

	INDOOR UNIT	OUTDOOR UNIT
MODEL CODE	AR07MSPXASINEU	-
	AR09MSPXASI/EU	AR09MSPXASI/EU
	AR12MSPXASI/EU	AR12MSPXASI/EU
	AR07MSPXBWKNEU	-
	AR09MSPXBWK/EU	AR09MSPXBWK/EU
	AR12MSPXBWK/EU	AR12MSPXBWK/EU
	AR07MSWXBWKNEU	-
	AR09MSWXBWK/EU	AR09MSWXBWK/EU
	AR12MSWXBWK/EU	AR12MSWXBWK/EU

# SERVICE *Manual*

## AIR CONDITIONER



AR07MSPXASINEU  
 AR09MSPXASINEU  
 AR12MSPXASINEU  
 AR07MSPXBWKNEU  
 AR09MSPXBWKNEU  
 AR12MSPXBWKNEU  
 AR07MSWXBWKNEU  
 AR09MSWXBWKNEU  
 AR12MSWXBWKNEU



AR09MSPXASIXEU  
 AR12MSPXASIXEU



AR09MSPXBWKXEU  
 AR12MSPXBWKXEU  
 AR09MSWXBWKXEU  
 AR12MSWXBWKXEU

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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 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

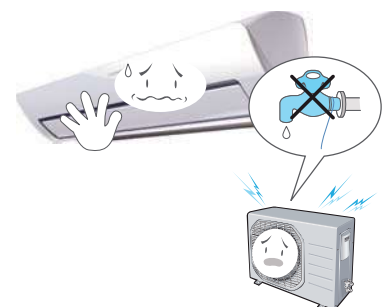
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- If the power cord of the air conditioner is damaged, it must be replaced by the manufacturer or a qualified person in order to avoid a hazard.
- The air conditioner must be plugged into an independent circuit if applicable or connect the power cable 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

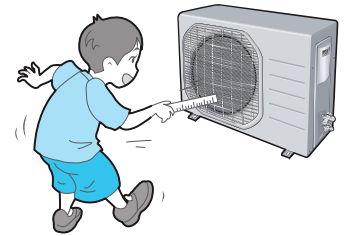
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- Before the throwing out the air conditioner, remove the batteries from the remote control.
- When you dispose of the air conditioner, consult your dealer. If pipes are removed incorrectly, refrigerant may blow out and cause air pollution. When it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

## 1-5 Others

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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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#### ■ 2-step cooling

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

#### ■ Fast cooling

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

#### ■ Comfort cooling

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

#### ■ Single User

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

#### ■ Easy Filter

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

#### good'sleep function

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

#### ■ Smart Install

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

#### ■ Easy Installation


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








## 2-2 Product Specifications

Model			AR07MSPXASINEU	AR09MSPXASIEU	AR12MSPXASIEU	AR07MSPXBWKNEU	AR09MSPXBWKEU
Rating	Mode	Unit	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted
Capacity	T1 Cool	Btu/h	6824	2500	3500	6824	2500
	T3 Cool	Btu/h	-	-	-	-	-
	Heat	-	7506	3200	4000	7506	3200
Power Input	T1 Cool	W	30	620	1080	30	670
	T3 Cool	W	-	-	-	-	-
	Heat	-	-	800	1100	-	860
Current	T1 Cool	A	0.3	3.2	5	0.3	3.6
	T3 Cool	A	-	-	-	-	-
	Heat	-	-	3.9	5.1	-	4.4
Efficiency	EER	WWW	-	4.03	3.24	-	3.73
	-	-	-	-	-	-	-
	COP	WWW	-	4.00	3.64	-	3.72
Dehumidifying		I/hr.	0.8	0.8	0.8	0.8	0.8
Platform	IDU	-	F-RAC-06 (Wind-Free)	F-RAC-06 (Wind-Free)	F-RAC-06 (Wind-Free)	F-RAC-06 (Wind-Free)	F-RAC-06 (Wind-Free)
	ODU	-	-	N-SI	N-SI	-	N-WWV
Evap	Main	-	Φ7, F.P1.3, H-fin, NGS	Φ7, (2R*10S+1R*6S)*635mm, H1.3, N.G.S, 1by2	Φ7, (2R*10S+1R*6S)*635mm, H1.3, N.G.S, 1by2	Φ7, 2R*10S*840mm, H1.3, N.G.R, 5by5	Φ7, 2R*10S*635mm, H1.3, N.G.S, 2by2
	Sub	-	2ROWx14STEPx635, 2-2pass	Φ7, (2R*4S+1R*4S)*635mm, H1.3, N.G.S : (F03-2-1)	Φ7, (2R*4S+1R*4S)*635mm, H1.3, N.G.S : (F03-2-1)	Φ7, 2R*5(6)S*840mm, H1.3, N.G.R : (F05-2-2)	Φ7, 2R*4S*635mm, H1.3, N.G.S : (F03-2-1)
Cond	Main	-	-	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by2by2	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by2by2	-	N-WWV FMC (6Turn) FP1.4
	Sub	-	-	-	-	-	-
Comp	Model	-	-	UG9AJ5090FERSI	UG9AJ5090FERSI	-	UG9AJ3090FERSI
	OLP	-	-	-	-	-	-
Motor In	Code	-	DB31-00636A	DB31-00636A	DB31-00636A	DB31-00636A	DB31-00636A
	Name	-	-	-	-	-	-
Motor Out	Code	-	-	DB31-00642C	DB31-00642C	-	DB31-00642C
	Name	-	-	-	-	-	-
Capillary	Φ * L	-	-	Φ1.4	Φ1.4	-	Φ1.4
Refrigerant	type	-	-	R-410A	R-410A	-	R-410A
	charge	g	-	1100 g	1100 g	-	950 g
SVC Valve	Liquid / Gas	-	6.35/9.52	6.35/9.52	6.35/9.52	-	6.35/9.52
Tube	Dis. / Suc.	-	-	9.52/12.7	9.52/12.7	-	7.94/9.52
Drain hose	D * L	mm	20*550	20*550	20*550	-	20*550
Power Cord		-	-	-	-	-	-
4-WAY V/V		-	-	1HP	2HP	-	-
Power Supply		V/Hz/Φ	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1
Climate Class		-	T1	T1	T1	T1	T1
Noise	IDU UT,T	dB	56	55	57	56	54
	ODU	dB	-	59	62	-	59
Net Size (W*D*H)	IDU	mm	828*267*265	828*267*265	828*267*265	828*267*265	828*267*265
	ODU	mm	-	790*548*285	790*548*285	-	720*548*265
Weight	IDU	kg	10	10.1	10.1	10	9.4
	ODU	kg	-	31.6	31.8	-	27.6
Operation range	Cooling	IDU	16 °C-32 °C	16 °C-32 °C	16 °C-32 °C	16 °C-32 °C	16 °C-32 °C
	ODU	-10 °C to 46 °C	-10 °C to 46 °C	-10 °C to 46 °C	-10 °C to 46 °C	-10 °C to 46 °C	-10 °C to 46 °C
	Heating	IDU	27 °C or less	27 °C or less	27 °C or less	27 °C or less	27 °C or less
ODU	-15 °C to 24 °C	-15 °C to 24 °C	-15 °C to 24 °C	-15 °C to 24 °C	-15 °C to 24 °C	-15 °C to 24 °C	

Model			AR12MSPXBWKEU	AR07MSWXBWKNEU	AR09MSWXBWKIEU	AR12MSWXBWKIEU
Rating	Mode	Unit	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted
Capacity	T1 Cool	Btu/h	3500	6824	2500	3500
	T3 Cool	Btu/h	-	-	-	-
	Heat	-	3500	7506	3200	3500
Power Input	T1 Cool	W	1060	30	670	1060
	T3 Cool	W	-	-	-	-
	Heat	-	940	-	670	940
Current	T1 Cool	A	5	0.3	3.6	5
	T3 Cool	A	-	-	-	-
	Heat	-	4.5	-	4.4	4.5
Efficiency	EER	WWW	3.3	-	3.73	3.3
	-	-	-	-	-	-
	COP	WWW	3.72	-	3.72	3.72
Dehumidifying		I/hr.	0.8	0.8	0.8	0.8
Platform	IDU	-	F-RAC-06 (Wind-Free)	F-RAC-06 (Wind-Free)	F-RAC-06 (Wind-Free)	F-RAC-06 (Wind-Free)
	ODU	-	N-WWV	-	N-WWV	N-WWV
Evap	Main	-	Φ7, 2R*10S*635mm, H1.3, N.G.S, 2by2	Φ7, F.P1.3, H-fin, NGS	Φ7, 2R*10S*635mm, H1.3, N.G.S, 2by2	Φ7, 2R*10S*635mm, H1.3, N.G.S, 2by2
	Sub	-	Φ7, 2R*4S*635mm, H1.3, N.G.S : (F03-2-1)	2ROWx14STEPx635, 2-2pass	Φ7, 2R*4S*635mm, H1.3, N.G.S : (F03-2-1)	Φ7, 2R*4S*635mm, H1.3, N.G.S : (F03-2-1)
Cond	Main	-	N-WWV FMC (6Turn) FP1.4	-	N-WWV FMC (6Turn) FP1.4	N-WWV FMC (6Turn) FP1.4
	Sub	-	-	-	-	-
Comp	Model	-	UG9AJ3090FERSI	-	UG9AJ3090FERSI	UG9AJ3090FERSI
	OLP	-	-	-	-	-
Motor In	Code	-	DB31-00636A	DB31-00636A	DB31-00636A	DB31-00636A
	Name	-	-	-	-	-
Motor Out	Code	-	DB31-00642C	-	DB31-00642C	DB31-00642C
	Name	-	-	-	-	-
Capillary	Φ * L	-	Φ1.4	-	Φ1.4	Φ1.4
Refrigerant	type	-	R-410A	-	R-410A	R-410A
	charge	g	950 g	-	950 g	950 g
SVC Valve	Liquid / Gas	-	6.35/9.52	-	6.35/9.52	6.35/9.52
Tube	Dis. / Suc.	-	7.94/9.52	-	7.94/9.52	7.94/9.52
Drain hose	D * L	mm	20*550	-	20*550	20*550
Power Cord		-	-	-	-	-
4-WAY V/V		-	-	-	-	-
Power Supply		V/Hz/Φ	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1
Climate Class		-	T1	T1	T1	T1
Noise	IDU UT,T	dB	56	56	54	56
	ODU	dB	-	59	62	-
Net Size (W*D*H)	IDU	mm	828*267*265	828*267*265	828*267*265	828*267*265
	ODU	mm	-	720*548*265	720*548*265	720*548*265
Weight	IDU	kg	9.4	10	9.4	9.4
	ODU	kg	27.6	-	27.6	27.6
Operation range	Cooling	IDU	16 °C-32 °C	16 °C-32 °C	16 °C-32 °C	16 °C-32 °C
	ODU	-10 °C to 46 °C	-10 °C to 46 °C	-10 °C to 46 °C	-10 °C to 46 °C	-10 °C to 46 °C
	Heating	IDU	27 °C or less	27 °C or less	27 °C or less	27 °C or less
ODU	-15 °C to 24 °C	-15 °C to 24 °C	-15 °C to 24 °C	-15 °C to 24 °C	-15 °C to 24 °C	

### 2-3 The Comparative Specifications of Product

Model		DEVELOPMENT MODEL				
		AR07MSPXASINEU	AR09MSPXASVEU	AR12MSPXASVEU	AR07MSPXBWKNEU	AR09MSPXBWK/EU
Design	Indoor Unit					
	Outdoor Unit					
Net Weight	Indoor Unit	10	10.1	10.1	10	9.4
	Outdoor Unit	-	31.6	31.8	-	27.6
Net Dimension	Indoor Unit	828*267*265	828*267*265	828*267*265	828*267*265	828*267*265
	Outdoor Unit	-	790*548*285	790*548*285	-	720*548*265
Noise	Indoor Unit	56	55	57	56	54
	Outdoor Unit	-	59	62	-	59
Air Purifying System		EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER
Indoor Display		88 SEG	88 SEG	88 SEG	88 SEG	88 SEG

Model		DEVELOPMENT MODEL			
		AR12MSPXBWK/EU	AR07MSWXBWKNEU	AR09MSWXBWK/EU	AR12MSWXBWK/EU
Design	Indoor Unit				
	Outdoor Unit				
Net Weight	Indoor Unit	9.4	10	9.4	9.4
	Outdoor Unit	27.6	-	27.6	27.6
Net Dimension	Indoor Unit	828*267*265	828*267*265	828*267*265	828*267*265
	Outdoor Unit	720*548*265	-	720*548*265	720*548*265
Noise	Indoor Unit	56	56	54	56
	Outdoor Unit	62	-	59	62
Air Purifying System		EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER
Indoor Display		88 SEG	88 SEG	88 SEG	88 SEG

## 2-4 Accessory and Option Specifications

Item	Descriptions	Code No.	Q'ty	Remark
	ASSY HANGER	DB90-07732A (F03-F04)	1	Indoor Unit
	ASSY WIRELESS REMOCON	DB93-15882K (AR**MSPX**) DB93-15882J (AR**MSWX**)	1	
	HOLDER REMOCON	DB61-06087A	1	
	BATTERY	DB47-90024A	2	
	MANUAL USERS	DB68-06728A DB68-06729A	1	
	MANUAL INSTALL	DB68-06732A	1	
	SCREW-TAPPING	6002-000623	2	
	CAP-SCREW	DB67-01404B	2	
	Rubber Leg	DB67-01533A	4	Outdoor unit case

## 3. Alignment and Adjustments

### 3-1 Test Mode

#### ■ How to Approach Test Mode

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



#### ■ Test mode operation option

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

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



#### Note

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

## 3-2 Display Error and Check Method

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

7-SEG	ERROR MODE			DESCRIPTION
	LED1	LED2	LED3	
	OPERATION	TIMER	OPTION	
E101, E102	○	◐	◐	Communication error (Indoor <-> Outdoor)
E121	○	◐	○	ROOM TH sensor error
E122, E123	◐	◐	○	INDOOR MID, INDOOR IN PIPE-TH sensor error
E154	○	○	◐	Fan error (indoor)
E162	◐	◐	◐	EEPROM error
E163	◐	◐	◐	Option error
FROM E200	◐	○	◐	Outdoor error display
E203	◐	●	●	Time out comm. (Inv Micom <-> Main Micom)
E422/E554	●	○	◐	EEV or Valve Close error-Self diagnosis /Gas Leak Error
E458	●	●	◐	Out door and Fan Error
E461	◐	●	◐	Comp. Starting Error
E463	●	○	○	No display about the outdoor condition
E464	○	●	◐	IPM Over Current (O.C) Error
E465	◐	●	○	Comp V_limit/I_limit Error
E500	◐	●	○	Heatsink overheat or IPM overheat

● : LAMP ON    ○ : LAMP OFF    ◐ : LAMP BLINK

#### \*Note\*

If the set doesn't work (No power), check the thermal fuse of terminal block OPEN or SHORT with Multimeter.

\* Measure the thermal fuse housing PIN#1~2 :  
OPEN(disconnection)-> defective product

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

LED PATTERN			7SEG DISPLAY	DESCRIPTION
YEL	GRN	RED		
○	○	○	-	POWER OFF / VDD NG
●	●	●	-	Power ON reset (1sec)
○	◎	●	-	NORMAL OPERATION
○	○	●	-	Abnormal Communication (Indoor ↔ Outdoor)
○	●	●	-	
○	○	◎	E464	IPM Over Current(O.C) Error
○	◎	○	E461	Comp.Starting Error
○	●	○	E470	EEPROM Data Error (no data)
○	●	◎	E466	DC-Link Voltage Under / Over Error
			E484	PFC Over Load Error
			E483	Over Voltage Protection Error
◎	○	◎	E221	OUT-TH (Outdoor Temperature) Sensor Error
◎	○	●	E416	DIS-TH (Discharge Temperature) Over Error
◎	◎	○	E251	DIS-TH (Discharge Temperature) Sensor Error
◎	◎	●	E468	Current Sensor Error
			E474	Heatsink Sensor Error
			E485	Input Current Sensor Error
◎	●	○	E465	Comp V_limit / I_limit Error
			E500	Heatsink Over Temperature Error
◎	●	◎	E231	CON-TH (Cond Temperature) Sensor Error
◎	●	●	E203	Time out Comm, ( Inv Micom ↔ Main Micom)
●	○	○	E458	Fan Error
●	○	◎	E471	EEPROM Data Error (Main Micom ↔ Inv Micom)
●	○	●	E467	Comp Wire Missing Error
●	◎	○	E440	Prohibit Operation Condition Error (Heating)
			E441	Prohibit Operation Condition Error (Cooling)
●	◎	◎	E469	DC-Link Voltage Sensor Error
			E488	AC Input Voltage Sensor Error
●	◎	●	E462	AC Input I_Limit Trip Error
●	●	○	E554	Gas Leak Error
			E422	EEV or Valve Close error-self diagnosis
◎	○	●	E463	Outdoor OLP over temperature error
○	◎	◎	-	Test Operation at Cooling Mode
◎	◎	◎	-	Test Operation at Heating Mode

● LED ON    ○ LED OFF    ◎ LED BLINKING



### 3-3 Setting Option Setup Method

ex) Option No. :

Note :



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

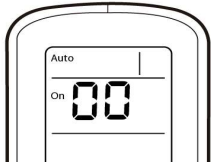
30 00 07 C2 6C 83 10 00 00 00 20 00 00 00 00 00 00 10 00 00

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

#### Step 1

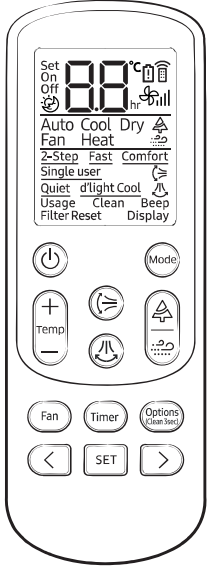
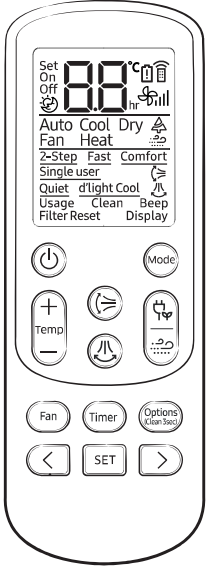























**Enter the Option Setup mode.**

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



#### Step 2

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

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

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

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

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




































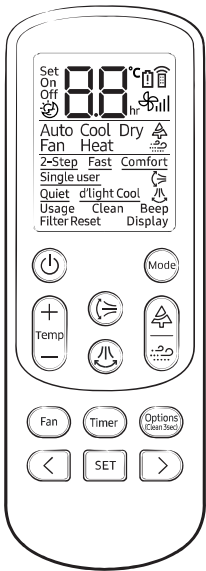
**Step 4** Pressing the ON/OFF button .

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

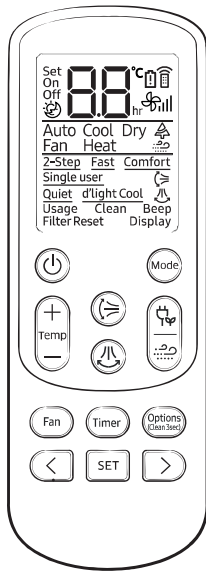
## Step 5

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

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




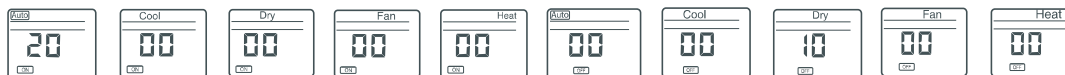
(AR\*\*MSPX\*\*)




(AR\*\*MSWX\*\*)

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

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



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

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

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

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

■ Error mode




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

□ Option Items

Model	Option code
AR07MSPXASINEU	011E45-16EA3A-271416-3727C4
AR09MSPXASI/EU	011E45-17EA4A-271920-3726C4
AR12MSPXASI/EU	011E45-18EA6B-272328-3716C4
AR07MSPXBWKNEU	011E45-16EA3A-271416-3727C4
AR09MSPXBWK/EU	011E45-17EA1B-271920-3727C4
AR12MSPXBWK/EU	011E45-17EA4B-272323-3727C4
AR07MSWXBWKNEU	011E05-16EA3A-271416-3727D4
AR09MSWXBWK/EU	011E05-17EA1B-271920-3727D4
AR12MSWXBWK/EU	011E05-17EA4B-272323-3727D4

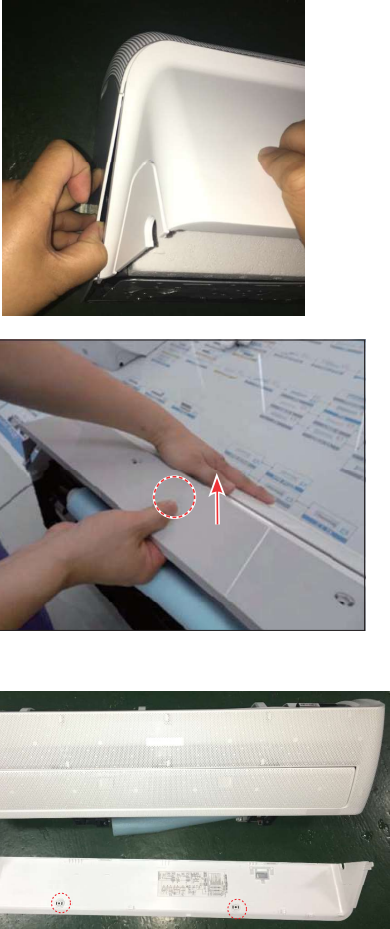
## 4. Disassembly and Reassembly


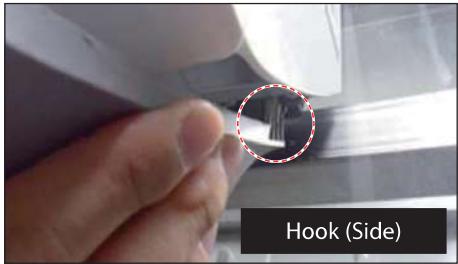
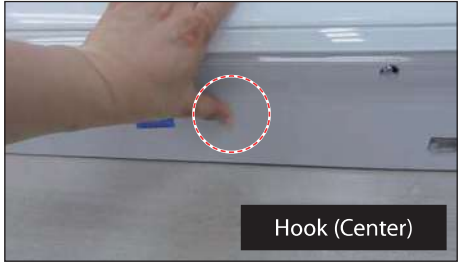


### ■ Necessary Tools

Item	Remark
<p>+SCREW DRIVER Q'ty 1 ea. To assembly and disassembly the screw</p>	
<p>MONKEY SPANNER Q'ty 1 ea. To assembly and disassembly the Fan motor and Compressor</p>	
<p>- SCREW DRIVER Q'ty 1 ea. To assembly and disassembly the screw</p>	

## 4-1. Indoor Unit


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

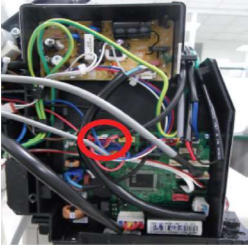
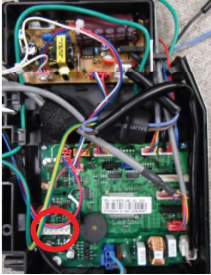

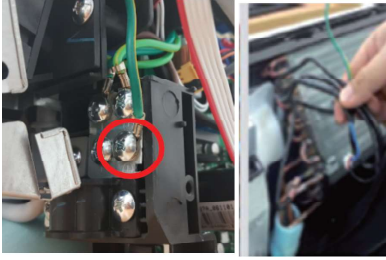

No.	Parts	Procedure	Remark
		<p>5) Separate the hook after pushing both end of Cover Panel as shown in the figure.(Watch out for the damage of the hook)</p> <p>6) Raise front part upward obliquely as shown in the figure and then remove the hooks.</p>	


