SAMSUNG

SPLIT-TYPE AIR CONDITIONER

MODEL CODE	INDOOR UNIT	OUTDOOR UNIT
	AR09TSFABWKNCV	AR09TSFACWKXCV
	AR12TSFABWKNCV	AR09TSFABWKXCV
	AR09TSFYBWKNCV	AR12TSFACWKXCV
	AR12TSFYBWKNCV	AR12TSFABWKXCV
	AR18TSFYBWKNCV	AR09TSFYBWKXCV
	AR18TSFABWKNCV	AR12TSFYBWKXCV
	AR24TSFYBWKNCV	AR18TSFYBWKXCV
	AR24TSFABWKNCV	AR18TSFACWKXCV
		AR18TSFABWKXCV
		AR24TSFYBWKXCV
		AR24TSFACWKXCV
		AR24TSFABWKXCV

SERVICE Manual

AIR CONDITIONER

AR**TSFY*WKNCV

AR**TSFA*WKNCV

AR09TSF**WKXCV
AR12TSF**WKXCV

AR18TSFYBWKXCV

AR18TSFACWKXCV
AR18TSFABWKXCV
AR24TSFYBWKXCV

AR24TSFACWKXCV
AR24TSFABWKXCV

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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

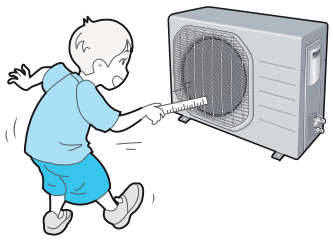
- Do not repair the air conditioner at your discretion. It is recommended to contact a service center directly.
- Never spill any kind of liquid on the air conditioner. If this happens, turn off the air conditioner and contact an authorized service center.
- Do not insert anything between the airflow 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

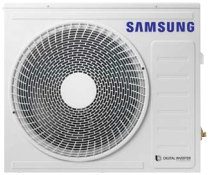
Model			AR09TSFACWKXCV	AR09TSFABWK/CV	AR12TSFACWKXCV	AR12TSFABWK/CV
Rating	Mode	Unit	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted
Capacity	T1 Cool	Btu/h	9000	9000	12000	12000
	T3 Cool	Btu/h	-	-	-	-
	Heat	Btu/h	11000	11000	12000	12000
Power Input	T1 Cool	W	580	580	890	890
	T3 Cool	W	-	-	-	-
	Heat	W	730	730	830	830
Current	T1 Cool	A	2.8	2.8	4.2	4.2
	T3 Cool	A	-	-	-	-
	Heat	A	3.4	3.4	3.8	3.8
Efficiency	EER	Btu/hW	15.50	15.50	13.50	13.50
			-	-	-	-
	COP	Btu/hW	15.05	15.05	14.45	14.45
Dehumidifying		l/hr.	2.5	2.5	2.5	2.5
Platform	IDU	-	QF2 (GEO)	QF2 (GEO)	QF2 (GEO)	QF2 (GEO)
	ODU	-	N-SI	N-SI	N-SI	N-SI
Evap	Main	-	Φ7, (2R*10S+1R*4S)*660mm, (H1.3+H1.3), N.G.S, 1by2	Φ7, (2R*10S+1R*4S)*660mm, (H1.3+H1.3), N.G.S, 1by2	Φ7, (2R*10S+1R*4S)*660mm, (H1.3+H1.3), N.G.S, 1by2	Φ7, (2R*10S+1R*4S)*660mm, (H1.3+H1.3), N.G.S, 1by2
	Sub	-	Φ7, (2R*6S+1R*4S)*660mm, (H1.3+H1.3), N.G.S : (Q-2-3)	Φ7, (2R*6S+1R*4S)*660mm, (H1.3+H1.3), N.G.S : (Q-2-3)	Φ7, (2R*6S+1R*4S)*660mm, (H1.3+H1.3), N.G.S : (Q-2-3)	Φ7, (2R*6S+1R*4S)*660mm, (H1.3+H1.3), N.G.S : (Q-2-3)
Cond	Main	-	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by4by2	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by4by2	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by4by2	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by4by2
	Sub	-	-	-	-	-
Comp	Model	-	KTN130D42UFR	KTN130D42UFR	KTN130D42UFR	KTN130D42UFR
	OLP	-	-	-	-	-
Motor In	Code	-	DB31-00636A	DB31-00636A	DB31-00636A	DB31-00636A
	Name	-	RD-310-25-8A(AL) / SIC-41CVJ-F127-2	RD-310-25-8A(AL) / SIC-41CVJ-F127-2	RD-310-25-8A(AL) / SIC-41CVJ-F127-2	RD-310-25-8A(AL) / SIC-41CVJ-F127-2
Motor Out	Code	-	DB31-00642C	DB31-00642C	DB31-00642C	DB31-00642C
	Name	-	RD-310-45-8B	RD-310-45-8B	RD-310-45-8B	RD-310-45-8B
Expansion	Φ * L	-	Φ1.4	Φ1.4	Φ1.4	Φ1.4
Refrigerant	type	-	R410A	R410A	R410A	R410A
	charge	g	1150 g	1150 g	1150 g	1150 g
SVC Valve	Liquid / Gas	-	Φ6.35/Φ9.52	Φ6.35/Φ9.52	Φ6.35/Φ9.52	Φ6.35/Φ9.52
Tube	Dis. / Suc.	-	Φ9.52/Φ12.7	Φ9.52/Φ12.7	Φ9.52/Φ12.7	Φ9.52/Φ12.7
Drain hose	D * L	mm	20*550	20*550	20*550	20*550
4-WAY V/V		HP	2 HP	2 HP	2 HP	2 HP
Power Supply		V/Hz/Φ	208-230/60/1	208-230/60/1	208-230/60/1	208-230/60/1
Climate Class		-	T1	T1	T1	T1
Noise	IDU UT,T	dB	41 dB↓	41 dB↓	43 dB↓	43 dB↓
	ODU	dB	51 dB↓	51 dB↓	53 dB↓	53 dB↓
Net Size (W*H*D)	IDU	mm	889*299*215	889*299*215	889*299*215	889*299*215
	ODU		790*548*285	790*548*285	790*548*285	790*548*285
Weight	IDU	kg	10.1	10.1	10.1	10.1
	ODU		32.4	32.4	32.4	32.4
Operation range	Cooling	IDU	61 ~ 90 ˚F	61 ~ 90 ˚F	61 ~ 90 ˚F	61 ~ 90 ˚F
		ODU	-0.4 ~ 115 °F	14 ~ 115 °F	-0.4 ~ 115 °F	14 ~ 115 °F
	Heating	IDU	81 ˚F or less	81 ˚F or less	81 ˚F or less	81 ˚F or less
		ODU	-13 ~ 75 °F	-5.1 ~ 75 °F	-13 ~ 75 °F	-5.1 ~ 75 °F

Model			AR09TSFYBWK/CV	AR12TSFYBWK/CV	AR18TSFYBWK/CV	AR18TSFACWKXCV
Rating	Mode	Unit	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted
Capacity	T1 Cool	Btu/h	9000	12000	18000	18000
	T3 Cool	Btu/h	-	-	-	-
	Heat	Btu/h	11000	12000	21000	20600
Power Input	T1 Cool	W	645	995	1630	1385
	T3 Cool	W	-	-	-	-
	Heat	W	865	960	1850	1630
Current	T1 Cool	A	3.1	4.8	7.4	6.2
	T3 Cool	A	-	-	-	-
	Heat	A	4.2	4.6	8.2	7.3
Efficiency	EER	Btu/hW	13.95	12.05	11.05	13.00
			-	-	-	-
	COP	Btu/hW	12.70	12.50	11.35	12.65
Dehumidifying		l/hr.	2.5	2.5	2.5	2.5
Platform	IDU	-	Q1 (GEO)	Q1 (GEO)	Q3 (GEO)	QF3
	ODU	-	N-SI	N-SI	Q-480	P-520
Evap	Main	-	Φ7, 2R*9(10)S*591mm, H1.3, N.G.S, 1by2	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+1R*4S)*825.5mm, (H1.3+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*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*6S+1R*4S)*825.5mm, (H1.3+H1.3), N.G.S : (Q-3-6)
Cond	Main	-	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by4by2	Φ7W, 2R*24S*850/825mm, Corrugate1.5, N.G.S, 4by4by2	Φ7W, 2R*28S*906.8mm, Corrugate1.5, N.G.S, 4by4by1	Φ7W, 2R*36S*906.8mm, Corrugate1.5, N.G.S, 5by5by1
	Sub	-	-	-	-	-
Comp	Model	-	KTN130D42UFR	KTN130D42UFR	UG9TK3150FE4	UG8TH8265FEW
	OLP	-	-	-	-	-
Motor In	Code	-	DB31-00694A	DB31-00694A	DB31-00636A	DB31-00637A
	Name	-	FMH2031SSA	FMH2031SSA	RD-310-25-8A(AL) / SIC-41CVJ-F127-2	RD-310-25-8B / SIC-37CVL-F127-2
Motor Out	Code	-	DB31-00642C	DB31-00642C	DB31-00642C	DB31-00579A
	Name	-	RD-310-45-8B	RD-310-45-8B	RD-310-45-8B	FMDC531SSA
Expansion	Φ * L	-	Φ1.4	Φ1.4	Φ1.65	Φ1.65
Refrigerant	type	-	R410A	R410A	R410A	R410A
	charge	g	1000 g	1000 g	1300 g	1800 g
SVC Valve	Liquid / Gas	-	Φ6.35/Φ9.52	Φ6.35/Φ9.52	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Tube	Dis. / Suc.	-	Φ9.52/Φ12.7	Φ9.52/Φ12.7	Φ9.52/Φ12.7	Φ9.52/Φ15.88
Drain hose	D * L	mm	20*550	20*550	20*550	20*550
4-WAY V/V		HP	2 HP	2 HP	2 HP	2 HP
Power Supply		V/Hz/Φ	208-230/60/1	208-230/60/1	208-230/60/1	208-230/60/1
Climate Class		-	T1	T1	T1	T1
Noise	IDU UT,T	dB	41 dB↓	43 dB↓	48 dB↓	48 dB↓
	ODU	dB	51 dB↓	53 dB↓	57 dB↓	57 dB↓
Net Size (W*H*D)	IDU	mm	820*299*215	820*299*215	1055*299*215	1055*299*215
	ODU		790*548*285	790*548*285	880*638*310	880*798*310
Weight	IDU	kg	9.2	9.2	11.5	12.5
	ODU		32.4	32.4	38.1	55.6
Operation range	Cooling	IDU	61 ~ 90 ˚F	61 ~ 90 ˚F	61 ~ 90 ˚F	61 ~ 90 ˚F
		ODU	14 ~ 115 °F	14 ~ 115 °F	14 ~ 115 °F	-0.4 ~ 115 °F
	Heating	IDU	81 ˚F or less	81 ˚F or less	81 ˚F or less	81 ˚F or less
		ODU	-5.1 ~ 75 °F	-5.1 ~ 75 °F	-5.1 ~ 75 °F	-13 ~ 75 °F

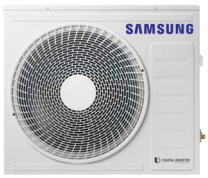
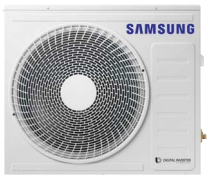
Model			AR18TSFABWK/CV	AR24TSFYBWK/CV	AR24TSFACWKXCV	AR24TSFABWK/CV
Rating	Mode	Unit	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted
Capacity	T1 Cool	Btu/h	18000	22000	21000	21000
	T3 Cool	Btu/h	-	-	-	-
	Heat	Btu/h	20600	24000	27500	27500
Power Input	T1 Cool	W	1385	2100	1680	1680
	T3 Cool	W	-	-	-	-
	Heat	W	1630	2290	2400	2400
Current	T1 Cool	A	6.2	9.8	7.6	7.6
	T3 Cool	A	-	-	-	-
	Heat	A	7.3	10.5	10.7	10.7
Efficiency	EER	Btu/hW	13.00	10.50	12.50	12.50
			-	-	-	-
	COP	Btu/hW	12.65	10.50	11.45	11.45
Dehumidifying		l/hr.	2.5	2.5	2.5	2.5
Platform	IDU	-	QF3	Q3	QF3	QF3
	ODU	-	P-520	P-520	UB1	UB1
Evap	Main	-	Φ7, (2R*10S+1R*4S)*825.5mm, (H1.3+H1.3), N.G.S, 4by4	Φ7, 2R*10S*825.5mm, H1.3, N.G.S, 4by4	Φ7, (2R*10S+1R*4S)*825.5mm, (H1.3+H1.3), N.G.S, 4by4	Φ7, (2R*10S+1R*4S)*825.5mm, (H1.3+H1.3), N.G.S, 4by4
	Sub	-	Φ7, (2R*6S+1R*4S)*825.5mm, (H1.3+H1.3), N.G.S : (Q-3-6)	Φ7, 2R*5(6)S*825.5mm, H1.3, N.G.S : (Q-3-4)	Φ7, (2R*6S+1R*4S)*825.5mm, (H1.3+H1.3), N.G.S : (Q-3-7)	Φ7, (2R*6S+1R*4S)*825.5mm, (H1.3+H1.3), N.G.S : (Q-3-7)
Cond	Main	-	Φ7W, 2R*36S*906.8mm, Corrugate1.5, N.G.S, 5by5by1	Φ7W, 2R*36S*906.8mm, Corrugate1.5, N.G.S, 5by5by1	Φ7W, 2R*46S*950mm, Corrugate1.5, N.G.S, 8by8	Φ7W, 2R*46S*950mm, Corrugate1.5, N.G.S, 8by8
	Sub	-	-	-	-	-
Comp	Model	-	UG8TH8265FEW	UG8TH8265FEW	UG8TH8265FJW	UG8TH8265FJW
	OLP	-	-	-	-	-
Motor In	Code	-	DB31-00637A	DB31-00636A	DB31-00637A	DB31-00637A
	Name	-	RD-310-25-8B / SIC-37CVL-F127-2	RD-310-25-8A(AL) / SIC-41CVJ-F127-2	RD-310-25-8B / SIC-37CVL-F127-2	RD-310-25-8B / SIC-37CVL-F127-2
Motor Out	Code	-	DB31-00579A	DB31-00579A	DB31-00579A	DB31-00579A
	Name	-	FMDC531SSA	FMDC531SSA	FMDC531SSA	FMDC531SSA
Expansion	Φ * L	-	Φ1.65	Φ1.65	Φ1.65	Φ1.65
Refrigerant	type	-	R410A	R410A	R410A	R410A
	charge	g	1800 g	1800 g	2500 g	2500 g
SVC Valve	Liquid / Gas	-	Φ6.35/Φ12.7	Φ6.35/Φ15.88	Φ6.35/Φ15.88	Φ6.35/Φ15.88
Tube	Dis. / Suc.	-	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Drain hose	D * L	mm	20*550	20*550	20*550	20*550
4-WAY V/V		HP	2 HP	2 HP	2 HP	2 HP
Power Supply		V/Hz/Φ	208-230/60/1	208-230/60/1	208-230/60/1	208-230/60/1
Climate Class		-	T1	T1	T1	T1
Noise	IDU UT,T	dB	48 dB↓	51 dB↓	51 dB↓	51 dB↓
	ODU	dB	57 dB↓	60 dB↓	60 dB↓	60 dB↓
Net Size (W*H*D)	IDU	mm	1055*299*215	1055*299*215	1055*299*215	1055*299*215
	ODU		880*798*310	880*798*310	940*998*330	940*998*330
Weight	IDU	kg	12.5	11.5	12.5	12.5
	ODU		55.6	55.6	68.2	68.2
Operation range	Cooling	IDU	61 ~ 90 ˚F	61 ~ 90 ˚F	61 ~ 90 ˚F	61 ~ 90 ˚F
		ODU	14 ~ 115 °F	14 ~ 115 °F	-0.4 ~ 115 °F	14 ~ 115 °F
	Heating	IDU	81 ˚F or less	81 ˚F or less	81 ˚F or less	81 ˚F or less
		ODU	-5.1 ~ 75 °F	-5.1 ~ 75 °F	-13 ~ 75 °F	-5.1 ~ 75 °F

2-3 The comparative specification of product

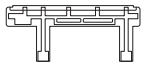
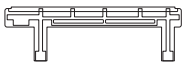
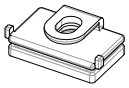
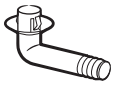
Model		DEVELOPMENT MODEL			
		AR09TSFACWKXCV	AR09TSFABWK/CV	AR12TSFACWKXCV	AR12TSFABWK/CV
Design	Indoor Unit				
	Outdoor Unit				
Net Weight	Indoor Unit	10.1	10.1	10.1	10.1
	Outdoor Unit	32.4	32.4	32.4	32.4
Net Dimension	Indoor Unit	889*299*215	889*299*215	889*299*215	889*299*215
	Outdoor Unit	790*548*285	790*548*285	790*548*285	790*548*285
Noise	Indoor Unit	41 dB↓	41 dB↓	43 dB↓	43 dB↓
	Outdoor Unit	51 dB↓	51 dB↓	53 dB↓	53 dB↓
Air Purifying System		EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER
Indoor Display		88 SEG	88 SEG	88 SEG	88 SEG

Model		DEVELOPMENT MODEL			
		AR09TSFYBWK/CV	AR12TSFYBWK/CV	AR18TSFYBWK/CV	AR18TSFACWKXCV
Design	Indoor Unit				
	Outdoor Unit				
Net Weight	Indoor Unit	9.2	9.2	11.5	12.5
	Outdoor Unit	32.4	32.4	38.1	55.6
Net Dimension	Indoor Unit	820*299*215	820*299*215	1055*299*215	1055*299*215
	Outdoor Unit	790*548*285	790*548*285	880*638*310	880*798*310
Noise	Indoor Unit	41 dB↓	43 dB↓	48 dB↓	48 dB↓
	Outdoor Unit	51 dB↓	53 dB↓	57 dB↓	57 dB↓
Air Purifying System		EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER
Indoor Display		88 SEG	88 SEG	88 SEG	88 SEG

