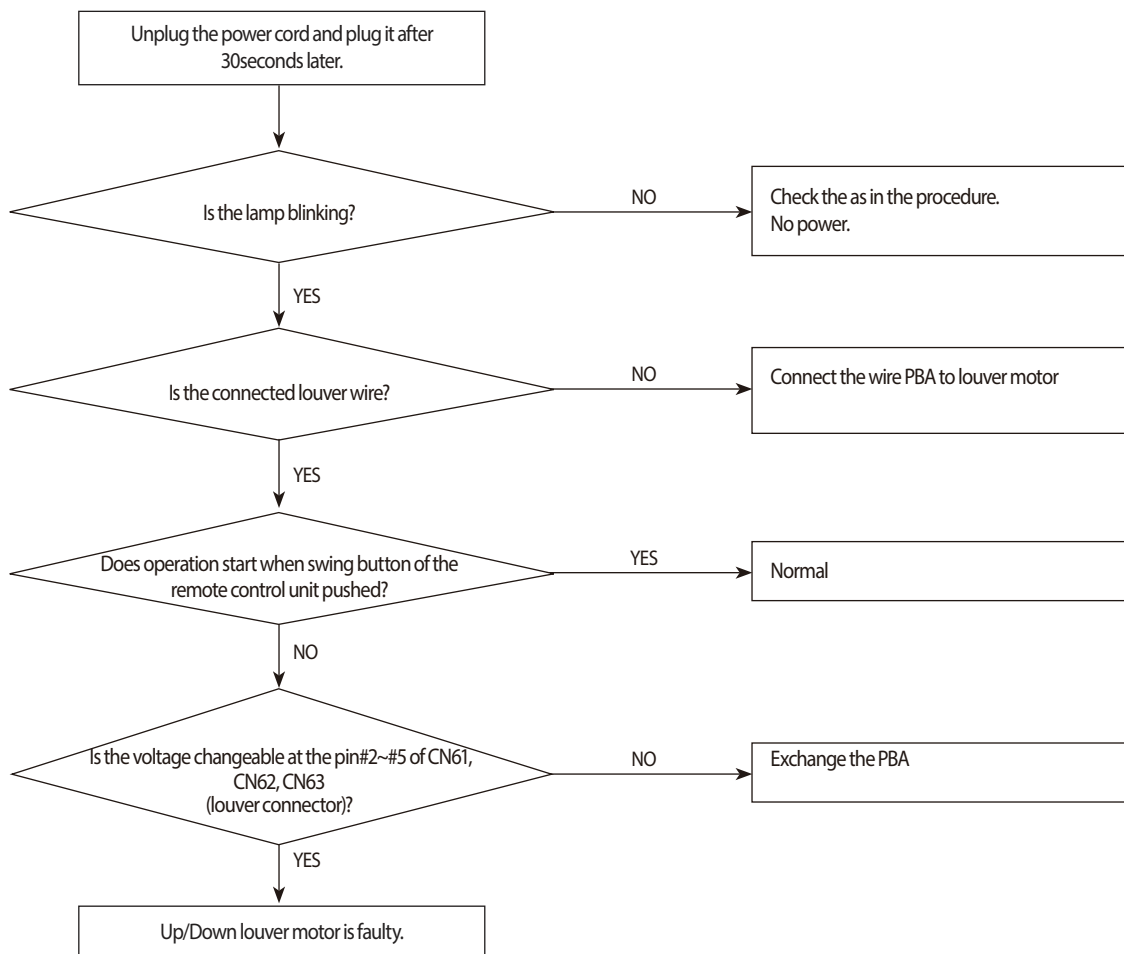


## 10-2-15 When the Up/Down, Left/Right, Grill louver motor does not operate (Initial Diagnosis) (Not displayed)

### 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

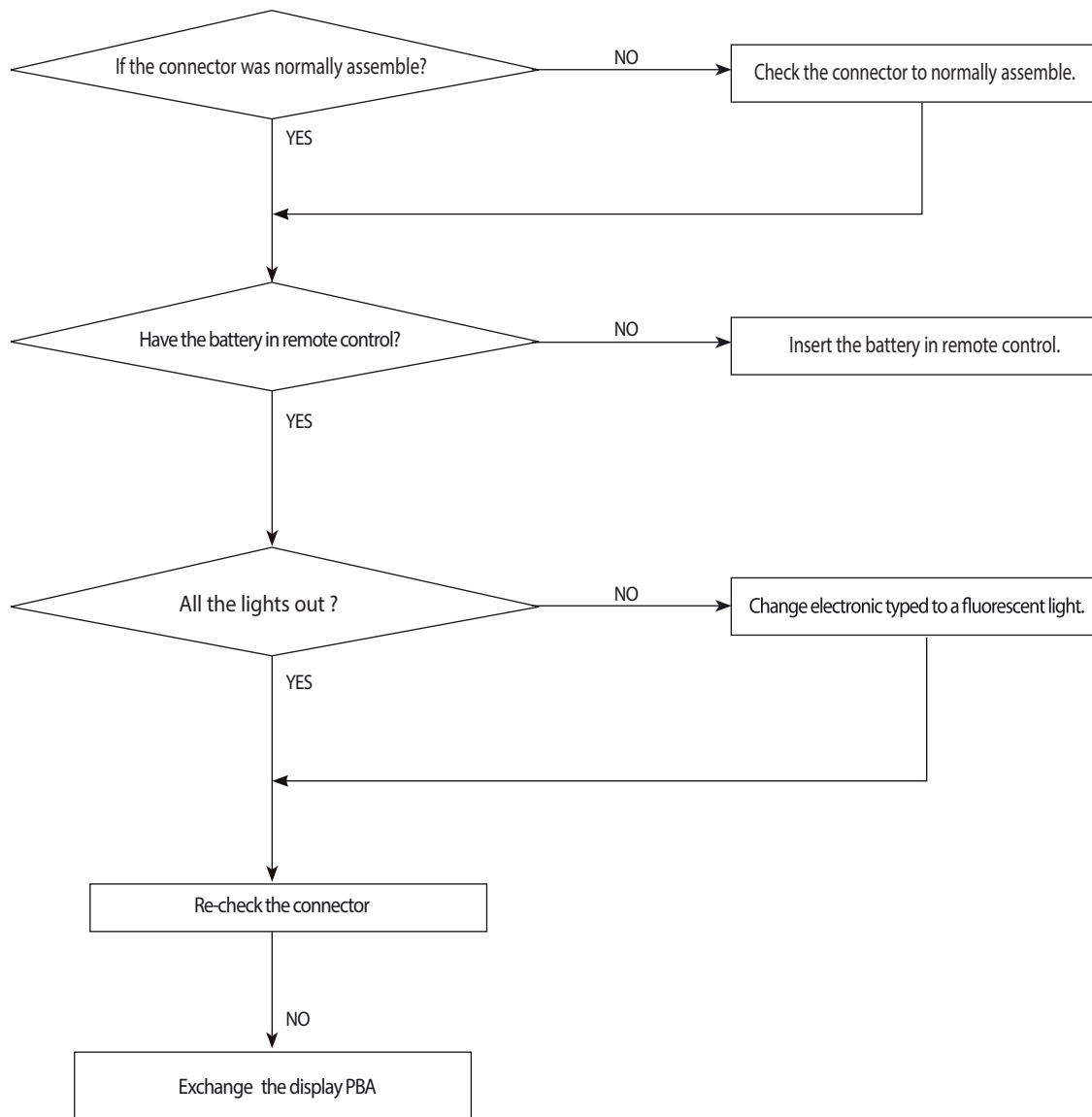


## 10-2-16 When the remote control is not receiving

### 