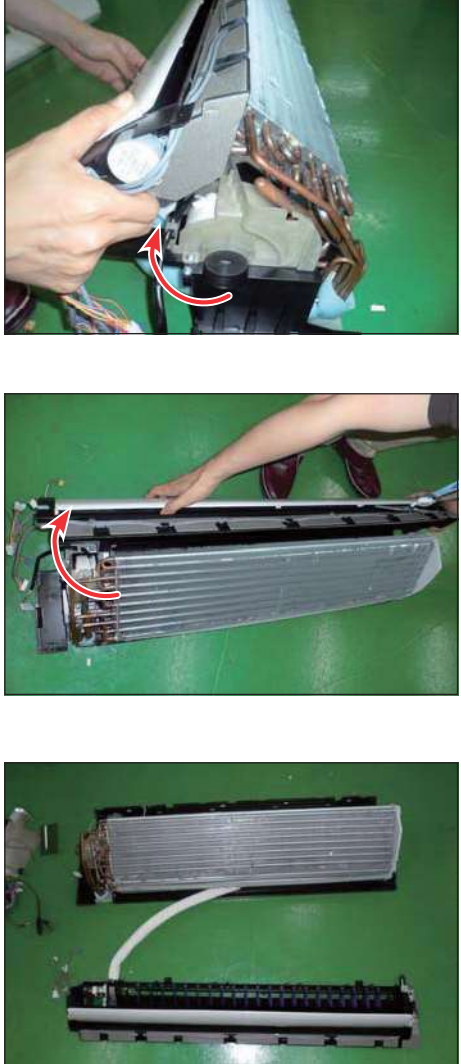
No.	Parts	Procedure	Remark
		<p><b>⚠ Caution:</b></p> <p>Assembly of Cover Panel after service end.</p> <ul style="list-style-type: none"> <li>- Reassembly is in the reverse order of the removal.</li> <li>- Piping and drain hose must be careful not to damage and Progress must be done with both hands.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

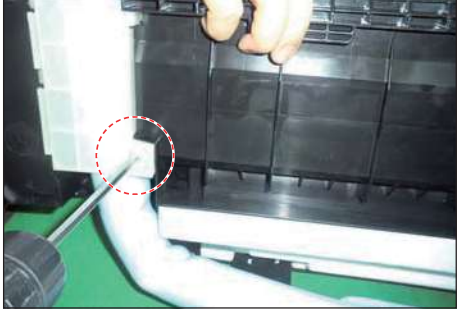

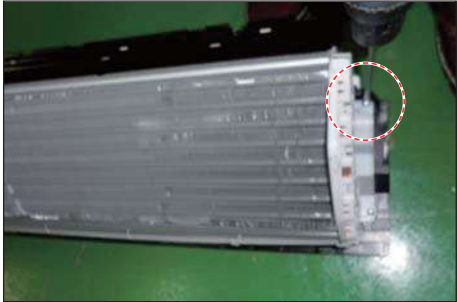




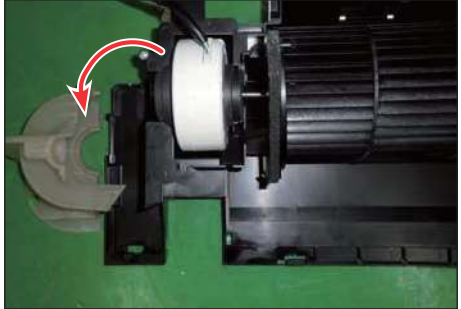


No.	Parts	Procedure	Remark
		<p>7) To detach the PANEL-FRONT from the main frame, unfasten 2 screws at the bottom. (use + Screw Driver)</p>	 
		<p>8) To detach the COVER-PANEL from the main frame, loosen 4 HOOK Structures.            When separate the hook : Use the (-) screw Driver.            (-)Screw Driver Insert the hook and then pull the hook as shown on the right side.            (Watch out for the damage of the hook)</p>	 

No.	Parts	Procedure	Remark
		<p>9) Remove the Panel Frame from the Main Frame as shown on the right side.</p> <p>10) Remove the WIFI KIT connector.  WIFI KIT connector is located of Panel Front. (For model with WIFI KIT)</p>	  


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

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

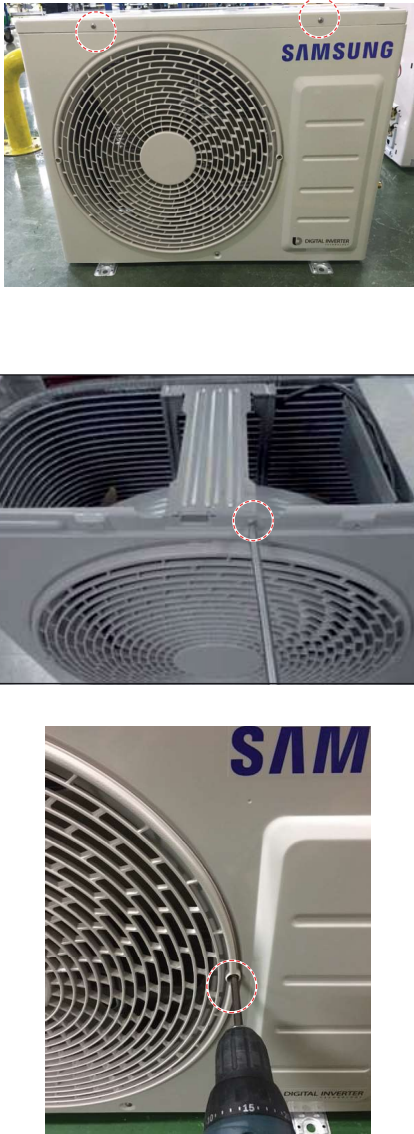
No.	Parts	Procedure	Remark
6	EVAPORATOR	<p>18) Detach the HOLDER PIPE.</p> <p>19) Unfasten the screw at the left side. (use + Screw Driver)</p> <p>20) Unfasten the screw at the right side. (use + Screw Driver)</p> <p>21) To detach Evaporator from the main frame, pull the bottom of the Evaporator towards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

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



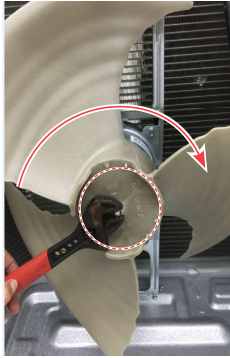

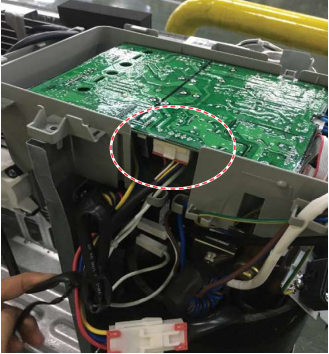

No.	Parts	Procedure	Remark
8	Assy SPI Lamp	<p>26) Remove the Assy SPI Lamp from the Back Body as shown on the right side.</p> <p><b>▲ Caution:</b></p> <ul style="list-style-type: none"> <li>- Confirm Seal of backside necessarily after replace of Assy SPI Lamp.</li> <li>- Seal should be close adhesion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

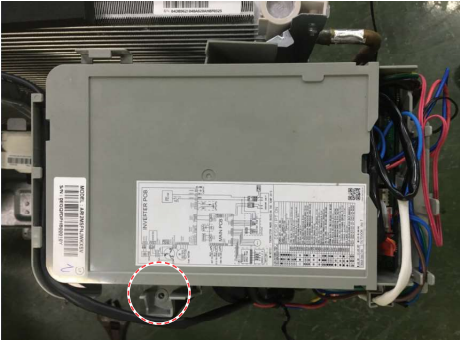
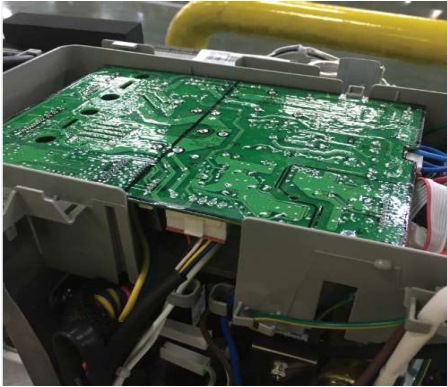
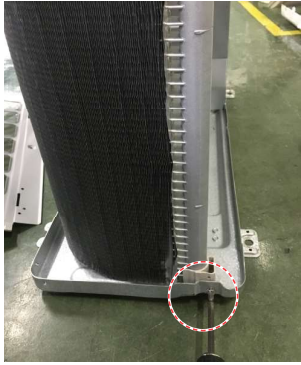

### 4-4 Outdoor Unit (N-SI,N-WW) Heat pump model



No	Parts	Procedure	Remark
1	Common work	<p>1) Loosen each screws and detach the cabi Top cover.</p> <p>2) Loosen screws of the cabi front and detach it.</p>	



No	Parts	Procedure	Remark
		<p>3) Remove the 4 Cond Bar from the holder of outdoor unit cabinet. This process is supported by heating models only: AR**MS** series.</p> <p>4) Loosen fixing screws from the Cabi Front Lh and detach it.</p> <p>5) Loosen fixing screws from the Cabi Side Rh and detach it.</p>	   

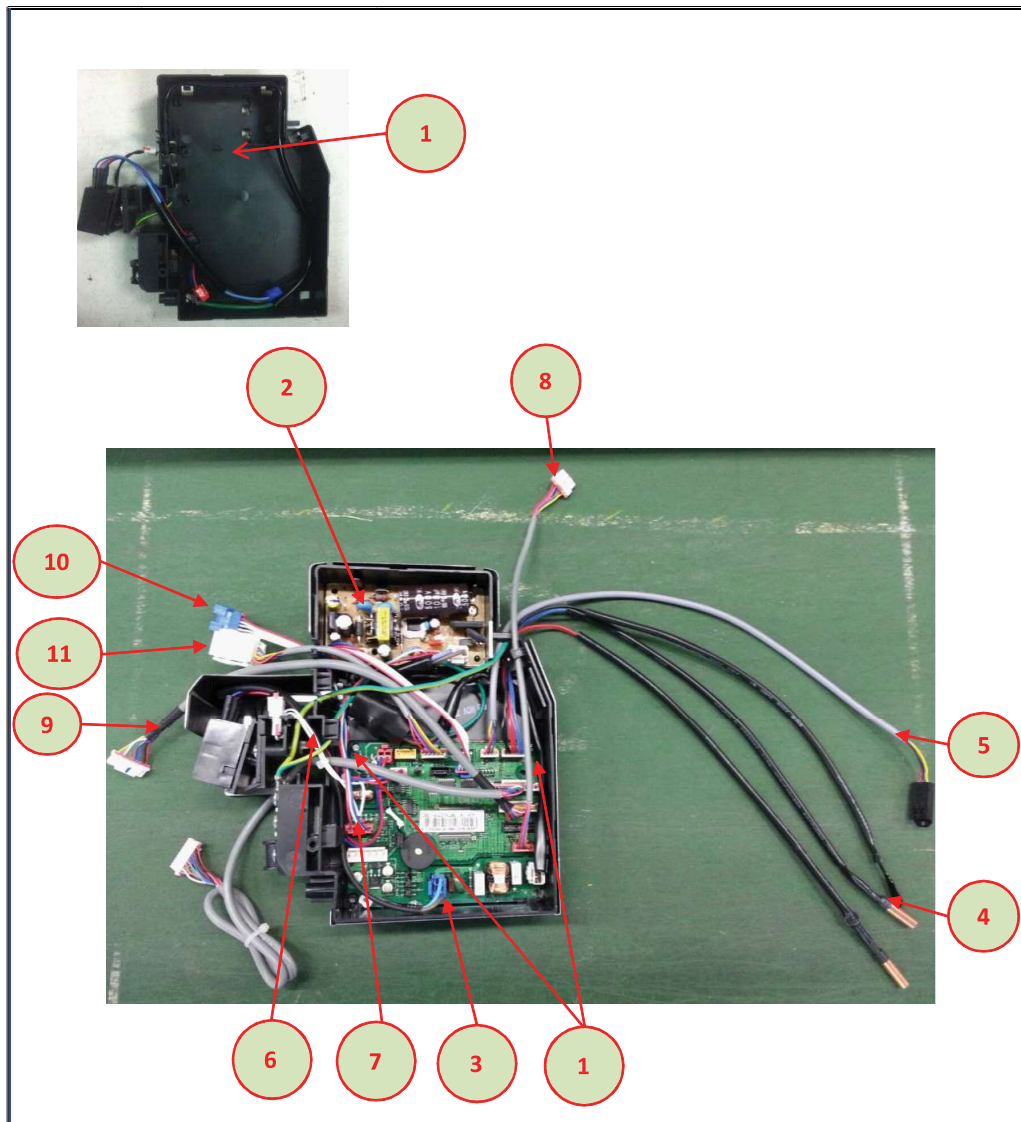
No	Parts	Procedure	Remark
2	Fan & Motor	<p>1) Detach the Nut Flange like the picture on the right side.(Turn clockwise because the screw is left-handed.) (Use Monkey Spanner.)</p> <p>2) Detach the Fan Propeller.</p> <p>3) Loosen 4 fixing screws to detach the Motor. (Use Monkey Spanner.)</p> <p>4) Disconnect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

No	Parts	Procedure	Remark
3	Ass'y Control Out	<ol style="list-style-type: none"> <li>1) To remove the Cover control box : Pull the motor wire is allow sufficient space as shown on the right side and then remove the screw.</li> <li>2) Detach several connectors from the Ass'y Control Out.</li> <li>3) Detach several connectors from the PCB of Ass'y Control Out.</li> </ol>	 
4	Heat Exchanger	<ol style="list-style-type: none"> <li>1) Release the refrigerant at first.</li> <li>2) Loosen fixing screw on both sides.</li> <li>3) Disassemble the pipes in both inlet and outlet with welding torch.</li> <li>4) Detach the Heat Exchanger.</li> </ol>	 

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

## 5. ASSY CONTROL

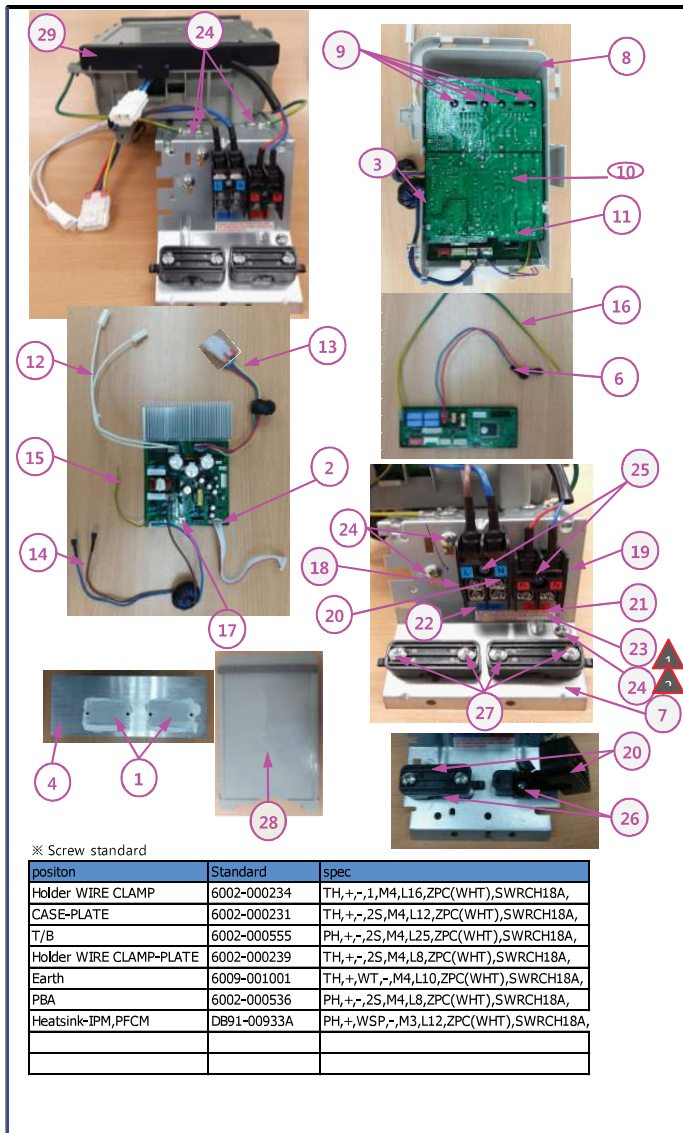
### 5-1 ASSY KIT CODE DB92-04110A



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

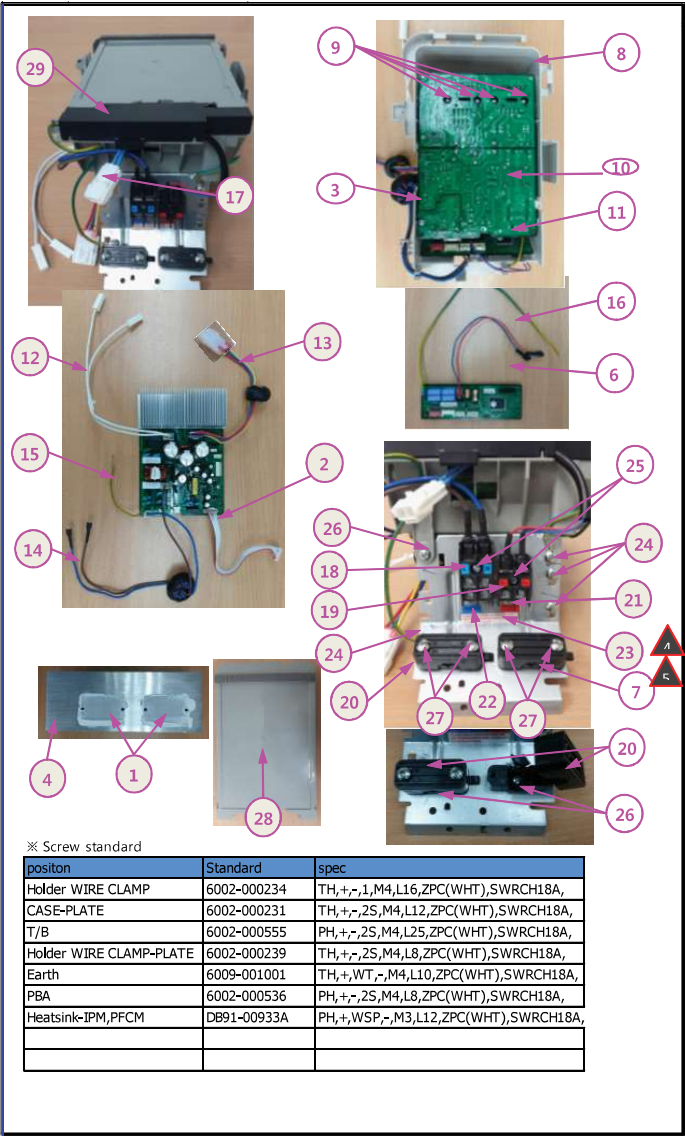


# 5-2 ASSY KIT CODE DB92-04055A



No	NAME	CODE	Q'ty	unit
1	GREASE-SILICON	0205-000178	0.002	KG
2	ASSY CONNECTOR WIRE	DB93-07452B	1	EA
3	SCREW-TAPPING	6002-000536	1	EA
4	HEAT SINK	DB62-12196B	1	EA
6	ASSY CONNECTOR WIRE-COMM	DB93-16402A	1	EA
7	PLATE CONTROL	DB61-05897A	1	EA
8	CASE CONTROL	DB61-06722A	1	EA
9	ASSY-SCREW MACHINE	DB91-00933A	4	EA
10	ASSY PCB MAIN	DB92-04029B	1	EA
11	ASSY PCB MAIN	DB92-04025A	1	EA
12	ASSY CONNECTOR WIRE-REACTOR	DB93-15320A	1	EA
13	ASSY CONNECTOR WIRE-COMP	DB93-09497E	1	EA
14	ASSY CONNECTOR WIRE-POWER	DB93-16371A	1	EA
15	ASSY CONNECTOR WIRE-EARTH	DB93-12121A	1	EA
16	ASSY CONNECTOR WIRE-EARTH	DB93-12121C	1	EA
17	ASSY CONNECTOR WIRE 4-WAY	DB93-10846A	1	EA
18	TERMINAL BLOCK	DB65-00298B	1	EA
19	TERMINAL BLOCK	DB65-00274A	1	EA
20	HOLDER-WIRE CLAMP	DB61-00250A	2	EA
21	ASSY-LABEL	DB98-33292A	1	EA
22	ASSY-LABEL	DB98-33293A	1	EA
23	ASSY-LABEL	DB98-34030A	1	EA
24	SCREW SPACIAL	6009-001001	6	EA
25	SCREW	6002-000555	2	EA
26	SCREW	6002-000239	3	EA
27	SCREW	6002-000234	4	EA
28	ASSY COVER CONTROL	DB90-09878A	1	EA
29	COVER PCB	DB63-03885A	1	EA

# 5-3 ASSY KIT CODE DB92-04050A



No	NAME	CODE	Q'ty	unit
1	GREASE-SILICON	0205-000178	0.002	KG
2	ASSY CONNECTOR WIRE	DB93-07452B	1	EA
3	SCREW-TAPPING	6002-000536	1	EA
4	HEAT SINK	DB62-12196B	1	EA
6	ASSY CONNECTOR WIRE-COMM	DB93-16402A	1	EA
7	PLATE CONTROL	DB61-05836A	1	EA
8	CASE CONTROL	DB61-06722A	1	EA
9	ASSY-SCREW MACHINE	DB91-00933A	4	EA
10	ASSY PCB MAIN	DB92-04029A	1	EA
11	ASSY PCB MAIN	DB92-04025B	1	EA
12	ASSY CONNECTOR WIRE-REACTOR	DB93-15320A	1	EA
13	ASSY CONNECTOR WIRE-COMP	DB93-09497E	1	EA
14	ASSY CONNECTOR WIRE-POWER	DB93-16371A	1	EA
15	ASSY CONNECTOR WIRE-EARTH	DB93-12121A	1	EA
16	ASSY CONNECTOR WIRE-EARTH	DB93-12121C	1	EA
17	ASSY CONNECTOR WIRE 4-WAY	DB93-10846A	1	EA
18	TERMINAL BLOCK	DB65-00298B	1	EA
19	TERMINAL BLOCK	DB65-00274A	1	EA
20	HOLDER-WIRE CLAMP	DB61-00250A	2	EA
21	ASSY-LABEL	DB98-33292A	1	EA
22	ASSY-LABEL	DB98-33293A	1	EA
23	ASSY-LABEL	DB98-34030A	1	EA
24	SCREW SPACIAL	6009-001001	4	EA
25	SCREW	6002-000555	2	EA
26	SCREW	6002-000239	3	EA
27	SCREW	6002-000234	4	EA
28	ASSY COVER CONTROL	DB90-09878A	1	EA
29	COVER PCB	DB63-03885A	1	EA

