SAMSUNG

SPLIT-TYPE AIR CONDITIONER

	INDOOR UNIT	OUTDOOR UNIT
MODEL CODE	AR12TVEAAWKNAP	AR12TVEAAWKXAP
	AR18TVEAAWKNAP	AR18TVEAAWKXAP
	AR24TVEAAWKNAP	AR24TVEAAWKXAP
	AR12TVFCAWKNAP	AR12TVFCAWKXAP
	AR18TVFCBWKNAP	AR18TVFCBWKXAP
	AR24TVFCAWKNAP	AR24TVFCAWKXAP

SERVICE Manual

AIR CONDITIONER

AR12TVFCAWKNAP
AR18TVFCBWKNAP
AR24TVFCAWKNAP

AR12TVEAAWKNAP
AR18TVEAAWKNAP
AR24TVEAAWKNAP

AR12TVEAAWKXAP
AR12TVFCAWKXAP

AR18TVEAAWKXAP
AR24TVEAAWKXAP
AR18TVFCBWKXAP
AR24TVFCAWKXAP

CONTENTS

Contents

Contents

1. Precautions

1-1 Installing the air conditioner

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

1-2 Power supply and circuit breaker

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

1-3 During operation

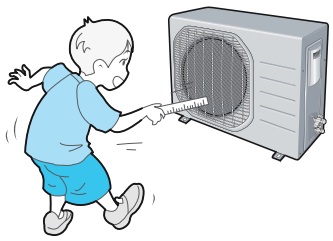
- Do not repair the air conditioner at your discretion. It is recommended to contact a service center directly.
- Never spill any kind of liquid on the air conditioner. If this happens, turn off the air conditioner and contact an authorized service center.
- Do not insert anything between the airflow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

1-4 Disposing of the unit

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

1-5 Others

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



2. Product Specications

2-1 The Feature of Product

- **Fast cooling**

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

- **Wind-Free Cooling**

  Use the Wind-Free Cooling function to enjoy a mild breeze coming through fine holes in the Wind-Free panel instead of air coming directly through the air flow blades.

- **Motion detection**

  Use the motion detection function to make the air conditioner detect people and blow air directly or indirectly. With no detection, energysaving mode is operated..

- **Eco**

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

- **Easy Filter**

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

- **good'sleep function**

  good'sleep function will allow you to have deep, good night'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!

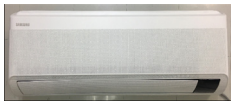
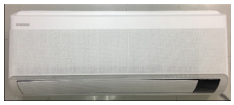
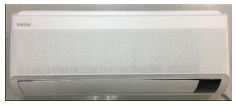
2-2 Product specification

Model			AR12TVEAAWK/AP	AR18TVEAAWK/AP	AR24TVEAAWK/AP
Rating	Mode	Unit	Wall-mounted	Wall-mounted	Wall-mounted
Capacity	T1 Cool	W	11500	18000	22000
	T3 Cool	W	-	-	-
	Heat	W	-	-	-
Power Input	T1 Cool	W	1020	1460	1944
	T3 Cool	W	-	-	-
	Heat	W	-	-	-
Current	T1 Cool	A	4.8	6.8	9
	T3 Cool	A	-	-	-
	Heat	-	-	-	-
Efficiency	EER	W/W	(3.3)	12.33 (3.61)	11.32 (3.32)
			-	-	-
	COP	W/W	-	-	-
Dehumidifying		l/hr.		2	
Platform	IDU	-	QF1	QF3	QF3
	ODU	-	N-WW	Q-480	Q-480
Evap	Main	-	Φ7, 2R*9(10)S*591mm, H1.3, N.G.S, 1by2	Φ7, 2R*10S*825.5mm, H1.3, N.G.S, 4by4	Φ7, 2R*10S*825.5mm, H1.3, N.G.S, 4by4
	Sub	-	Φ7, 2R*5(6)S*591mm, H1.3, N.G.S : (Q-1-5)	Φ7, 2R*5(6)S*825.5mm, H1.3, N.G.S : (Q-3-3)	Φ7, 2R*5(6)S*826mm, H1.3, N.G.S : (Q-3-4)
Cond	Main	-	Φ7, 2R*24S*706mm, Louver1.4, N.G.S, 3by3by1	Φ7, 2R*28S*915mm, Louver1.4, N.G.S, 4by4by1	Φ7, 2R*28S*915mm, Louver1.4, N.G.S, 4by4by1
	Sub	-	-	-	-
Comp	Model	-	UB1AR1090FE6	UG9TK3150FE4	UG9TK3150FE4
	OLP	-	-	-	-
Motor In	Code	-	DB31-00694A	DB31-00636A	DB31-00636A
	Name	-	-	-	-
Motor Out	Code	-	DB31-00693A	DB31-00642C	DB31-00658D
	Name	-	-	-	-
Expansion	Φ * L	-	EEV Φ1.4	EEV Φ1.65	EEV Φ1.65
Refrigerant	type	-	R410A	R410A	R410A
	charge	g	1000 g	1400 g	1500 g
SVC Valve	Liquid / Gas	-	6.35/9.52	6.35/12.7	6.35/15.88
Tube	Dis. / Suc.	-	7.94/9.52	9.52/12.7	9.52/12.7
Drain hose	D * L	mm	20*550	20*550	20*550
4-WAY V/V		-	-	-	-
Power Supply		V/Hz/Φ	220/(50/60)/1	220/(50/60)/1	220/(50/60)/1
Climate Class		-	T1	T1	T1
Noise	IDU UT,T	dB	43	47	51
	ODU	dB	53	57	60
Net Size (W*H*D)	IDU	mm	820*299*215	1055*299*215	1055*299*215
	ODU		720*548*265	880*638*310	880*638*310
Weight	IDU	kg	9.1	11.5	11.7
	ODU		25.1	38.1	41.2
Operation range	Cooling	IDU	16°C ~ 32°C	16°C ~ 32°C	16°C ~ 32°C
		ODU	16°C ~ 46°C	16°C ~ 46°C	16°C ~ 46°C
	Heating	IDU	-	-	-
		ODU	-	-	-

2-2 Product specification

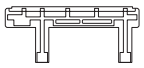
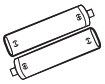
Model			AR12TVFCAWK/AP	AR18TVFCBWK/AP	AR24TVFCAWK/AP
Rating	Mode	Unit	Wall-mounted	Wall-mounted	Wall-mounted
Capacity	T1 Cool	W	11500	18000	21000
	T3 Cool	W	-	-	-
	Heat	W	-	-	-
Power Input	T1 Cool	W	1020	1460	1900
	T3 Cool	W	-	-	-
	Heat	W	-	-	-
Current	T1 Cool	A	4.8	6.8	8.7
	T3 Cool	A	-	-	-
	Heat	-	-	-	-
Efficiency	EER	W/W	(3.3)	12.33 (3.61)	11.05 (3.24)
			-	-	-
	COP	W/W	-	-	-
Dehumidifying		l/hr.		2	2.5
Platform	IDU	-	QF1	QF3	QF3
	ODU	-	N-WW	Q-480	Q-480
Evap	Main	-	Φ7, 2R*9(10)S*591mm, H1.3, N.G.S, 1by2	Φ7, 2R*10S*825.5mm, H1.3, N.G.S, 4by4	Φ7, 2R*10S*825.5mm, H1.3, N.G.S, 4by4
	Sub	-	Φ7, 2R*5(6)S*591mm, H1.3, N.G.S : (Q-1-5)	Φ7, 2R*5(6)S*826mm, H1.3, N.G.S : (Q-3-3)	Φ7, 2R*5(6)S*825.5mm, H1.3, N.G.S : (Q-3-3)
Cond	Main	-	Φ7, 2R*24S*706mm, Louver1.4, N.G.S, 3by3by1	Φ7, 2R*28S*915mm, Louver1.4, N.G.S, 4by4by1	Φ7, 2R*28S*915mm, Louver1.4, N.G.S, 4by4by1
	Sub	-	-	-	-
Comp	Model	-	UB1AR1090FE6	UG9TK3150FE4	UG9TK3150FE4
	OLP	-	-	-	-
Motor In	Code	-	DB31-00694A	DB31-00636A	DB31-00636A
	Name	-	-	-	-
Motor Out	Code	-	DB31-00693A	DB31-00642C	DB31-00642C
	Name	-	-	-	-
Expansion	Φ * L	-	EEV Φ1.4	EEV Φ1.65	EEV Φ1.65
Refrigerant	type	-	R410A	R410A	R410A
	charge	g	1000 g	1400 g	1400 g
SVC Valve	Liquid / Gas	-	6.35/9.52	6.35/12.7	6.35/15.88
Tube	Dis. / Suc.	-	7.94/9.52	9.52/12.7	9.52/12.7
Drain hose	D * L	mm	20*550	20*550	20*550
4-WAY V/V		-	-	-	-
Power Supply		V/Hz/Φ	220/(50/60)/1	220/(50/60)/1	220/(50/60)/1
Climate Class		-	T1	T1	T1
Noise	IDU UT,T	dB	43	47	48
	ODU	dB	53	57	59
Net Size (W*H*D)	IDU	mm	820*299*215	1055*299*215	1055*299*215
	ODU		720*548*265	880*638*310	880*638*310
Weight	IDU	kg	8.9	11.5	11.5
	ODU		25.4	38.1	38.1
Operation range	Cooling	IDU	16℃ ~ 32℃	16℃ ~ 32℃	16℃ ~ 32℃
		ODU	16℃ ~ 46℃	16℃ ~ 46℃	16℃ ~ 46℃
	Heating	IDU	-	-	-
		ODU	-	-	-

2-3 The comparative specification of product

Model		DEVELOPMENT MODEL		
		AR12TVEAAWK/AP	AR18TVEAAWK/AP	AR24TVEAAWK/AP
Design	Indoor Unit			
	Outdoor Unit			
Net Weight	Indoor Unit	9.1	11.5	11.7
	Outdoor Unit	25.1	38.1	41.2
Net Dimension	Indoor Unit	820*299*215	1055*299*215	1055*299*215
	Outdoor Unit	720*548*265	880*638*310	880*638*310
Noise	Indoor Unit	43	47	51
	Outdoor Unit	53	57	60
Air Purifying System		EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER
Indoor Display		88 SEG	88 SEG	88 SEG

Model		DEVELOPMENT MODEL		
		AR12TVFCAWK/AP	AR18TVFCBWK/AP	AR24TVFCAWK/AP
Design	Indoor Unit			
	Outdoor Unit			
Net Weight	Indoor Unit	11.5	11.5	8.9
	Outdoor Unit	38.1	38.1	25.1
Net Dimension	Indoor Unit	1055*299*215	1055*299*215	820*299*215
	Outdoor Unit	880*638*310	880*638*310	720*548*265
Noise	Indoor Unit	47	48	43
	Outdoor Unit	57	59	53
Air Purifying System		PM 10 FILTER	EASY CLEAN FILTER	PM 11 FILTER
Indoor Display		88 SEG	88 SEG	88 SEG

2-4 Accessory and Option Specifications

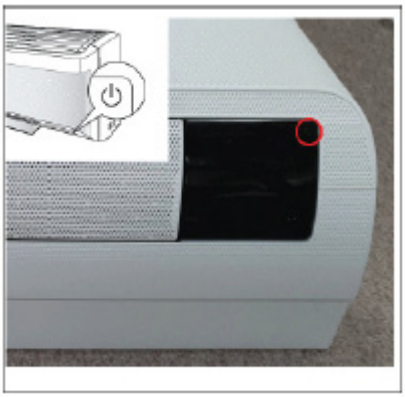
Item	Descriptions	Code No.	Q'ty	Remark
	ASSY HANGER	DB90-11453A (Q1, QF1)	1	Indoor unit case
	ASSY HANGER	DB90-11454A (Q3)	1	
	ASSY WIRELESS REMOCON	DB96-24901F	1	
	MANUAL USER	DB68-08593A	1	
	MANUAL USER	DB68-08649A (AR**TVCA**) DB68-08650A (AR**TVFC**)	1	
	MANUAL INSTALL	DB68-08808A	1	
	Batteries for Remote controller	4301-000121	2	
	M4 x 12 Tapped Screws	6002-000213	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 heat mode operate the cool mode by force not related to the set temperature / indoor temperature, check whether each subordinate is operated normally or not after completing installation and must turn off the power of the air conditioner.

3-2 Display Error and Check Method

3-2-1 Indoor Display Error and Check Mathod

ERROR MODE	TYPE	DESCRIPTION
7-SEG	INDOOR/ OUTDOOR	
C101, C102	INDOOR	Communication error
C108		Set address error
C121		Room TH sensor error
C122, C123		INDOOR MID, INDOOR IN EVA-TH sensor error
C140		Dust sensor error
C142		Humidity error
C143		Motion sensor error
C154		Fan error(indoor)
C161		Mixed operation error
C163		Option error
C187		K1 filter feed back error
C665		Drain pump error

3-2 Display Error and Check Method

3-2-2 Outdoor Display Error and Check Mathod

ERROR MODE				DESCRIPTION
7-SEG	YEL	GRN	RED	
-	○	○	○	Power off /VDD NG
-	●	●	●	Power on reset (1sec)
-	○	◑	●	Normal operation
-	○	○	●	Abnormal communication (Indoor <-> Outdoor)
-	○	●	●	
C464	○	○	◑	IPM over current (O.C) error
C461	○	◑	○	Comp. strating error
C470	○	●	○	EEPROM data error (no data)
C466	○	●	◑	DC-Link voltage under / Over error
C484				PFC over load error
C483				Over voltage protection error
C221	◑	○	◑	OUT-TH (Outdoor temperature) sensor error
C416	◑	○	●	DIS-TH (Discharge temperature) Over error
C251	◑	◑	○	DIS-TH (Discharge temperature) sensor error
C468	◑	◑	●	Current sensor error
C474				Heatsink sensor error
C485				Input current sensor error
C465	◑	●	○	Comp. V_limit/ I_limit error
C500				Heatsinkover temperature error
C231	◑	●	◑	CON-TH (Cond temperature) sensor error
C203	◑	●	●	Time out Comp. (Inv Micom <->Main Micom)
C458	●	○	○	Fan error
C471	●	○	◑	EEPROM data error (Main Micom <-> INV Micom)
C467	●	○	●	Comp. wire missing error
C440	●	◑	○	Prohibit operation condition error (Heating)
C441				Prohibit operation condition error (Cooling)
C469	●	◑	◑	DC-Link voltage sensor
C488				AC Input voltage sensor
C462	●	◑	●	AC Input I_limit trip error
C554	●	●	○	Gas leak error
C574				Gas shortage error
C422	◑	○	●	Outdoor OLP over temperature error
-	○	◑	◑	Test operation at Cooling mode
-	◑	◑	◑	Test operation at Heating mode

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

3-3 Setting Option Setup Method

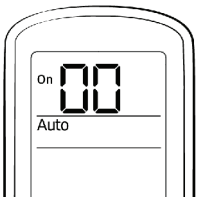
Ex) Option No. :

11-F4-50-6A-6A-01-E0-07-F7-C4

Step 1

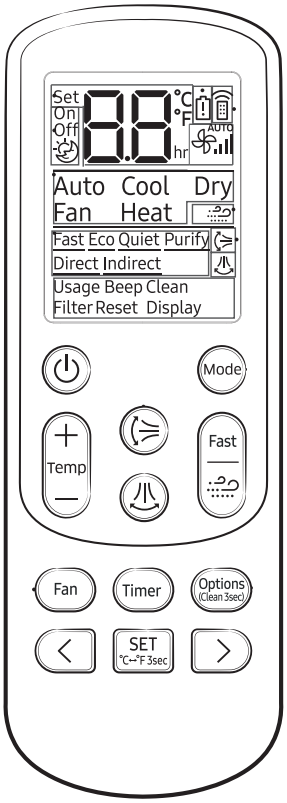
Enter the Option Setup mode.

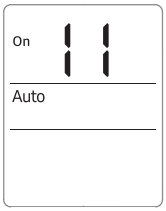
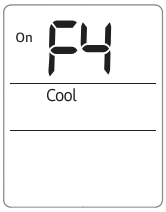
1. Tack out the batteries of remote control.
2. Press the temperature (Temp) button simultaneously and insert the battery again.
3. Make sure the remote control display shown as

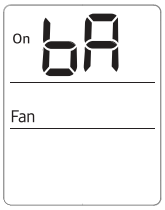
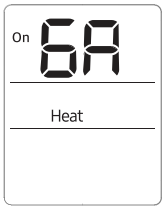


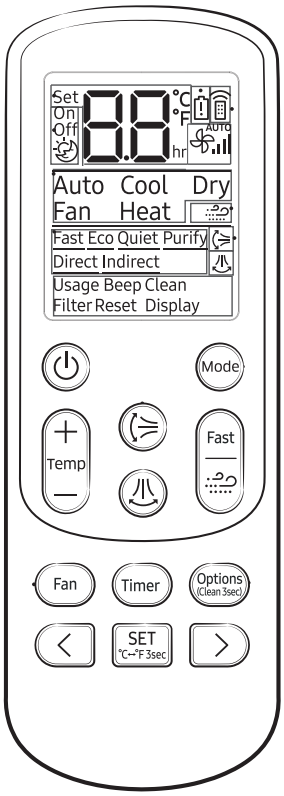
Step 2

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

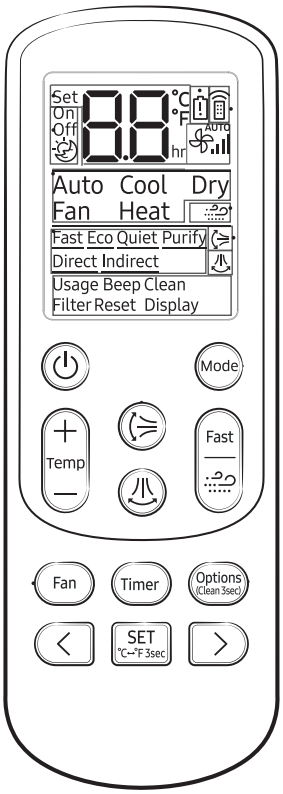


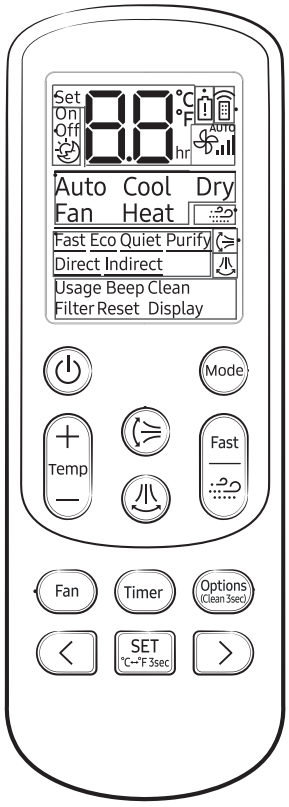
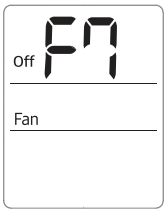
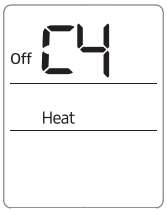
Metho d	Display
1 Setting option SEG1 Press the (Fast) button the display panel to 1. Press the (Fast) button repeatedly to select. 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ C ➡ d ➡ E ➡ F	
2 Setting option SEG2 Press the (Fast) button the display panel to 1. Press the (Fast) button repeatedly to select. 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ C ➡ d ➡ E ➡ F	
3 Press the (Mode) button to set Cool mode .	
4 Setting option SEG3 Press the (Fast) button the display panel to F. Press the (Fast) button repeatedly to select. 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ C ➡ d ➡ E ➡ F	
5 Setting option SEG4 Press the (Fast) button the display panel to 4. Press the (Fast) button repeatedly to select. 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ C ➡ d ➡ E ➡ F	

Method	Display
6 Press the Mode button to set Dry mode.	
7 Setting option SEG5 Press the Fast button the display panel to. 5 Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
8 Setting option SEG6 Press the Fast button the display panel to. 0 Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
9 Press the Mode button to set Fan mode.	
10 Setting option SEG7 Press the Fast button the display panel to. b Press the Fast button repeatedly to select . 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
11 Setting option SEG8 Press the Fast button the display panel to. A Press the Fast button repeatedly to select . 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
12 Press the Mode button to set Heat mode.	
13 Setting option SEG9 Press the Fast button the display panel to. 6 Press the Fast button repeatedly to select . 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
14 Setting option SEG10 Press the Fast button the display panel to. A Press the Fast button repeatedly to select . 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	



Method	Display
15 Press the Mode button to set Auto mode.	Off 01 Auto
16 Setting option SEG11 Press the Fast button the display panel to 0. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
17 Setting option SEG12 Press the Fast button the display panel to 1. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
18 Press the Mode button to set Cool mode.	Off E0 Cool
19 Setting option SEG13 Press the Fast button the display panel to E. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
20 Setting option SEG14 Press the Fast button the display panel to 0. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
21 Press the Mode button to set Dry mode.	Off 07 Dry
22 Setting option SEG15 Press the Fast button the display panel to 0. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	
23 Setting option SEG16 Press the Fast button the display panel to 1. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F	



Method	Display
	24 Press the Mode button to set Fan mode.  25 Setting option SEG17 Press the Fast button the display panel to F. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F 26 Setting option SEG18 Press the Fast button the display panel to 7. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F 27 Press the Mode button to set Heat mode.  28 Setting option SEG19 Press the Fast button the display panel to C. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F 29 Setting option SEG20 Press the Fast button the display panel to 4. Press the Fast button repeatedly to select. 0 → 1 → 2 → 3 → … 9 → A → b → C → d → E → F

Option code :

Model	Option code	
	Gerneral	Install
AR12TVEAAWK/AP	011A15-10C0FA-272200-371804	020000-100000-200101-300335
AR18TVEAAWK/AP	011A15-10C21A-273500-371504	020000-100000-200101-300357
AR24TVEAAWK/AP	011A12-10C24B-274000-370604	020000-100000-200101-300357
AR12TVFCAWK/AP	011A15-10C0FA-272200-371804	020000-100000-200101-300335
AR18TVFCBWK/AP	011A15-10C21A-273500-371504	020000-100000-200101-300357
AR24TVFCAWK/AP	011A15-10C22B-273E00-371604	020000-100000-200101-300357

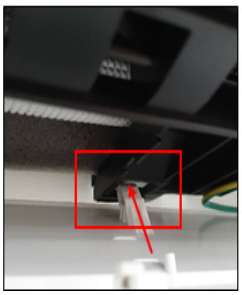
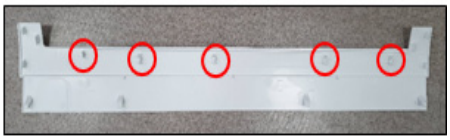
4. Disassembly and Reassembly