2-3 The comparative specification of product

Model		DEVELOPMENT MODEL			
		AR18TSFABWK/CV	AR24TSFYBWK/CV	AR24TSFACWKXCV	AR24TSFABWK/CV
Design	Indoor Unit				
	Outdoor Unit				
Net Weight	Indoor Unit	12.5	11.5	12.5	12.5
	Outdoor Unit	55.6	55.6	68.2	68.2
Net Dimension	Indoor Unit	1055*299*215	1055*299*215	1055*299*215	1055*299*215
	Outdoor Unit	880*798*310	880*798*310	940*998*330	940*998*330
Noise	Indoor Unit	48 dB↓	51 dB↓	51 dB↓	51 dB↓
	Outdoor Unit	57 dB↓	60 dB↓	60 dB↓	60 dB↓
Air Purifying System		EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER	EASY CLEAN FILTER
Indoor Display		88 SEG	88 SEG	88 SEG	88 SEG

2-4 Accessoray and option specifications

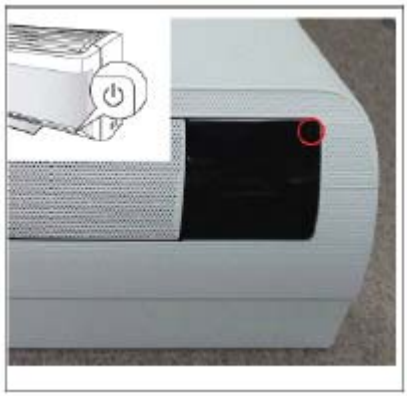
Item	Descriptions	Code No.	Q'ty	Remark
	ASSY HANGER	DB90-11453A (Q1,Q2,QF2)	1	Indoor unit case
		DB90-11454A (Q3,QF3)	1	
	ASSY WIRELESS REMOCON	DB96-24901B (AR**TSFA*****) DB96-24901G (AR**TSFY*****)	1	
	HOLDER REMOCON	DB61-06087A	1	
	BATTERY	4301-000121	2	
	MANUAL USERS	DB68-08647A (AR**TSFA*****) DB68-08648A (AR**TSFY*****)	1	
	MANUAL INSTALL	DB68-08807A	1	
	SCREW-TAPPING	6002-000623	2	
	Rubber Leg	DB67-01533A	4	Outdoor unit case
	CAP-DRAIN	DB63-10355C (AR18TSFAC****)	5	
		DB63-10355C (AR24TSFAC****)	3	
	DRAIN-PLUG OUT	DB67-01533A	1	

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

3-2-2 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				EEV or valve close error-self diagnosis
-	○	◑	◑	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-bA-6A-01-E0-07-F7-C4

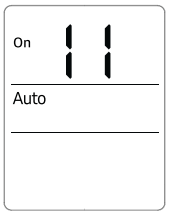
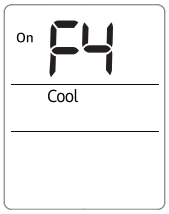
Step 1

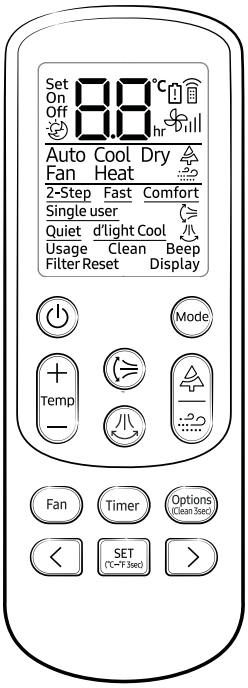
Enter the Option Setup mode.

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 00

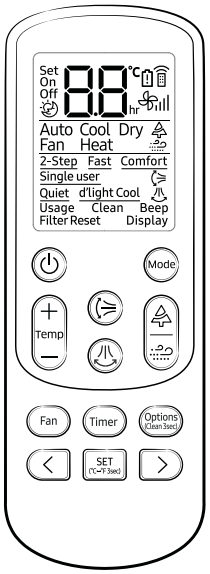
Step 2

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

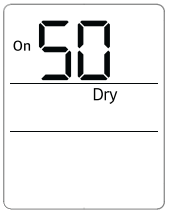
Method	Display
1 Setting option SEG1 Press the button the display panel to. 1 Press the button repeatedly to select. 0 → 1 → 2 → 3 → ... 9 → A → b → C → d → E → F	
2 Setting option SEG2 Press the button the display panel to. 1 Press the button repeatedly to select. 0 → 1 → 2 → 3 → ... 9 → A → b → C →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



Method	Display



6 Press the Mode button to set Cool mode.



7 Setting option SEG5

Press the button the display panel to. 5

Press the button repeatedly to select. 0 → 1 → 2 → 3 → ...

9 → A → b → C → d → E → F

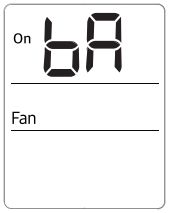
8 Setting option SEG6

Press the button the display panel to. 0

Press the button repeatedly to select. 0 → 1 → 2 → 3 → ...

9 → A → b → C → d → E → F

9 Press the Mode button to set Cool mode.



10 Setting option SEG7

Press the button the display panel to. b

Press the button repeatedly to select. 0 → 1 → 2 → 3 → ...

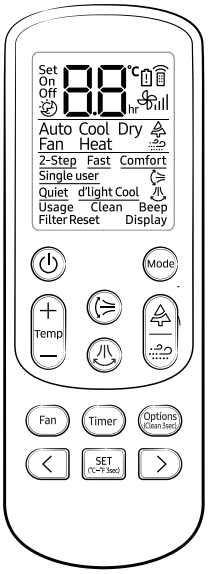
9 → A → b → C → d → E → F

11 Setting option SEG8

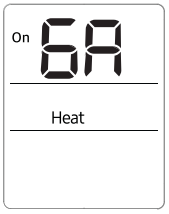
Press the button the display panel to. A

Press the button repeatedly to select. 0 → 1 → 2 → 3 → ...

9 → A → b → C → d → E → F



12 Press the Mode button to set Cool mode.



13 Setting option SEG9

Press the button the display panel to. 6

Press the button repeatedly to select. 0 → 1 → 2 → 3 → ...

9 → A → b → C → d → E → F

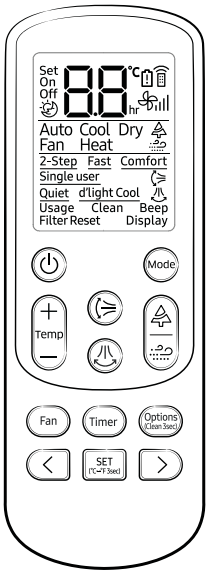
14 Setting option SEG10

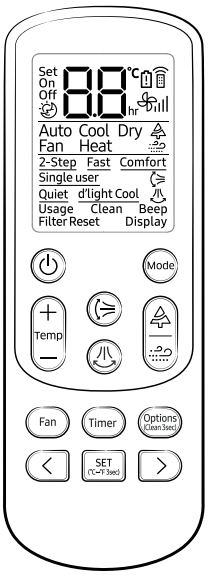
Press the button the display panel to. A

Press the button repeatedly to select. 0 → 1 → 2 → 3 → ...

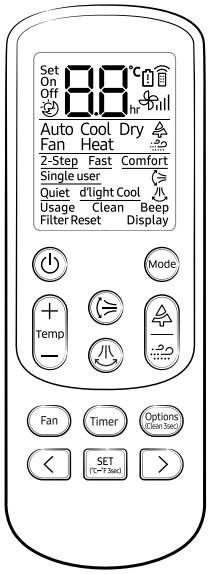
9 → A → b → C → d → E → F

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





Method	Display
24 Press the Mode button to set Cool mode.	Off F7 Fan
25 Setting option SEG17 Press the button the display panel to. F Press the button repeatedly to select. 0 → 1 → 2 → 3 → ... 9 → A → b → C → d → E → F	
26 Setting option SEG18 Press the button the display panel to. 7 Press the button repeatedly to select. 0 → 1 → 2 → 3 → ... 9 → A → b → C → d → E → F	
27 Press the Mode button to set Cool mode.	Off C4 Heat
28 Setting option SEG19 Press the button the display panel to. C Press the button repeatedly to select. 0 → 1 → 2 → 3 → ... 9 → A → b → C → d → E → F	
29 Setting option SEG20 Press the button the display panel to. 4 Press the button repeatedly to select. 0 → 1 → 2 → 3 → ... 9 → A → b → C → d → E → F	



Option code :

Model	Option code	
	General	Install
AR09TSFACWK/CV	011A25-17C0F7-271A20-37140D	020010-100000-200101-300346
AR12TSFACWK/CV	011A25-17C217-272323-37140D	020010-100000-200101-300346
AR09TSFYBWK/CV	010225-1740EA-271A20-37280D	020010-100000-200101-300335
AR12TSFYBWK/CV	010225-1740FA-272323-37280D	020010-100000-200101-300335
AR18TSFYBWK/CV	010225-15420B-27343D-37240D	020010-100000-200101-300357
AR18TSFACWK/CV	011A25-16C23B-27353C-37140D	020010-100000-200101-300357
AR18TSFABWK/CV	011A25-16C23B-27353C-37140D	020010-100000-200101-300357
AR24TSFYBWK/CV	010225-15423B-274046-37140D	020010-100000-200101-300357
AR24TSFACWK/CV	011A25-15C29D-273E51-37160D	020010-100000-200101-300357
AR24TSFABWK/CV	011A25-15C29D-273E51-37160D	020010-100000-200101-300357

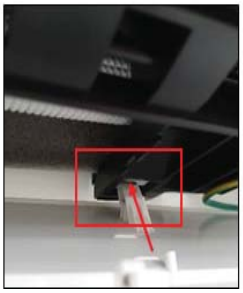
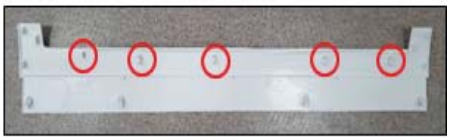
4. Disassembly and Reassembly

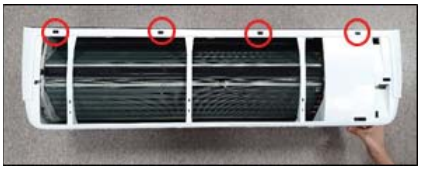
■ Necessary Tools

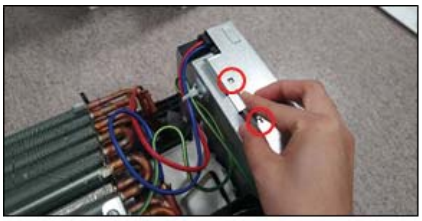
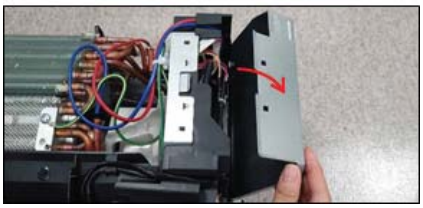
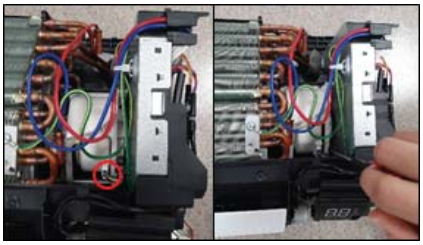
Item	Remark
+SCREW DRIVER Q'ty 1 ea. To assembly and disassembly the screw	
MONKEY SPANNER Q'ty 1 ea. To assembly and disassembly the Fan motor and Compressor	
- SCREW DRIVER Q'ty 1 ea. To assembly and disassembly the screw	

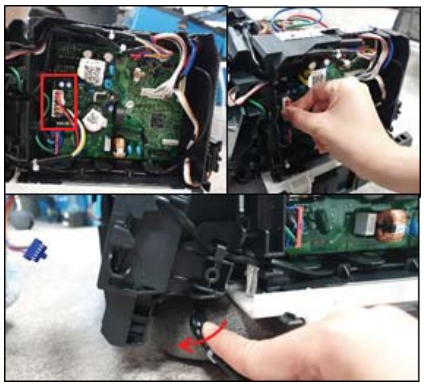
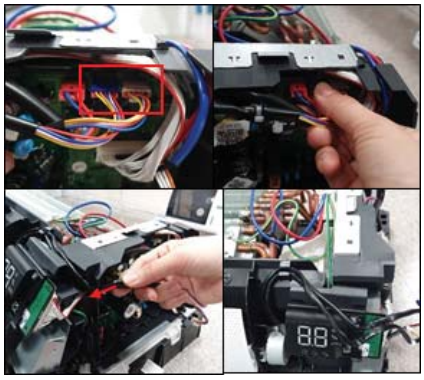
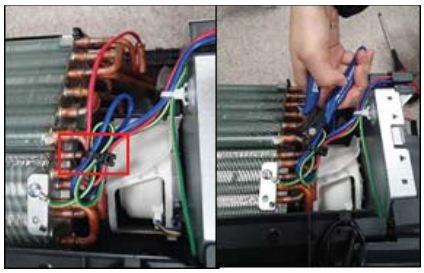
4-1. Indoor Unit

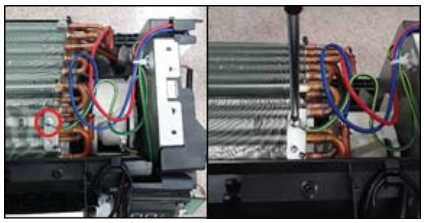
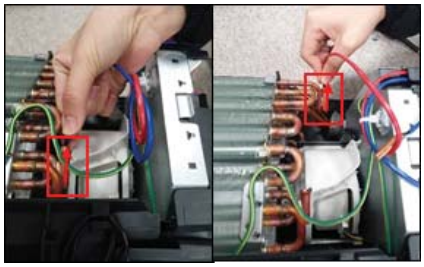
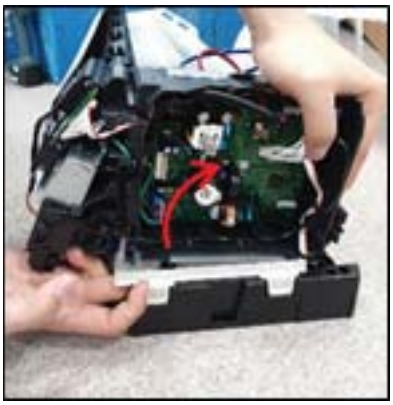
No.	Parts	Procedure	Remark
1	PANEL-FRONT	1) Stop the driving of air conditioner and shut off main power supply.	
		2) Detach FILTER PRE from the PANEL FRONT.	
		3) The COVER PANEL is fixed to body by hooks in center and side area.	
		4) Separate the hook pulling end of the COVER PANEL as shown in figures.(Watch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

No.	Parts	Procedure	Remark
	PANEL-FRONT	**Caution:** Assembly of Cover Panel after service end. - Piping and Drain Hose must be careful 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.	      

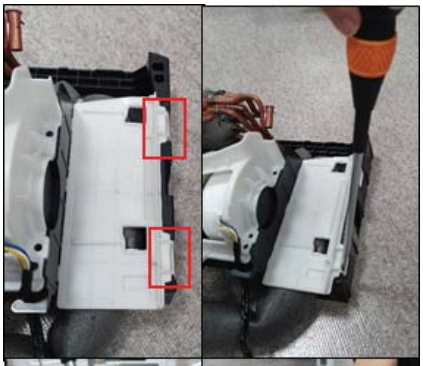
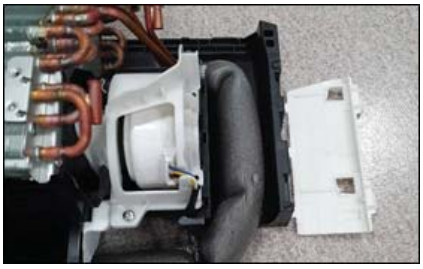
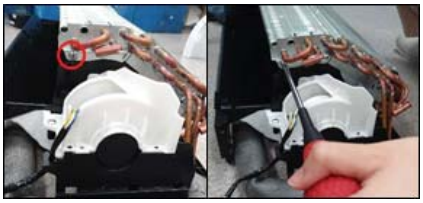
No.	Parts	Procedure	Remark
	PANEL-FRONT	5) The GRILLE INLET is fixed to body by hooks in the center and side area.	
		6) Separate the hook pulling end of the GRILLE INLET as shown in figures.(Watch out for the damage of hooks)	 
		7) To detach the PANEL FRONT from the main frame, unfasten 2 screws at 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)	  

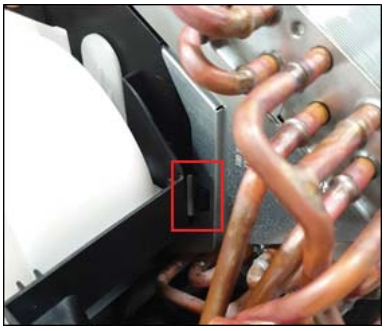
No.	Parts	Procedure	Remark
	PANEL-FRONT	9)Raise the PANEL FRONT upward as shown in the figure to separate the 3 hooks.	 
2	CONTROL-IN	10)To open the CONTROL-IN, raise the side flanges of the PLATE-RIGHT at an angle and unlock 2 hooks.	 
		11)To detach the CONTROLIN, unfasten a screw back of the PLATE-LEFT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

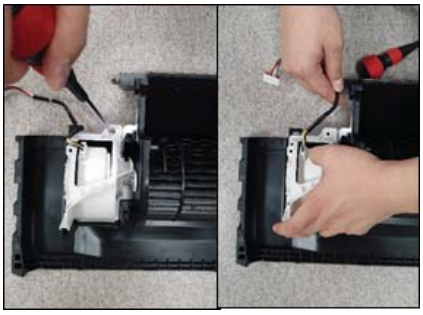
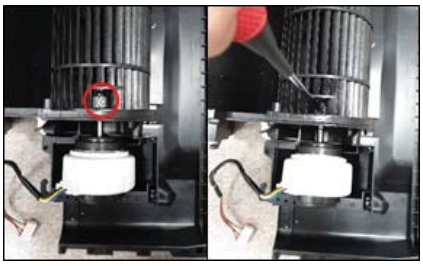
No.	Parts	Procedure	Remark
	CONTROL-IN	12)Separate Fan Motor wire as shown in figures. **⚠ Caution:** When you separate the connector, pull pressing the locking button.	
		13)Separate Blade Motor wire as shown in figures. **⚠ Caution:** When you separate the connector, pull pressing the locking button.	
		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 HOLDER PIPE by a hook bottom of the case as shown in the last figure. (Please loosen remaining connectors before detaching CASE-CONTROL. **⚠ 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.	  