## 6. Electrical Parts List

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

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
0201-001528	COATING	ADHESIVE-SIL	LDC2577D,Y/GRN,175CPS,-	2	G
0201-001982	ADHESIVE-SIL	ADHESIVE-SIL	TSE3854DS-W,White,2,2,MIL-A-46146B,UL94V-0	0,0037	KG
0202-001338	SOLDER-BAR	SOLDER-BAR	Lead-free Solder BAR,W20L350H8,99,3Sn/0.7Cu/	0,17	G
0202-001463	SOLDER-WIRE	SOLDER-WIRE	LFC2-W3,0,D3,99,79Sn/0.2Cu/0.01P,NO Flux	1,51	G
0204-004665	FLUX	FLUX	KSP-70M-S,MIXTURE,NO,FLUX,13%	0,14	G
0204-005794	SOLVENT	SOLVENT	S-1000,(CH3)2CHOH,100%,0,79	1	G
0502-000245	Q701	TR-POWER	KSBI151-Y,PNP,1300mW,TO-126,160-320	1	PC
1405-001239	VA71	VARISTOR	680V,560VDC,6000A,17x10mm,TP,1120V,350pF,U	1	PC
2301-002032	XC71	C-FILM,LEAD-PPF	100nF,10%,275V,TP,12,5X6X12,0	1	PC
2301-002032	XC72	C-FILM,LEAD-PPF	100nF,10%,275V,TP,12,5X6X12,0	1	PC
3002-001139	BZ61	BUZZER-PIEZO	80dB,9V,2KHz,BK	1	PC
3711-000024	CN76	HEADER-BOARD TO CABLE	BOX,3P,1R,2,5MM,STRAIGHT,SN,WHT	1	PC
3711-000177	CN21	HEADER-BOARD TO CABLE	1WALL,2P,1R,3,96MM,STRAIGHT,SN,RED	1	PC
3711-000203	CN75	HEADER-BOARD TO CABLE	1WALL,2P,1R,7,92mm,STRAIGHT,SN,WHT,11,82x	1	PC
3711-000296	CN72	HEADER-BOARD TO CABLE	1WALL,6P,1R,3,96MM,STRAIGHT,SN,WHT	1	PC
3711-000941	CN81	HEADER-BOARD TO CABLE	BOX,4P,1R,2,5mm,STRAIGHT,SN,YEL	1	PC
3711-000998	CN77	CONNECTOR-HEADER	BOX,5P,1R,2,5MM,STRAIGHT,SN,RED	1	PC
3711-000999	CN61	HEADER-BOARD TO CABLE	BOX,5P,1R,2,5mm,STRAIGHT,SN,WHT,5,8x14,9x2	1	PC
3711-002001	CN31	HEADER-BOARD TO CABLE	BOX,20P,2R,2,0mm,STRAIGHT,SN,BLK,5,0X22,0X	1	PC
3711-003404	CN71	HEADER-BOARD TO CABLE	1WALL,2P,1R,7,92mm,STRAIGHT,SN,BLU	1	PC
3711-003845	CN91	HEADER-BOARD TO CABLE	BOX,11P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-004122	CN32	HEADER-BOARD TO CABLE	BOX,14P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-004236	CN43	HEADER-BOARD TO CABLE	BOX,6P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-004379	CN42	HEADER-BOARD TO CABLE	BOX,4P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-005096	CN63	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,BLK	1	PC
3711-005097	CN62	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,BLU	1	PC
DB27-00096A	FT71	COIL CHOKE	CV1615280,COIL CHOKE,28,0mH,+50~-30%,268,4	1	PC
DB27-00102A	FT81	COIL CHOKE	1,0mH,2,5A,8,4x3,4,Mn-Zn,4,DIP	1	PC
DB94-06665A		ASSY PCB AUTO	MAIN,AR9500M,120*98,N,230V,19V, 12V, 5V,WIN	1	PC
0501-000362	Q801	TR-SMALL SIGNAL	KSC2328A-Y,NPN,1000mW,TO-92L,TP,160~320	1	PC
1404-001194	PTC2	THERMISTOR-PTC	39ohm,20%,220/240V,270Vac,1,2A,TP	1	PC
3601-001765	F701	FUSE-RADIAL LEAD	250V,3,15A,TIME-LAG,Thermoplastic,8,5x8mm	1	PC
3711-005098	CN51	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,RED	1	PC
DB94-06666A		ASSY PCB SMD	MAIN,AR9500M,120*98,N,230V,19V, 12V, 5V,WIN	1	PC
0202-001933	SOLDER-CREAM	SOLDER-CREAM	LFM-48W TM-HP,D20~38um,96,5Sn/3Ag/0,5Cu,F	0,32	G
0402-001741	D701	DIODE-RECTIFIER	S1M,1000V,1A,SMA,TP	1	PC
0406-001005	TD420	DIODE-TVS	SM05,6V,20MAV,TP	1	PC
0406-001005	TD501	DIODE-TVS	SM05,6V,20MAV,TP	1	PC
0406-001204	CD81	DIODE-TVS	SMBJ5,0CA,6,4/-/7,25V,600W,SMB	1	PC
0406-001204	CD82	DIODE-TVS	SMBJ5,0CA,6,4/-/7,25V,600W,SMB	1	PC
0406-001204	CD83	DIODE-TVS	SMBJ5,0CA,6,4/-/7,25V,600W,SMB	1	PC
0501-000465	Q501	TR-SMALL SIGNAL	MMBT3904,NPN,350mW,SOT-23,TP,30~300	1	PC
0501-000465	Q702	TR-SMALL SIGNAL	MMBT3904,NPN,350mW,SOT-23,TP,30~300	1	PC
0504-001080	Q601	TR-DIGITAL	KRC246S,NPN,200mW,2,2K/10Kohm,SOT-23,TP	1	PC
0504-001080	Q802	TR-DIGITAL	KRC246S,NPN,200mW,2,2K/10Kohm,SOT-23,TP	1	PC
0506-000175	IC05	TR-ARRAY	2003,NPN,7,1000mW,SOP-16,TP,1000	1	PC
0506-000175	IC06	TR-ARRAY	2003,NPN,7,1000mW,SOP-16,TP,1000	1	PC
0604-001002	PC03	PHOTO-COUPLER	TR,100-600%,170mW,SOP-4,TP	1	PC
0604-001002	PC04	PHOTO-COUPLER	TR,100-600%,170mW,SOP-4,TP	1	PC
0604-001002	PC05	PHOTO-COUPLER	TR,100-600%,170mW,SOP-4,TP	1	PC
0801-000393	IC08	IC-CMOS LOGIC	74HC86,OR GATE,SOP,14P,150MIL,QUAD,ST,-,2,0	1	PC
1006-001325	IC07	IC-BUS TRANSCEIVER	SO,8P,4,9x3,8 mm,SINGLE,ST,PLASTIC,5V,-40to+	1	PC
1202-000104	IC11	IC-VOLTAGE COMP.	393,SOP,8P,150MIL,DUAL,36V,CMOS,PLASTIC,18	1	PC
1203-006245	IC03	IC-VOL. DETECTOR	KIA7033AT,TSM,3P,2,9x1,6x0,7mm,PLASTIC,3,3V	1	PC
1203-007526	IC02	IC-POSIFIXED REG.	7815,TO-252,3Z30,6,6*6,1mm,14,4/15,6V,1,3W,-	1	PC
2007-000039	R717	R-CHIP	0ohm,1%,1/10W,TP,1608	1	PC
2007-000043	R703	R-CHIP	1Kohm,1%,1/10W,TP,1608	1	PC
2007-000043	R706	R-CHIP	1Kohm,1%,1/10W,TP,1608	1	PC
2007-000043	R805	R-CHIP	1Kohm,1%,1/10W,TP,1608	1	PC
2007-000043	R815	R-CHIP	1Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R701	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R704	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R705	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R723	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R801	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R802	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R803	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R804	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000052	R816	R-CHIP	10Kohm,1%,1/10W,TP,1608	1	PC
2007-000116	R825	R-CHIP	120ohm,5%,1/10W,TP,1608	1	PC
2007-000143	R511	R-CHIP	4,7Kohm,5%,1/16W,TP,1005	1	PC
2007-000143	R512	R-CHIP	4,7Kohm,5%,1/16W,TP,1005	1	PC
2007-000143	R513	R-CHIP	4,7Kohm,5%,1/16W,TP,1005	1	PC
2007-000143	R552	R-CHIP	4,7Kohm,5%,1/16W,TP,1005	1	PC



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

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
2007-007306	R520	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R539	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R542	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R553	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R809	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R905	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R906	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R907	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R908	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R909	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R910	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007313	R401	R-CHIP	6.8Kohm,1%,1/16W,TP,1005	1	PC
2007-007313	R402	R-CHIP	6.8Kohm,1%,1/16W,TP,1005	1	PC
2007-007313	R403	R-CHIP	6.8Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R538	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R545	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R806	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R901	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-009922	R301	R-CHIP	300Kohm,1%,1/4W,TP,3216,T0.55	1	PC
2007-009922	R302	R-CHIP	300Kohm,1%,1/4W,TP,3216,T0.55	1	PC
2007-009922	R303	R-CHIP	300Kohm,1%,1/4W,TP,3216,T0.55	1	PC
2203-000257	C705	C-CER,CHIP	10nF,10%,50V,X7R,TP,1608	1	PC
2203-000257	C801	C-CER,CHIP	10nF,10%,50V,X7R,TP,1608	1	PC
2203-000438	C508	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C516	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C520	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C901	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000440	C715	C-CER,CHIP	1nF,10%,50V,X7R,TP,1608	1	PC
2203-001071	C519	C-CER,CHIP	0.056nF,5%,50V,C0G,TP,1608	1	PC
2203-001083	C711	C-CER,CHIP	0.005nF,0.1pF,50V,NP0,TP,1608	1	PC
2203-005249	C501	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C513	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C514	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C702	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C704	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C710	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C712	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C713	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C802	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C803	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C805	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C806	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C807	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-006158	C401	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C402	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C403	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C410	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C411	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C412	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C517	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C521	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C522	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C529	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C530	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C531	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C533	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C809	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006496	C707	C-CER,CHIP	2.2nF,10%,50V,X7R,1608	1	PC
2203-006960	C708	C-CER,CHIP	1000nF,10%,50V,X7R,TP,2012	1	PC
2203-007456	C509	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C512	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C515	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C518	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C523	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C526	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C528	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C551	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C552	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C808	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007486	C804	C-CER,CHIP	1000nF,10%,50V,X5R,TP,1608	1	PC
2402-000120	C706	C-AL,SMD	10uF,20%,50V,GP,TP,6.6X6.6X5.4MM	1	PC
2402-001145	C701	C-AL,SMD	47uF,20%,50V,GP,TP,6.3X7.7mm	1	PC
2402-001145	C703	C-AL,SMD	47uF,20%,50V,GP,TP,6.3X7.7mm	1	PC
2802-001211	X501	RESONATOR-CERAMIC	8MHz,0.5%,TP,3.2x1.3x0.9 mm	1	PC
DB41-01362A	PCB MAIN	PCB MAIN	FR-4,2Layer,T1.6,120*98.4,WIND FREE, A-STD#4	1	PC
DB91-01837A	IC04	ASSY MICOM	17K_RAC_A3050_Inverter,STM-1632-OA,HART-m	1	PC
0903-001864	-	IC-MICROCONTROLLER	HART-M310,QFP,100P,20x14mm,8MHz,5V,600mV	1	PC

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

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

## 6-2 OUTDOOR MAIN PCB CODE DB92-04029B

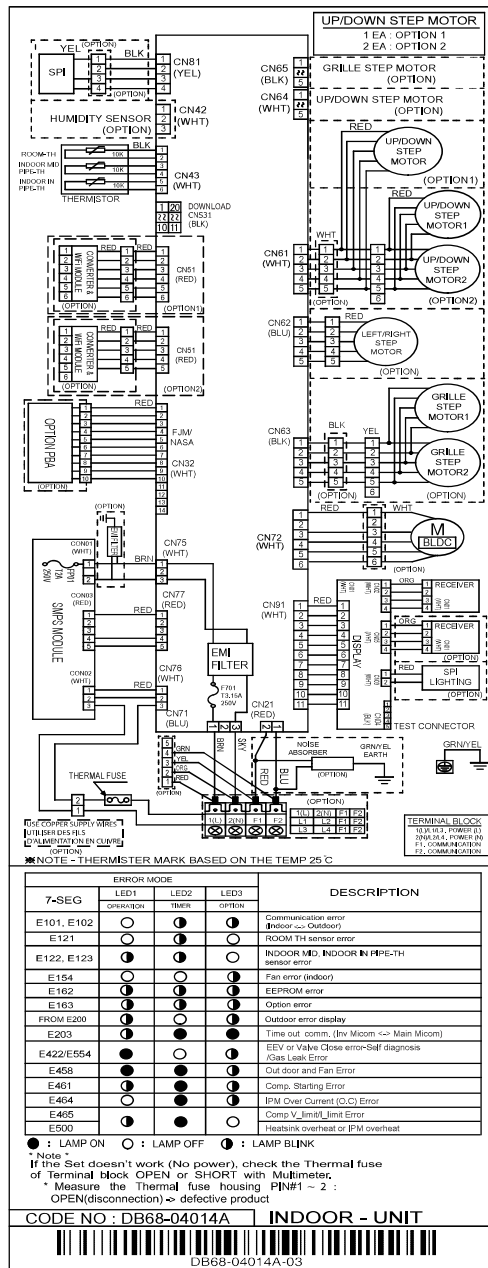
Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
0204-005754	COATING	COATING	SL 1301 ECO,55±5s,colorless	0.004	PC
DB94-06515A	-	ASSY PCB MANUAL	17 S-INV,OUTDOOR MAIN,17 S-INV,284*194,220,	1	PC
0201-001528	ADHESIVE-SIL	ADHESIVE-SIL	LDC2577D,Y/GRN,175CPS,-	1	G
0202-001463	SOLDER-WIRE	SOLDER-WIRE	LFC2-W3.0,D3,99.79Sn/0.2Cu/0.01P,No Flux	6	G
0202-001608	SOLDER-WIRE FLUX	SOLDER-WIRE FLUX	LFC7-107,D0.8,99.3Sn/0.7Cu/0.01P,Flux 3.5%	0.2	G
0204-004665	FLUX	FLUX	KSP-70M-S,MIXTURE,NO,FLUX,13%	3	G
2301-001935	C308	C-FILM,LEAD	22nF,20%,300V,BK,18x7x13.5mm	1	PC
2301-001935	C309	C-FILM,LEAD	22nF,20%,300V,BK,18x7x13.5mm	1	PC
2301-001935	C310	C-FILM,LEAD	22nF,20%,300V,BK,18x7x13.5mm	1	PC
2301-001935	C311	C-FILM,LEAD	22nF,20%,300V,BK,18x7x13.5mm	1	PC
3711-000012	CN291	HEADER-BOARD TO CABLE	BOX,4P,1R,2.5MM,STRAIGHT,SN,WHT	1	PC
3711-000177	CN301	HEADER-BOARD TO CABLE	1WALL,2P,1R,3.96MM,STRAIGHT,SN,RED	1	PC
3711-000999	CN281	HEADER-BOARD TO CABLE	BOX,5P,1R,2.5mm,STRAIGHT,SN,WHT,5.8x14.9x7	1	PC
3711-001084	CN261	HEADER-BOARD TO CABLE	BOX,8P,1R,2.5mm,STRAIGHT,SN,WHT,5.8x22.4x7	1	PC
3711-002001	CN230	HEADER-BOARD TO CABLE	BOX,20P,2R,2.0mm,STRAIGHT,SN,BLK,5.0x22.0x7	1	PC
3711-003846	CN251	HEADER-BOARD TO CABLE	BOX,8P,1R,2mm,ANGLE,SN,WHT	1	PC
3711-006337	CN701	CONNECTOR-HEADER	BOX,5P,1R,2.5mm,ANGLE,SN,RED	1	PC
3711-007817	CN271	HEADER-BOARD TO BOARD	3WALL,7P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3712-001047	CN302	CONNECTOR-TERMINAL	TAB,MALE,N,0.5/4.75mm	1	PC
DB27-00082A	L302	COIL CHOKE	40mH,0.5A,8.4x3.4,Mn-Zn	1	PC
DB27-00090A	L301	COIL CHOKE	31uH,13*15	1	PC
DB94-06511A	-	ASSY PCB AUTO	17 S-INV,OUTDOOR MAIN,17 S-INV,284*194,220,	1	PC
1404-001194	PTC301	THERMISTOR-PTC	39ohm,20%,220/240V,270Vac,1.2A,TP	1	PC
DB27-00034A	BEAD301	COIL CHOKE	0.0012mH,2A	1	PC
DB94-06512A	-	ASSY PCB SMD	17 S-INV,OUTDOOR MAIN,17 S-INV,284*194,220,	1	PC
0202-001933	SOLDER-CREAM	SOLDER-CREAM	LFM-48W TM-HP,D20~38um,96.5Sn/3Ag/0.5Cu,F	1	G
0406-001204	TD301	DIODE-TVS	SMBJ5.0CA,6.4/-/7.25V,600W,SMB	1	PC
0406-001204	TD302	DIODE-TVS	SMBJ5.0CA,6.4/-/7.25V,600W,SMB	1	PC
0406-001204	TD303	DIODE-TVS	SMBJ5.0CA,6.4/-/7.25V,600W,SMB	1	PC
0506-000175	IC701	TR-ARRAY	2003,NPN,7,1000mW,SOP-16,ST,1000	1	PC
0601-002345	LED801	LED	SMD,RED,1.6x0.8x0.55mm,660nm,1.6x0.8x0.55mm	1	PC
0601-002419	LED803	LED	SMD(TOP VIEW),YEL,1.6x0.8mm,591nm,1.6x0.8x0.55mm	1	PC
0601-002679	LED802	LED	SMD(TOP VIEW),Y-GRN,1.6x0.8mm,573nm,1.6x0.8x0.55mm	1	PC
0801-000393	IC302	IC-CMOS LOGIC	74HC86,OR GATE,SOP,14P,150MIL,QUAD,ST,-,2.0	1	PC
1006-001325	IC301	IC-BUS TRANSCEIVER	SO,8P,4.9x3.8 mm,SINGLE,ST,PLASTIC,5V,-40to+	1	PC
1203-006245	IC230	IC-VOL. DETECTOR	KIA7033AT,TSM,3P,2.9x1.6x0.7mm,PLASTIC,3.3V	1	PC
2007-000116	R304	R-CHIP	120ohm,5%,1/10W,TP,1608	1	PC
2007-000148	R201	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R202	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R203	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R204	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R205	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R206	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R207	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R208	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R209	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R210	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R212	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R213	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R214	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R215	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R216	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R217	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R218	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R219	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R220	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R221	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R222	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
2007-000148	R223	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R237	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R238	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R239	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R240	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R241	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R242	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R250	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R271	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R272	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R284	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R285	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R286	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R306	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R307	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R308	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R309	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000148	R310	R-CHIP	10Kohm,5%,1/16W,TP,1005	1	PC
2007-000171	R312	R-CHIP	0ohm,5%,1/16W,TP,1005	1	PC
2007-000455	R251	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	PC
2007-000455	R253	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	PC
2007-000614	R252	R-CHIP	24Kohm,1%,1/10W,TP,1608	1	PC
2007-000614	R254	R-CHIP	24Kohm,1%,1/10W,TP,1608	1	PC
2007-000763	R255	R-CHIP	330ohm,1%,1/10W,TP,1608	1	PC
2007-000763	R256	R-CHIP	330ohm,1%,1/10W,TP,1608	1	PC
2007-000763	R257	R-CHIP	330ohm,1%,1/10W,TP,1608	1	PC
2007-000763	R258	R-CHIP	330ohm,1%,1/10W,TP,1608	1	PC
2007-000869	R801	R-CHIP	4.7Kohm,1%,1/10W,TP,1608	1	PC
2007-000869	R802	R-CHIP	4.7Kohm,1%,1/10W,TP,1608	1	PC
2007-000869	R803	R-CHIP	4.7Kohm,1%,1/10W,TP,1608	1	PC
2007-001433	R225	R-CHIP	12Kohm,1%,1/10W,TP,1608	1	PC
2007-007306	R224	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R231	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R232	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R233	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R234	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R235	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R243	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R244	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R245	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R246	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R247	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R248	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R249	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R261	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R262	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R263	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R264	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R273	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R274	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R275	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R276	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R281	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R282	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R283	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R291	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007306	R292	R-CHIP	100ohm,1%,1/16W,TP,1005	1	PC
2007-007318	R303	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R305	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007318	R311	R-CHIP	1Kohm,1%,1/16W,TP,1005	1	PC
2007-007942	R211	R-CHIP	1Mohm,1%,1/16W,TP,1005	1	PC

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
2203-000438	C211	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C219	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C220	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C281	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C282	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-000438	C283	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005	1	PC
2203-001071	C210	C-CER,CHIP	0.056nF,5%,50V,COG,TP,1608	1	PC
2203-002285	C302	C-CER,CHIP	10nF,10%,50V,X7R,TP,1005	1	PC
2203-002285	C303	C-CER,CHIP	10nF,10%,50V,X7R,TP,1005	1	PC
2203-005249	C251	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C252	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C253	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C254	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C701	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-005249	C702	C-CER,CHIP	100nF,10%,50V,X7R,TP,1608	1	PC
2203-006158	C202	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C203	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C206	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C209	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C212	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C215	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C216	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C218	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C248	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C304	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C305	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C306	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C307	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-007306	C261	C-CER,CHIP	1000nF,10%,25V,X5R,TP,2012,1.25T	1	PC
2203-007306	C262	C-CER,CHIP	1000nF,10%,25V,X5R,TP,2012,1.25T	1	PC
2203-007456	C201	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C204	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C205	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C207	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C208	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C213	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C214	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2203-007456	C217	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005(1106),T0.5	1	PC
2802-001211	X201	RESONATOR-CERAMIC	8MHz,0.5%,TP,3.2x1.3x0.9 mm	1	PC
DB41-01352A	PCB	PCB MAIN	FR-4,2Layer,T1.6,142*48.5,8,RAC_OUT_MAIN,10	1	PC
DB91-01825A	IC231	ASSY MICOM	16_RAC_PF23_SG_OUT,STM-1622-OA,HART_M3	1	PC
0903-001864	-	IC-MICROCONTROLLER	HART-M310,QFP,100P,20x14mm,8MHz,5V,600mV	1	PC

