

**SAMSUNG**

# SPLIT-TYPE AIR CONDITIONER

**INDOOR UNIT**

**OUTDOOR UNIT**

**Basic : AS09HPB**

**AS12HPB**

**Model : AS09BPA**

**AS12BPA**

**AS09BPA/XSA**

**AS12BPA/XSA**

**Model Code : AS09BPAN**

**AS12BPAN**

**AS09BPAN/XSA**

**AS12BPAN/XSA**

**AS09BPAX**

**AS12BPAX**

**AS09BPAX/XSA**

**AS12BPAX/XSA**

# ***SERVICE*** ***Manual***

## AIR CONDITIONER



AS09BPAN, AS12BPAN  
AS09BPAN/XSA, AS12BPAN/XSA



AS09BPAX, AS12BPAX  
AS09BPAX/XSA, AS12BPAX/XSA

## THE FEATURE OF PRODUCT

- **Energy Saving Function**
- **High Impressive & Elegant Design**
- **Excellent Dust Collection Filter**  
: The metallic dust filter is used.
- **Multi Functional Cleaning System**  
: The anti allergy filter and activated deodorizing filter are adopted.
- **Human Touch Remote control**

**For more information, Please access to our service web site (<http://itself.sec.samsung.co.kr>)**

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# 1. Precautions

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## 1-1 Installing the air conditioner

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

## 1-2 Power supply and circuit breaker

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

## 1-3 During operation

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- 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

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- Before 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

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- 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.

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## 2. Product Specifications

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### 2-1 The Feature of Product

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■ **Energy saving function**

Makes a room cool with and energy saving and arises the efficiency of air conditioner.

■ **High impressive & elegant design**

With a Smart and fashionable style, the high impressive interior design allow this product to set place in anywhere.

■ **Excellent dust collection filter**

With a metallic dust filter that upgrades the dust collection function than a common plastic filter, you can enjoy the best cleanliness.

■ **Multi functional cleaning system**

With an anti-allergy filter and activated deodorizing filter, it removes an allergy antigen as well as a tobacco odor.

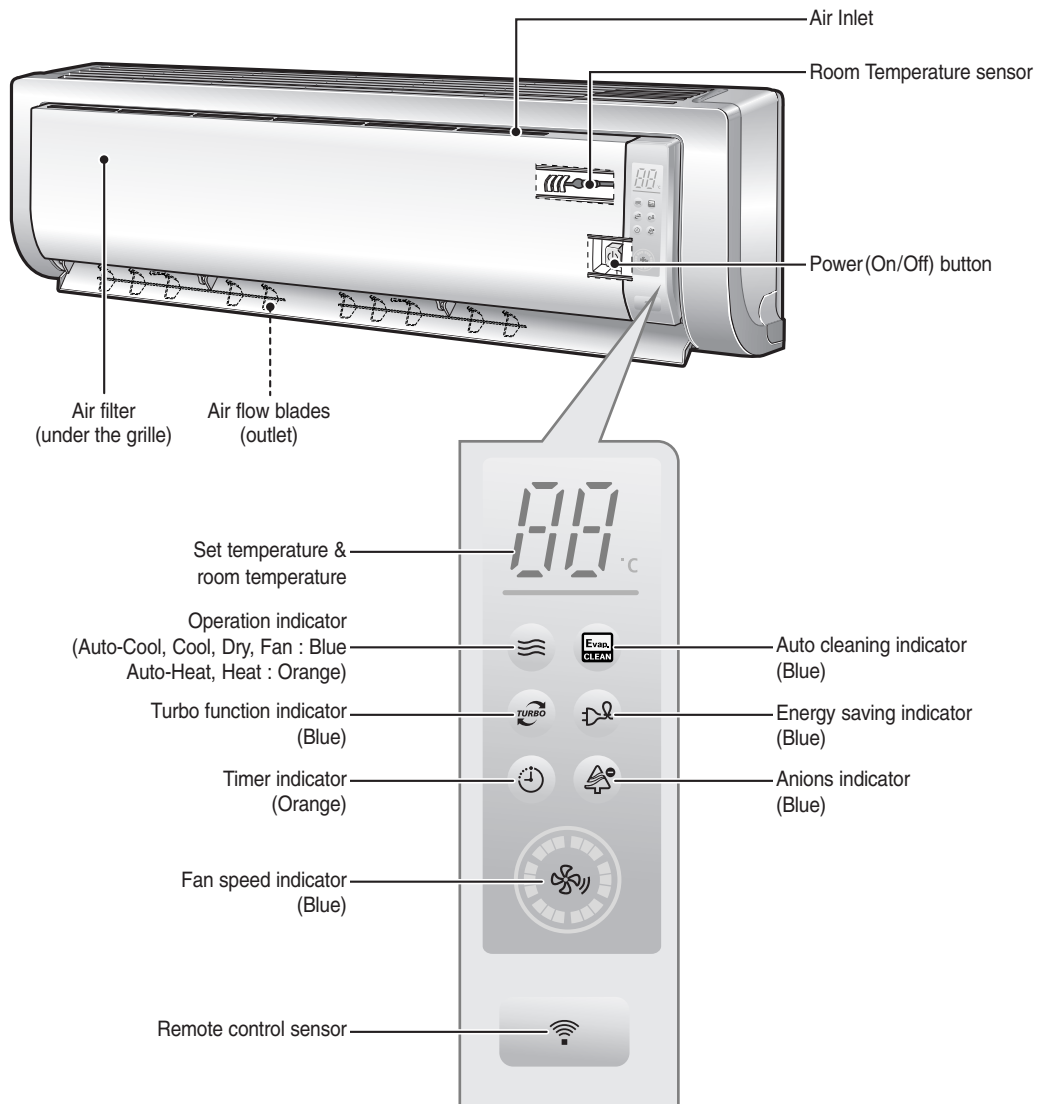
■ **Human touch remote control**



The use of air conditioner is easier and more convenient by the human touch remote control of new design.

## 2-2 Name of Each Part

### 2-2-1 Indoor Unit

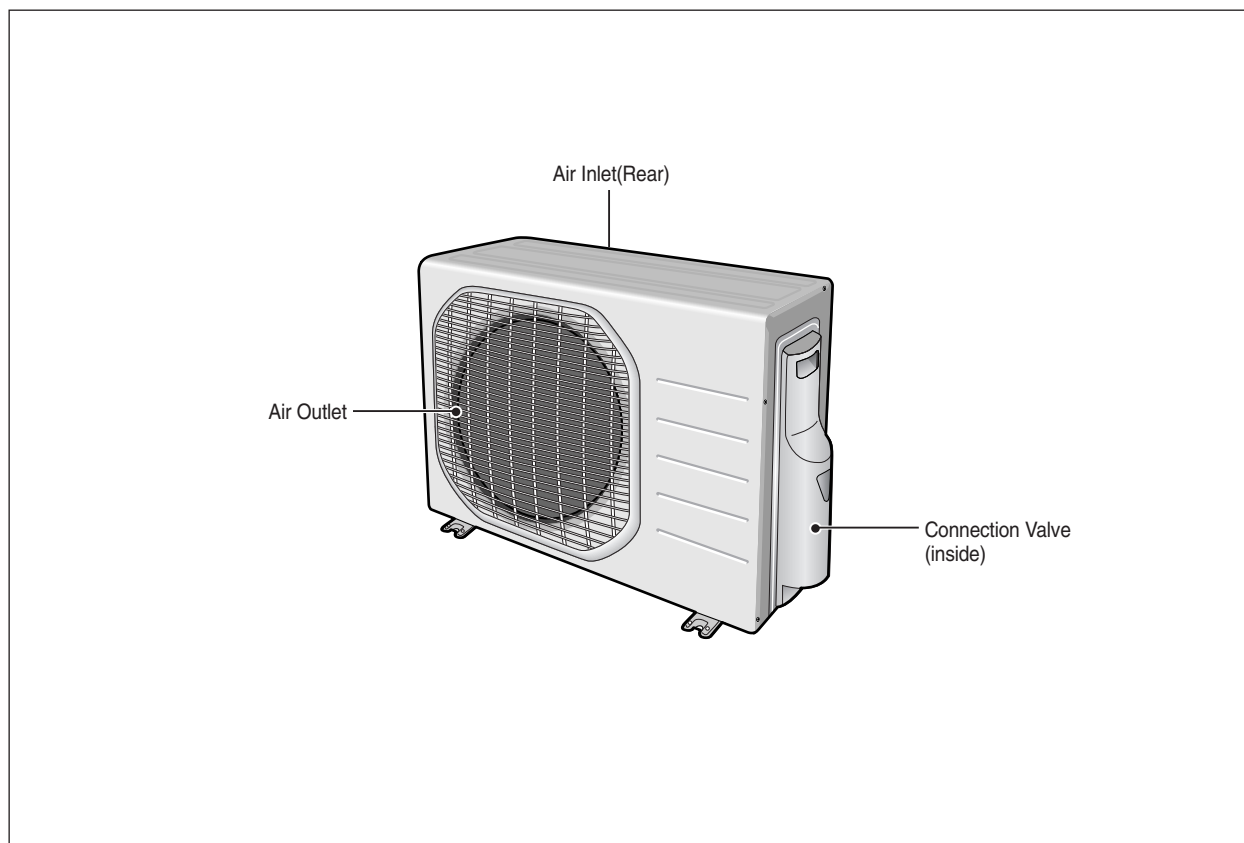
The design and shape can be changed according to the model.



- Note :**
- In the Auto mode, 2 fan indicators increase and decrease continuously and turn round.
  - In the modes except the Auto mode, the fan speed indicator increases and decreases continuously and turn round each time you press the  button. If you set the Turbo function, the fan speed indicator turns round with the maximum setting and speed.
  - If you want to turn on/off the Display during operation, press the  button on the remote control.
  - The room temperature sensor senses air temperature around the sensor, and shows the temperature on the display.





## 2-2-2 Outdoor Unit



## 2-3 Product Specifications

Item				Model	AS09BPA		AS12BPA	
					Indoor unit	Outdoor unit	Indoor unit	Outdoor unit
Type				Wall-mounted		Wall-mounted		
Performance	Cooling		kW	0.99/2.5/3.5		0.99/3.5/4.2		
	Heating		kW	0.85/3.5/5.0		0.85/4.0/5.5		
	Dehumidifying		ℓ/h	1.25		1.7		
	Air Volume	Cooling	m³/min (H/M/L)	7.8/6.1/4.5	31.5/13.0	8.2/ 6.7/4.5	31.5/13.0	
		Heating		8.2/6.5/4.9	31.5/13.0	8.6/ 7.1/4.9	31.5/13.0	
	Noise	Cooling	dB (H/L)	40/25	51	41/25	53	
		Heating		40/25	51	41/25	53	
	Energy Efficiency Ratio	Cooling	W/W	4.13/4.1/3.4		4.13/3.4/2.9		
		Heating		3.86/3.9/3.36		3.86/3.61/3.07		
Power			ph-V-Hz	1-220/240-50		1-220/240-50		
Power	Power Consumption	Cooling	W	240/610/1,030		240/1,030/1,450		
		Heating		220/900/1,490		220/1,105/1,790		
	Operating Current	Cooling	A	1.5/3.0/5.0		1.5/5.0/6.9		
		Heating		1.35/4.4/6.85		1.35/5.3/8.5		
	Power Factor	Cooling	%	91.0		92.5		
		Heating		92.0		92.5		
	Power Cord	Length	m	2		2		
		Number of Core Wire		3		3		
		Capacity	A	15		15		
Size	Outer Dimension		WidthxHeight xDepth	mm	950x268x165	790x548x285	950x268x165	790x548x285
				inch	37.4x10.6x6.5	31.1x21.6x11.2	37.4x10.6x6.5	31.1x21.6x11.2
	Weight(Net)			kg	9	40	9	40
	Refrigerant Pipe		Liquid	mmxL(m)	ø6.35x7.5		ø6.35x7.5	
			Gas	mmxL(m)	ø9.52x7.5		ø9.52x7.5	
	Drain Hose			DxL(mm)	ø18x550		ø18x550	
	Compressor	Type		Rotary, G4C090LU2ER		Rotary, G4C090LU2ER		
		Motor	Type		Hermetic		Hermetic	
			Rated Output		853W		853W	
	Oil Type				FREOL α 68ES-T		FREOL α 68ES-T	
	Blower	Type		Cross-flow		Propeller	Cross-flow	Propeller
		Motor	Type		Resin/Steel	Resin/Steel	Resin/Steel	Resin/Steel
			Rated Output		W	27	50	27
Heat Exchanger				2Row 12Step	2Row 24Step	2Row 12Step	2Row 24Step	
Refrigerant Control Unit				Expansion Valve		Expansion Valve		
Freezer Oil Capacity			cc	320		320		
Refrigerant to Change(R410A)			g	1,000		1,000		
Protection Device(OLP)				None		None		
Cooling Test Condition				INDOOR UNIT : DB27°C WB19°C		OUTDOOR UNIT : DB35°C WB24°C		
Maximum Operation Condition				INDOOR UNIT : DB32°C WB23°C		OUTDOOR UNIT : DB43°C WB26°C		

## 2-4 The Comparative Specifications of Product

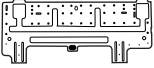

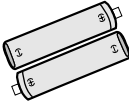



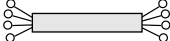
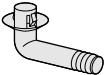



Item		AS09BPA	AS09HPB
Design	Indoor Unit		
	Outdoor Unit		
Net Weight	Indoor Unit	9.0kg	9.0kg
	Outdoor Unit	40.0kg	33.8kg
Outer Dimension (WidthxHeightxDepth)	Indoor Unit	950x268x165mm	950x268x165mm
	Outdoor Unit	790x548x285mm	790x548x285mm
Noise	Indoor Unit	40dB↓	40dB↓
	Outdoor Unit	51dB↓	51dB↓
Air Purifying System	Filter	Silver Nano Metallic Filter Anti-Allergy Filter Deodorizing Filter	Silver Nano Metallic Filter Anti-Allergy Filter Deodorizing Filter
Indoor Display		Detachable Display Rotation Blue LED Display	Detachable Display Rotation Blue LED Display

## The Comparative Specifications of Product(cont.)

Item		AS12BPA	AS12HPB
Design	Indoor Unit		
	Outdoor Unit		
Net Weight	Indoor Unit	9.0kg	9.0kg
	Outdoor Unit	40.0kg	36.0kg
Outer Dimension (WidthxHeightxDepth)	Indoor Unit	950x268x165mm	950x268x165mm
	Outdoor Unit	790x548x285mm	790x548x285mm
Noise	Indoor Unit	41dB↓	43dB↓
	Outdoor Unit	53dB↓	53dB↓
Air Purifying System	Filter	Silver Nano Metallic Filter Anti-Allergy Filter Deodorizing Filter	Silver Nano Metallic Filter Anti-Allergy Filter Deodorizing Filter
Indoor Display		Detachable Display Rotation Blue LED Display	Detachable Display Rotation Blue LED Display

## 2-5 Accessory and Option Specifications

### 2-5-1 Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Installation Plate	DB70-00514A	1	Indoor Unit
	Remote Control	DB93-03016R	1	
	Batteries for Remote Control	DB47-90024A	2	
	User's Manual	DB98-23940A	1	
	Installation Manual	DB98-23975A	1	
	3-wire Power Cable	DB93-01549C	1	
	4-wire Assembly Cable	-	1	Outdoor Unit
	Drain Plug	DB67-20011A	1	
	Rubber Leg	DB73-00179A	4	
	Assembly Pipe, ø6.35mm	DB96-10453B	1	
	Assembly Pipe, ø9.52mm	DB96-10453F	1	Accessory Box



**Accessories(cont.)**

Item	Descriptions	Code-No.	Q'TY	Remark
	PE T3 Foam Tube Insulation	DB72-50165A	1	Accessory Box
	Vinyl Tape, Width 50mm	DB72-00459A	1	
	Drain Plug	DB67-20011A	1	
	Rubber Leg	DB73-00179A	4	
	Pipe Clamps A	DB39-20224A	3	
	Pipe Clamps B	DB39-20224B	3	
	Cement Nail	-	6	
	M4x16 Tapping Screws	6002-000215	10	
	Drain Hose, length 2m	DB62-00487A	1	
	Putty 100g	DB98-10568A	1	

## 3. Alignment and Adjustments

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

No	LED Display	Explanation	Explanation
1	<i>E464</i>	IPM Over Current(O.C)	
2	<i>E461</i>	Compressor Starting Error	
3	<i>E473</i>	Compressor Lock Error	
4	<i>E466</i>	DC-Link voltage under/over Error	
5	<i>E221</i>	Outdoor temperature sensor Error	
6	<i>E416</i>	Discharge over temperature	
7	<i>E251</i>	Discharge temperature sensor Error	
8	<i>E468</i>	Current sensor Error	
9	<i>E465</i>	Compressor Vlimit Error	
10	<i>E237</i>	Coil temperature sensor Error	
11	<i>E202</i>	1min. Time out Communication	
12	<i>E458</i>	Fan Error	
13	<i>E471</i>	OTP Error	
14	<i>E467</i>	Compressor Rotation Error	
15	<i>E440/E441</i> (Low/High)	Operation condition secession	
16	<i>E469</i>	DC-Link valtage sensor Error	
17	<i>E462</i>	I_Trip error / PFC Over current	
18	<i>E554</i>	Gas Leak Error	
19	<i>E472</i>	AC Line Zero Cross Signal out	
20	<i>E556</i>	Capacity Miss-match	
21	<i>E121</i>	Room sensor Error	Open/Short
22	<i>E122</i>	In-coil sensor Error	Open/Short
23	<i>E154</i>	FAN Error	Indoor Fan Motor Abnormal Operation Holding for 15 sec. at less than 450rpm
24	<i>E101</i>	1min. Time out Communication	
25	All Lamps Blink	EEPROM Error	
26	All Lamps Blink	Option Error	Option Not Set up, Option Data Error

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



No	LED Display			Explanation
	Yellow	Green	Red	
1	○	○	○	Power off/VDD NG
2	○	○	◎	IPM Over Current(O.C)
3	○	○	●	Abnormal Serial communication
	○	●	●	
4	○	◎	○	Compressor Starting error
5	○	◎	●	Normal Operation
6	○	●	○	Compressor Lock error
7	○	●	◎	DC-Link voltage under/over error
8	◎	○	◎	Outdoor temperature sensor error(Dual/Single)
9	◎	○	●	Discharge over temperature(Dual/Single)
10	◎	◎	○	Discharge temperature sensor error(Dual/Single)
11	◎	◎	●	Current sensor error
12	◎	●	○	Compressor Limit error
13	◎	●	◎	Coil temperature sensor error(Dual/Single)
14	◎	●	●	1min. Time out Communication
15	●	○	○	Fan error
16	●	○	◎	OTP error
17	●	○	●	Compressor rotation error
18	●	◎	○	Operation condition secession(Dual only)
19	●	◎	◎	DC-Link voltage sensor error
20	●	◎	●	I_Trip error / PFC Over current
21	●	●	○	GAS Leak error(Dual/Single)
22	●	●	◎	AC Line Zero Cross Signal out
23	●	●	●	Power ON reset(1sec)
24	◎	○	○	Capacity miss match
25	○	◎	◎	Test Operation at Cooling Mode
26	◎	◎	◎	Test Operation at Heating Mode

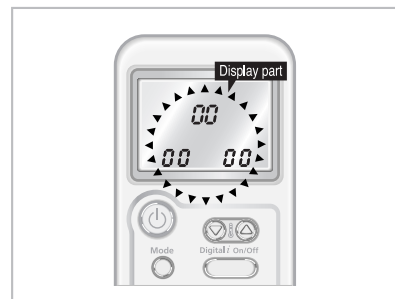
● : LED ON, ○ : LED OFF, ◎ : LED BLINK

### 3-3 Setting Option Setup Method

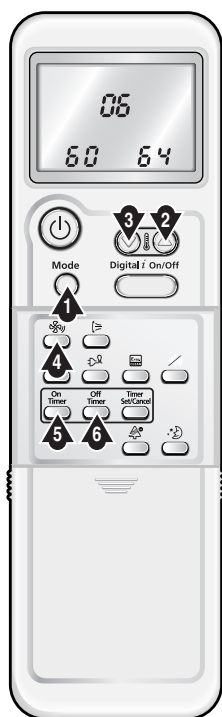
ex) Option No. : 066064-170373



#### Step 1 : Enter the Option Setup mode.




















- 1<sup>st</sup> Take out the batteries of remote control.
- 2<sup>nd</sup> Press the temperature  button simultaneously and insert the battery again.
- 3<sup>rd</sup> Make sure the remote display shown as .

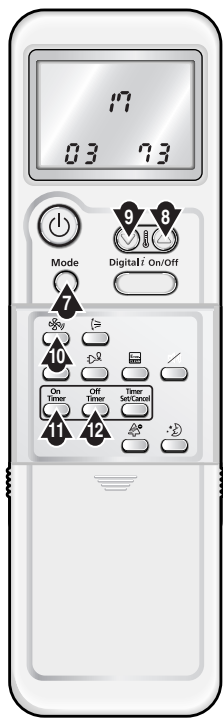


#### Step 2 : Enter the Option Setup mode and select your option according to the following procedure.









\* Setting is not required if you must  a value which has a  default.


- 1 The default value is  .  
Otherwise, push the  button to  .  
Every time you push the button, the display panel reads 1 or  repeatedly.
- 2 Push the  button to set the display panel to  .  
Every time you push the button, the display panel reads  → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.
- 3 Push the  button to set the display panel to  .  
Every time you push the button, the display panel reads  → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.
- 4 Push the  button to set the display panel to  .  
Every time you push the button, the display panel reads  → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.
- 5 Push the  button to set the display panel to  .  
Every time you push the button, the display panel reads  → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.
- 6 Push the  button to set the display panel to  .  
Every time you push the button, the display panel reads  → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.




\* Setting is not required if you must 0 a value which has a 0 default.

- 7 Press  button, then the default value is 00 00.
- 8 Push the  button to set the display panel to 7. Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.
- 9 Push the  button to set the display panel to 0. Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.
- 10 Push the  button to set the display panel to 3. Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.
- 11 Push the  button to set the display panel to 7. Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.
- 12 Push the  button to set the display panel to 3. Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → A → b → c → d → E → F repeatedly.

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


Press the Mode Selection key,  to set the display part to 0 and check the display part.

→ The display part shows 00 00.

Press the Mode Selection key,  to set the display part to 7 and check the display part.

→ The display part shows 03 73.

### Step 4 : Pressing the ON/OFF button ( )

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

### Step 5 : 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<sup>st</sup> If all lamps of indoor unit are flickering, plug out, plug in power plug again and press the ON/OFF key to retry.

2<sup>nd</sup> 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

REMOCON MODEL	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
AS09BPAN	0	0	A	7	7	7	1	7	5	2	4	7
AS12BPAN	0	1	4	6	7	7	1	7	5	2	6	7





\* For Australia, exceptionally



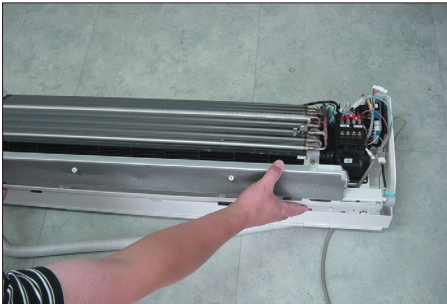
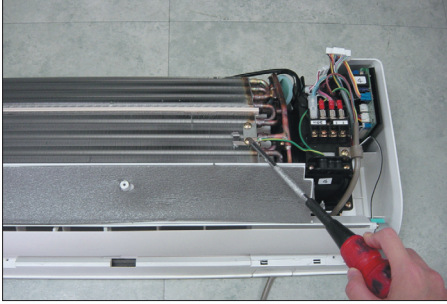
REMOCON MODEL	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
AS09BPAN/XSA	0	0	A	5	7	7	1	7	5	2	4	7
AS12BPAN/XSA	0	1	4	5	7	7	1	7	5	2	6	7

## 4. Disassembly and Reassembly

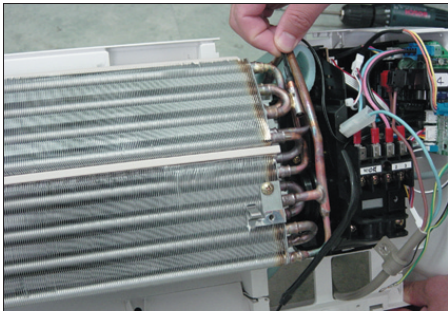


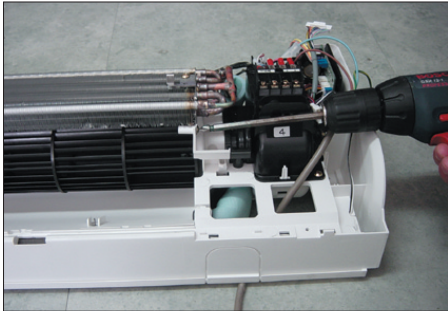
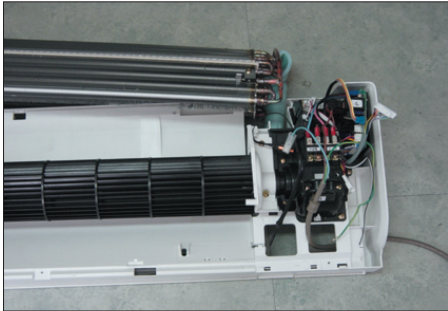
Stop operation of the air conditioner and remove the power cord before repairing the unit.