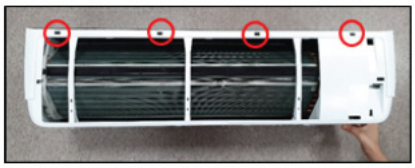
- Necessary Tools

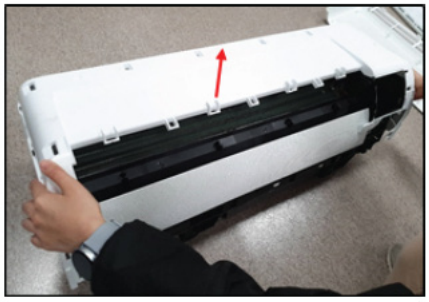
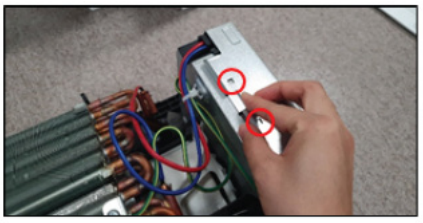
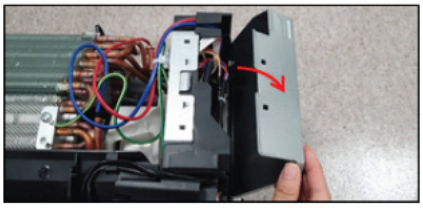
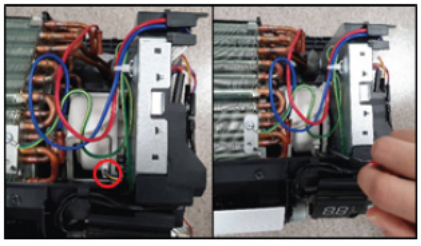
Item	Remark
+SCREW DRIVER Q'ty 1 ea. To assembly and disassembly the screw	
MONKEY SPANNER Q'ty 1 ea. To assembly and disassembly the Fan motor and Compressor	
- SCREW DRIVER Q'ty 1 ea. To assembly and disassembly the screw	

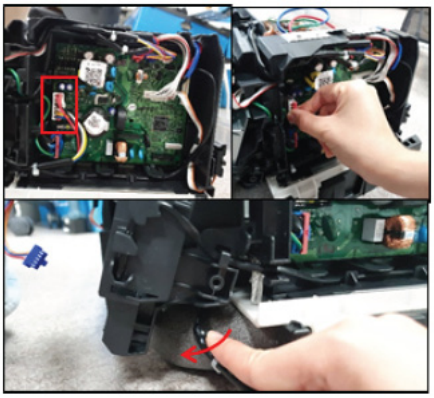
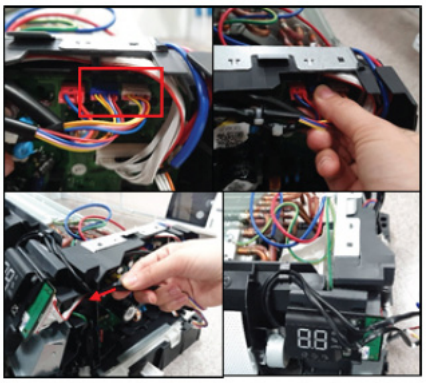
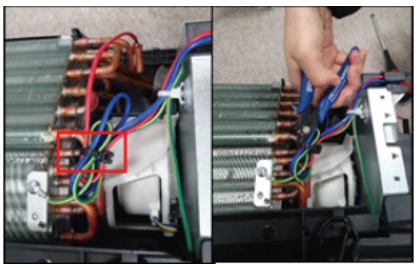
4-1. Indoor Unit

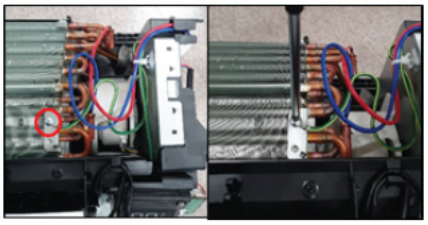
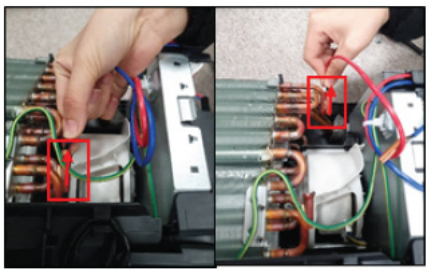
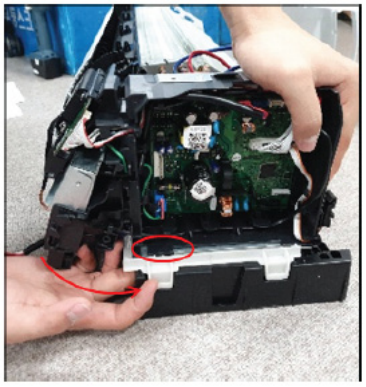
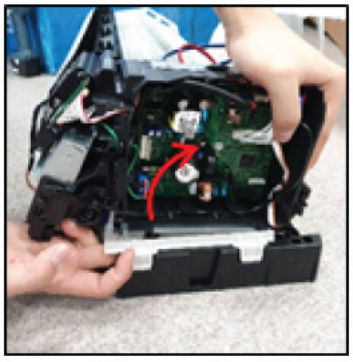
NO.	Parts	Procedure	Remark
1	PANEL-FRONT	1) Stop the driving of air conditioner and shut off main power supply.	
		2) Detach FILTER PRE from the PANEL FRONT.	
		3) The COVER PANEL is fixed to body by hooks in center and side area.	
		4) Separate the hook pulling end of the COVER PANEL as shown in figures.(Watch out for the damage of hooks)	
			
			

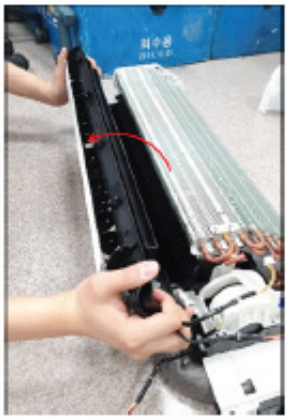
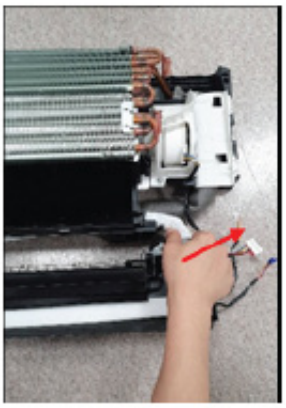
NO.	Parts	Procedure	Remark
1	PANEL-FRONT	⚠ Caution: Assembly of Cover Panel after service end. - Piping and Drain Hose must be caseful not to damage and progress must be done with both hands. - Need to check all bottom hooks in holes of the main frame before you push to assemble. ⚠ Caution: - Assemble(push) side hooks - Assemble(push) center 5 hooks each.	      

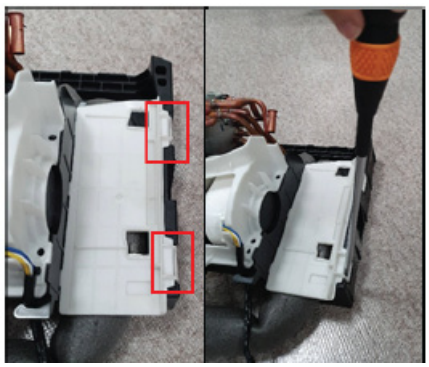
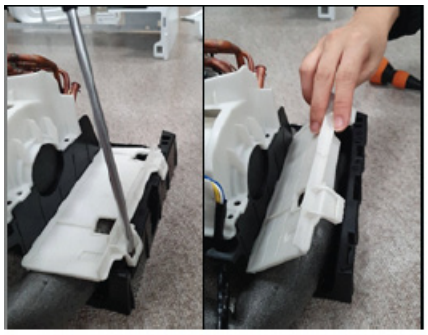
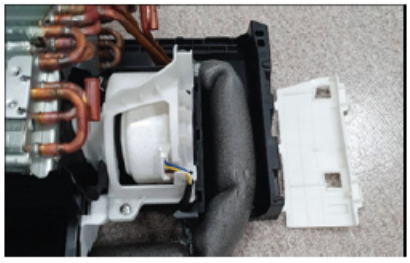
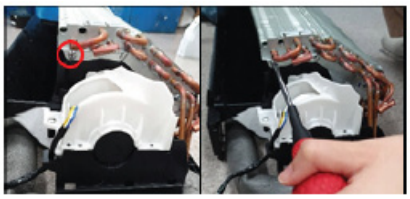
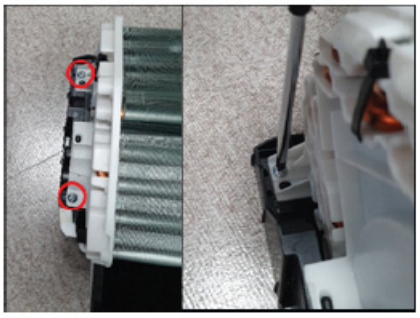
NO.	Parts	Procedure	Remark
1	PANEL-FRONT	5) The GRILLE INLET is fixed to body by hooks in the center and side area.	
		6) Separate the hook pulling end of the GRILLE INLET as shown in figures.(Watch out for the damage of hooks)	 
		7) To detach the PANEL FRONT from the main frame, unfasten 2 screws at the bottom. (use (+) Screw Driver)	
		8) To detach the PANEL FRONT from the main frame, loosen 4 hook structures. When separate the hooks: pull out each ribs near the hooks as shown in figures. (Watch out for the damage of hooks)	  

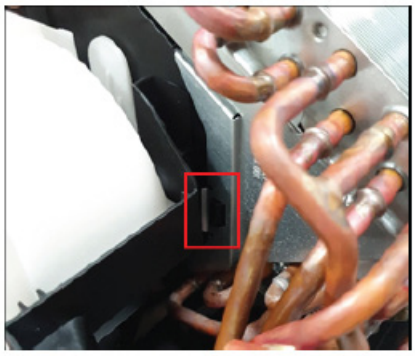
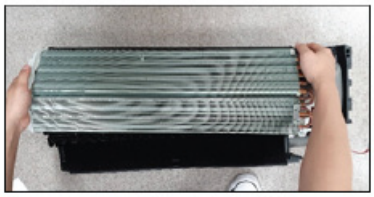
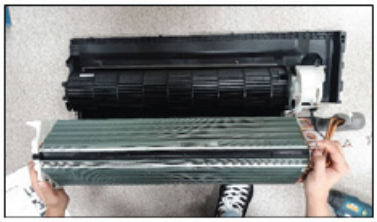
NO.	Parts	Procedure	Remark
1	PANEL-FRONT	9)Raise the PANEL FRONT upward as shown in the figure to separate the 3 hooks.	 
2	CONTROL-IN	10)To open the CONTROL-IN, raise the side flanges of the PLATE-RIGHT at an angle and unlock 2 hooks. 11)To detach the CONTROLIN, unfasten a screw back of the PLATE-LEFT as shown in figures. (use (+) Screw Driver)	  

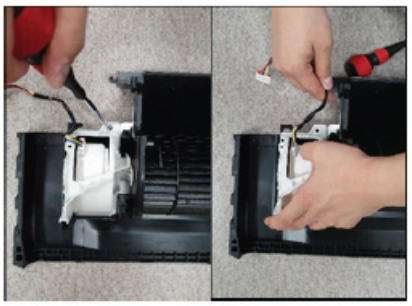
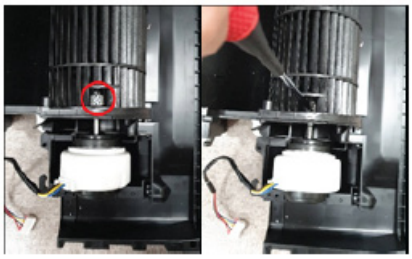
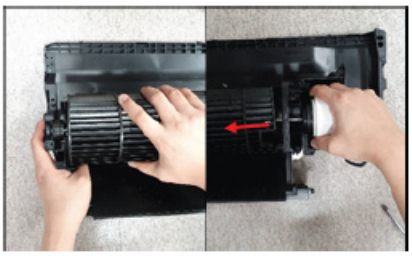
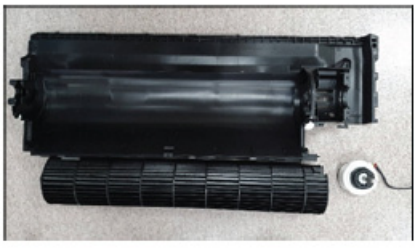
NO.	Parts	Procedure	Remark
2	CONTROL-IN	12)Separate Fan Moter wire as shown in figures. ⚠ Caution: When you separate the connector, pull pressing the locking button.	
		13)Separate Blade Moter wire as shown in figures. ⚠ Caution: When you separate the connector, pull pressing the locking button.	
		14)Cut off the Cable Tie tied up wires.	

NO.	Parts	Procedure	Remark
2	CONTORL IN	15)Unfasten a screw of the Ground wire and pick up Temperature wires from ASSY EVAP. (Use (+) Screw Driver.)	 
		16) The CONTROL-IN is fixed to HOLER PIPE by a hook bottom of the case as shown in the last figure. (Please loosen remaining connectors before detaching CASECONTROL. **⚠ Caution:** When you separate the connector, pull pressing the locking button	
		17) Put down of the HOLDER PIPE and push up the hook and lean side the case as shown in figures.	  

NO.	Parts	Procedure	Remark
3	TRAY DRAIN	18) To detach the TRAY DRAIN from the main frame, pull the bottom of the TRAY DRAIN and it leans toward to you as shown in figures.	
		19) Pull out the Drain Hose.	  

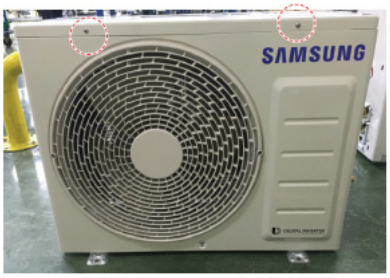
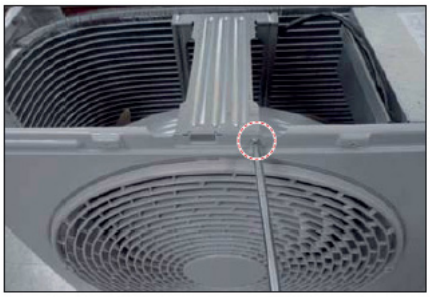
NO.	Parts	Procedure	Remark
5	EVAPORATOR	20) The HOLDER PIPE is fixed to body by 2 hooks as shown in the figure.	
		21) To detach the HOLDER PIPE from the main frame,loosen 2 hook structhres. When separate hooks: Use the (-) Screw Driver. Insert the (-) Screw Driver into the gap of the hook and lean to the Moter side as shown in figures. (Watch out for the damate of hooks)	
		22)Remove the HOLDER PIPE.	
		23)Unfasten a screw of the Fan Moter side. (Use (+) Screw Driver.)	
		24)Unfasten 2 screws of the opposite side of the Fan Moter. (Use (+) Screw Driver.)	

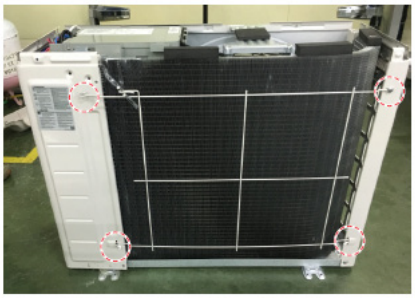
NO.	Parts	Procedure	Remark
5	EVAPORATOR	25) Pull up the EVAPORATOR of the opposite side of the Fan Moter	
		26) loosen a hook of the Fan Moter side.	 
		27) Pull up the EVAPORATOR to-ward to you.	  

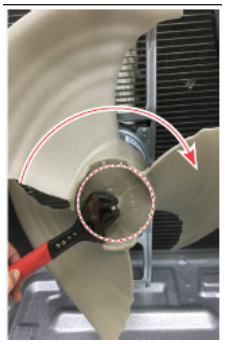
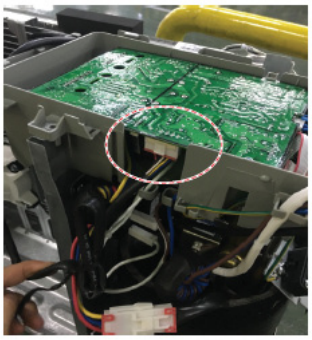
NO.	Parts	Procedure	Remark
6	FAN MOTOR & CROSS FAN	28) Unfasten a screw on the COVER MOTER. (Use (+) Screw Driver.)	
		29) Unwind the Moter Wire.	
		30)Detach the COVER MOTER.	
		31) Unfasten a screw of the CROSS FAN a little. (Use (+) Screw Driver.)	
		32)Raise up the CROSS FAN of the left side and pull out from the Moter.	 

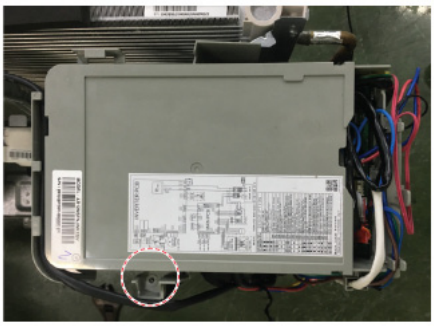
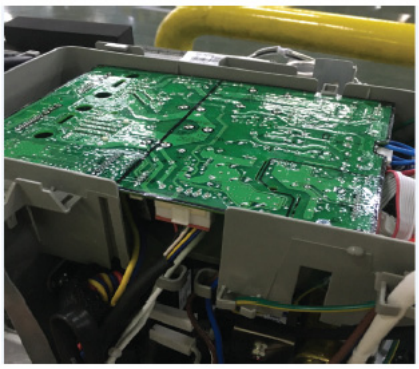
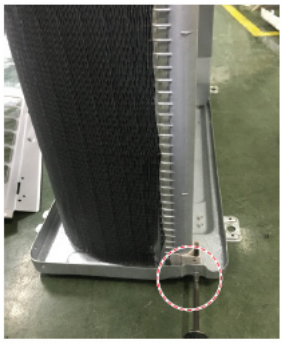
4-3. Outdoor Unit (N-WW, SI)

AR12TVEAAWKXAP
AR12TVFCAWKXAP

NO.	Parts	Procedure	Remark
1	Common work	1) Loosen each screws and detach the cabi Top cover.	
		2) Loosen screws of the cabi front and detach it.	 

NO.	Parts	Procedure	Remark
		3) Remove the 4 Cond Bar from the holder of outdoor unit cabinet. * This process is supported by heating models only	
		4) Loosen ing screws from the Cabi Front Lh and detach it.	
		5) Loosen ng screws from the Cabi Side Rh and detach it.	 

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

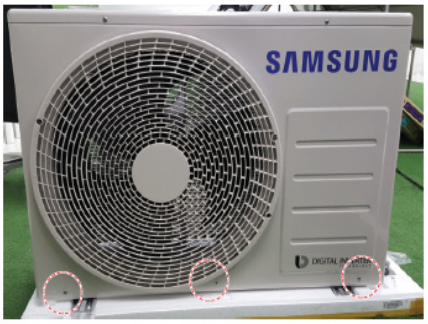
NO.	Parts	Procedure	Remark
3	Assy Control Out	1) To remove the Cover control box : Pull the motor wire is allow sufficientspace as shown on the right side and then remove the screw.	
		2) Detach several connectors from the Assy Control Out. 3) Detach several connectors from the PCB of Assy Control Out.	
		1) Release the refrigerant at first. 2) Loosen ng screw on both sides. 3) Disassemble the pipes in both inlet and outlet with welding torch. 4) Detach the Heat Exchanger.	 

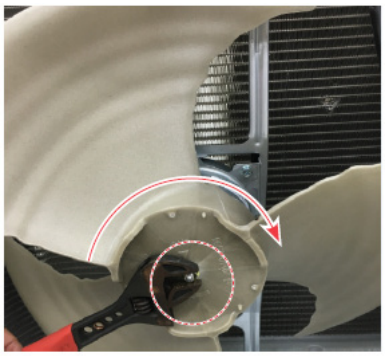
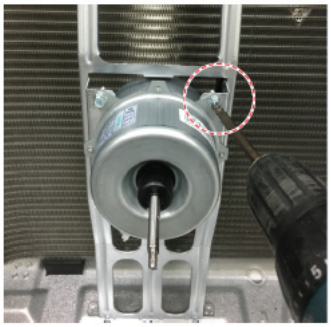
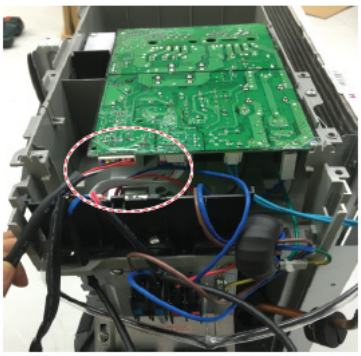
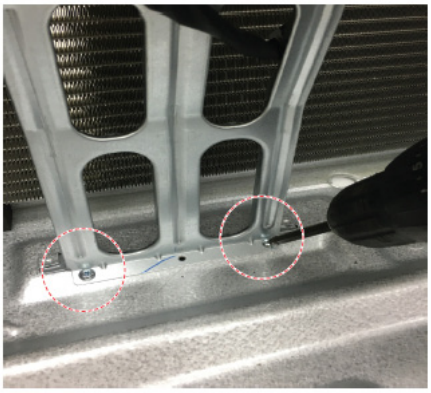
NO.	Parts	Procedure	Remark
5	Compressor	1) Loosen the ng nut and detach the Compressor Lead Wire. (Use Monkey Spanner.)	
		2) Loosen the bolts at the bottom of Compressor like the picture on the right side. (Use Monkey Spanner.)	

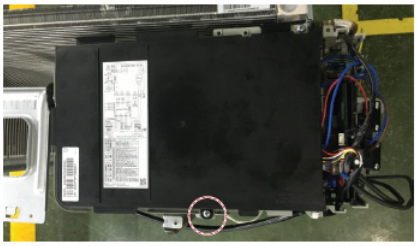
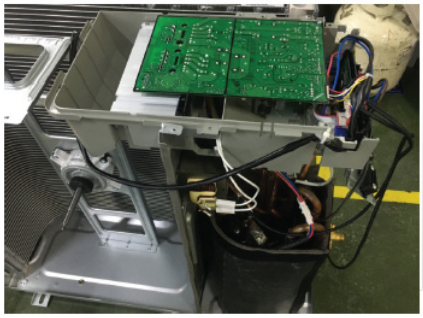
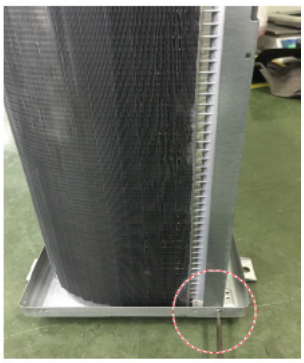
4-4. Outdoor Unit (Q-480)

AR18TVEAAWKXAP	AR18TVFCBWKXAP
AR24TVEAAWKXAP	AR24TVFCAWKXAP

NO.	Parts	Procedure	Remark
1	COMMON WORK	1) Loosen fixing screws from the cabi side Rh and detach it.	
		2) L oosen each sc rews and detach the Cabi Top Cover.	
		3) Loosen fixing screws from the cabi side.	
		4) Loosen fixing screws from the cabi side Rh and detach it.	

NO.	Parts	Procedure	Remark
1	COMMON WORK	5) Loosen fixing screws from the cabi front and detach it.	  
		6) L oosen fixing screws from the Cabi left and detach it and Remove the 4 Cond Bar from the holderof outdoor unit cabinet.	 