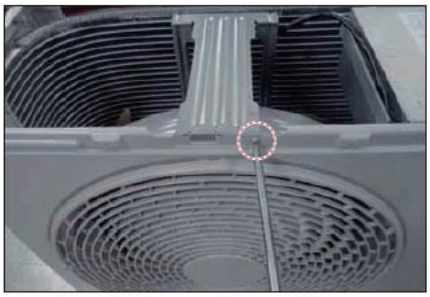
No.	Parts	Procedure	Remark
5	EVAPORATOR	20) The HOLDER PIPE is fixed to body by 2 hooks as shown in the figure. 21) To detach the HOLDER PIPE from the main frame, loosen 2 hook structhres.When separate hooks: Use the (-) Screw Driver. Insert the (-) Screw Driver into the gap of the hook and lean to the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

No.	Parts	Procedure	Remark
	EVAPORATOR	25) Pull up the EVAPORATOR of the opposite side of the Fan Motor	
		26) loosen a hook of the Fan Motor side.	 
		27) Pull up the EVAPORATOR toward to you.	  

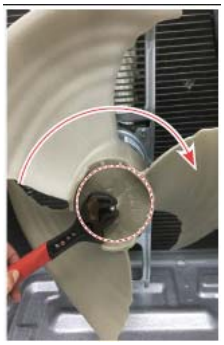
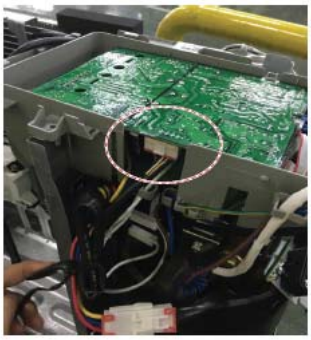
No.	Parts	Procedure	Remark
6	FAN MOTOR & CROSS FAN	28) Unfasten a screw on the COVER Motor. (Use (+) Screw Driver.)	
		29) Unwind the Motor Wire.	
		30)Detach the COVER Motor.	
		31) Unfasten a screw of the CROSS FAN a little. (Use (+) Screw Driver.)	
		32)Raise up the CROSS FAN of the left side and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

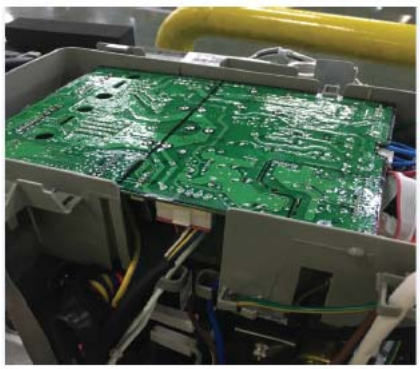
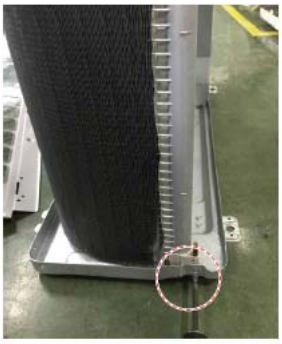
4-2. Outdoor Unit (N-SI)

AR09TSF**WKXCV	AR12TSF**WKXCV

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 screws from the Cabi Front Lh and detach it.	
		5) Loosen 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	

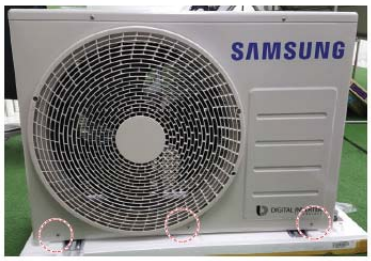
NO.	Parts	Procedure	Remark
3	Assy Control Out	1) To remove the Cover control box : Pull the motor wire to allow sufficient space as shown on the right side and then remove the screw.	
		2) Detach several connectors from the Assy Control Out. 3) Detach several connectors from the PCB of Assy Control Out.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

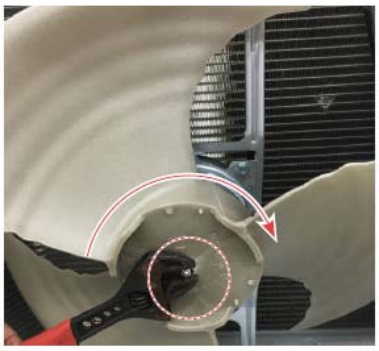
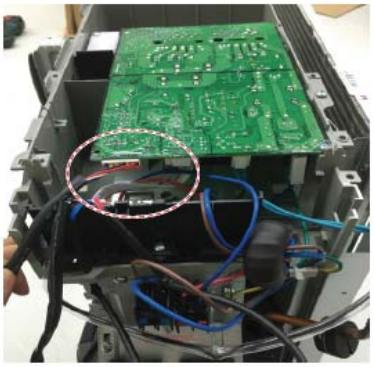
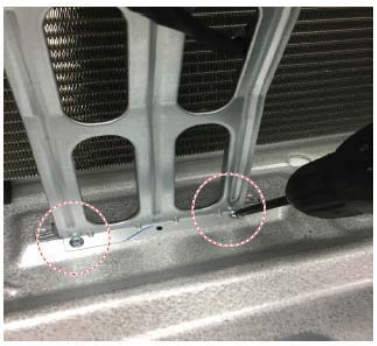
NO.	Parts	Procedure	Remark
5	Compressor	1) Loosen the nut and detach the Compressor Lead Wire. (Use Monkey Spanner.)	
		2) Loosen the bolts at the bottom of Compressor like the picture on the right side. (Use Monkey Spanner.)	

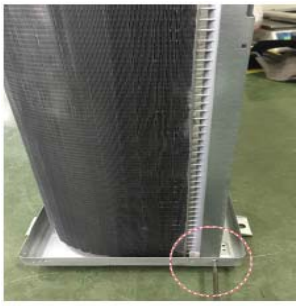
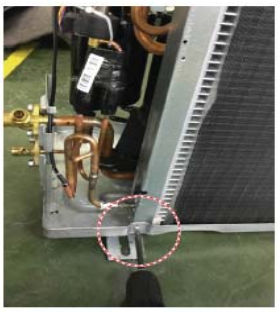
4-3 Outdoor Unit (Q)

AR18TSFYBWKXCV

No.	Parts	Procedure	Remark
1	Common work	1) Loosen fixing screws from the cabi side Rh and detach it.	
		2) Loosen each screws 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 Canbinet	
			
			
		6) Loosen fixing screws from the Cabi left and detach it and Remove the 4 Cond Bar from the holderof outdoor unit cabinet.	
			

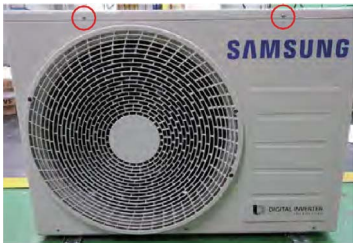
No.	Parts	Procedure	Remark
2	Fan & Motor	1) Detach the Nut Flange like the picture on the right side. (Turn clockwise because the screw is left-handed.) (Use Monkey Spanner.)	
		2) Detach the Fan Propeller. 3) Loosen 4 fixing screws to detach the Motor. (Use Monkey Spanner.)	
		4) Disconnect the wire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

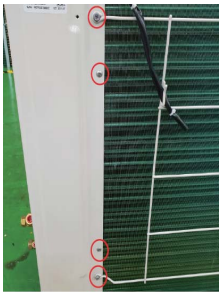
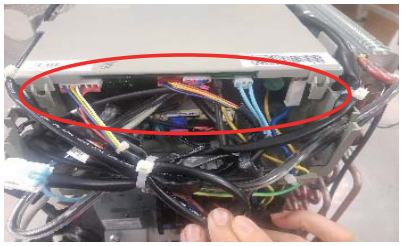
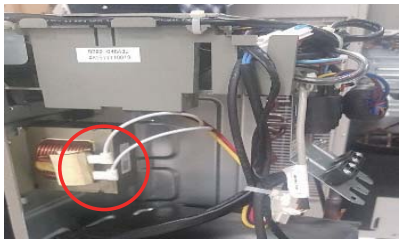
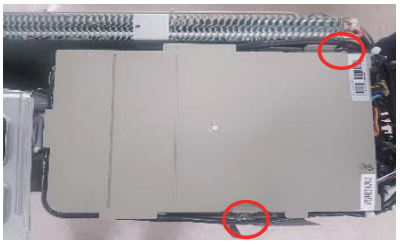
No.	Parts	Procedure	Remark
3	Assy Control Out	1) To remove the Cover control box : Pull the motor wire to allow sufficient space as shown on the right side and then remove the screw. 2) Detach several connectors from the Assy Control Out. 3) Detach several connectors from the PCB of Assy Control Out.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

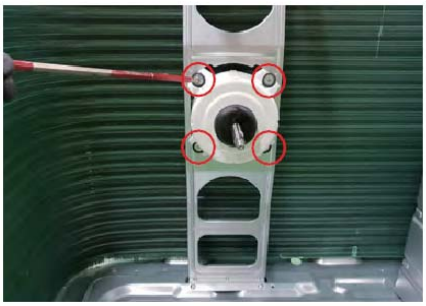
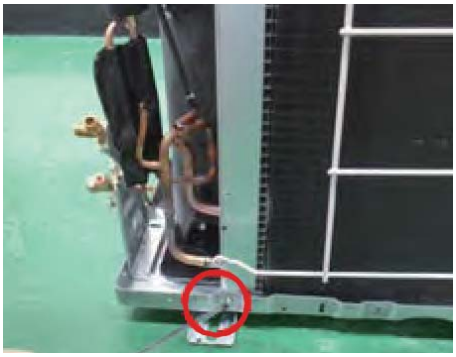
No.	Parts	Procedure	Remark
5	Compressor	1) Loosen the nut and detach the Compressor Lead Wire. (Use Monkey Spanner.)	
		2) Loosen the bolts at the bottom of Compressor like the picture on the right side. (Use Monkey Spanner.)	

4-4. Outdoor Unit (P)

AR18TSFACWKXCV	AR18TSFABWKXCV	AR24TSFYBWKXCV

No.	Parts	Procedure	Remark
1	Common Work	1) Loosen 8 fixing screw on each side of the Cabinet-Top.(Use +Screw Driver)	
2	Assy cover control	1) Unscrew and remove a screw of Cover-Control. (Use + Screw Driver)	
3	Outdoor and indoor unit's power cable and communication cable	! Caution: Make sure shutting the power off supply before disassembling. 1) Unscrew 2 fix screws under cable holders and remove. 2) Get rid of cable tie of communication cable. 3) Unscrew the numbers of screws on terminal block and separate power and communication 'Ring' cables from terminal block. 4) Unscrew earth-wire screws and separate it.	 

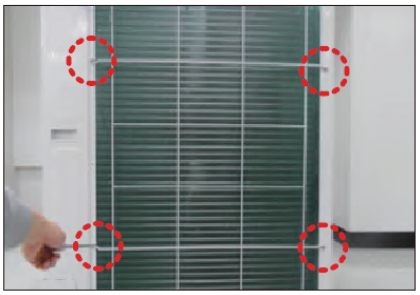
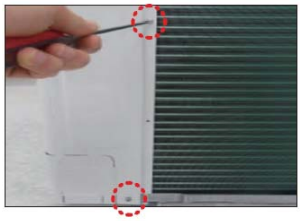
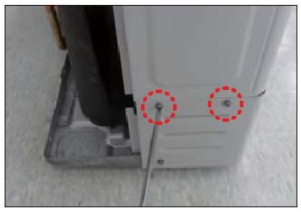
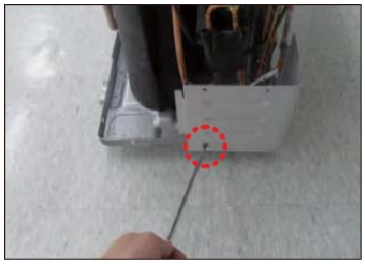
No.	Parts	Procedure	Remark
4	ASSY CABINET SIDE RH	1) Unscrew and remove 11 screws on Cabinet-side RH. (Use + Screw Driver)	  
5	ASSY CABINET FRONT	1) Unscrew and remove 7 screws on Assy Cabinet Front. (Use + Screw Driver)	 
6	ASSY CONTROL OUT	1) Disconnect and Separate 5 Connectors of wire from Assy Control Out. 2) Separate Comp wire from each object. !CAUTION : (When you disconnect BLDC motor connector you have to cut the power off first and disconnect 30 seconds later And Make sure that is impossible to connect and disconnect BLDC motor connector when the power is on) 3) Unscrew and remove 2 screws on of Assy Control out.	  

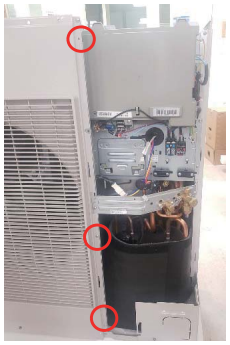
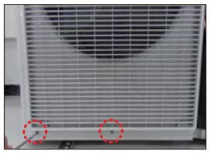
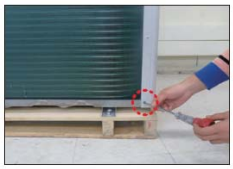
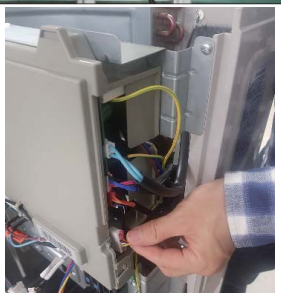
No.	Parts	Procedure	Remark
7	Fan propeller + Motor	1) Take Fan Propeller apart. 2) Unscrew and remove 4 screws on Motor to take apart Motor. (Use + Screw Driver)	 
8	ASSY BRACKET MOTOR	1) Unscrew and remove 2 screws on to take apart Bracket Motor. (Use + Screw Driver)	
9	Heat Exchanger	1) Purge the Refrigerant first. 2) Unscrew the fix screw. 3) Separate the pipe from the Entrance and Exist by using a welder. 4) Separate Heat Exchanger from Unit. !CAUTION : When removing the Compressor, Heat Exchanger, and Pipe, Purge the Refrigerant inside the Compressor completely and remove the pipe with a welding flame.	

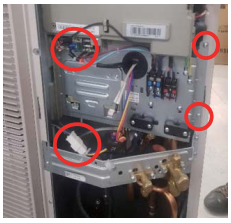
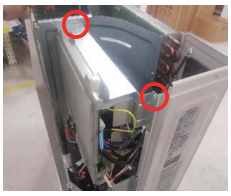
4-5. Outdoor Unit (UB)

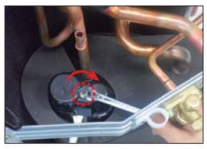
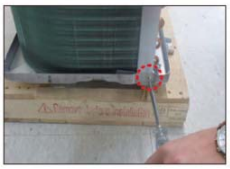
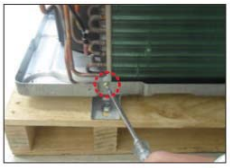
AR24TSFACWKXCV	AR24TSFABWKXCV

No.	Parts	Procedure	Remark
1	Cabinet Front RH	!CAUTION : Turn o the power before disassembly necessarily. 1) Remove the 2 screws from the Cabinet Front RH and separate it. (Use +Screw Driver)	 
2	Cabinet Upper	1) Remove the 9 screws which is fixed to each side of Cabinet Upper and separate it. (Use +Screw Driver)	
3	Cabinet-Installation Front Part	Remove the 1 screw which is fixed to Cabinet-Installation Front Part and separate it. (Use +Screw Driver)	

No.	Parts	Procedure	Remark
4	Outdoor Unit Guard	1) Pull out the sensor from the Outdoor Unit Guard and separate it. 2) Remove the 4 screws which is fixed to Outdoor Unit Guard and separate it. (Use + Screw Driver)	 
5	Cabinet Rear RH	1) Pull out the sensor from the Cabinet Rear RH and separate it. 2) Remove the 4 screws which is fixed to each side of Cabinet Rear RH and separate it. (Use + Screw Driver)	  
6	Cabinet-Installation Rear Part	Remove the 1 screw from the Cabinet-Installation Rear Part and separate it.(Use + Screw Driver)	

No.	Parts	Procedure	Remark
7	Cabinet Front LF	1) Unscrew and remove 8screws on Cabinet-Front LF. (Use +Screw Driver)	   
8	Fan	1) Remove the one fixing nut like the picture on the right side. (Use Hexagon Wrench, Monkey Spanner, Hexagon Socket)	
9	Motor	1) Separate the Fan Propeller. 2) Remove the 4 screws which is fixed to Motor. (Use +Screw Driver) 3) Separate the Motor Wire connector from the Outdoor Unit Control Part	 

No.	Parts	Procedure	Remark
10	Bracket Motor	1) Remove the 2 screws from the Bracket Motor and separate it. (Use +Screw Driver)	
11	Control Out	1) Disconnect 6 Connecters From Ass'y Control Out. 2) Unscrew and remove 4 mounting screw on Control Out. (Use +Screw Driver) 3) Separate Ass'y Control Out.	  
12	4 Way Valve	1) First, discharge the refrigerant. 2) Remove the 2 screws which is fixed to Service Valve and separate it. (Use +Screw Driver) 3) Separate the inlet and outlet pipes by welding torch. !CAUTION : If you separate the Compressor, Heat Exchanger or Pipe, please fully discharge refrigerant in the Compressor and then separate the Pipe by welding torch.	  