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

### 2. Troubleshooting procedure



## 10-2-17 Smart Install error

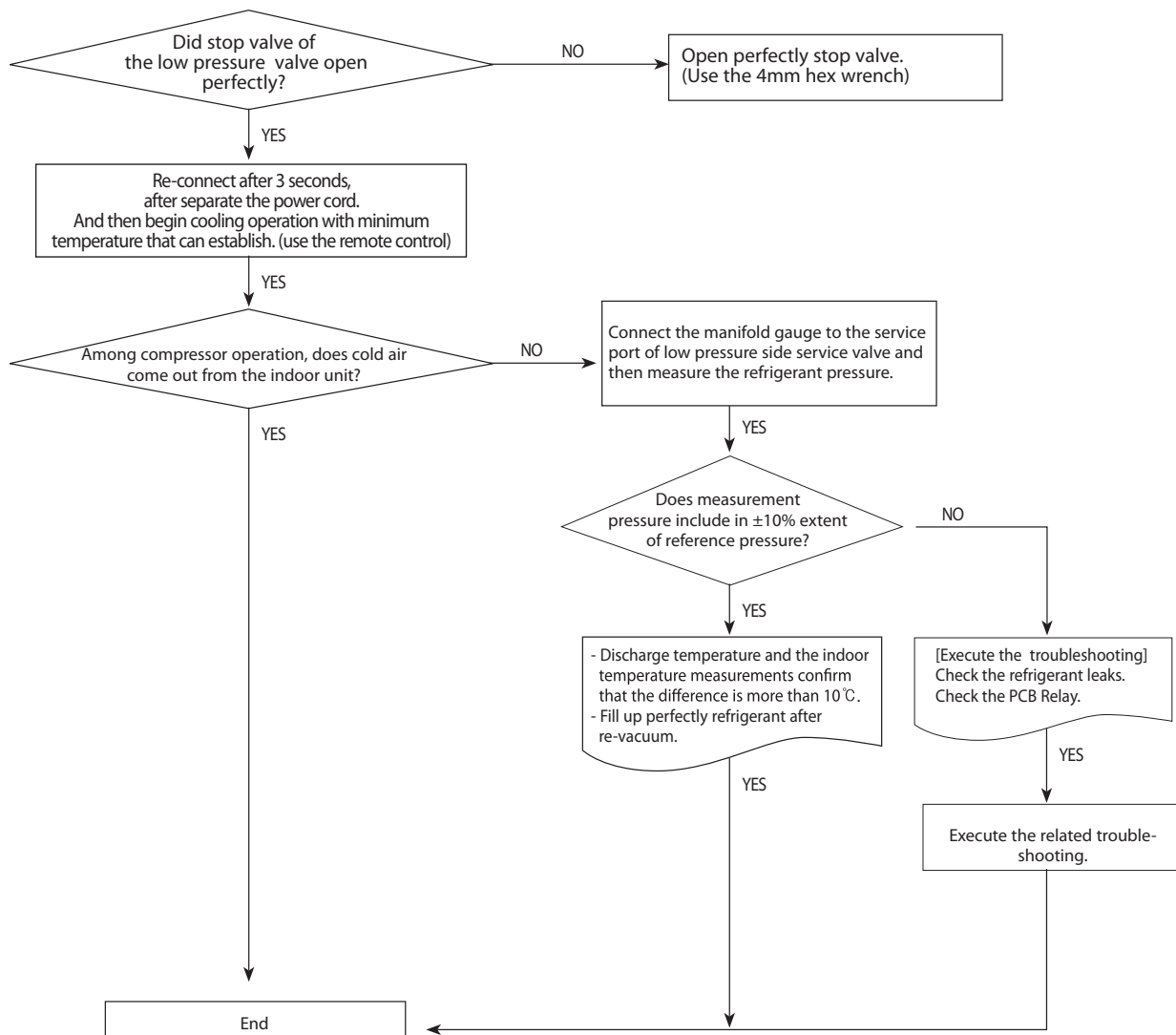
### 1. Checklist :

- 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. When the air conditioner is in standby status, use the remote controller to start the Smart Install mode.