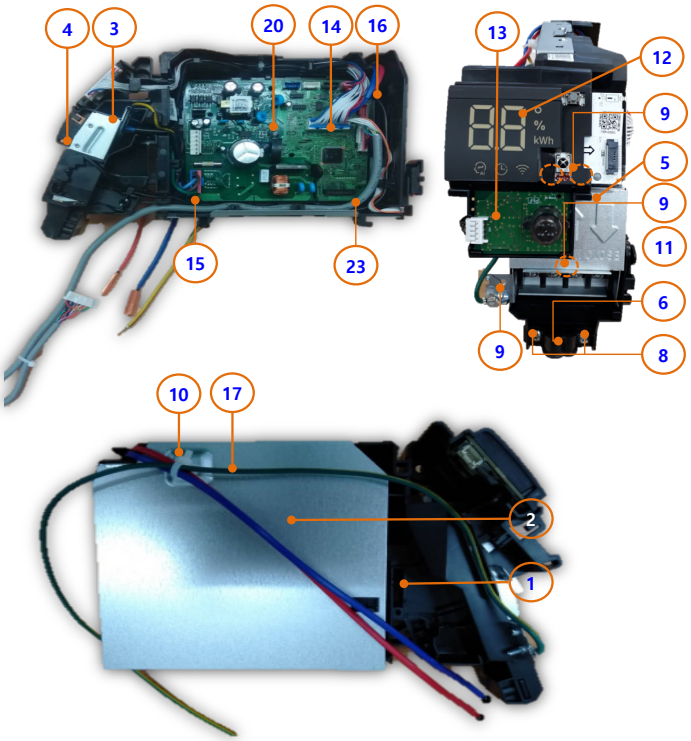
NO.	Parts	Procedure	Remark
2	Fan & Motor	1) Detach the Nut Flange like the picture on the right side. (Turn clockwise because the screw is left-handed.) (Use Monkey Spanner.)	
		2) Detach the Fan Propeller. 3) Loosen 4 fixing screws to detach the Motor. (Use Monkey Spanner.)	
		4) Disconnect the wire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

NO.	Parts	Procedure	Remark
3	Assy Control Out	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. 2) Detach several connectors from the Assy Control Out. 3) Detach several connectors from the PCB of Assy Control Out.	  
4	Heat Exchanger	1) Release the refrigerant at first. 2) Loosen ng screw on both sides. 3) Disassemble the pipes in both inlet and outlet with welding torch. 4) Detach the Heat Exchanger.	 

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

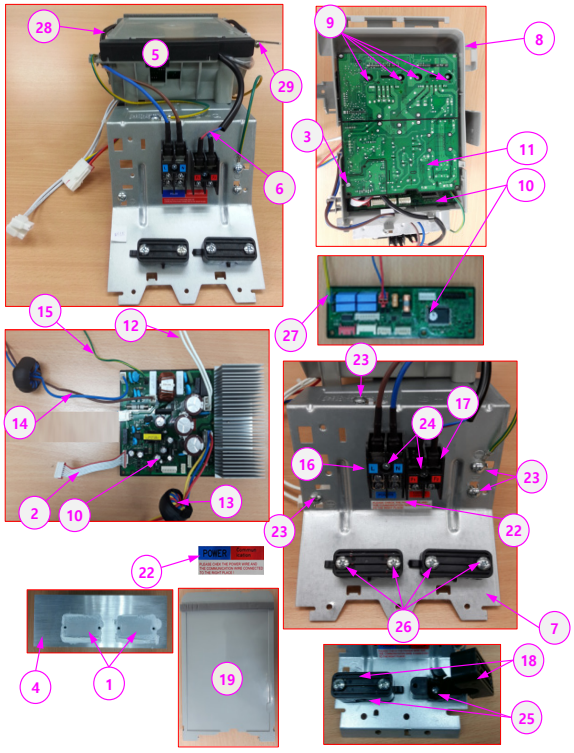
5. ASSY CONTROL

5-1 ASSY KIT CODE DB92-04845G,W,X



No	NAME	CODE	G	W	X	unit
1	CASE CONTROL-IN	DB61-07432A	1	1	1	EA
2	PLATE CONTROL-LF	DB61-07431A	1	1	1	EA
3	PLATE CONTROL-LOW	DB61-07428A	1	1	1	EA
4	PLATE CONTROL-UP	DB61-07429A	1	1	1	EA
5	PLATE CONTROL-SUB	DB61-07427A	1	1	1	EA
6	HOLDER-WIRE	DB61-05871A	1	1	1	EA
7	SCREW-TAPPING	6002-001163	1	1	1	EA
8	SCREW-TAPPING	6002-000213	2	2	2	EA
9	SCREW-SPECIAL	6009-001001	3	3	3	EA
10	CABLE TIE	6501-001075	1	1	1	EA
11	TERMINAL BLOCK_4P_GLOBAL	DB37-00033A	1	1	1	EA
12	ASSY PCB DISPLAY_88_WIFI	DB92-04833B	1	0	1	EA
	ASSY PCB DISPLAY_88_External WIFI	DB92-04833C	0	1	0	EA
13	SENSOR PHOTO	DB32-00270A	0	1	0	EA
14	SENSOR TEMP	DB32-00277A	1	0	0	EA
	SENSOR HUMIDITY	DB32-00272A	0	1	1	EA
15	ASSY CONNECTOR WIRE-POWER	DB93-17169A	1	1	1	EA
16	ASSY CONNECTOR WIRE-COMM	DB93-17055B	1	1	1	EA
17	ASSY CONNECTOR WIRE-EARTH	DB93-14245D	1	1	1	EA
18	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-17170A	0	1	0	EA
20	ASSY PCB MAIN_DLX	DB92-04839B	1	1	1	EA
22	W-LAN MODULE	4709-002610	0	1	0	EA
23	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-17190A	0	1	0	EA
24	CASE PCB	DB61-07464A	0	1	0	EA
25	COVER PCB	DB63-04265A	0	1	0	EA

5-2 ASSY KIT CODE DB92-04849G



No	NAME	CODE	Q'ty	unit
1	ASSY-THERMAL GREASE	0205-000178	0.002	KG
2	SCREW-MACHINE (TB)	6001-000722	2	EA
3	SCREW-TAPPING (CLAMP 4EA)	6002-000234	4	EA
4	SCREW-TAPPING (CLAMP 2EA, CASE 1EA)	6002-000239	3	EA
5	SCREW-TAPPING (PBA)	6002-000630	1	EA
6	SCREW-TAPPING (EARTH)	6009-001001	4	EA
7	ASSY-SCREW MACHINE (H/S??)	DB91-00933A	3	EA
8	HOLDER-WIRE CLAMP	DB61-00250A	2	EA
9	CASE CONTROL LOW (WW, SI,Q-480)	DB61-06722A	1	EA
10	COVER CONTROL OUT (WW, SI)	DB63-04234A	1	EA
11	PLATE CONTROL(Q-480)	DB61-04690B	1	EA
12	SPRING	DB81-00635A	2	EA
13	SEAL	DB62-11637T	0.153	EA
14	LABEL	DB98-34030A	1	EA
15	HEAT SINK	DB62-13008A	1	EA
16	TERMINAL BLOCK	DB65-00274A	1	EA
17	TERMINAL BLOCK	DB37-00036A	1	EA
18	ASSY CONNECTOR WIRE-POWER	DB93-16371B	1	EA
19	ASSY CONNECTOR WIRE-COMM	DB93-16402A	1	EA
20	ASSY CONNECTOR WIRE-COMP	DB93-09497B	1	EA
21	ASSY CONNECTOR WIRE-EARTH	DB93-12121B	1	EA
22	ASSY CONNECTOR WIRE-REACTOR	DB93-17175A	1	EA
23	SENSOR TEMP	DB32-00257A	1	EA
24	ASSY MODULE	DB92-04837E	1	EA
23	ASSY MODULE	DB92-04837B	1	EA
	ASSY MODULE	DB92-04837E	0	EA

6. Electrical Parts List

6-1 INDOOR MAIN PCB CODE DB92-04839B

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
0201-001528	COATING	ADHESIVE-SIL	LDC2577D,Y/GRN,175CPS	3.3	G
0201-001982	ADHESIVE-SIL	ADHESIVE-SIL	TSE3854DS-W,White,2.2,MIL-A-46146B,UL94V-0	0.0035	KG
0202-001463	SOLDER-WIRE	SOLDER-WIRE	LFC2-W3.0,D3,99.79Sn/0.2Cu/0.01P,No Flux	4.2	G
0202-001608	SOLDER-WIRE FLUX	SOLDER-WIRE FLUX	LFC7-107,D0.8,99.3Sn/0.7Cu/0.01P,Flux 3.5%	2.4	G
0204-005794	SOLVENT	SOLVENT	S-1000,(CH3)2CHOH,100%,0.79	1.2	G
0402-000324	BD100	DIODE-BRIDGE	D3SB60,600V,4A,SIP-4,ST	1	PC
1203-002722	REG900	IC-POSI.FIXED REG.	KA78R15,TO-220,4P,10x15mm,PLASTIC,14.6/15.4V,1.5W,-20to+80C,ST	1	PC
1203-009020	PW100	IC-PWM CONTROLLER	TOP253P,DIP,7P,6.35x9.57mm,PLASTIC,-0.3/700V,15W,-40to+150C,1.37A,ST	1	PC
1404-001194	PTC320	THERMISTOR-PTC	39ohm(Typ),270VAC,1.2A,RADIAL(DISC),0.2A,11x5mm,TP	1	PC
1404-001413	NTC100	THERMISTOR-NTC	18ohm,3A,3200K,19MWC,15mm,TP,17x6mm,RADIAL(DISC)	1	PC
1405-000160	VA100	VARISTOR	680V,560VDC,4500A,17.5x8mm,TP,1120V,500pF,D14	1	PC
2201-002688	C104	C-CERAMIC,DISC	2.2nF,20%,400Vac,Y5U,TP,12.5x7mm,10mm	1	PC
2201-002688	C105	C-CERAMIC,DISC	2.2nF,20%,400Vac,Y5U,TP,12.5x7mm,10mm	1	PC
2201-002688	C112	C-CERAMIC,DISC	2.2nF,20%,400Vac,Y5U,TP,12.5x7mm,10mm	1	PC
2201-002688	C113	C-CERAMIC,DISC	2.2nF,20%,400Vac,Y5U,TP,12.5x7mm,10mm	1	PC
2301-002032	XC100	C-FILM,LEAD-PPF	100nF,10%,275Vac,TP,12.5x6x12mm	1	PC
2401-003139	CE104	C-AL	1000uF,20%,25V,WT,TP,10x20mm,5mm	1	PC
2401-004393	CE103	C-AL	100uF,20%,500V,BK,25.4x30mm,10mm	1	PC
3002-001129	BZ600	BUZZER-PIEZO	85dB,2KHz,BK	1	PC
3601-001336	F101	FUSE-AXIAL LEAD	250V,3.15A,TIME-LAG,CERAMIC,5.2x20mm	1	PC
3711-000260	CNP100	HEADER-BOARD TO CABLE	1WALL,3P,1R,7.92mm,STRAIGHT,SN,BLU	1	PC
3711-000296	CN900	HEADER-BOARD TO CABLE	1WALL,6P,1R,3.96MM,STRAIGHT,SN,WHT	1	PC
3711-000880	CN320	HEADER-BOARD TO CABLE	BOX,3P,1R,2.5MM,STRAIGHT,SN,RED	1	PC
3711-002001	CN230	HEADER-BOARD TO CABLE	BOX,20P,2R,2.0mm,STRAIGHT,SN,BLK,5.0X22.0X6.6mm	1	PC
3711-004122	CN340	HEADER-BOARD TO CABLE	BOX,14P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-004484	CN800	HEADER-BOARD TO CABLE	BOX,5P,1R,2mm,STRAIGHT,SN,WHT	1	PC
3711-005096	CN801	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,BLK	1	PC
3711-005097	CN810	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,BLU	1	PC
3711-005098	CN390	HEADER-BOARD TO CABLE	BOX,5P,1R,2MM,STRAIGHT,SN,RED	1	PC
3711-009520	CN100	HEADER-BOARD TO CABLE	BOX,28P,2R,2.0mm,STRAIGHT,SN,NTR,30x9.6x10.6mm	1	PC
DB27-00063A	FT100	COIL CHOKE	16mH,2.3A,13.0x10.0mm,Mn-Zn,4P,DIP	1	PC
DB27-00102A	L320	COIL CHOKE	1.0mH,2.5A,8.4x3.4,Mn-Zn,4,DIP	1	PC
DB94-08038A		ASSY PCB AUTO	MAIN,QMD RAC AR9500T,142x121mm,Y,220V-240V,5V,12V,17V,10W,PF1-RAC,485 INV,DLX,DB92-04839A	1	PC
2003-002212	R108	R-METAL OXIDE(S)	75Kohm,5%,2W,AF,TP,3.9x10mm	1	PC
2201-002709	C109	C-CERAMIC,DISC	0.033nF,5%,1000V,SL,TP,6.3x5mm,5mm	1	PC
2202-002252	C107	C-CERAMIC,MLC-RADIAL	1nF,10%,1000V,R,9.0x6.0x5.0mm	1	PC
2401-000480	CE900	C-AL	10uF,20%,50V,GP,TP,5x11mm,5mm	1	PC
2401-000481	CE108	C-AL	10uF,20%,50V,WT,TP,5x11mm,5mm	1	PC

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
2401-001573	CE107	C-AL	47uF,20%,50V,GP,TP,6.3x11mm,2.5mm	1	PC
2401-001573	CE123	C-AL	47uF,20%,50V,GP,TP,6.3x11mm,2.5mm	1	PC
2401-001573	CE902	C-AL	47uF,20%,50V,GP,TP,6.3x11mm,2.5mm	1	PC
2401-001838	CE105	C-AL	470uF,20%,25V,WT,TP,10x16mm,5mm	1	PC
2401-003607	CE106	C-AL	10uF,20%,50V,HR,TP,5x11mm,5mm	1	PC
DB94-08039A		ASSY PCB SMD	MAIN,QMD RAC AR9500T,142x121mm,Y,220V-240V,5V,12V,17V,10W,PF1-RAC,485 INV,DLX,DB92-04839A	1	PC
DC26-00053A	TRAN101	TRANS SWITCHING	AC85-265V,500mA,400mA,400mA,5V,12V,15V,S/W TRANS,15W,EE2218	1	PC

6-2 ASSY PCB DISPLAY CODE DB92-04833B

Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
0201-001528	COATING	ADHESIVE-SIL	LDC2577D,Y/GRN,175CPS	0.9	G
DB61-07412A	CASE-LED	CASE-LED	AR9500T, QMD RAC,HIPS,T1.8,L69,BLACK,8.8	1	PC
DB64-03476A	WINDOW DISPLAY	WINDOW DISPLAY	AR9500T, QMD RAC,PET,T0.27,8.8 FILM, AI, Timer, Wi-Fi	1	PC
DB94-08137A		ASSY PCB SMD	DISPLAY_DLX,QMD RAC AR9500T,84.5x50mm,N,WIFI,DB92-04833B	1	PC
0202-001933	SOLDER-CREAM	SOLDER-CREAM	LFM-48W TM-HP,D20~38um,96.5Sn/3Ag/0.5Cu,Flux 12%	1.2	G
0404-001250	D100	DIODE-SCHOTTKY	RB520G-30,30V,100mA,VMD2,TP	1	PC
0406-001005	TD2	DIODE-TVS	SM05,6V,20MAV,TP	1	PC
0406-001084	TD1	DIODE-TVS	SMF05,6/-/-V,200W,SC70-5L	1	PC
0406-001594	TD3	DIODE-TVS	P6SMB24CAT3G,22.8/24/25.2V,600W,SMB	1	PC
0601-001986	A-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-2	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-3	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-4	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-5	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-6	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-7	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-2	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-3	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-4	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-5	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-6	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-7	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	DOT-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	HUM-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	INDI-2	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	INDI-3	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	INDI-4	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	KWH-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	TEMP-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0609-001484	REM1	MODULE REMOCON	HORIZONTAL-SMD(TOP),6.0mm,TR,0,38KHz,2.3mm	1	PC
1003-002963	IC1	IC-LED DRIVER	ADT8700A,LQFP,32P,7x7mm,500mA,TR,PLASTIC,5-15V,-40to+85C,1.12W,5V	1	PC
2007-001121	R20	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R21	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC

2007-001121	R22	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R23	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R24	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R25	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R26	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R27	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R28	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R29	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R30	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R31	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R32	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R33	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R34	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R35	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R36	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R37	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R38	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R39	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R40	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-007136	R1	R-CHIP	4.7Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007136	R13	R-CHIP	4.7Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007136	R2	R-CHIP	4.7Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007136	R3	R-CHIP	4.7Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007142	R101	R-CHIP	10Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007142	R102	R-CHIP	10Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007142	R11	R-CHIP	10Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007142	R14	R-CHIP	10Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R10	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R103	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R105	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R107	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R108	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R109	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R110	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R111	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R112	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R113	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R114	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R12	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R4	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R5	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R6	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R8	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R9	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007318	R7	R-CHIP	1Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2203-000233	C1	C-CER,CHIP	0.1nF,5%,50V,C0G,TP,1005,T0.5	1	PC
2203-000233	C2	C-CER,CHIP	0.1nF,5%,50V,C0G,TP,1005,T0.5	1	PC
2203-000438	C6	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005,T0.5	1	PC
2203-006158	C7	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C8	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-007456	C3	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005,T0.5	1	PC

2203-007544	C4	C-CER,CHIP	100nF,10%,50V,X7R,TP,1005,T0.5	1	PC
2203-007544	C5	C-CER,CHIP	100nF,10%,50V,X7R,TP,1005,T0.5	1	PC
2203-008315	C102	C-CER,CHIP	22000nF,20%,25V,X5R,TP,2012,T1.25	1	PC
2203-008315	C103	C-CER,CHIP	22000nF,20%,25V,X5R,TP,2012,T1.25	1	PC
2402-001268	CE1	C-AL,SMD	100uF,20%,25V,WT,TP,8x6.3mm	1	PC
2402-001268	CE2	C-AL,SMD	100uF,20%,25V,WT,TP,8x6.3mm	1	PC
3404-001222	SW2	SWITCH-TACT	12VDC,50mA,160gf,6x6x5.0mm,SPST	1	PC
3711-005477	CN2	HEADER-BOARD TO CABLE	BOX,4P,1R,2.0mm,SMD-A,SN,WHT,12x7.7x5.15mm	1	PC
3711-007975	CNS100	CONNECTOR-HEADER	BOX,10P,1R,1.25mm,SMD-A,SN,BLK,17.45x5.7x3.55mm	1	PC
3711-008640	CN1	HEADER-BOARD TO CABLE	BOX,15P,1R,2.0mm,SMD-A,SN,WHT,34x9.2x5.15mm	1	PC
4709-002815	IC100	W-LAN MODULE	CWAM210S,RAC,IEEE802.11,2.4GHz,ARTIK 051,5V, 12V,UART,SISO,40.0x15.0x3.9mm,-20to+70C	1	PC
DB41-01436A	PCB DISPLAY	PCB DISPLAY	FR-4,2L,T1.6,84.5x50mm,8,QMD RAC DISPLAY DLX,1Oz,194x242mm	1	PC

6-3 ASSY PCB DISPLAY CODE DB92-04833C

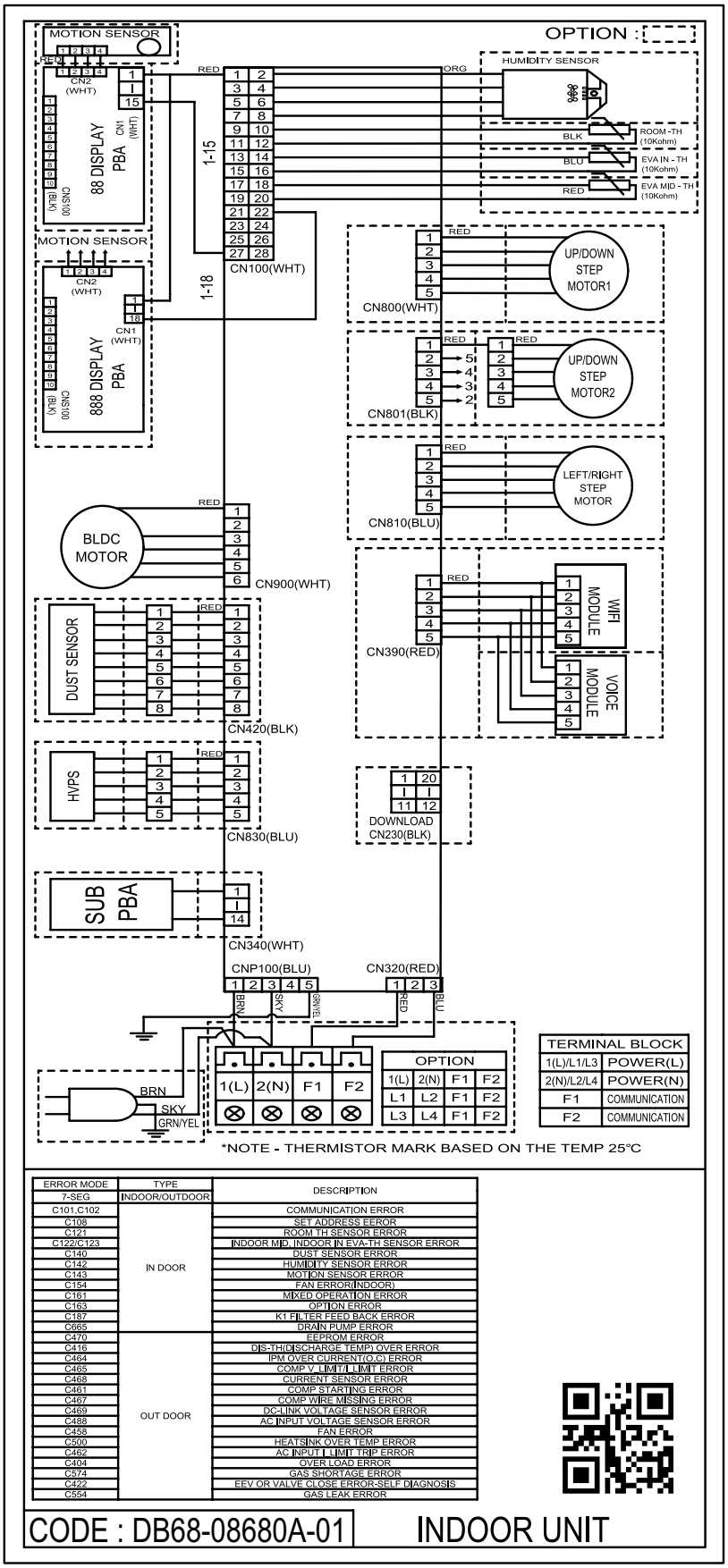
Parts Code	Design Loc	Parts Description	Spec.	Quantity	Unit
0201-001528	COATING	ADHESIVE-SIL	LDC2577D,Y/GRN,175CPS	0.9	G
DB61-07412A	CASE-LED	CASE-LED	AR9500T, QMD RAC,HIPS,T1.8,L69,BLACK,8.8	1	PC
DB64-03476A	WINDOW DIS-PLAY	WINDOW DISPLAY	AR9500T, QMD RAC,PET,T0.27,8.8 FILM, AI, Timer, Wi-Fi	1	PC
DB94-08165A		ASSY PCB SMD	DISPLAY_DLX,QMD RAC AR9500T,84.5x50mm,EXTERNAL WIFI,DB92-04833C	1	PC
0202-001933	SOLDER-CREAM	SOLDER-CREAM	LFM-48W TM-HP,D20~38um,96.5Sn/3Ag/0.5Cu,Flux 12%	1.2	G
0404-001250	D100	DIODE-SCHOTTKY	RB520G-30,30V,100mA,VMD2,TP	1	PC
0406-001005	TD2	DIODE-TVS	SM05,6V,20MAV,TP	1	PC
0406-001084	TD1	DIODE-TVS	SMF05,6/-/-V,200W,SC70-5L	1	PC
0406-001594	TD3	DIODE-TVS	P6SMB24CAT3G,22.8/24/25.2V,600W,SMB	1	PC
0601-001986	A-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-2	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-3	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-4	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-5	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-6	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	A-7	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-2	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-3	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-4	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-5	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-6	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	B-7	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	DOT-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	HUM-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	INDI-2	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	INDI-3	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	INDI-4	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	KWH-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0601-001986	TEMP-1	LED	SMD(Top View),WHT,WATER CLEAR,1.6x0.8mm,1.6x0.8x0.4mm,1,120deg,70/90 mcd,-40to+85C,-,75mW,-,-,TP,INDICATOR	1	PC
0609-001484	REM1	MODULE REMOCON	HORIZONTAL-SMD(TOP),6.0mm,TR,0,38KHz,2.3mm	1	PC
1003-002963	IC1	IC-LED DRIVER	ADT8700A,LQFP,32P,7x7mm,500mA,TR,PLASTIC,5-15V,-40to+85C,1.12W,5V	1	PC
2007-001121	R20	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R21	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC

2007-001121	R22	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R23	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R24	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R25	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R26	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R27	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R28	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R29	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R30	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R31	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R32	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R33	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R34	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R35	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R36	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R37	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R38	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R39	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-001121	R40	R-CHIP	680ohm,5%,1/4W,TP,3216	1	PC
2007-007136	R1	R-CHIP	4.7Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007136	R13	R-CHIP	4.7Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007136	R2	R-CHIP	4.7Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007136	R3	R-CHIP	4.7Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007142	R101	R-CHIP	10Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007142	R102	R-CHIP	10Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007142	R11	R-CHIP	10Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007142	R14	R-CHIP	10Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R10	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R103	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R105	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R107	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R108	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R109	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R110	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R111	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R112	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R113	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R114	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R12	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R4	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R5	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R6	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R8	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007306	R9	R-CHIP	100ohm,1%,1/16W,TP,1005,T0.35	1	PC
2007-007318	R7	R-CHIP	1Kohm,1%,1/16W,TP,1005,T0.35	1	PC
2203-000233	C1	C-CER,CHIP	0.1nF,5%,50V,C0G,TP,1005,T0.5	1	PC
2203-000233	C2	C-CER,CHIP	0.1nF,5%,50V,C0G,TP,1005,T0.5	1	PC
2203-000438	C6	C-CER,CHIP	1nF,10%,50V,X7R,TP,1005,T0.5	1	PC
2203-006158	C7	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC
2203-006158	C8	C-CER,CHIP	100nF,10%,16V,X7R,TP,1005,T0.5	1	PC

2203-007456	C3	C-CER,CHIP	1000nF,10%,25V,X5R,TP,1005,T0.5	1	PC
2203-007544	C4	C-CER,CHIP	100nF,10%,50V,X7R,TP,1005,T0.5	1	PC
2203-007544	C5	C-CER,CHIP	100nF,10%,50V,X7R,TP,1005,T0.5	1	PC
2203-008315	C102	C-CER,CHIP	22000nF,20%,25V,X5R,TP,2012,T1.25	1	PC
2203-008315	C103	C-CER,CHIP	22000nF,20%,25V,X5R,TP,2012,T1.25	1	PC
2402-001268	CE1	C-AL,SMD	100uF,20%,25V,WT,TP,8x6.3mm	1	PC
2402-001268	CE2	C-AL,SMD	100uF,20%,25V,WT,TP,8x6.3mm	1	PC
3404-001222	SW2	SWITCH-TACT	12VDC,50mA,160gf,6x6x5.0mm,SPST	1	PC
3711-005477	CN2	HEADER-BOARD TO CABLE	BOX,4P,1R,2.0mm,SMD-A,SN,WHT,12x7.7x5.15mm	1	PC
3711-008640	CN1	HEADER-BOARD TO CABLE	BOX,15P,1R,2.0mm,SMD-A,SN,WHT,34x9.2x5.15mm	1	PC
DB41-01436A	PCB DISPLAY	PCB DISPLAY	FR-4,2L,T1.6,84.5x50mm,8,QMD RAC DISPLAY DLX,1Oz,194x242mm	1	PC

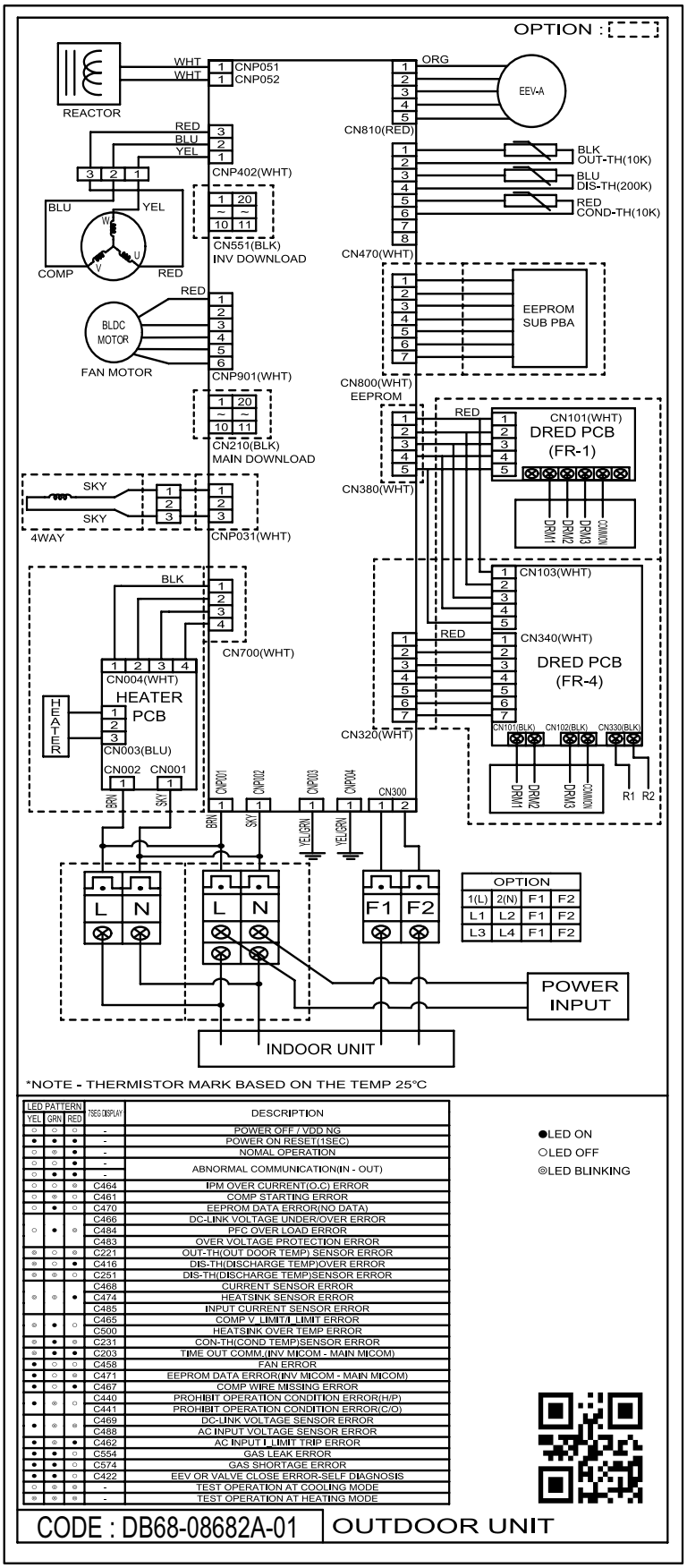
7. Wiring Diagram

7-1 Indoor Unit



ERROR MODE 7-SEG	TYPE INDOOR/OUTDOOR	DESCRIPTION
C101,C102	IN DOOR	COMMUNICATION ERROR
C108		SET ADDRESS EERROR
C121		ROOM TH SENSOR ERROR
C122/C123		INDOOR MID, INDOOR IN EVA-TH SENSOR ERROR
C140		DUST SENSOR ERROR
C142		HUMIDITY SENSOR ERROR
C143		MOTION SENSOR ERROR
C154		FAN ERROR(INDOOR)
C161		MIXED OPERATION ERROR
C163		OPTION ERROR
C187		K1 FILTER FEED BACK ERROR
C665		DRAIN PUMP ERROR
C470	OUT DOOR	EEPROM ERROR
C416		DIS-TH(DISCHARGE TEMP) OVER ERROR
C464		IPM OVER CURRENT(O.C) ERROR
C465		COMP V_LIMIT/I_LIMIT ERROR
C466		CURRENT SENSOR ERROR
C461		COMP STARTING ERROR
C467		COMP WIRE MISSING ERROR
C469		DC-LINK VOLTAGE SENSOR ERROR
C488		AC INPUT VOLTAGE SENSOR ERROR
C458		FAN ERROR
C500		HEATSINK OVER TEMP ERROR
C462		AC INPUT I_LIMIT TRIP ERROR
C404		OVER LOAD ERROR
C574		GAS SHORTAGE ERROR
C422		EEV OR VALVE CLOSE ERROR-SELF DIAGNOSIS
C554		GAS LEAK ERROR

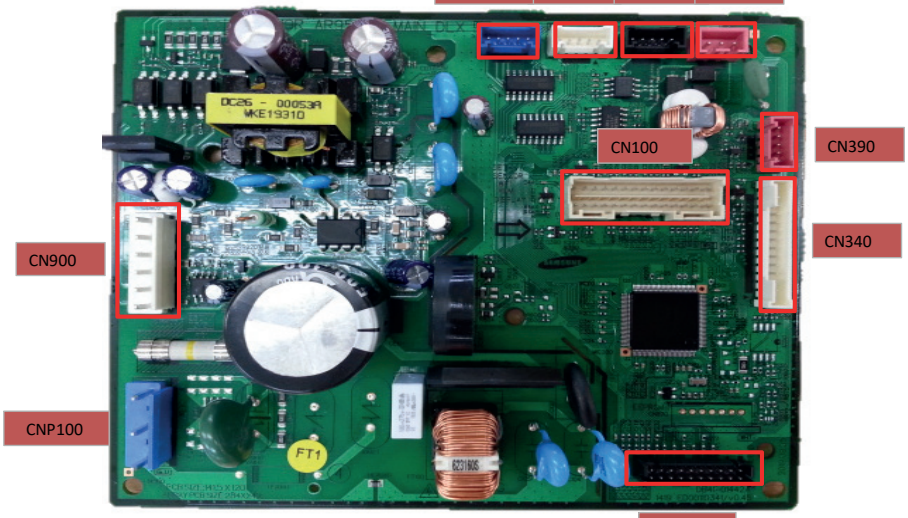
7-2 Outdoor Unit



8. PCB Diagram

8-1 INdoor Main PCB CODE DB92-04839B

DLX_QMD_Indoor Main PCB : DB92-04839A-E

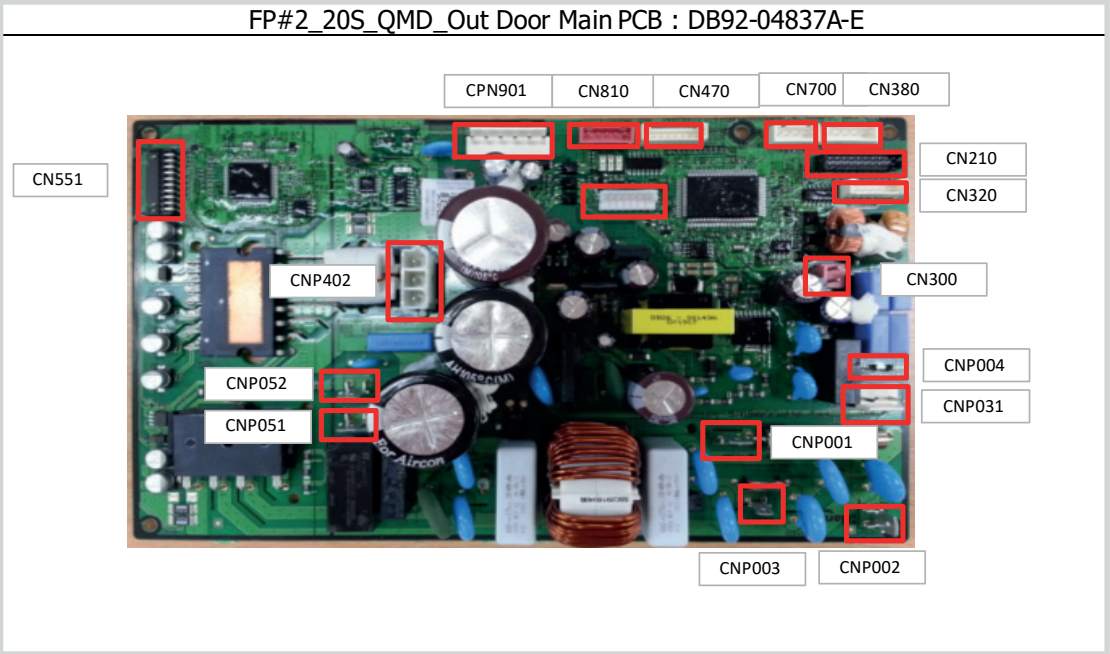


CN100 : DISPLAY	CN230 : DOWNLOAD	CN340 : WIRED REMOCON
#1 : LED_DIO	#1 : COM1_RXD	#1 : COM2_Tx
#2 : +5V	#2 : COM1_TXD	#2 : COM2_Rx
#3 : LED_CLK	#3 : nTRST	#3 : COM2_INVERSE
#4 : SGND	#4 : TDO	#4 : COM2_ENABLE
#5 : LED_RST	#5 : TCK	#5 : EXT_CTRL
#6 : H_ROOM_TEMP	#6 : TDI	#6 : COMP_CHK_OUT
#7 : POWER_SW	#7 : TMS	#7 : ERROR_CHK_OUT
#8 : HUM_SENSOR	#8 : TraceCLK	#8 : COM2_VCC_PS_OUT
#9 : SGND	#9 : SGND	#9 : SGND
#10 : +5V	#10 : +5V	#10 : +12V
#11 : +5V	#11 : +5V	#11 : COM2_PCTRL_MICOM
#12 : SGND	#12 : BOOT	#12 : COM2_VCHECK_A
#13 : REMOCON_INT	#13 : MODEL NAME	#13 : COM2_VCHECK_B
#14 : EVA_IN_TEMP	#14 : Trace3	#14 : COM2_MICOM_AD
#15 : ADDRESS_SW	#15 : NULL	
#16 : SGND	#16 : NULL	
#17 : MAIN_RX-WIFI_TX	#17 : SGND	
#18 : EVA_OUT_TEMP	#18 : Trace2	
#19 : MAIN_TX-WIFI_RX	#19 : Trace1	
#20 : SGND	#20 : Trace0	**CN900 : FAN MOTOR**
#21 : WIFI_CONTROL		#1 : 310V
#22 : NULL		#2 : NULL
#23 : +12V		#3 : GND
#24 : NULL		#4 : +15V
#25 : MDS_2		#5 : V_DETECT_OV_OUT
#26 : NULL		#6 : P_GND
#27 : MDS_1		
#28 : +5V		

CN810 : STEP LEFT/RIGHT	CN800 : STEP UP/DOWN	CN800 : STEP UP/DOWN
#1 : +12V	#1 : +12V	#1 : +12V
#2 : O1	#2 : O4	#2 : O4
#3 : O2	#3 : O5	#3 : O5
#4 : O3	#4 : O6	#4 : O6
#5 : O4	#5 : O7	#5 : O7

CN320 : COMM	CN390 : WIFI	CNP100 : POWER
#1 : PTC320	#1 : MAIN_RX-WIFI_TX	#1 : L
#2 : NULL	#2 : MAIN_TX-WIFI_RX	#3 : NE_00
#3 : OPTION	#3 : WIFI_CONTROL	#5 : EARTH
	#4 : SGND	
	#5 : +12V	

8-2 Outdoor Main PCB CODE DB92-04837A-E



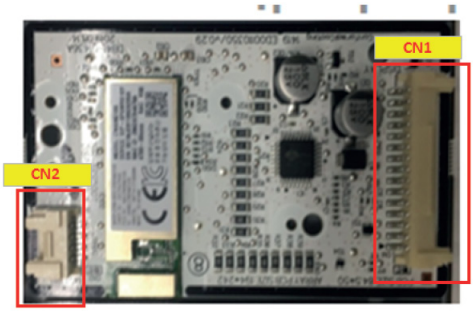
CN320 : SUB	CPN901 : BLDC FAN	CN810 : EEV-A	CN470 : SENSOR	CN700 : HEATER
#1 : +5V_1	#1 : DC_LINK	#1 : O4	#1 : OUT_TH	#1 : +12V_1
#2 : ENABLE_SOLUTION	#2 : NULL	#2 : O3	#2 : SGND	#2 : SGND
#3 : INVERSE_SOLUTION	#3 : P_GND1	#3 : O2	#3 : DIS_TH	#3 : HEATER_N
#4 : TXD_SOLUTION	#4 : +15V	#4 : O1	#4 : SGND	#4 : HEATER_L
#5 : +5V_1	#5 : FAN_PWM	#5 : +12V_1	#5 : COND_TH	
#6 : SGND	#6 : FAN_FG		#6 : SGND	
#7 : +12V_1			#7 : OLP_TH	
			#8 : SGND	

CNP051 : REACTOR	CNP052 : REACTOR	CNP001 : L	CNP002 : N	CNP003 : EARTH
#1 : REACTOR	#1 : REACTOR	#1 : L	#1 : N	#1 : EARTH

CNP402 : COMP	CN300 : INDOOR-OUTDOOR	CNP031 : 4WAY	CN380 : DRED	CNP004 : EARTH
#1 : W	#1 : F1	#1 : LI_S	#1 : DRED1	#1 : EARTH
#2 : V	#2 : F2	#2 : NULL	#2 : DRED1	
#3 : U		#3 : RY031	#3 : DRED1	
			#4 : SGND	
			#5 : +5V_1	

CN201 : DOWNLOAD & JTAG	CN551 : INV-DOWNLOAD
#1 : RXD_INV	#1 : RXD_INV
#2 : TXD_INV	#2 : TXD_INV
#3 : BOOT_MAIN	#3 : BOOT_INV
#4 : TDO_MAIN	#4 : TDO_INV
#5 : TCK_MAIN	#5 : TCK_INV
#6 : TDI_MAIN	#6 : TDI_INV
#7 : TMS_MAIN	#7 : TMS_INV
#8 : TRACECLK_MAIN	#8 : nTRST_INV
#9 : SGND	#9 : P_GND1
#10 : +5V_1	#10 : +5V
#11 : +5V_1	#11 : +5V
#12 : NULL	#12 : NULL
#13 : NULL	#13 : NULL
#14 : TRACE3_MAIN	#14 : NULL
#15 : NULL	#15 : NULL
#16 : NULL	#16 : NULL
#17 : SGND	#17 : P_GND1
#18 : TRACE2_MAIN	#18 : DA_CLK
#19 : TRACE1_MAIN	#19 : DA_CS
#20 : TRACE0_MAIN	#20 : DA_DATA

8-3 DISPLAY PCB DB92-04833B,C



CN1 : DISPLAY	CN2: DETECT
#1: LED_DIO	#1:5V_1
#2: LED_CLK(DIS)	#2GND
#3: LED_RST(DIS)	#3:MDS_1
#4: POWER_SW	#4:MDS_2
#5:GND	
#6:5VDC	
#7: REMOCON_INT(DIS)	
#8: ADDRESS_SW(DIS)	
#9: MAIN_RX(DIS_WIFI)	
#10: MAIN_TX(DIS_WIFI)	
#11: WIFI_CONTROL(DIS_WIFI)	
#12: 12VDC	
#13: MDS_2(DIS_DETECT)	
#14: MDS_1(DIS_DETECT)	
#15: 5V_1	

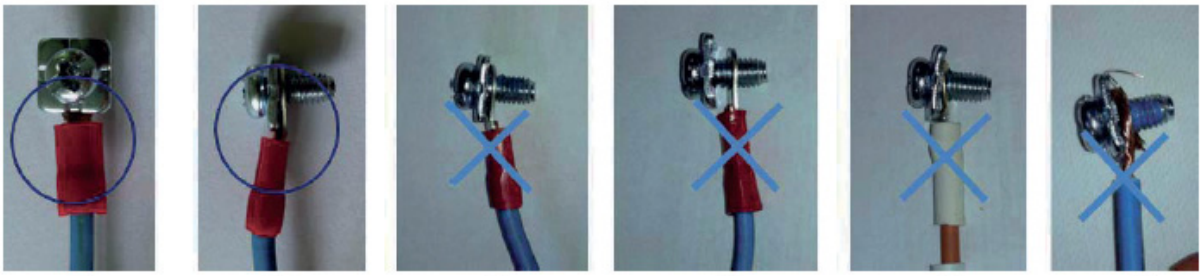
8-4 Wire connecting the indoor unit terminal blocks

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

Is inverted

Terminalhasbeencut.

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



①, ② : 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

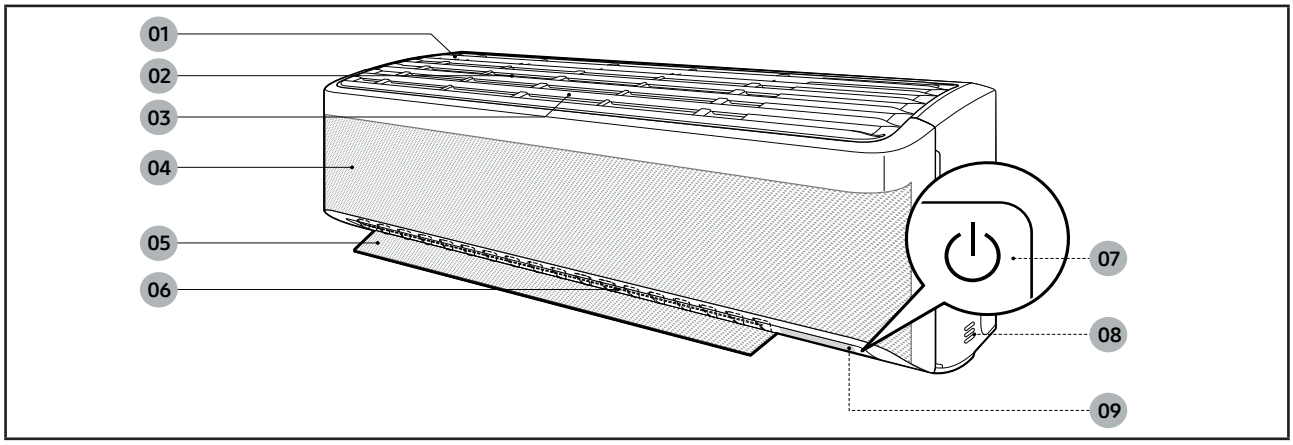
9. Operating Instructions

9-1 Name of Each Part

9-1-1 Indoor Unit

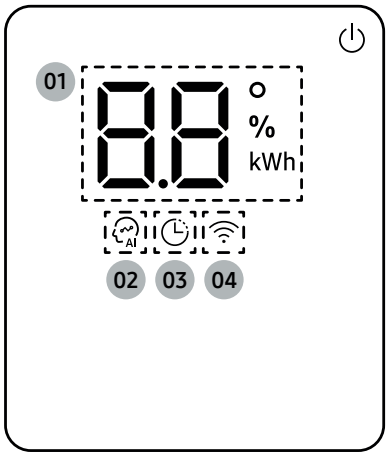
The design and shape are subject to change according to the model.