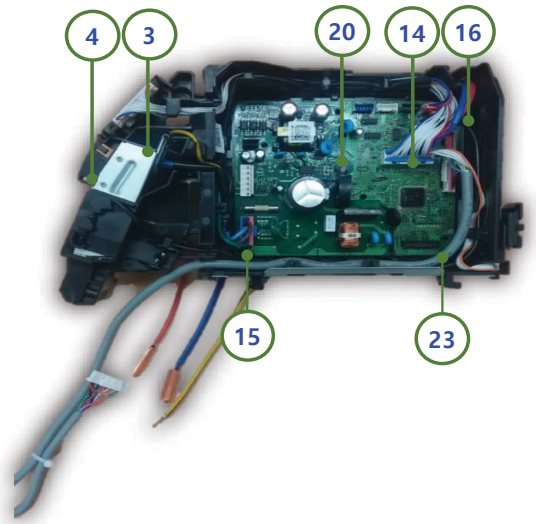
No.	Parts	Procedure	Remark
13	EEV Valve	1) Remove the 2 screws which is fixed to Service Valve and separate it. (Use +Screw Driver) 2)Separate the inlet and outlet pipes by welding torch.	 
14	Compressor	1) Remove the 1 fixing nut from the end of Cover and separate it. (Use Hexagon Wrench, Monkey Spanner, Hexagon Socket) 2) Separate the Felt Compressor. 3) Remove the 3 bolts from the bottom of Compressor like the picture on the right side. (Use Hexagon Wrench, Monkey Spanner, Hexagon Socket)	   
15	Condenser Connection Part	1) Remove the 3 screws which is fixed to each side of Condenser Connection Part and separate it. (Use + Screw Driver)	  

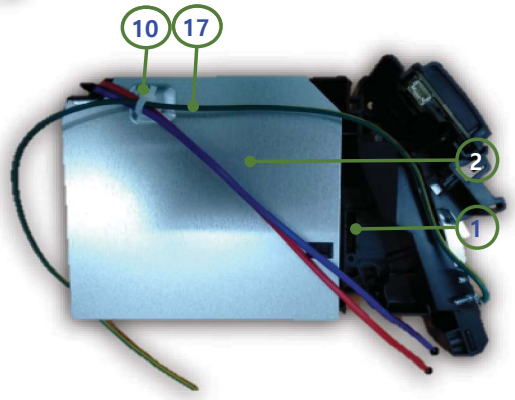
5. ASSY CONTROL

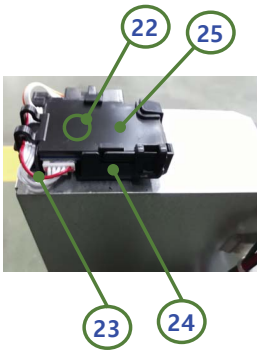
5-1 ASSY KIT (INDOOR UNIT)

Model	Code
AR09TSFYBWKNCV	DB92-04845D
AR12TSFYBWKNCV	
AR18TSFYBWKNCV	
AR24TSFYBWKNCV	
AR09TSFACWKXCV	DB92-04845U
AR09TSFABWKNCV	
AR12TSFACWKXCV	
AR12TSFABWKNCV	
AR18TSFACWKXCV	
AR18TSFABWKNCV	
AR24TSFACWKXCV	
AR24TSFABWKNCV	

5-1-1 DB92-04845





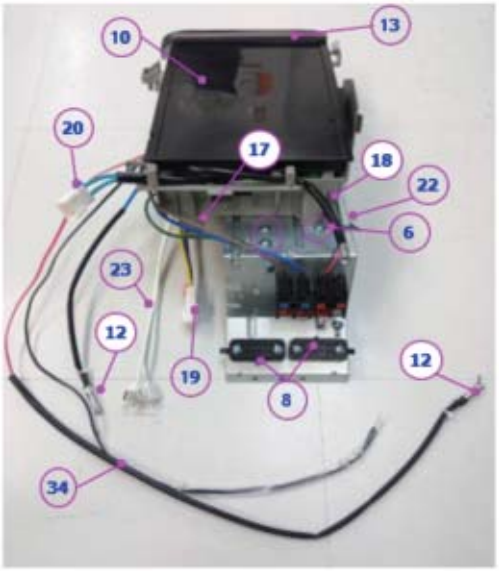


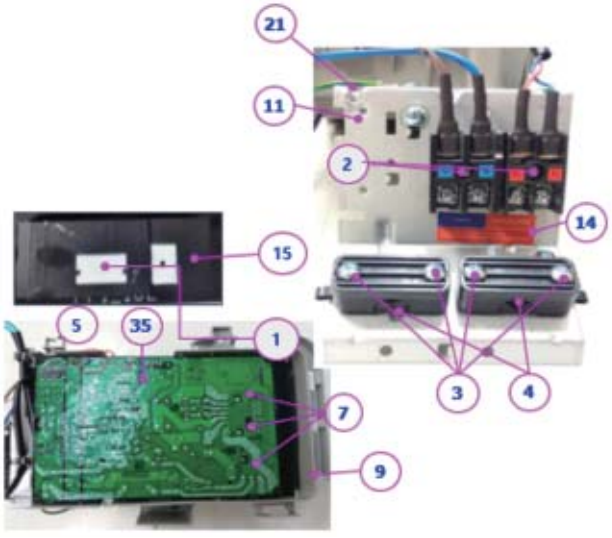
NO	NAME	CODE	DB92-04845	
			D	U
1	CASE CONTROL-IN	DB61-07432A	1	1
2	PLATE CONTROL-LF	DB61-07431A	1	1
3	PLATE CONTROL-LOW	DB61-07428A	1	1
4	PLATE CONTROL-UP	DB61-07429A	1	1
5	PLATE CONTROL-SUB	DB61-07427A	1	1
6	HOLDER-WIRE	DB61-05871A	1	1
7	SCREW-TAPPING	6002-001163	1	1
8	SCREW-TAPPING	6002-000213	2	2
9	SCREW-SPECIAL	6009-001001	3	3
10	CABLE TIE	6501-001075	1	1
11	TERMINAL BLOCK_4P_CV	DB37-00033B	1	1
12	ASSY PCB DISPLAY_88_WIFI	DB92-04833B	1	1
13	SENSOR PHOTO	DB32-00270A	0	0
14	SENSOR TEMP	DB32-00277A	1	0
	SENSOR HUMIDITY	DB32-00272A	0	1
15	ASSY CONNECTOR WIRE-POWER	DB93-17169A	1	1
16	ASSY CONNECTOR WIRE-COMM	DB93-17055B	1	1
17	ASSY CONNECTOR WIRE-EARTH	DB93-14245D	1	1
18	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-17170A	0	0
19	ASSY CONNECTOR WIRE-FJM	DB93-17178A	1	1
20	ASSY PCB MAIN_DLX_GLOBAL	DB92-04839A	1	1

5-2 ASSY KIT (OUT DOOR UNIT)

Model	Code
AR09TSFYBWKNCV	DB92-04842N
AR12TSFYBWKNCV	
AR09TSFABWKNCV	
AR12TSFABWKNCV	
AR09TSFACWKXCV	DB92-04842P
AR12TSFACWKXCV	
AR24TSFYBWKNCV	DB92-04843H
AR18TSFABWKNCV	
AR18TSFACWKXCV	DB92-04843J
AR24TSFACWKXCV	DB92-04843M
AR24TSFABWKNCV	DB92-04843N
AR18TSFYBWKNCV	DB92-04849D

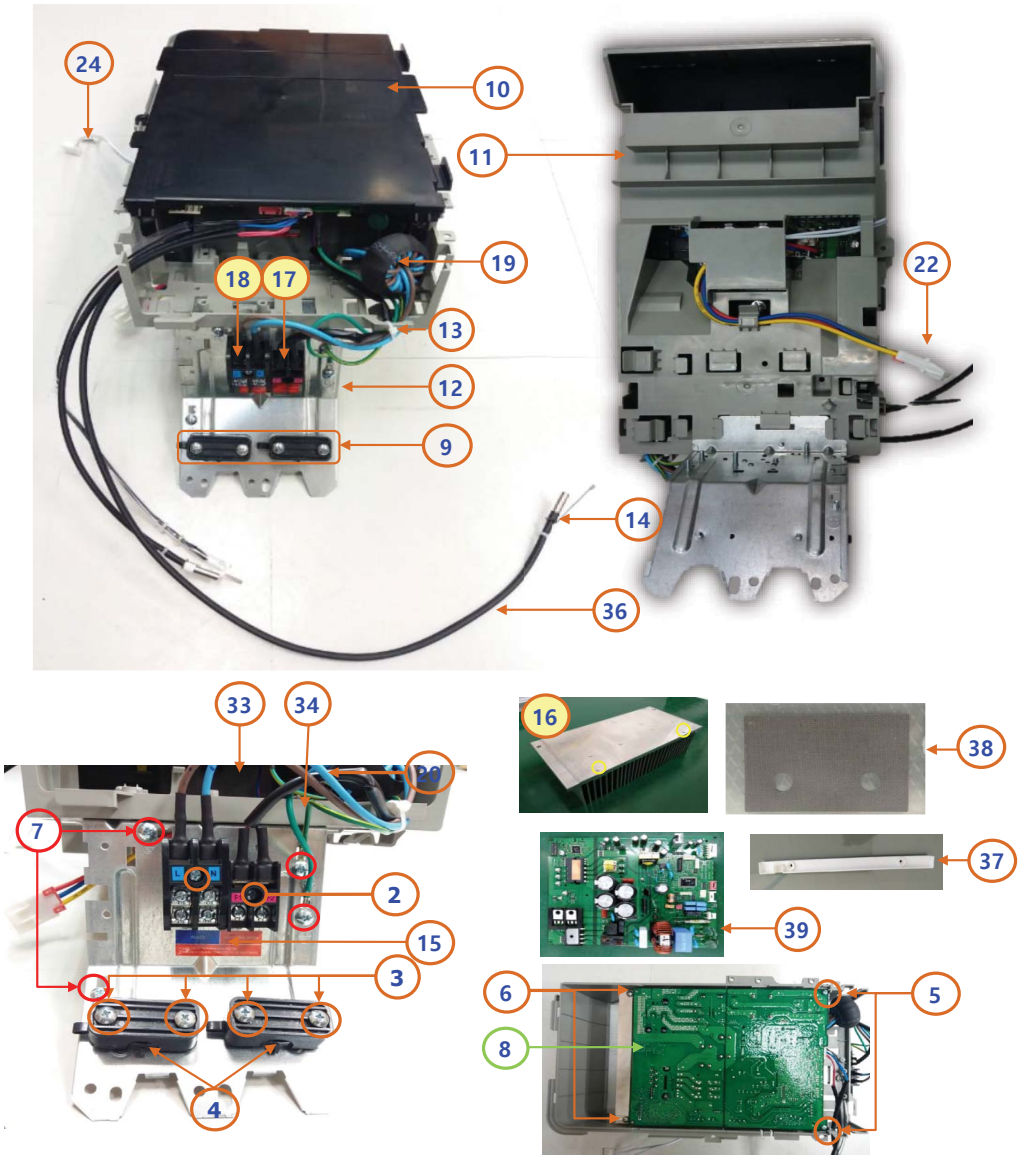
5-2-1 PF2 (N-SI)





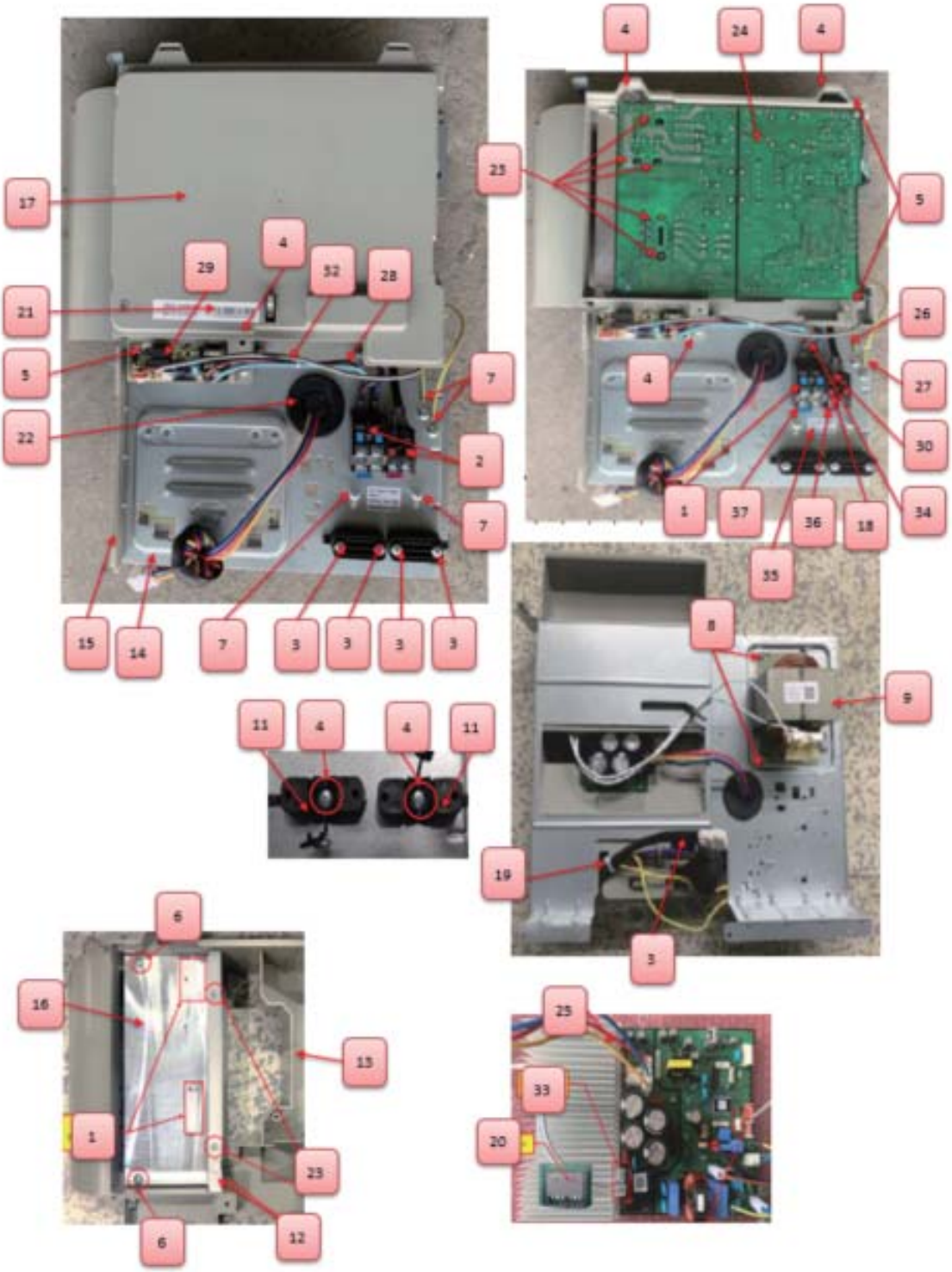
NO	NAME	CODE	DB92-04842	
			N	P
1	ASSY-THERMAL GREASE	0205-000178	0.002	0.002
2	SCREW-MACHINE (TB)	6001-000722	2	2
3	SCREW-TAPPING (CLAMP 4EA)	6002-000234	4	4
4	SCREW-TAPPING (CLAMP 2EA, CASE 1EA)	6002-000239	3	3
5	SCREW-TAPPING (PBA)	6002-000630	1	1
6	SCREW-TAPPING (EARTH)	6009-001001	5	5
7	ASSY-SCREW MACHINE (H/S??)	DB91-00933A	3	3
8	HOLDER-WIRE CLAMP	DB61-00250A	2	2
9	CASE CONTROL LOW (WW, SI,Q-480)	DB61-06722A	1	1
10	COVER CONTROL OUT (WW, SI)	DB63-04234A	1	1
11	PLATE CONTROL(N-SI)	DB61-05897C	1	1
12	SPRING	DB81-00635A	2	2
13	SEAL	DB62-11637T	0.153	0.153
14	LABEL	DB98-34030A	1	1
15	HEAT SINK	DB62-13008A	1	1
16	TERMINAL BLOCK	DB65-00274A	1	1
	TERMINAL BLOCK	DB37-00036B	1	1
17	ASSY CONNECTOR WIRE-POWER	DB93-16371A	1	1
18	ASSY CONNECTOR WIRE-COMM	DB93-16402A	1	1
19	ASSY CONNECTOR WIRE-COMP	DB93-09497B	1	1
20	ASSY CONNECTOR WIRE-AC SIGNAL	DB93-17177A	1	1
21	ASSY CONNECTOR WIRE-EARTH	DB93-12121B	1	1
22	ASSY CONNECTOR WIRE-EARTH	DB93-12121B	1	1
23	ASSY CONNECTOR WIRE-REACTOR	DB93-17175A	1	1
24	ASSY CONNECTOR WIRE-REACTOR(N-V2MD)	DB93-17175B	0	0
25	ASSY CONNECTOR WIRE-T2P OUT	DB93-07362A	0	0
26	ASSY CONNECTOR WIRE-COMM	DB93-14716A	0	0
27	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-17173A	1	1
28	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-14278A	0	0
29	ASSY PCB SUB	DB92-02836A	0	0
30	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-16704A	0	1
31	ASSY CONNECTOR WIRE-HEATER TO TB	DB93-13180A	0	1
32	ASSY PCB SUB-HEATER	DB93-13220A	0	1
33	CABLE TIE	6501-000108	0	0
34	SENSOR TEMP	DB95-05164A	1	1
35	ASSY MODULE	DB92-04837C	0	1
	ASSY MODULE	DB92-04837D	1	0

5-2-2 PF3 (P)