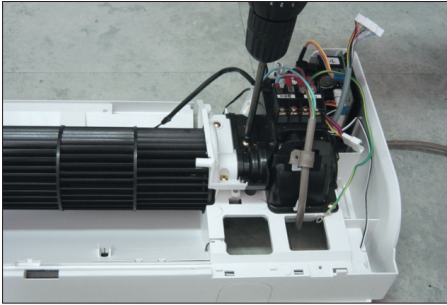
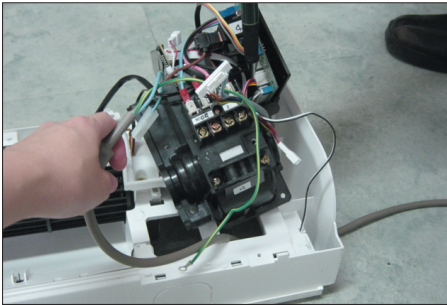
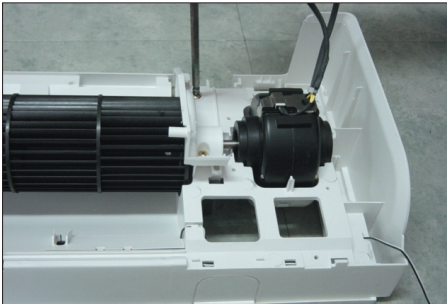
### 4-1 Indoor Unit

No	Parts	Procedure	Remark
1	Panel Front	<ol style="list-style-type: none"><li>1) Stop the air conditioner operation and shut off the main power.</li><li>2) Detach the Front Grille after pushing out it.</li><li>3) Loosen 1 of the right screw and detach the Ass'y display.</li><li>4) Loosen 1 of the right screw and detach the Terminal Cover.</li><li>5) Detach the cover PCB-DVM and thermistor from the Panel Front.</li></ol>	   





No	Parts	Procedure	Remark
		<p>6) Loosen 5 fixing screws of Panel Front.</p> <p>7) Unlock 2 hooks to fix Panel Front and Tray Drain.</p> <p>8) Unlock 2 hooks to fix Panel Front and Back Body.</p>	 
2	Tray Drain	<p>1) Detach the connected wire of Stepping Motor.</p> <p>2) Pull Tray Drain out from the Back Body.</p>	
3	Heat Exchanger	<p>1) Loosen 1 fixing earth screw of right side.</p>	






No	Parts	Procedure	Remark
		<p>2) Detach the Room Sensor.</p> <p>3) Detach the Holder Pipe at the rear side of the unit.</p> <p>4) Loosen 3 fixing screws of left Holder Evap.</p> <p>5) Loosen 1 fixing screw of right Holder Motor.</p> <p>6) Detach the Heat Exchanger from the indoor unit.</p>	    

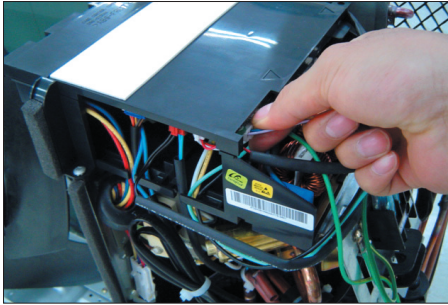
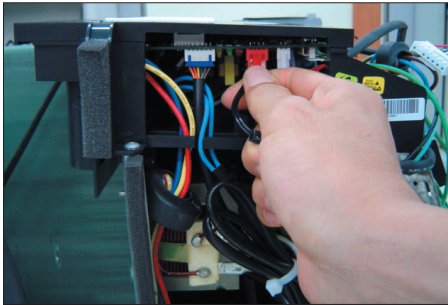
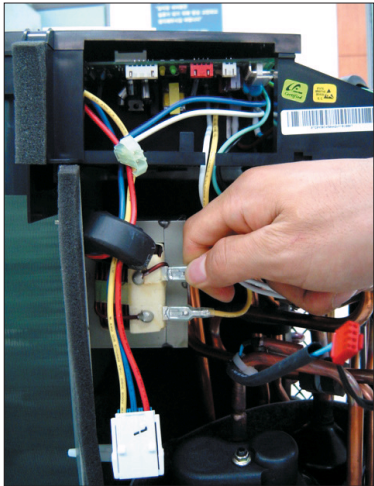
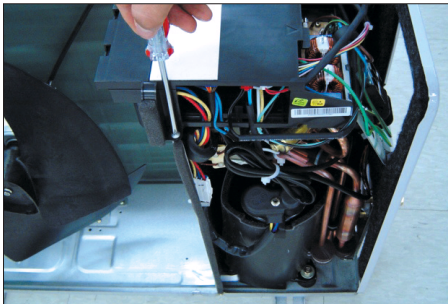
No	Parts	Procedure	Remark
4	Electrical Parts (Main PCB)	<ol style="list-style-type: none"> <li>1) Loosen 4 fixing screws of right Holder control.</li> <li>2) Take all the connector of PCB upper side out.(Including Power Cord)</li> <li>3) Detach the outdoor unit connection wire from the Terminal Block.</li> <li>4) Pull the PCB up to detach.</li> </ol>	 
5	Fan Motor & Cross Fan	<ol style="list-style-type: none"> <li>1) Loosen 2 fixing screws and detach the Motor Holder.</li> <li>2) Loosen 1 fixing screw of Fan Motor.</li> <li>3) Detach the Fan Motor from the Fan.</li> <li>4) Detach the Fan from the left Holder Bearing.</li> </ol>	


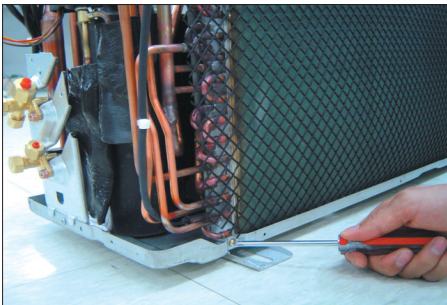
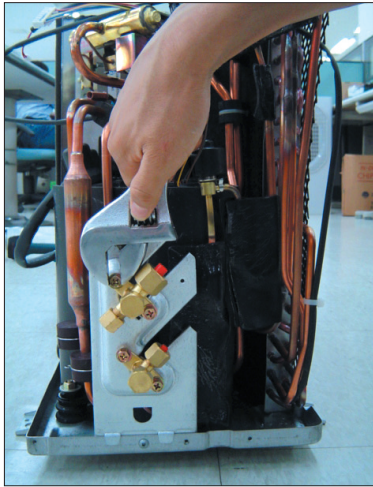
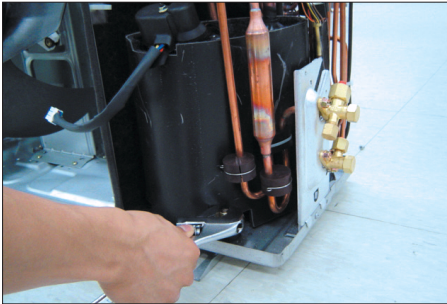
## 4-2 Outdoor Unit

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

No	Parts	Procedure	Remark
		5) Loosen 2 fixing screws on the rear side of Cabinet-Side RH.	
		6) Loosen 3 screws fixed to assemble Bracket Valve with Cabinet-Side RH.	
		7) Loosen 2 fixing screws of Cabinet-Side LF.	

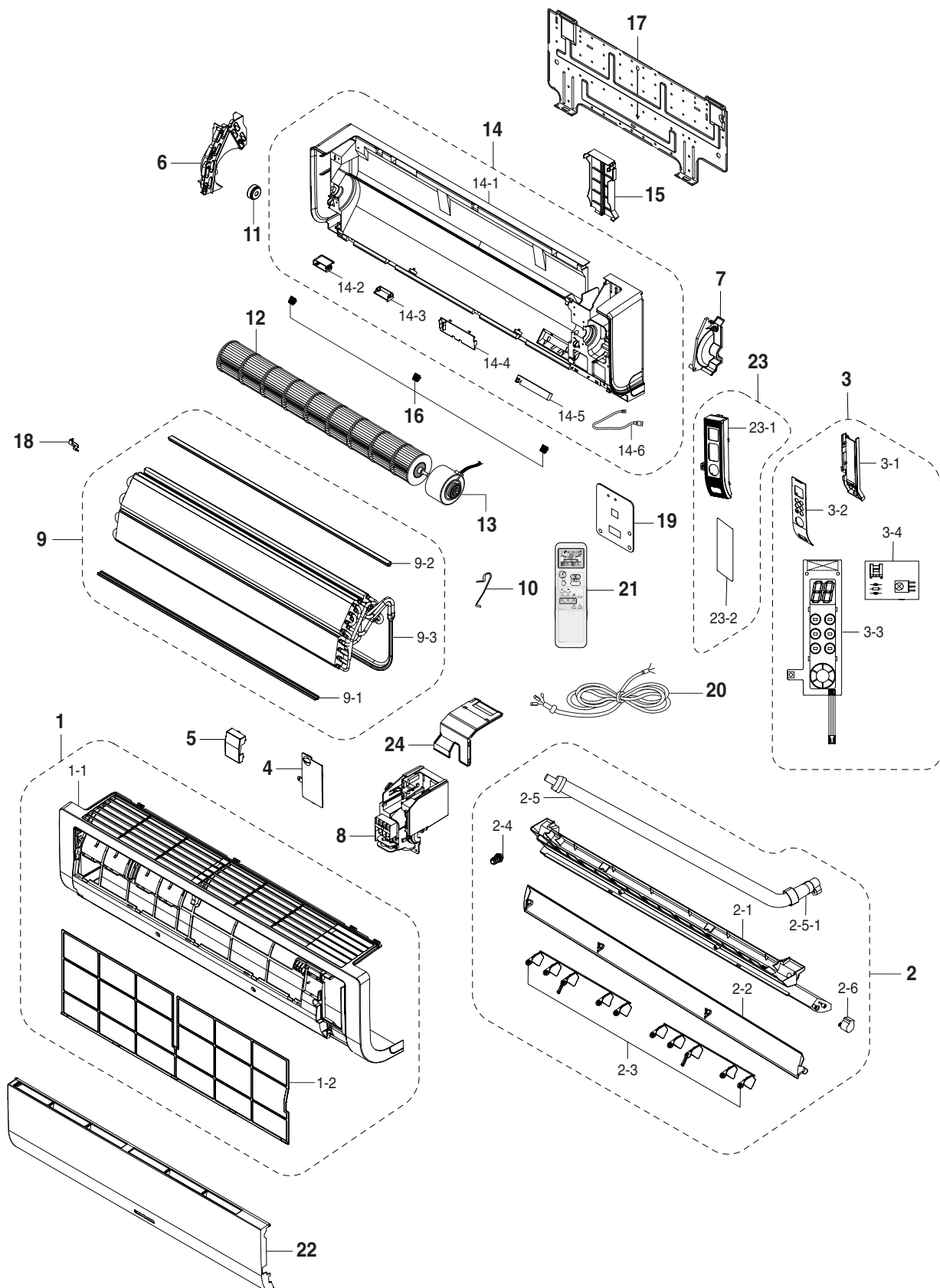


No	Parts	Procedure	Remark
2	Ass'y Control Out	<p>1) Detach the Motor Wire from the PCB of Ass'y Control Out.</p> <p>2) Detach several connectors from the PCB of Ass'y Control Out.</p> <p>3) Detach 2 Connect Wires from Reactor.</p> <p>4) Loosen 1 screw fixed to assemble Ass'y Control Out with Partition.</p>	   

No	Parts	Procedure	Remark
3	Fan & Motor	<ol style="list-style-type: none"> <li>1) Detach the Nut Flange like the picture on the right side. (Turn counterclockwise because the screw is right-handed.)</li> <li>2) Detach the Fan Propeller.</li> <li>3) Loosen 4 fixing screws to detach the Motor.</li> </ol>	
4	Heat Exchanger	<ol style="list-style-type: none"> <li>1) Loosen 2 fixing screws on both sides.</li> <li>2) Disassemble the pipes in both inlet and outlet with welding torch.</li> <li>3) Detach the Heat Exchanger.</li> </ol>	
5	Ass'y Valve 4-Way & Ass'y Valve EEV	<ol style="list-style-type: none"> <li>1) Loosen 4 bolts fixed to assemble Valve Service with Bracket Valve like the picture on the right side.</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 of Terminal Cover.</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 at the bottom of Compressor like the picture on the right side.</li> </ol>	

## 5. Exploded Views and Parts List

### 5-1 Indoor Unit



## ■ Parts List

No.	Code No.	Description	Specification	Q'TY		SA/SNA	Remark
				AS09BPAN	AS12BPAN		
1	DB92-00633B	ASS'Y PANEL FRONT	ASS'Y	1	1	SA	
1-1	DB64-01210B	PANEL FRONT	HIPS	1	1	SNA	
1-2	DB63-01103A	FILTER-PRE	PP	1	1	SNA	
2	DB94-00629A	ASS'Y TRAY DRAIN	ASS'Y	1	1	SA	
2-1	DB63-01104A	TRAY DRAIN	ABS	1	1	SNA	
2-2	DB61-02049A	BLADE-H	ABS	1	1	SA	
2-3	DB61-02053A	BLADE-V	PP	2	2	SA	
2-4	DB73-00234A	RUBBER-CAP DRAIN	CR	1	1	SNA	
2-5	DB94-00062L	ASS'Y DRAIN-HOSE	ASS'Y	1	1	SA	
2-5-1	DB67-00510A	DRAIN-CUFF	ABS	1	1	SNA	
2-6	DB95-20138A	ASS'Y MOTOR-STEPPING	24BYJ48	1	1	SA	
3	DB93-02960A	ASS'Y DISPLAY	ASS'Y	1	1	SA	
3-1	DB61-02056A	HOLDER DISPLAY	HIPS	1	1	SNA	
3-2	DB64-01211A	WINDOW DISPLAY	HIPS	1	1	SNA	
3-3	DB93-02806A	ASS'Y PCB DISPLAY	ASS'Y	1	1	SA	
3-4	DB93-01369A	ASS'Y MODULE PCB	ASS'Y	1	1	SA	
4	DB63-01106A	COVER TERMINAL	HIPS V0	1	1	SA	
5	DB63-01107A	COVER PCB-DVM	HIPS	1	1	SA	
6	DB61-02050A	HOLDER EVAP	ABS	1	1	SA	
7	DB61-02052A	HOLDER MOTOR	PP	1	1	SA	
8	DB93-03449A	ASS'Y CONTROL IN	ASS'Y	1	1	SA	
9	DB96-03835C	ASS'Y EVAP TOTAL	ASS'Y	1	1	SA	
9-1	DB60-00198A	SPACER-EVAP MID	PVC	1	1	SNA	
9-2	DB60-00203B	SPACER-EVAP UP	PVC	1	1	SNA	
9-3	DB96-03834C	ASS'Y EVAP	FP1.3, H-FIN, 2x12	1	1	SNA	
10	DB67-60030A	SPRING-SENSOR	STS 304	1	1	SNA	
11	DB94-00674A	ASS'Y BEARING-RUBBER	ASS'Y, CR 45	1	1	SA	
12	DB94-00627A	ASS'Y-CROSS FAN	ø83x719	1	1	SA	
13	DB31-00270A	MOTOR FAN-IN	YDK-20S4D8C-1	1	1	SA	
14	DB94-00626A	ASS'Y BACK BODY	ASS'Y	1	1	SA	
14-1	DB61-02057A	BODY BACK	HIPS	1	1	SNA	
14-2	DB61-02047A	BUSH BODY LF	HIPS	1	1	SNA	
14-3	DB61-02048A	BUSH BODY RH	HIPS	1	1	SNA	
14-4	DB63-01105A	COVER-IONIZER	HIPS	1	1	SNA	
14-5	DB91-00287A	ASS'Y ELECTRIC-IONIZER	ASS'Y	1	1	SNA	
14-6	DB93-01383G	ASS'Y C/W ION	ASS'Y	1	1	SA	
15	DB61-02051A	HOLDER-PIPE	HIPS	1	1	SNA	
16	DB67-00508A	CAP SCREW	HIPS	3	3	SA	
17	DB70-00514A	PLATE-HANGER	SGCC-M, T0.8	1	1	SA	
18	DB70-00515A	PLATE CONTACT	SUS 304	1	1	SNA	
19	DB70-00516A	PLATE-CONTROL IN	SGCC-M	1	1	SA	

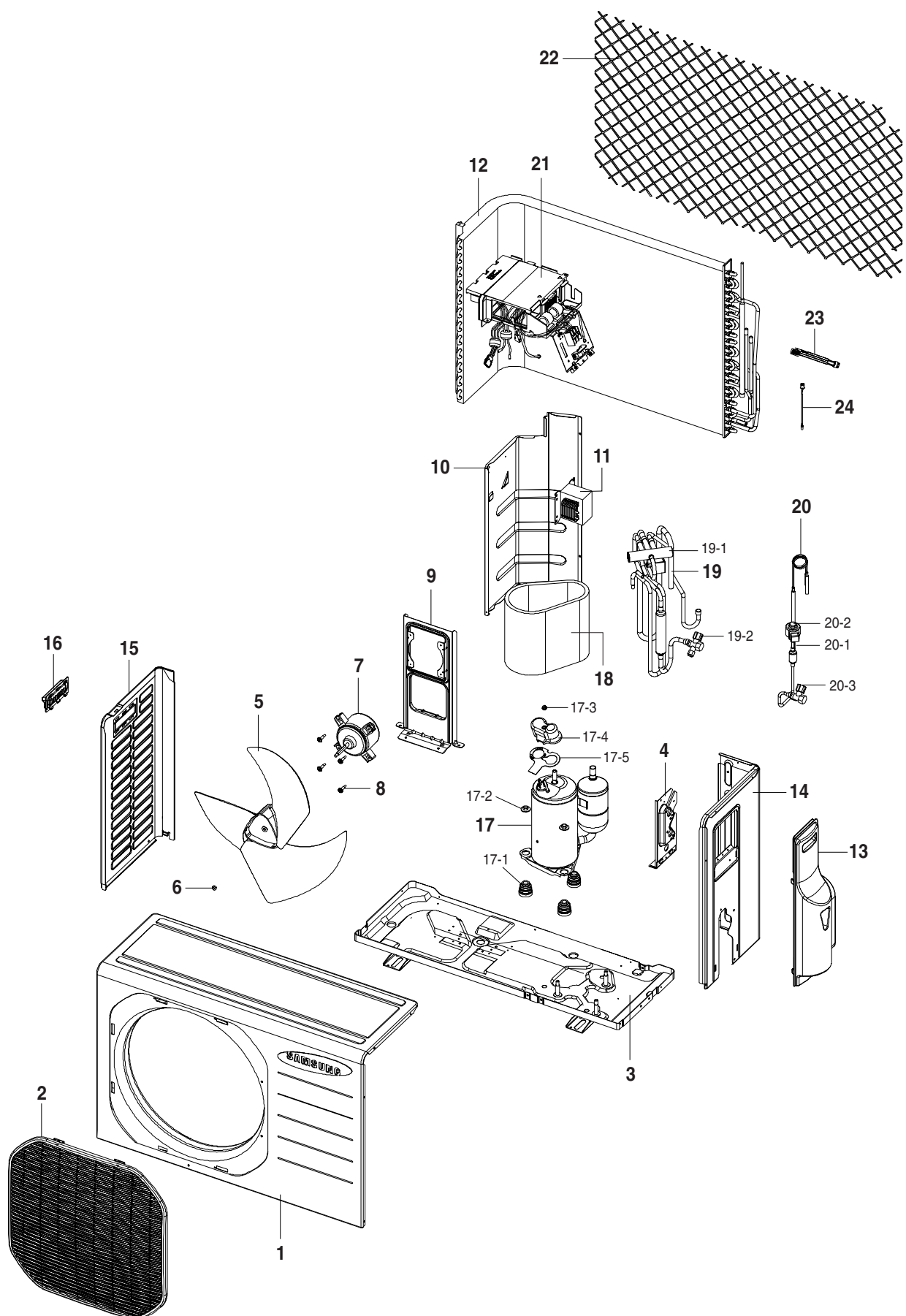


## ■ Parts List(cont.)

No.	Code No.	Description	Specification	Q'TY		SA/SNA	Remark
				AS09BPAN	AS12BPAN		
20	DB93-01549C	ASS'Y-CONNECTOR POWER	ASS'Y	1	1	SA	
21	DB93-03016R	ASS'Y REMOCON	ARH-1315	1	1	SA	
22	DB92-00643G	ASS'Y GRILLE	ASS'Y	1	1	SA	
23	DB90-01829A	ASS'Y COVER DISPLAY	ASS'Y	1	1	SA	
23-1	DB63-01108A	COVER DISPLAY	PC	1	1	SNA	
23-2	DB64-01276A	INLAY DISPLAY	ACRYL	1	1	SNA	
24	DB63-01253A	COVER CONTROL	SGCC-M	1	1	SA	

# MEMO

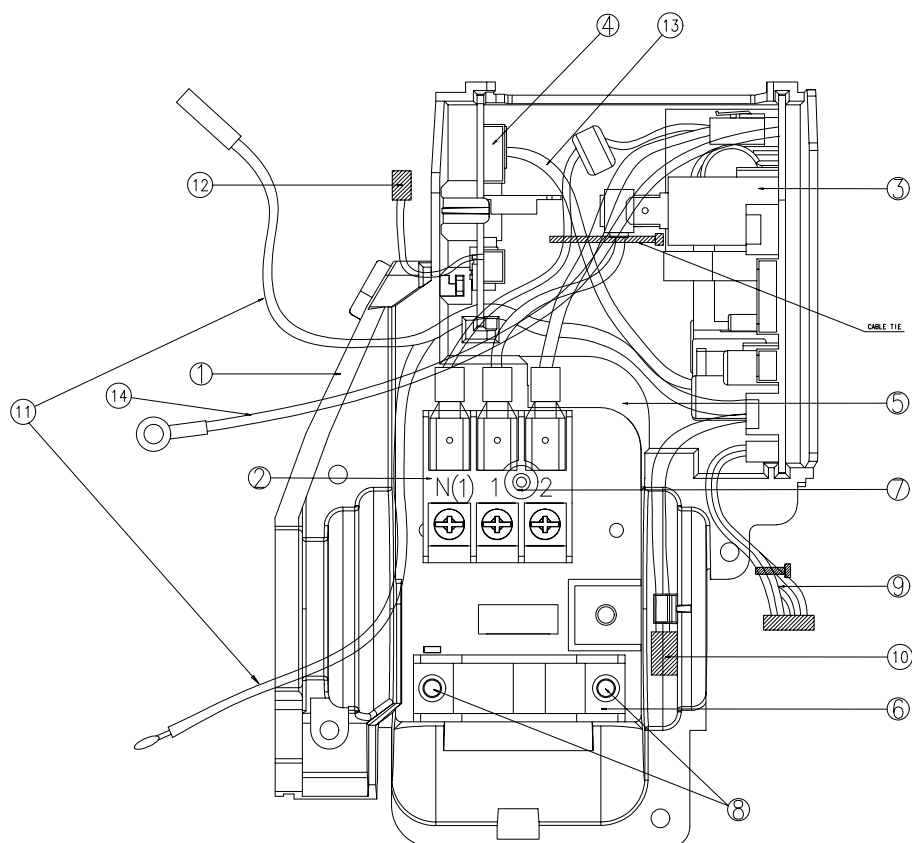
## 5-2 Outdoor Unit



## ■ Parts List

No.	Code No.	Description	Specification	Q'TY		SA/SNA	Remark
				AS09BPAX	AS12BPAX		
1	DB90-01524E	ASS'Y CABI FRONT	ASS'Y, SC-90073T	1	1	SA	
2	DB63-00847A	GUARD FAN	HIPS, SC-90073R	1	1	SA	
3	DB90-01295G	ASS'Y BASE OUT	ASS'Y, GALVANIZED STEEL	1	1	SA	
4	DB61-02066A	BRACKET VALVE	GALVANIZED STEEL	1	1	SA	
5	DB67-00397A	FAN-PROPELLER	AS+G/F20%, ø400	1	1	SA	
6	6021-000281	NUT-HEXAGON	M6, CW	1	1	SA	
7	DB31-00238A	MOTOR FAN OUT	DC Motor, SIC-52FV-F726-1	1	1	SA	
8	DB60-00150A	SCREW SPECIAL MOTOR	M4, SWCH18AK	4	4	SA	
9	DB61-01644A	BRACKET MOTOR	SGCC-M	1	1	SA	
10	DB94-00863A	ASS'Y PARTITION	ASS'Y, SGCC-M	1	1	SA	
11	DB81-00534A	REACTOR	PPS,5mH	1	1	SA	
12	DB96-04480B	ASS'Y COND UNIT	ASS'Y	1	1	SA	
13	DB63-00843A	COVER SIDE	PP, SC-90073R	1	1	SA	
14	DB90-01525E	ASS'Y CABINET SIDE RH	ASS'Y, SC-90073T	1	1	SA	
15	DB64-00982A	CABINET SIDE LF	SECC-P, SC-90073T	1	1	SA	
16	DB64-00992A	HANDLE LF	PP, SC-90073R	1	1	SA	
17	G4C090LU2ER	COMPRESSOR	ROTARY, BLDC	1	1	SA	
17-1	DB73-00070A	GROMMET ISOLATOR	NR	3	3	SA	
17-2	DB60-30028A	SCREW MACHINE	M8	3	3	SA	
17-3	DB60-30018A	NUT-FLANGE	M5	1	1	SA	
17-4	DB63-10165D	COVER TERMINAL	PBT (G/F 15%)	1	1	SA	
17-5	DB63-20003A	GASKET	EPDM	1	1	SA	
18	DB63-01435A	FELT COMP SOUND	FELT+EVAR	1	1	SA	
19	DB99-00726A	ASS'Y VALVE 4WAY	ASS'Y	1	1	SA	
19-1	DB62-02338A	4WAY VALVE	R410A, SANHUA	1	1	SNA	
19-2	DB62-02284A	VALVE SERVICE	R410A, SANHUA, 3/8"	1	1	SNA	
20	DB99-00727A	ASS'Y VALVE EEV	ASS'Y	1	1	SA	
20-1	DB62-03916A	VALVE EXPANSION BODY	FUJIKOKI, ø1.4	1	1	SNA	
20-2	DB62-03964A	VALVE EXPANSION COIL	FUJIKOKI	1	1	SNA	
20-3	DB62-02283A	VALVE SERVICE	R410A, SANHUA, 1/4"	1	1	SNA	
21	DB93-03450A	ASS'Y CONTROL OUT	ASS'Y	-	1	SA	
	DB93-03450B	ASS'Y CONTROL OUT	ASS'Y	1	-	SA	
22	DB61-01861A	GUIDE SCREEN	P.E.H 100%	1	1	SA	
23	DB32-00083K	THERMISTOR OUT/DIS	ASS'Y	1	1	SA	
24	DB32-00121B	THERMISTOR COND	ASS'Y	1	1	SA	