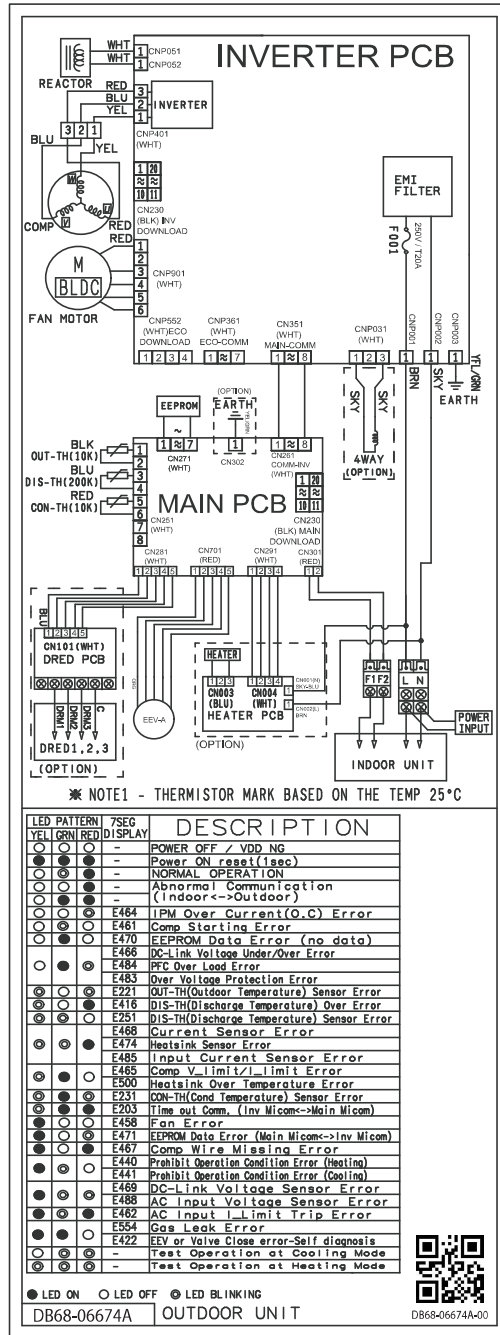
# 7. Wiring Diagram

## 7-1 Indoor Unit





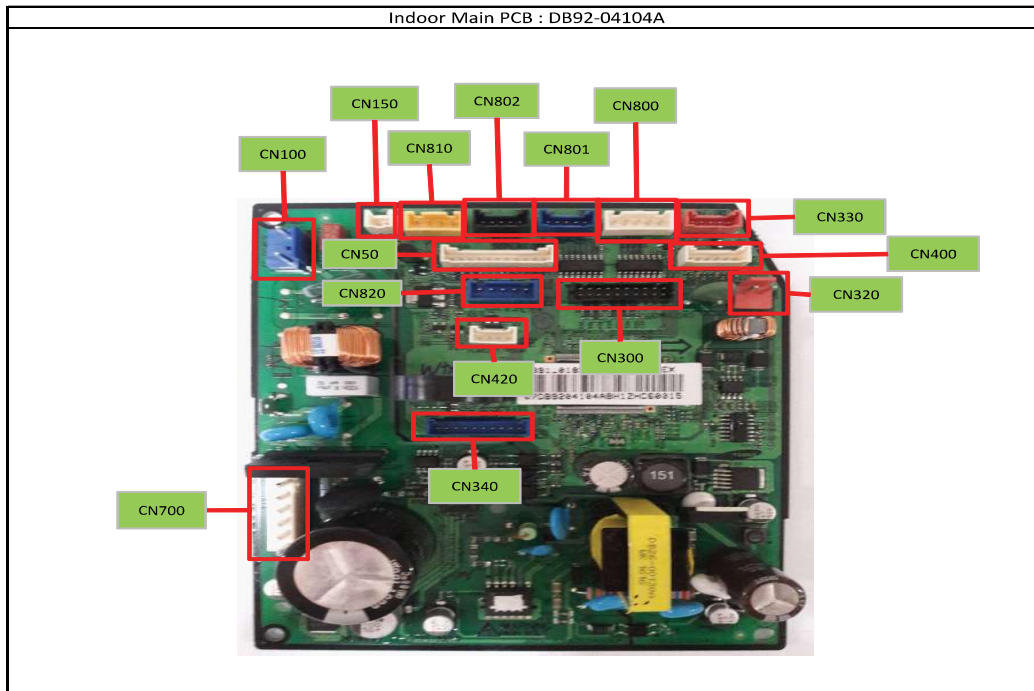
## 7-2 Outdoor Unit





# 8. PCB Diagram

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



### CN340 : FJM BLOCK

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

### CN150 : THERMAL FUSE BLOCK

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

### CN300 : DOWNLOAD

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

### CN500 : DISPLAY

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

### CN320 : 485 COMMUNICATION

- #1 : RXD1
- #2 : TXD1

### CN330 : WiFi BLOCK

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

### CN100 : SPMS

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

### CN820 : FILTER BLOCK

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

### CN420 : HUM/TEMP BLOCK

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

### CN700 : BLDC FAN

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

### CN800 : STEP-UP/DOWN

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

### CN801 : STEP MOTOR-L/R

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

### CN810 : SPI BLOCK

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

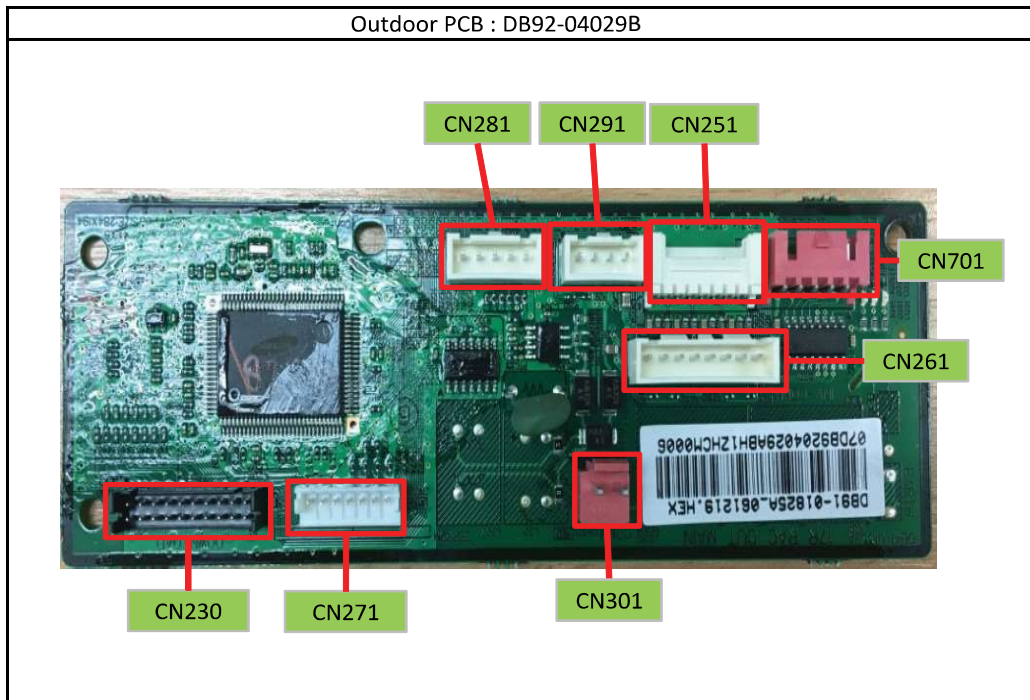
### CN400 : SENSOR BLOCK

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

### CN802 : STEP MOTOR-2

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

## 8-2 Outdoor PCB-DB92-04029 • •



### CN301 : 485 COMM

#1 : PTC301  
#2 : L301

### CN230 : DOWNLOAD

#1 : RXD  
#2 : TXD  
#3 : BOOT  
#4 : TDO  
#5 : TCK  
#6 : TDI  
#7 : TMS  
#8 : TRACKCLK  
#9 : SGND  
#10 : +5v  
#11 : NULL  
#12 : NULL  
#13 : NULL  
#14 : Trace3  
#15 : NULL  
#16 : NULL  
#17 : SGND  
#18 : Trace2  
#19 : Trace1  
#20 : Trace0

### CN271 : EEPROM

#1 : SGND  
#2 : NULL  
#3 : +5V  
#4 : EEP\_CS  
#5 : EEP\_SO\_MICRO  
#6 : EEP\_SO\_MICRO  
#7 : EEP\_CLK

### CN251 : SENSOR

#1 : OUT\_TH  
#2 : SGND  
#3 : DIS\_TH  
#4 : SGND  
#5 : COND\_TH  
#6 : SGND  
#7 : OLP\_TH  
#8 : SGND

### CN281 : DRED

#1 : DRED1  
#2 : DRED2  
#3 : DRED3  
#4 : SGND

### CN261 : COMM (MAIN)

#1 : TDX\_MAIN  
#2 : RXD\_MAIN  
#3 : +5V  
#4 : SGND  
#5 : +12V  
#6 : POWER\_SAVE  
#7 : 4WAY  
#8 : NULL

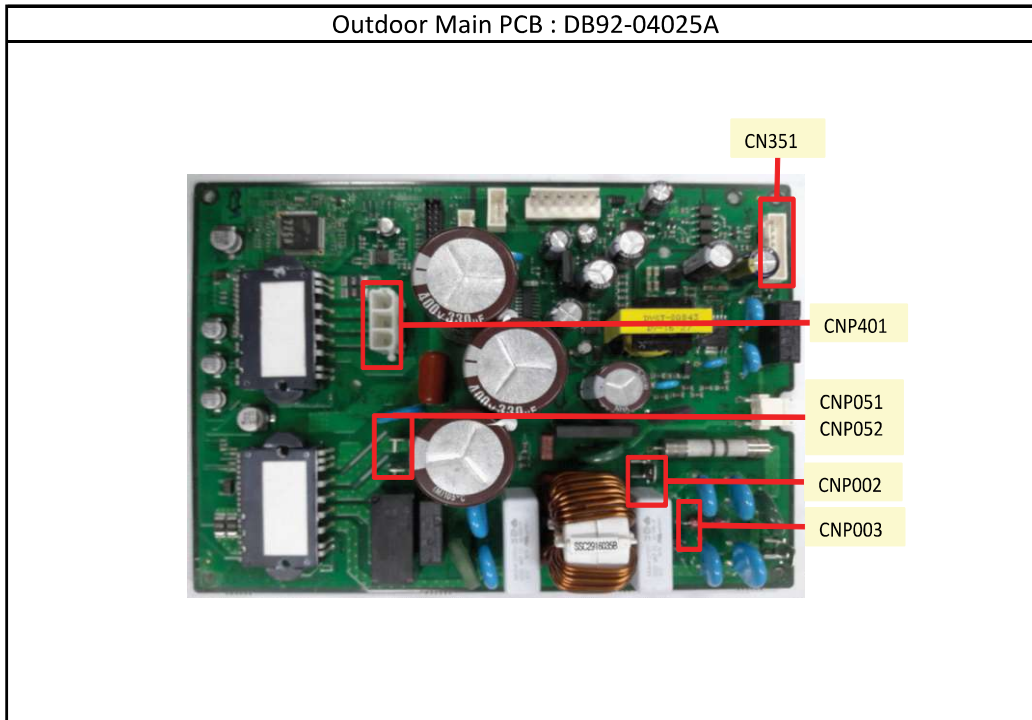
### CN701

#1 : O4  
#2 : O3  
#3 : O2  
#4 : O1  
#5 : COM

### CN291 : SENSOR

#1 : +12V  
#2 : SGND  
#3 : HEATER\_L  
#4 : HEATER\_R

### 8-3 Outdoor PCB-DB92-04025A



**CN051 : WIRE REACTOR**  
#1 : PR

**CN052 : WIRE REACTOR**  
#1 : L

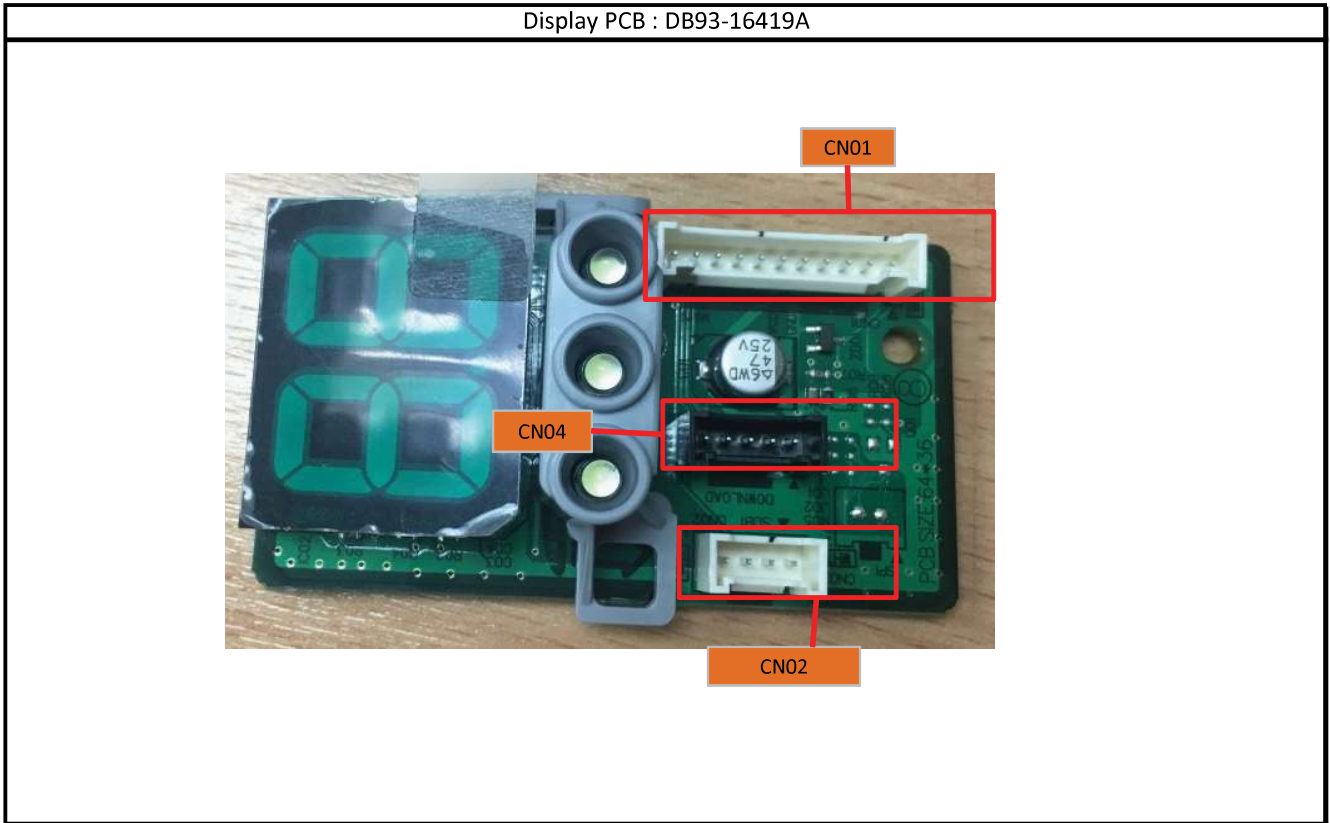
**CN002 : WIRE POWER INPUT**  
#1 : POWER INPUT  
#2 : GND

**CNP003 : WIRE EARTH**  
#1 : GND

**CNP351: COMM**  
#1 : R351  
#2 : R354  
#3 : +5V\_1  
#4 : SGND  
#5 : +12V\_1  
#6 : POWER\_SAVE  
#7 : 4WAY  
#8 : HOT\_GAS

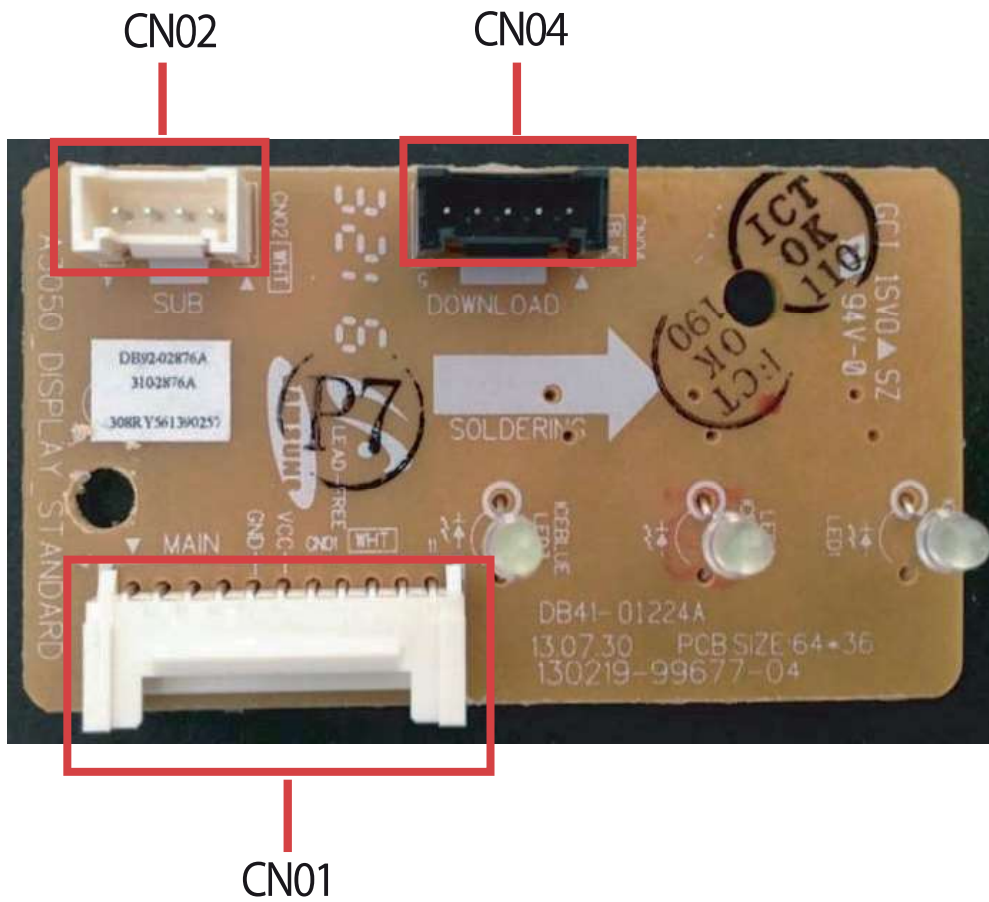
**CNP401 : WIRE COMP**  
#1 : W  
#2 : V  
#3 : U

## 8-4 DISPLAY PCB-DB93-16419A



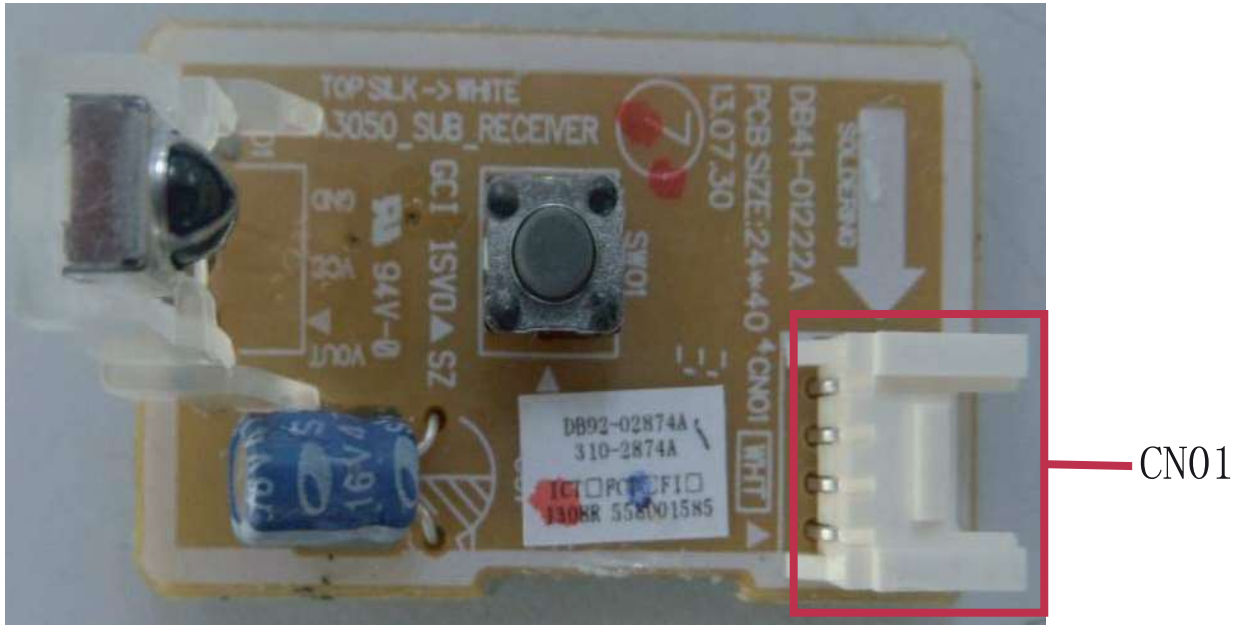
CN01		CN02		CN04	
#1	DIN/DOUT	#1	GND	#1	DIN/DOUT
#2	CLK	#2	Vout	#2	CLK
#3	STB	#3	5VDC	#3	STB
#4	IRQ	#4	IRQ	#4	SWITCH INPUT
#5	GND			#5	GND
#6	5VDC				
#7	Vout				
#8	PWM_LED				
#9	TEST_RX				
#10	TEST_TX				
#11	MODE0				

## 8-11 DISPLAY PCB--3 LED DB92-02876A



<b>CN04 - DOWNLOAD</b>	<b>CN02 - POWER IN</b>	<b>CN01 - DISPLAY</b>	
#1:5V #2:TEST_RX #3:TEST_TX #4:MODE0 #5:GND	#1: GND #2: Vout #3: DC5V #4: SW	#1-#4: DIO;CLK;STB;IRQ #5:GND #6-#7: DC5V;Vout #8:PWM_LED #9-#10: TEST_RX;TEST_TX #11:MODE0	

## 8-12 SUB PCB--RECEIVE-DB92-02874A



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



## 8-13 Wire connecting the indoor unit terminal blocks

---

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



Is inverted



Terminal has been cut.