NO	NAME	CODE	DB92-04843	
			H	J
1	ASSY-THERMAL GREASE	0205-000178	0.002	0.002
2	SCREW-MACHINE (TB)	6001-000722	2	2
3	SCREW-TAPPING	6002-000234	4	4
4	SCREW-TAPPING	6002-000239	3	3
5	SCREW-TAPPING	6002-000536	2	2
6	SCREW-TAPPING	6002-001306	2	2
7	SCREW-SPECIAL	6009-001001	4	4
8	ASSY-SCREW MACHINE	DB91-00933A	7	7
9	HOLDER-WIRE CLAMP	DB61-00250A	2	2
10	CASE CONTROL-UPPER	DB61-04677A	1	1
11	CASE CONTROL	DB61-05917A	1	1
12	PLATE CONTROL	DB61-04698B	1	1
13	CABLE TIE	DB65-10088D	1	1
14	SPRING ETC-SENSOR	DB81-00635A	1	1
15	LABEL	DB98-34030A	1	1
16	HEAT SINK	DB62-13009A	1	1
17	TERMINAL BLOCK	DB65-00274A	1	1
18	TERMINAL BLOCK	DB37-00036B	1	1
19	ASSY CONNECTOR WIRE-POWER	DB93-17207A	1	1
20	ASSY CONNECTOR WIRE-COMM	DB93-16402A	1	1
21	ASSY CONNECTOR WIRE-AC SIGNAL	DB93-16403A	1	1
22	ASSY CONNECTOR WIRE-COMP	DB93-10905D	1	1
23	ASSY CONNECTOR WIRE	DB93-10905B	0	0
24	ASSY CONNECTOR WIRE-REACTOR	DB93-17175A	1	1
25	ASSY CONNECTOR WIRE-T2P OUT	DB93-07362A	0	0
26	ASSY CONNECTOR WIRE-COMM	DB93-14716A	0	0
27	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-17173A	1	1
28	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-14278A	0	0
29	ASSY PCB SUB	DB92-02836A	0	0
30	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-16704A	0	1
31	ASSY CONNECTOR WIRE-HEATER TO TB	DB93-13180A	0	1
32	ASSY PCB SUB-HEATER	DB93-13220A	0	1
33	ASSY CONNECTOR WIRE-EARTH	DB93-12121B	1	1
34	ASSY CONNECTOR WIRE-EARTH	DB93-12121B	1	1
35	ASSY CONNECTOR WIRE-EARTH	DB93-12121C	0	0
36	SENSOR TEMP	DB32-00257A	1	1
	SENSOR TEMP	DB95-05164B	0	0
37	SUPPORT-PCB	DB61-05796A	1	1
38	RUBBER	DB67-01713A	1	1
39	ASSY PCB INVERTER	DB92-04838A	1	0
	ASSY PCB INVERTER	DB92-04838C	0	1

5-2-3 PF3 (UB)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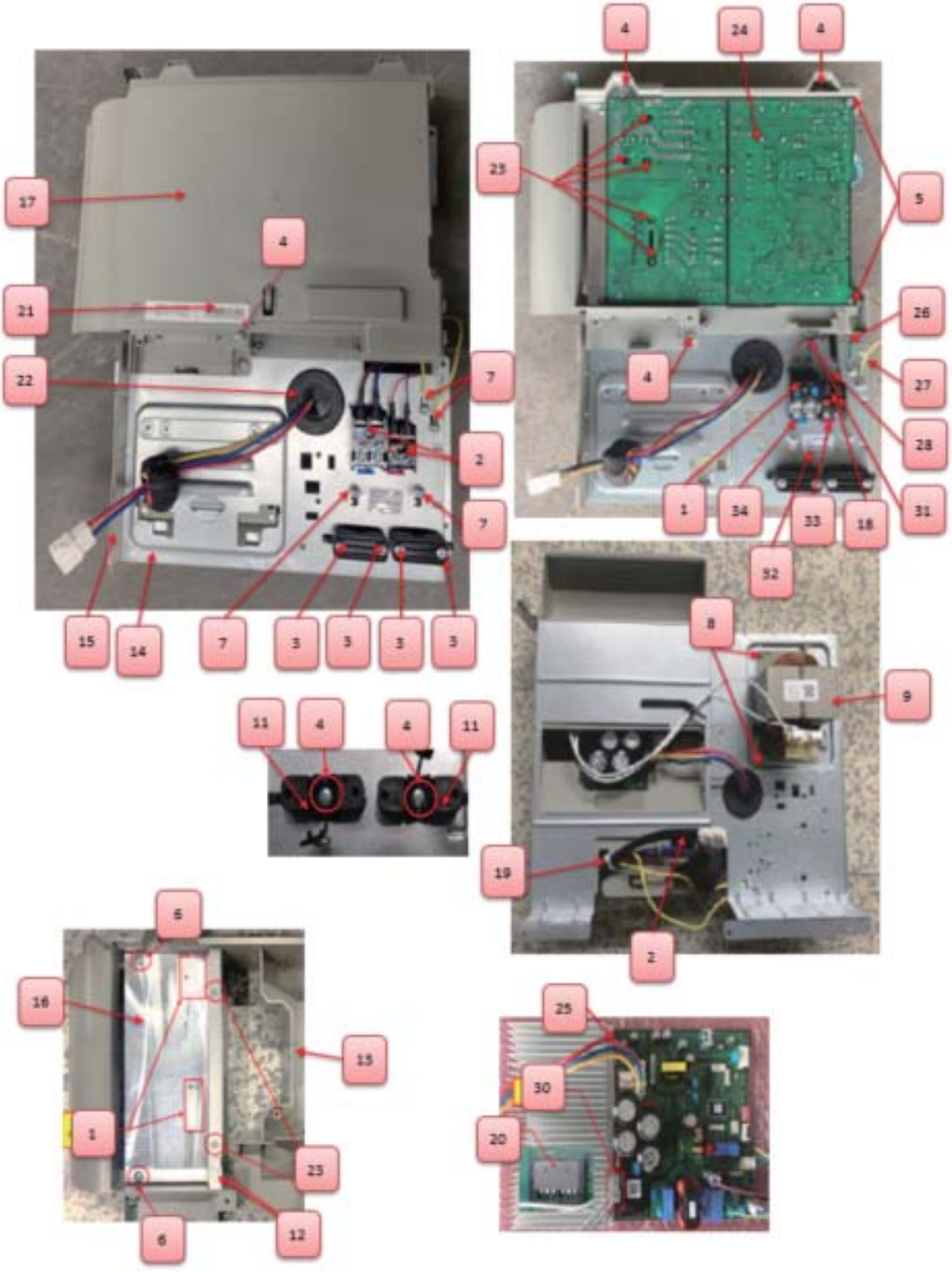
NO	NAME	CODE	DB92-04843M
1	GREASE-SILICON	0205-000178	0.002
2	SCREW-MACHINE	6001-000722	2
3	SCREW-TAPPING	6002-000234	4
4	SCREW-TAPPING	6002-000239	6
5	SCREW-TAPPING	6002-000536	3
6	SCREW-TAPPING	6002-001306	2
7	SCREW-SPECIAL	6009-001001	4
8	SCREW-SPECIAL	6009-001001	2
9	COIL HARMONIC	DB27-00043C	1
10	TERMINAL BLOCK	DB37-00036B	1
11	HOLDER-WIRE CLAMP	DB61-00250A	2
12	SUPPORT-PCB	DB61-05796A	1
13	CASE CONTROL-OUT	DB61-07081A	1
14	PLATE CONTROL-MAIN	DB61-07082B	1
15	SEAL CUTT	DB62-11637D	0.179
16	HEAT SINK	DB62-13009A	1
17	COVER CONTROL-OUT	DB63-04035A	1
18	TERMINAL BLOCK	DB65-00274A	1
19	CABLE TIE	DB65-10088B	1
20	RUBBER	DB67-01713A	1
21	LABEL BAR CODE	DB68-02809A	1
22	RUBBER-COVER WIRE	DB73-00023B	1
23	ASSY-SCREW MACHINE	DB91-00933A	7
24	ASSY PCB INVERTER	DB92-04838C	1
25	ASSY CONNECTOR WIRE-COMP	DB93-10905B	1
26	ASSY CONNECTOR WIRE-EARTH WIRE	DB93-12121B	1
27	ASSY CONNECTOR WIRE	DB93-12121C	1
28	ASSY CONNECTOR WIRE-HEATER TO TB	DB93-13180A	1
29	ASSY PCB SUB-HEATER	DB93-13220A	1
30	ASSY CONNECTOR WIRE-COMM	DB93-16402A	1
31	ASSY CONNECTOR WIRE-AC SIGNAL	DB93-16403A	1
32	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-16704A	1
33	ASSY CONNECTOR WIRE-REACTOR	DB93-17175A	1
34	ASSY CONNECTOR WIRE-POWER	DB93-17207A	1
35	ASSY-LABEL CAUTION	DB98-27584A	1
36	LABEL INSTRUCTION	DB98-33292A	1
37	LABEL INSTRUCTION	DB98-33293A	1

5-2-4 PF3 (UB)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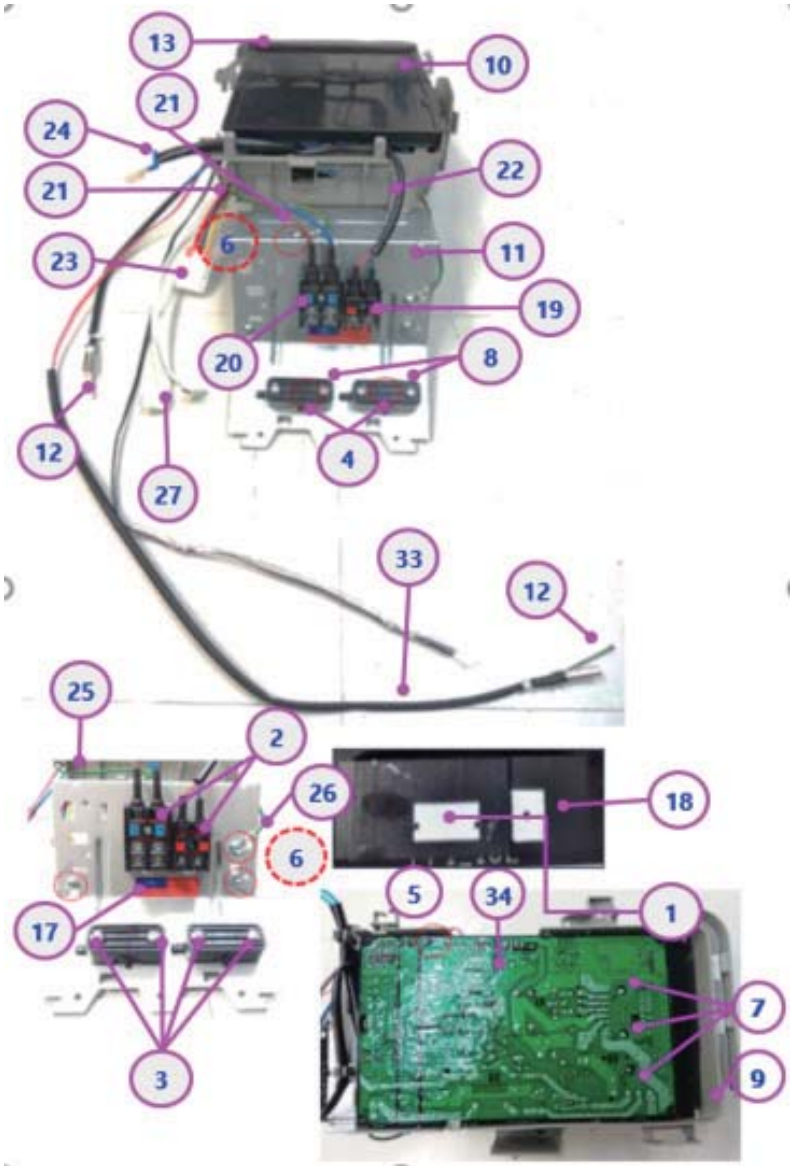
NO	NAME	CODE	DB92-04843N
1	GREASE-SILICON	0205-000178	0.002
2	SCREW-MACHINE	6001-000722	2
3	SCREW-TAPPING	6002-000234	4
4	SCREW-TAPPING	6002-000239	6
5	SCREW-TAPPING	6002-000536	2
6	SCREW-TAPPING	6002-001306	2
7	SCREW-SPECIAL	6009-001001	4
8	SCREW-SPECIAL	6009-001001	2
9	COIL HARMONIC	DB27-00043C	1
10	TERMINAL BLOCK	DB37-00036B	1
11	HOLDER-WIRE CLAMP	DB61-00250A	2
12	SUPPORT-PCB	DB61-05796A	1
13	CASE CONTROL-OUT	DB61-07081A	1
14	PLATE CONTROL-MAIN	DB61-07082B	1
15	SEAL CUTT	DB62-11637D	0.179
16	HEAT SINK	DB62-13009A	1
17	COVER CONTROL-OUT	DB63-04035A	1
18	TERMINAL BLOCK	DB65-00274A	1
19	CABLE TIE	DB65-10088B	1
20	RUBBER	DB67-01713A	1
21	LABEL BAR CODE	DB68-02809A	1
22	RUBBER-COVER WIRE	DB73-00023B	1
23	ASSY-SCREW MACHINE	DB91-00933A	7
24	ASSY PCB INVERTER	DB92-04838A	1
25	ASSY CONNECTOR WIRE-COMP	DB93-10905B	1
26	ASSY CONNECTOR WIRE-EARTH WIRE	DB93-12121B	1
27	ASSY CONNECTOR WIRE	DB93-12121C	1
28	ASSY CONNECTOR WIRE-COMM	DB93-16402A	1
29	ASSY CONNECTOR WIRE-AC SIGNAL	DB93-16403A	1
30	ASSY CONNECTOR WIRE-REACTOR	DB93-17175A	1
31	ASSY CONNECTOR WIRE-POWER	DB93-17207A	1
32	ASSY-LABEL CAUTION	DB98-27584A	1
33	LABEL INSTRUCTION	DB98-33292A	1
34	LABEL INSTRUCTION	DB98-33293A	1

5-2-5 PF2 (Q)

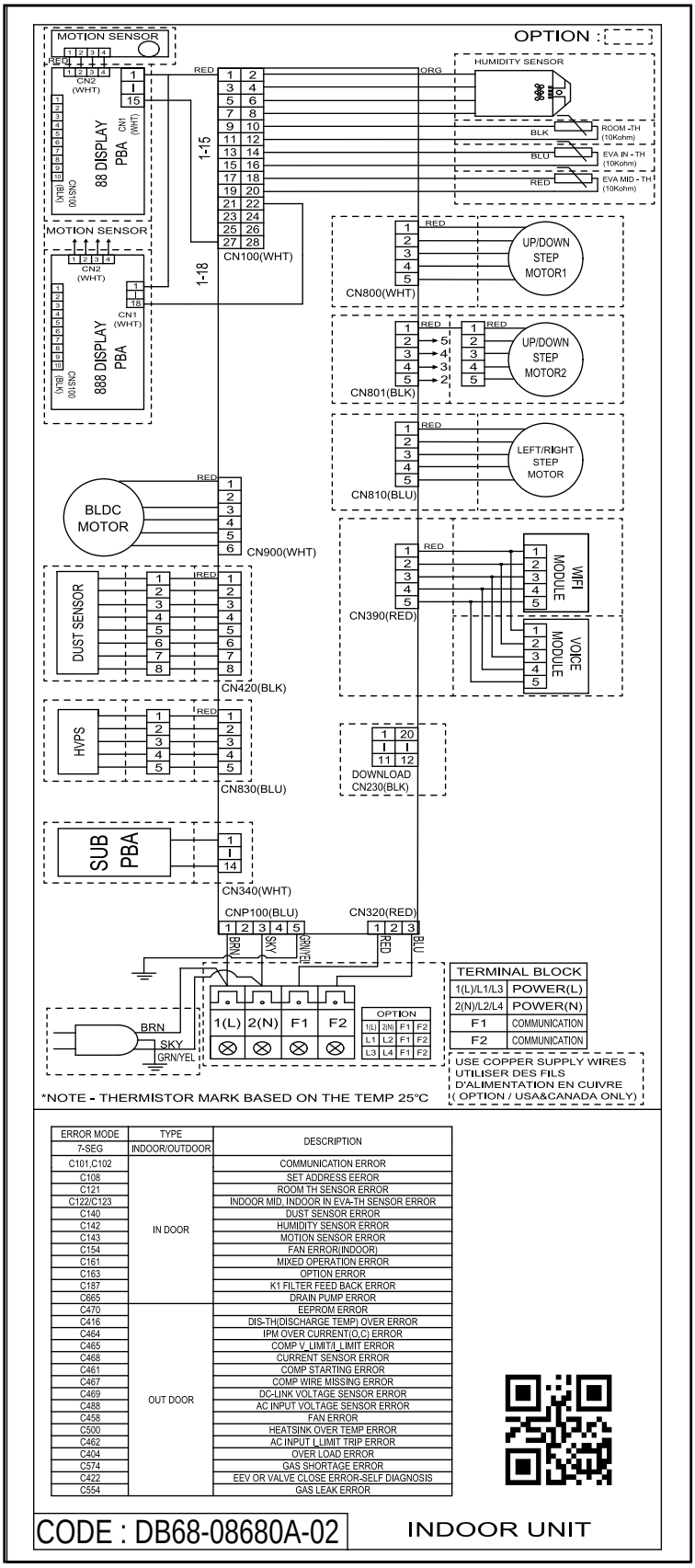


NO	NAME	CODE	DB92-04849D
1	ASSY-THERMAL GREASE	0205-000178	0.002
2	SCREW-MACHINE	6001-000722	2
3	SCREW-TAPPING	6002-000234	4
4	SCREW-TAPPING	6002-000239	3
5	SCREW-TAPPING	6002-000630	1
6	SCREW-SPECIAL	6009-001001	4
7	ASSY-SCREW MACHINE	DB91-00933A	3
8	HOLDER-WIRE CLAMP	DB61-00250A	2
9	CASE CONTROL LOW	DB61-06722A	1
10	COVER CONTROL OUT	DB63-04234A	1
11	PLATE CONTROL	DB61-04690B	1
12	SPRING	DB81-00635A	2
13	SEAL	DB62-11637T	0.153
14	SUPPORT-PCB	DB61-04398A	0
15	SCREW-TAPPING	6002-000527	0
16	SCREW-TAPPING	6002-000536	0
17	LABEL	DB98-34030A	1
18	HEAT SINK	DB62-13008A	1
19	TERMINAL BLOCK	DB65-00274A	1
20	TERMINAL BLOCK	DB37-00036B	1
21	ASSY CONNECTOR WIRE-POWER	DB93-16371A	1
22	ASSY CONNECTOR WIRE-COMM	DB93-16402A	1
23	ASSY CONNECTOR WIRE-COMP	DB93-09497B	1
24	ASSY CONNECTOR WIRE-AC SIGNAL	DB93-17177A	1
25	ASSY CONNECTOR WIRE-EARTH	DB93-12121B	1
26	ASSY CONNECTOR WIRE-EARTH	DB93-12121B	1
27	ASSY CONNECTOR WIRE-REACTOR	DB93-17175A	1
28	ASSY CONNECTOR WIRE-T2P OUT	DB93-07362A	0
29	ASSY CONNECTOR WIRE-COMM	DB93-14716A	0
30	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-17173A	1
31	ASSY CONNECTOR WIRE-DC SIGNAL	DB93-14278A	0
32	ASSY PCB SUB	DB92-02836A	0
33	SENSOR TEMP	DB32-00257A	1
34	ASSY MODULE	DB92-04837D	1