## 5-3 Ass'y Control In : DB93-03449A



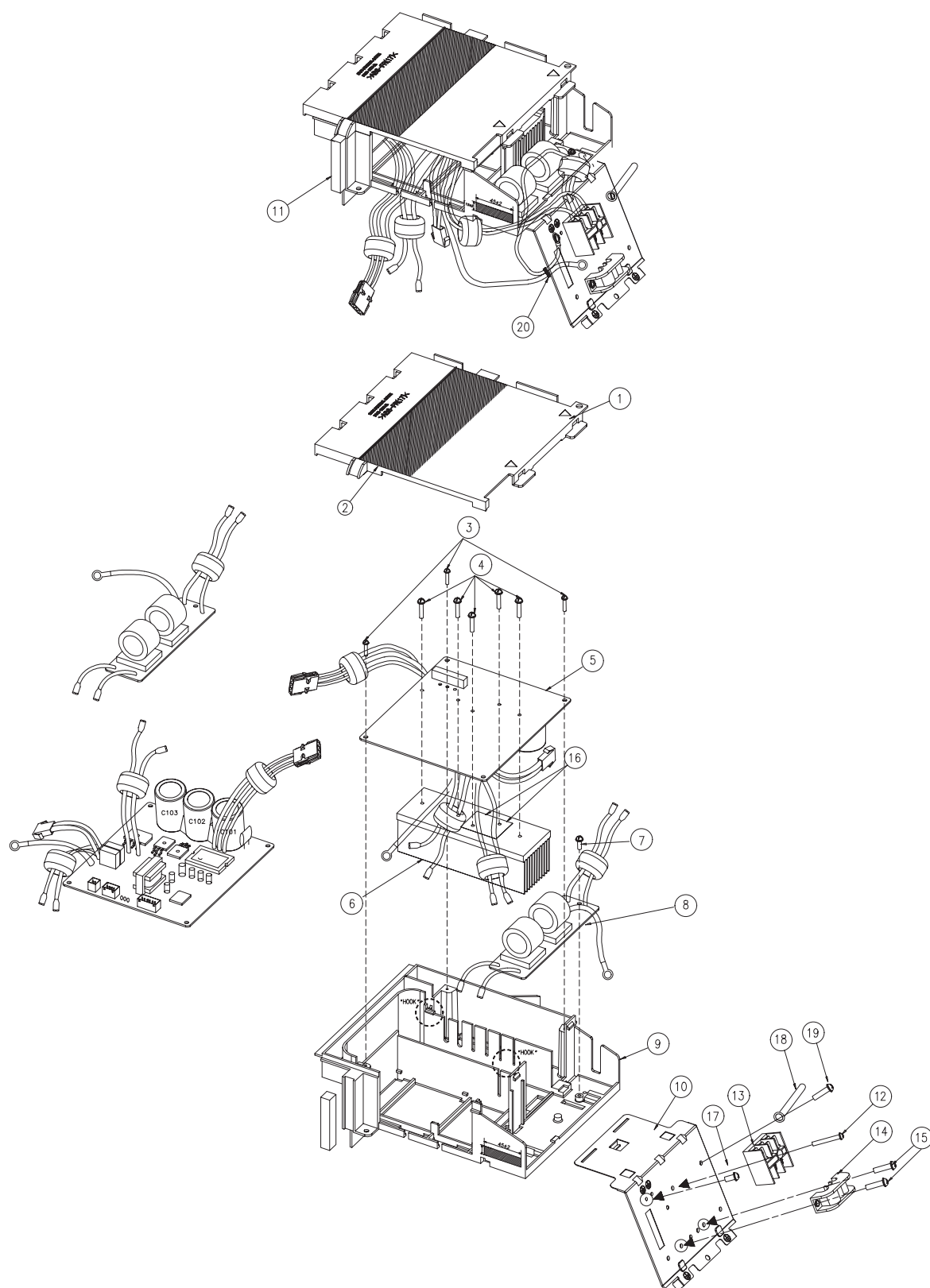
### ■ Parts List

No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
1	DB61-02054A	CASE-CONTROL	ABS	1	SNA	
2	DB65-00149C	ASS'Y-TERMINAL BLOCK	ASS'Y	1	SNA	
3	DB93-03410A	ASS'Y-MAIN PCB	ASS'Y	1	SA	
4	DB93-02809A	ASS'Y-MELODY PCB	ASS'Y	-	SA	
5	DB70-00516A	PLATE-TERMINAL LOW	SGCC-M T1.2	1	SNA	
6	DB61-00171A	HOLDER-WIRE CLAMP	ABS	1	SA	
7	6001-000929	SCREW-MACHINE	PH M3xL22	1	SNA	
8	6001-001054	SCREW-MACHINE	TH M4xL10	2	SNA	
9	DB93-02827A	C/W MAIN TO DISPLAY	ASS'Y	1	SNA	
10	DB39-00643N	C/W STEP MOTOR UP/DOWN	ASS'Y	1	SNA	
11	DB32-00020K	ASS'Y-THERMISTOR	4P(103AT)	1	SA	
12	DB93-02881A	C/W MELODY TO SPEAKER	ASS'Y	-	SNA	
13	DB93-02828A	C/W MELODY TO MAIN	ASS'Y	-	SNA	
14	DB39-00514A	C/W EARTH	ASS'Y	1	SNA	

# MEMO

## 5-4 Ass'y Control Out

■ AS09BPAX : DB93-03450B  
AS12BPAX : DB93-03450A



## ■ Parts List

No.	Code No.	Description	Specification	Q'TY		SA/SNA	Remark
				AS09BPAX	AS12BPAX		
1	DB61-02514A	CASE CONTROL COVER	HEAT-RESISTING ABS V0, T2.0	1	1	SA	
2	DB62-02541Z	SEAL CASE CONTROL COVER	FOAM LEX, T2(WHITE)	1	1	SA	
3	6002-000630	SCREW TAPPING	M3xL8 PH+, ZPC(YEL)	3	3	SNA	
4	DB91-00306A	ASS'Y SCREW-MACHINE	M3x16 WSP, PH+	5	5	SNA	
5	DB93-03421A	ASS'Y PCB OUT	FR4, 160x140	-	1	SA	
	DB93-03421B	ASS'Y PCB OUT	FR4, 160x140	1	-	SA	
6	DB62-03155A	HEAT SINK	140x50x45mm, 11FIN	1	1	SA	
7	6002-000536	SCREW TAPPING	PH, +, 2S, M4, L10	1	1	SNA	
8	DB93-02968B	ASS'Y PCB EMI	FR-1, 139x40	1	1	SA	
9	DB61-02513A	CASE CONTROL BASE	HEAT-RESISTING ABS V0, T2.0	1	1	SA	
10	DB61-02535A	PLATE CONTROL OUT	SGCC-M, T0.6	1	1	SA	
11	DB62-02332P	SEAL CASE CONTROL BASE	FOAM PU(BLACK)	1	1	SNA	
12	6002-000555	SCREW TAPPING	M4xL25, PH+, ZPC(YEL)	1	1	SNA	
13	DB65-00181B	ASS'Y TERMINAL BLOCK 3P	3P	1	1	SA	
14	DB61-00171A	HOLDER WIRE CLAMP	ABS	1	1	SA	
15	6001-001054	SCREW MACHINE	M4xL10 TH	2	2	SNA	
16	DB81-00547B	INSULATOR	MICA	1	1	SNA	
17	6009-001001	SCREW SPECIAL	SCREW EARTH	1	1	SNA	
18	DB61-00206A	HOLDER WIRE	SGCC-M, T0.5	1	1	SNA	
19	6002-001149	SCREW TAPPING	M4x10, 2S, PH+	1	1	SNA	
20	DB65-10088D	CABLE TIE	NYLON66	1	1	SNA	



## 6. Electrical Parts List

### ■ MAIN PCB : DB93-03410A

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
BD71	0402-001298	DIODE-BRIDGE	DF06S,600V,1A,SMD-4,TP	1	SNA	
C110	2201-000983	C-CERAMIC,DISC	1nF,10%,2kV,Y5P,TP,9x5mm,7.5	1	SNA	
C401	2203-000440	C-CER,CHIP	1nF,10%,50V,X7R,TP,1608,-	1	SNA	
C402	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608,-	1	SNA	
C403	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608,-	1	SNA	
C404	2203-000257	C-CER,CHIP	10nF,10%,50V,X7R,TP,1608	1	SNA	
C405	2203-000440	C-CER,CHIP	1nF,10%,50V,X7R,TP,1608,-	1	SNA	
C501	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608,-	1	SNA	
C502	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C503	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C504	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C505	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C506	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C507	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C508	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C509	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C510	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C901	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608,-	1	SNA	
CN43	3711-004379	CONNECTOR-HEADER	BOX,4P,1R,2mm,STRAIGHT,SN	1	SNA	
CN44	3711-000879	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN61	3711-004236	CONNECTOR-HEADER	BOX,5P,1R,2mm,STRAIGHT,SN	1	SNA	
CN71	3711-000313	CONNECTOR-HEADER	1WALL,3P,1R,7.92mm,STRAIGHT,SN,B	1	SNA	
CN72	3711-000262	CONNECTOR-HEADER	1WALL,3P,1R,7.92mm,STRAIGHT,SN,W	1	SNA	
CN82	3711-005206	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN,BLU	1	SNA	
CN91	9901-000148	CONNECTOR-HEADER	BOX,15P,1R,2mm,STRAIGHT,SN,BLUE	1	SNA	
CR71	2301-001251	C-FILM,LEAD-PPF	1.2uF,10%,450Vac,BK,38x18x30,3	1	SNA	
D701	0402-000012	DIODE-RECTIFIER	UF4007,1kV,1A,DO-41,TP	1	SNA	
F701	3602-000147	FUSE-CLIP	250V,7.5A,30mohm	1	SNA	
F701-1	3601-000263	FUSE-CARTRIDGE	250V,3.15A,TIME-LAG,GLASS,5x20mm	1	SNA	
F702	3601-001209	FUSE-RADIAL LEAD	250V,1A,TIME-LAG,-,8.5x8mm	1	SNA	
FT71	DB27-00020A	COIL CHOKE	SSU10V-1500S,Interior SLIM,15.0mH,+50~	1	SNA	
IC04	DB09-00327A	IC MICOM	80P,5 V,24 MHz,STM-0448-OA,-	1	SNA	
IC05	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC06	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC07	1003-001462	IC-SOURCE DRIVER	TD62783AFW,SOL,18P,-,8,-500mA,TP	1	SNA	
IC09	1103-001175	IC-EEPROM	93LC56,128x16,SOP,8P,5x4mm,2.5/6.0V,-40	1	SNA	
IC59	1203-003334	IC-RESET	S-801,SOT-23,5P,2.9x1.6mm,PLASTIC,3.716	1	SNA	
PCB	DB41-00407A	PCB	2Layers, FR4, T1.6, 1oz	1	SNA	
Q401	0501-000534	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,1	1	SNA	
R106	2007-000872	R-CHIP	4.7Kohm,5%,1/8W,TP,2012	1	SNA	

## ■ MAIN PCB : DB93-03410A(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
R301	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R401	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R402	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R403	2007-000087	R-CHIP	6.8Kohm,5%,1/10W,TP,1608	1	SNA	
R404	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R405	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R406	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R407	2007-001068	R-CHIP	6.8Kohm,1%,1/10W,TP,1608	1	SNA	
R408	2007-001068	R-CHIP	6.8Kohm,1%,1/10W,TP,1608	1	SNA	
R409	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R410	2007-000109	R-CHIP	1Mohm,5%,1/10W,TP,1608	1	SNA	
R501	2007-000109	R-CHIP	1Mohm,5%,1/10W,TP,1608	1	SNA	
R502	2007-000093	R-CHIP	20Kohm,5%,1/10W,TP,1608	1	SNA	
R503	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R504	2007-000962	R-CHIP	5.1Kohm,1%,1/10W,TP,1608	1	SNA	
R505	2007-000070	R-CHIP	0ohm,5%,1/10W,TP,1608	1	SNA	
R701	2006-001080	R-CEMENT(S)	200ohm,5%,5W,CB,BK,13x9x25.5mm	1	SNA	
R908	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R909	2007-000084	R-CHIP	4.7Kohm,5%,1/10W,TP,1608	1	SNA	
RY71	3501-001268	RELAY-POWER	12V,0.9W,25000mA,SPST,20mS,10mS	1	SNA	
RY74	3501-001154	RELAY-MINIATURE	12Vdc,200mW,3000mA,1FormA,10mS,10	1	SNA	
SS71	3502-000115	SSR	12Vdc,-,2A,1mS,1mS	1	SNA	
SUB-PCB	DB93-03469A	Assy-PCB	AC_Comm	1	SNA	
VA71	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
XC71	2301-001220	C-FILM,LEAD-PPF	100nF,10%,275V,BK,18x6x12,15	1	SNA	
XC72	2301-001220	C-FILM,LEAD-PPF	100nF,10%,275V,BK,18x6x12,15	1	SNA	
XTAL51	2802-001179	RESONATOR-CERAMIC	4MHz,0.5%,BK,8x3x5.5mm	1	SNA	

### ■ DISPLAY PCB : DB93-02806A

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
1	DB93-03138A	ASS'Y DISPLAY REFLECTOR		1	SNA	
2	DB41-00321A	PCB-DISPLAY	FR-4 T1.6	1	SNA	
3	3404-000176	TACT SWITCH	KPT-1105A	1	SNA	
4	2003-002111	RESISTOR	200ohm, 2W	4	SNA	
5	-	CONNECTOR WIRE	3P	1	SNA	
6	3711-004352	CONNECTOR	SMW200-15P	1	SNA	

### ■ MODULE PCB : DB93-01369A

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
1	DB41-00102A	PCB MODULE	FR1 T1.6	1	SNA	
2	3711-004386	CONNECTOR-HEADER	BOX, 3P, 1R, 2mm, ANGLE, SN	1	SNA	
3	2202-000173	C-CERAMIC, MLC-AXIAL	1nF, 10%, 50V, Y5P, TP, 1.9 x 3.5, -	1	SNA	
4	0401-000005	DIODE-SWITCHING	1N4148, 100V, 200mA, DO-35, TP	1	SNA	
5	2202-000780	C-CERAMIC, MLC-AXIAL	100nF, +80-20%, 50V, Y5V, TP, 3.5 x 1	1	SNA	
6	6909-001204	MODULE	346HF12N	1	SA	

## SUB PCB : DB93-03469A

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C301	2203-000440	C-CER,CHIP	1nF,10%,50V,X7R,TP,1608,-	1	SNA	
C302	2203-000257	C-CER,CHIP	10nF,10%,50V,X7R,TP,1608	1	SNA	
C303	2203-000257	C-CER,CHIP	10nF,10%,50V,X7R,TP,1608	1	SNA	
C701	2401-001428	C-AL	470uF,20%,50V,GP,TP,10x20,5	1	SNA	
C702	2301-000141	C-FILM,LEAD-PEF	10nF,10%,630V,TP,16x11x7.5mm,5	1	SNA	
C703	2301-000256	C-FILM,LEAD-PEF	4.7nF,10%,100V,TP,10x8.5x5.0mm	1	SNA	
C704	2301-000256	C-FILM,LEAD-PEF	4.7nF,10%,100V,TP,10x8.5x5.0mm	1	SNA	
C705	2203-001562	C-CER,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
C706	2203-000444	C-CER,CHIP	1nF,10%,50V,X7R,2012	1	SNA	
CN11	9901-000325	CONNECTOR-HEADER	10P,DUAL ROW, 2.54mm,ANGLE,WHT	1	SNA	
CN12	DB39-0194C	C/W	YBNH200-04/YBNH200-04	1	SNA	
D701	0402-001213	DIODE-RECTIFIER	MRA4005,600V,1A,SMC,TP	1	SNA	
D702	0402-001213	DIODE-RECTIFIER	MRA4005,600V,1A,SMC,TP	1	SNA	
D703	0402-001213	DIODE-RECTIFIER	MRA4005,600V,1A,SMC,TP	1	SNA	
PC31	0604-001172	PHOTO-COUPLER	TR,100-300,200mW,SOP,TP	1	SNA	
PC32	0604-001172	PHOTO-COUPLER	TR,100-300,200mW,SOP,TP	1	SNA	
Q301	0504-001064	TR-DIGITAL	DTC114EKA,NPN,200mW,10K/10K,SOT-23,TP	1	SNA	
Q302	0504-001064	TR-DIGITAL	DTC114EKA,NPN,200mW,10K/10K,SOT-23,TP	1	SNA	
R301	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R302	2007-000077	R-CHIP	470ohm,5%,1/10W,TP,1608	1	SNA	
R303	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R701	2003-000855	R-METAL OXIDE(S)	47Kohm,5%,3W,AA,TP,6x16mm	1	SNA	
R702	2003-000855	R-METAL OXIDE(S)	47Kohm,5%,3W,AA,TP,6x16mm	1	SNA	
R703	2003-002007	R-METAL OXIDE(S)	4.7Kohm,5%,2W,AF,TP,3.9x10mm	1	SNA	
R704	2003-002007	R-METAL OXIDE(S)	4.7Kohm,5%,2W,AF,TP,3.9x10mm	1	SNA	
R706	2007-000282	R-CHIP	100Kohm,5%,1/8W,TP,2012	1	SNA	
R707	2007-000468	R-CHIP	1Kohm,5%,1/8W,TP,2012	1	SNA	
ZD71	0403-000537	DIODE-ZENER	1N4749A,5%,1000mW,DO-41,TP	1	SNA	
PCB	DB41-00414A	PCB	2LAYERS, FR4, T1.6, 1oz	1	SNA	

# **OUTDOOR PCB : DB93-03421B(AS09BPAX), DB93-03421A(AS12BPAX)**

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
BD01	DB98-16586A	ASSY-DIODE	GS1B2560	1	SNA	
C001	2301-000141	C-FILM,LEAD-PEF	10nF,10%,630V,TP,16x11x7.5mm,5	1	SNA	
C101	DB98-21655A	ASSY-CAP	KFR-35(25)GW,KMH400VS470	1	SNA	
C102	DB98-21655A	ASSY-CAP	KFR-35(25)GW,KMH400VS470	1	SNA	
C103	DB98-21655A	ASSY-CAP	KFR-35(25)GW,KMH400VS470	1	SNA	
C401	2203-006325	C-CER,CHIP	1.2nF,5%,25V,SL,TP,1608	1	SNA	
C402	2203-002041	C-CER,CHIP	0.47nF,10%,50V,X7R,TP,1608	1	SNA	
C403	2203-006325	C-CER,CHIP	1.2nF,5%,25V,SL,TP,1608	1	SNA	
C404	2203-002041	C-CER,CHIP	0.47nF,10%,50V,X7R,TP,1608	1	SNA	
C405	2203-006325	C-CER,CHIP	1.2nF,5%,25V,SL,TP,1608	1	SNA	
C406	2203-002041	C-CER,CHIP	0.47nF,10%,50V,X7R,TP,1608	1	SNA	
C407	2203-002041	C-CER,CHIP	0.47nF,10%,50V,X7R,TP,1608	1	SNA	
C408	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C409	2401-002300	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA	
C410	2401-002300	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA	
C411	2401-002300	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA	
C412	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C413	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C414	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C415	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C416	2401-002598	C-AL	220uF,20%,50V,GP,TP,10x16,5	1	SNA	
C417	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
C418	2306-000123	C-FILM,LEAD-PPF	100nF,5%,630V,BK,26x16.5x8.5,2	1	SNA	
C419	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
C503	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C506	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C507	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C508	2401-001552	C-AL	47uF,20%,35V,GP,TP,6.3x11,2.5	1	SNA	
C509	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C513	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C514	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C515	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C516	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C517	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C518	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C519	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
C520	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C522	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C523	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C524	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C525	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	
C526	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	1	SNA	

# **OUTDOOR PCB : DB93-03421B(AS09BPAX), DB93-03421A(AS12BPAX)(cont.)**

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C702	2401-003036	C-AL	100uF,20%,16V,GP,TP,5x11mm,5mm	1	SNA	
C900	2203-006104	C-CER,CHIP	1000nF,10%,50V,X7R,TP,3225	1	SNA	
C901	2201-000322	C-CERAMIC,DISC	2.2nF,10%,2KV,Y5P,TP,13x5mm,10	1	SNA	
C902	2401-000480	C-AL	10uF,20%,50V,GP,TP,5x11,5	1	SNA	
C905	2401-002598	C-AL	220uF,20%,50V,GP,TP,10x16,5	1	SNA	
C906	2203-001562	C-CER,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
C907	2203-001562	C-CER,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
CN01	3711-005654	CONNECTOR-HEADER	1WALL,7P,1R,3.96mm,ANGLE,SN,WHT	1	SNA	
CN51	3711-000939	CONNECTOR-HEADER	BOX,4P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN52	3711-000012	CONNECTOR-HEADER	BOX,4P,1R,2.5mm,STRAIGHT,SN,WHT	1	SNA	
CN53	3711-001038	CONNECTOR-HEADER	BOX,6P,1R,2.5mm,STRAIGHT,SN,WHT	1	SNA	
CN54	3711-003843	CONNECTOR-HEADER	BOX,8P,1R,2mm,STRAIGHT,SN	1	SNA	
CN55	3711-003942	CONNECTOR-HEADER	BOX,2P,1R,2mm,STRAIGHT,SN	1	SNA	
D101	DB98-16591A	ASSY-DIODE RECTIFIER	FEP30JP	1	SNA	
D401	0402-000351	DIODE-RECTIFIER	1N4937,600V,1A,DO-41,TP	1	SNA	
D402	0402-000351	DIODE-RECTIFIER	1N4937,600V,1A,DO-41,TP	1	SNA	
D403	0402-000351	DIODE-RECTIFIER	1N4937,600V,1A,DO-41,TP	1	SNA	
IC01	DB09-00338A	IC MICOM	80 P,5 V,24 MHz,FLASH MEMORY	1	SNA	
IC02	1203-003334	IC-RESET	S-801,SOT-23,5P,2.9x1.6mm,PLASTIC,3.716	1	SNA	
IC55	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC56	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC701	1103-001175	IC-EEPROM	93LC56,128x16,SOP,8P,5x4mm,2.5/6.0V,-40	1	SNA	
IPM	DB95-00599A	ASSY-IPM	KFR-35GW/GPI,INVERTER	1	SNA	
LED1	0601-001373	LED	ROUND,RED,3mm,630nm	1	SNA	
LED2	0601-001375	LED	ROUND,GRN,3mm,570nm,3.8x5.3mm	1	SNA	
LED3	0601-001377	LED	ROUND,YEL,3mm,585nm,3.8x5.3mm	1	SNA	
PCB	DB41-00402A	PCB	2LAYERS, FR4, T1.6, 1oz	1	SNA	
Q803	0508-001132	TR-IGBT	-,600V,40A,2.6V,1200UJ,160W,TP-3P	1	SNA	
Q901	DB13-00003A	IC DRIVER GATE	-,SOT-23,-,1P,1P,0.2mm,2.93x1.3mm	1	SNA	
Q902	0504-000127	TR-DIGITAL	KSR1102,NPN,200mW,10K/10K,SOT-23,TP	1	SNA	
R110	2007-008023	R-CHIP	100Kohm,5%,1W,TP,6432	1	SNA	
R111	2007-008023	R-CHIP	100Kohm,5%,1W,TP,6432	1	SNA	
R112	2007-008023	R-CHIP	100Kohm,5%,1W,TP,6432	1	SNA	
R113	2007-000924	R-CHIP	470Kohm,1%,1/4W,TP,3216	1	SNA	
R114	2007-000924	R-CHIP	470Kohm,1%,1/4W,TP,3216	1	SNA	
R115	2007-000924	R-CHIP	470Kohm,1%,1/4W,TP,3216	1	SNA	
R116	2007-000385	R-CHIP	14.3Kohm,1%,1/4W,TP,3216	1	SNA	
R407	2007-000781	R-CHIP	33ohm,5%,1/8W,TP,2012	1	SNA	
R408	2007-000781	R-CHIP	33ohm,5%,1/8W,TP,2012	1	SNA	
R409	2007-000781	R-CHIP	33ohm,5%,1/8W,TP,2012	1	SNA	
R415	2007-000084	R-CHIP	4.7Kohm,5%,1/10W,TP,1608	1	SNA	
R418	2006-001013	R-CEMENT	0.02ohm,5%,7W,CA,BK,35x9.5x9.5mm	1	SNA	

# **OUTDOOR PCB : DB93-03421B(AS09BPAX), DB93-03421A(AS12BPAX)(cont.)**

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
R419	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R420	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R421	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R422	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R423	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R424	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R425	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R501	2007-000962	R-CHIP	5.1Kohm,1%,1/10W,TP,1608	1	SNA	
R502	2007-000614	R-CHIP	24Kohm,1%,1/10W,TP,1608	1	SNA	
R503	2007-000614	R-CHIP	24Kohm,1%,1/10W,TP,1608	1	SNA	
R504	2007-000962	R-CHIP	5.1Kohm,1%,1/10W,TP,1608	1	SNA	
R505	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R506	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R507	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R508	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R509	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R510	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R515	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R516	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R517	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R536	2007-000109	R-CHIP	1Mohm,5%,1/10W,TP,1608	1	SNA	
R537	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R538	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R539	2007-000493	R-CHIP	2.2Kohm,5%,1/8W,TP,2012	1	SNA	
R540	2007-000493	R-CHIP	2.2Kohm,5%,1/8W,TP,2012	1	SNA	
R541	2007-000493	R-CHIP	2.2Kohm,5%,1/8W,TP,2012	1	SNA	
R542	2007-000964	R-CHIP	5.1Kohm,5%,1/8W,TP,2012	1	SNA	
R543	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R901	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
R902	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
R906	2007-001071	R-CHIP	6.8Kohm,5%,1/8W,TP,2012	1	SNA	
R908	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
RY501	3501-001154	RELAY-MINIATURE	12Vdc,200mW,3000mA,1FormA,10mS,10	1	SNA	
XTAL01	2802-001179	RESONATOR-CERAMIC	4MHz,0.5%,BK,8x3x5.5mm	1	SNA	
ZD23	0403-000282	DIODE-ZENER	MMBZ5232B,5%,225mW,SOT-23,TP	1	SNA	
C/W 4WAY	DB39-00649E	WIRE-4WAY	UL1015 AWG #18	1	SNA	
C/W COMM-N	DB39-00998E	WIRE-COMM-N	UL1015 AWG #20, RING23x5 2Turn	1	SNA	
C/W COMP	DB39-00608H	WIRE-COMP	UL1015 AWG #16, TR36G5A(RED) 4Turn	1	SNA	
L/W EARTH	DB39-00514F	WIRE-EARTH	UL1015 AWG #16, GRN/YEL 280mm	1	SNA	
C/W REACTOR	DB39-00998F	WIRE-REACTOR	UL1015 AWG 16, TR29G5A 4Turn	1	SNA	

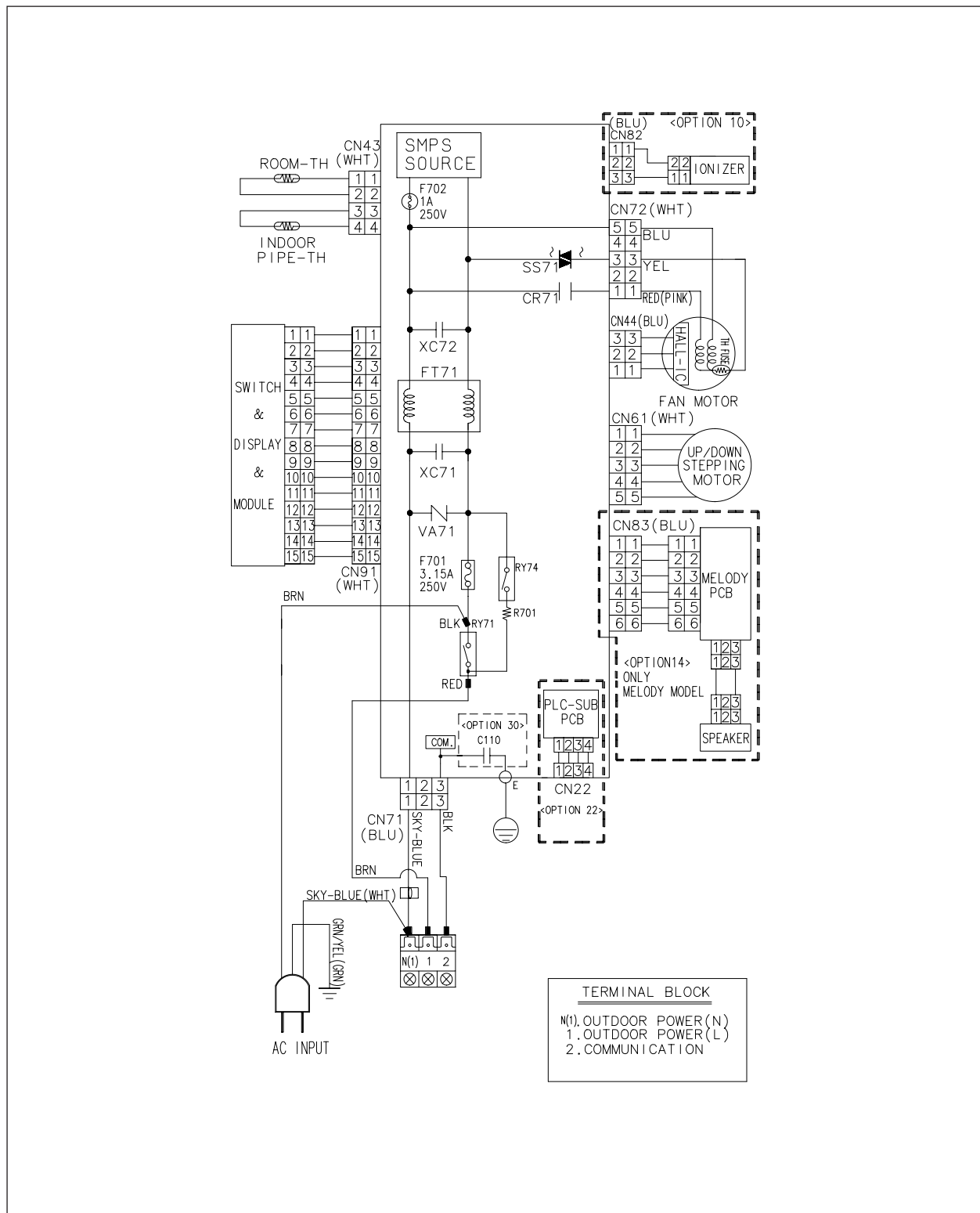
# **EMI PCB : DB93-02968B**

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C001	2201-000158	C-CERAMIC,DISC	10nF,+80-20%,3KV,Y5V,BK,-,10mm	1	SNA	
C002	2201-000158	C-CERAMIC,DISC	10nF,+80-20%,3KV,Y5V,BK,-,10mm	1	SNA	
C003	2301-001285	C-FILM,LEAD-PPF	680nF,10%,275V,BK,31x11x21mm,27.5	1	SNA	
C004	2301-001285	C-FILM,LEAD-PPF	680nF,10%,275V,BK,31x11x21mm,27.5	1	SNA	
C010	2201-000158	C-CERAMIC,DISC	10nF,+80-20%,3KV,Y5V,BK,-,10mm	1	SNA	
C011	2201-000158	C-CERAMIC,DISC	10nF,+80-20%,3KV,Y5V,BK,-,10mm	1	SNA	
DSA	DB47-00016A	POSISTOR	DSA-332mA,2pF MAX,100Mohm,ASM-3500	1	SNA	
F001	3602-001038	FUSE-CLIP	250V,30A,10mohm	1	SNA	
FT00	DB98-17990A	ASSY-EMI FILTER	LS615044,SH12BWH	1	SNA	
FT01	DB98-17990A	ASSY-EMI FILTER	LS615044,SH12BWH	1	SNA	
TB-L	9901-000087	WIRE-HOLE	ø=2.4mm	1	SNA	
TB-N	9901-000087	WIRE-HOLE	ø=2.4mm	1	SNA	
VA04	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
VA07	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
VA08	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
VA09	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
C/W POWER	DB39-00998C	WIRE-POWER	UL1015 AWG #16	1	SNA	
L/W AC_L	DB39-00961T	WIRE-AC_L	UL1015 AWG #16, BRN	1	SNA	
L/W AC_N	DB39-00961U	WIRE-AC_N	UL1015 AWG #16, SKYBLU	1	SNA	
L/W EARTH	DB39-00514F	WIRE_EARTH	UL1015 AWG #16, GRN/YEL 280mm	1	SNA	