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



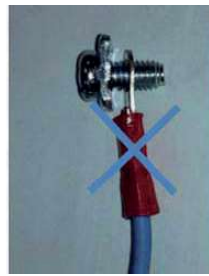
①



②



③



④



⑤



⑥

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

# 9. Operating Instructions

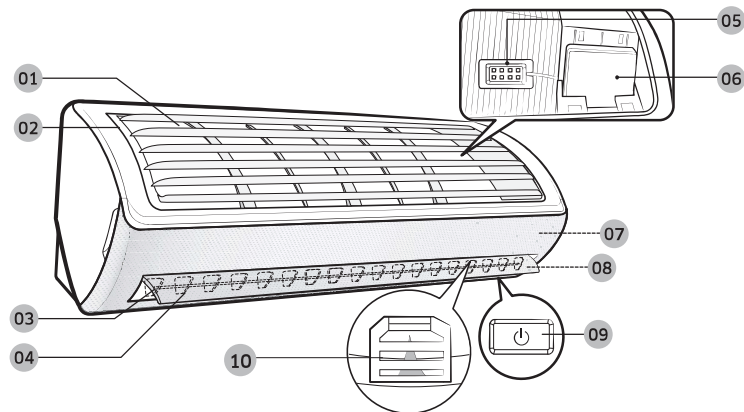
## 9-1 Name of Each Part

### 9-1-1 Indoor Unit

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

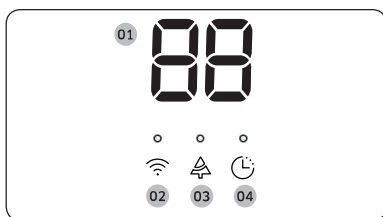
#### ■ Main Parts

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

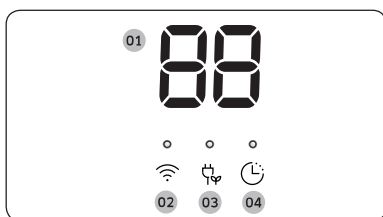


- |                                    |  |
|------------------------------------|--|
| 01 Air intake                      | 06 Wi-Fi module                          |
| 02 Air filter                      | 07 Wind-free panel                       |
| 03 Air flow blade (up and down)    | 08 Display 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

#### ■ Display



(AR\*\*MSPX\*\*)

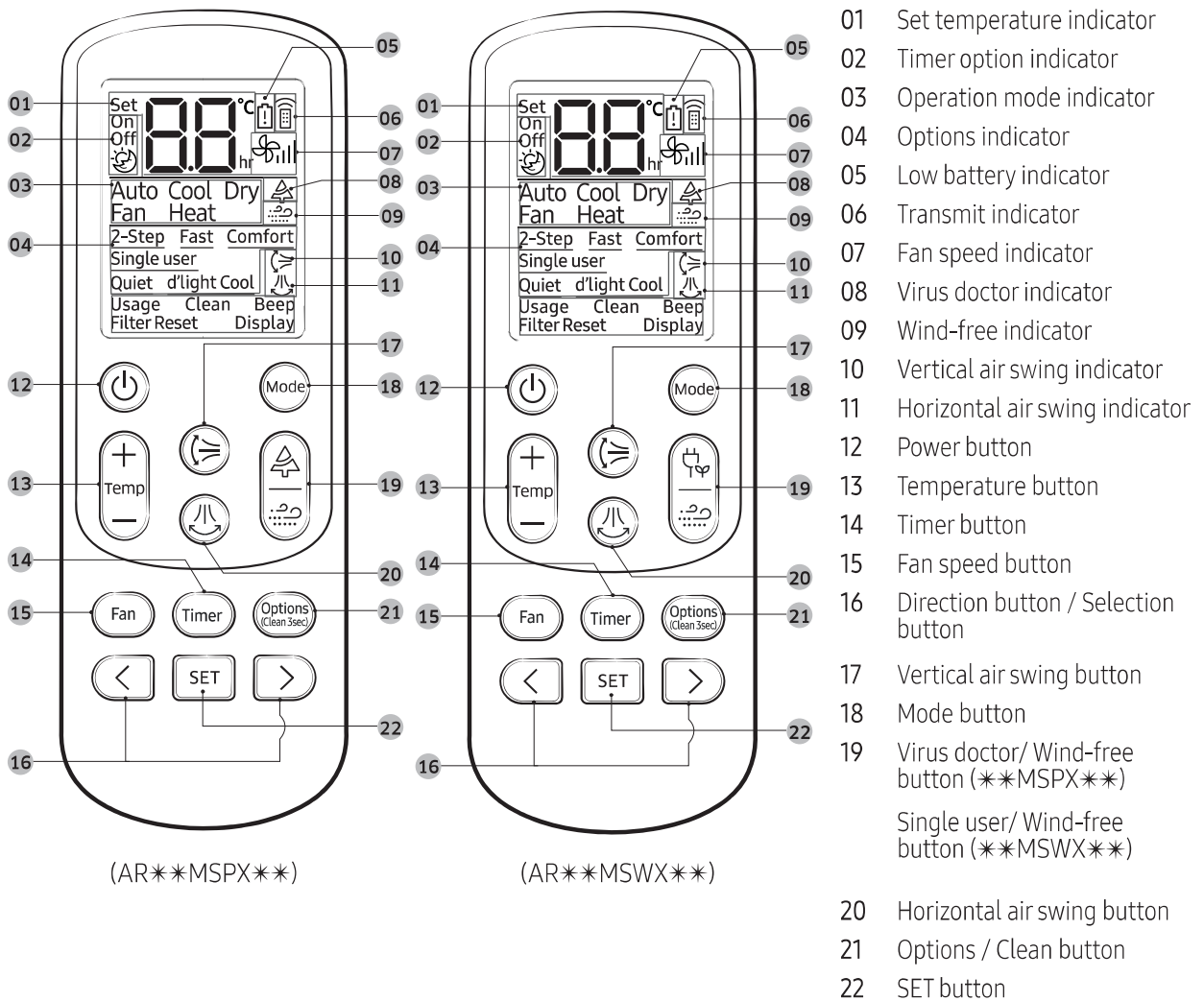


(AR\*\*MSWX\*\*)

- |    |   |
|----|---|
| 01 | Temperature indicator<br>Filter reset indicator (CF)<br>Electricity consumption indicator<br>(For the multi system, usage time indicator)<br>Auto clean indicator (C !)<br>Defrost indicator (dF) |
| 02 | Wi-Fi indicator   |
| 03 | Virus doctor indicator  |
| 04 | Timer indicator<br>good'sleep indicator<br>Auto clean indicator   |
| 01 | Temperature indicator<br>Filter reset indicator (CF)<br>Electricity consumption indicator<br>(For the multi system, usage time indicator)<br>Auto clean indicator (C !)<br>Defrost indicator (dF) |
| 02 | Wi-Fi indicator   |
| 03 | Single user indicator<br>(If using a multi system, this function is not supported.)   |
| 04 | Timer indicator<br>good'sleep indicator<br>Auto clean indicator   |





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



## 10. Troubleshooting

### 10-1 Items to be checked first

- The input voltage should be rating voltage  $\pm 10\%$  range.  
The air conditioner may not operate properly if the voltage is out of this range.
- Is the line cable linking the indoor unit and the outdoor unit linked properly?  
The indoor unit and the outdoor unit shall be linked by 5 cables.  
Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.  
Otherwise the air conditioner may not operate properly.
- When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the air conditioner.

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

# 10-2 Communication Error

## 10-2-1 Communication Error

### Indoor display

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

### Outdoor display

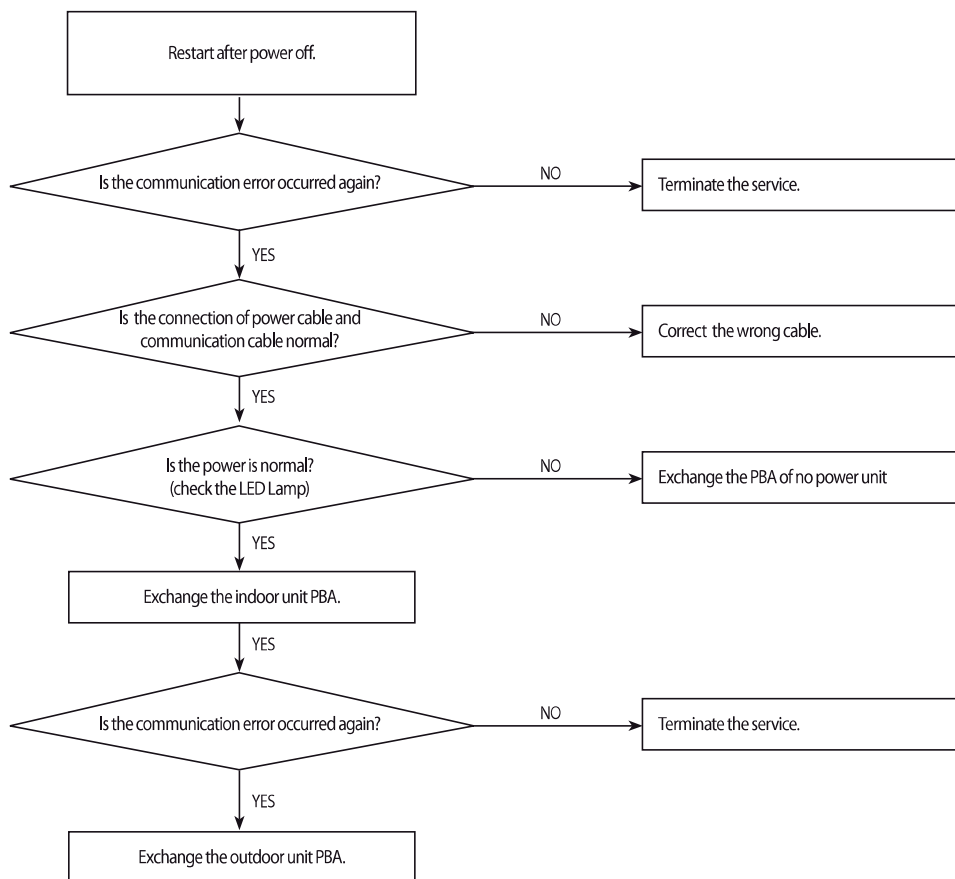
◎	●	●	1 min. Time out Comm.
○	○	●	Abnormal Communication
○	●	●	

● LED ON      ◎ LED BLINKING      ○ LED OFF

#### 1. Checklist :

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

#### 2. Troubleshooting procedure



## 10-2-2 Indoor temperature sensor Error

### Indoor display

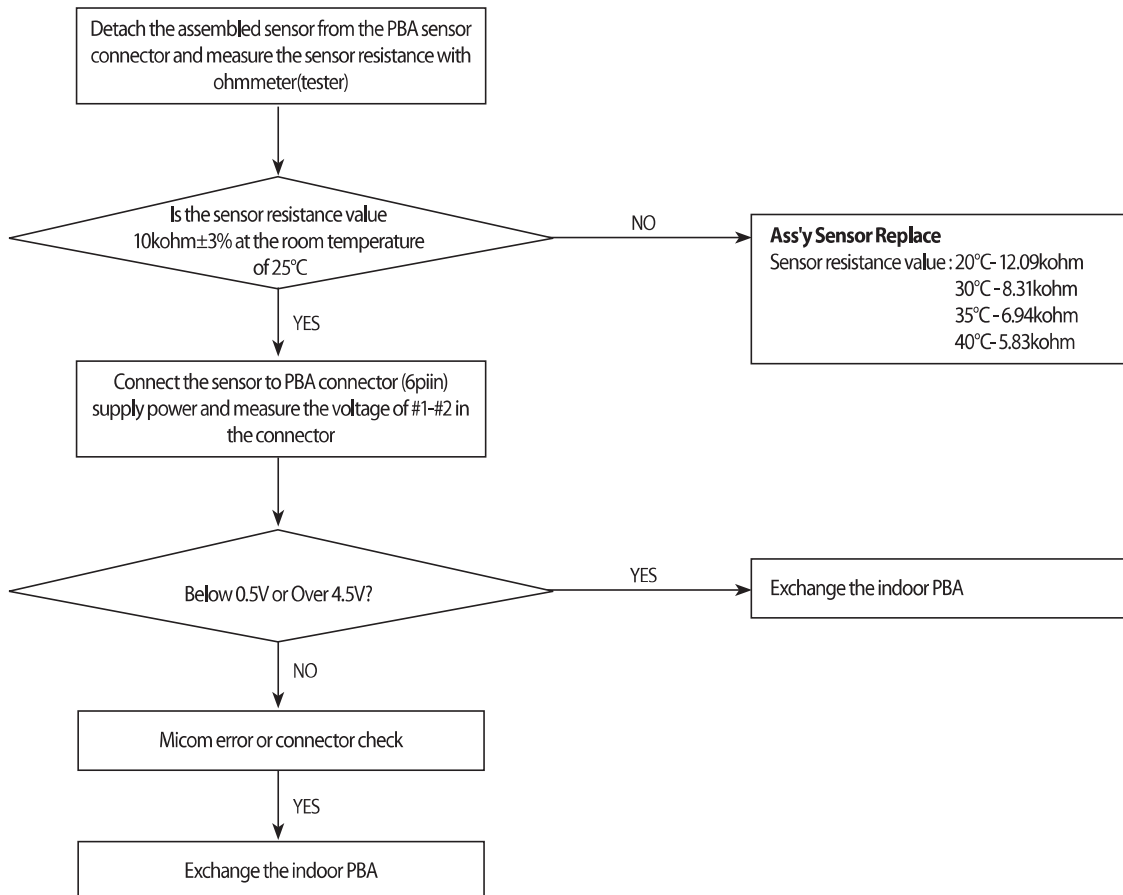
3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E121	Indoor room temp sensor error
○	◎	○		

● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

#### 2. Troubleshooting procedure



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

#### Indoor display

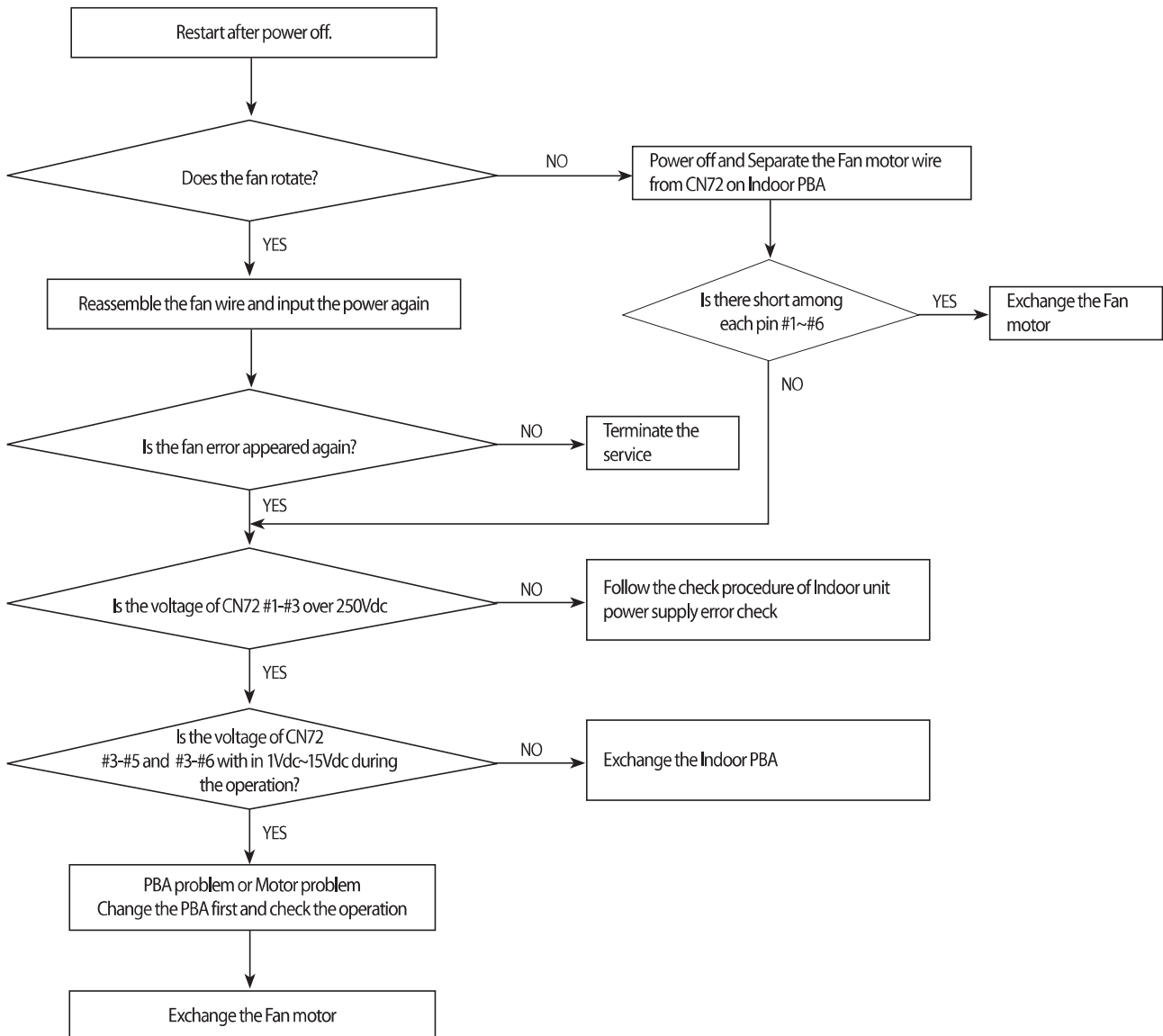
3-LED DISPLAY			7-SEG DISPLAY	DESCRIPTION
LED1	LED2	LED3	E154	Indoor fan error
○	○	◎		

● LED ON      ◎ LED BLINKING      ○ LED OFF

#### 1. Checklist :

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

#### 2. Troubleshooting procedure



## 10-2-4 Outdoor temperature sensor error

### Indoor display

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

### Outdoor display

◎	○	◎	Outdoor temperature sensor error
---	---	---	----------------------------------

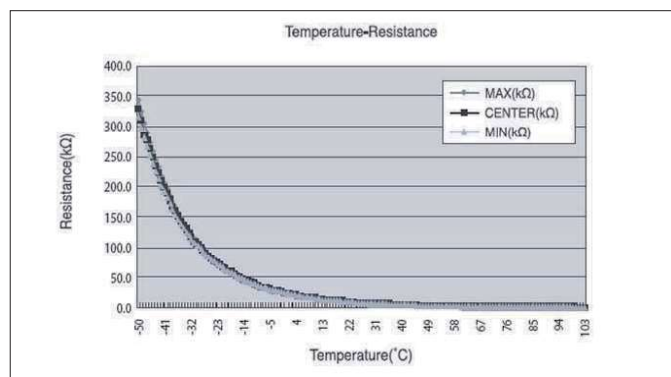
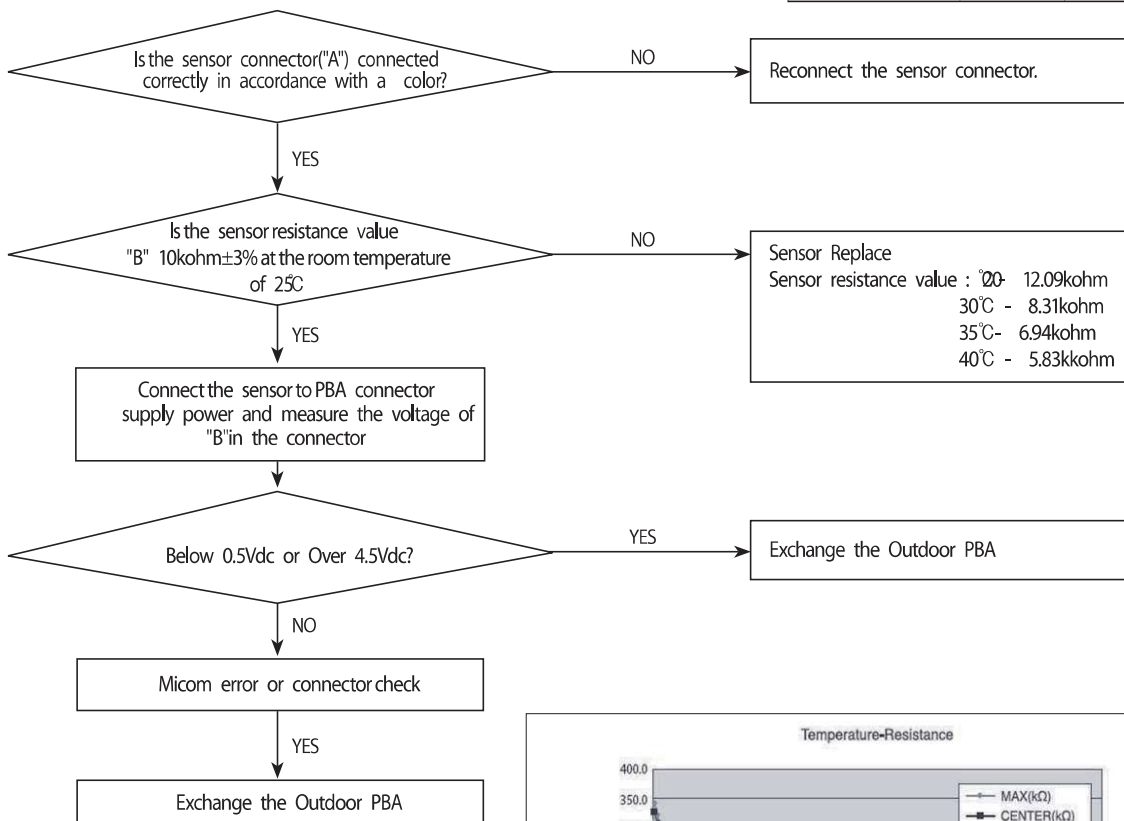
● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

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

#### 2. Troubleshooting procedure



## 10-2-5 Outdoor Cond temperature sensor error

### Indoor display

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

### Outdoor display

⊙	●	⊙	Outdoor Cond temperature sensor error
---	---	---	---------------------------------------

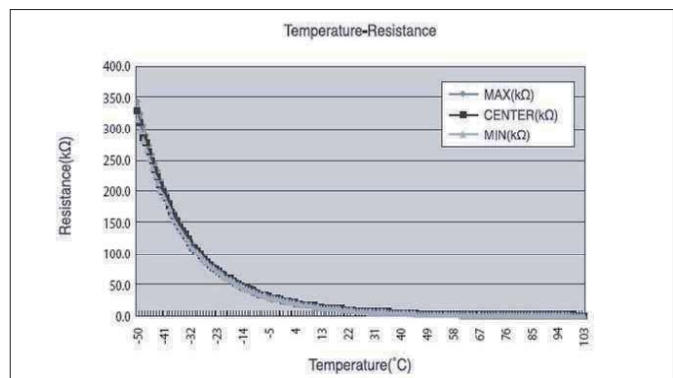
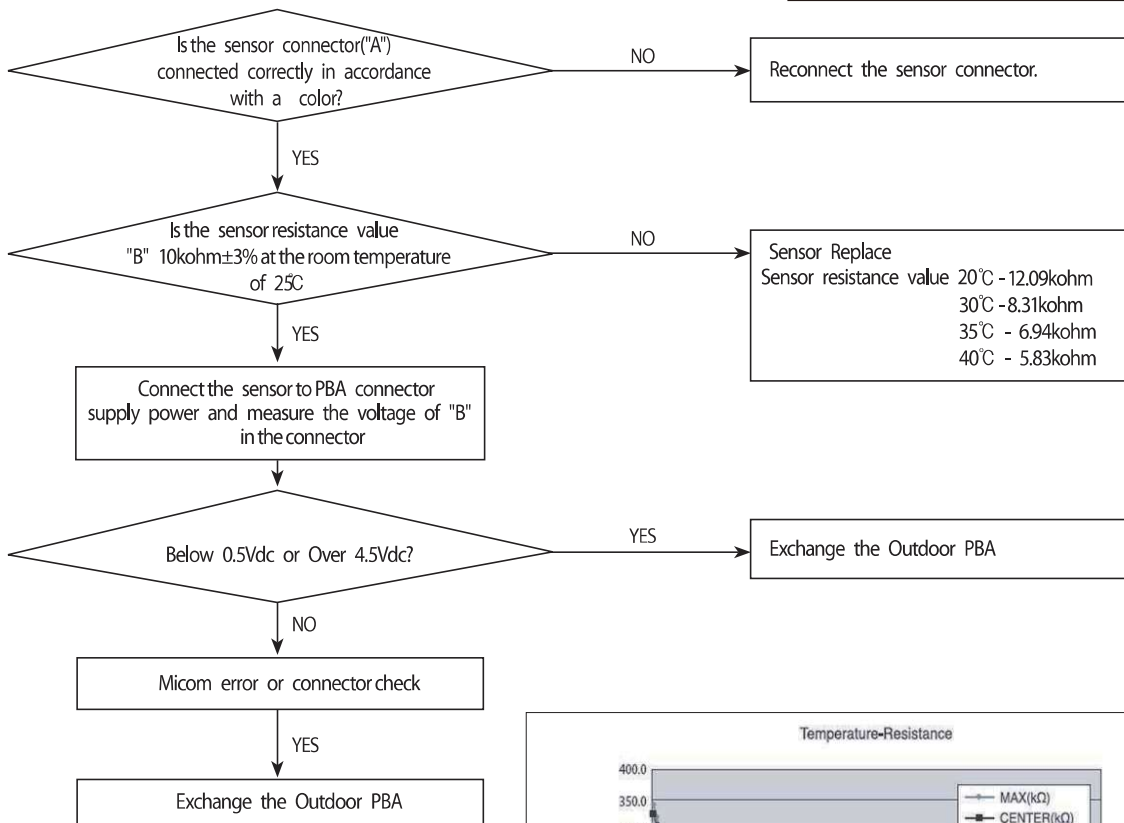
● LED ON    ⊙ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