6. Wiring Diagram

6-1 Indoor Unit

Diagram code :DB68-08680A (All Models)



ERROR MODE	TYPE	DESCRIPTION
7-SEG	INDOOR/OUTDOOR	
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
C468		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

6-2 Outdoor Unit

Diagram code :DB68-08682A

AR09TSFYBWKXCV	AR09TSFABWKXCV	AR09TSFACWKXCV	AR18TSFYBWKXCV
AR12TSFYBWKXCV	AR12TSFABWKXCV	AR12TSFACWKXCV	

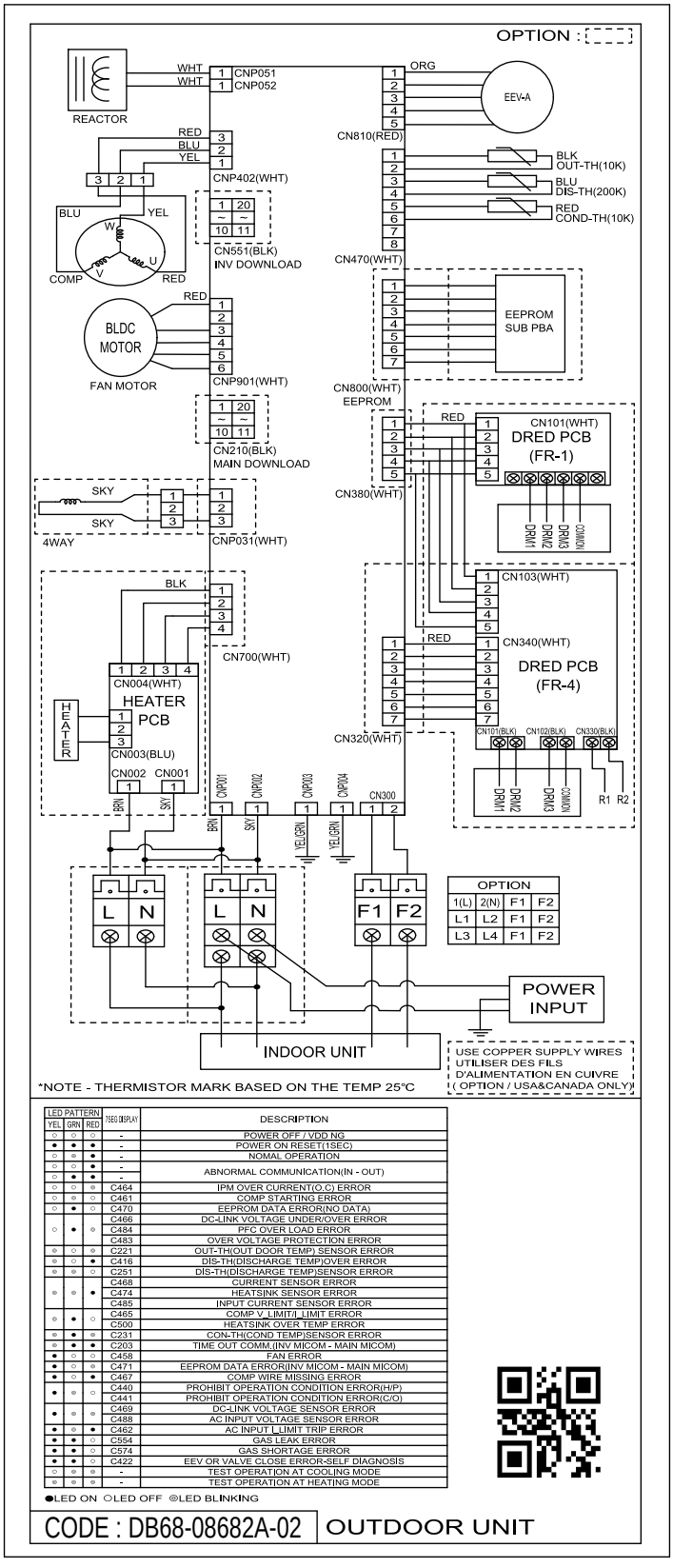
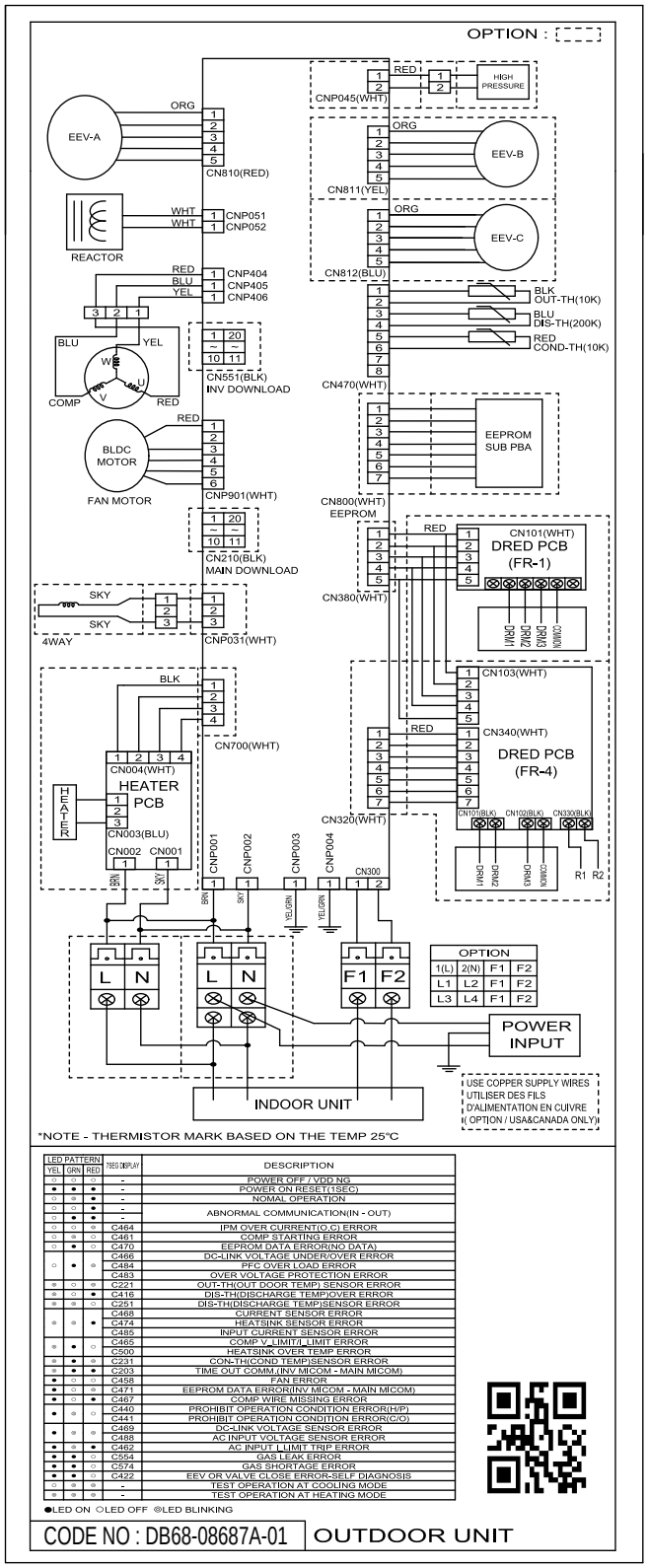


Diagram code :DB68-08687A

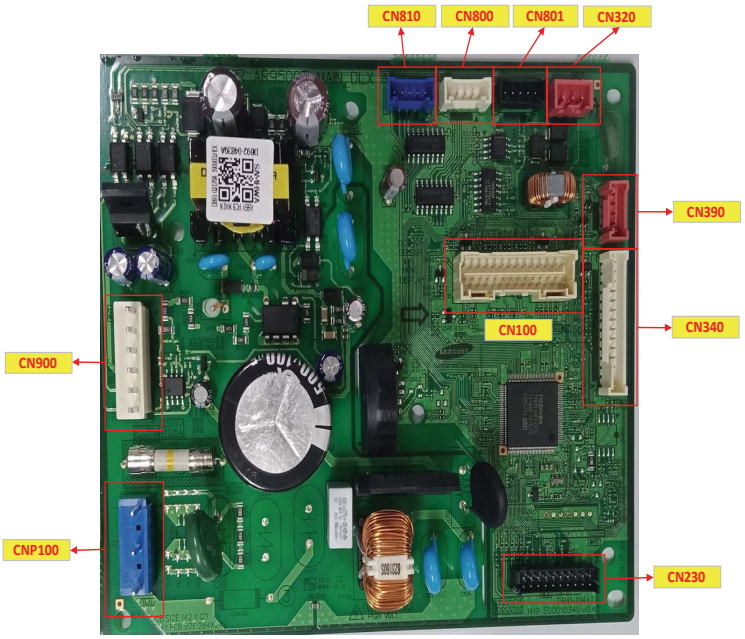
AR24TSFYBWKXCV	AR18TSFACWKXCV	AR24TSFABWKXCV
AR18TSFABWKXCV	AR24TSFACWKXCV	



7. PCB Diagram

7-1 Indoor Main PCB

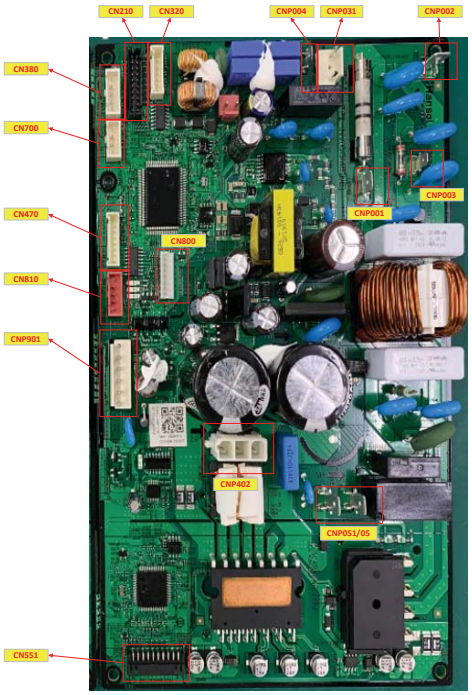
DB92-04839



CN810 : STEP MOTOR(V-Blade)	CN800 : STEP MOTOR(H-BLADE1)	CN801 : STEP MOTOR(H-BLADE3)	
#1: 12V	#1: 12V	#1: 12V	
#2: SIGNAL1	#2: SIGNAL1	#2: SIGNAL1	
#3: SIGNAL2	#3: SIGNAL2	#3: SIGNAL2	
#4: SIGNAL3	#4: SIGNAL3	#4: SIGNAL3	
#5: SIGNAL4	#5: SIGNAL4	#5: SIGNAL4	
CN230 : DOWNLOAD	**CN430 : FJM SUB**	**CN100 : DISPLAY&Thermistor&Wifi**	
#1: COM1_RXD	#1: COM2_RXD	#1: LED_DIO	#2: 5VDC
#2: COM1_TXD	#2: COM2_TXD	#3: LED_CLK(DIS)	#4: GND
#3: nTRST	#3: COM2_INVERSE	#5: LED_RST(DIS)	#6: H_ROOM_TEMP
#4: TDO	#4: COM2_ENABLE	#7: POWER_SW	#8: HUM_SENSOR
#5: TCK	#5: EXT_CTRL	#9:GND	#10: ROOM_TEMP
#6: TDI	#6: COMP_CHK	#11:5VDC	#12: GND
#7: TMS	#7: ERROR_CHK	#13: REMOCON_INT(DIS)	#14: EVA_IN_TEMP
#8: TraceCLK	#8: COM2_VCC_PS_OUT	#15: ADDRESS_SW(DIS)	#16: GND
#9: GND	#9: GND	#17: MAIN_RX(DIS_WIFI)	#18: EVA_OUT_TEMP
#10: 5VDC	#10: 12VDC	#19: MAIN_TX(DIS_WIFI)	#20: GND
#11: 5VDC	#11: COM2_PCTRL_MICOM	#21: WIFI_CONTROL(DIS_WIFI)	#22: NULL
#12: BOOT	#12:COM2_VCHECK_A	#23: 12VDC	#24: NULL
#13: RESET	#13:COM2_VCHECK_B	#25: MDS_2(DIS_DETECT)	#26: NULL
#14: Trace3	#14:COM2_MICOM_AD	#27: MDS_1(DIS_DETECT)	#28: 5VDC_1
#15: NULL			
#16: NULL			
#17: GND			
#18: Trace2			
#19: Trace1			
#20: Trace0			
CN390 : WIFI	**CN320 : 485COMM**	**CNP100 : AC POWER**	**CN900 : BLDC MOTOR**
#1: MAIN_RX	#1: RX	#1 : L	#1: 310VDC
#2: MAIN_TX	#2: TX	#2 : NULL	#2: NULL
#3: CONTROL		#3 : N	#3: AGND
#4: GND		#4 : NULL	#4: 15VDC
#5: 12V		#5 : GND	#5: MOTOR SIGNAL
			#6: FEEDBACK SIGNAL

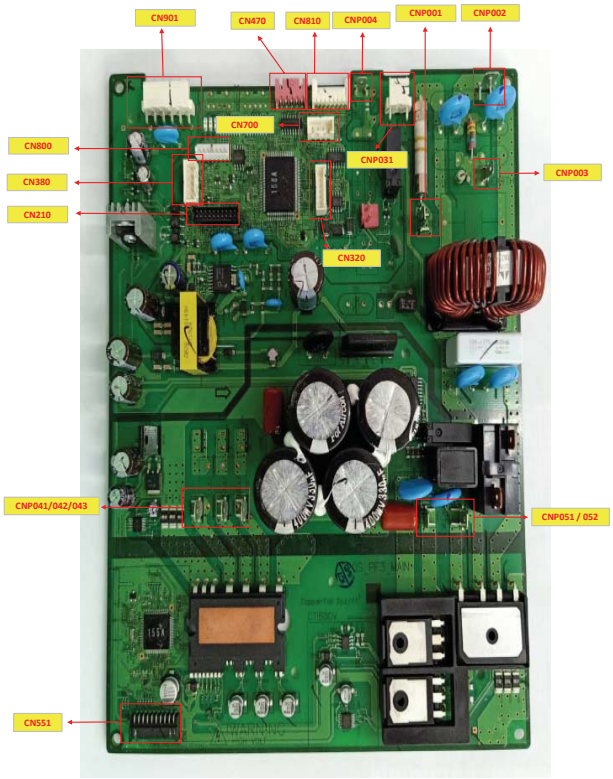
7-2 Outdoor PCB Inverter

DB92-04837



CNP001 : POWER_L	CN551 : INV_DOWNLOAD	CN320 : SUB COMM
#1: L	#1: RXD_INV	#1: 5VDC
CNP002 : POWER_N	#2: TXD_INV	#2: ENABLE
#1: N	#3: BOOT	#3: INVERSE
CNP003 : POWER_GND	#4: TDO_INV	#4: TXD
#1: GND	#5: TCK_INV	#5: RXD
CNP004 : COMM_GND	#6: TDI_INV	#6: GND
#1: GND	#7: TMS_INV	#7: 12VDC
CNP051/052 : REACTOR	#8: nTRST_INV	**CN210 : MAIN_DOWNLOAD**
#1: REACTOR#1	#9: GND	#1: RXD_MAIN
#1: REACTOR#2	#10: 5VDC	#2: TXD_MAIN
CNP402 : COMP	#11: 5VDC	#3: BOOT
#1: COMP_W	#12: NULL	#4: TDO_MAIN
#2: COMP_V	#13: NULL	#5: TCK_MAIN
#3: COMP_U	#14: NULL	#6: TDI_MAIN
CN901 : BLDC MOTOR	#15: NULL	#7: TMS_MAIN
#1: 310VDC	#16: NULL	#8: TRACECLK_MAIN
#2: NULL	#17: GND	#9: GND
#3: AGND	#18: DA_CLK	#10: 5VDC
#4: 15VDC	#19: DA_CS	#11: 5VDC
#5: MOTOR SIGNAL	#20: DA_DATA	#12: NULL
#6: FEEDBACK SIGNAL	**CN810 : EEV**	#13: NULL
CN470 : THERMISTOR	#1: SIGNAL1	#14: TRACE3_MAIN
#1: OUT_TH	#2: SIGNAL2	#15: NULL
#2: GND	#3: SIGNAL3	#16: NULL
#3: DIS_TH	#4: SIGNAL4	#17: GND
#4: GND	#5: 12VDC	#18: TRACE2_MAIN
#5: COND_TH	**CN700**	#19: TRACE1_MAIN
#6: GND	#1: 12VDC	#20: TRACE0_MAIN
#7: OLP_TH	#2: GND	**CN380 : DRED**
#8: GND	#3: HEATER_N	#1: DRED1
CN800 : EEPROM	#4: HEATER_L	#2: DRED2
#1: GND	**CNP031 : 4WAY**	#3: DRED3
#2: NULL	#1: AC	#4: GND
#3: 5VDC	#2: NULL	#5: 5VDC
#4: EEP_CS	#3: AC	
#5: EEP_SO		
#6: EEP_SI		
#7: EEP_CLK		