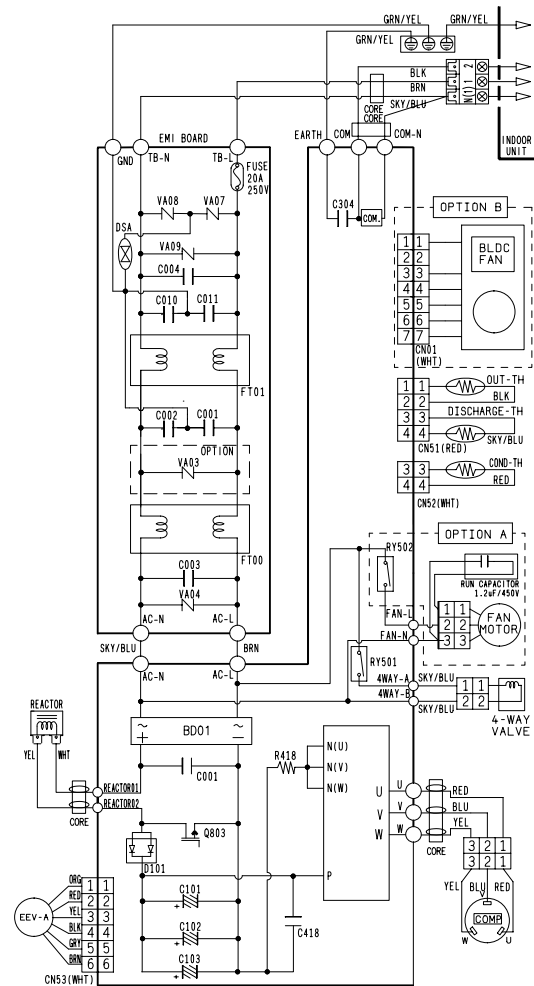
## 7. Wiring Diagram

### 7-1 Indoor Unit



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## 7-2 Outdoor Unit



LED PATTERN	DESCRIPTION
YEL GRN RED	
× × ×	Power Off / Vdd Error
× × ●	Comp Peak Current (O.C.)
× × ×	Abnormal Communication
× × ×	Comp Starting Error
× × ×	Normal Operation
× × ×	DC-link voltage Over/Under Error
× × ×	Comp Lock Error
× × ×	Capacity Miss Match
× × ×	Outdoor Sensor Error
× × ×	Discharge Over Temp
× × ×	Discharge Sensor Error
× × ×	FAN Error
× × ×	Current Sensor Error
× × ×	Comp Vm Limit Error
× × ×	Cond Sensor Error
× × ×	1min. Time out Comm
× × ×	Option Error (EEPROM)
× × ×	Comp Rotation Error
× × ×	DC-LINK Voltage Sensor Error
× × ×	GAS Leak Error
× × ×	AC Zero-Crossing Error
× × ×	Unit/PFC Over Current Trip
× × ×	Operation condition secession
× × ×	Power ON Reset (1sec)
× × ×	Test Operation at Cooling Mode
× × ×	Test Operation at Heating Mode

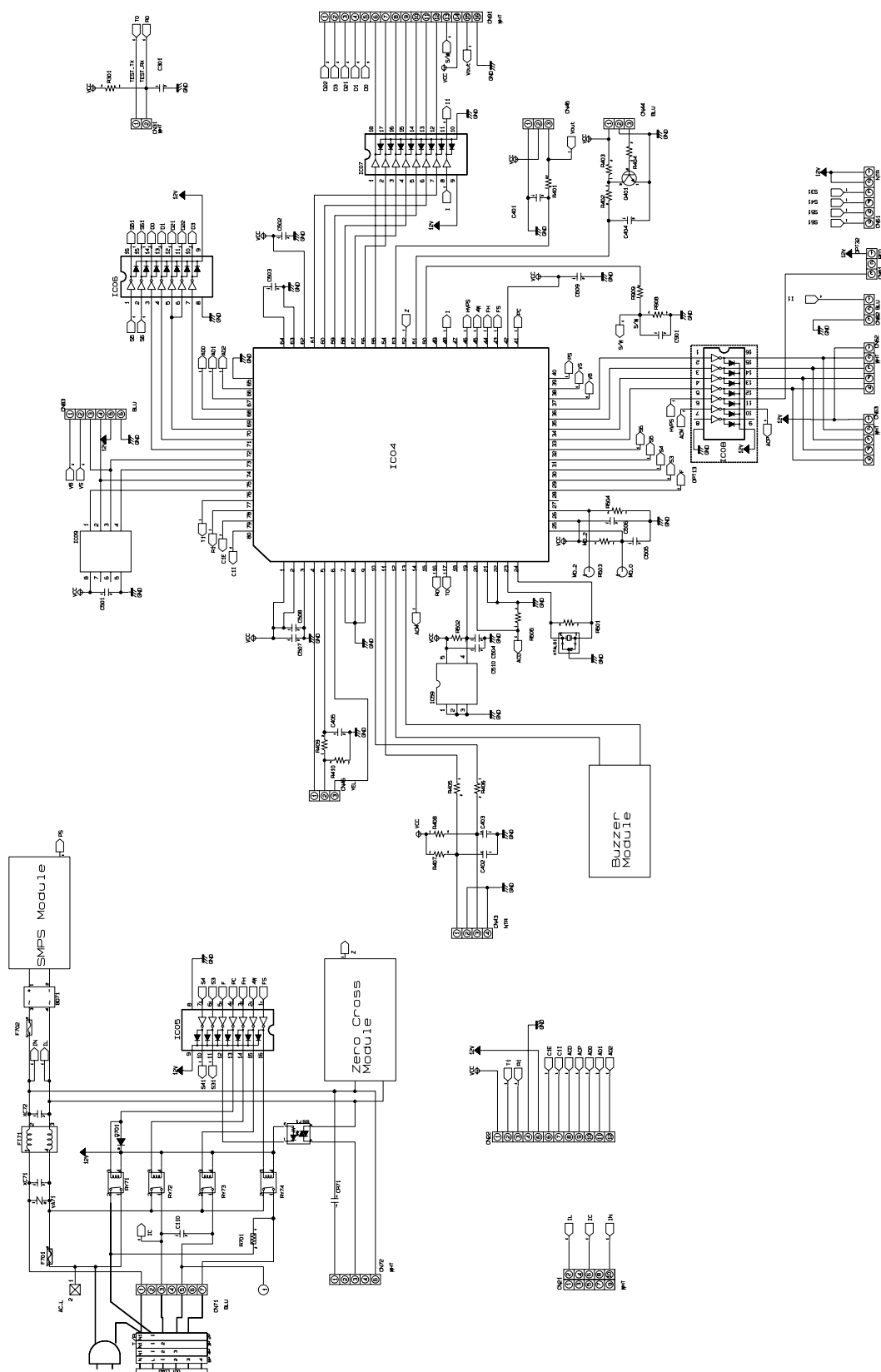
● LED ON
○ LED BLINKING
× LED OFF

OPTION	FAN TYPE
OPTION A	AC FAN ONLY
OPTION B	BLDC FAN ONLY

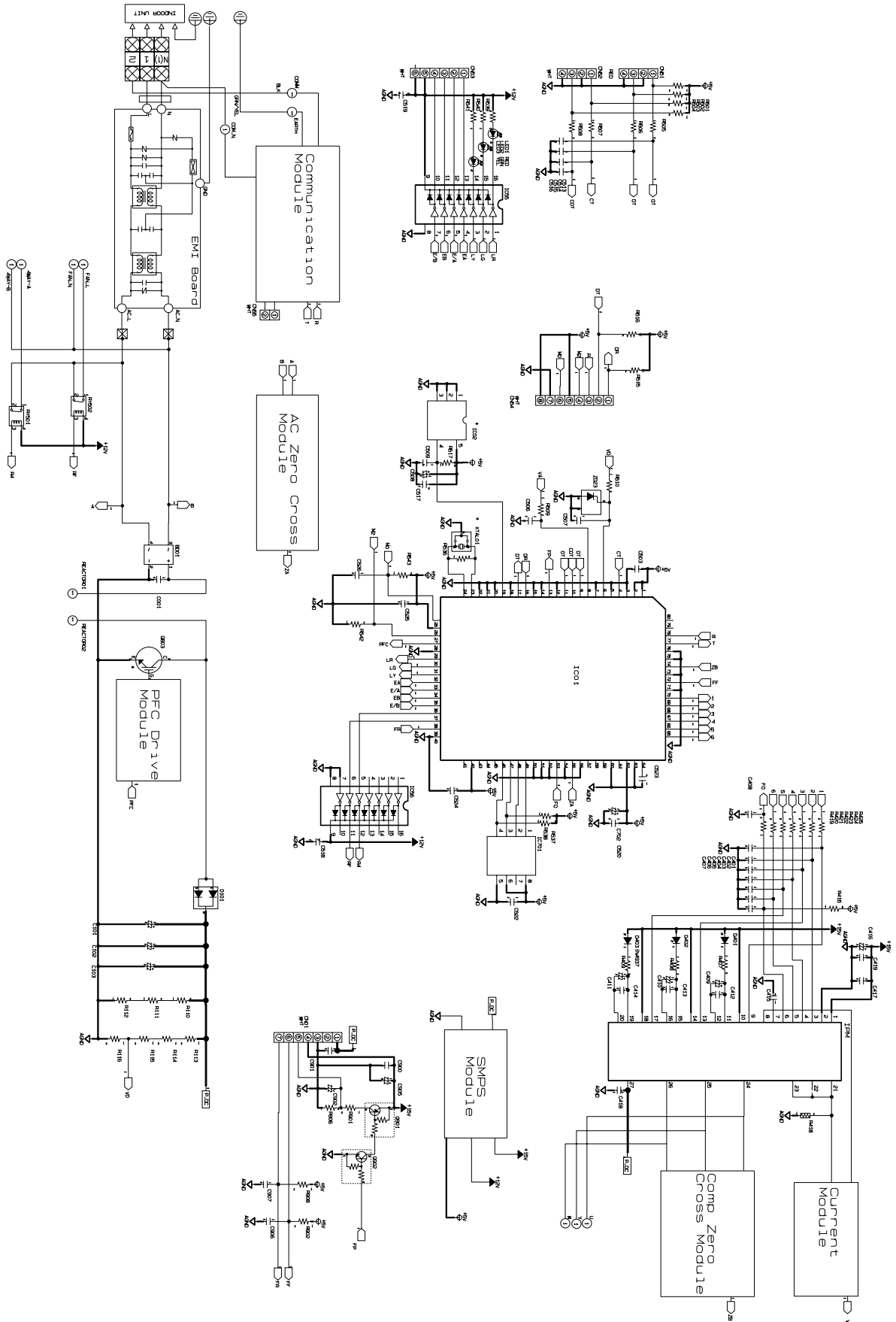
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## 8-1 Indoor Unit



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## 8-2 Outdoor Unit

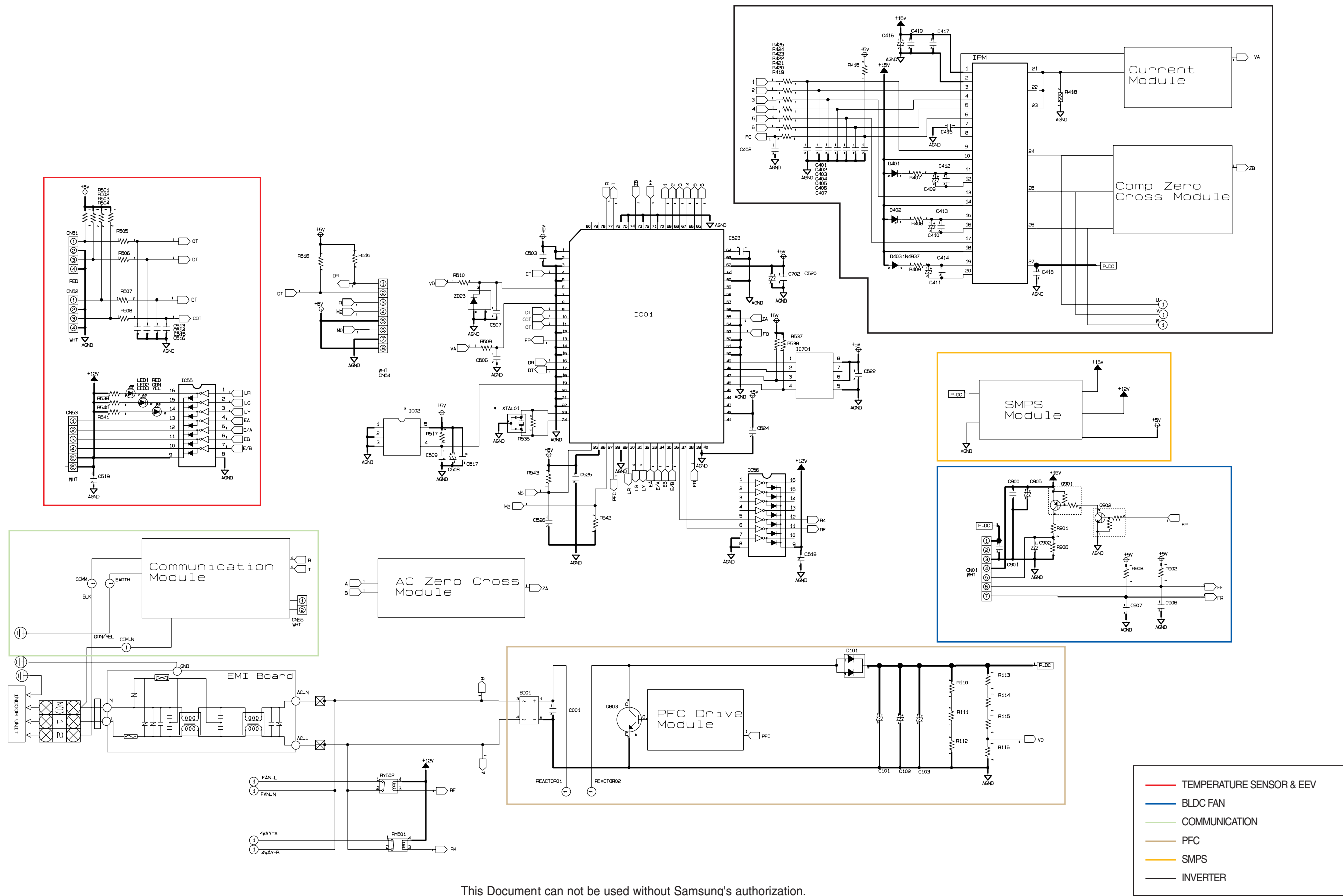


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## 9-1 PCB Circuit Descriptions

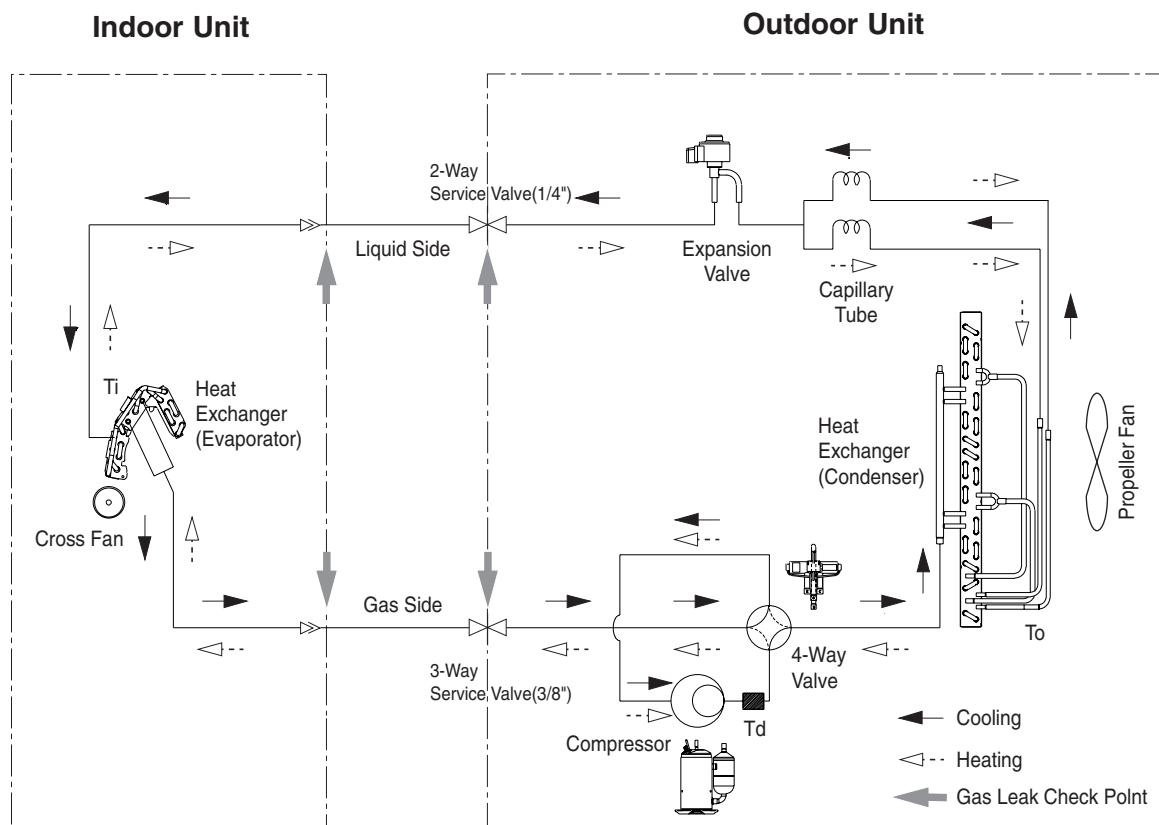
Samsung Electronics

9-1-2 Outdoor Unit



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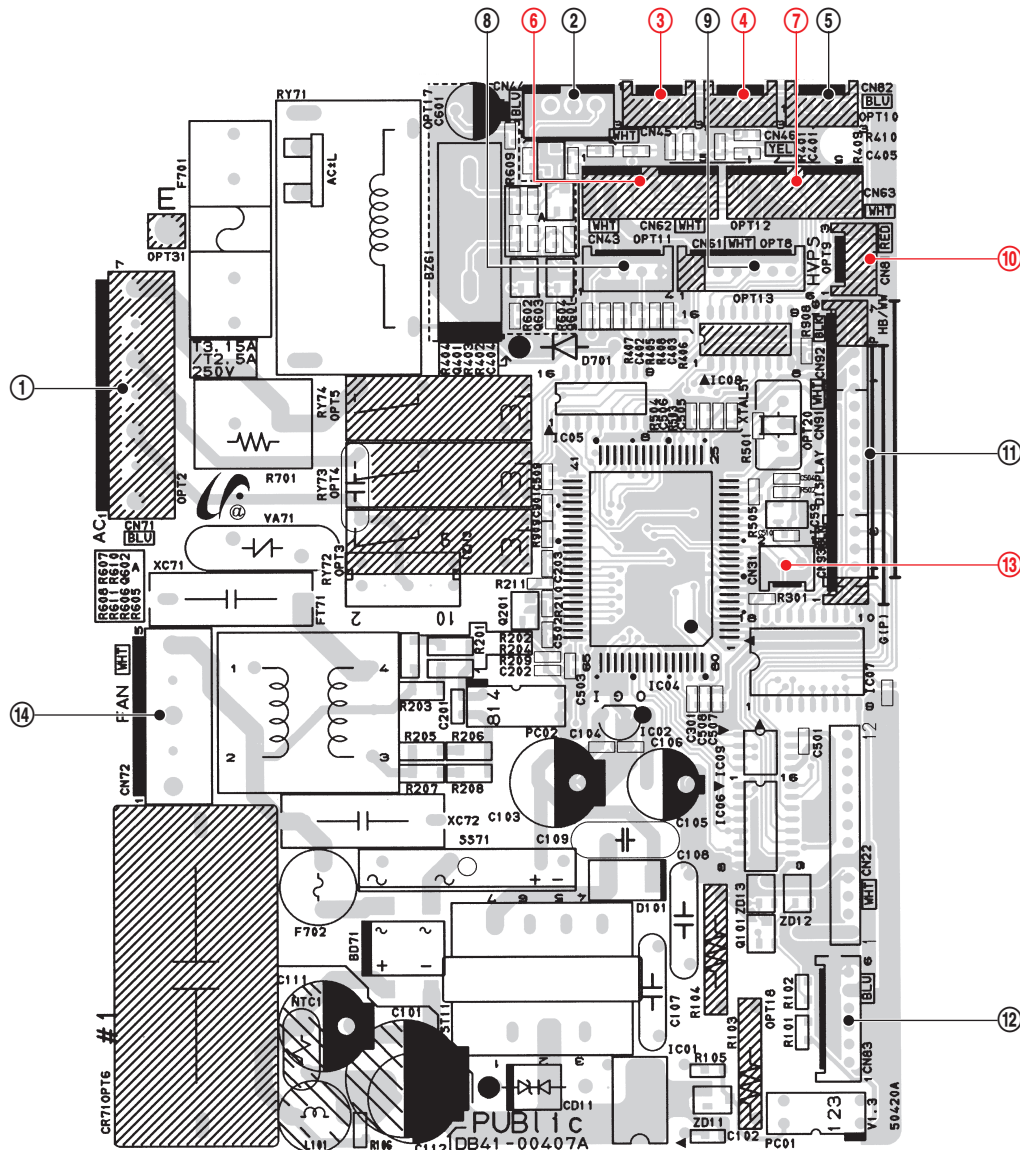
## 9-2 Refrigerating Cycle Diagram



## 10. PCB Diagram

### 10-1 Indoor PCB

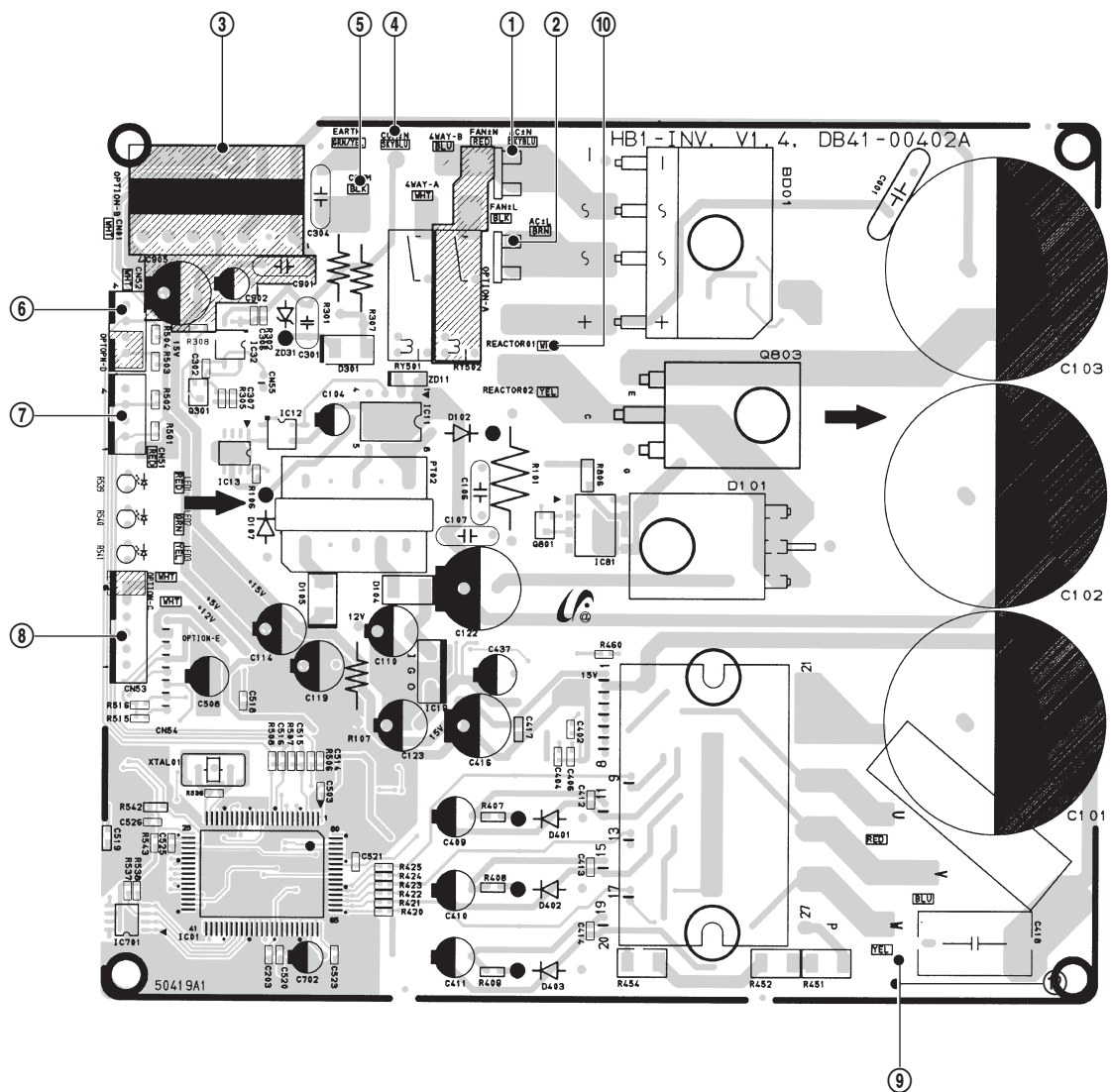
⚠ The red number connector is not used.