- Main Parts



01 Air intake
02 Air filter
03 Tri-care filter (For AR**T*EA*** models)
04 Wind-Free panel
05 Airflow blade (up and down)
06 Airflow blade (left and right
07 Power button/Remote control receiver
08 Room temperature sensor
09 Display

- Display

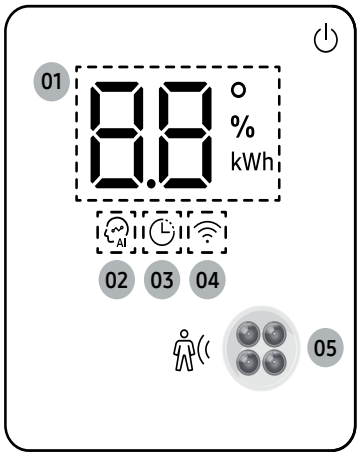


01 Temperature indicator (numeric)
Filter reset indicator (CF)
Electricity consumption indicator (numeric)
Auto clean indicator (C 1)

02 AI Auto indicator

03 Timer indicator
good'sleep indicator

04 Wi-Fi indicator



01 Temperature indicator (numeric)
Filter reset indicator (CF)
Electricity consumption indicator (numeric)
Auto clean indicator (C 1)

02 AI Auto indicator

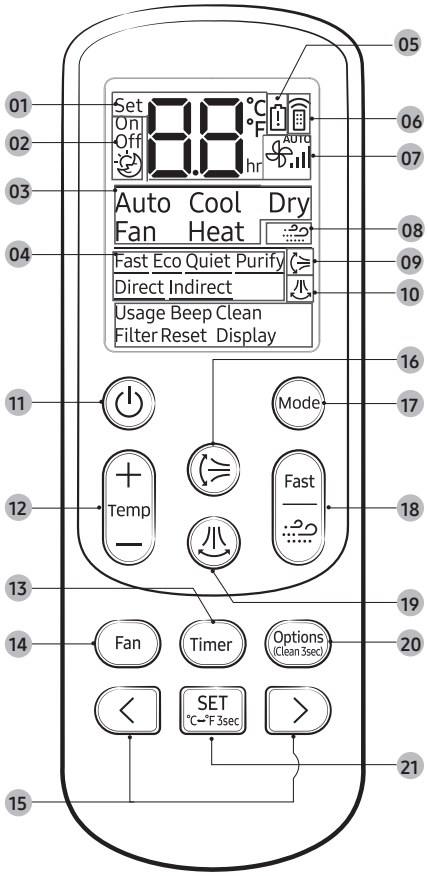
03 Timer indicator
good'sleep indicator

04 Wi-Fi indicator

05 Motion detect sensor

9-2 Wireless Remote control-Buttons and Display

DB96-24901F



01 Set temperature indicator
02 Timer option indicator
03 Operation mode indicator
04 Options indicator
05 Low battery indicator
06 Transmit indicator
07 Fan speed indicator
08 Wind-Free indicator
09 Vertical air swing indicator
10 Horizontal air swing indicator
11 Power button
12 Temperature button
13 Timer button
14 Fan speed button
15 Direction button / Selection button
16 Vertical air swing button
17 Mode button
18 Fast/Wind-Free butt
19 Horizontal air swing button
20 Options/Clean button
21 SET button/Temperature type button(°C<->°F)

10. Troubleshooting

10-1 Items to be checked first

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

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

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

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

10-2 Communication Error

10-2-1 Communication Error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C101/C102	Communication error(Indoor<->outdoor)

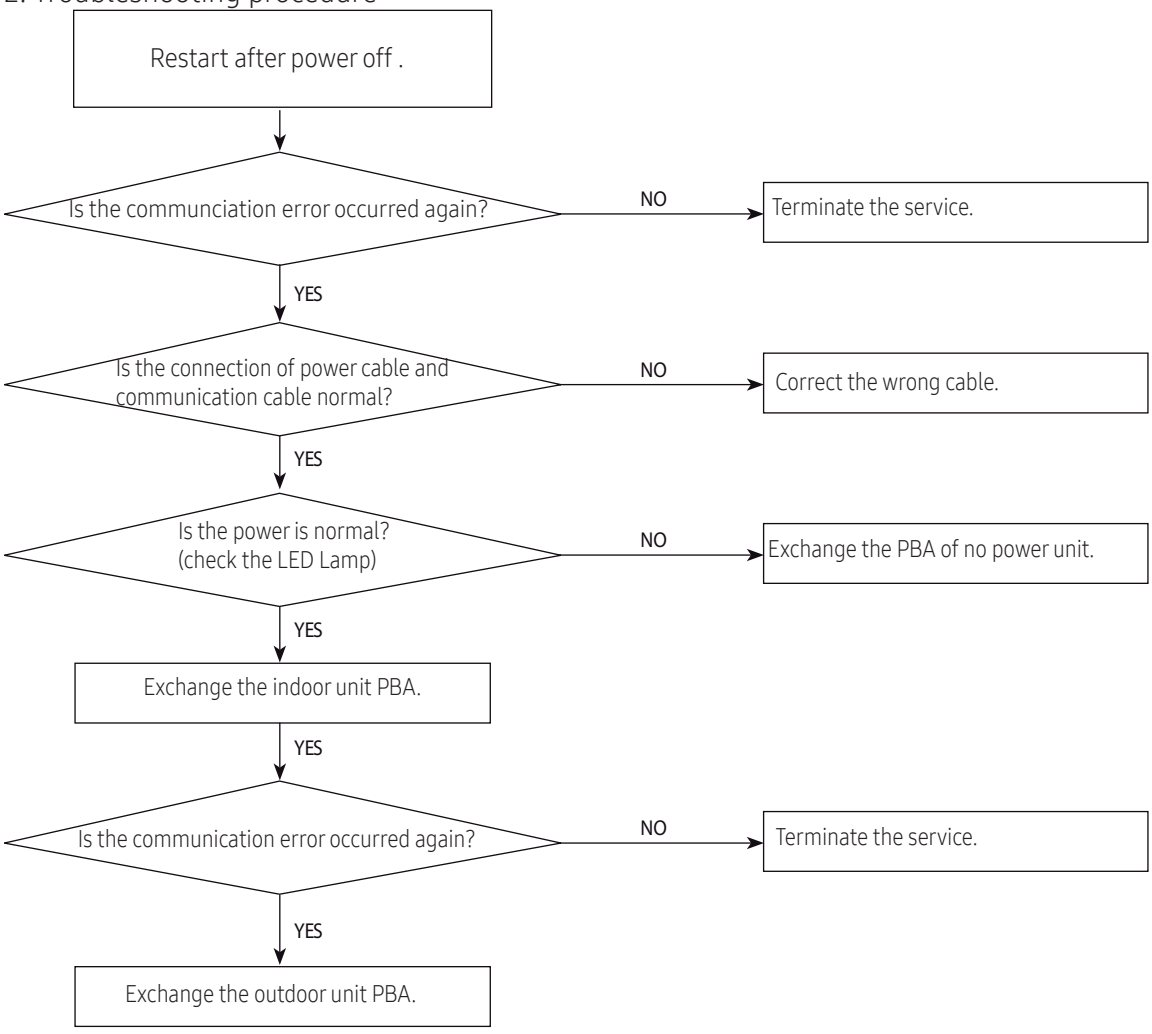
Outdoor display

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

● LED ON ◑ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure



10-2-2 Indoor temperature sensor Error

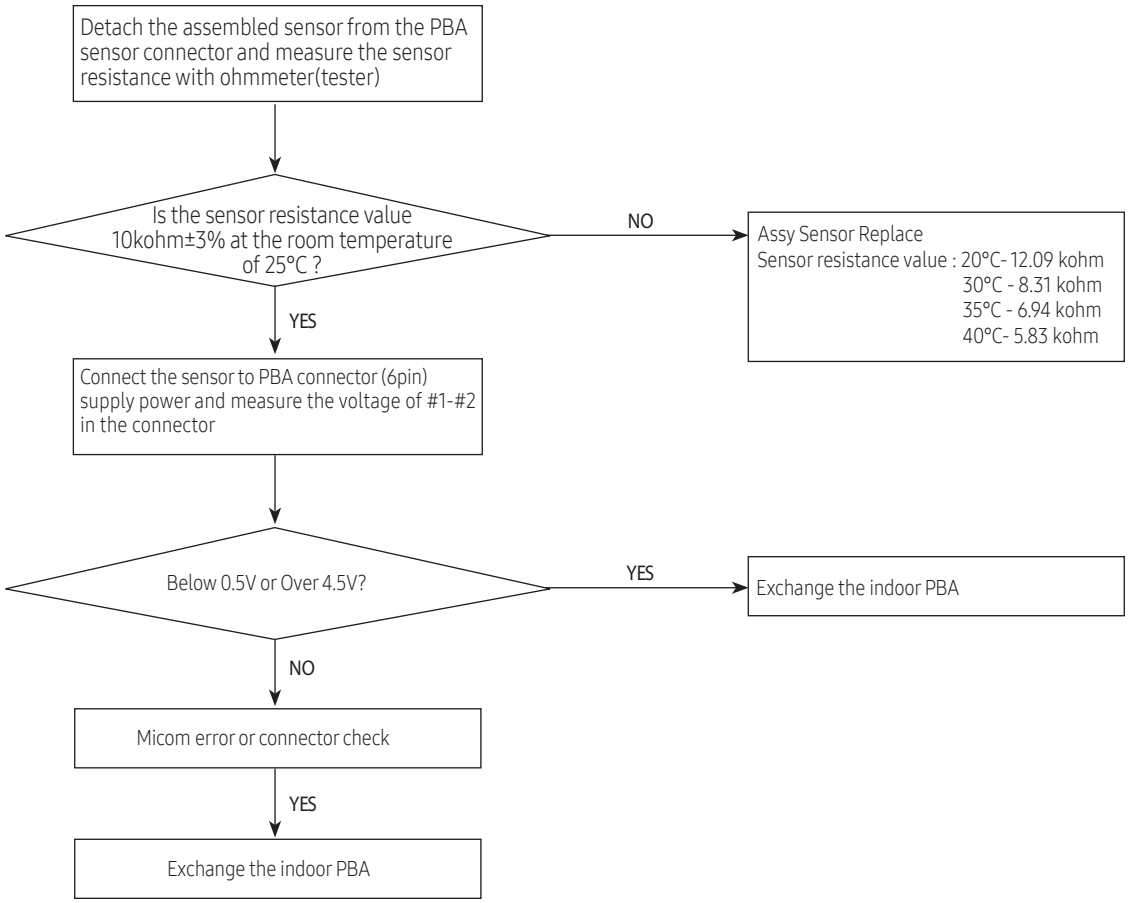
Indoor display

7-SEG DISPLAY	DESCRIPTION
C121	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)

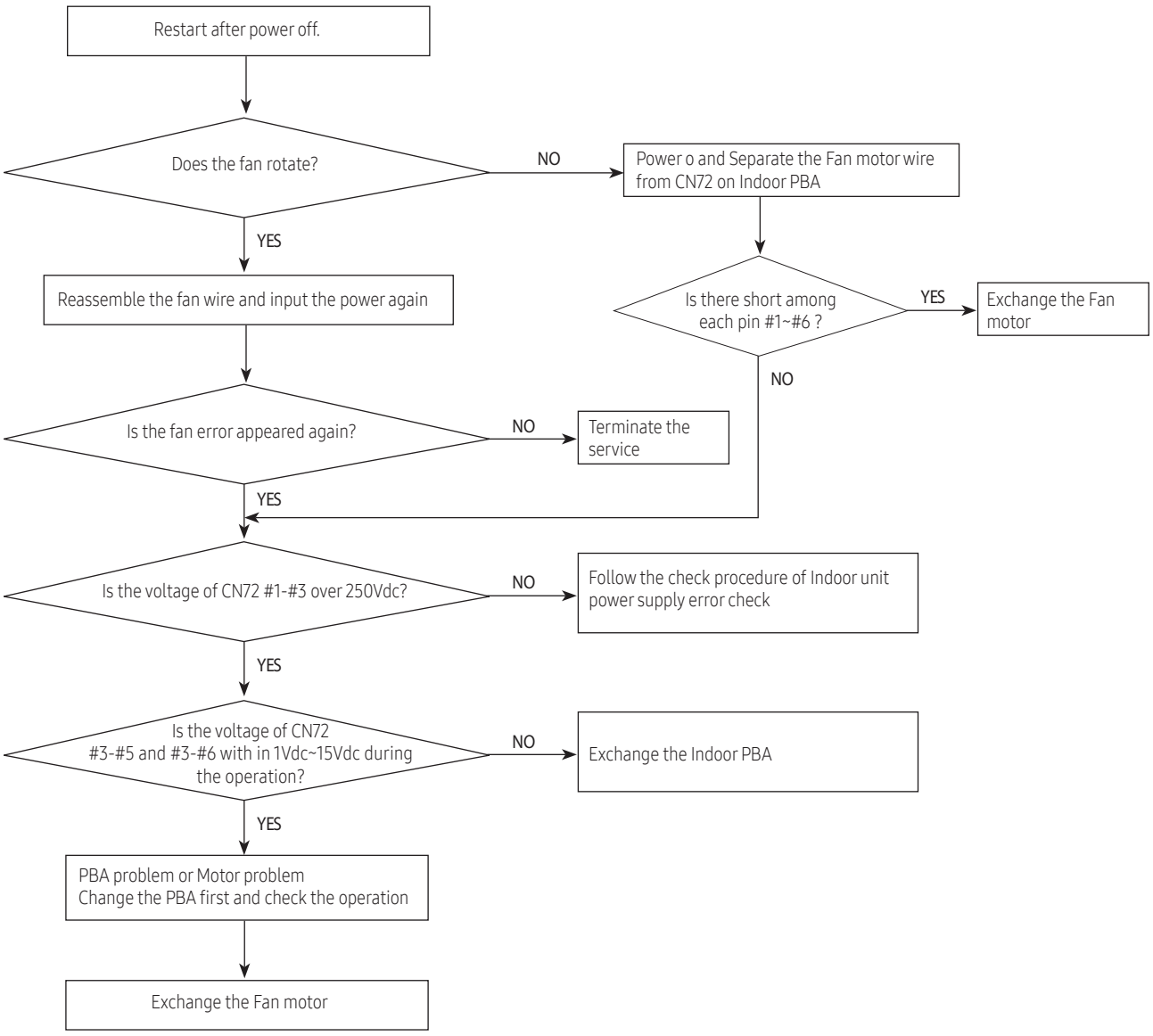
Indoor display

7-SEG DISPLAY	DESCRIPTION
C154	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

7-SEG DISPLAY	DESCRIPTION
C221	Outdoor temperature sensor error

Outdoor display

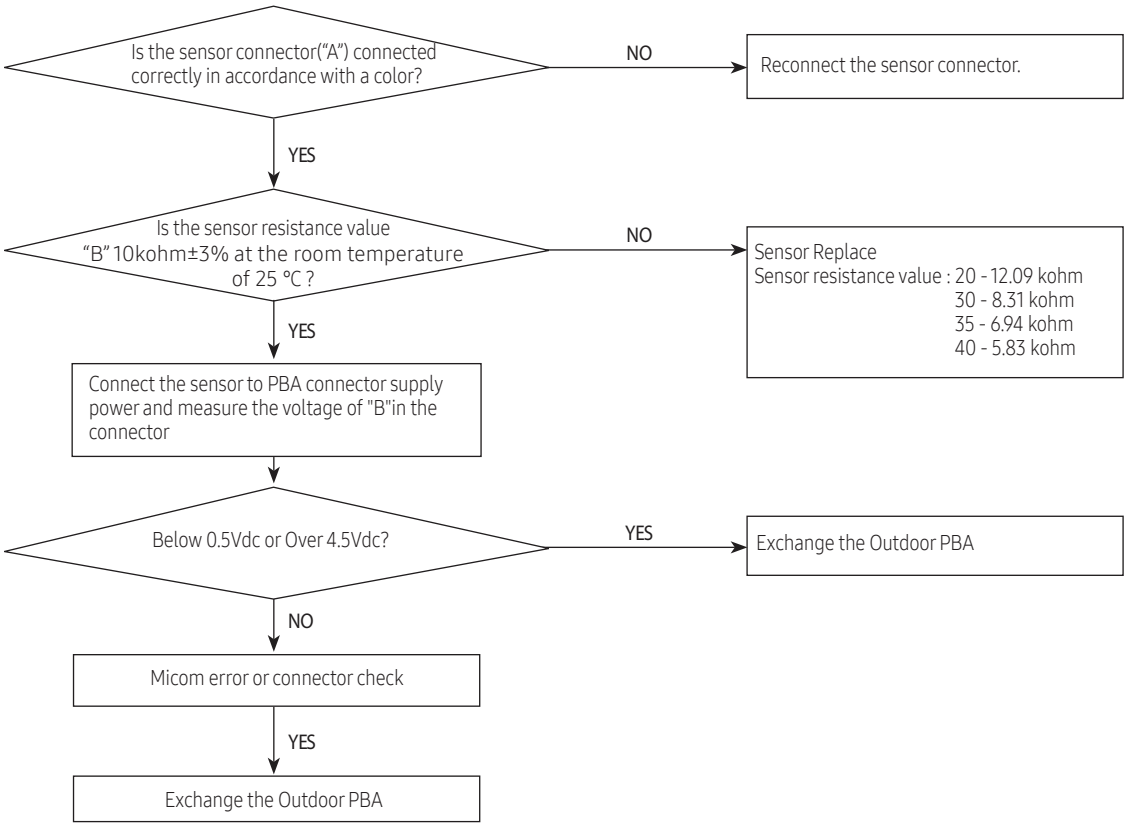
◑	○	◑	Outdoor temperature sensor error

● LED ON ◑ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure

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



10-2-5 Outdoor Cond temperature sensor error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C231	Outdoor Cond temperature sensor error

Outdoor display

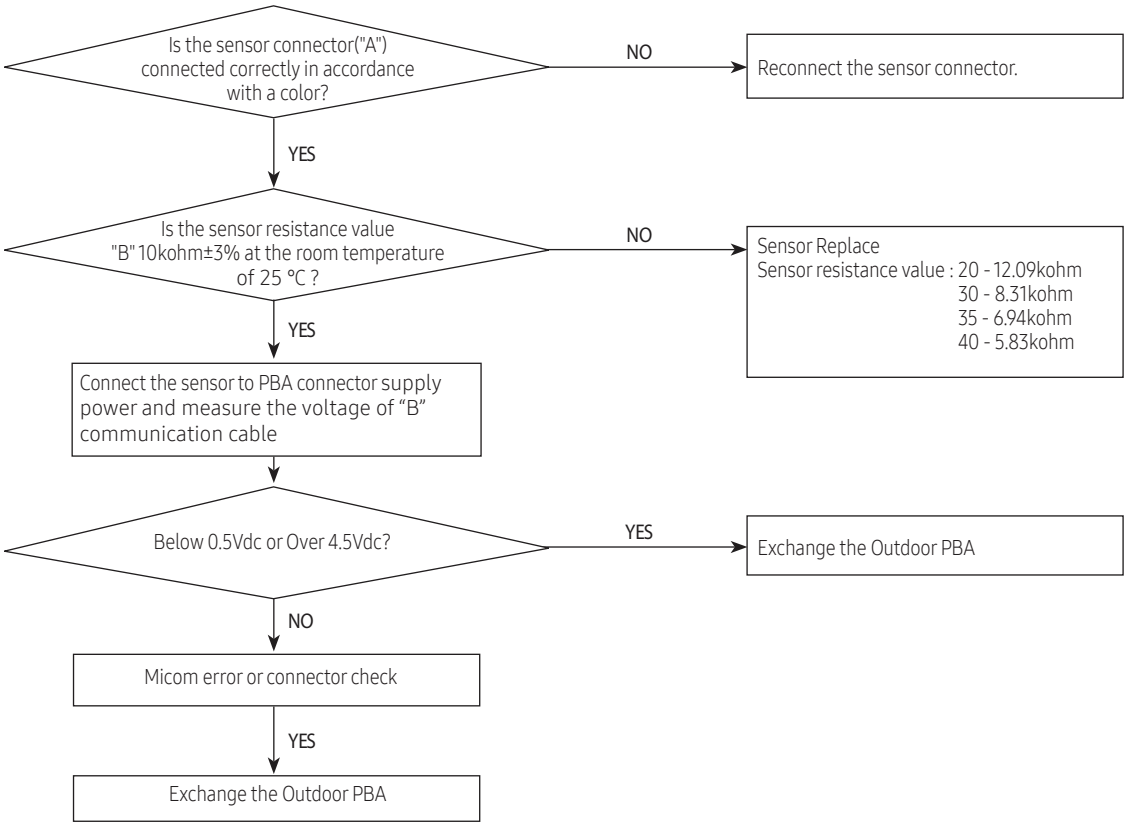
◑	●	◑	Outdoor Cond temperature sensor error

● LED ON ◑ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure

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



10-2-6 Outdoor Discharge temperature sensor error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C251	Outdoor Discharge temperature sensor error

Outdoor display

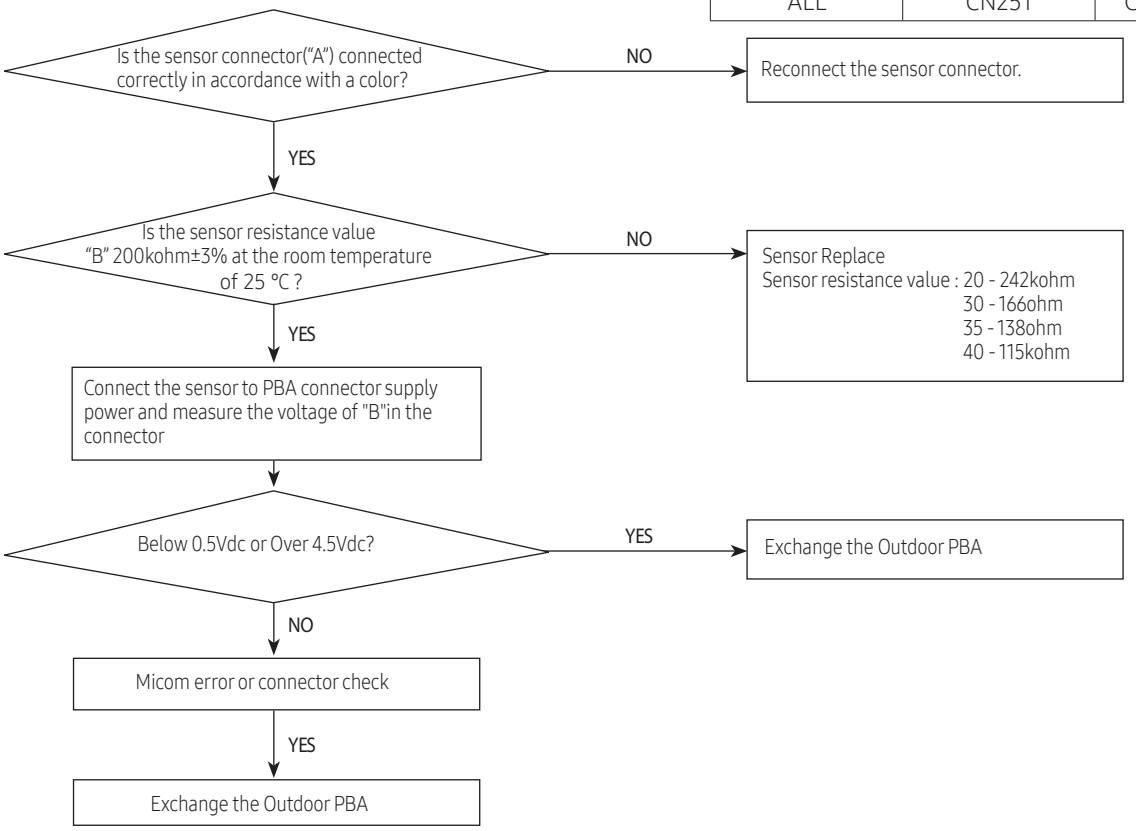
◑	◑	○	Outdoor Discharge temperature sensor error