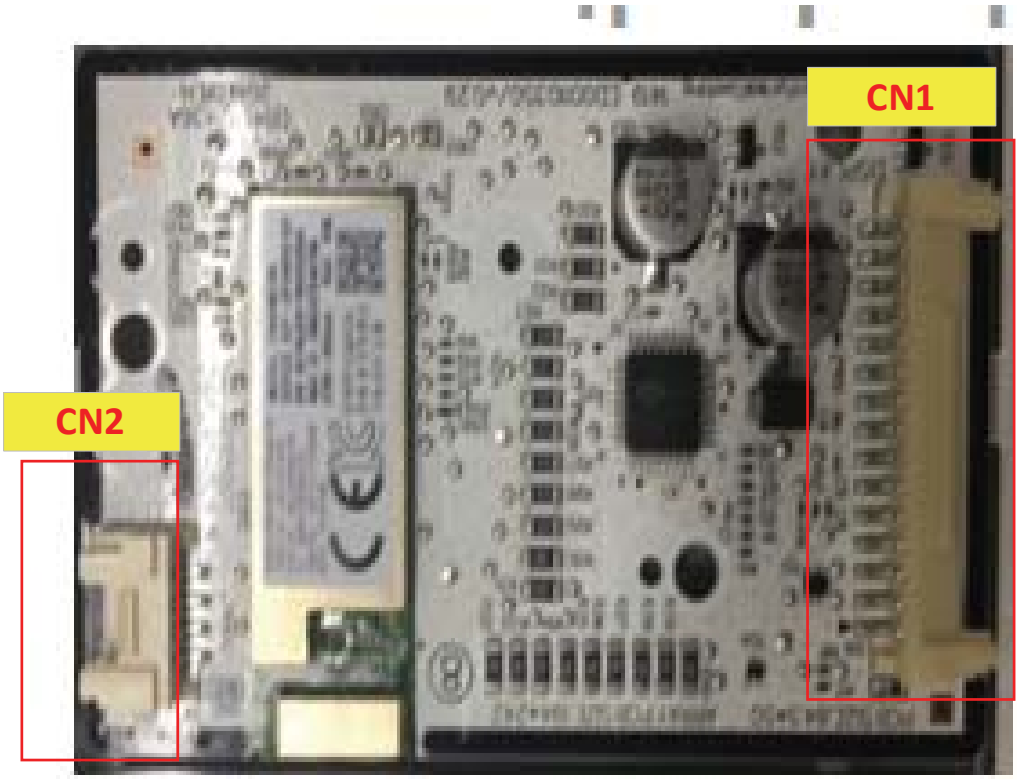
DB92-04838



CNP001 : POWER_L	CN551 : INV_DOWNLOAD	CN320 : SUB COMM
#1: L	#1: RXD_INV	#1: 5VDC
CNP002 : POWER_N	#2: TXD_INV	#2: ENABLE
#1: N	#3: BOOT	#3: INVERSE
CNP003 : POWER_GND	#4: TDO_INV	#4: TXD
#1: GND	#5: TCK_INV	#5: RXD
CNP004 : COMM_GND	#6: TDI_INV	#6: GND
#1: GND	#7: TMS_INV	#7: 12VDC
CNP051/052 : REACTOR	#8: nTRST_INV	**CN210 : MAIN_DOWNLOAD**
#1: REACTOR#1	#9: GND	#1: RXD_MAIN
#1: REACTOR#2	#10: 5VDC	#2: TXD_MAIN
CNP401,402,403 : COMP	#11: 5VDC	#3: BOOT
CNP401: COMP_U	#12: NULL	#4: TDO_MAIN
CNP402: COMP_V	#13: NULL	#5: TCK_MAIN
CNP403: COMP_W	#14: NULL	#6: TDI_MAIN
CN901 : BLDC MOTOR	#15: NULL	#7: TMS_MAIN
#1: 310VDC	#16: NULL	#8: TRACECLK_MAIN
#2: NULL	#17: GND	#9: GND
#3: AGND	#18: DA_CLK	#10: 5VDC
#4: 15VDC	#19: DA_CS	#11: 5VDC
#5: MOTOR SIGNAL	#20: DA_DATA	#12: NULL
#6: FEEDBACK SIGNAL	**CN810 : EEV**	#13: NULL
CN470 : THERMISTOR	#1: SIGNAL1	#14: TRACE3_MAIN
#1: OUT_TH	#2: SIGNAL2	#15: NULL
#2: GND	#3: SIGNAL3	#16: NULL
#3: DIS_TH	#4: SIGNAL4	#17: GND
#4: GND	#5: 12VDC	#18: TRACE2_MAIN
#5: COND_TH	**CN700 : HEATER**	#19: TRACE1_MAIN
#6: GND	#1: 12VDC	#20: TRACE0_MAIN
#7: OLP_TH	#2: GND	**CN380 : DRED**
#8: GND	#3: HEATER_N	#1: DRED1
CN800 : EEPROM	#4: HEATER_L	#2: DRED2
#1: GND	**CNP031 : 4WAY**	#3: DRED3
#2: NULL	#1: AC	#4: GND
#3: 5VDC	#2: NULL	#5: 5VDC
#4: EEP_CS	#3: AC	
#5: EEP_SO		
#6: EEP_SI		
#7: EEP_CLK		

7-3 DISPLAY PCB

DB92-04833



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	

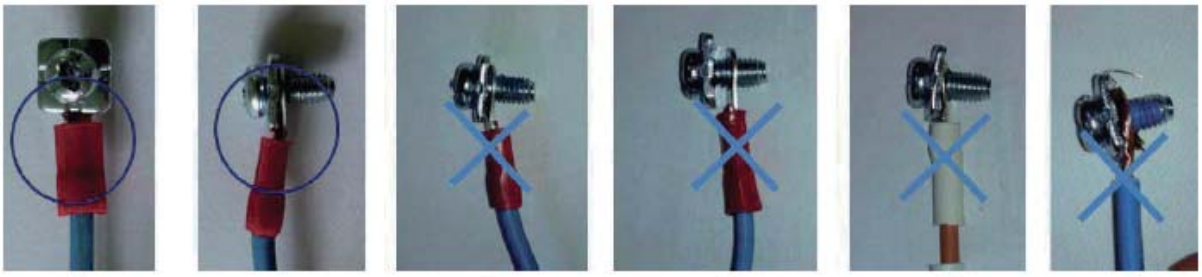
7-4 Wire connecting the indoor unit terminal blocks

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

8. Operating Instructions

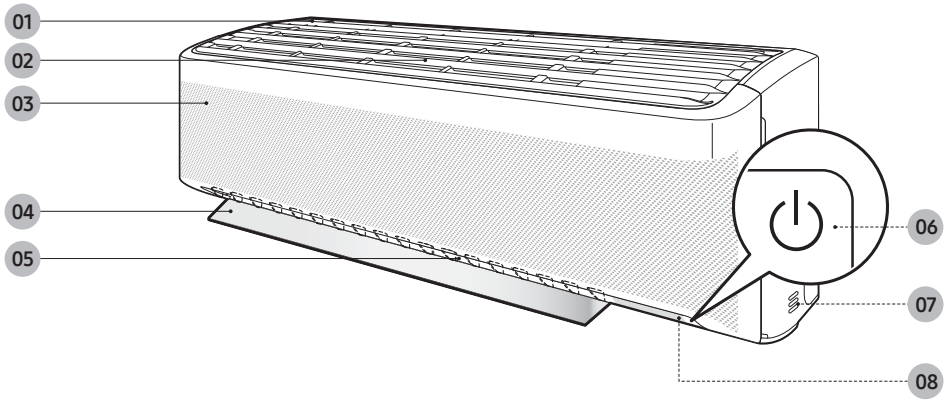
8-1 Name of Each Part

8-1-1 Indoor Unit

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

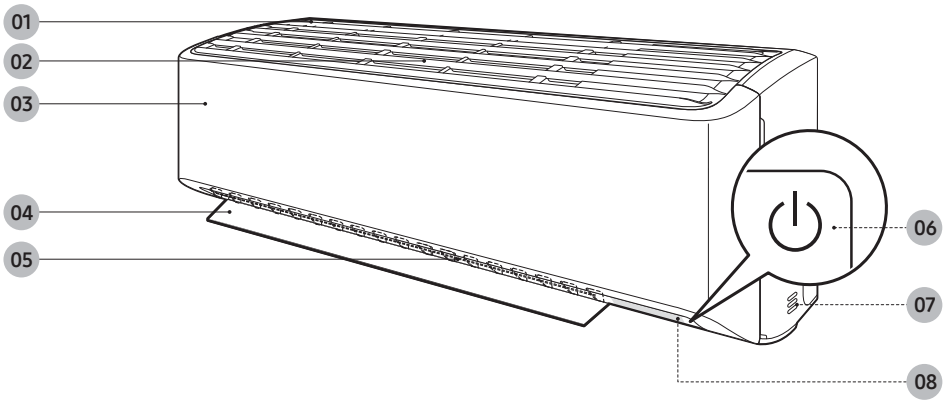
◆ Main Parts

AR**TSFA*WKNCV



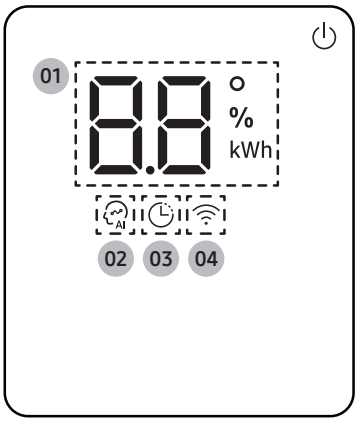
01 Air intake
02 Air filter
03 Wind-Free panel
04 Airflow blade (up and down)
05 Airflow blade (left and right)
06 Power button/Remote control receiver
07 Room temperature sensor
08 Display

AR**TSFY*WKNCV



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

◆ Display



01 Temperature indicator (numeric)
Filter reset indicator (CF)
Electricity consumption indicator (numeric)
Auto clean indicator (C !)
Defrost indicator (dF)

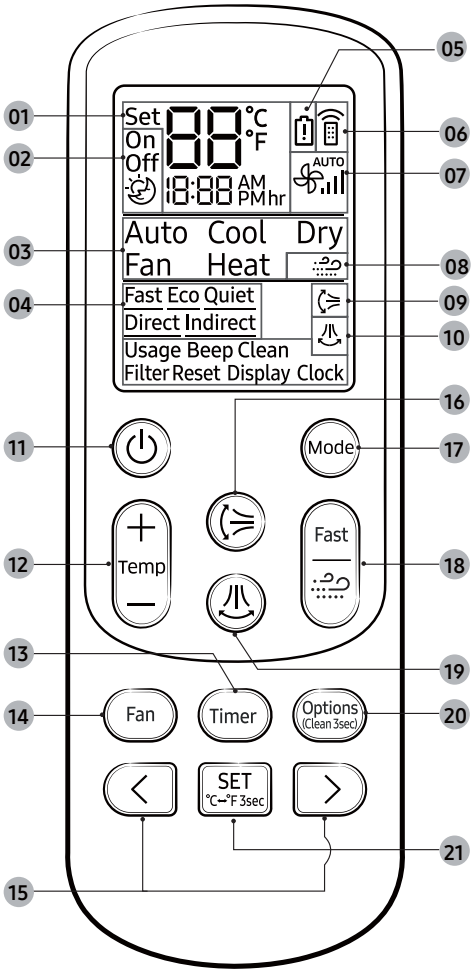
02 AI Auto indicator

03 Timer indicator
good'sleep indicator

04 Wi-Fi indicator

8-2 Wireless Remote control-Buttons and Display

DB96-24901B

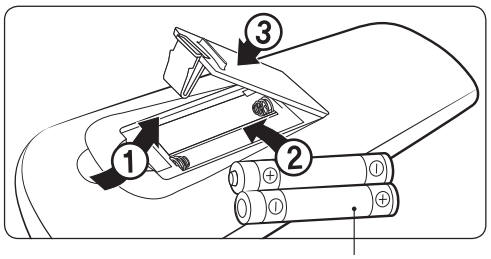


01 Set temperature indicator
02 Timer option indicator
03 Operation mode indicator
04 Options indicator
05 Low battery indicator
06 Transmit indicator
07 Fan speed indicator
08 Wind-Free indicator
09 Vertical air swing indicator
10 Horizontal air swing indicator
11 Power button
12 Temperature button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

NOTE

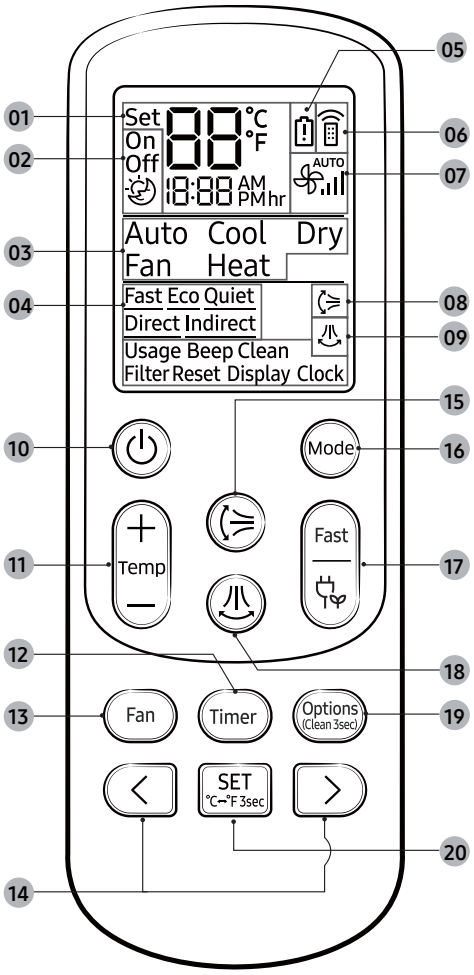
- Although **Purify**, **Direct** and **Indirect** appear on the remote control display, they are not available on this model.

Replacing the remote control batteries



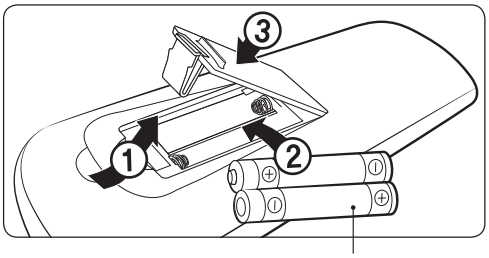
Two 1.5V AAA batteires

DB96-24901G



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

Replacing the remote control batteries



Two 1.5V AAA batteires

NOTE

- Although **Purify**, **(Horizontal air swing)**, **Direct** and **Indirect** appear on the remote control display, they are not available on this model.

9. Troubleshooting

9-1 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.