①	Power	⑧	Temperature Sensor
②	Motor RPM Feedback	⑨	BLADE-H Step Motor
③	Remocon Module	⑩	HVPS(High voltage Generator)
④	Humidity Sensor	⑪	DISPLAY PCB Connection
⑤	Anions	⑫	Melody PCB Connection
⑥	Auto grill 1	⑬	Test Board Connection
⑦	Auto grill 2	⑭	Indoor Fan Motor



## 10-2 Outdoor PCB



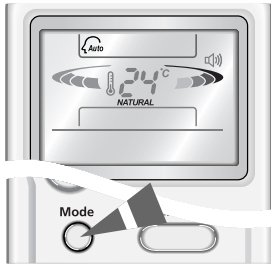








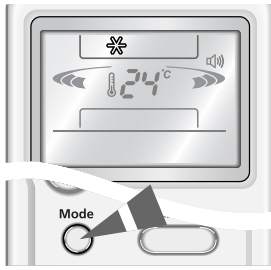
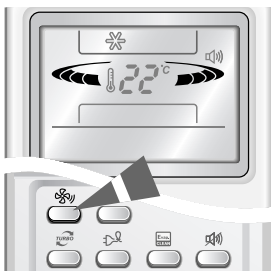








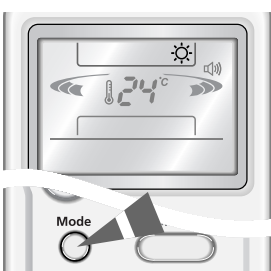



①	Power N	⑥	Comp./Cond. Temperature Sensor
②	Power L	⑦	Outdoor/Discharge Temperature Sensor
③	BLDC FAN	⑧	EEV Connector
④	Communication N	⑨	Comp. Connector Wire
⑤	Communication	⑩	Reactor Connector Wire



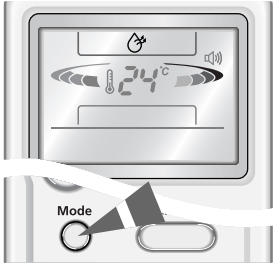


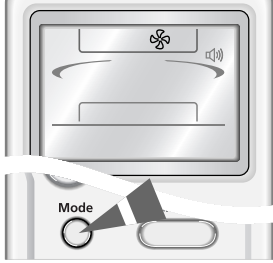
# 11. Operating Instruction and Installation

## 11-1 Main Function


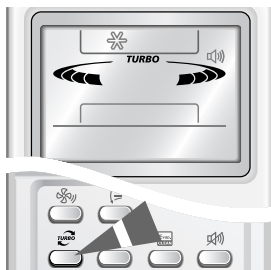

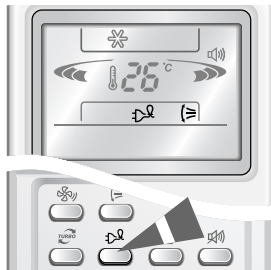

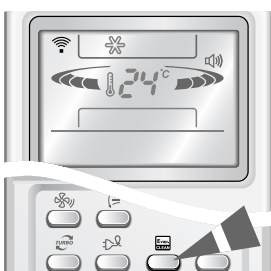




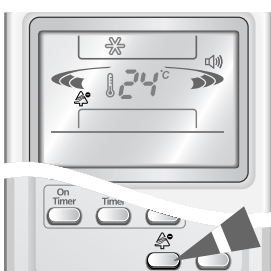
### 11-1-1 Basic Function

Mode	Explanation	Remark
<b>Auto Mode</b>	Press the  button on the remote control until  is displayed.	
<b>Cool Mode</b>	<p>Press the  button on the remote control until  is displayed.</p> <p>Press the  button to select the fan speed until the required setting is displayed.</p> <p>  Automatic (rotated :  )   Low   Medium   High         </p>	 
<b>Heat Mode</b>	<p>Press the  button on the remote control until  is displayed.</p> <p>Press the  button to select the fan speed until the required setting is displayed.</p> <p>  Automatic (rotated :  )   Low   Medium   High         </p>	 

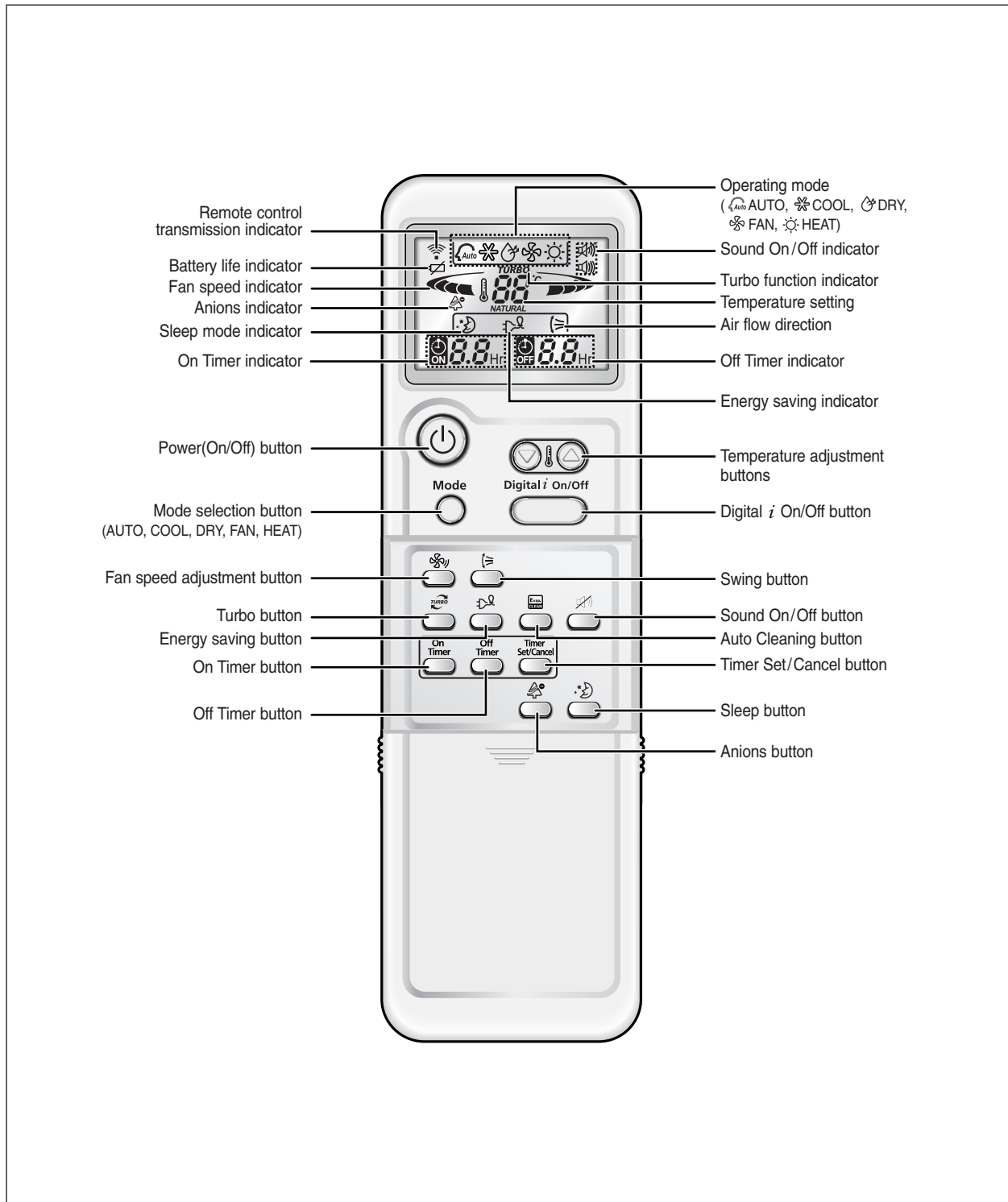
Basic Function(cont.)

Mode	Explanation	Remark
Dry Mode	Press the  button on the remote control until  is displayed.	
Fan Mode	Press the  button on the remote control until  is displayed.	

### 11-1-2 Applied Function

Mode	Explanation	Remark											
<b>Turbo Function</b>	Press the  button. <ul style="list-style-type: none"> <li>After 30 minutes, the air conditioner is reset automatically to the previous setting.</li> <li>You can select the Turbo function in the Auto, Cool and Heat mode. If you select this function in the Dry or Fan mode, the mode changes to the Auto mode.</li> </ul>												
<b>Energy Saving Function</b>	Press the  button.												
<b>Auto Cleaning Function</b>	Press the  button. <table border="1" data-bbox="391 1097 1029 1276"> <thead> <tr> <th>When the air conditioner is turned</th><th>Mode</th><th>Operating time</th></tr> </thead> <tbody> <tr> <td rowspan="2">On</td><td>Auto, Cool, Dry</td><td>30 minutes</td></tr> <tr> <td>Heat, Fan</td><td>15 minutes</td></tr> <tr> <td>Off</td><td></td><td>30 minutes</td></tr> </tbody> </table> <p>* There is no extra mark on the remote control, LED is on at the main body display. Press the button one more time for cancel.</p>	When the air conditioner is turned	Mode	Operating time	On	Auto, Cool, Dry	30 minutes	Heat, Fan	15 minutes	Off		30 minutes	
When the air conditioner is turned	Mode	Operating time											
On	Auto, Cool, Dry	30 minutes											
	Heat, Fan	15 minutes											
Off		30 minutes											
<b>Sound On/Off Function</b>	Press the  button to turn off the sound.												
<b>Anions Function</b>	Press the  button. <ul style="list-style-type: none"> <li>If you press the  button when the air conditioner is off, the air conditioner turns on automatically and generates anions in the Fan mode with Low fan speed.</li> </ul>												



## 11-2 Wireless Remote Control-Buttons and Display



## 12. Troubleshooting

### 12-1 Items to be checked first

1. 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.
2. Is the link cable linking the indoor unit and the outdoor unit linked properly?  
The indoor unit and the outdoor unit shall be linked by 4 cables.  
Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.  
Otherwise the air conditioner may not operate properly.
3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the air conditioner.

No	Operation of air conditioner	Explanation
1	The OPERATION indication LED(BLUE) blinks when a power plug of the indoor unit is plugged in for the 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

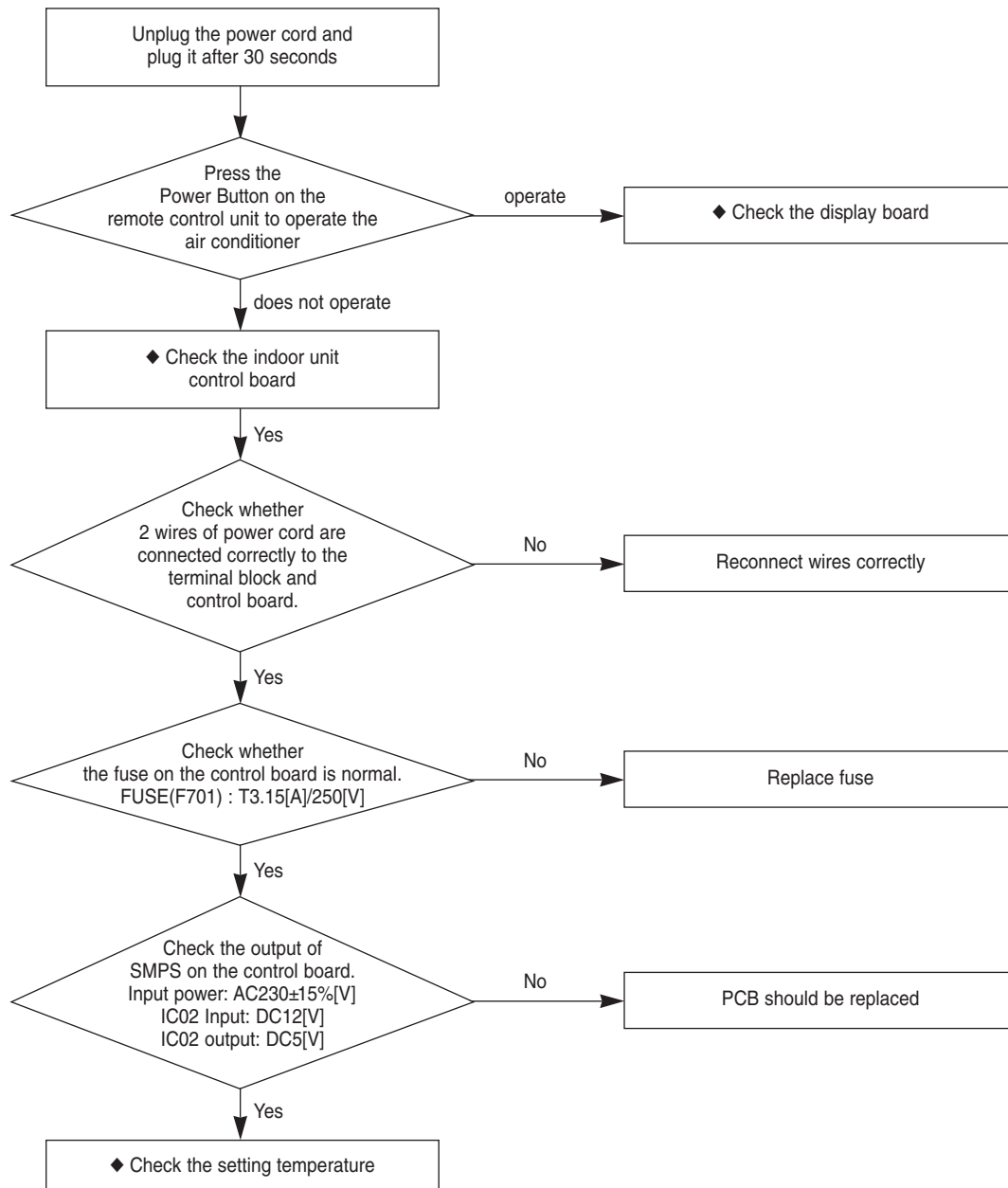
## 12-2 Fault Diagnosis by Symptom

### 12-2-1 No Power (completely dead)-Initial diagnosis

1. Checklist :

- 1) Is input voltage normal?
- 2) Is AC power linked correctly?
- 3) Is input voltage of DC regulator IC KA7805 (IC02) normal?(11VDC-12.5VDC)
- 4) Is output voltage of DC regulator IC KA7805 (IC02) normal?(4.5VDC-5.5VDC)

2. Troubleshooting procedure

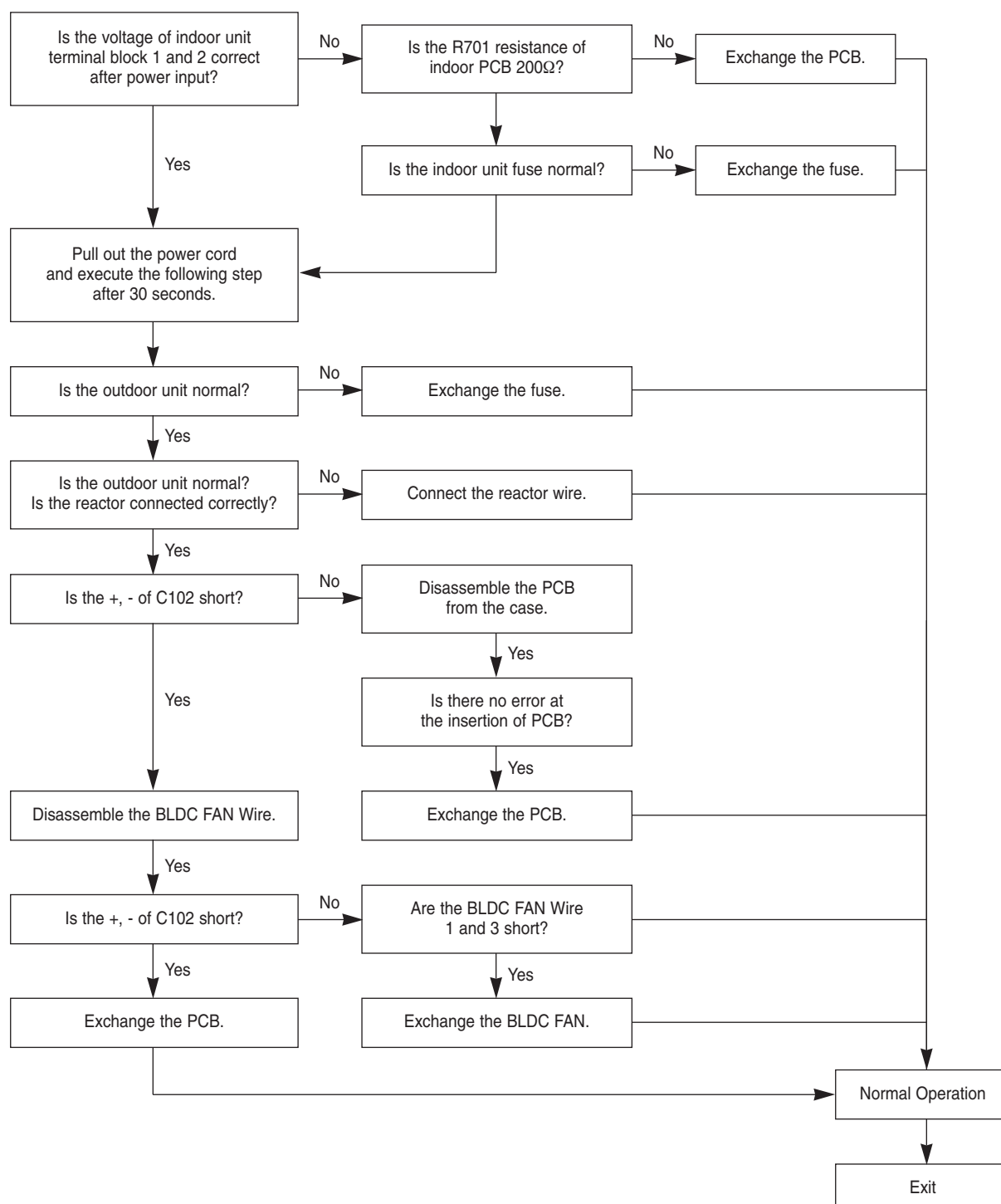


## 12-2-2 The Outdoor unit power supply error

### 1. Checklist :

- 1) Are the input power voltage and the power connection correct?
- 2) Is there no Fuse short in the indoor unit and outdoor unit?
- 3) Is the cable connected correctly between the indoor unit and outdoor unit in order.
- 4) Is the wire connected correctly to the terminal block of the indoor unit and outdoor unit?

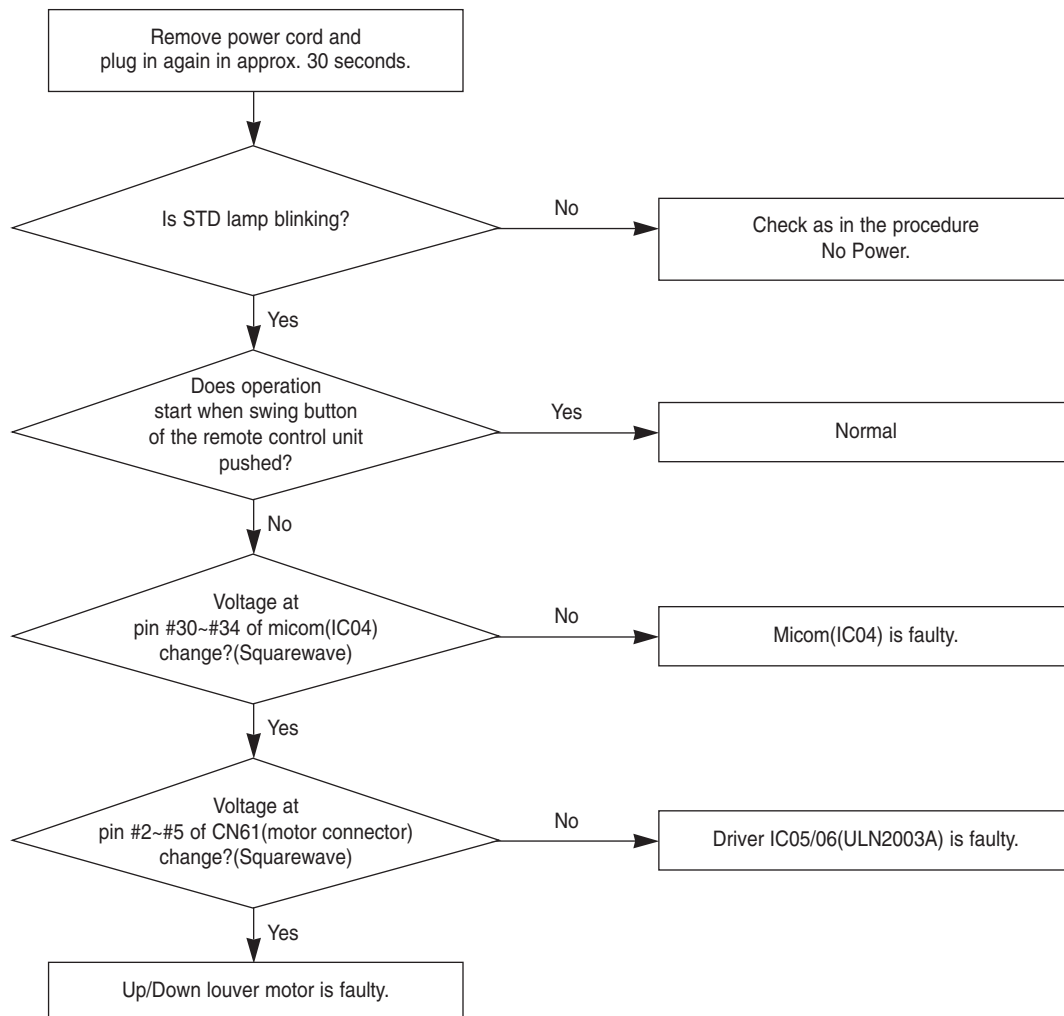
### 2. Troubleshooting procedure





### 12-2-3 When the Up/Down Louver Motor Does Not Operate. (Initial Diagnosis)

1. Checklist :
  - 1) Is input voltage normal?
  - 2) Is the Up/Down louver motor properly connected with the connector(CN61)?
2. Troubleshooting procedure

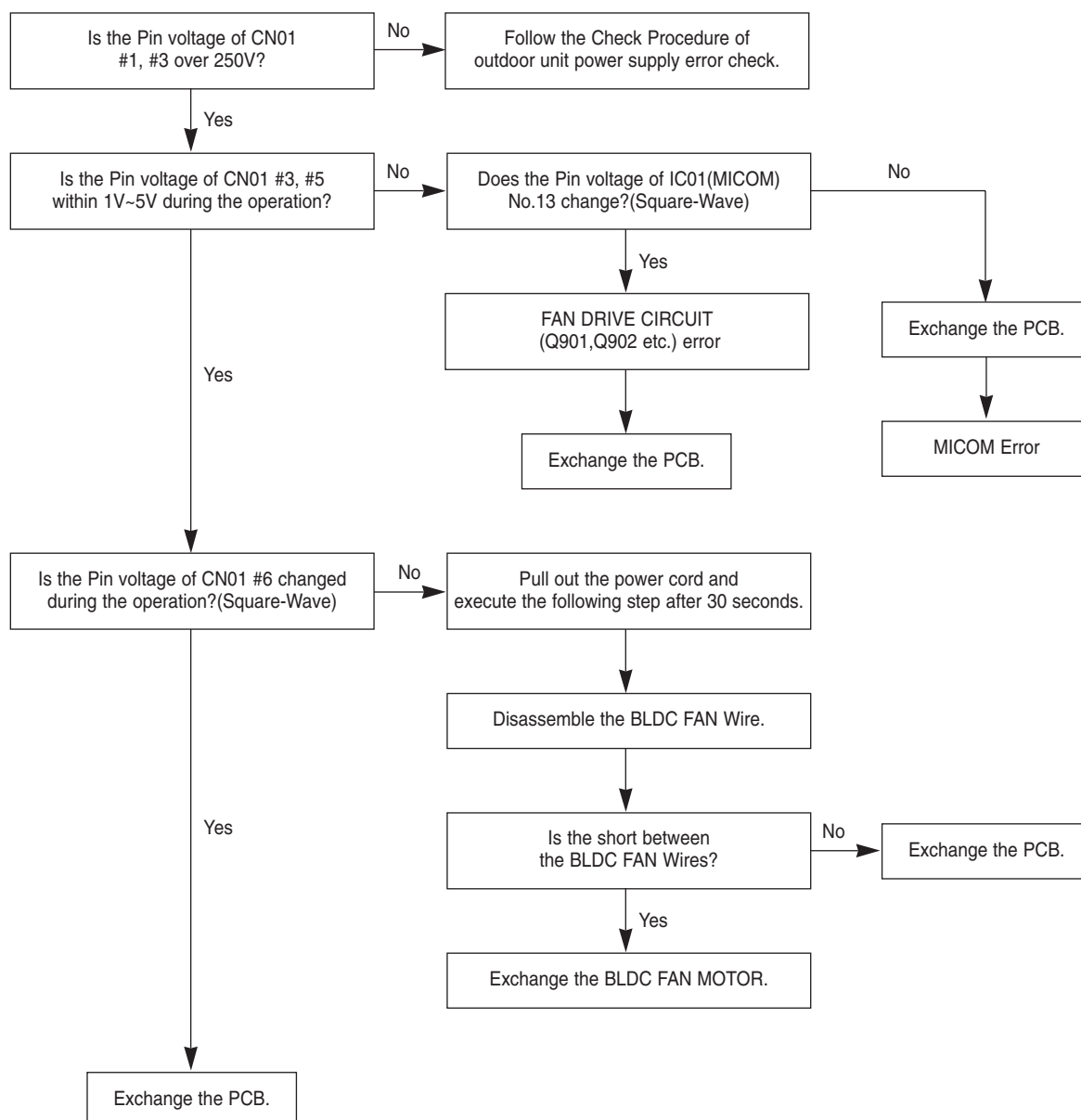


## 12-2-4 The Outdoor unit Fan error

### 1. Checklist :

- 1) Are the input power voltage and the power connection correct?
- 2) Is the motor wire connected to the outdoor PCB correctly?
- 3) Is there no assembly error or none-assembly in the terminal of motor wire connector?
- 4) Is there no obstacle at the surrounding of motor and propeller?