- 1) Press the [SET], [Mode], [Power] button simultaneously for 4 seconds.
  - Smart Install mode can be operated only with the supplied remote controller.
  - During the Smart install mode procedure, remote controller cannot be operated.

### 3. Troubleshooting procedure



# 10-2-18 Outdoor OLP over temperature error (One way Inverter Only)

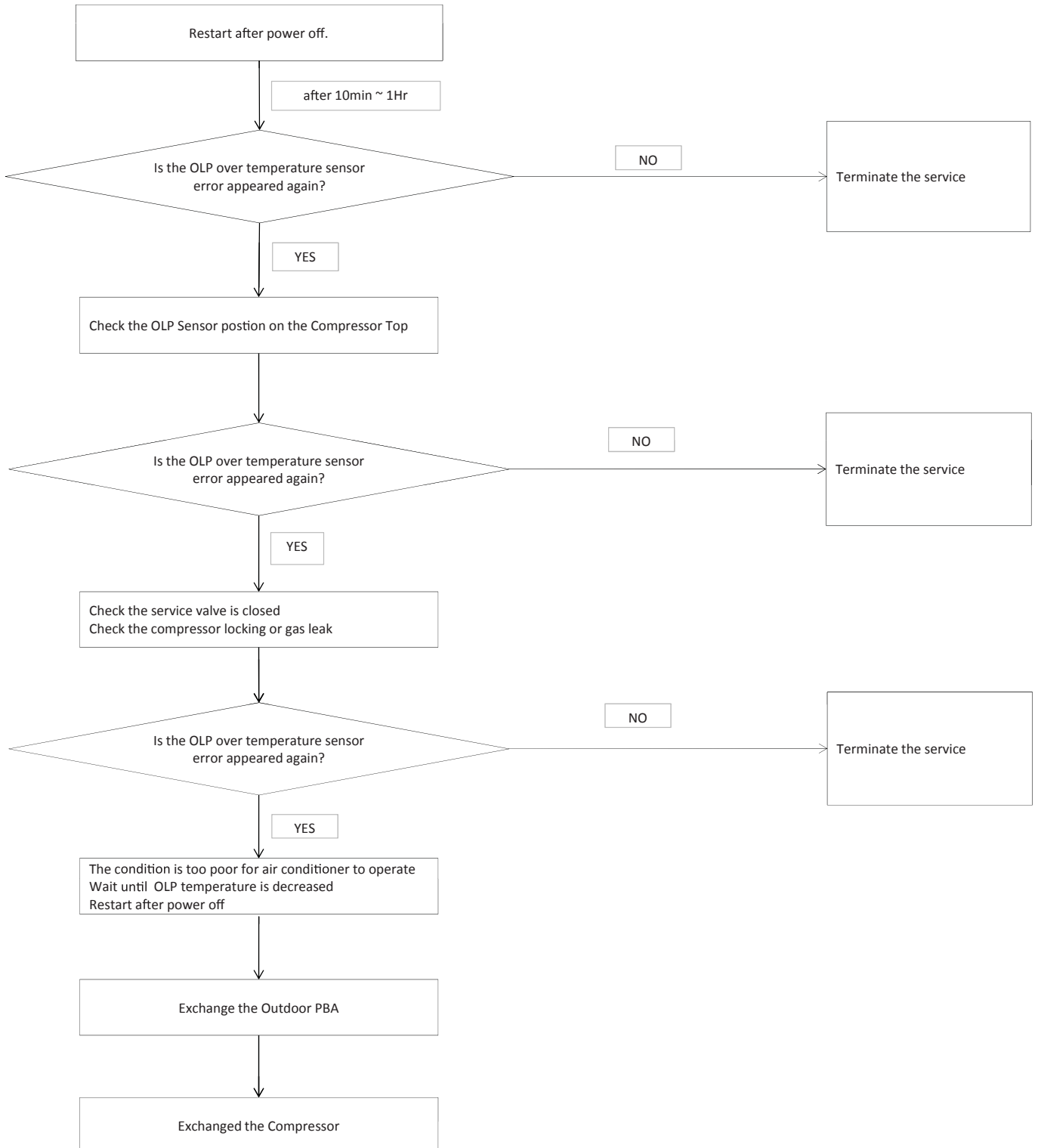
s i d 3-LED DISPLAY n I			N O I T P I R C S E D	
LED1	LED2	LED3	No display about the outdoor condition	
●	○	○		

Outdoor display	●	○	●	Outdoor OLP over temperature error	E463
-----------------	---	---	---	------------------------------------	------

## 1. Checklist :

- 1) Is the sensor placed correctly?
- 2) Check the service valve is closed
- 3) Check the compressor locking or gas leak