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

#### 2. Troubleshooting procedure



## 10-2-6 Outdoor Discharge temperature sensor error

### Indoor display

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

### Outdoor display

⊙	⊙	○	Outdoor Discharge temperature sensor error
---	---	---	--

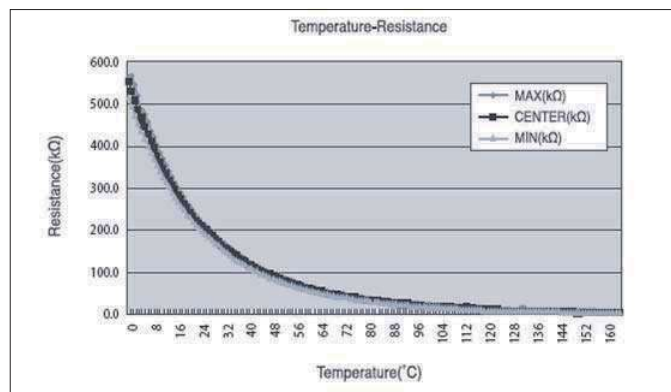
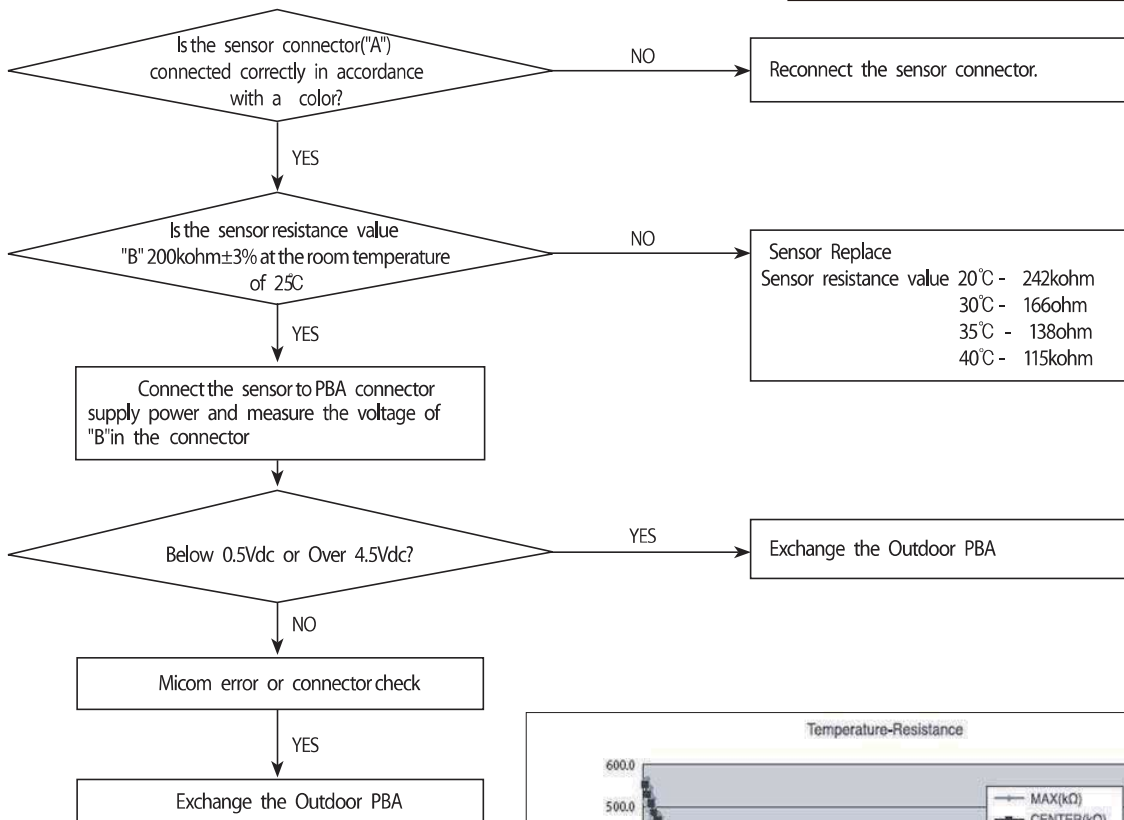
● LED ON    ⊙ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

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

#### 2. Troubleshooting procedure





## 10-2-7 Operation condition secession error

### Indoor display

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

### Outdoor display

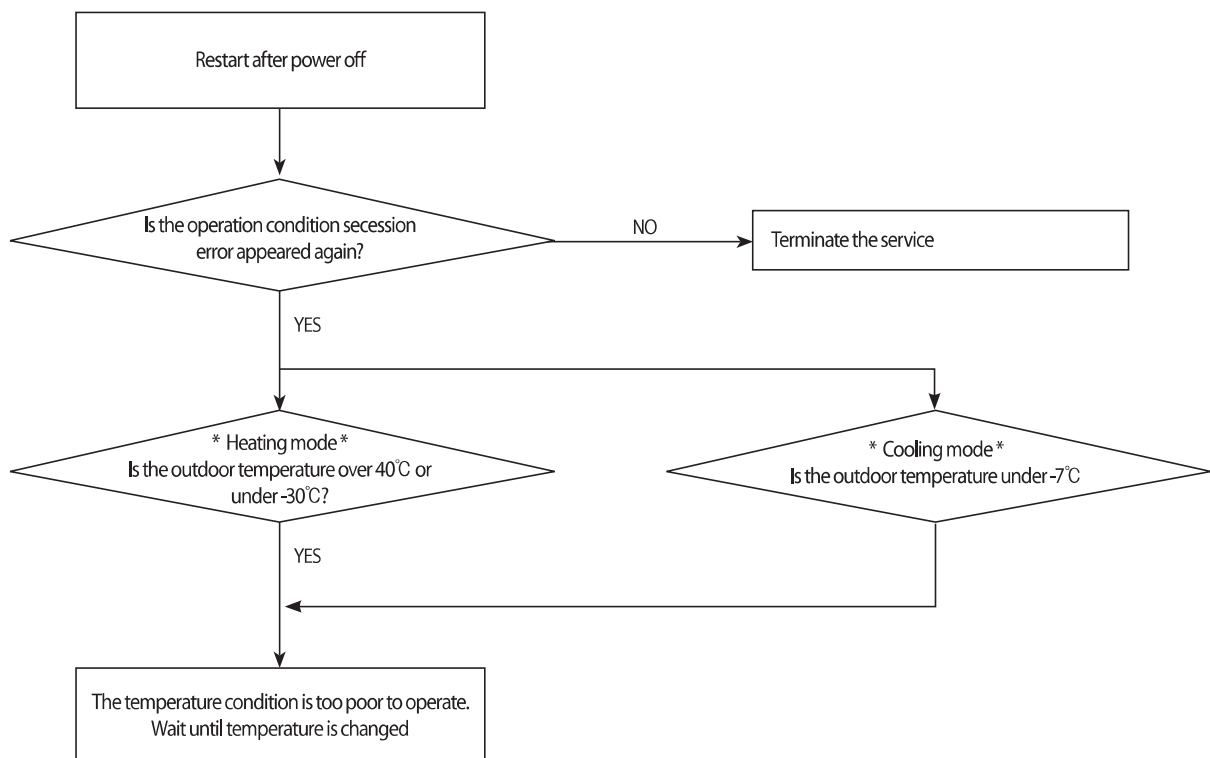
●	◎	○	Operation condition secession
---	---	---	-------------------------------

● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

- 1) Check the temperature around the outdoor unit.

#### 2. Troubleshooting procedure



## 10-2-8 EEPROM error / OTP error

### Indoor display

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

### Outdoor display

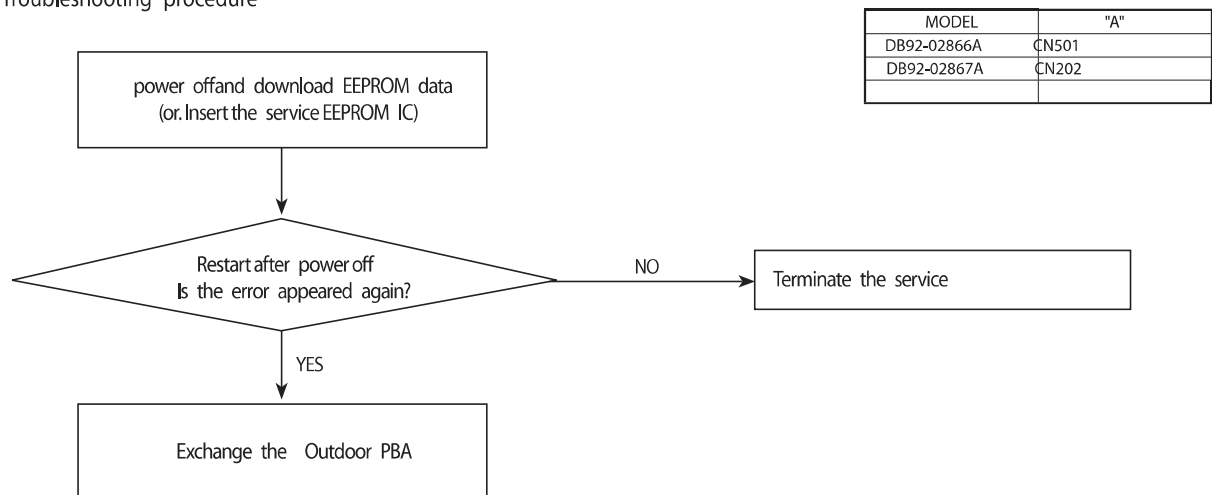
○	●	○	EEPROM Data Error (no data)
●	○	◎	OTP error EEPROM Data Error (Main Micom → Inv Micom)

● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

#### 2. Troubleshooting procedure



## 10-2-9 Outdoor Fan motor error

### Indoor display

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

### Outdoor display

●	○	○	Outdoor fan error
---	---	---	-------------------

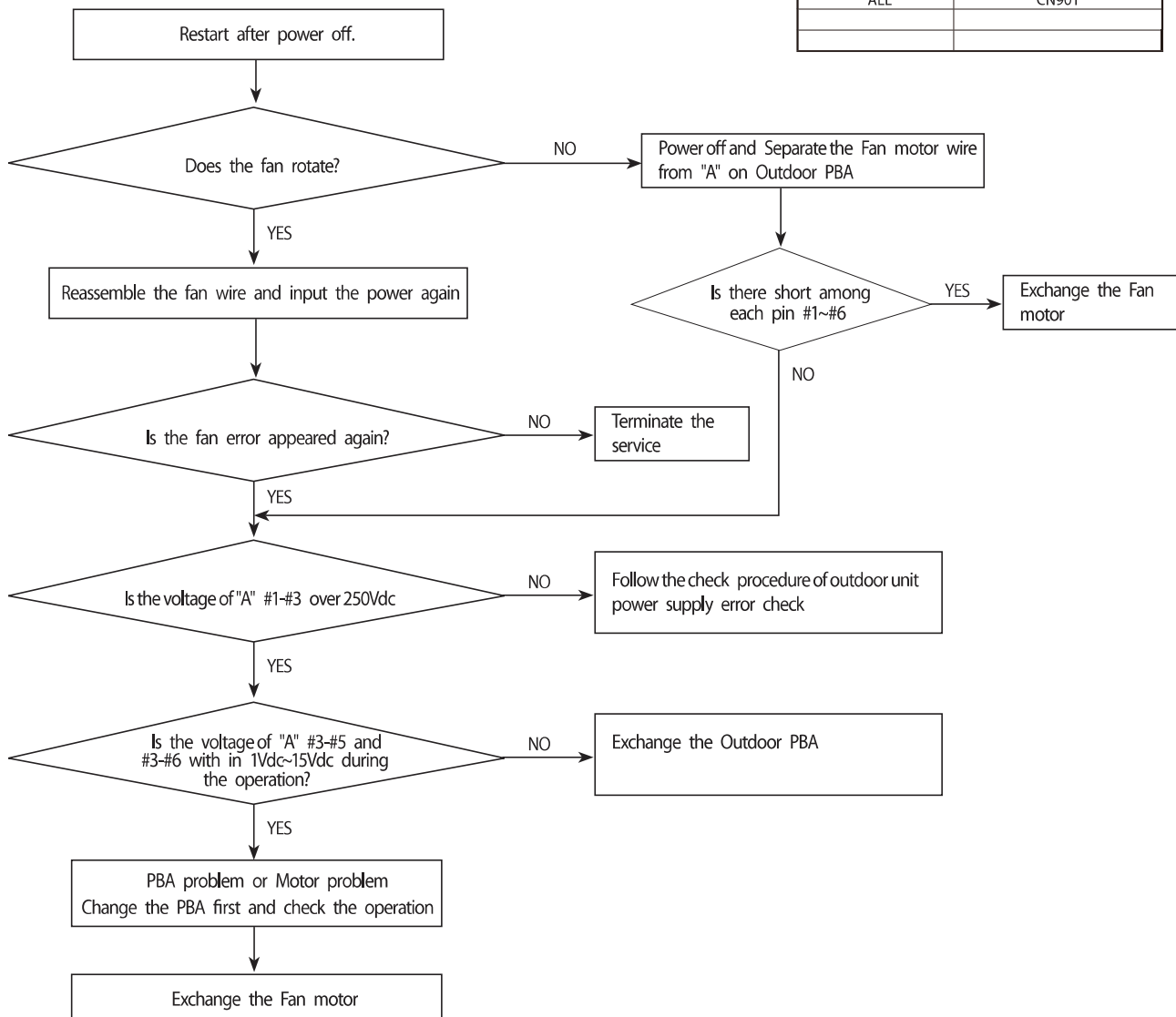
● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

#### 2. Troubleshooting procedure

MODEL	"A"
ALL	CN901



## 10-2-10 Compressor starting error

### Indoor display

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

### Outdoor display

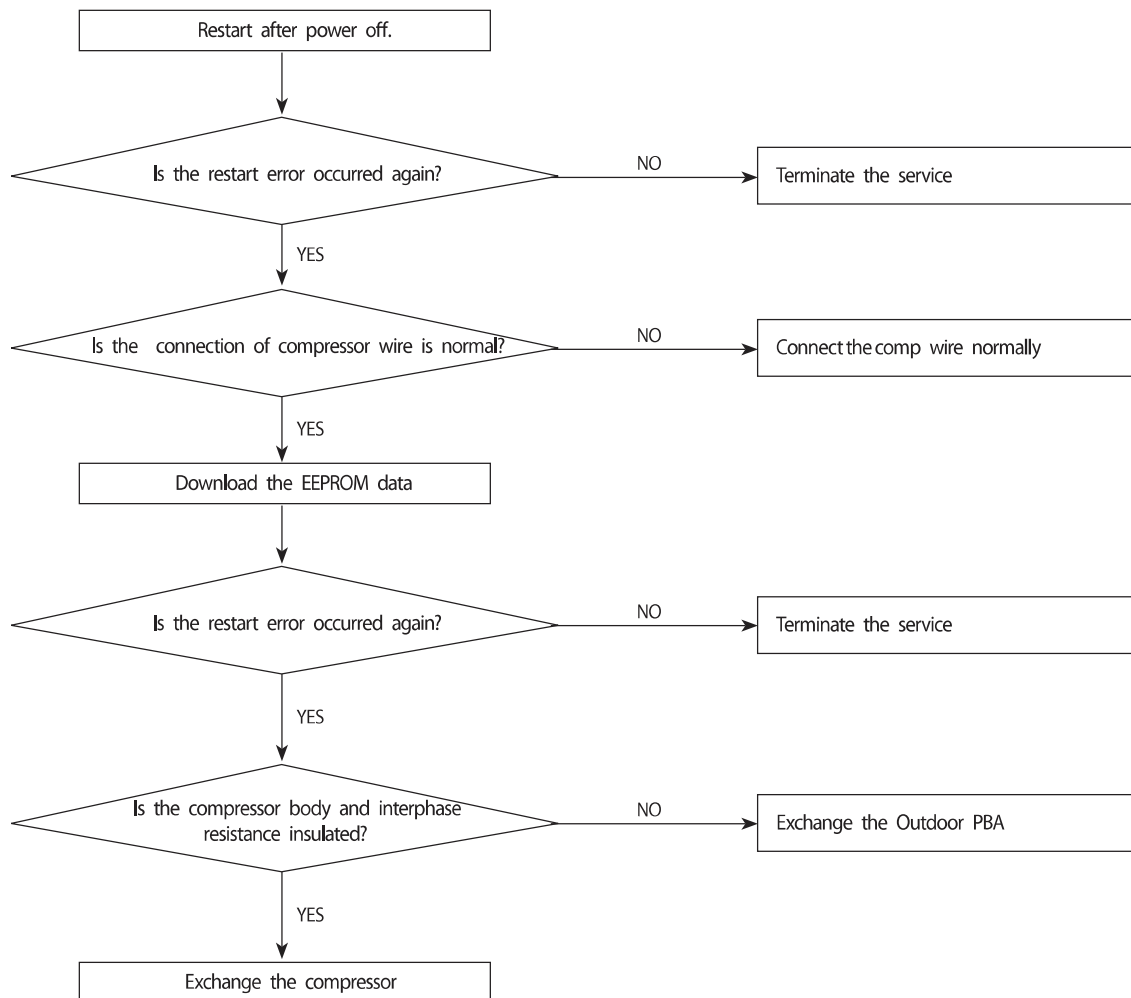
○	◎	○	Comp starting error
---	---	---	---------------------

● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

#### 2. Troubleshooting procedure



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

### Indoor display

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

### Outdoor display

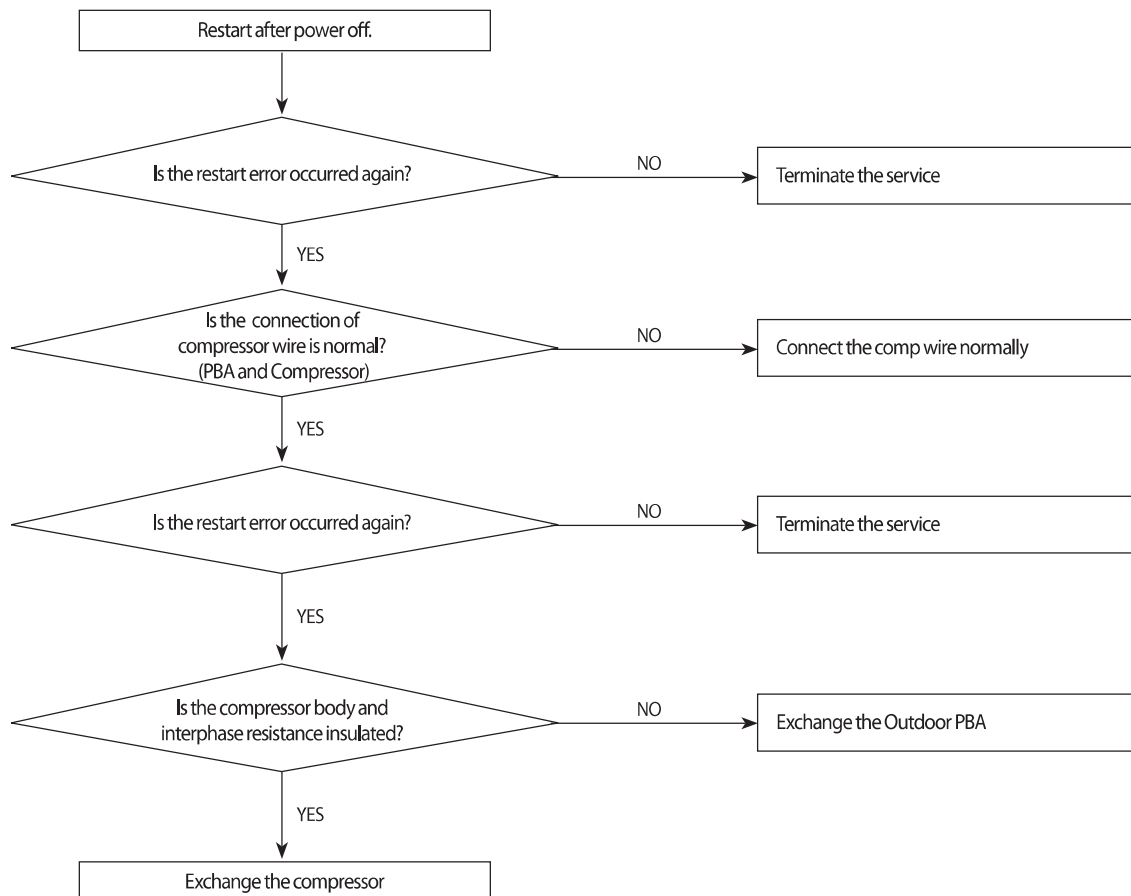
●	○	●	Compressor wire missing error/rotation error
---	---	---	--

● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

#### 2. Troubleshooting procedure



## 10-2-12 Current sensor error/Input current sensor error

### Indoor display

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

### Outdoor display

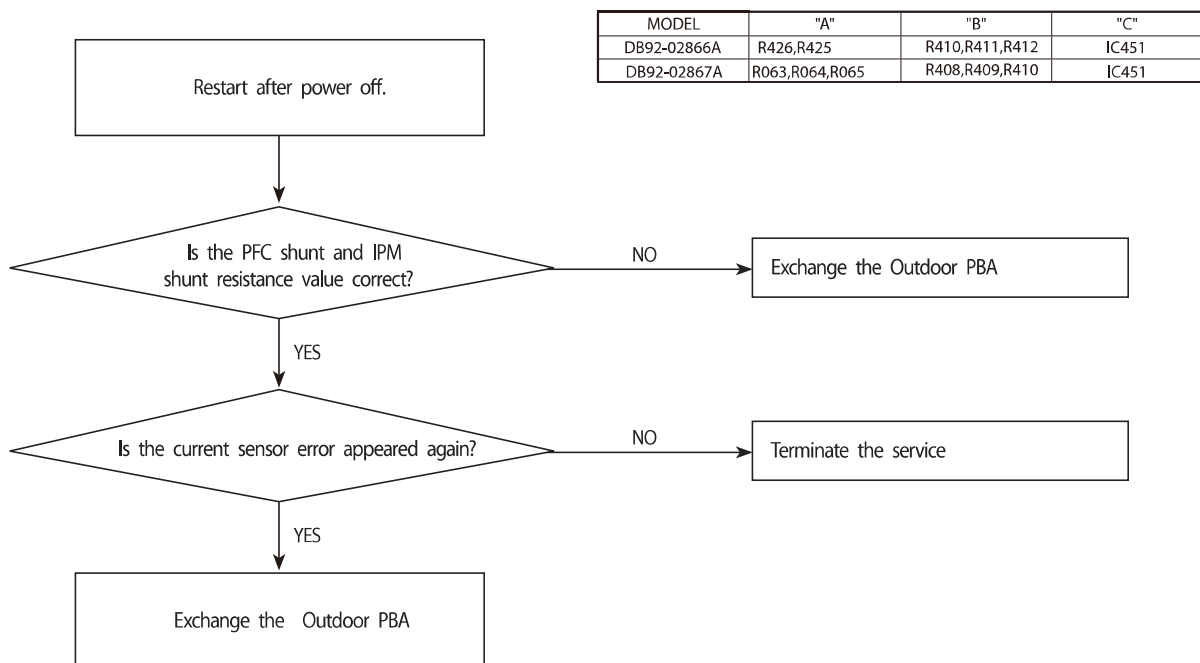
●	◎	○	Current sensor error
●	◎	●	Input current sensor error