### 2. Troubleshooting procedure

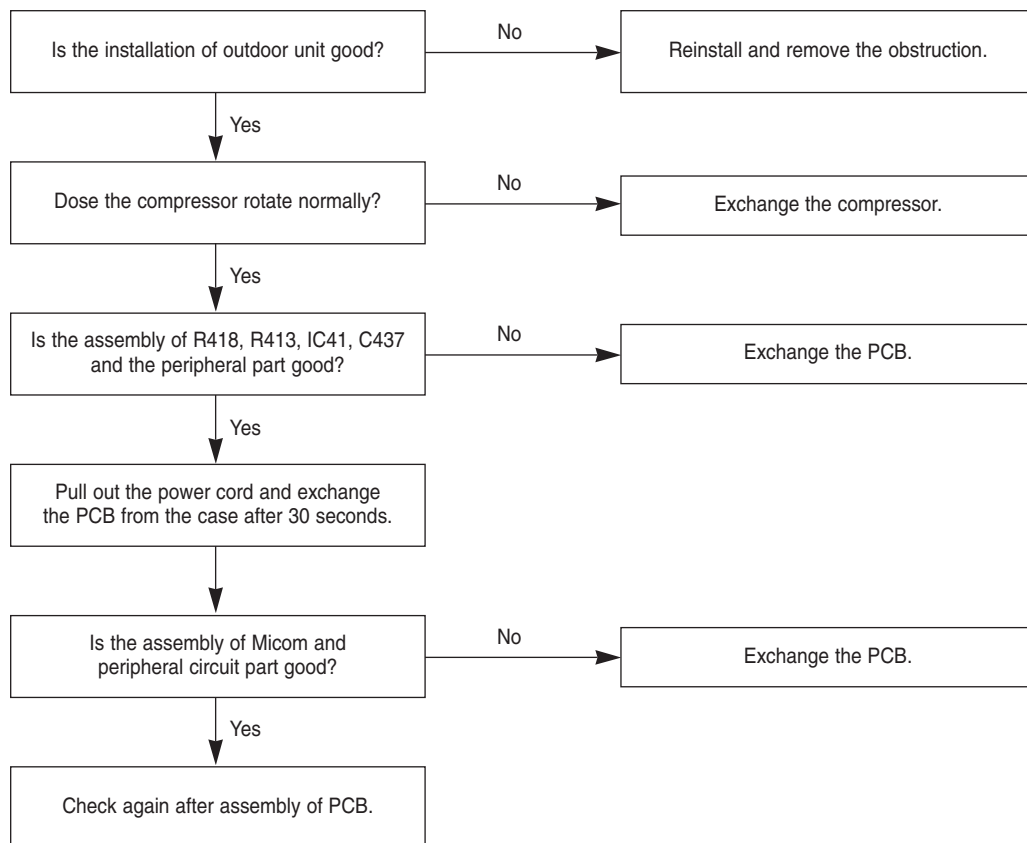


## 12-2-5 Total current Trip error

### 1. Checklist :

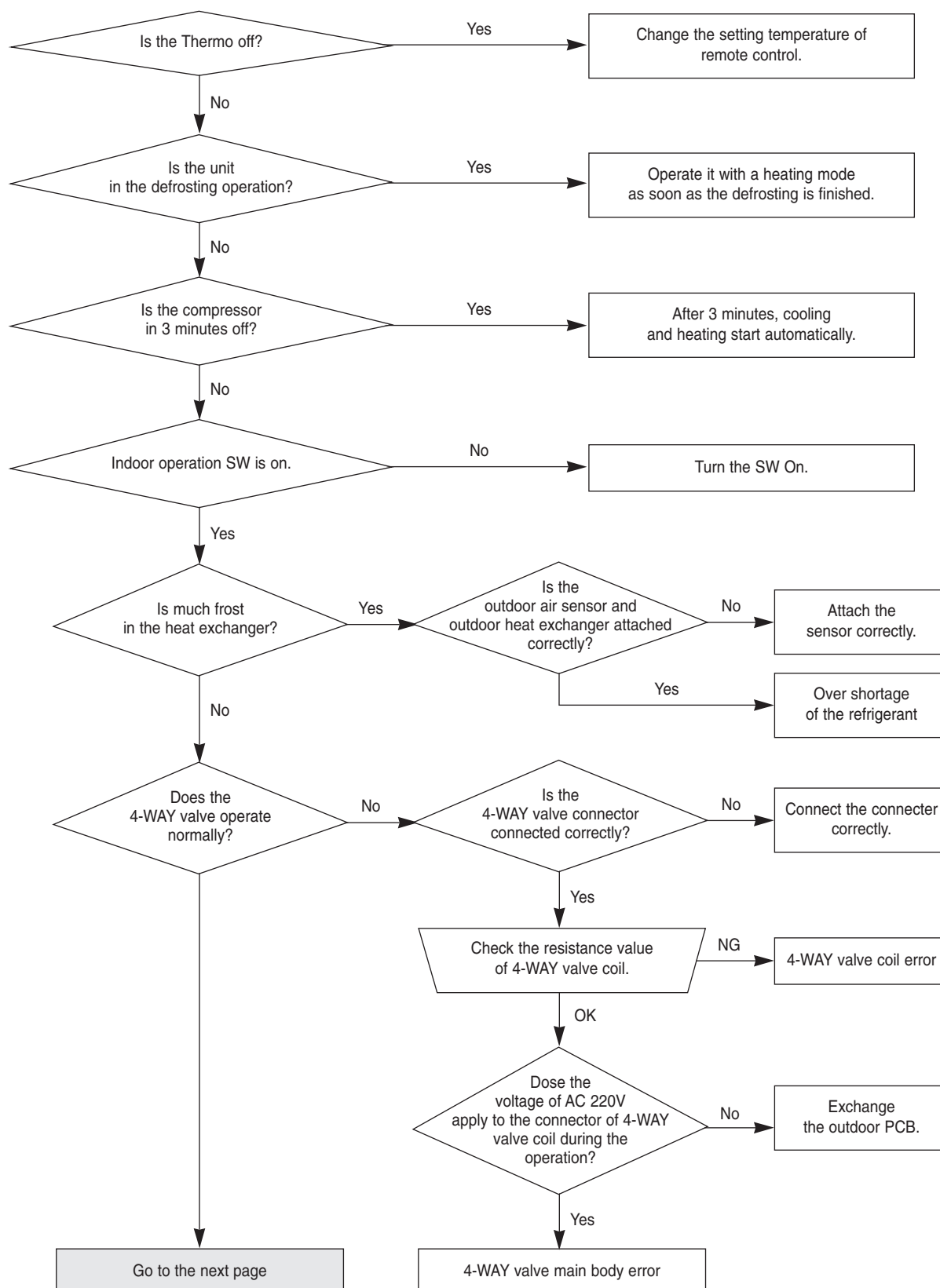
- 1) Is the input power voltage proper?
- 2) Is the refrigerant charged properly?
- 3) Does the compressor rotate normally?(Reverse rotation, Locking etc.)
- 4) Does the outdoor fan operate normally?(Fan propeller loss, Motor error etc.)
- 5) Is the installation condition of outdoor unit good?(Piping, Space etc.)
- 6) Is there no ventilation obstruction at the surrounding of outdoor?(Outdoor unit cover, Fan front obstruction etc.)

### 2. Troubleshooting procedure

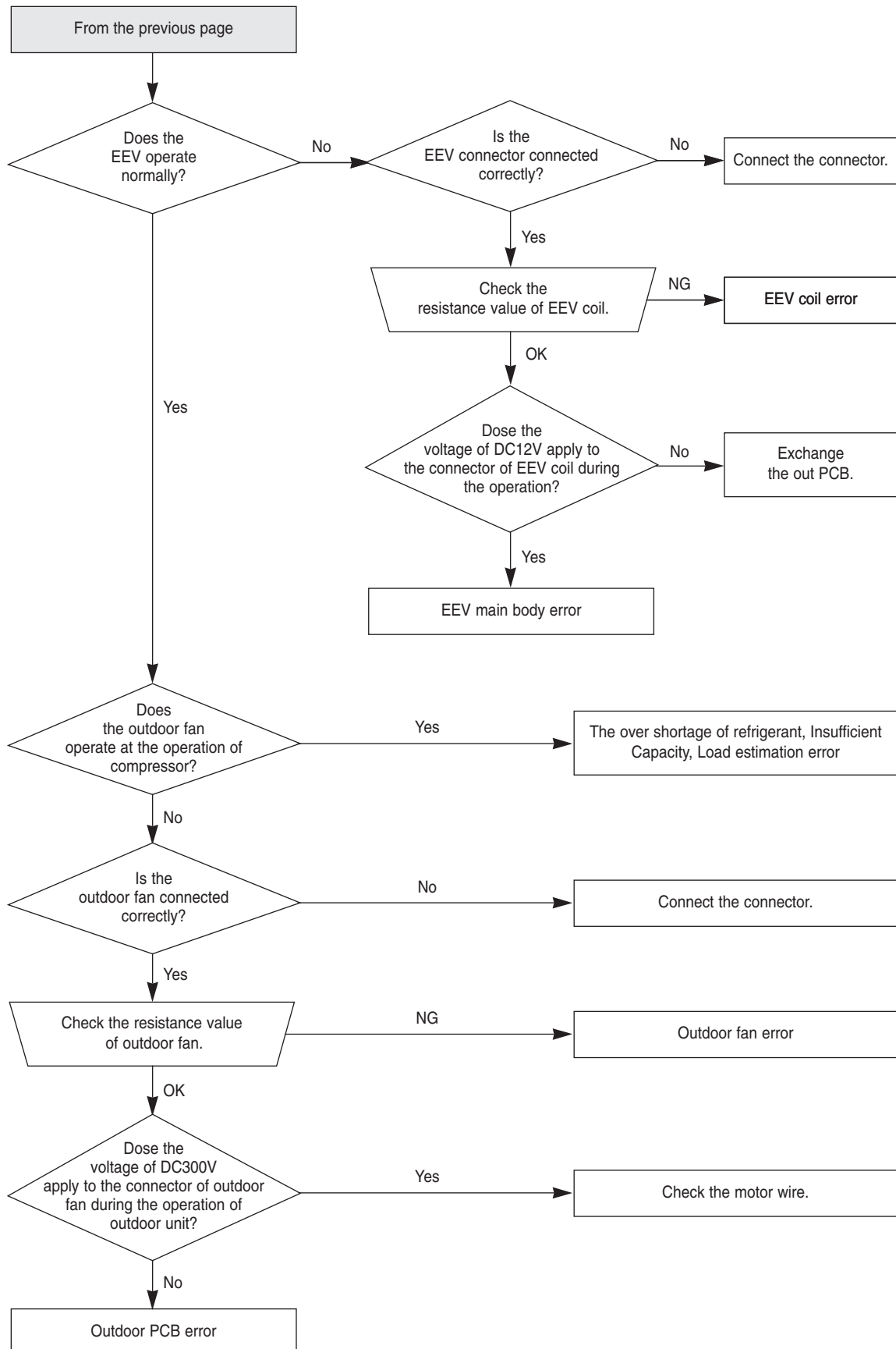


## 12-2-6 In case of heating at the cooling mode or cooling at the heating mode

### 1. Troubleshooting procedure



# In case of heating at the cooling mode or cooling at the heating mode(cont.)

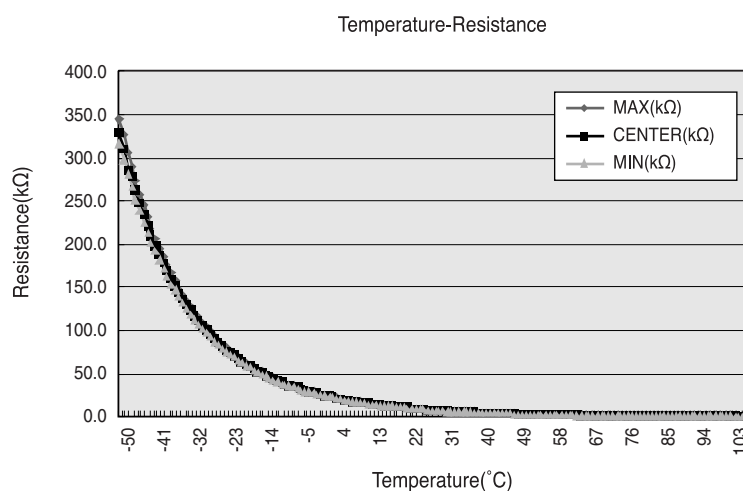
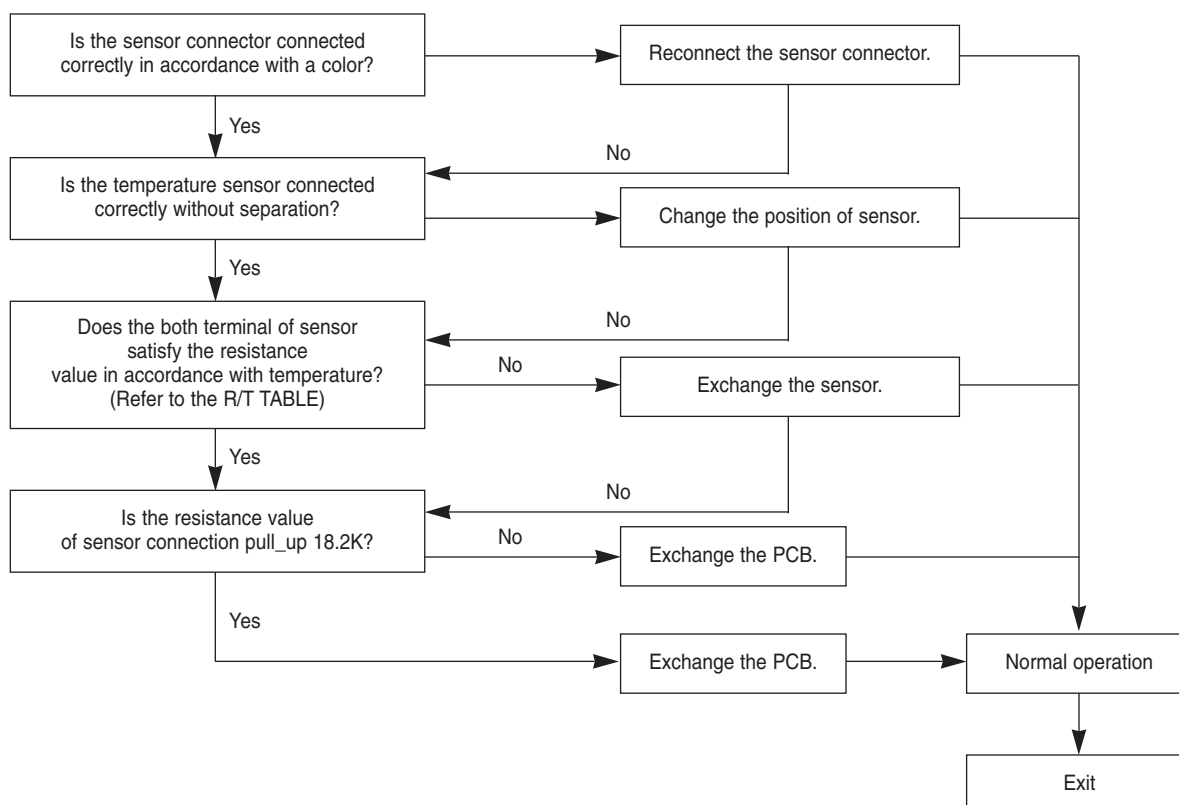


## 12-2-7 Outdoor temperature sensor error

### 1. Checklist :

- 1) Is the sensor connector 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

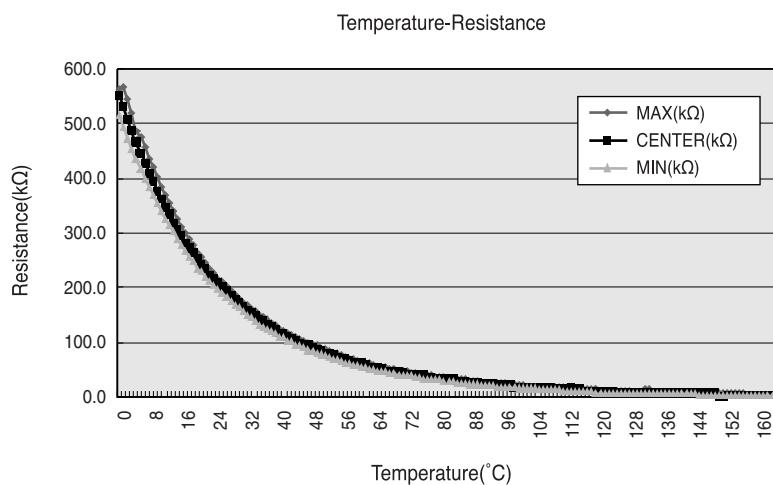
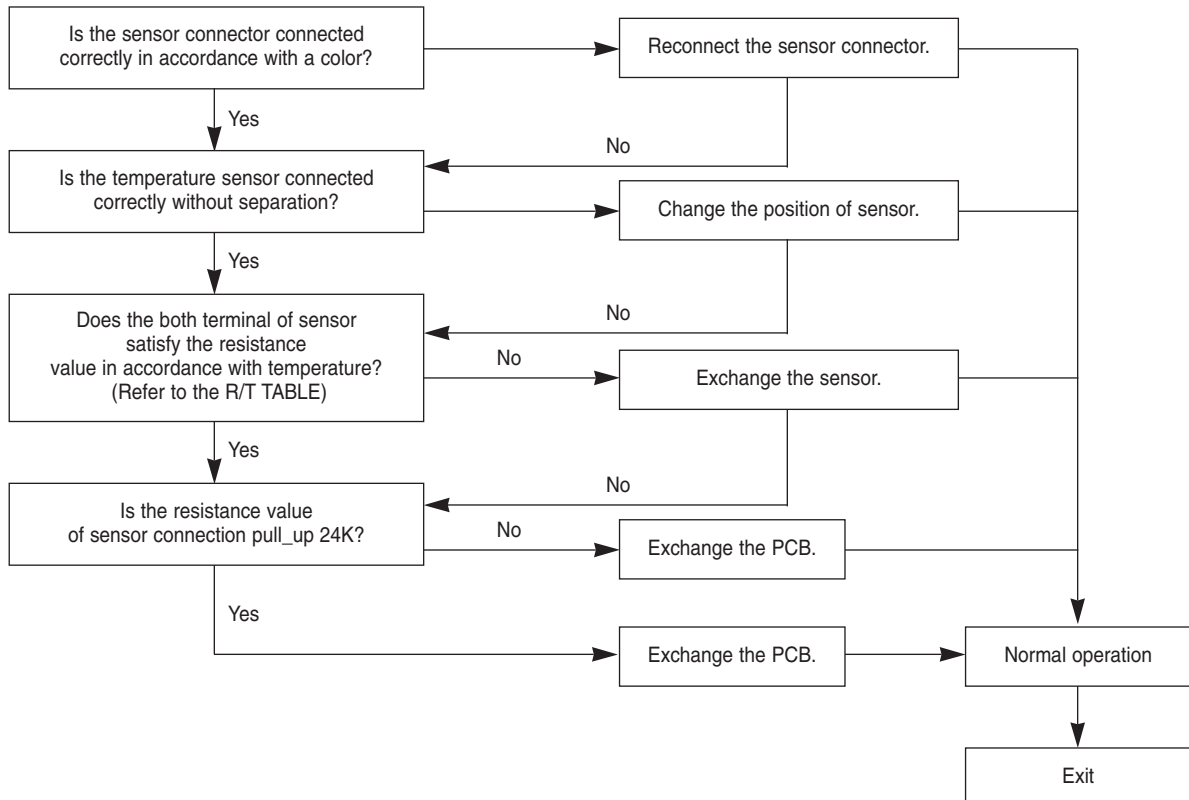


## 12-2-8 Discharge temperature sensor error

### 1. Checklist :

- 1) Is the sensor connector 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

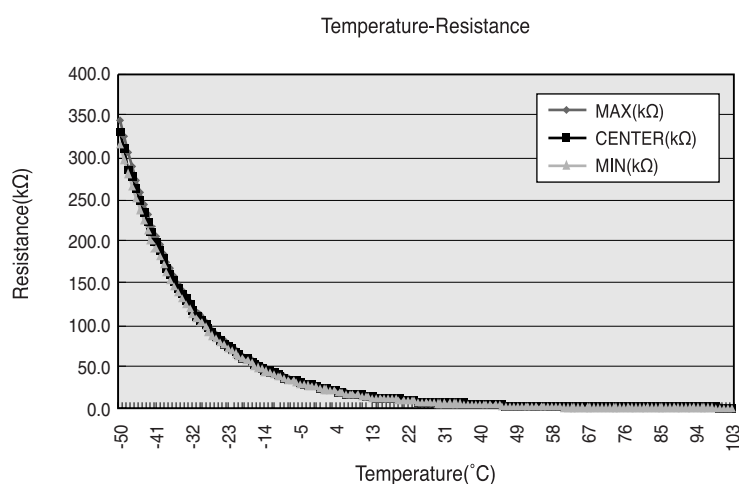
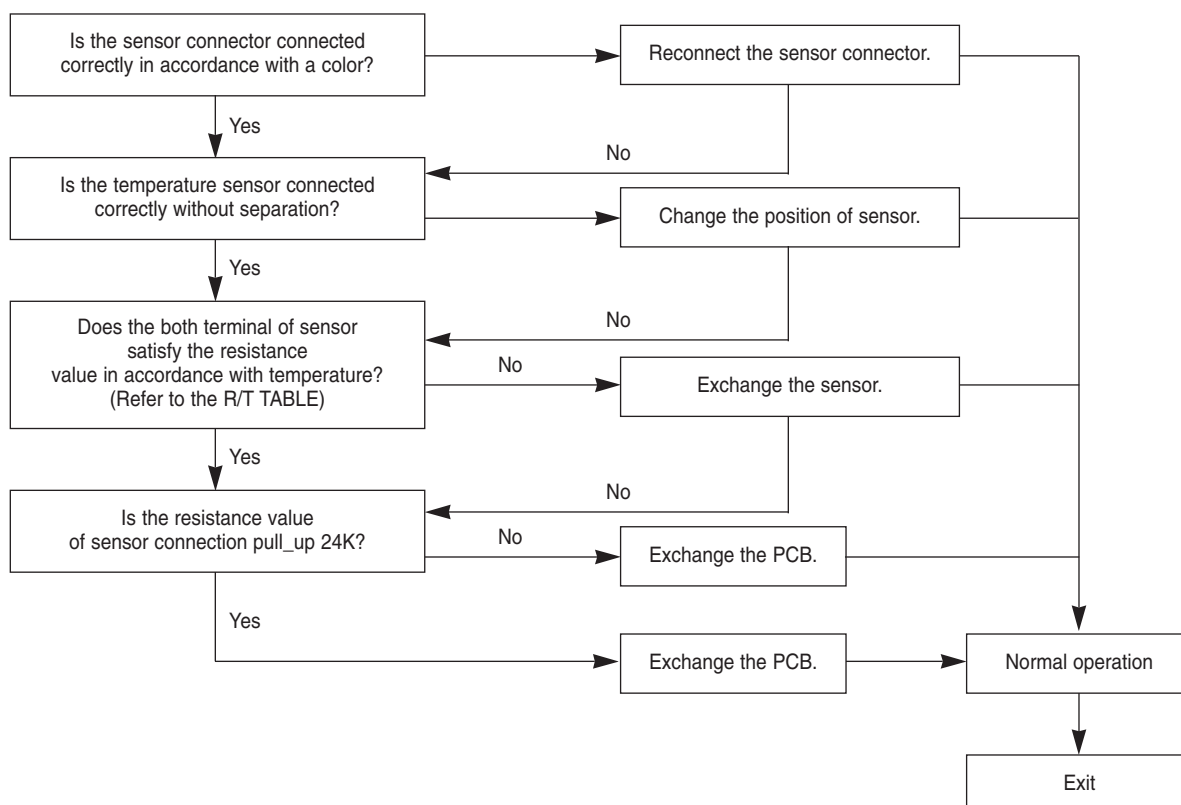


## 12-2-9 Coil temperature sensor error

### 1. Checklist :

- 1) Is the sensor connector 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



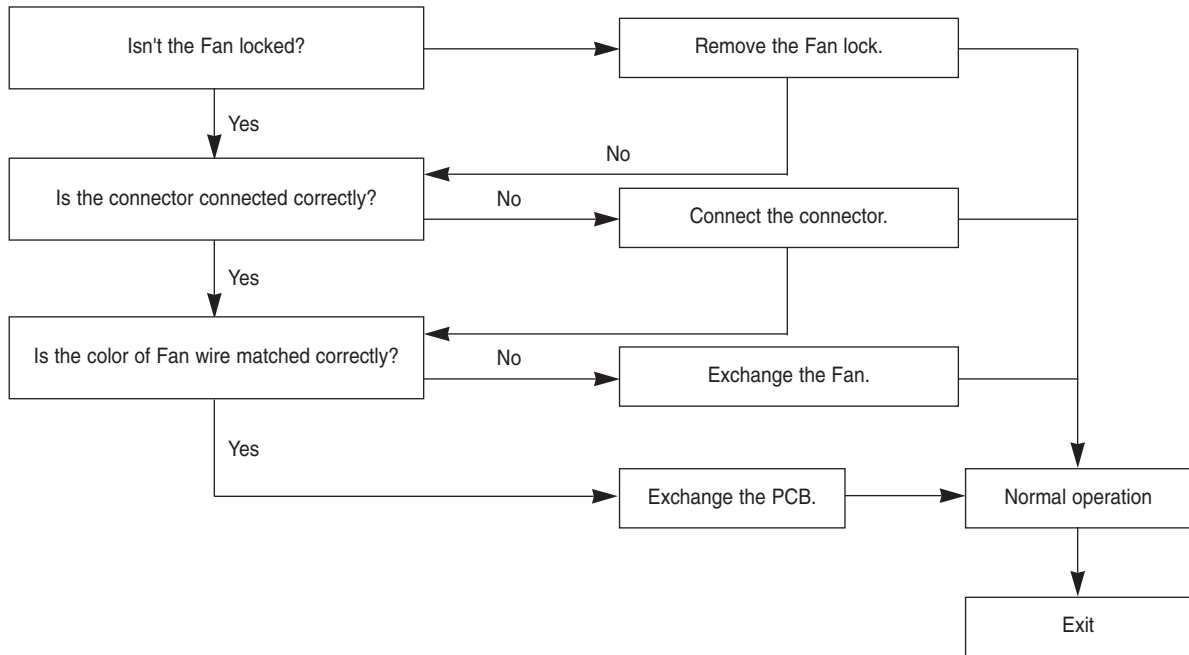


## 12-2-10 Fan error

### 1. Checklist :

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

### 2. Troubleshooting procedure

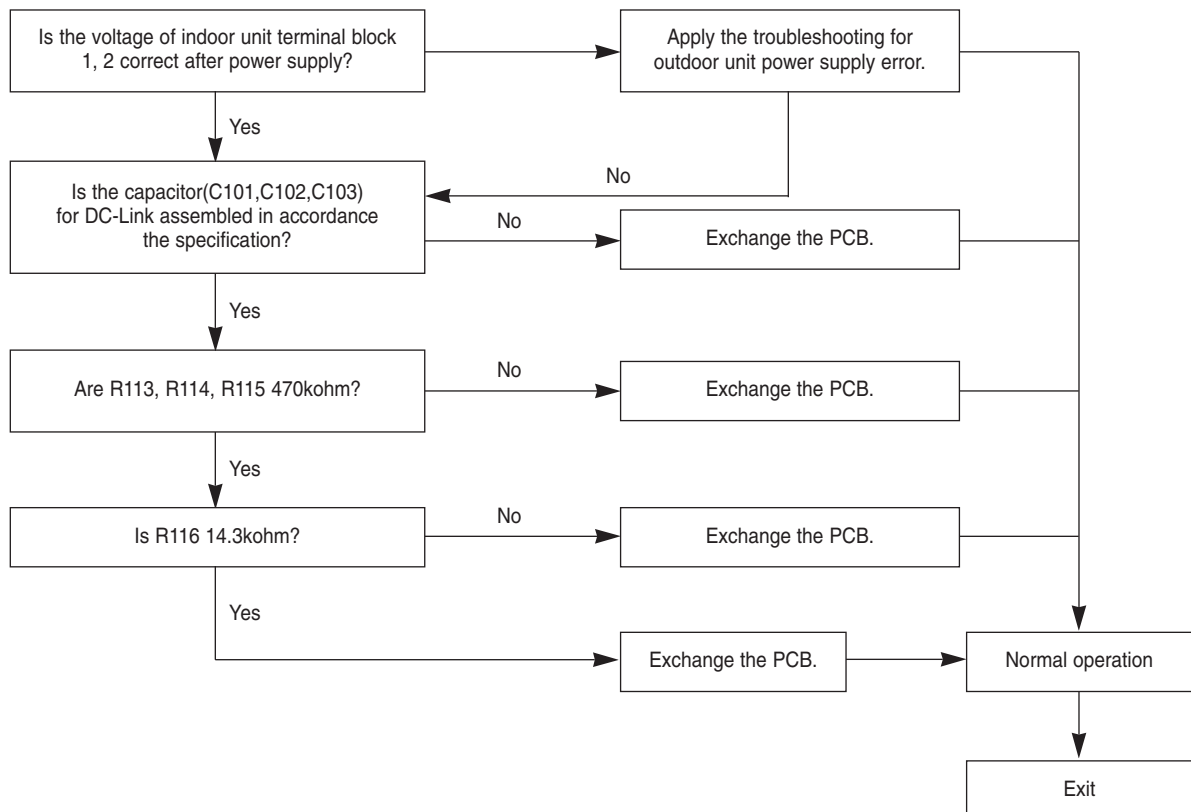


## 12-2-11 DC-Link voltage sensor error

### 1. Checklist :

- 1) Is the voltage of indoor unit terminal block 1, 2 correct after power supply?
- 2) Is the capacitor(C101,C102,C103) for DC-Link assembled in accordance the specification?
- 3) Are R112, R113, R114 470 Kohm?
- 4) Is R115 14.3Kohm?