## 2. Troubleshooting procedure



## 10-2-19 Outdoor Discharge over temperature error

### Indoor display

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

### Outdoor display

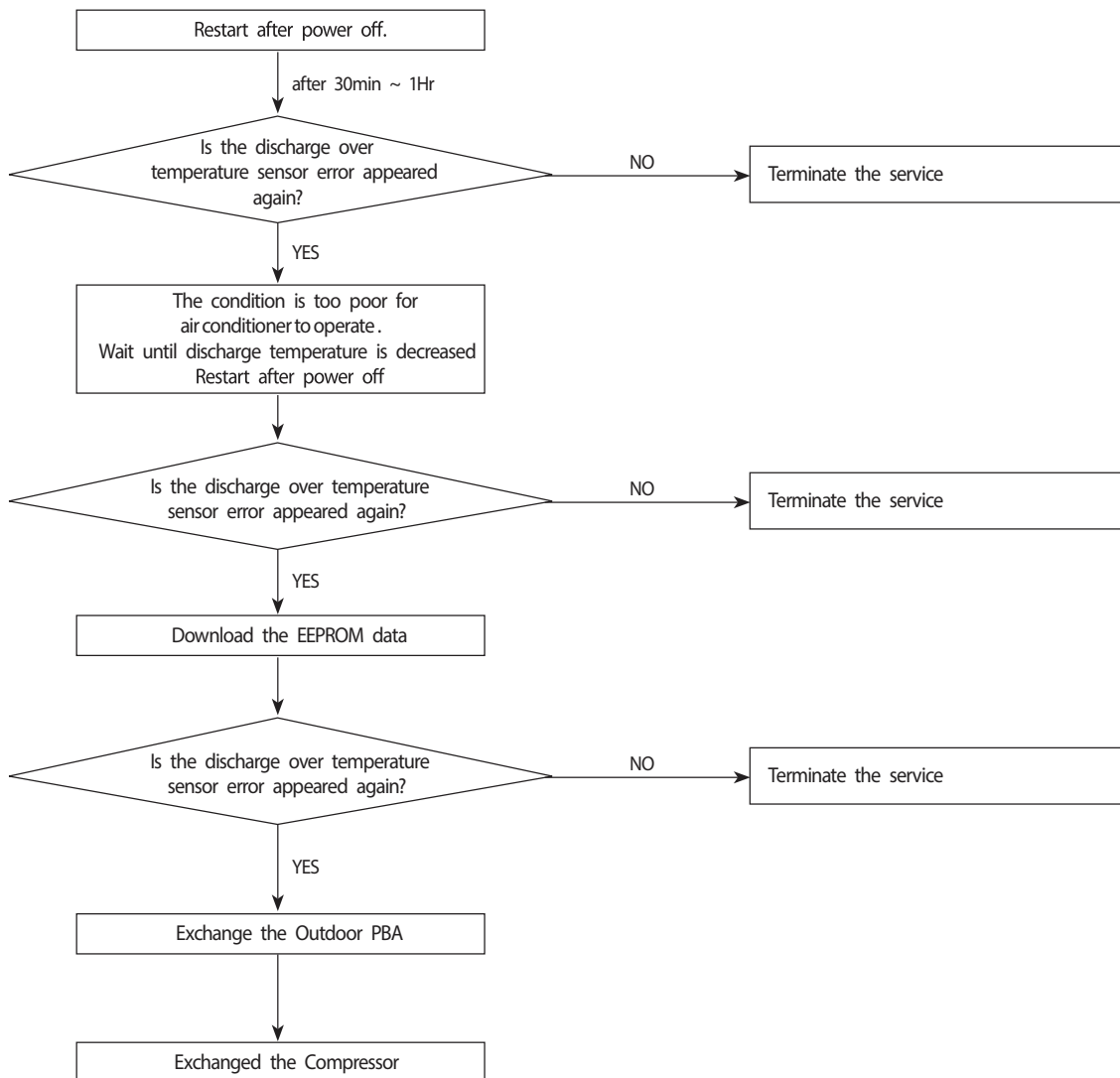
⊙	⊙	●	Outdoor Discharge over temperature error
---	---	---	--

● 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



## 10-3 PCB Inspection Method

### 10-3-1 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.

### 10-3-2 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.
  - . Outdoor 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, OPTION.(EEV control circuit, temperature sensing circuit)

### 10-3-3 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 C111(+)-(-) 12Vdc?	. Switching Trans of Power circuit is faulty.
3	Press the ON/OFF button. 1. Fan speed(high) 2. Continuous Operation	3) Is the voltage between both terminal of C118(+)-(-) 5Vdc?	. Power circuit is faulty, Load short.
		1) Is the voltage over DC 270V being imposed on terminal #1~#3 of fanmotor 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 #1-#3 of the connector(CN72) is 0V.	. PBA is faulty.

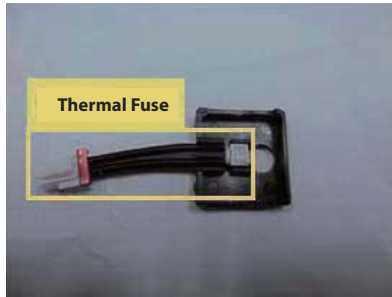
### 10-3-4 Outdoor detailed inspection procedure

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?	. Over current . 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 normal? 6) Is the EEV wire connected normal?	. 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 200Vac~240Vac?	. Power cord is faulty, Wrong Power cable Wiring
		2) Is the C006 voltage 200Vac~240Vac?	. Fuse open . L,N,F1,F2 wire wrong wiring (Terminal Block-PBA)
		2) Is the CN150 voltage 200Vac~240Vac?	. Power circuit is faulty . Load short
		4) Is the PFC050(#26-#27) voltage 200Vac~240Vac after 3 minutes later?	. Fuse open . L,N,F1,F2 wire wrong wiring (Terminal Block-PBA) . PTC020 open . RY021, RY022 is faulty . Outdoor Micom(IC201) error
		5) Is the CE101 voltage 280Vdc~320dc after 3 minutes later?	. PFC050 is faulty . Reactor wire is wrong connection . Power circuit is faulty, Load short . BLDC Fan motor error
		6) Is the voltage CN151 #1-#2 voltage 15Vdc?	. Switching Trans of Power circuit is faulty . Load short
		7) Is the voltage CN152 #1-#2 voltage 12Vdc?	. Switching Trans of Power circuit is faulty . Load short
		8) Is the voltage CN151 #3-#2 voltage 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	. F1,F2 wire wrong wiring . Outdoor PBA is faulty