● LED ON    ◎ LED BLINKING    ○ LED OFF

#### 1. Checklist :

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

#### 2. Troubleshooting procedure



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

### Indoor display

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

### Outdoor display

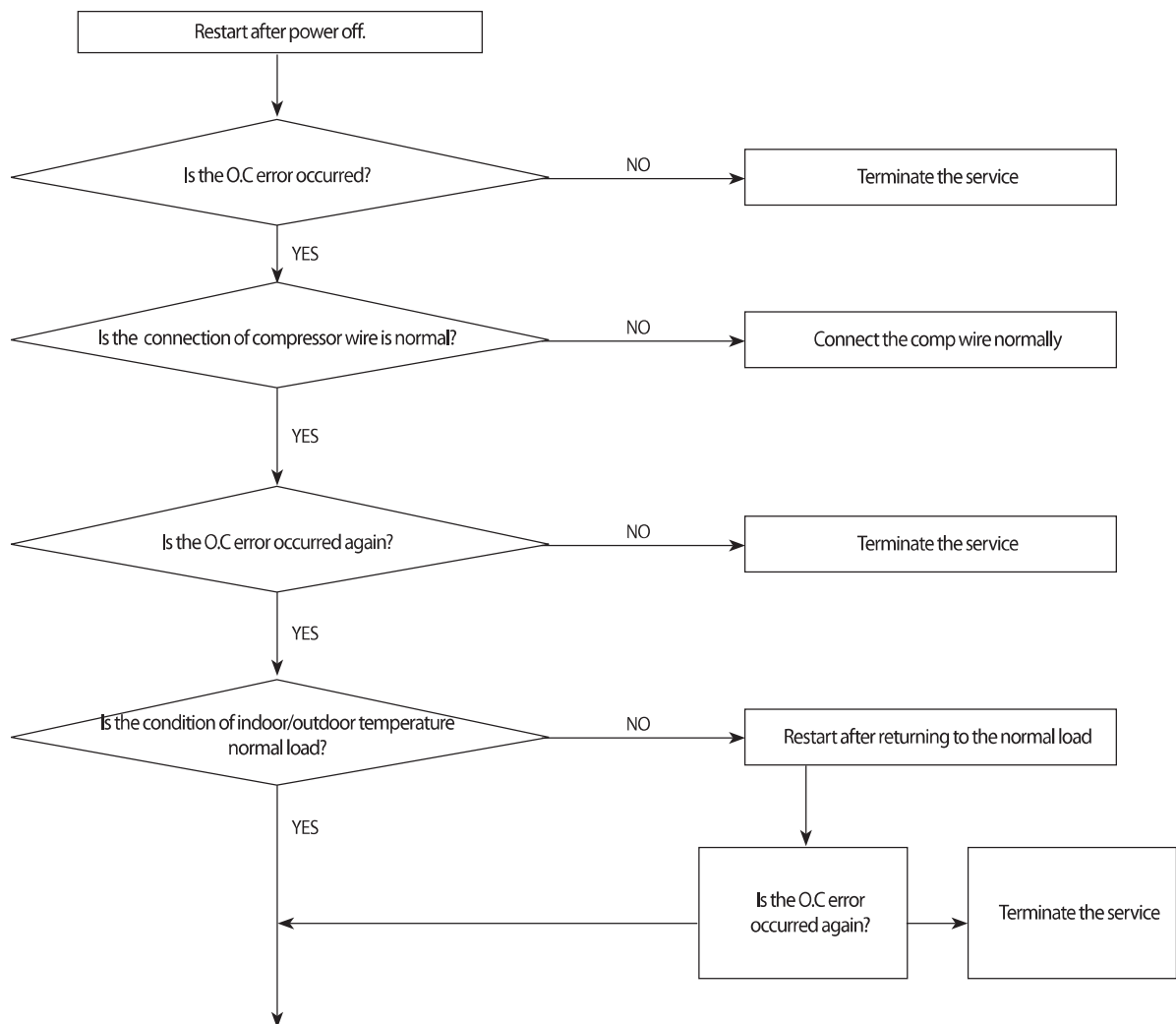
○	○	⊙	IPM Over Current(O.C) Error
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● LED ON    ⊙ LED BLINKING    ○ LED OFF

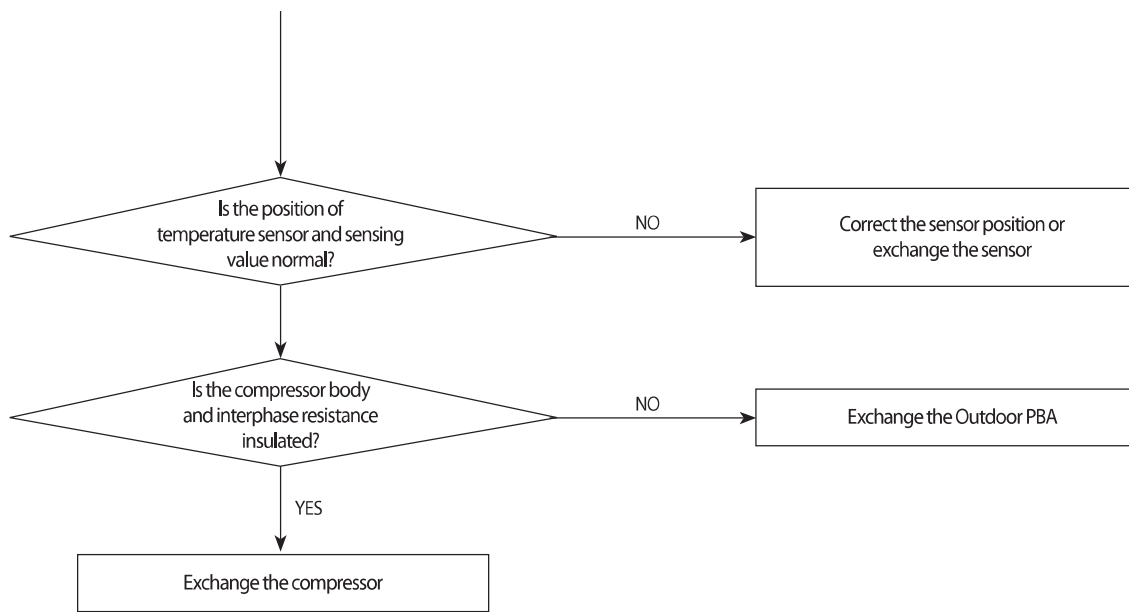
#### 1. Checklist :

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

#### 2. Troubleshooting procedure





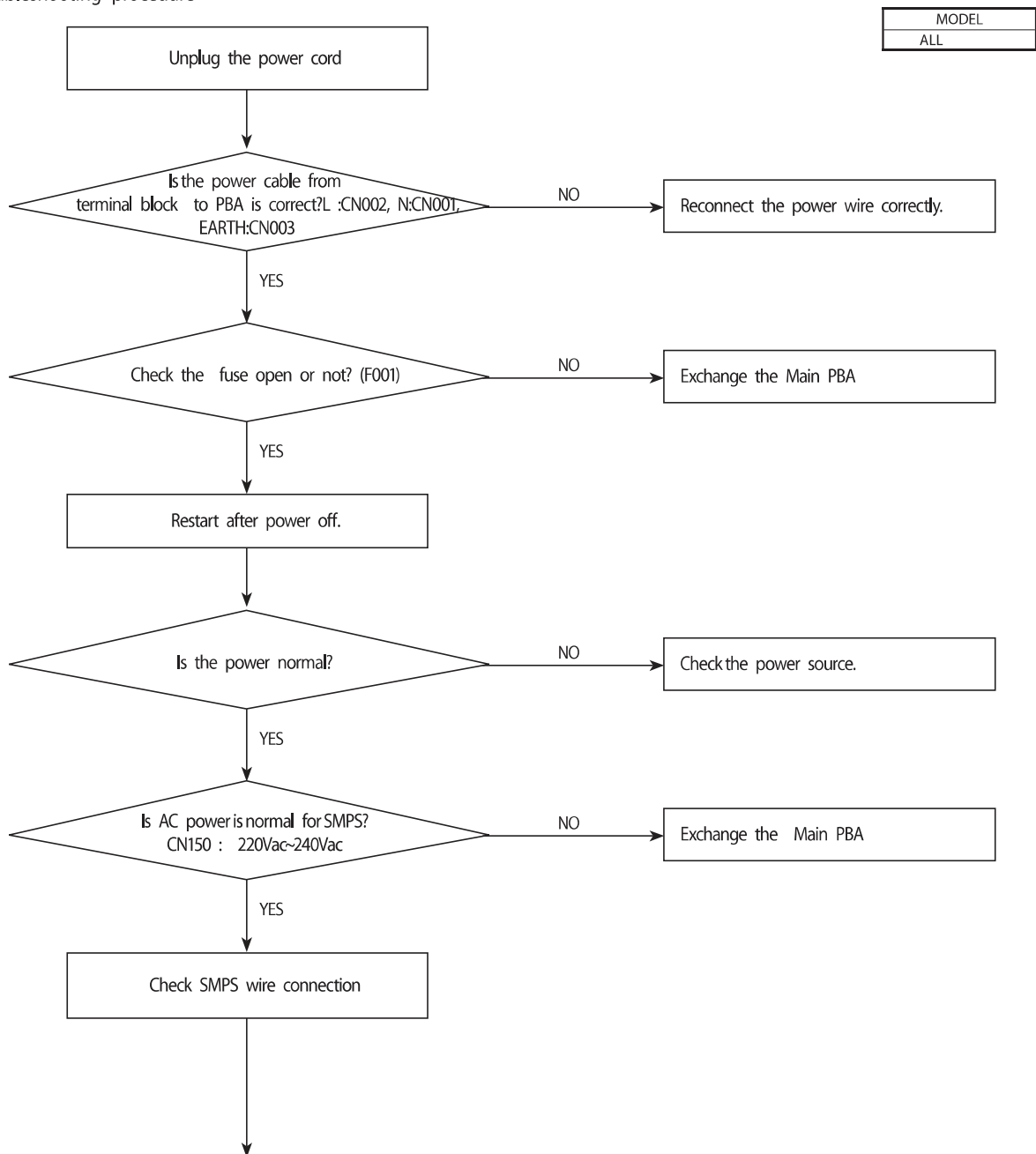


## 102-14 No power outdoor (Initial Diagnosis) (Not displayed)

### 1. Checklist :

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

### 2. Troubleshooting procedure

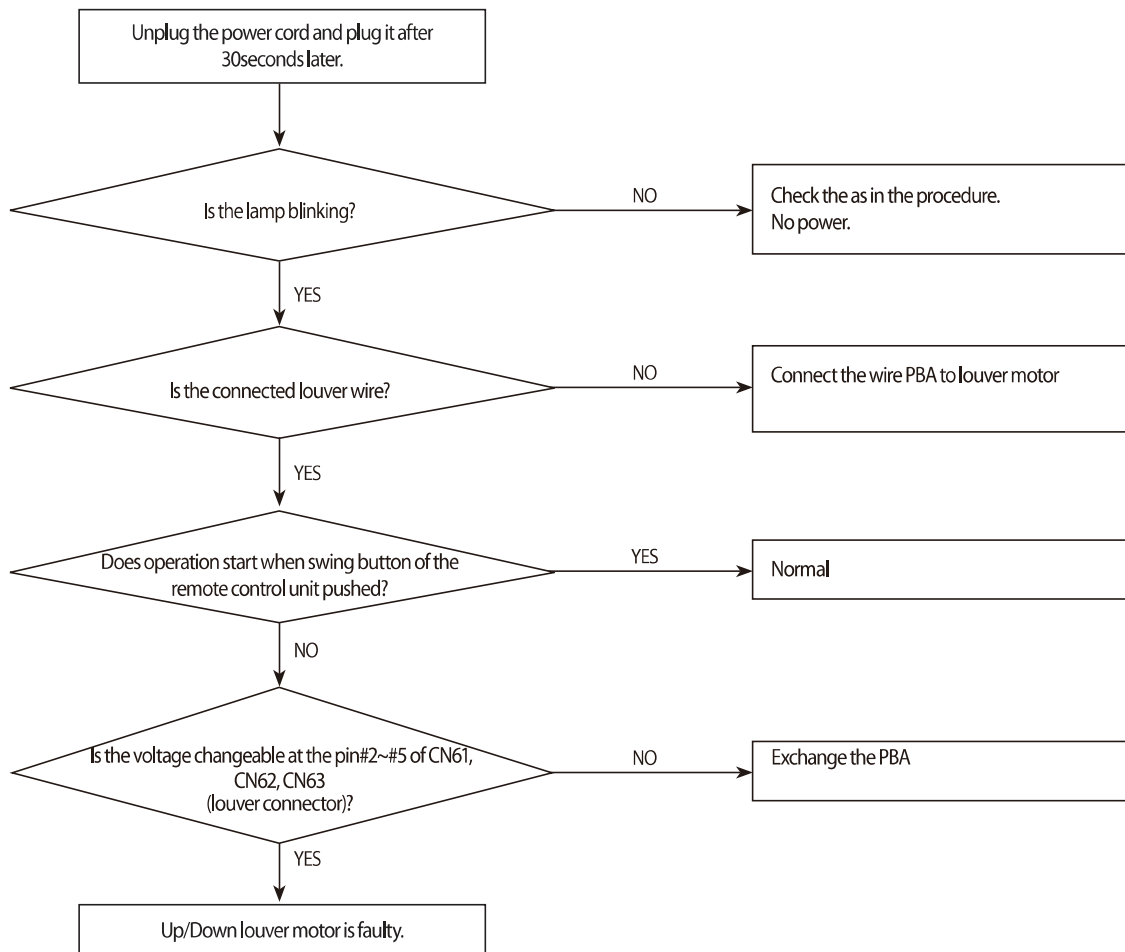


## 10-2-15 When the Up/Down, Left/Right, Grill louver motor does not operate (Initial Diagnosis) (Not displayed)

### 1. Checklist :

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

### 2. Troubleshooting procedure

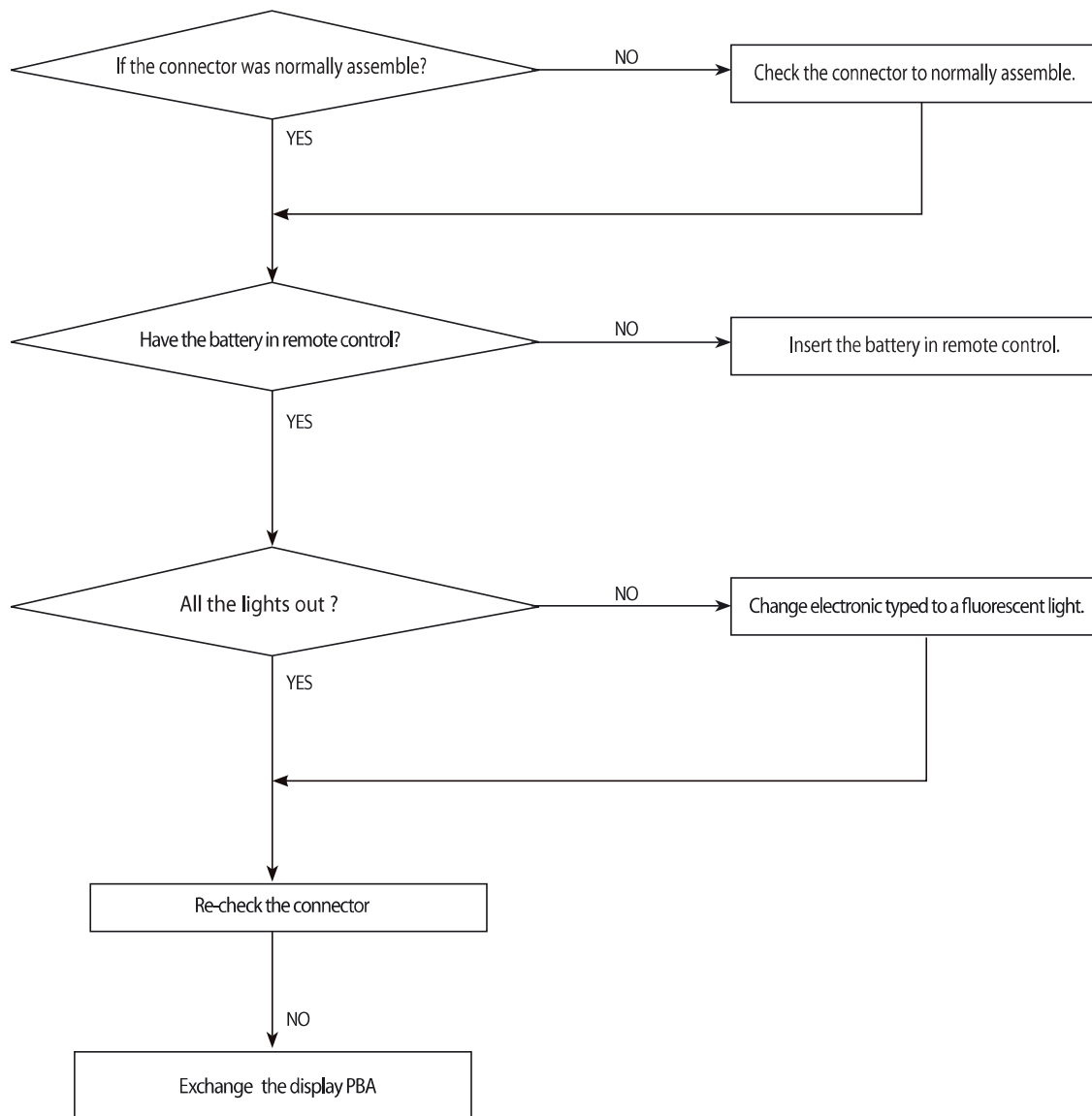


## 10-2-16 When the remote control is not receiving

### 1. Checklist :

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

### 2. Troubleshooting procedure



## 10-2-17 Smart Install error

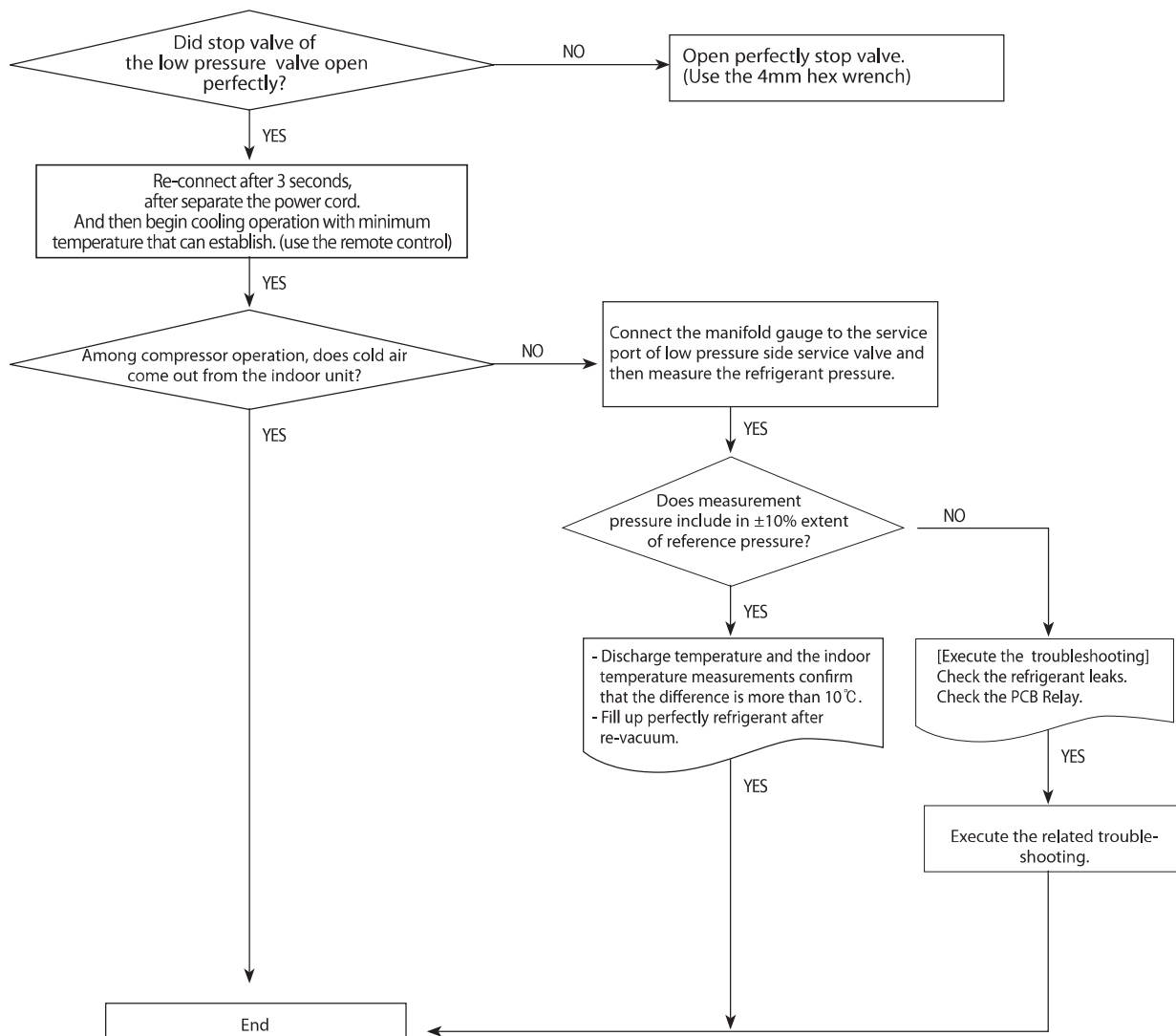
### 1. Checklist :

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

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

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

### 3. Troubleshooting procedure



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

Indoor display

3-LED DISPLAY			DESCRIPTION
LED1	LED2	LED3	No display about the outdoor condition
●	○	○	