### 2. Troubleshooting procedure

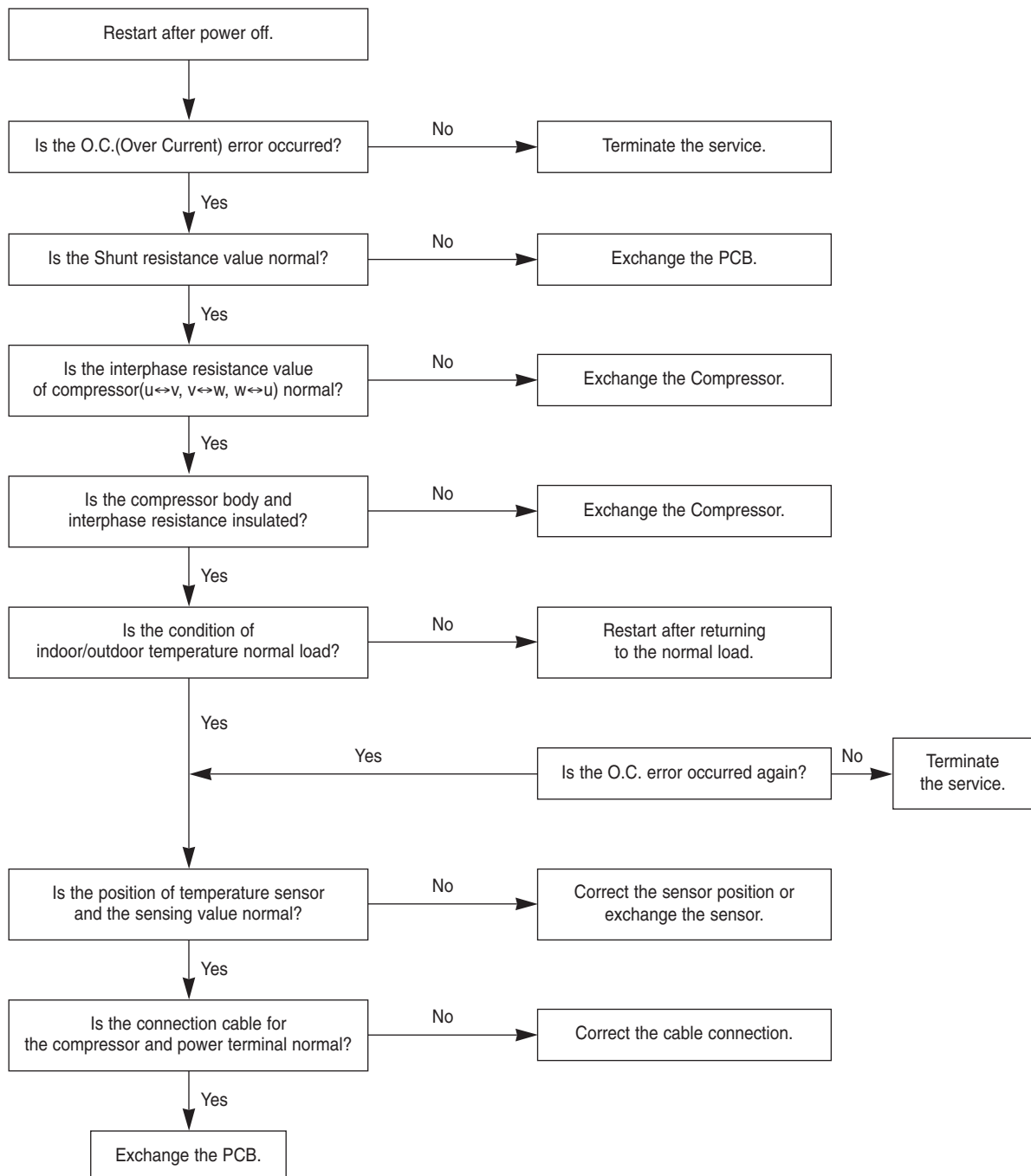


## 12-2-12 O.C.(Over Current) error

### 1. Checklist :

- 1) Is the Shunt resistance value correct?
- 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

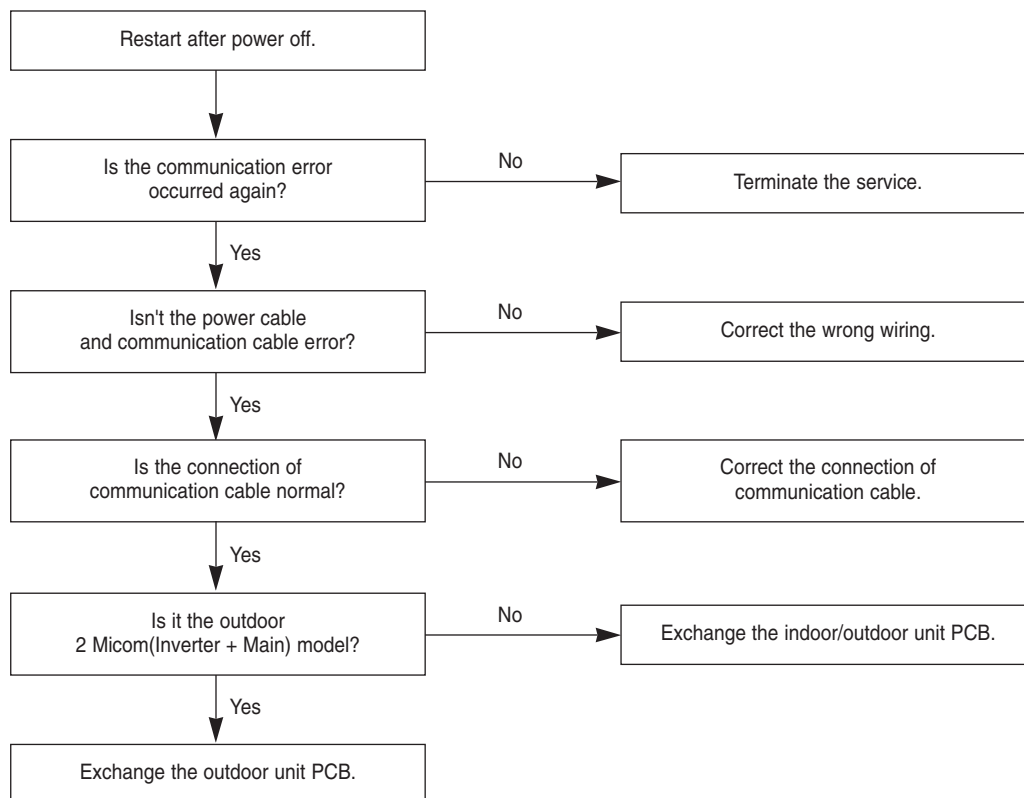


### 12-2-13 Communication error

1. Checklist :

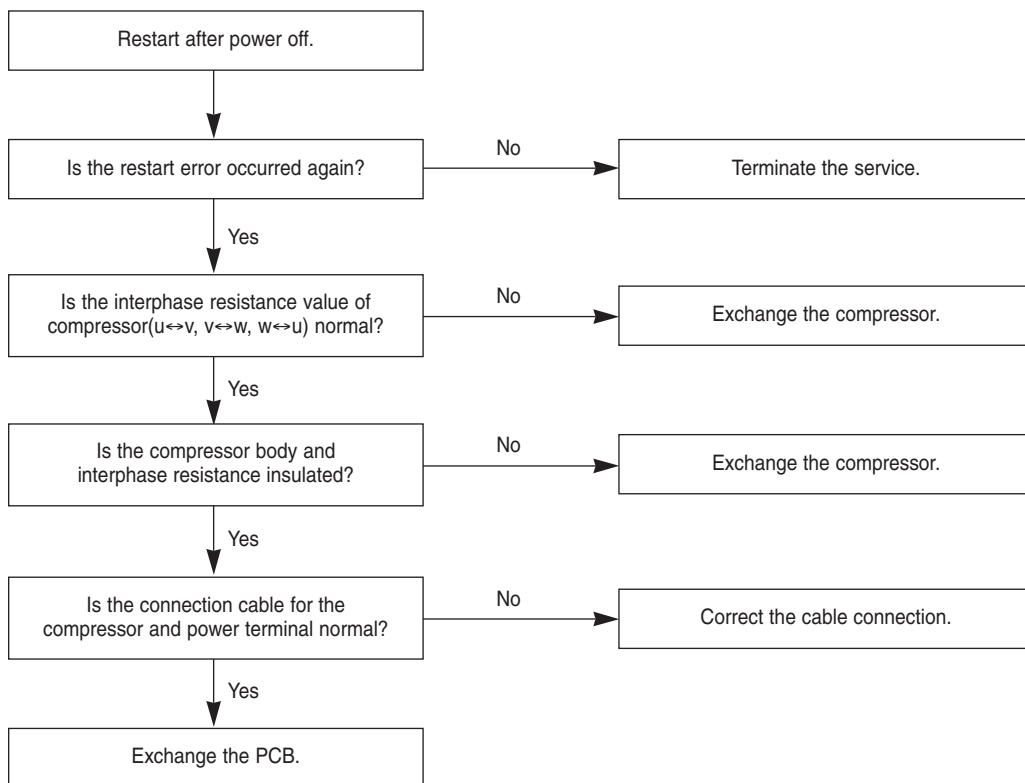
- 1) Is the communication cable between the indoor unit and outdoor unit connected correctly?
- 2) Isn't the power cable and communication cable error?

2. Troubleshooting procedure



## 12-2-14 Compressor start error

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

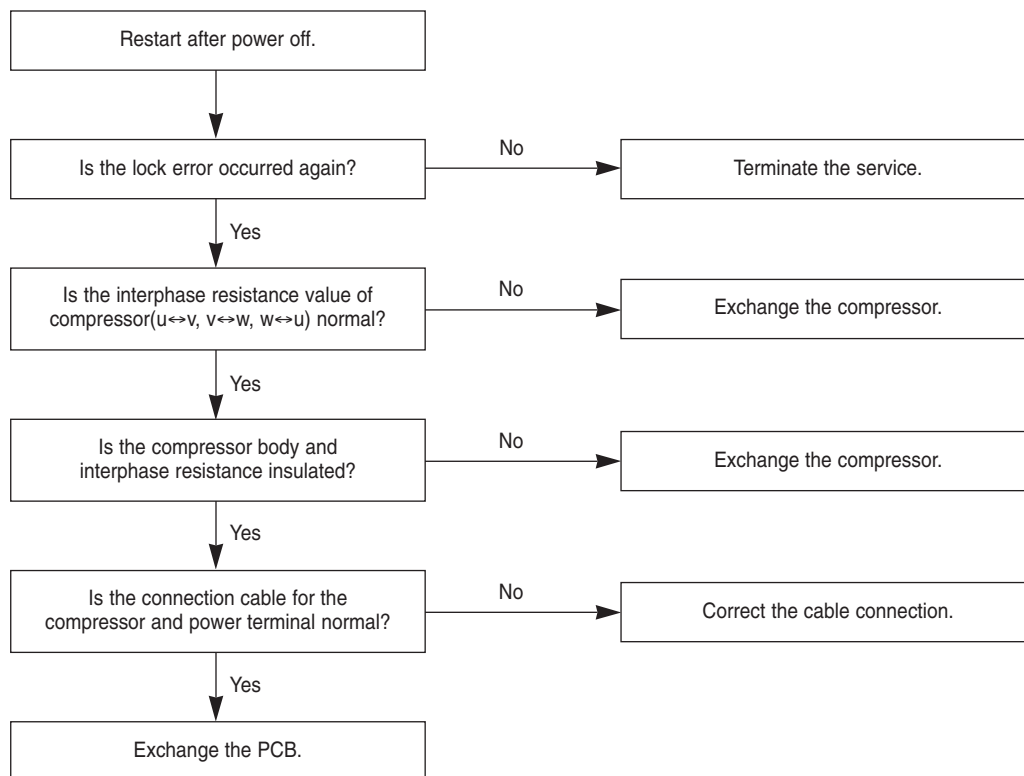


## 12-2-15 Compressor lock error

### 1. Checklist :

- 1) Is the connection of cable for the compressor and power?
- 2) Is the interphase resistance of compressor normal?

### 2. Troubleshooting procedure

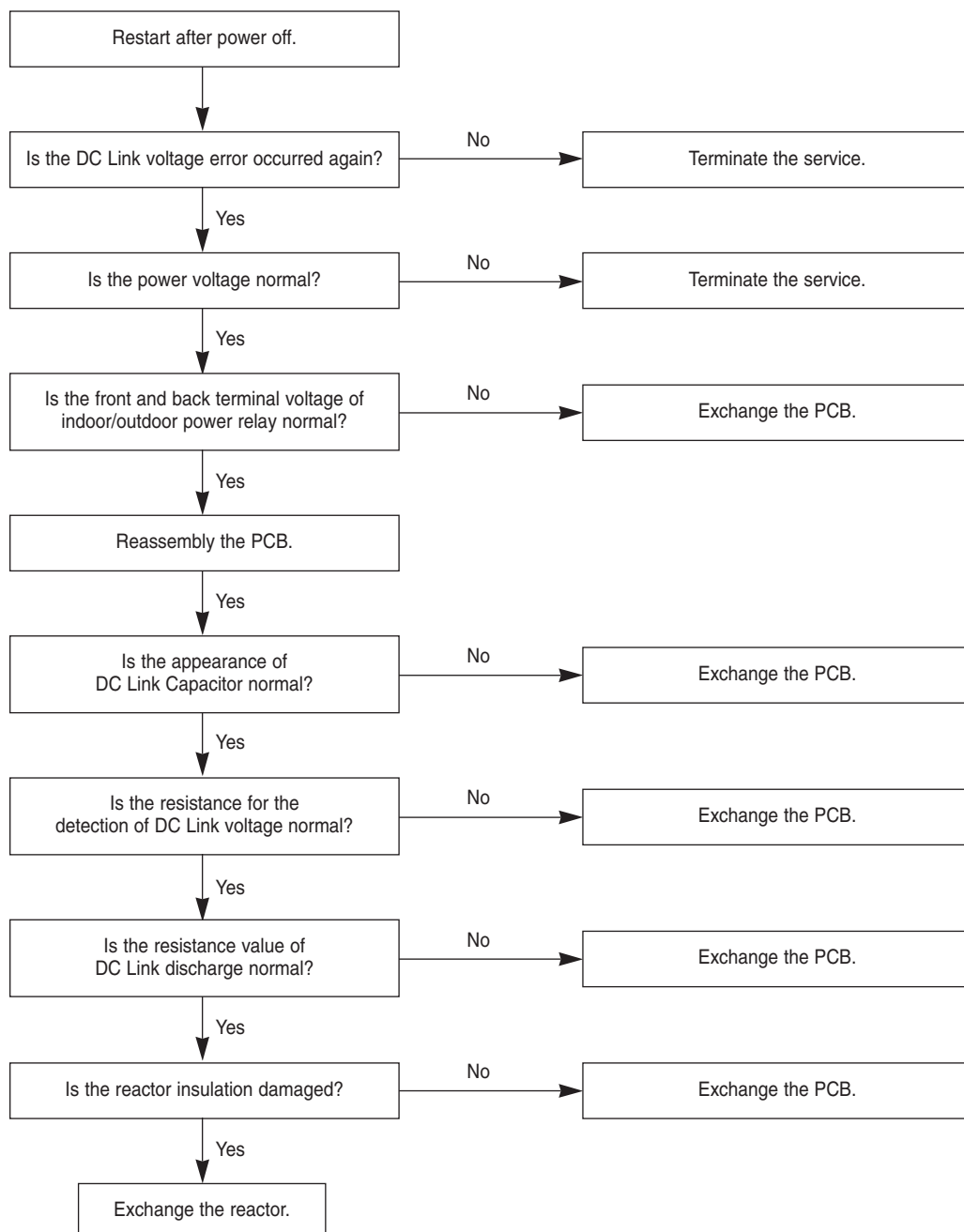


## 12-2-16 DC Link Over voltage/ Low voltage error

### 1. Checklist :

- 1) Is the power voltage normal?
- 2) Is the voltage of front and back terminal of indoor(outdoor) power relay normal?
- 3) Is the resistance value for DC Link voltage detection NORMAL?
- 4) Is the resistance value of DC Link discharge normal?
- 5) Is the appearance of DC Link Capacitor normal?

### 2. Troubleshooting procedure



### 12-2-17 When the remote control is not receiving

1. Check if the connector was normally assembled.
2. Put the set in operation and check the voltage of No. 15(+) and No. 16(-) of the main PCB CN91 while operating the remote control. When the voltage descends below 3V, the assembly module PCB is normal and the main PCB is poor. Then replace the main PCB.
3. Replace the assembly display PCB because the module PCB is poor if the voltage between No. 15~16 of CN91 maintains 5V after the remote control starts operation.

### 12-2-18 The others

1. AC Line Zero Cross Signal OUT
  - Check the assembly condition of peripheral part of IC21, ZD201, ZD200 and D200 on the PCB.
2. Capacity miss match
  - Check again the indoor unit option code.



## 12-3 PCB Inspection Method

### 12-3-1 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(C101) after 30 seconds power off.

### 12-3-2 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 the 3 parts.
  - **Indoor Main PCB Part** : MICOM and surrounding circuit, relay, room fan motor driving circuit and control circuit, sensor driving circuit, power circuit of DC12V and DC5V, and buzzer driving circuit.
  - **Display part** : LED lamp, Switch, Remocon module
  - **Outdoor Main PCB part** : MICOM and surrounding circuit. IPM and PFC circuit and control circuit.
  - **EMI PCB Part** : Line filter and Noise Capacitor, Varistor

### 12-3-3 Detailed Inspection Procedure

No	Procedure	Inspection Method	Cause
1	Plug out and pull the PCB out of the electronic box. Check the PCB fuse.	1) Is the fuse disconnected?(F701)	<ul style="list-style-type: none"><li>• Overcurrent</li><li>• Indoor Fan Motor Short</li><li>• AC Part Pattern Short of the MAIN PCB</li></ul>
2	Supply power. If the operating lamp twinkles at this time, the above 1)~3) have no relation.	Checking the power voltage.	
		1) Is the DB71 input voltage AC200V~AC240V?	<ul style="list-style-type: none"><li>• Power Cord is fault, Fuse open. Wrong Power Cable Wiring, AC Part is faulty.</li></ul>
		2) Is the voltage between both terminals of the C103 on the 2 <sup>nd</sup> side of the transformer DC12V $\pm 0.5V$ ?	<ul style="list-style-type: none"><li>• Switching Trans or Power Circuit is faulty</li></ul>
		3) Is the voltage between both terminals of OUT and GND of IC02(KA78L05) DC5V $\pm 0.5V$ ?	<ul style="list-style-type: none"><li>• Power Circuit is faulty, Load Short</li></ul>
3	Press the ON/OFF button.	Checking the power voltage.	
		1) Check the voltage of the relay(RY71) coil(IC05 PIN #13 and GND : 0V, PIN #4 and GND : 5V) during operation.	<ul style="list-style-type: none"><li>• Relay(RY71) Coil Disconnection, IC05 is faulty</li></ul>
		2) Check the voltage of both terminals of terminal block 1 and N(1) after 3 minute operation.: AC220V	<ul style="list-style-type: none"><li>• Relay(RY71) Contact is faulty</li></ul>
4	Press the ON/OFF button. 1. FAN Speed [High] 2. Continuous Operation	1) Is the voltage over AC180V being imposed on terminal #3 and #5 of the fan motor connector(CN72)?	<ul style="list-style-type: none"><li>• Fan Motor of the indoor is faulty</li></ul>
		2) The fan motor of the indoor unit doesn't run.	<ul style="list-style-type: none"><li>• Fan Motor Connector(CN72) is faulty</li></ul>
		3) The power voltage between terminal #3 and #5 of the connector(CN72) is 0V.	<ul style="list-style-type: none"><li>• ASS'Y Main PCB is faulty</li><li>• Connection is faulty</li></ul>

### 12-3-4 Outdoor Detailed Inspection Procedure

No	Procedure	Inspection Method	Cause
1	Wait 30 seconds over after disconnecting the power cable Check the outdoor PCB.	1) Is C101 discharged? 2) Is the resistance of both terminals of C101 opened? 3) Is the fuse of EMI PCB normal? 4) Is the reactor wire connected?	<ul style="list-style-type: none"> <li>• Over Current</li> <li>• Inner short of PCB</li> <li>• BLDC FAN Motor Error</li> </ul>
2	Check the indoor unit PCB.	1) Is R701 200ohm? 2) Does RY74 operate normally? (IC05 & 16:0V, 1:5V) 3) Is the fuse(F701) normal? 4) Is the Sub PCB assembled normally?	<ul style="list-style-type: none"> <li>• Outdoor PCB Error</li> <li>• SUB Relay(RY74) Error</li> <li>• IC05 Error</li> <li>• Indoor PCB Error</li> </ul>
3	Check the LED lighting after power supply.	1) Normal: Red: Light On, Green: Flickering, Yellow: Light Off? 2) Is the voltage of C101 250V over? 3) Is the input of IC19 8V, and the output 5V? 4) Recheck after disassembling BLDC FAN Wire.	<ul style="list-style-type: none"> <li>• Inner short of outdoor PCB</li> <li>• Wrong assembly of outdoor PCB</li> <li>• BLDC FAN Error</li> </ul>
4	Check the condition of indoor & outdoor connection cable.	1) Is the green LED light on once per second? 2) Is the indoor & outdoor connection cable connected in order? 3) Is the grounding wire connected to the both of indoor & outdoor unit? 4) Is the voltage of terminal block N(1), 225V?	<ul style="list-style-type: none"> <li>• Wrong connection of Indoor/Outdoor wiring</li> <li>• Wrong assembly of outdoor communication circuit</li> </ul>
5	Check the Comp Wire.	1) Is it connected red, blue, and yellow in order in counterclockwise. 2) Are the valve and its installation condition good? 3) Is the installation condition of outdoor unit?	<ul style="list-style-type: none"> <li>• Wrong assembly</li> <li>• Installation condition is bad.</li> </ul>
6	Check the BLDC Fan.	1) Is CN01 1, 3 over 250V? 2) Is CN01 3, 5 within 1V~5V? 3) Is the voltage of CN01 6 changed? 4) Is the resistance of BLDC Motor 1, 3 opened after power off?	<ul style="list-style-type: none"> <li>• Outdoor PCB Error</li> <li>• BLDC Motor Error</li> </ul>

## 12-4 Main Part Inspection Method

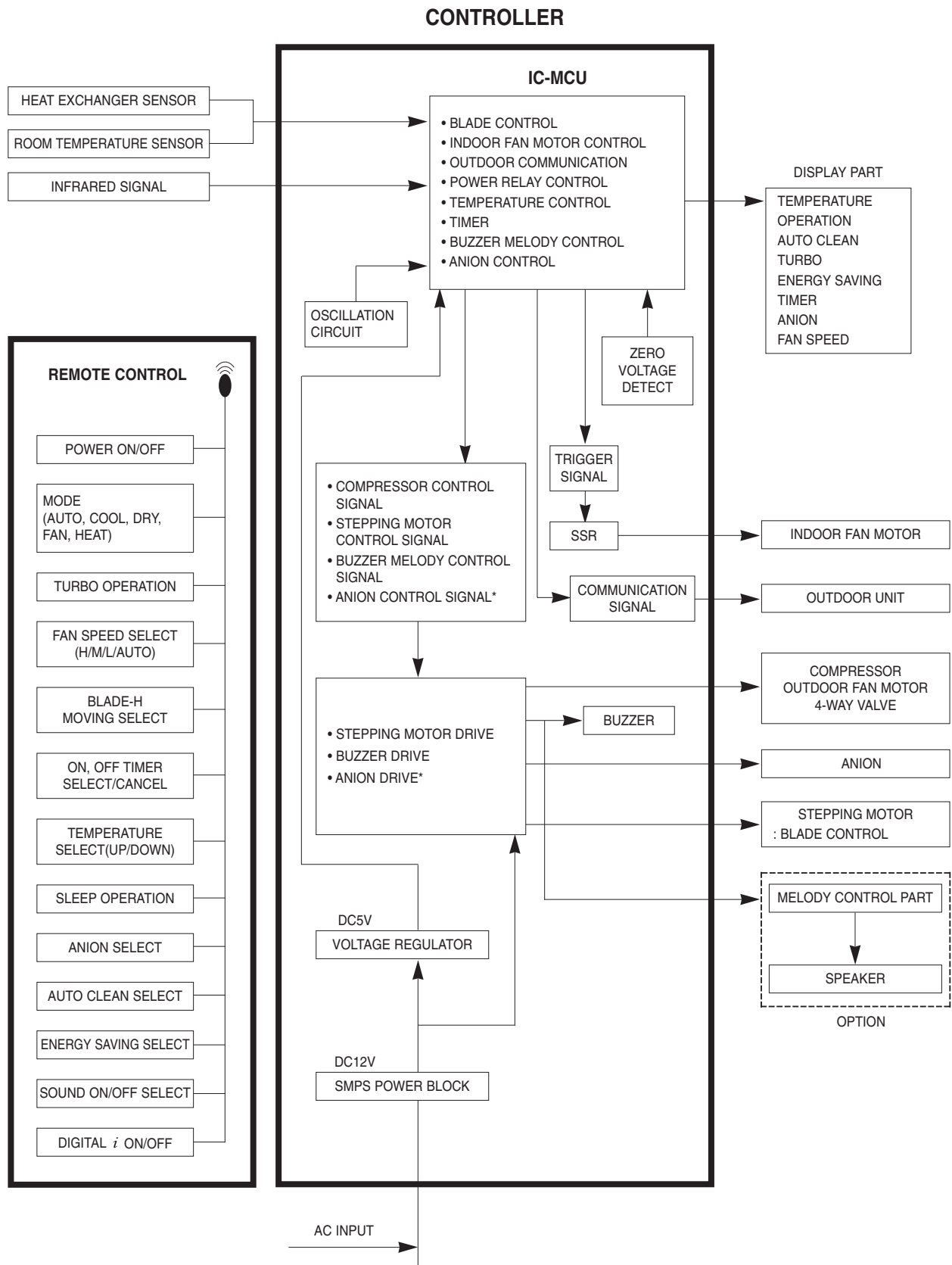
Part	Breakdown Inspection Method											
Room Temperature Sensor	Measure resistance with a tester											
	Normal	At the normal temperature 37kΩ~ 8.3kΩ(-7℃~+30℃) *Refer to Table 12-3-4.										
	Abnormal	∞, 0Ω · · · Open or Short										
Room Fan Motor	Measure the resistance between terminals of the connector (CN72) with a tester.											
	Normal	At the normal temperature (10℃ ~ 30℃)										
		<table><tr><td>Compare terminal</td><td>Resistance</td><td>Remark</td></tr><tr><td>Yellow, Blue</td><td>404.4Ω ± 10%</td><td>Main</td></tr><tr><td>Yellow, Red</td><td>340Ω ± 10%</td><td>Sub</td></tr></table>		Compare terminal	Resistance	Remark	Yellow, Blue	404.4Ω ± 10%	Main	Yellow, Red	340Ω ± 10%	Sub
		Compare terminal	Resistance	Remark								
Yellow, Blue		404.4Ω ± 10%	Main									
Yellow, Red	340Ω ± 10%	Sub										
Abnormal	∞, 0Ω · · · Open or Short											
Stepping Motor	Measure the resistance between the red wire and each terminal wire with a tester.											
	Normal	About 300Ω at the normal temperature (20℃ ~ 30℃)										
	Abnormal	∞, 0Ω · · · Open or Short										