## ■ New Function [ Indoor Terminal Block Safety Device ]

### 1. Thermal Fuse is installed in Terminal Block as below.

(Thermal Fuse is used to prevent PL caused by a defective connection of indoor and outdoor units)



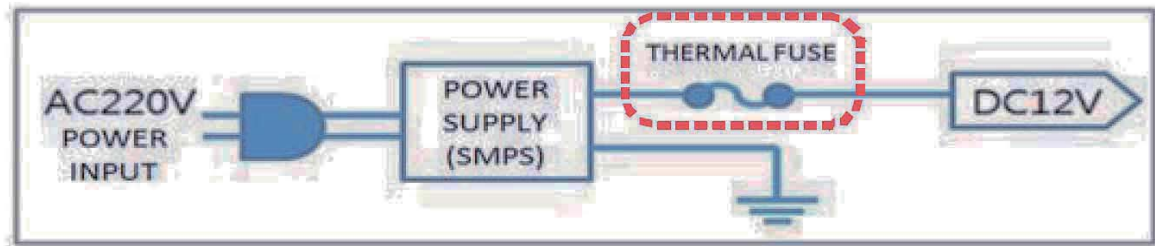
Terminal Block Internals



Connection of terminal block and Main PBA

### 2. Thermal Fuse is opened when internal temperature of Terminal Block goes to a certain point due to Tracking caused by a defective connection of indoor and outdoor units.

- When Thermal Fuse is opened, Main PBA (DC12V) is turned off and the indoor unit does not operate.  
(There is no problem with Main PBA in this case)
- In the above case, the change of all-in-one Terminal Block will make Main PBA operate again.