● LED ON ◑ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure

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



10-2-7 Operation condition secession error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C440	Prohibit Operation Condition Error (Heating)
C441	Prohibit Operation Condition Error (Cooling)

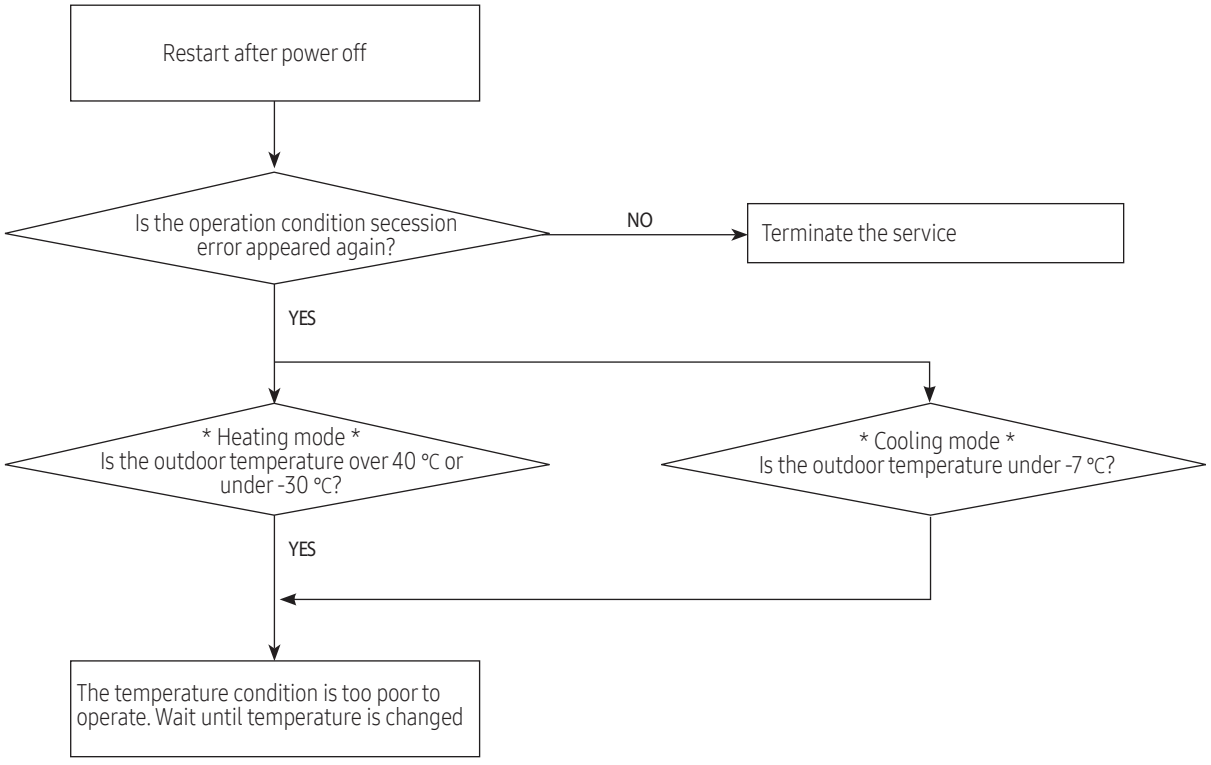
Outdoor display

●	◑	○	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

7-SEG DISPLAY	DESCRIPTION
C470	EEPROM Data Error (no data)
C471	OTP errorEEPROM Data Error (Main Micom Inv Micom)

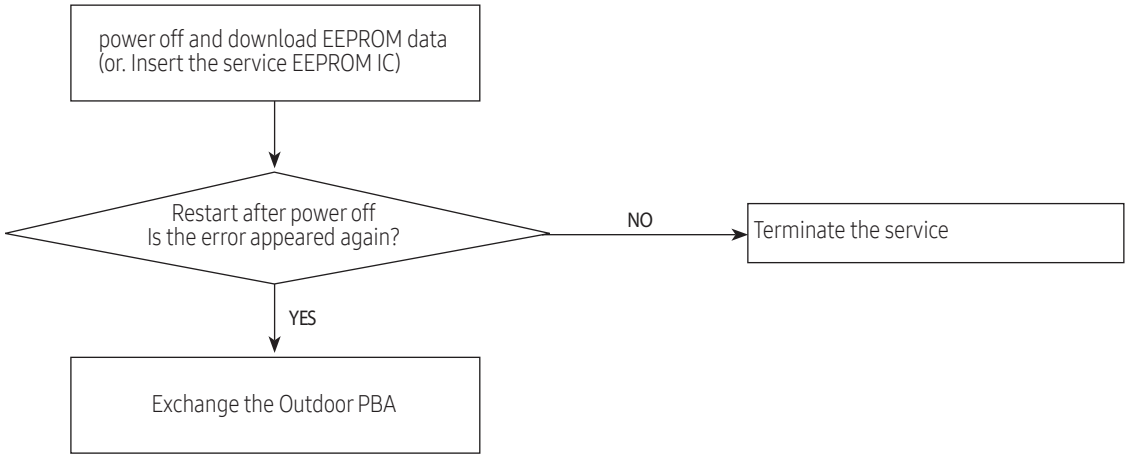
Outdoor display

○	●	○	EEPROM Data Error (no data)
●	○	◑	OTP errorEEPROM Data Error (Main MicomInv 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

7-SEG DISPLAY	DESCRIPTION
C458	Outdoor fan error

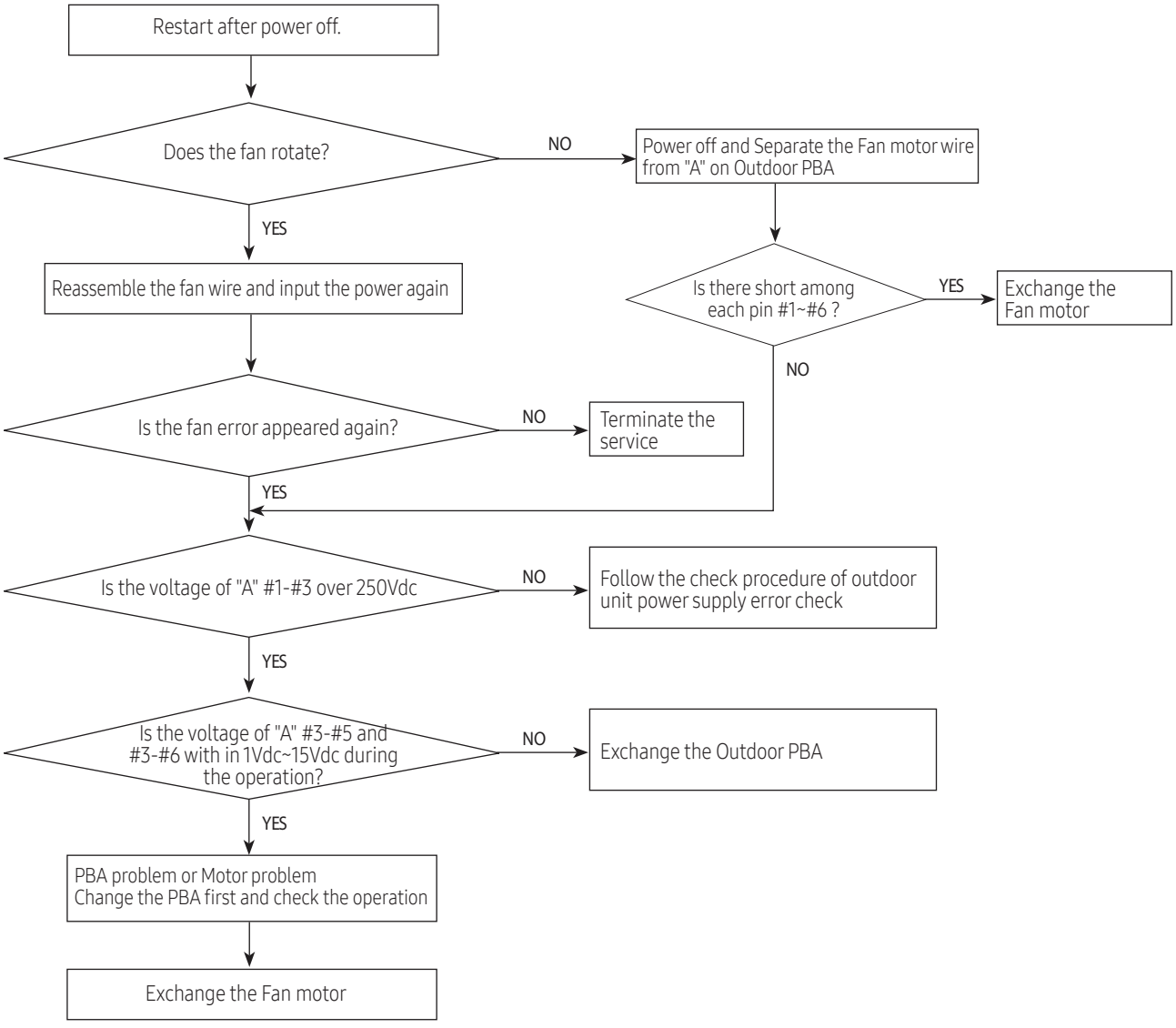
Outdoor display

●	○	○	Outdoor fan error

● LED ON ◑ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure



10-2-10 Compressor starting error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C461	Comp starting error