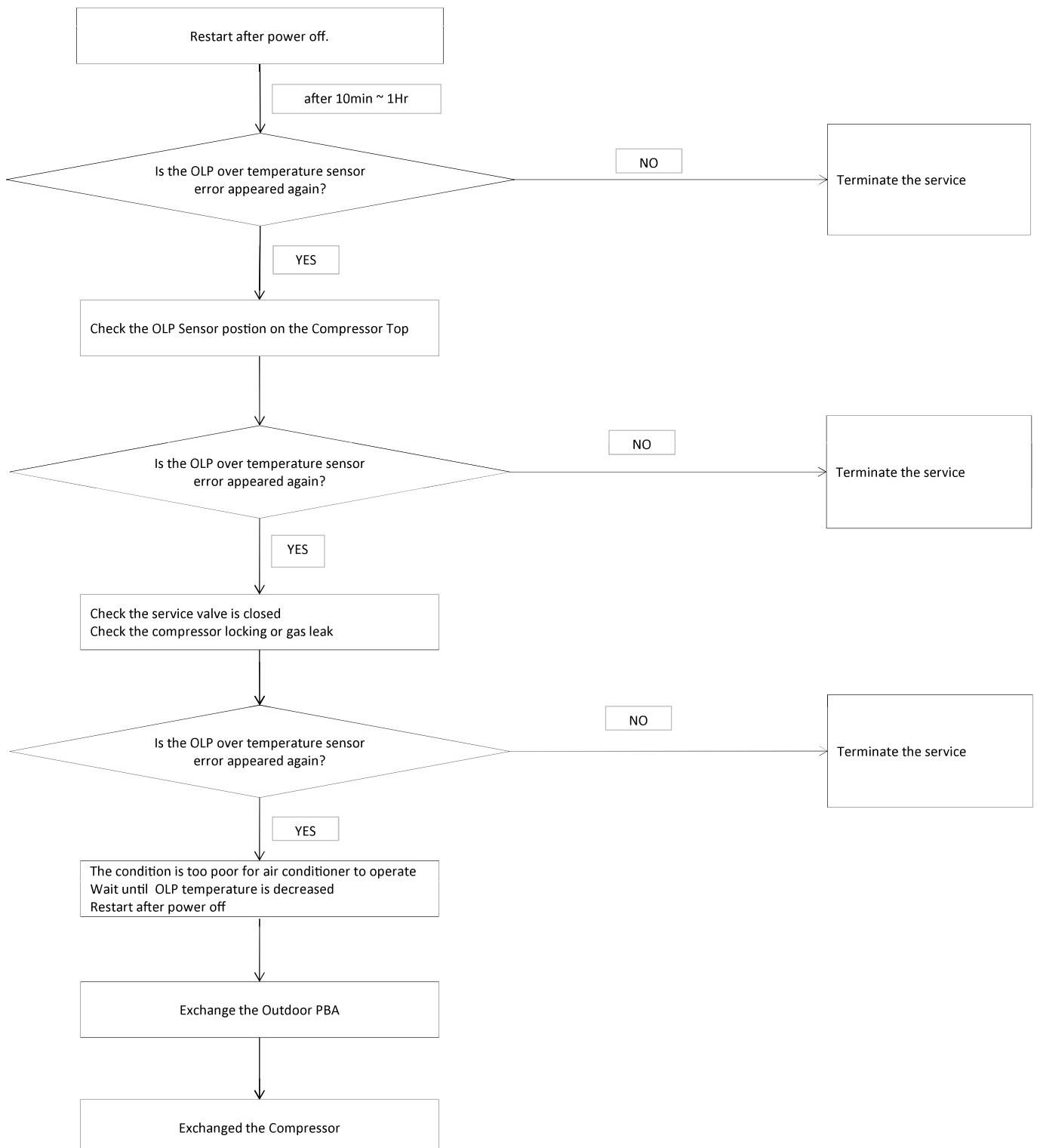
Outdoor display

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

1. Checklist :

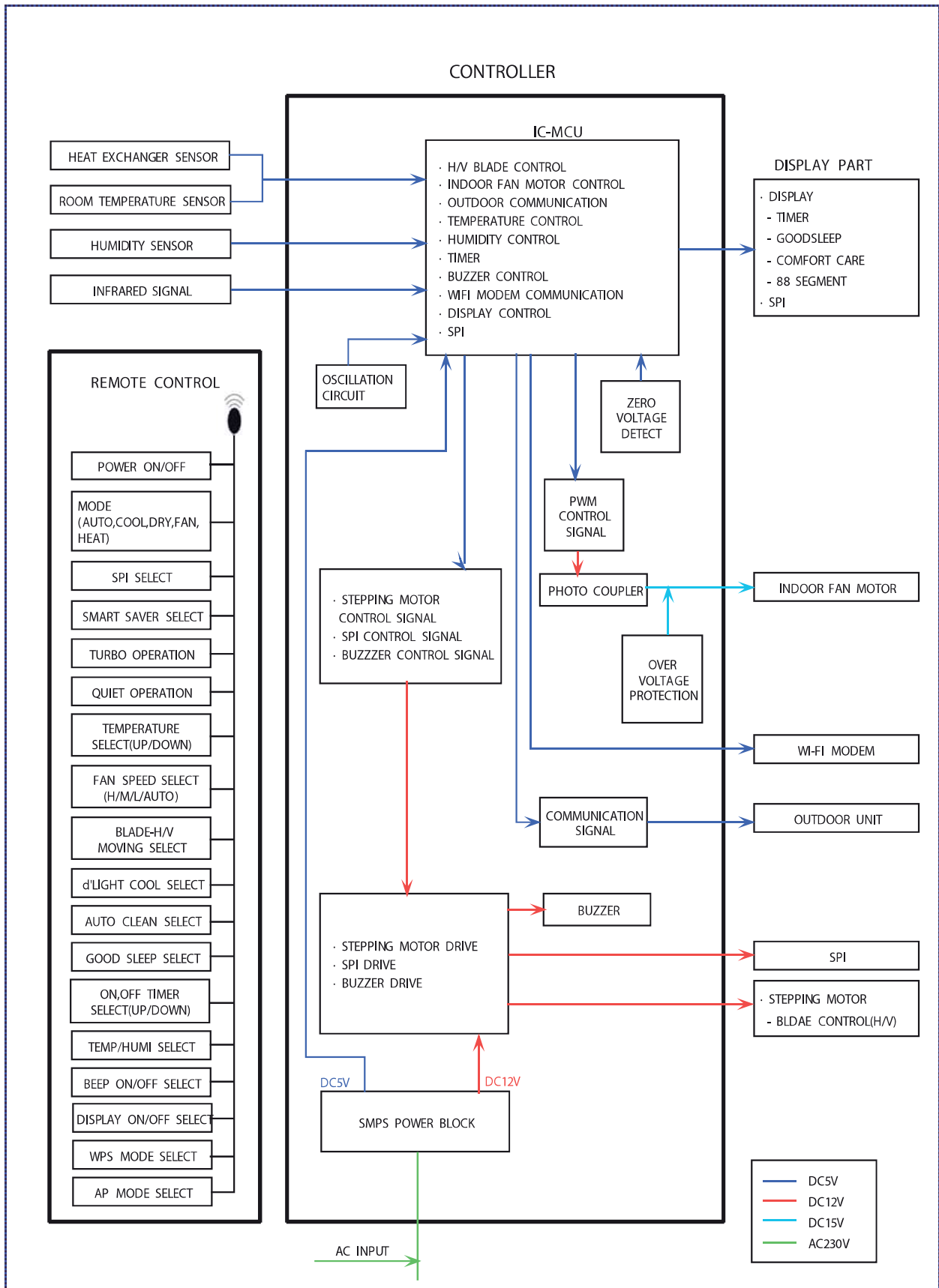
- 1) Is the sensor placed correctly?
- 2) Check the service valve is closed
- 3) Check the compressor locking or gas leak

2. Troubleshooting procedure

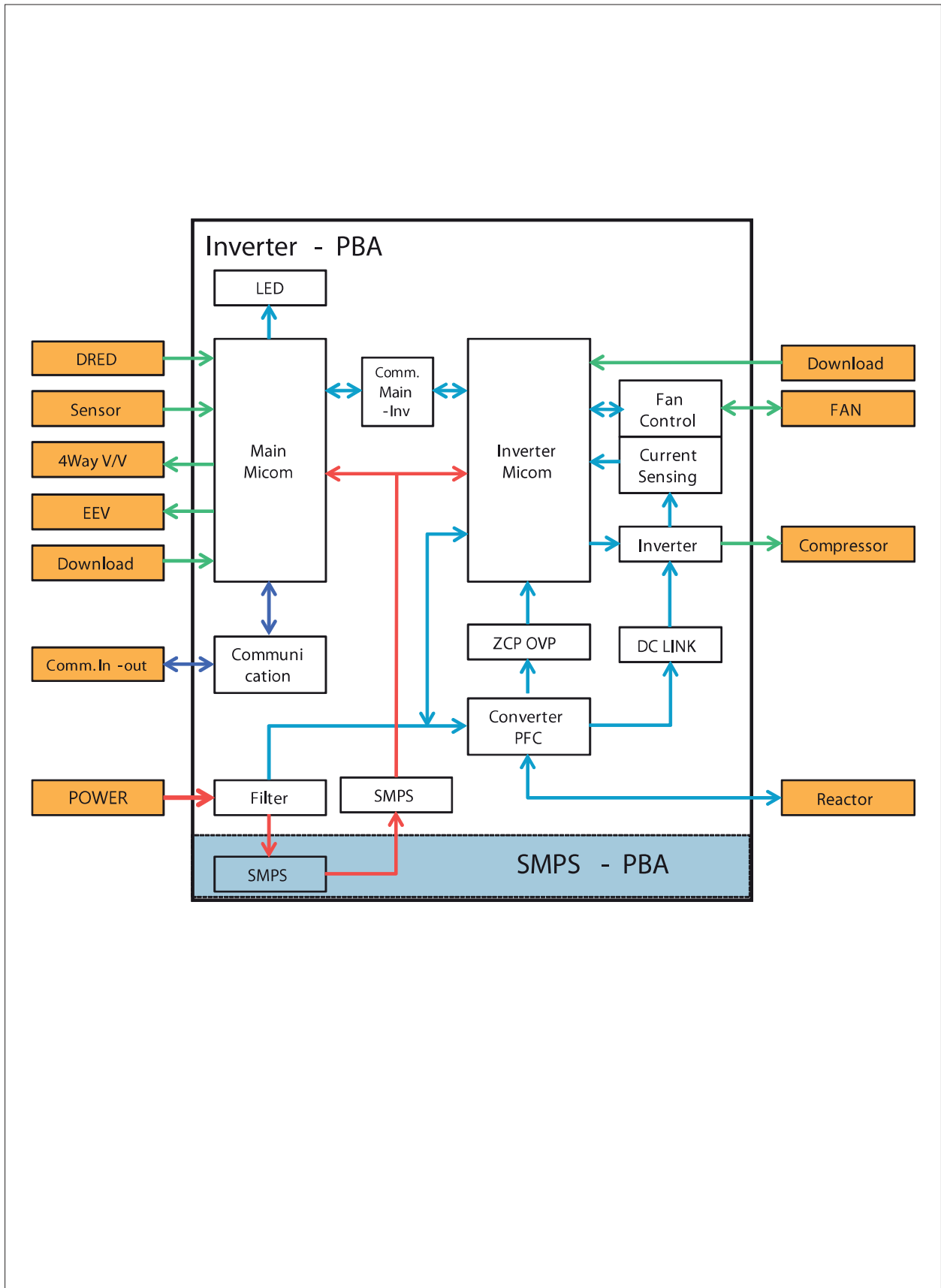


# 11. Block Diagram

## 11-1 Indoor unit



## 11-2 Outdoor unit





## 11-2-1 Pre-inspection Notices

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

## 11-2-2 Inspection procedure

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

## 11-2-3 Indoor detailed inspection procedure

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

## 11-2-4 Outdoor detailed inspection procedure

No	Procedure	Inspection Method	Cause
1	Plug out and pull the PCB out of the control box Check the PCB fuse (Wait 3 minutes after power off)	1) Is 1st fuse disconnected?	. Over current . AC part and pattern short of Outdoor PBA
2	Check the Wiring	1) Is the Compressor wire connected clockwise? 2) Is the Reactor wire connected normal? 3) Is the Fan wire connected normal? 4) Is the 4way wire connected normal? 5) Is the sensor wire connected normal? 6) Is the EEV wire connected normal?	. Wrong assembly . Installation(service) condition is bad
3	"Supply power and operate the set (Use Remote-control, button in indoor set)"	Check the power voltage	
		1) Is the voltage between Terminal block L-N 200Vac~240Vac?	. Power cord is faulty, Wrong Power cable Wiring
		2) Is the C006 voltage 200Vac~240Vac?	. Fuse open . L,N,F1,F2 wire wrong wiring (Terminal Block-PBA)
		2) Is the CN150 voltage 200Vac~240Vac?	. Power circuit is faulty . Load short
		4) Is the PFC050(#26-#27) voltage 200Vac~240Vac after 3 minutes later?	. Fuse open . L,N,F1,F2 wire wrong wiring (Terminal Block-PBA) . PTC020 open . RY021, RY022 is faulty . Outdoor Micom(IC201) error
		5) Is the CE101 voltage 280Vdc~320dc after 3 minutes later?	. PFC050 is faulty . Reactor wire is wrong connection . Power circuit is faulty, Load short . BLDC Fan motor error
		6) Is the voltage CN151 #1-#2 voltage 15Vdc?	. Switching Trans of Power circuit is faulty . Load short
		7) Is the voltage CN152 #1-#2 voltage 12Vdc?	. Switching Trans of Power circuit is faulty . Load short
		8) Is the voltage CN151 #3-#2 voltage 5Vdc?	. Switching Trans of Power circuit is faulty . Load short
4	Check the LED lamp display	1) Normal : RED on, GRN blink, YEL off 2) Abnormal - All off : check no power - abnormal display : check error mode	. F1,F2 wire wrong wiring . Outdoor PBA is faulty

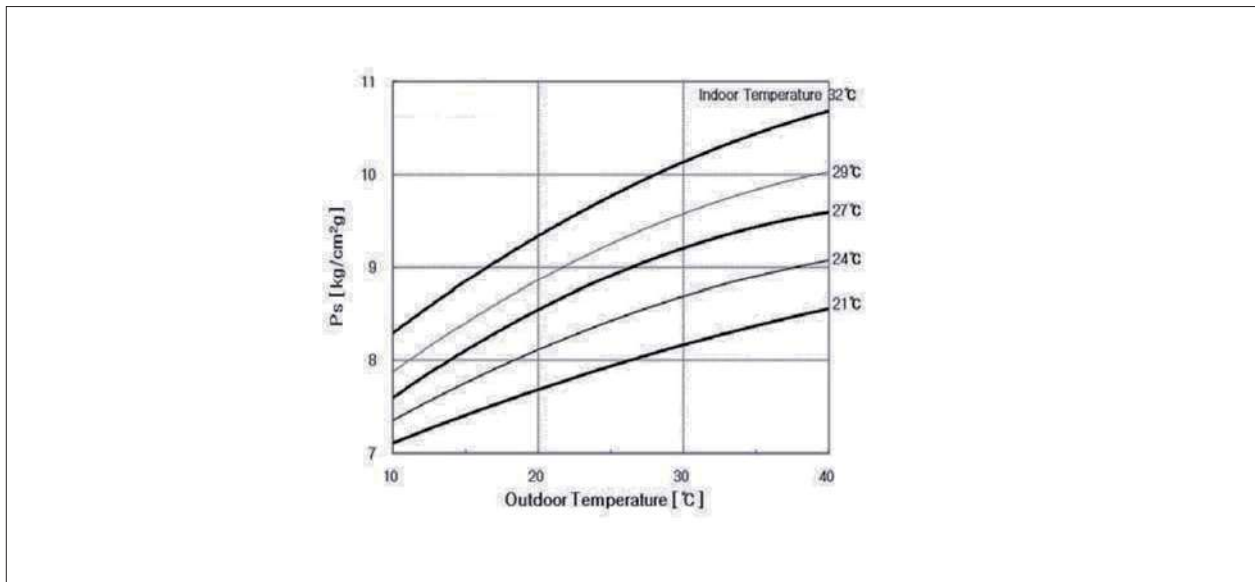
## 12. Reference Sheet

### 12-1 Low Refrigerant Pressure Distribution

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

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

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



### 12-2 Pressure & Capacity mark

■ Power/Heat

W	cal/s	kcal/h	Btu/h	HP	kg.m/s	lb.m/s
1	0.23885	0.85985	3.4121	0.001341	0.10197	0.73756
4.1868	1	3.6	14.286	0.0056146	0.42693	3.088
1.163	0.27778	1	3.9683	0.0015596	0.11859	0.85778
0.29307	0.06999	0.252	1	3.9302×10 <sup>-4</sup>	0.029885	0.21616
745.7	178.11	641.19	2,544.4	1	76.04	550
9.8067	2.3423	8.4322	33.462	0.013151	1	7.233
1.3558	0.32383	1.0658	4.6262	0.0018182	0.13826	1

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

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

Classification	Class	Description
Smells	Q	<b>Whenever the air conditioner is turned on, it stinks.</b>
	A	When are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. these kinds of organic materials noxious to human bodies. So, we recommend against the use of them.
	Q	<b>Whenever the air conditioner is turned on, it smells sour.</b>
	A	When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out problem or refresh the room frequently.
	Q	<b>Whenever the air conditioner is turned on, it smells musty.</b>
	A	It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of ventilation to prevent must. When the product is kept without drying up the inside with ventilation, mold would grow inside resulting in must. So, open the windows and switch on the ventilation function to get rid of the saturated smell inside.
	Q	<b>Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.</b>
	A	It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.
	Q	<b>It sends out bad smells.</b>
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.
	Q	<b>The remote controller won't operate.</b>
	A	When the batteries run out or the transmitter or receiver of the remote controller is blocked by obstacles, change the batteries or keep the obstacles away from the controlling area. Also, the remote controller may not work under intensive light from a 3-wave length lamp or a neon sign due to the EMI. In this case, take the remote controller closer to the receiver.

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

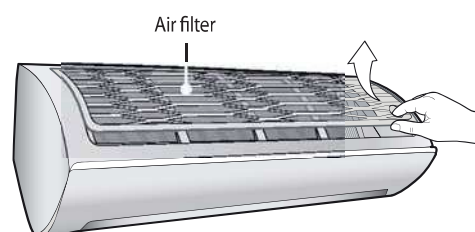
## 12-4 Cleaning /Filter Change

### 12-4-1 Cleaning your Air Conditioner

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

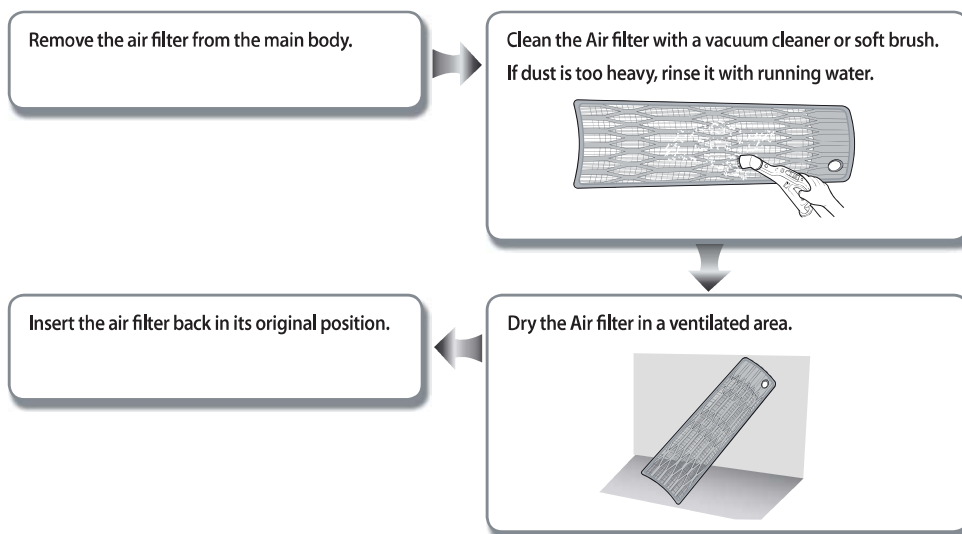
#### Removing the Air filter

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



#### Cleaning the air filter

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



- Clean the Air filter every 2 weeks. Cleaning term may differ depending on the usage and environmental conditions. In dusty area, clean it once a week.
- If the Air filter dries in a confined (or humid) area, odors may generate. If it occurs, re-clean and dry it in a well-ventilated area.
- When the filter clean reminder is on, please press the 2nd F button and then press the ECO Run button on remote controller.

## 12-5 Installation

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### 12-5-1 Before Installation

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

### 12-5-2 Installation Procedure

#### ■ Location

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

#### ■ Wall Drilling

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

#### ■ Fixing Indoor Unit & Outdoor Unit

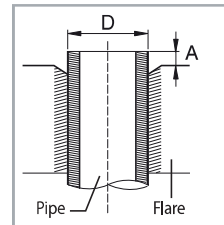
Fix the air conditioner indoor unit securely to the wall. Secure the outdoor unit in a suitable position.

#### ■ Pipe Spooling & Connectingt

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

#### <Torque & Depth>

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



#### ■ Leak Test

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

#### ■ Drain Hose Connecting

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

#### ■ Electric & Earth Work

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

#### ■ Inspection & Trial Run

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



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

### 12-6-1 Air-Purge Procedure

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



2) Connect the charging hose of low pressure side of manifold gauge to the packed valve having a service port (3/8" Packed valve) as shown at the figure.



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



4) Purge the air from the system using vacuum pump for about 30 minutes.  
 - After that, please recheck that pressure is stabilized.  
 - Close the valve of the low pressure side of manifold gauge clockwise.  
 - Remove the hose of the low pressure side of manifold gauge.



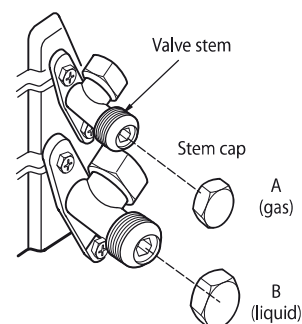
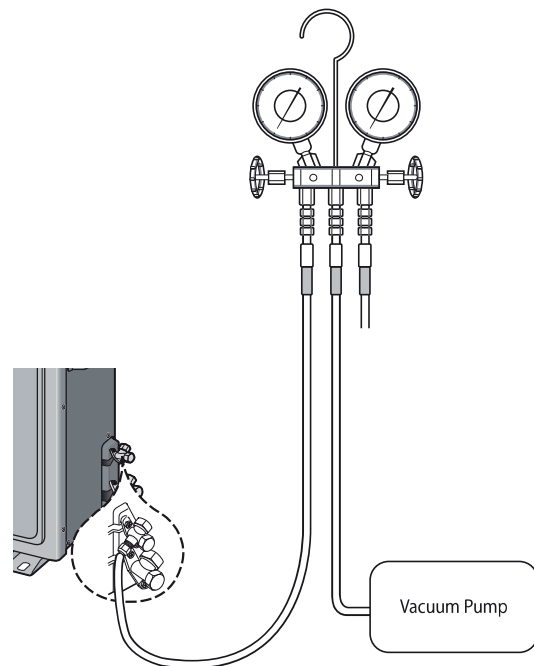
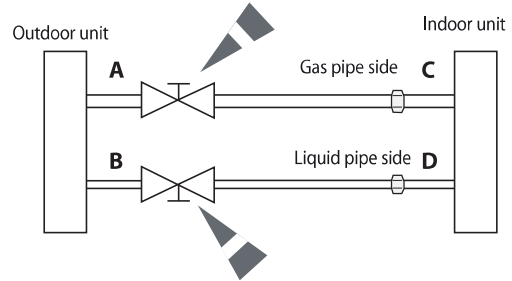
5) Set valve cork of both liquid side and gas side of packed valve to the open position.



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



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



## 12-6-2 "Pump down" Procedure

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

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



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



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



4) Turn the 3 way valve clockwise to close.



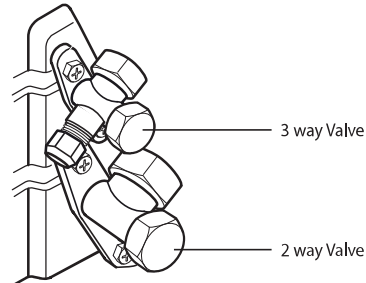
5) When the pressure gauge indicates "0" turn the 3 way valve clockwise to close.



6) Stop operation of the air conditioner.



7) Close the cap of each valve.



### Remarks

#### Relocation of the air conditioner

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

## 12-7. Reference Sheet

### Index for Model Name

Model Code

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th
Project		Capacity		Sell	Feature		Series		Color		Unit	Export	
A	R	0	9	M	S	P	X	B	W	K	N/X	E	U

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

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

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

Item	6TH
INVERTER H/P	S
INVERTER C/O	V

Item1	Item2	7TH
Export	The virus doctor (The India / Latin America A / PAC K besides)	S
Export	NO virus doctor (the India / Latin America A / PAC K besides)	F

**Special instructions:**  
About AR\*\*FSSSCUR/SA ,the 7TH is "S", but there is no virus doctor in these models.

9TH DIGIT		
Export	1st MODEL	A
Export	2nd	B
Export	3rd MODEL	C
Export	4th MODEL	D
Export	12thMODEL	L

Item 1	Item 2	Item 3	Item 4	8TH
Export	RAC	FMC FLG (Best)	1ST MODEL	F
Export	RAC	FMC DLX (Better)	1ST MODEL	D
Export	RAC	FMC STD (Good1)	1ST MODEL	S
Export	RAC	FMC ENT (Good2)	1ST MODEL	N

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

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

Item	The existing code	The sales area	CIS Description	The integrated code (13TH,14TH)
1	EU	UNITED KINGDOM	XEU	EU

# SAMSUNG

## ELECTRONICS

### GSPN (GLOBAL SERVICE PARTNER NETWORK)

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

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