Circuit Block

### 3. Measurement method of fair/defective thermal fuse



Fair

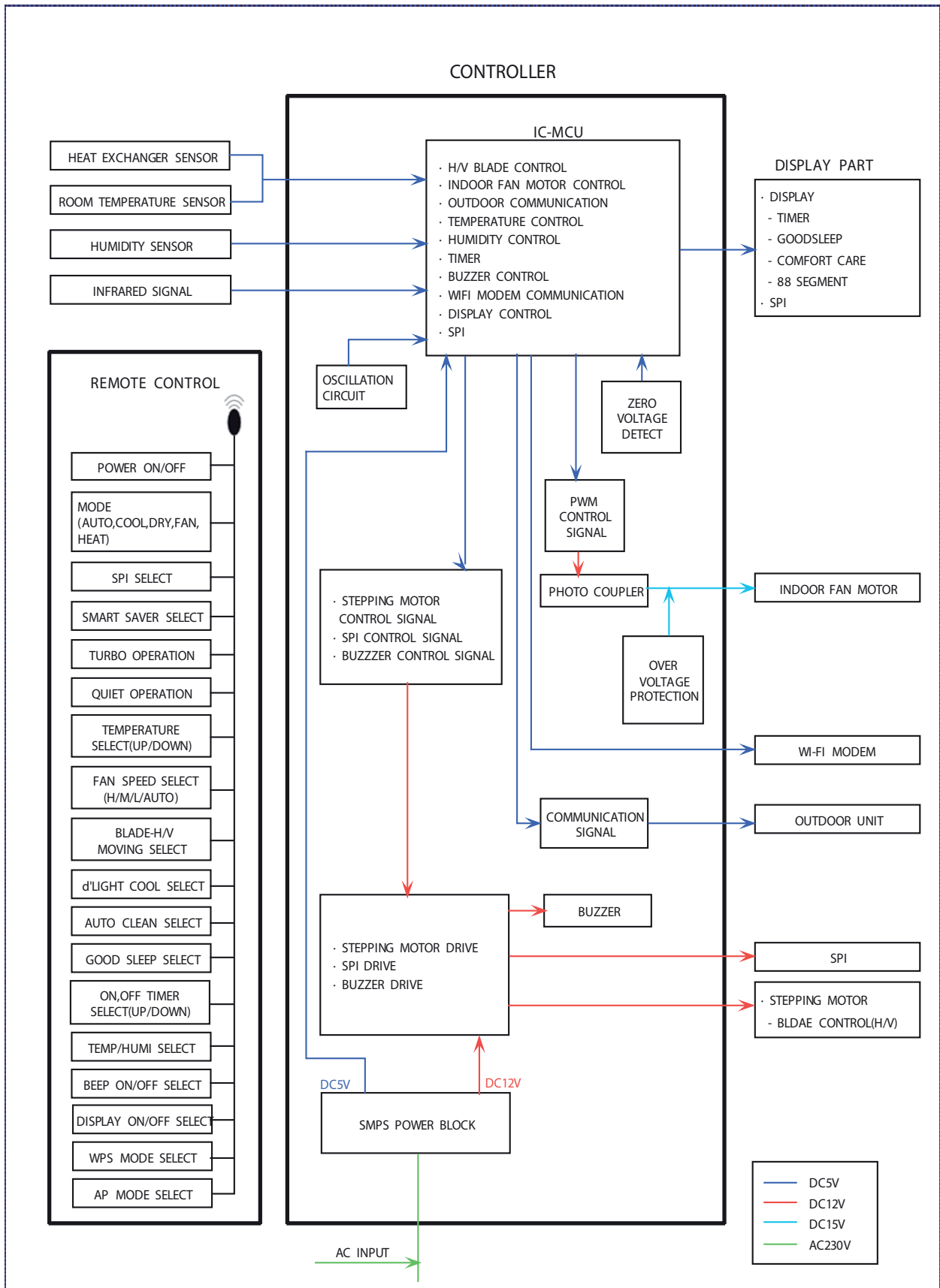


Defective

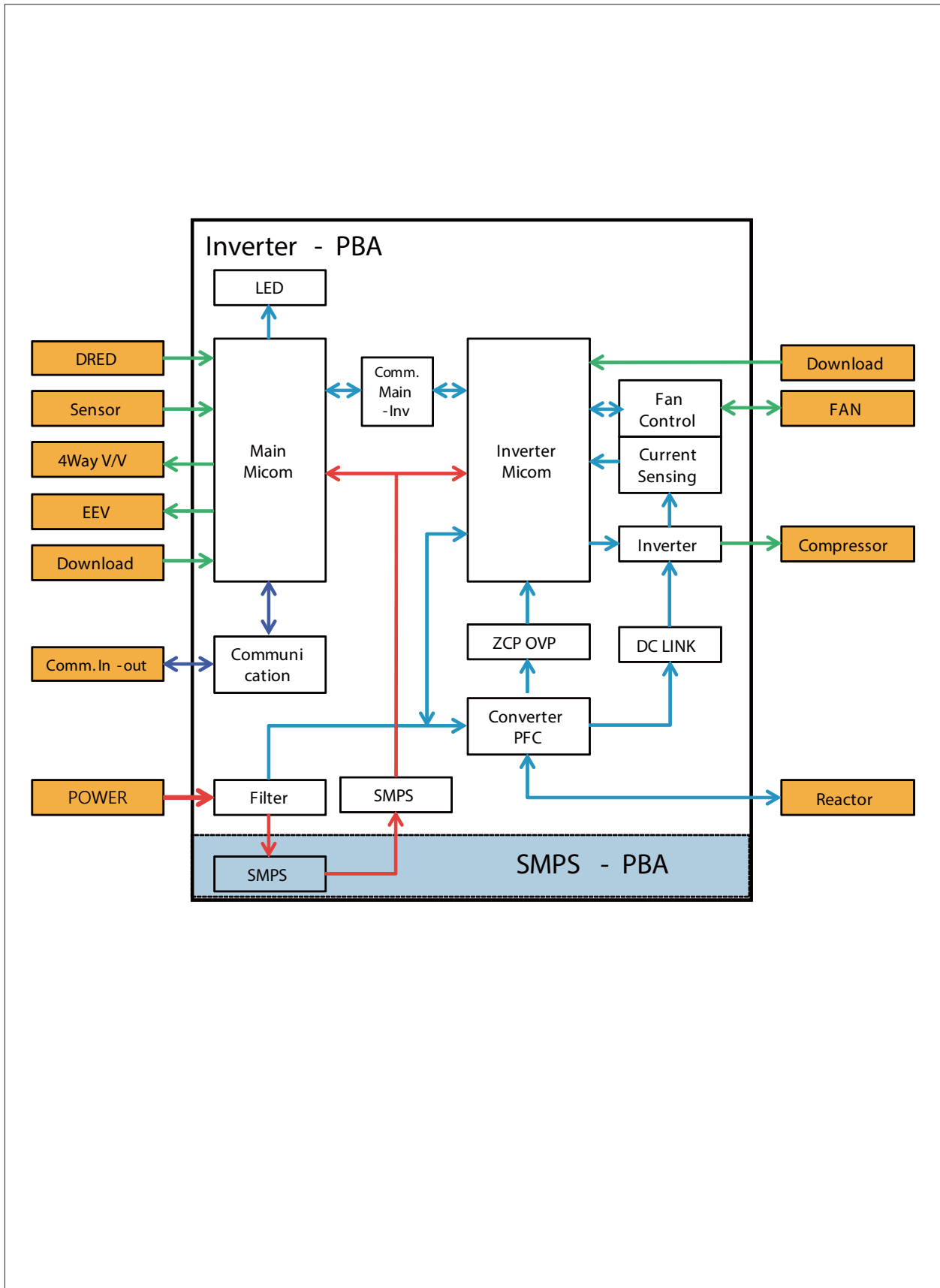


# 11. Block Diagram

## 11-1 Indoor unit



## 11-2 Outdoor unit



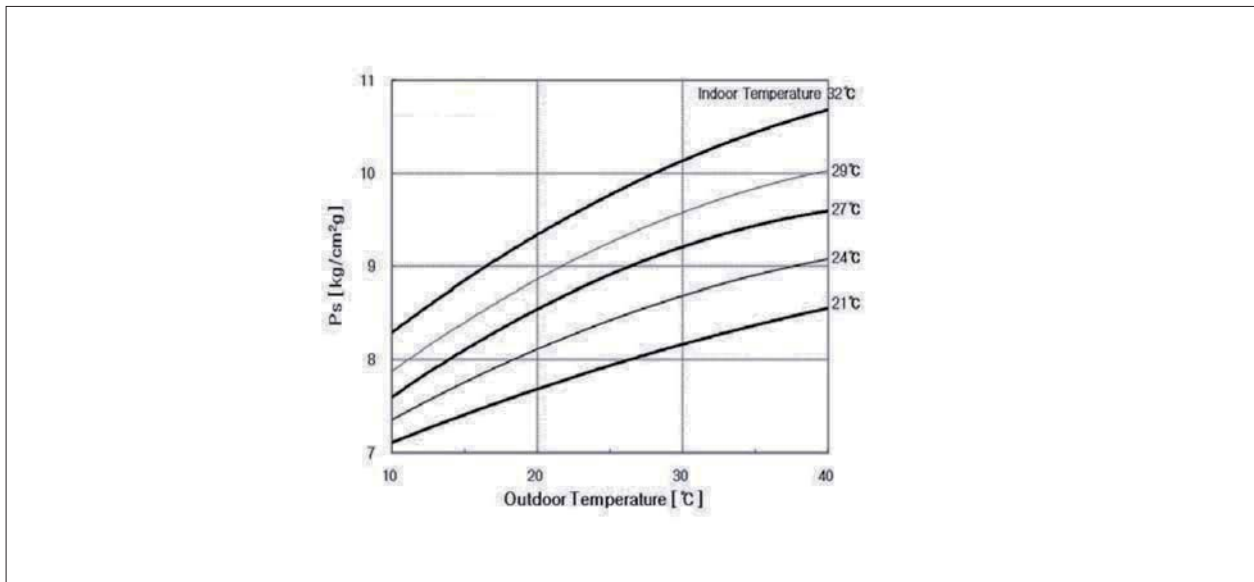
## 12. Reference Sheet

### 12-1 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**



### 12-2 Pressure & Capacity mark

■ **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 <sup>-4</sup>	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	1.0658	4.6262	0.0018182	0.13826	1