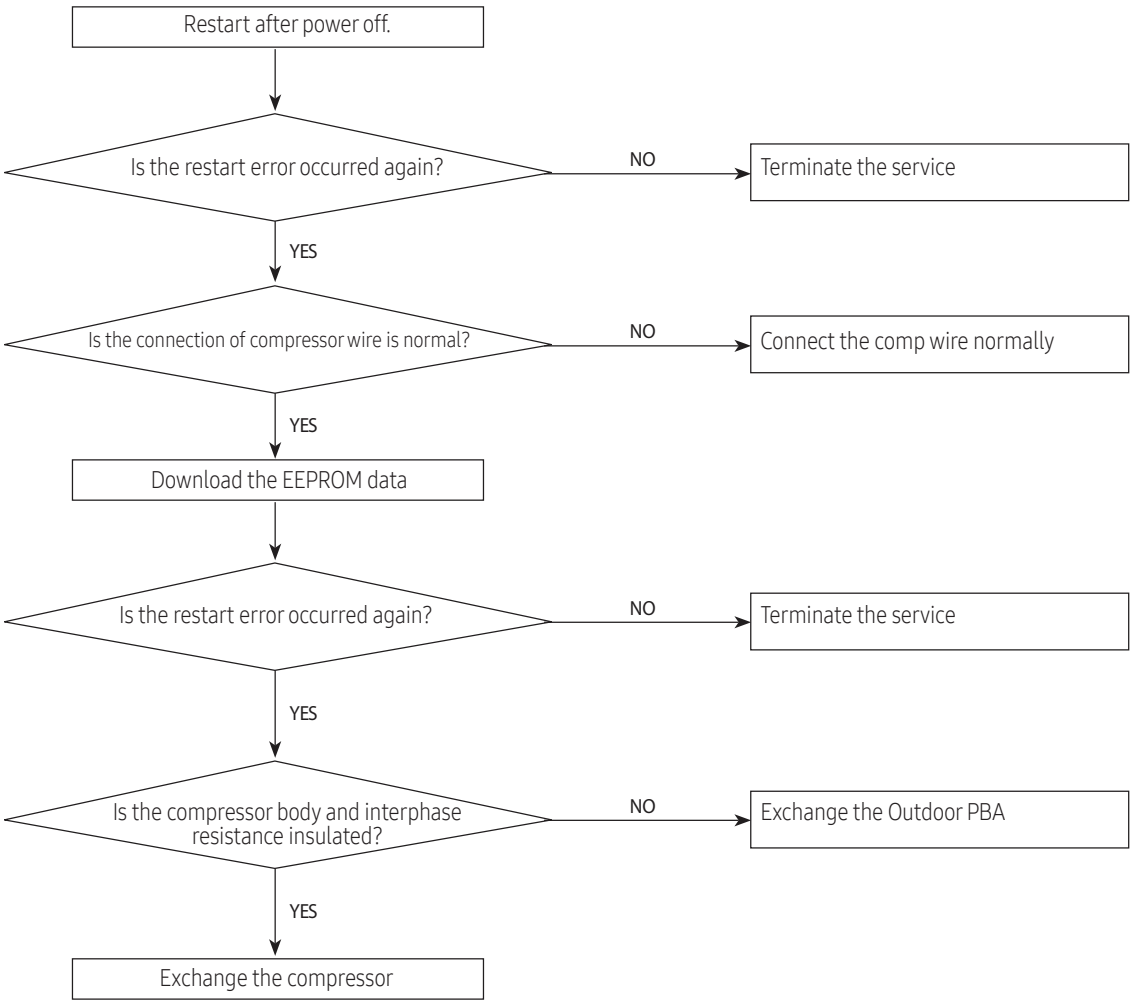
Outdoor display

○	◑	○	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

7-SEG DISPLAY	DESCRIPTION
C467	Compressor wire missing errorr/rotation error

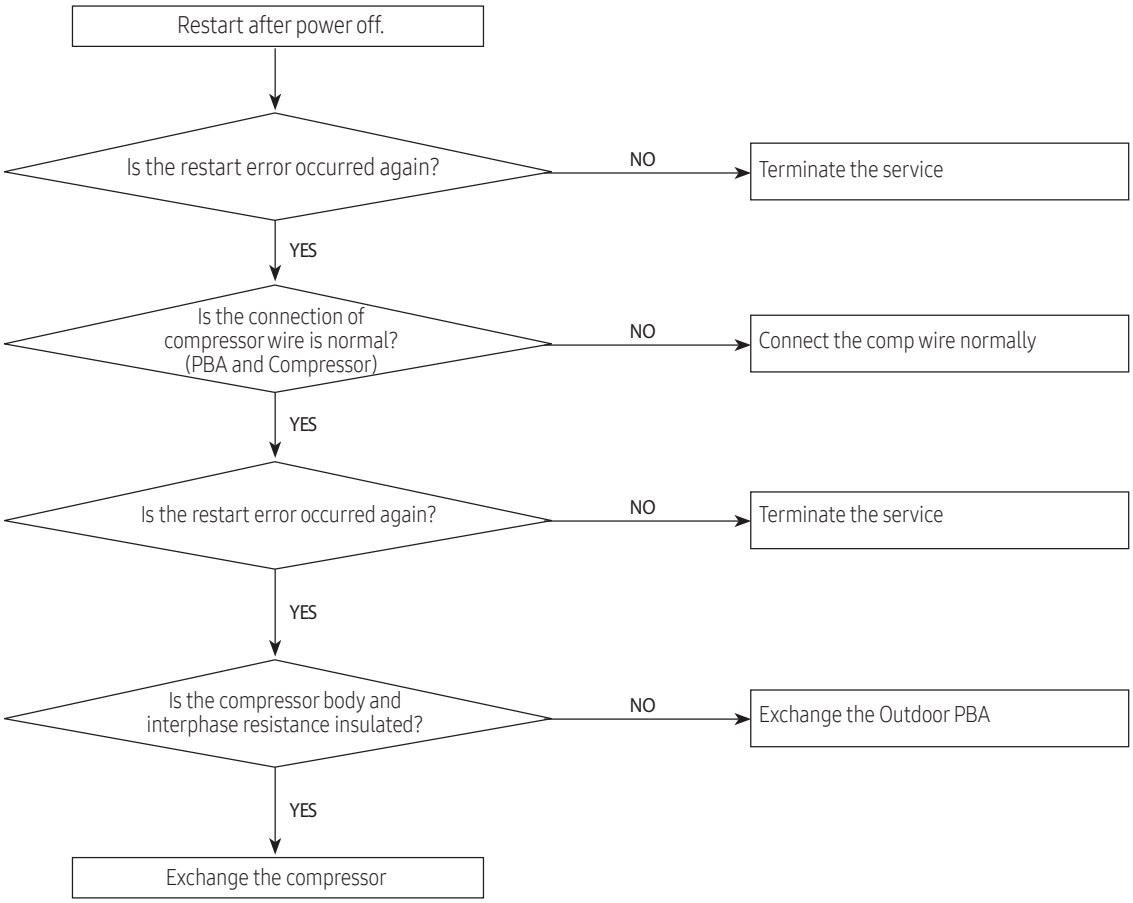
Outdoor display

●	○	●	Compressor wire missing error/rotation error

● LED ON ◑ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure



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

Indoor display

7-SEG DISPLAY	DESCRIPTION
C462	AC Input I_Limit Trip Error

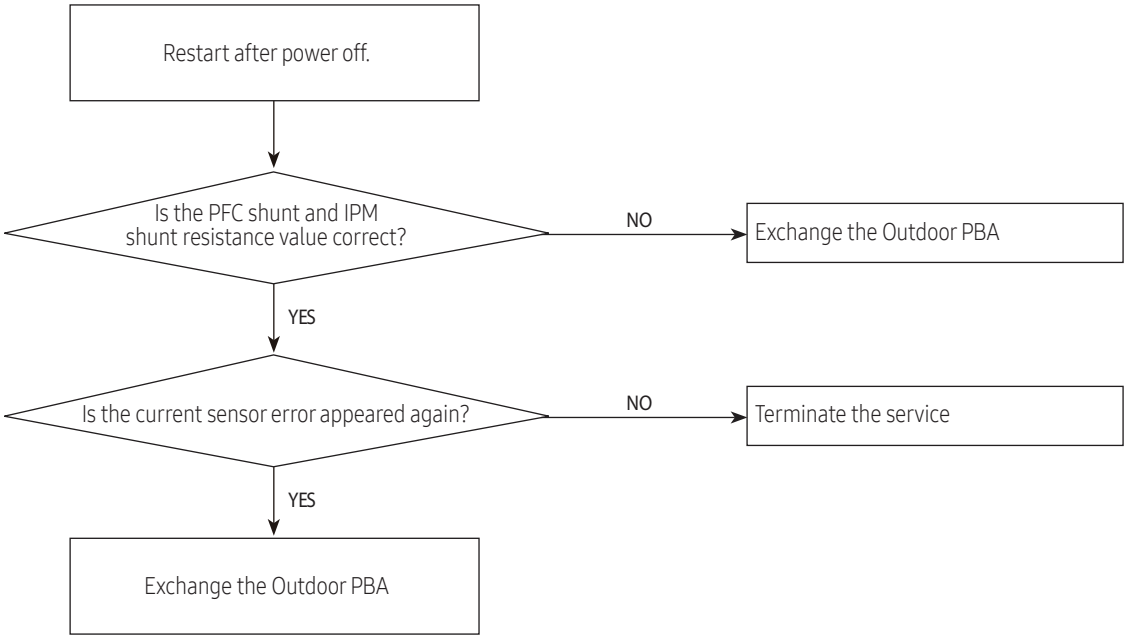
Outdoor display

◑	◑	●	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

7-SEG DISPLAY	DESCRIPTION
C464	IPM Over Current(O.C) Error

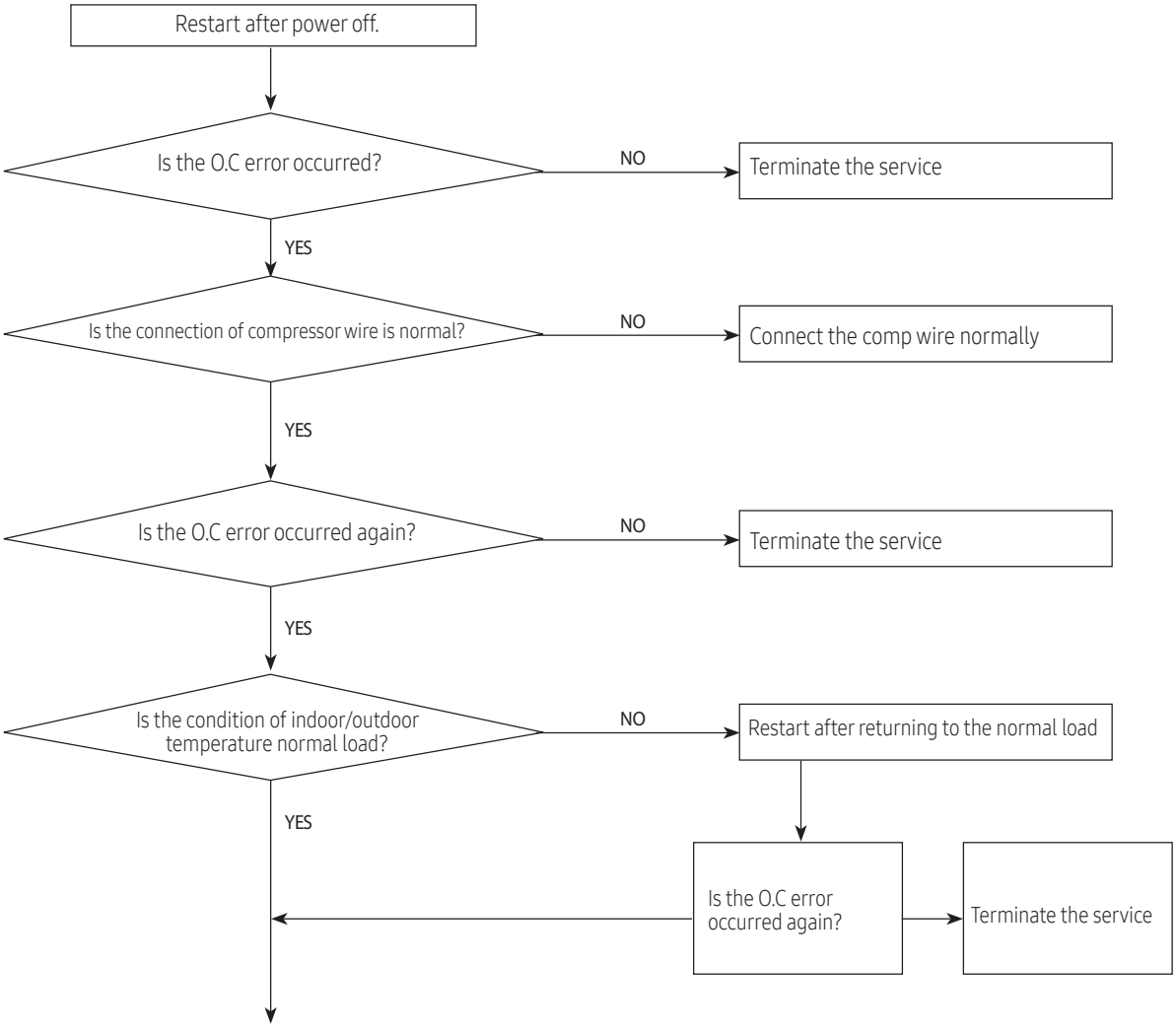
Outdoor display

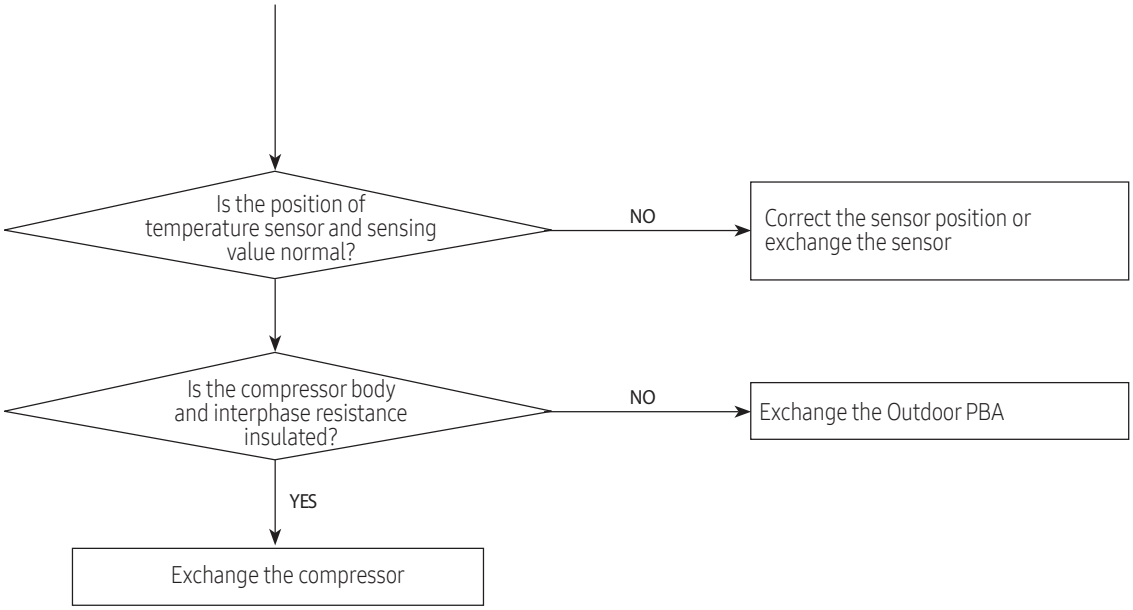
○	○	◑	Current sensor error

● LED ON ◑ LED BLINKING ○ LED OFF

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

2. Troubleshooting procedure

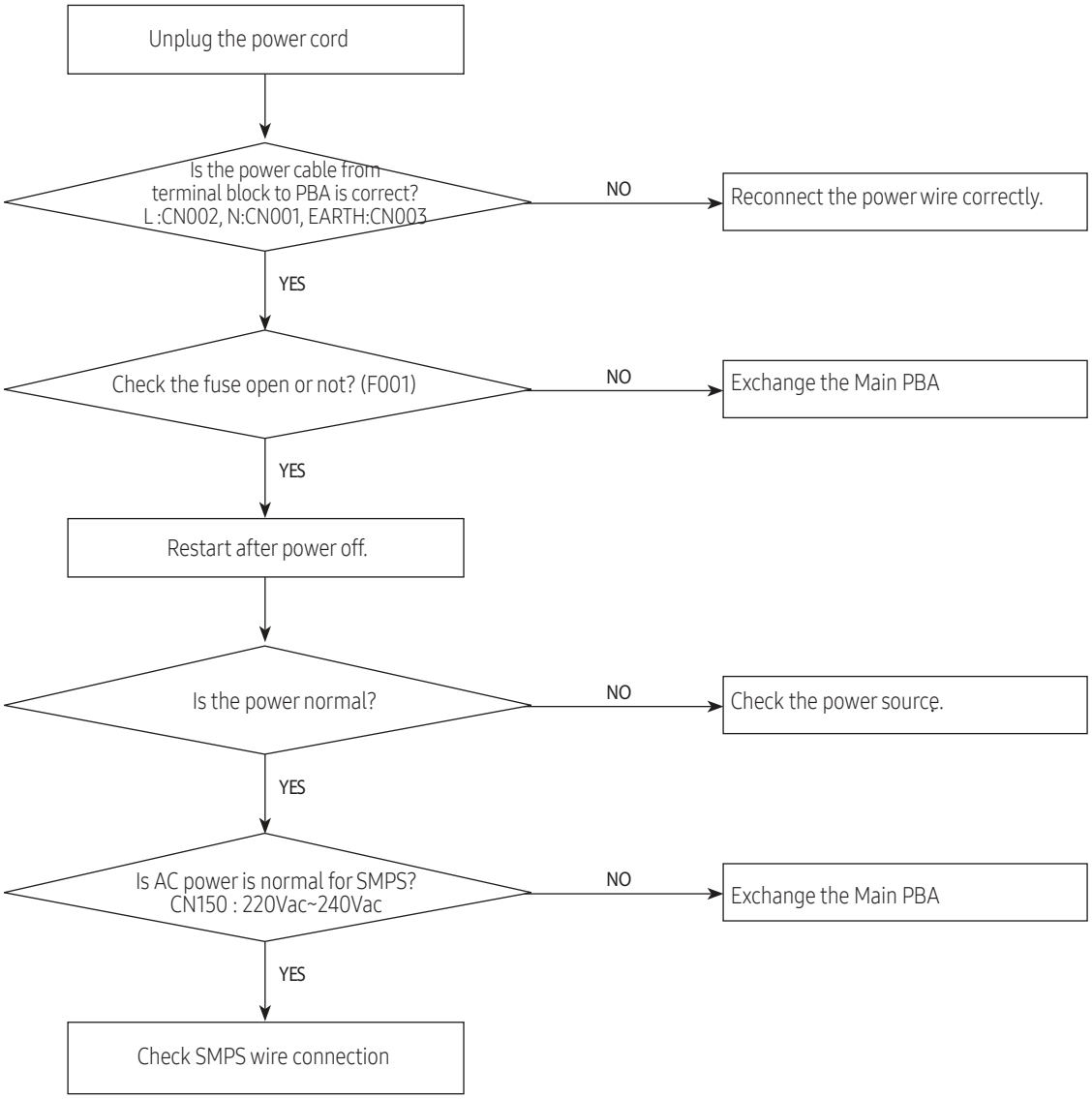



Is the position of temperature sensor and sensing value normal?
NO
Correct the sensor position or exchange the sensor
Is the compressor body and interphase resistance insulated?
NO
Exchange the Outdoor PBA
YES
Exchange the compressor

10-2-14 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?

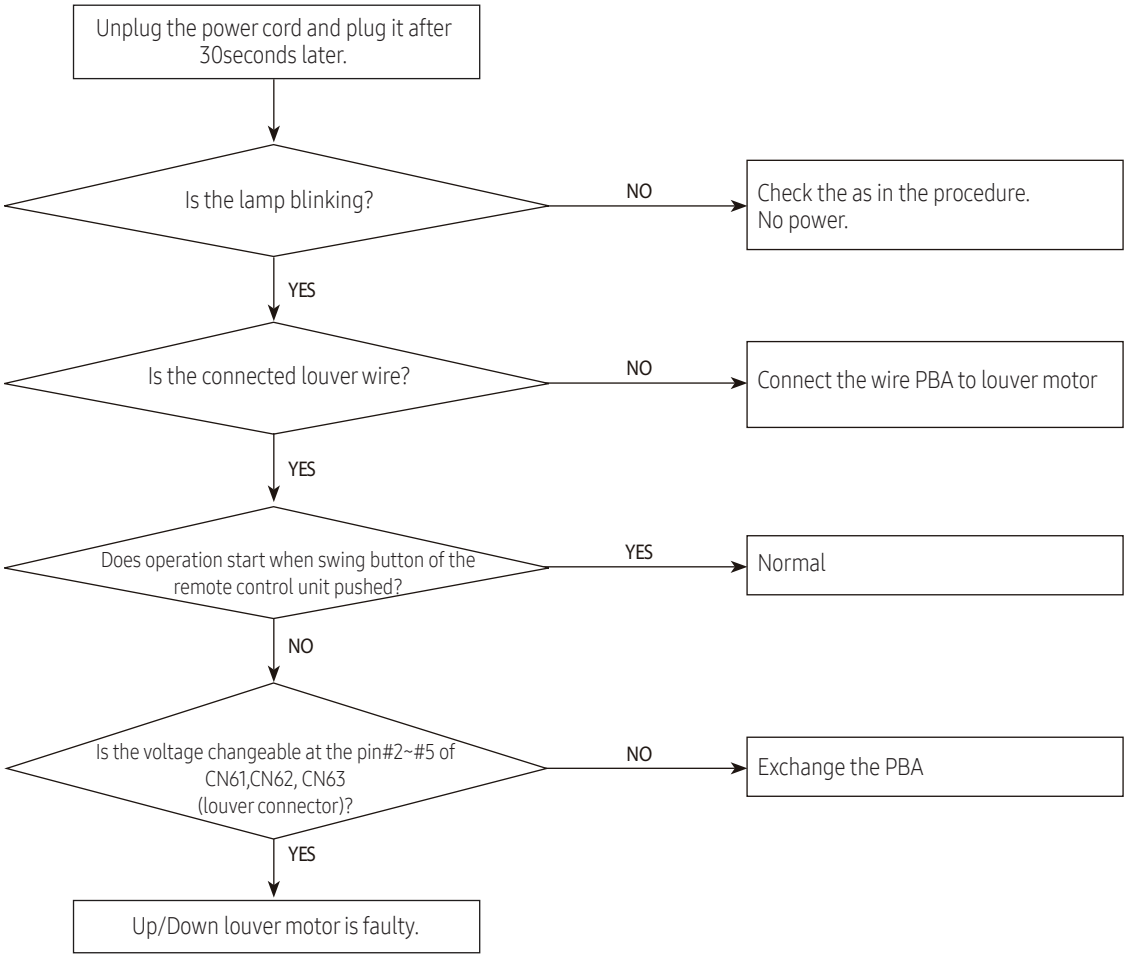
2. Troubleshooting procedure



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)

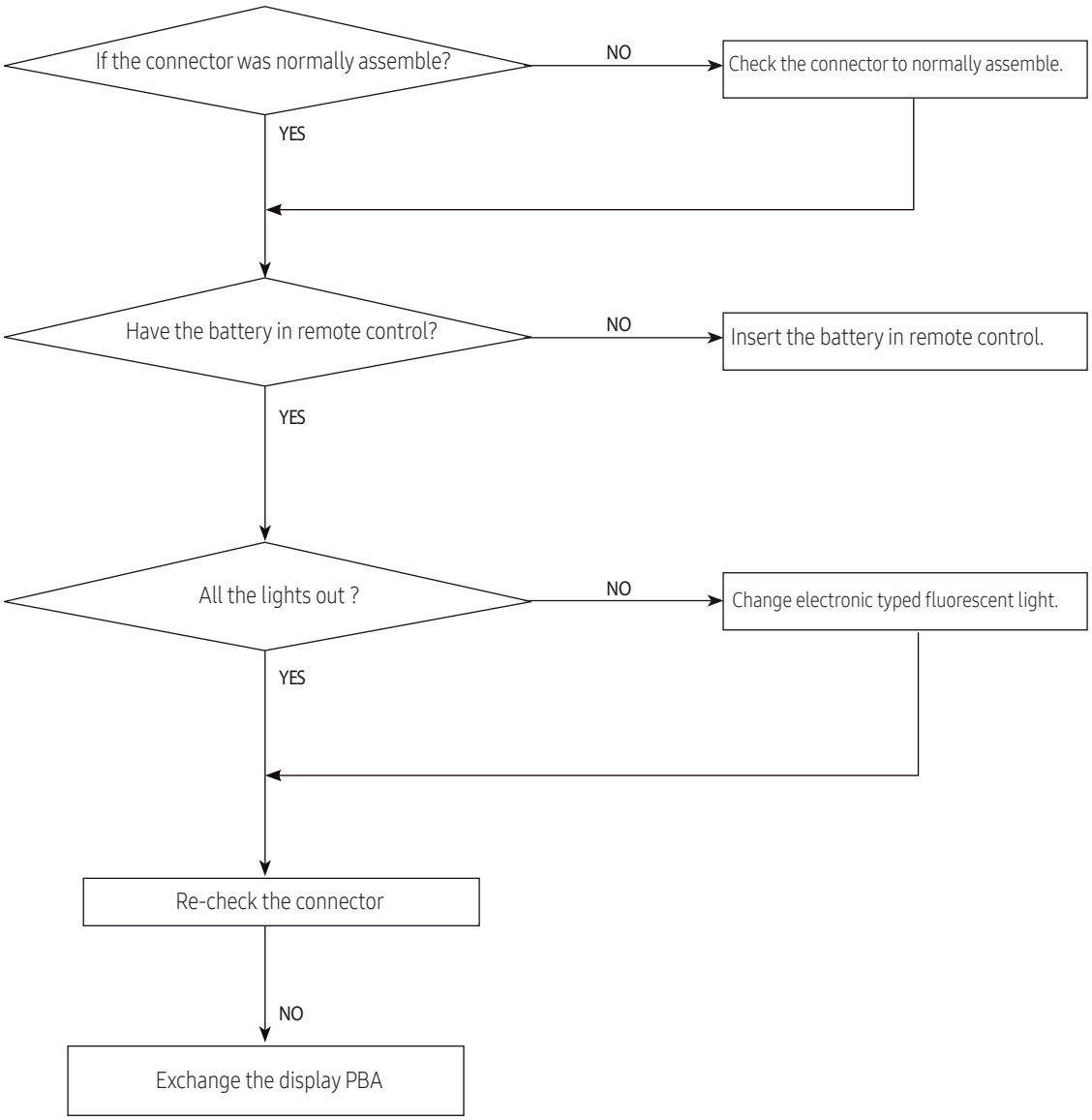
2. Troubleshooting procedure



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 rescent light
    4) Put the set in operation and check the voltage of display PBA
    5) Replace the display PBA

2. Troubleshooting procedure

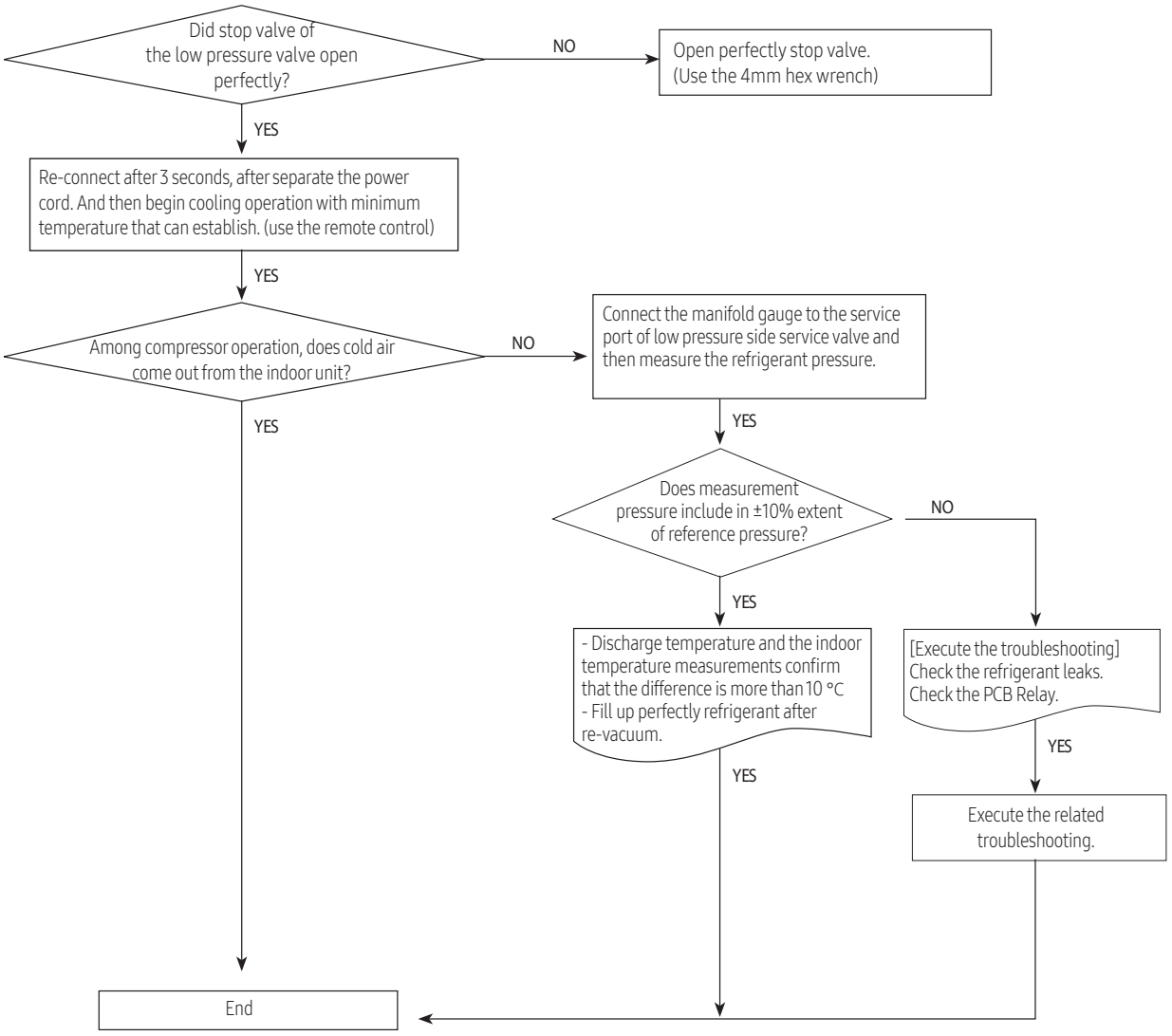


10-2-17 Smart Install error

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 re 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

DESCRIPTION
No display about the outdoor condition

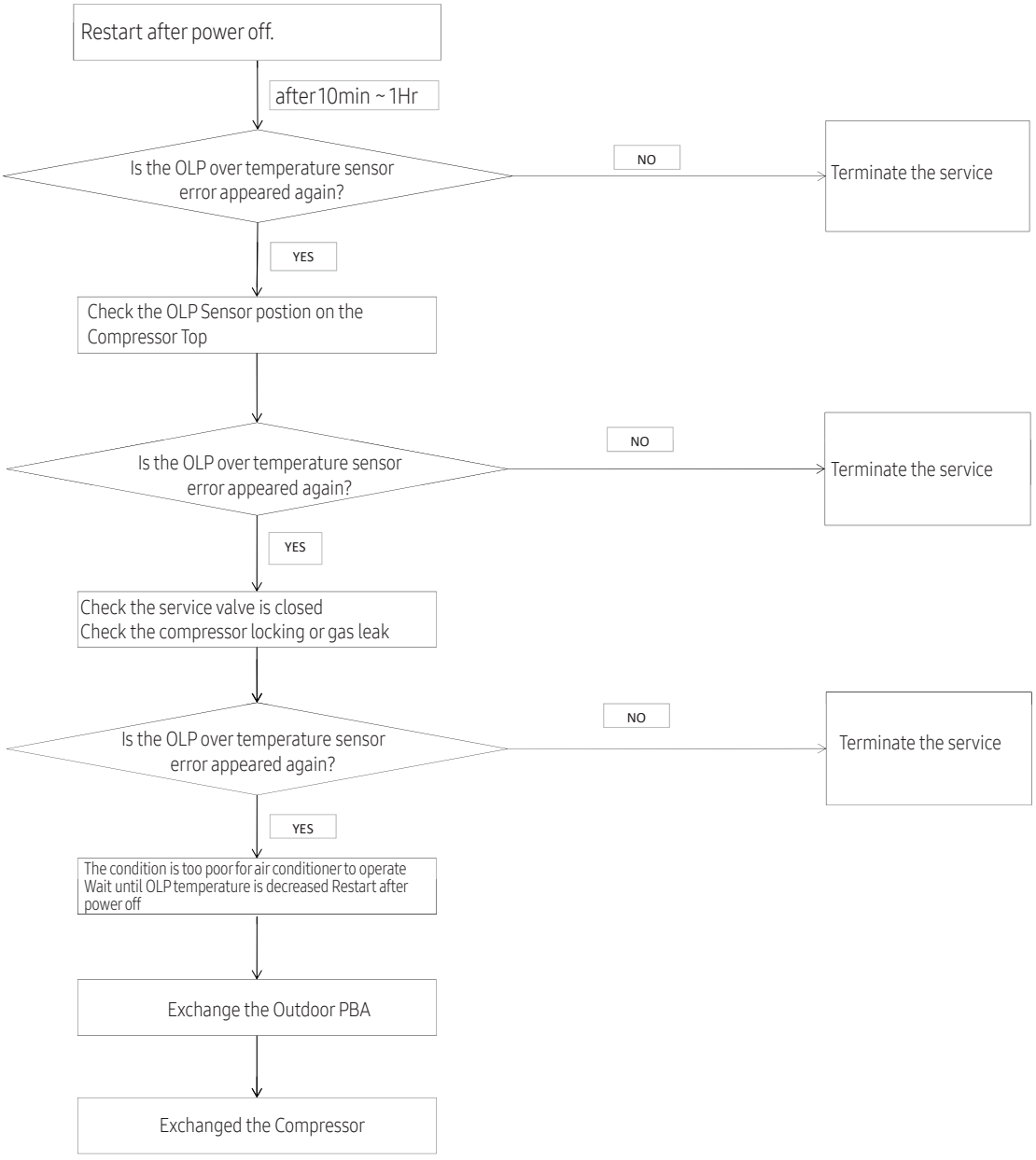
Outdoor display

◑	○	●	C463	IPM Over Current(O.C) Error

● LED ON ◑ LED BLINKING ○ LED OFF

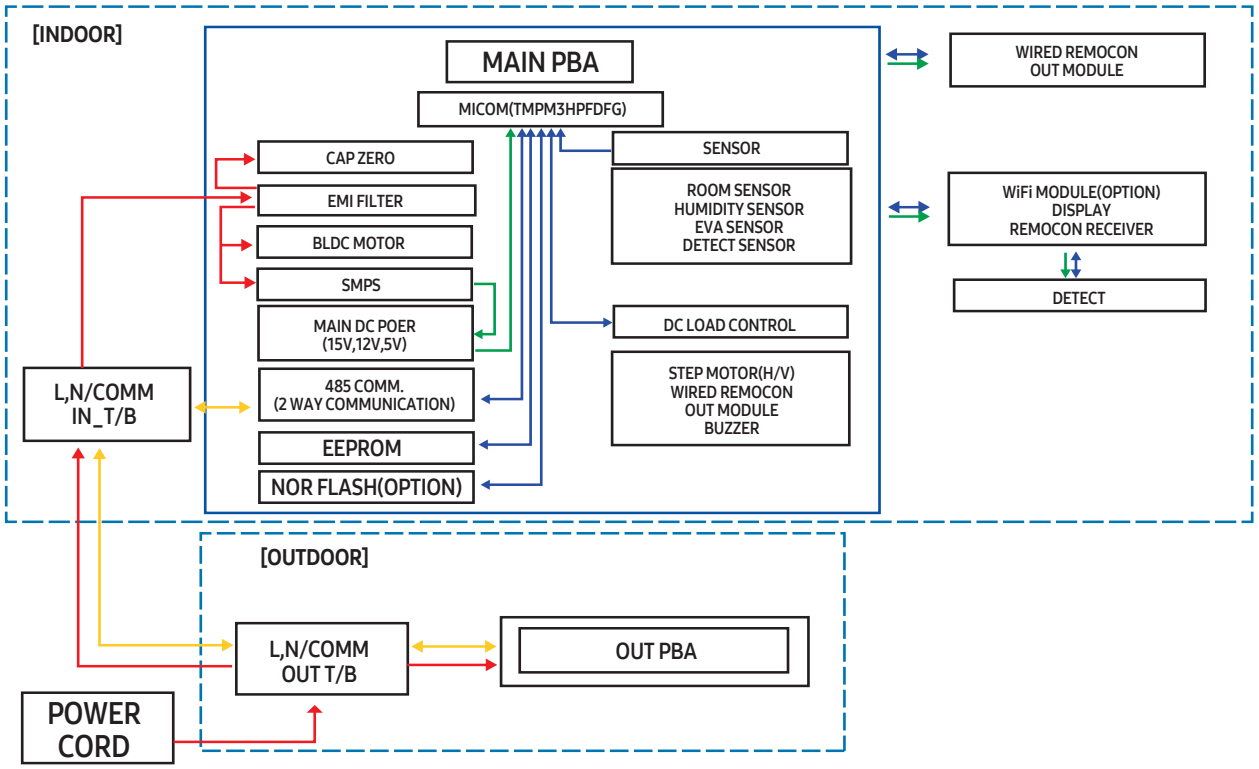
1. Checklist :
   1) Is the sensor placed correctly?
   2) Check the service valve is closed
   3) Check the compressor locking or gas leak