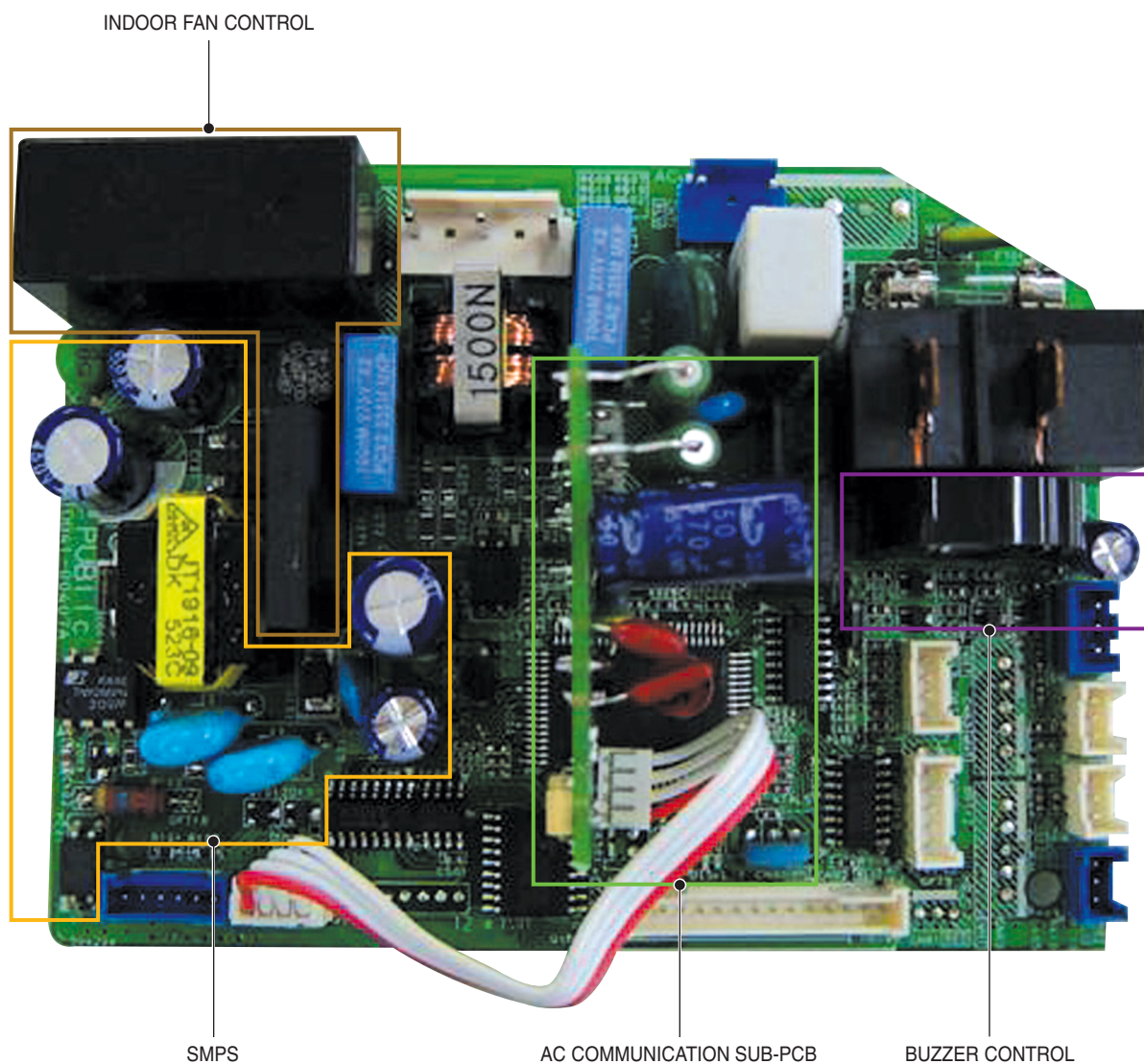
# MEMO

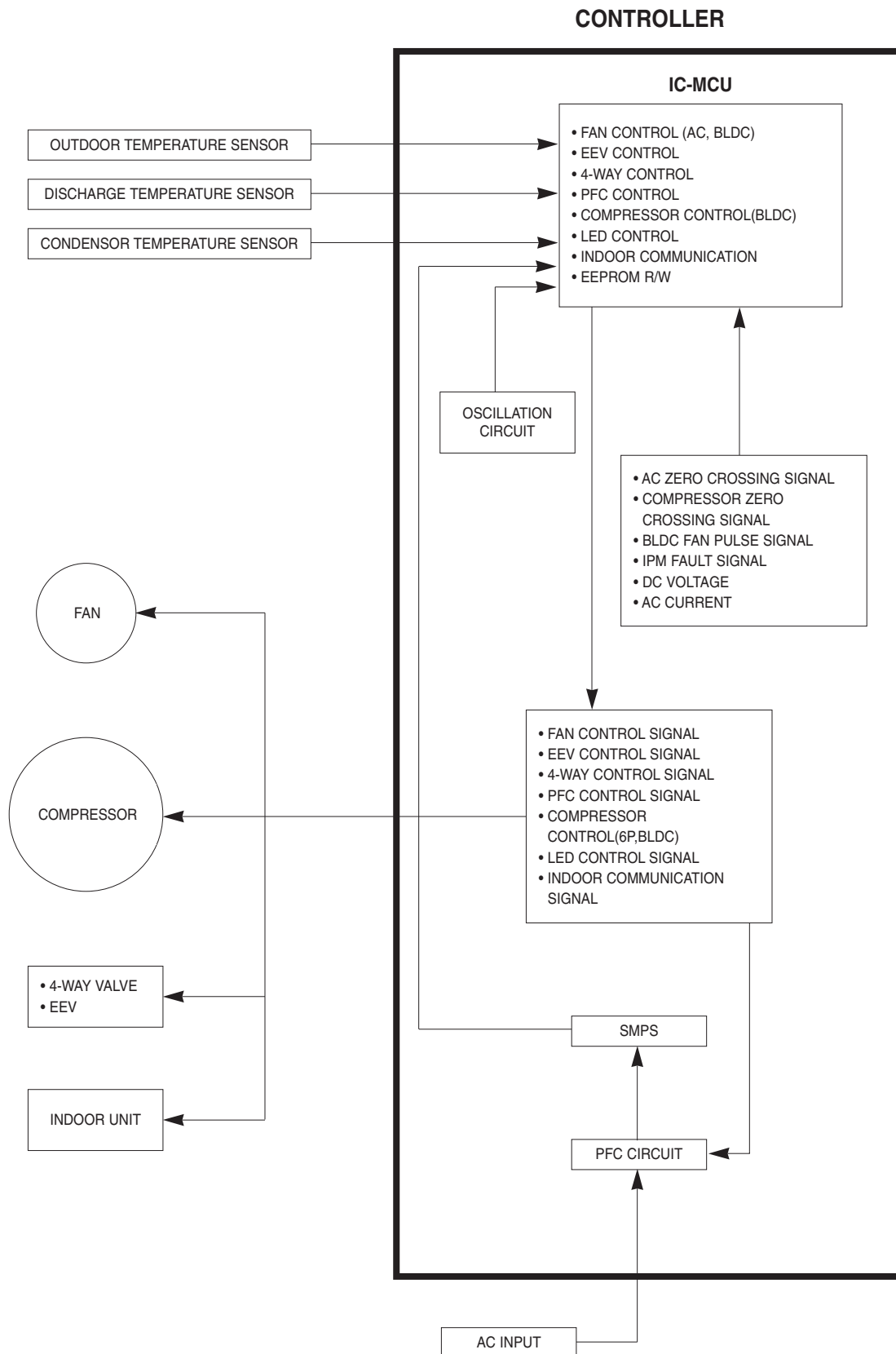
# 13. Block Diagram

## 13-1 Indoor Unit

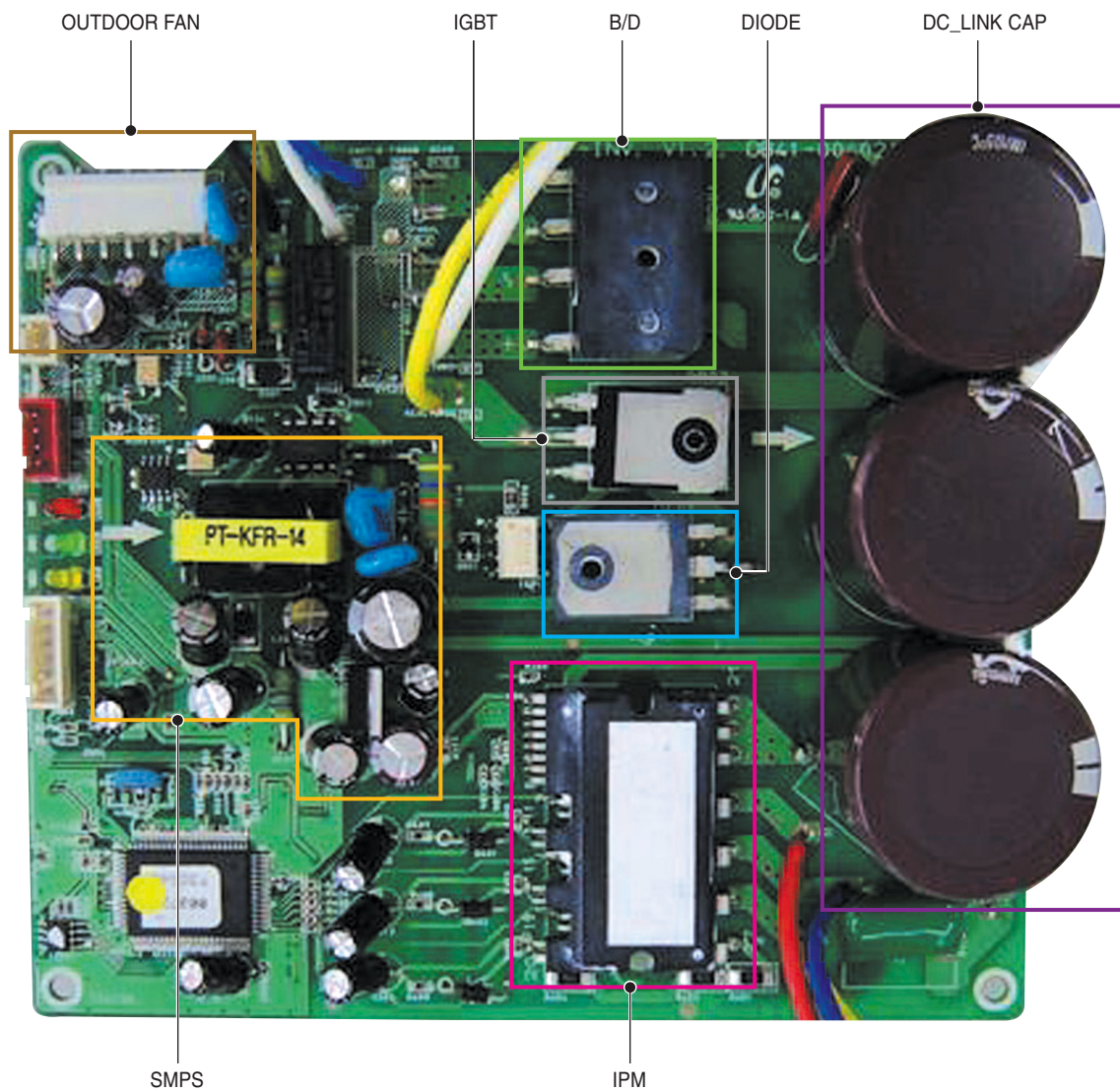
\* : OPTION











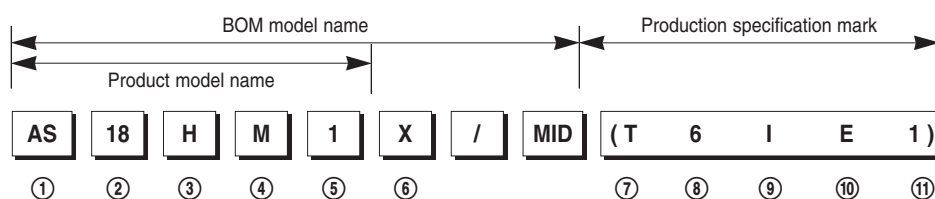


## 14. Reference Sheet

### 14-1 Index for Model Name

\* Project model code for overseas from 2004(Window type/Split type/PAC)

#### Model Code



① Product classification	
AW	Window type
AS	Split type
AP	PAC

#### ② Capacity(Btu)

③ Function	
C	Cooling Only
H	Heat pump
T	Heater
B	BLDC Inverter H/P

④ Design (Compressor mark available)	
Window type	
Split type	P HB(For Western) M HB(For others)
PAC	

⑤ Version No. (Mark the manufacturing specification for each model)	
(Split type : R22; Use the numeric, R410; Use the English alphabet)	
* Mark "A" for the classification of R410A Inverter model	
(Window type : Analog type; Use the numeric, Digital type; Use the English alphabet)	
■ Use the 2 digit for color version.	
– Titan Silver : S	
– Cream White : C	
– Lavender Blue : B	
* There is no mark for the white basic model.	
ex)AS09CM1B, AS12HM1C	

⑥ When marking the indoor/ outdoor units separately	
None	SET
N	Indoor Unit
X	Outdoor Unit

⑦ Compressor/ Refrigerant specification	
N	Normal
T	Tropical
A	R410
V	Inverter(R22)
B	Inverter(R410)

⑧ Outdoor unit type	
2	PD_MR(00R)
4	MD_MR(00R)
Q	PD3_MR
U	PD2_MR

⑨ Project(sash)	
I	Interior

⑩ Power	
A	115V/60Hz
B	220V/60Hz
C	208~230V/60Hz
D	200~220V/50Hz
E	220~240V/50Hz
F	220V/60Hz/3 phase
G	380V/50Hz/3 phase

#### ⑪ Option

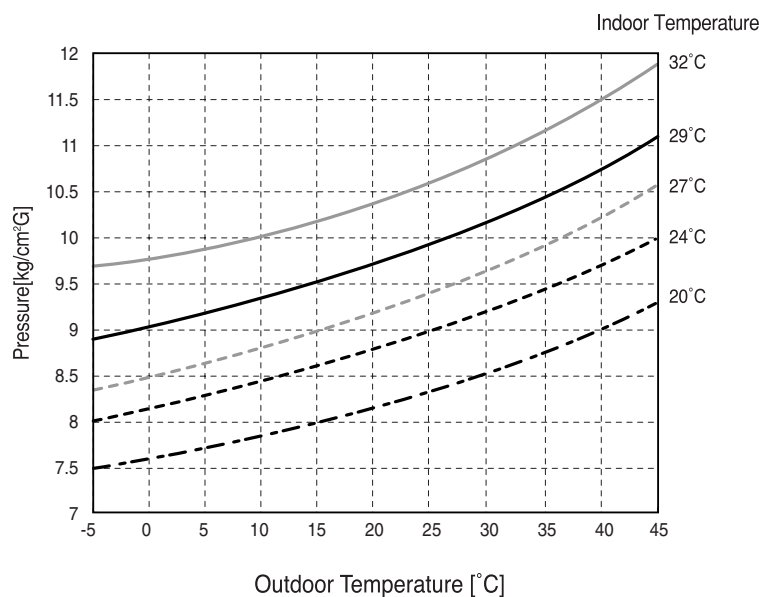
- Except the window type for USA & Models for China

## 14-2 Low Refrigerant Pressure Distribution

**Note :** • Please measure the refrigerant pressure after the air conditioner operates on testing cooling mode during more than 15 minutes.

■ Indoor Temp. Variation : 20°C ~ 32°C

■ Outdoor Temp. Variation : -5°C ~ 45°C



## 14-3 Pressure & Capacity mark

### ■ Power/Heat

W	cal/s	kcal/h	Btu/h	HP	kg · m/s	ib · 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	<b>2,544.4</b>	1	76.04	550
9.8067	2.3423	8.4322	33.462	0.013151	1	7.233
1.3558	0.32383	1.1658	4.6262	0.0018182	0.13826	1

## 14-4 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>
	A	When the air conditioner is set to Ventilation or the desired temperature is set higher than the current temperature, it fails to do cooling. In this case, select Cooling or set the desired temperature lower.
Leakage	Q	<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>
	A	It occurs when the drain pump is plugged out or it is out of order. Check the power of the drain pump and the position of the drain hose, and when the pump is faulty, contact the drain pump manufacturer. Samsung Electronics do not manufacture drain pumps. So, we are not able to correct the drain pump problems.
Smells	Q	<b>Whenever the air conditioner is turned on, it irritates my eyes and gives me a headache.</b>
	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

Classification	Class	Description
Smells		component handling place; when its chemical or musty smells are sucked in and sent out, it can be misled that the air conditioner generates them. So, find and root out the problem or refresh the room frequently.
	Q	<b>Whenever the air conditioner is turned on, it stinks.</b>
	A	There are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. These kinds of organic materials noxious to human bodies. So, we recommend against the use of them.
	Q	<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 the 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>
	A	When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the Ventilation function.
Operation	Q	<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.

Classification	Class	Description
Operation	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-wavelength lamp or a neon sign due to the EMI. In this case, take the remote controller closer to the receiver.
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 1st 2005. "The exhaust pipe of a cooling or ventilation facility installed in a building adjacent to the streets of commercial or residential areas shall be installed higher than 2 m to prevent the exhaust air from blowing directly to passers-by and the current facilities shall be corrected by MAY 31st 2005." So, please install it higher than 2 m or not to blow the hot exhausting air directly to passers-by.
	Q	<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.

## 14-5 Cleaning/Filter Change

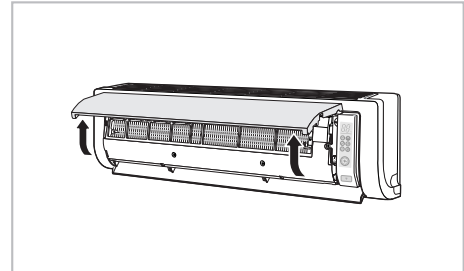
### 14-5-1 Cleaning your Air Condition

For the best use of your air conditioner, you must clean it every 2 weeks to remove the dust accumulated on the air filter.

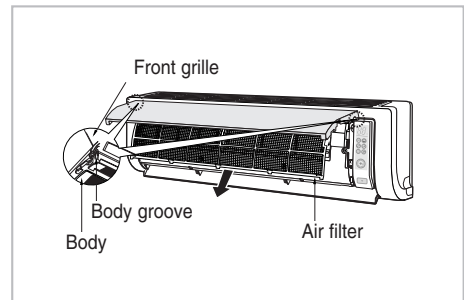


- Before cleaning your air conditioner, check if you have turned off the circuit breaker.

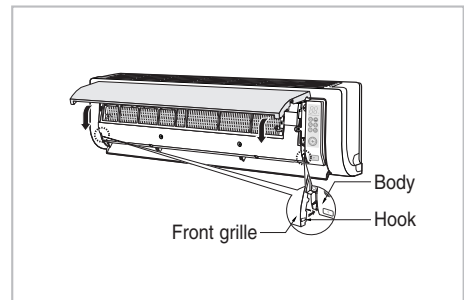
1. Open the front grille by pulling on the tabs on the lower right and left sides of the indoor unit.



2. Detach the front grille by pulling it forwards.
3. Hold the edge of the air filter under the front grille and pull to release.
4. Remove all dust on the air filter with a vacuum cleaner or brush.
5. When you finish, insert the top of the filter into the slot and fix it to 5 tabs of the grille.



6. Clean the front grille with a damp cloth and mild detergent (do NOT use benzene, solvents or other chemicals).
7. Reassemble the air filter and the front grille.

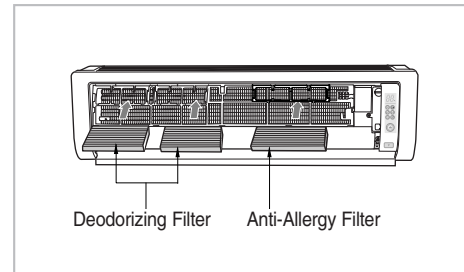


**Note :** • If you have not used the air conditioner for a long time, select the Fan mode for 3 to 4 hours to dry the inside of the air conditioner.

### 14-5-2 Cleaning Anti-Allergy and Deodorizing Filter (Option)

There are Anti-Allergy and Deodorizing filters inside your air conditioner. They remove odours and dust in your room. You should clean the filters every 3 months.

1. Open the upper front grille by pulling the lower right and left tabs of the grille.
2. Pull out the Anti-Allergy and Deodorizing filter.
3. Wash the filters with clean water, then dry them in the shade.
4. Insert the filters in their place.
5. Close the front grille.



## 14-6 Installation

### 14-6-1 Before Installation

Keep the air conditioner outlet and inlet free from its surroundings.

In case of installation, keep the symmetry and fix it to prevent vibration.

The pipe length shall meet the standard as far as possible.

### 14-6-2 Installation Procedure

#### ■ Location

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

#### ■ Wall Drilling

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

#### ■ Fixing Indoor Unit & Outdoor Unit

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

#### ■ Pipe Spooling & Connecting

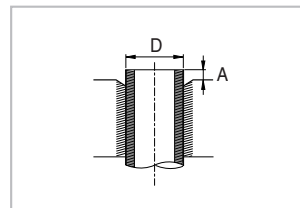
You shall cut the pipe with a pipe cutter and grind all the burrs of the cut surface.

Pipe expansion may continue until the pipe surface becomes uneven or torn apart.

Be sure to use a torque wrench to tighten pipes or flare nuts.

<Torque & Depth>

Outer Diameter(D)	Torque(kgf-cm)	Depth(A)
6.35mm(1/4")	140~170	1.3mm
9.52mm(3/8")	250~280	1.8mm



#### ■ Leak Test

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

#### ■ Drain Hose Connecting

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

#### ■ Electric & Earth Work

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

#### ■ Inspection & Trial Run

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



## 14-7 Installation Diagram of Indoor Unit and Outdoor Unit

### 14-7-1 Air-Purge Procedure

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



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



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



- 4) Purge the air from the system using vacuum pump for about 10 minutes.
  - Make sure that pressure gauge show  $-0.1\text{MPa}(-76\text{cmHg})$  after about 10 minutes.
  - This procedure is very important in order to avoid gas leak.
  - Turn off the vacuum pump.
  - Close the valve of the low pressure side of manifold gauge clockwise.
  - Remove the hose of the low pressure side of manifold gauge.



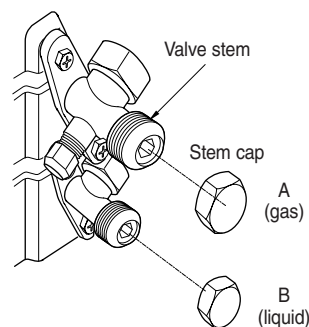
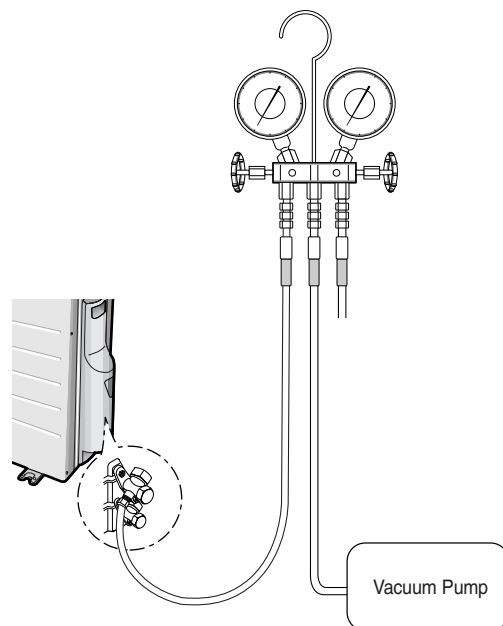
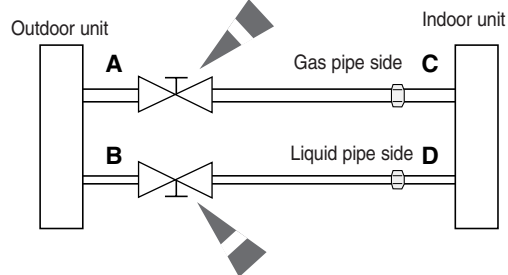
- 5) Set valve cork of both liquid side and gas side of packed valve to the open position.



- 6) Mount the valve stem nuts and the service port cap to the valve, and tighten them at the torque of  $183\text{kgf}\cdot\text{cm}$  with a torque wrench.



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



## 14-7-2 "Pump down" Procedure

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

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



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



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



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



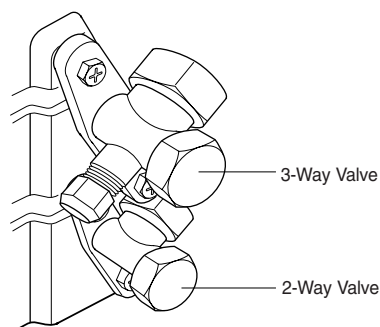
- 5) When the pressure gauge indicates "0" turn the 3-Way valve clockwise to close.



- 6) Stop operation of the air conditioner.



- 7) Close the cap of each valve.



### Remarks

#### Relocation of the air conditioner

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

# MEMO



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