## 12-3 Q & A for Non-trouble

Classification	Class	Description
Cooling	Q	<b>The cooling is weak.</b>
	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	<b>The cooling is good generally. But, it gets weak when it is considerably hot.</b>
	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	<b>The cooling is weak. Does it need refrigerant charging?</b>
	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	<b>It fails to do cooling.</b>
Leakage	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.
	Q	<b>It floods the floor.</b>
	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	<b>Water drips at the drain connection (service valve) of the outdoor unit.</b>
	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	<b>It leaks even though a drain pump is used.</b>
Smells	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.
	Q	<b>Whenever the air conditioner is turned on, it irritates my eyes and gives me a headache.</b>
Smells	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.

Classification	Class	Description
Smells	Q	<b>Whenever the air conditioner is turned on, it stinks.</b>
	A	When 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	<b>Whenever the air conditioner is turned on, it smells sour.</b>
	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 problem or refresh the room frequently.
	Q	<b>Whenever the air conditioner is turned on, it smells musty.</b>
	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	<b>Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.</b>
	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	<b>It sends out bad smells.</b>
Operation	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.
	Q	<b>It won't start.</b>
	A	There is a power failure or it is plugged out. Also, check if the power distribution panel is switched off.
	Q	<b>It goes off during operation.</b>
	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	<b>It generally works properly. But, when it's considerably hot, it goes off during operation.</b>
	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	<b>The remote controller won't operate.</b>
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	<b>Who installs the air conditioner? (Relocation/Re-installation)</b>
	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	<b>Is it possible to install the outdoor unit outside?</b>
	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	<b>What can be done to install the outdoor unit facing the road because it is a commercial building?</b>
	A	The following is an excerpt from building code going into effect from JUNE 1 st 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 31 st 2005." So, please install it higher than 2 m or not to blow the hot exhausting air directly to passers-by.
	Q	<b>What about installing a windscreen during installation not to blow hot air directly to passers-by?</b>
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.	

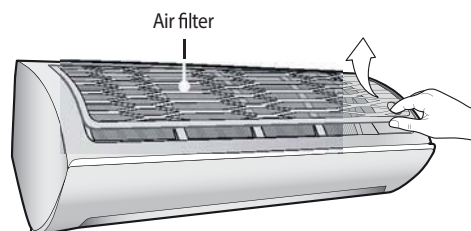
## 12-4 Cleaning /Filter Change

### 12-4-1 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.

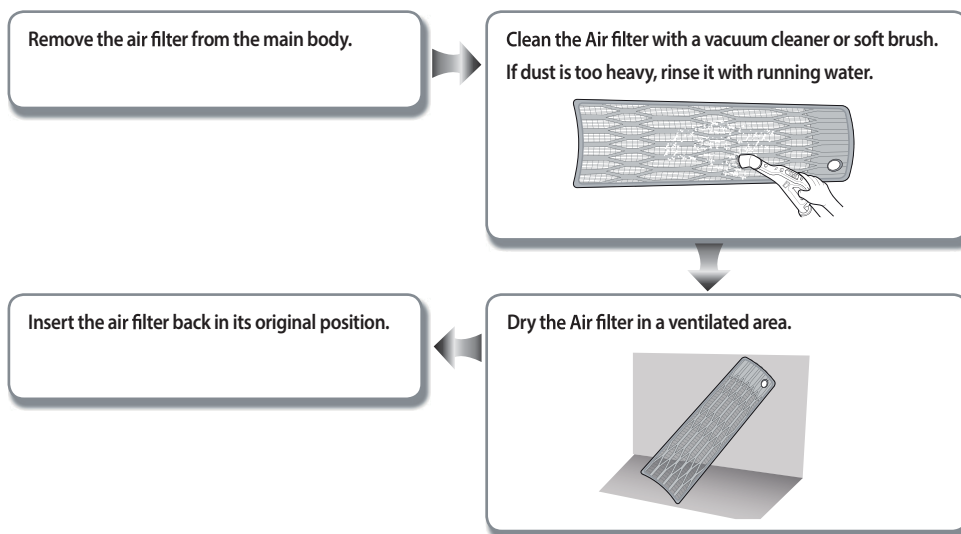
#### Removing the Air filter

There is a hole on the bottom right side of the filter. Put your finger in that hole to get a grip on the filter and slightly push it up to release the hooks from the bottom side. Then, pull it down to remove the filter from the main body.



#### 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.



- Clean the Air filter every 2 weeks. Cleaning term may differ depending on the usage and environmental conditions. In dusty area, clean it once a week.
- 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.
- When the filter clean reminder is on, please press the 2nd F button and then press the ECO Run button on remote controller.

## 12-5 Installation

### 12-5-1 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.

### 12-5-2 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

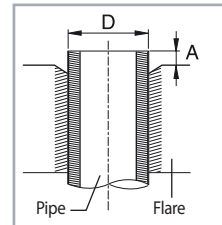
Fix the air conditioner indoor unit securely to the wall. Secure the outdoor unit in a suitable position.