2. Troubleshooting procedure

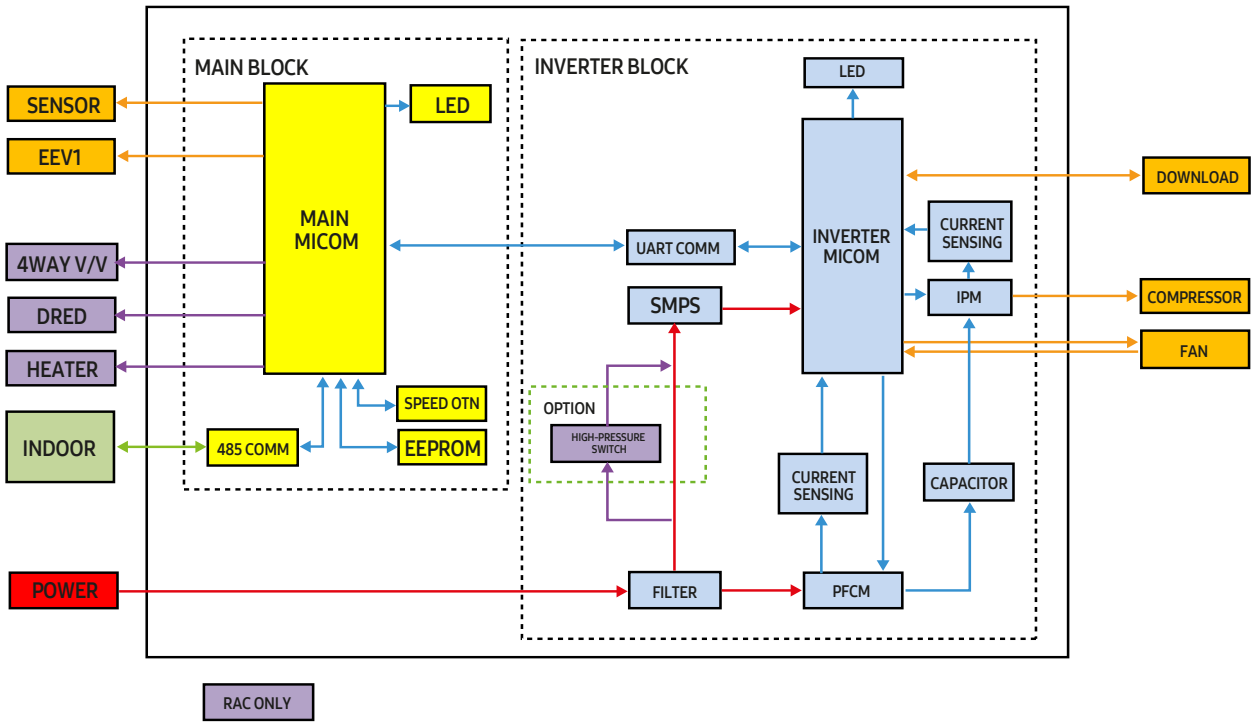


11. Block Diagram

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) Is the voltage between both terminal of IC02 pin #2-#3 5Vdc?	• Power circuit is faulty, Load short
3	Press the ON/OFF button 1. Fan speed(high) 2. Continuous Operation	1) Is the voltage over AC 180V being imposed on terminal #3-#5 of fan motor connector (CN72)?	• Fan motor of the indoor is faulty
		2) The fan motor of the indoor unit doesn't run	• Fan motor connector(CN72) is faulty
		3) The power voltage between terminal #3-#5 of the connector(CN72) is 0V	• PBA is faulty

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)
		3) 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 o check no power - abnormal display : check error mode	• F1,F2 wire wrong wiring • Outdoor PBA is faulty

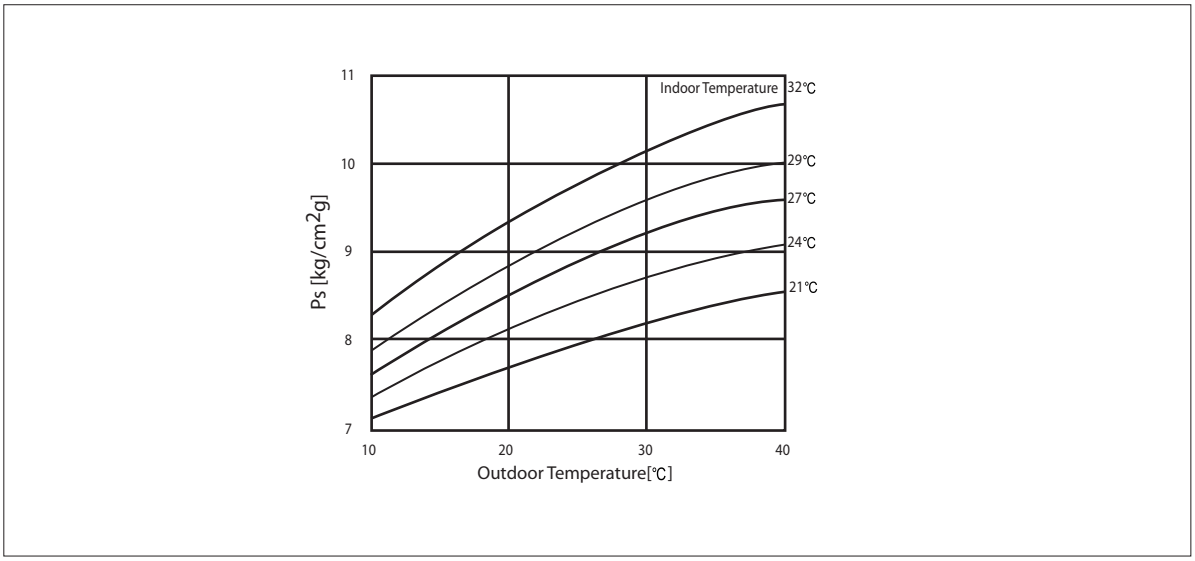
12. Reference Sheet

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	$3.9302x10^{-4}$	0.029885	0.21616
745.7	178.11	641.19	2,544.4	1	76.04	550
9.8067	2.3423	8.4322	33.462	0.013151	1	7.233
1.3558	0.32383	1.0658	4.6262	0.0018182	0.13826	1

12-3 Q & A for Non-trouble

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

Classication	Class	Description
Smells	Q	**Whenever the air conditioner is turned on, it stinks.**
	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	**Whenever the air conditioner is turned on, it smells sour.**
	A	When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out problem or refresh the room frequently.
	Q	**Whenever the air conditioner is turned on, it smells musty.**
	A	It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of ventilation to prevent must. When the product is kept without drying up the inside with ventilation, mold would grow inside resulting in must. So, open the windows and switch on the ventilation function to get rid of the saturated smell inside.
	Q	**Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.**
	A	It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.
	Q	**It sends out bad smells.**
	A	When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the ventilation function.
Operation	Q	**It won't start.**
	A	There is a power failure or it is plugged out. Also, check if the power distribution panel is switched o.
	Q	**It goes off during operation.**
	A	When the hot air does not escape properly, it goes o during operation. it occurs when it does not ventilate properly because the outdoor unit is covered, the back of the outdoor unit is blocked by a cardboard or a plywood panel, and the front of the outdoor unit is blocked by the closed window or other obstacles. Clear the above obstacles from the outdoor unit.
	Q	**It generally works properly. But, when it’s considerably hot, it goes off during operation.**
	A	It occurs when the outdoor unit is exposed to direct sunlight and the hot air does not escape properly. Set up a sun blind over the outdoor unit and clear the neighboring obstacles from the outdoor unit to provide good ventilation. When it goes o frequently during a heat wave, it would prevent the turno and increase the cooling capacity cleaning the outdoor unit or spraying some water to the heat exchanger.
	Q	**The remote controller won’t operate.**
	A	When the batteries run out or the transmitter or receiver of the remote controller is blocked by obstacles, change the batteries or keep the obstacles away from the controlling area. Also, the remote controller may mot 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.

Classication	Class	Description
	Q	**Who installs the air conditioner? (Relocation/Re-installation)**
	A	When relocating or re-installing the air conditioner, make sure to contact Samsung Electronics Service Center or Authorized Service Agent and have them to do the job. (If not, it could cause personal injuryor product damage.) The cost for the relocation/re-installation of the air conditioner is subject to the customer's expense. There is a cost table. But, our service engineer needs to visit to total up the cost correctly. When you move in, make sure to contact Samsung Electronics Service Center or Authorized Service Agent in advance to streamline the process.
	Q	**Is it possible to install the outdoor unit outside?**
	A	It is possible to install it at a designated place in the apartment or on the rooftop nearby. But, it's illegal hanging an angle iron case with the outdoor unit in it outside the apartment. Also, it is illegal obstructing passers-by with the outdoor unit installed outside.
	Q	**What can be done to install the outdoor unit facing the road because it is a commercial building?**
	A	The following is an excerpt from building code going into eect 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 bel installed higher than 2 m to prevent the exhaust air from blowing directly to passersby 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	**What about installing a windscreen during installation not to blow hot air directly to passers-by?**
	A	When the hot air from the front of the outdoor unit is blocked, the product's performance will be aected 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

Auto clean function

Use the Auto clean function if the indoor unit produces odors.

Activating Auto clean

To activate Auto clean, press the Options (Clean 3sec) (Options) button for at least 3 seconds.

The indoor unit display shows:

Canceling Auto clean

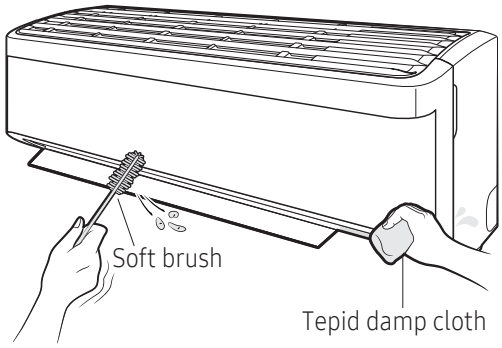
To cancel Auto clean while it is running, follow the procedure below:

Options (Clean 3sec) ▶ **Press and hold for 3 or more seconds.**

Deactivating Auto clean

To deactivate Auto clean, follow the procedure below while the air conditioner is in operation or turned off:

Options (Clean 3sec) ▶ < > ▶ **Select Clean.** ▶ SET °C⇔°F 3sec



Cleaning the outside of the indoor unit

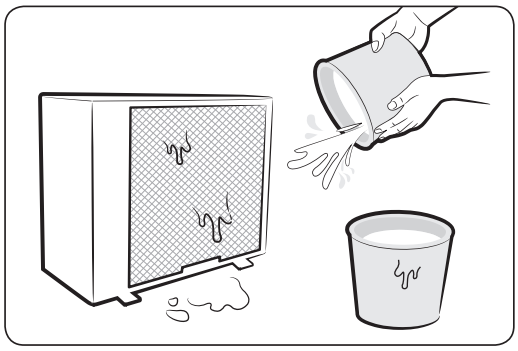
1 Turn off the air conditioner and wait until the fan stops.
2 Disconnect the power supply.
3 Use a soft brush or tepid damp cloth to clean the exterior.

⚠ WARNING

- Do not clean the appliance by spraying water directly onto it. Water entering the unit may result in electric shock or fire that could cause death, serious injury, or property damage:

⚠ CAUTION

- Do not use an alkaline detergent to clean the indoor unit display.
- Do not use sulphuric acid, hydrochloric acid, or organic solvents such as paint thinner, kerosene, acetone, benzene, or alcohol to clean the unit surfaces.



Cleaning the heat exchanger on the outdoor unit

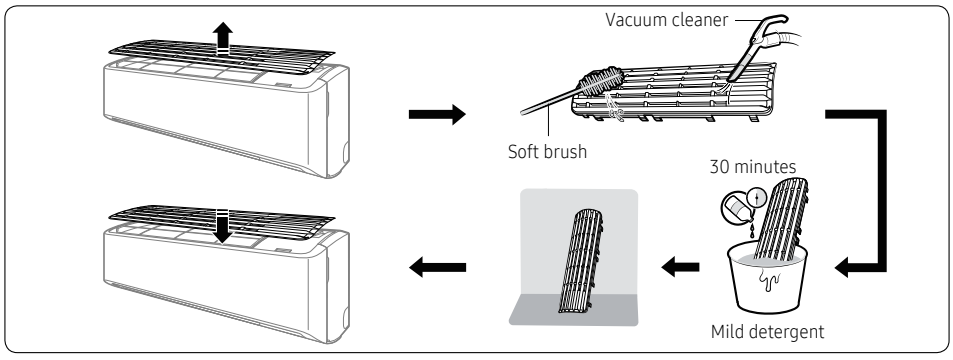
1 Turn off the air conditioner and wait until the fan stops.
2 Disconnect the power supply.
3 Spray water on the heat exchanger to remove dust and other debris.

⚠ CAUTION

- Do not use sulphuric acid, hydrochloric acid, or organic solvents such as paint thinner, kerosene, acetone, benzene, or alcohol to clean the unit surfaces.
- If you need to inspect or clean the inside of the heat exchanger on the outdoor unit, contact a local service centre for help.

Cleaning the filter

Clean the air filter every two weeks or when the CF (filter-cleaning reminder) appears on the indoor unit display. The time between cleanings may vary, depending on the usage and environmental conditions.



12-5 Installation

12-5-1 Before Installation

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

12-5-2 Installation Procedure

■ Location

Install the product in an area to guarantee the best cooling eect, 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

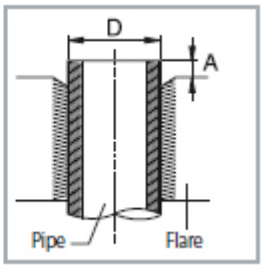
Fix the air conditioner indoor unit securely to the wall. Secure the outdoor unit in a suitable position.

■ 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 are 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.

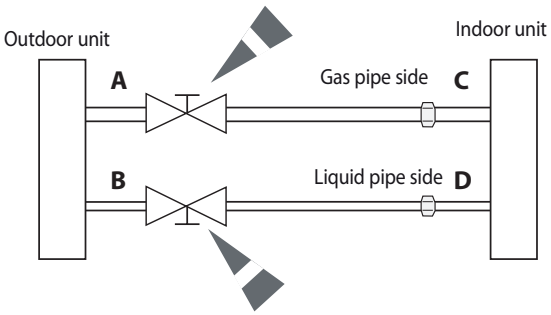
3) Open the valve of the low pressure side of manifold gauge counter-clockwise.

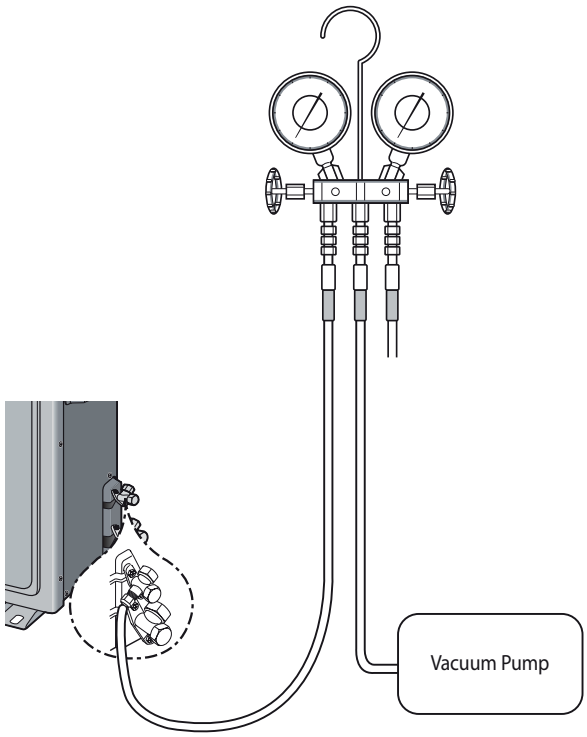
4) Purge the air from the system using vacuum pump for about 30 minutes.
   - After that, please recheck that pressure is stabilized.
   - Close the valve of the low pressure side of manifold gauge clockwise.
   - Remove the hose of the low pressure side of manifold gauge.

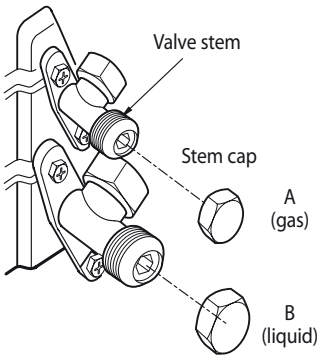
5) Set valve cork of both liquid side and gas side of packed valve to the open position.

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.

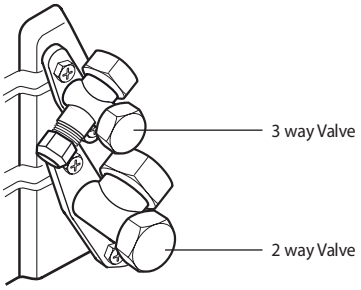
3) Set the unit to cool operation mode. (Check if the compressor is operating.)

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.

Performing the gas leak tests for repair

In case of repair of the refrigerant circuit, the following procedure must be kept to consider flammability.

1 Remove the refrigerant.
2 Purge the refrigerant circuit with inert gas.
3 Perform evacuation.
4 Purge the circuit again with inert gas.
5 Open the circuit.
6 Perform repair work.
7 Charge the system with refrigerant.
8 Flush the system with nitrogen blowing for safety.
9 Repeat the previous steps several times until no refrigerant is within the system.

⚠ CAUTION

- Compressed air or oxygen shall not be used.
- Flush the system with nitrogen blowing, fill the refrigerant until the working pressure is reached, ventilate to atmosphere, and then pull down to a vacuum state.
- For the final nitrogen blowing charge, the system shall be ventilated down to atmospheric pressure.
- The procedure is absolutely vital in case of brazing on the pipings.
- Make sure that the outlet of the vacuum pump is not closed to any ignition sources and there is ventilation available.
- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the air condiitoner.

Decommissioning

The following requirements must be fulfilled before and while taking the decommissioning procedure:

- Before decommissioning, the worker shall be familiar with the product details.
- The entire refrigerant shall be recovered safely.
- Before starting the process, oil and refrigerant samples shall be taken just in case analysis is required for reuse.
- Before starting the process, power supply must be available.

1 Be familiar with the equipment details.
2 Isolate the system electrically.
3 Before starting the process, make sure that:

- Any mechanical equipment is available for handling refrigerant cylinders.
- All PPE (personal protective equipment) is available for servicing.
- The recovery process shall be supervised by a competent person.
- The recovery equipment and cylinders comply with the standards.

4 Lower the refrigeration system, if possible.
5 If vacuuming is not possible, make a manifold so that refrigerant can be easily removed from the parts of the system.
6 Make sure that the cylinders are placed on the scales before recovery.
7 Run the recovery system in accordance with the manufacturer's instructions.
8 Do not overcharge the cylinders. (No more than 80 %)
9 Be sure to keep the cylinder within the maximum working pressure, even temporarily.
10 After charging, make sure that the cylinders and the equipment are promptly removed from the site and all isolation valves are closed.
11 Recovered refrigerant shall not be charged into other refrigeration system unless it is cleaned and checked.

12-7. Reference Sheet

Index for Model Name

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

Item	1st	2nd
RAC	A	R

Item	Reference	3rd	4th
1	Export	0	9
2	Export	1	2
3	Export	1	8
4	Export	2	4

Item	5th
19 Year	R
20 Year	T
21 Year	A
22 Year	B

Item	6th
INVERTER HP R32	X
INVERTER CO R32	Y
INVERTER HP R410	S
INVERTER CO R410	V

Item	7th
Motion detact + PM1.0 Filter + PM1.0 Sensor + Wifi	A
Motion detact + PM1.0 Filter + Wifi	B
Motion detact + Wifi + Tri-care filter	C
Motion detact + Wifi	D
Wifi + Tri-care filter	E
Wifi	F
Tri-care filter	G
none	H
Good1 ,swing	J

Item	8th
Wind-Free GEO	A
Wind-Free AIRISE	C
Wind GEO	Y
Wind AIRISE	Z

Item	8th
1ST MODEL	A
2nd MODEL	B

Division	Series	Project	Color Name	Division component	Sinkeolreo code (10th,11th)	Remark
QMD	A	GEO (Wind-Free)	DA White	Grille	WK	
	C	AIRISE (Wind-Free)	DA White	Grille	WK	
	Y	GEO (Wind)	DA White	Grille	WK	
	Z	AIRISE (Wind)	DA White	Grille	WK	

Item	12th
SET	/
IN	N
OUT	X

The existing code	The sales area	CIS Desription	The integrated code (13th,14th)
AP	PANAMA& ECUADOR	AP	AP

SAMSUNG

ELECTRONICS

GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
North America	http://gspn3.samsungcsportal.com
Latin America	http://gspn3.samsungcsportal.com
CIS	http://gspn1.samsungcsportal.com
Europe	http://gspn1.samsungcsportal.com
China	http://china.samsungportal.com
Asia	http://gspn2.samsungcsportal.com
Middleeast & Africa	http://gspn1.samsungcsportal.com