#### ■ Pipe Spooling & Connectingt

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)
ø6.35 mm(1/4")	140~170	1.3 mm
ø9.52 mm(3/8")	250~280	1.8 mm
ø12.70 mm(1/2")	380~420	2.0 mm
ø15.88 mm(5/8")	440~480	2.2 mm
ø19.05 mm(4/4")	9900~1,210	2.2 mm



#### ■ Leak Test

Put an inset 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.



## 12-6 Installation Diagram of Indoor Unit and Outdoor Unit

### 12-6-1 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 (3/8" Packed valve) 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.  
 - After that, please recheck that pressure is stabilized.  
 - Close the valve of the low pressure side of manifold gauge clockwise.  
 - Remove the hose of the low pressure side of manifold gauge.



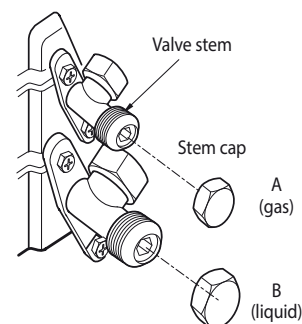
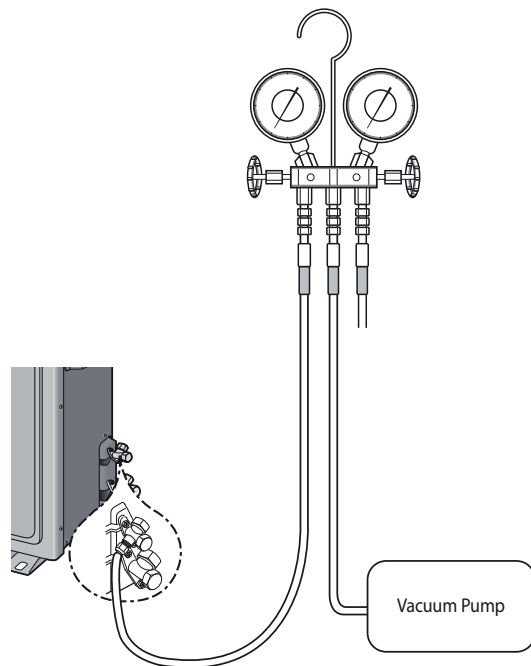
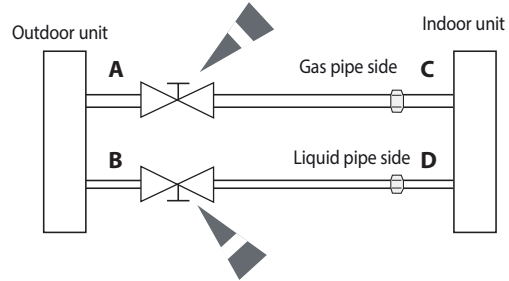
5) Set valve cork of both liquid side and gas side of packed valve to the open position.



6) Mount the valve stem nuts to the 2 way and 3 way valve. And mount the service port cap to 3 way valve.



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.



## 12-6-2 "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.



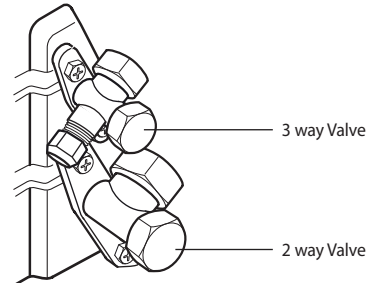
5) When the pressure gauge indicates "0" turn the 3 way valve clockwise to close.



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. 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	0	9	M	S	W	X	C	W	K	N/X	C	V

ITEM	1ST	2ND
RAC	A	R
FAC	A	F
WAC	A	W

Item	Reference	3TH	4TH
1	Export	1	0
2	Export	1	3
3	Export	1	8
4	Export	2	4
5	Export	3	0

Item	5TH
12Year	E
13Year	F
14Year	H
15Year	J
16Year	K
17Year	M

Item	6TH
INVERTER H/P	S
INVERTER C/O	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	12thMODEL	L

Item 1	Item 2	Item 3	Item 4	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

Division	Series	Project	Color Name	Division component	Sinkeolreo code (10TH,11TH)	Remark
A3050	F	Best	Twilight	Grille	WK	
	F	Best	TBD	Grille	TBD	
	D	Better	Twilight	Grille	WK	
	D	Better	TBD	Grille	TBD	
	S	Good1	Twilight	Grille	WK	Deco : Transparency
	S	Good1	Midnight Blue	Deco	UR	Grille : Twilight
	N	Good2	Twilight	Grille	WK	
	N	Good2	TBD	Grille	TBD	Grille : Metallic Gray

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

Item	The existing code	The sales area	CIS Description	The integrated code (13TH,14TH)
1	CV	AMERICA	KCV	CV

# SAMSUNG

## ELECTRONICS

### GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
North America	<a href="http://gspn3.samsungcspportal.com">http://gspn3.samsungcspportal.com</a>
Latin America	<a href="http://gspn3.samsungcspportal.com">http://gspn3.samsungcspportal.com</a>
CIS	<a href="http://gspn1.samsungcspportal.com">http://gspn1.samsungcspportal.com</a>
Europe	<a href="http://gspn1.samsungcspportal.com">http://gspn1.samsungcspportal.com</a>
China	<a href="http://china.samsungportal.com">http://china.samsungportal.com</a>
Asia	<a href="http://gspn2.samsungcspportal.com">http://gspn2.samsungcspportal.com</a>
Middleeast & Africa	<a href="http://gspn1.samsungcspportal.com">http://gspn1.samsungcspportal.com</a>

This Service Manual is a property of Samsung Electronics Co., Ltd.  
Any unauthorized use of Manual can be punished under applicable  
International and/or domestic law.

© Samsung Electronics Co., Ltd. November 2017  
Code No. AC-00045K\_1