9-2 Communication Error

9-2-1 Communication Error

Indoor display

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

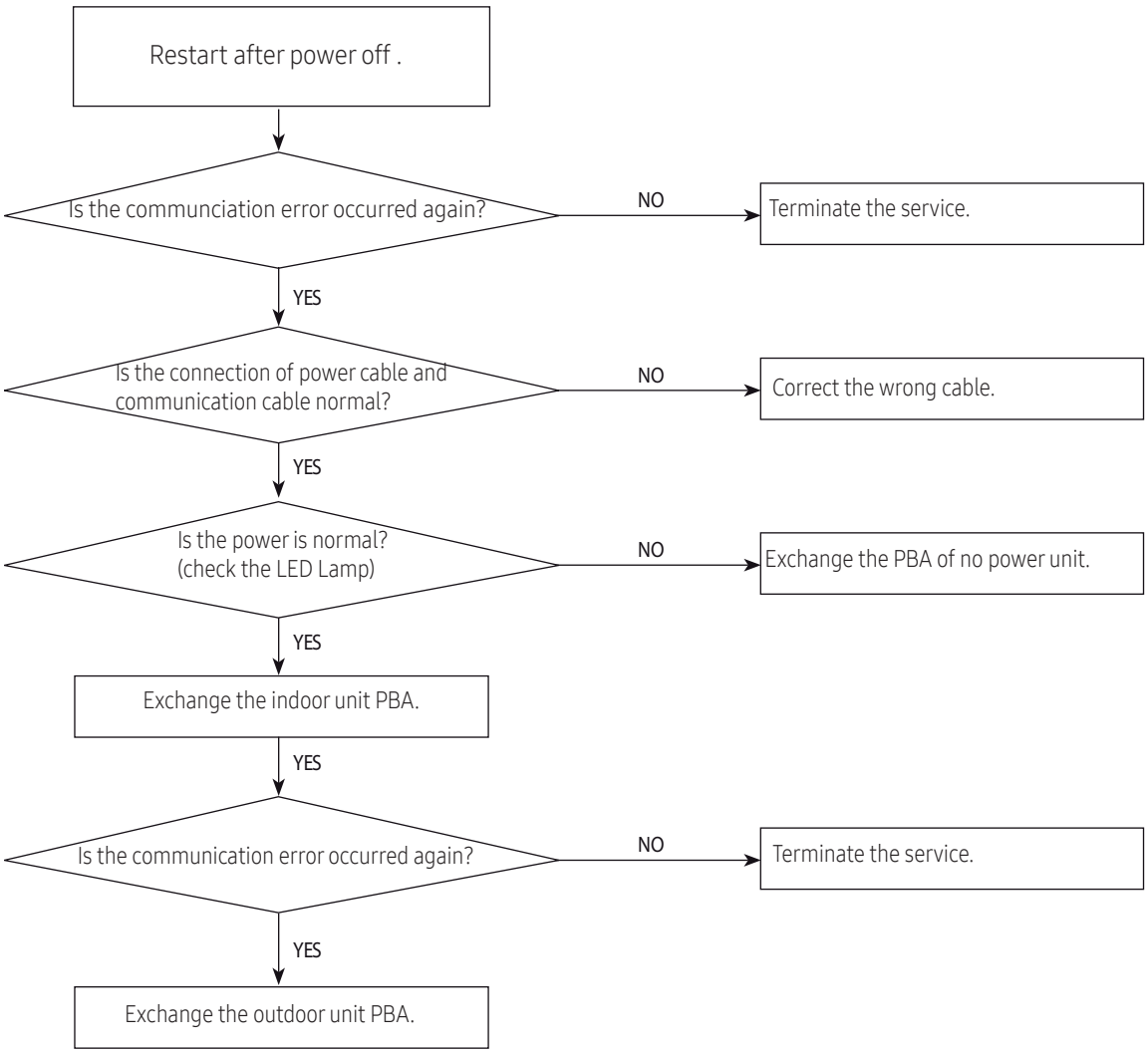
Outdoor display

◎	●	●	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



9-2-2 Indoor temperature sensor Error

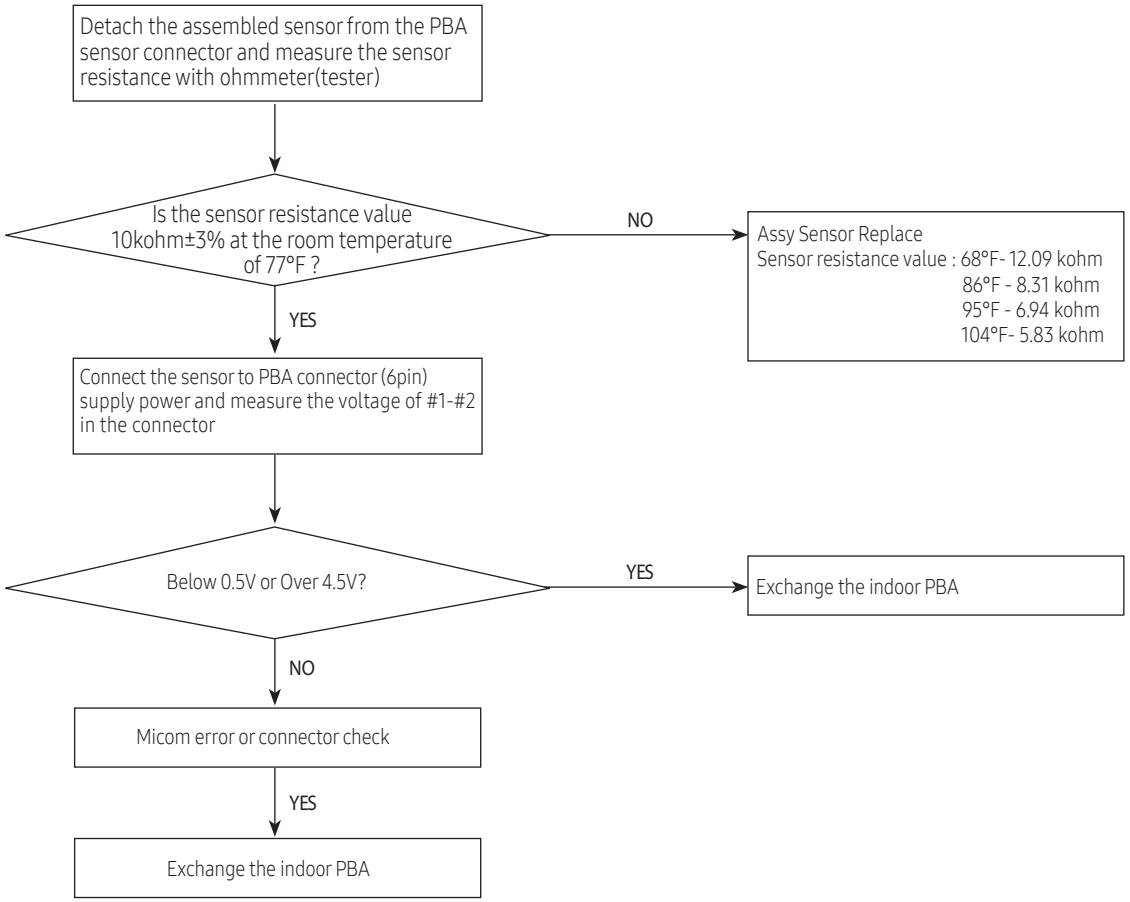
Indoor display

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



9-2-3 Indoor fan motor speed detecting error (BLDC fan)

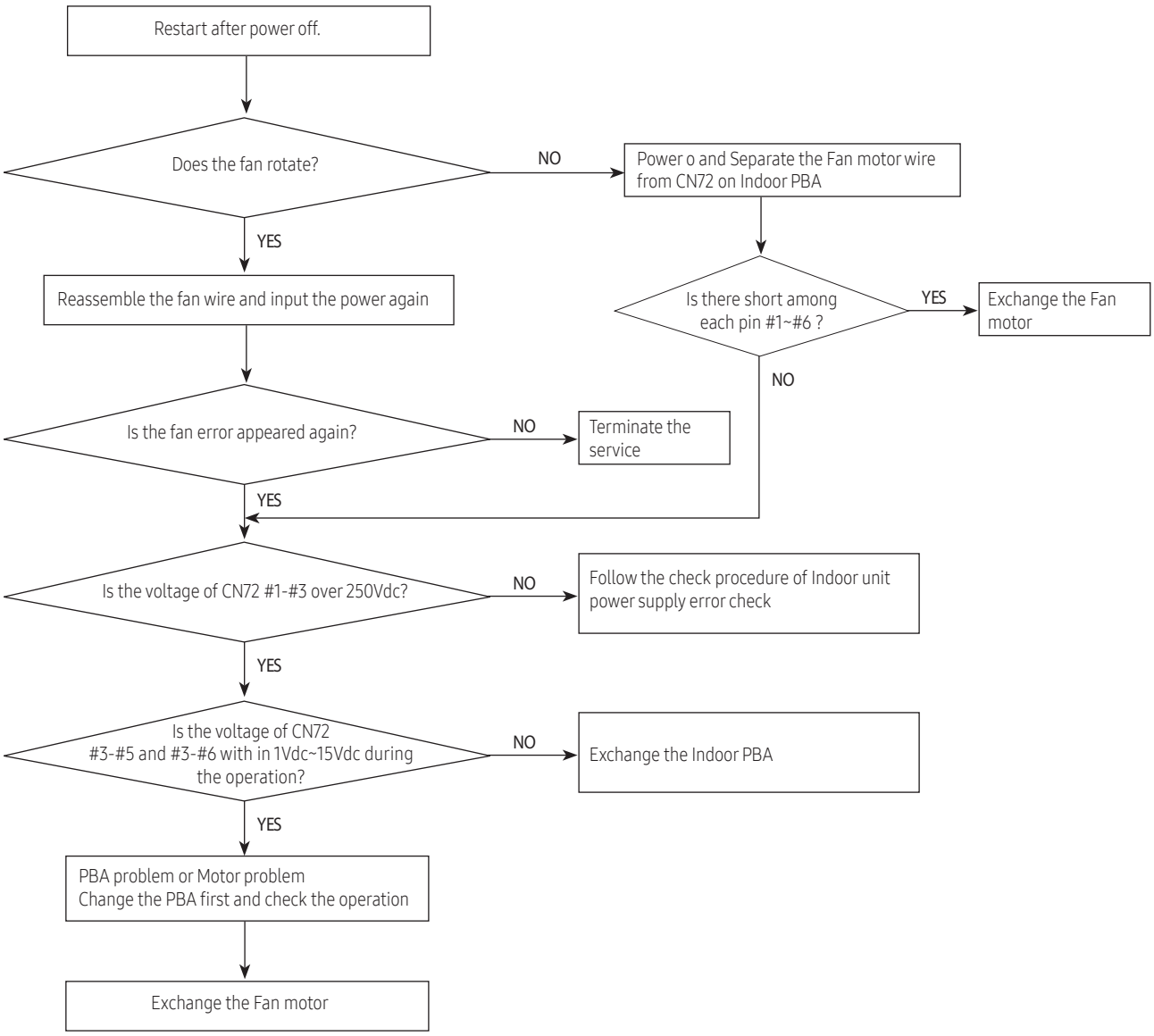
Indoor display

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



9-2-4 Outdoor temperature sensor error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C221	Outdoor temperature sensor error

Outdoor display

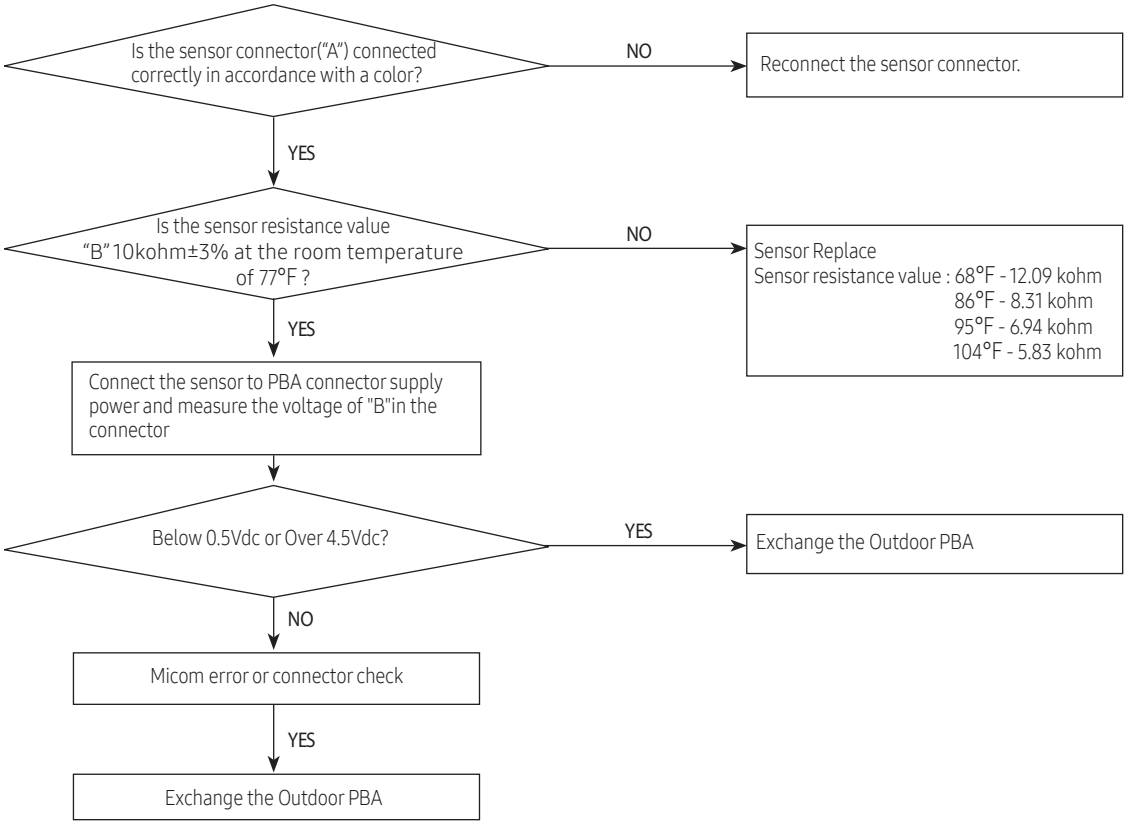
◎	○	◎	Outdoor temperature sensor error

●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



9-2-5 Outdoor Cond temperature sensor error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C231	Outdoor Cond temperature sensor error

Outdoor display

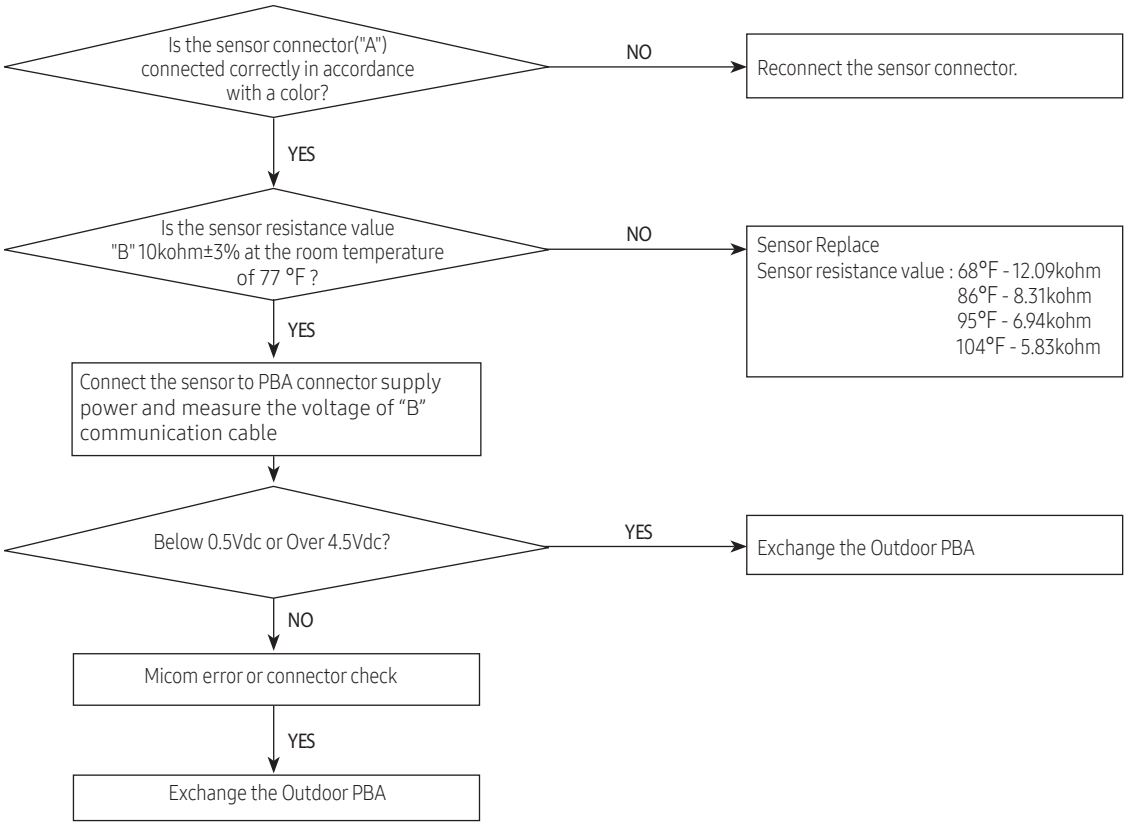
◎	●	◎	Outdoor Cond temperature sensor error

●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



9-2-6 Outdoor Discharge temperature sensor error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C251	Outdoor Discharge temperature sensor error

Outdoor display

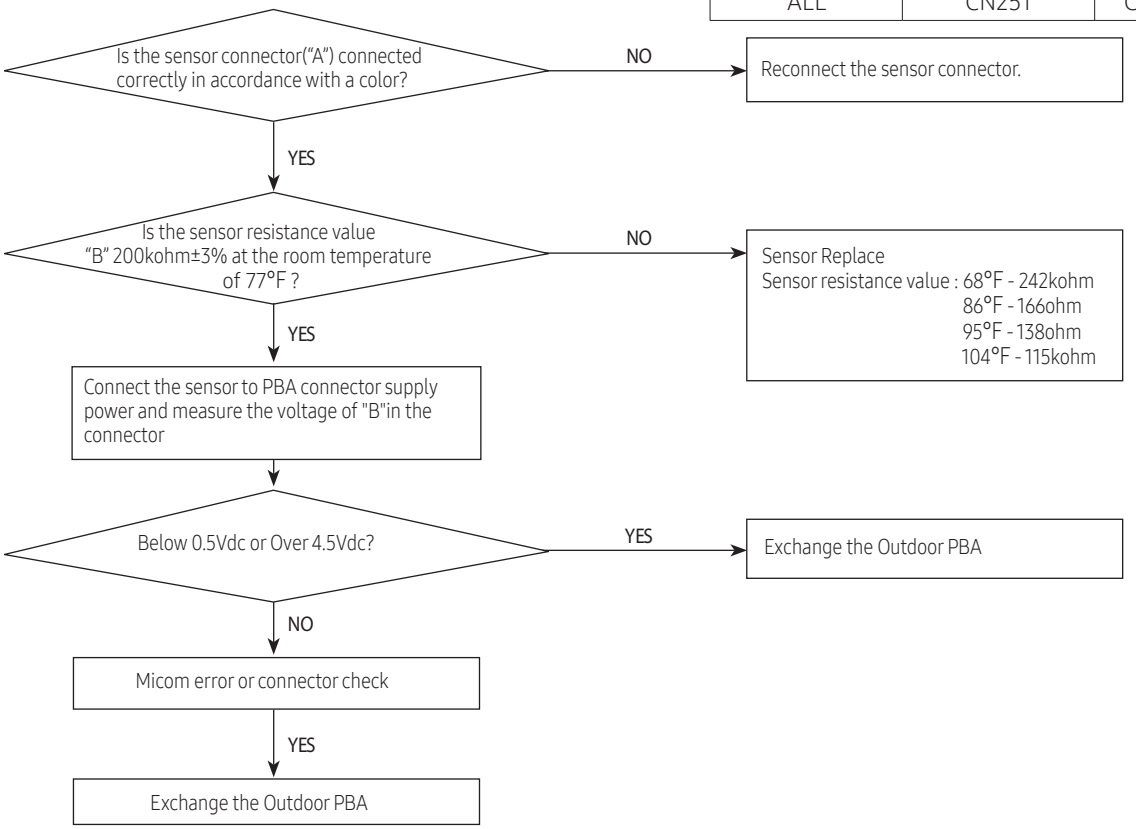
◎	◎	○	Outdoor Discharge temperature sensor error

●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



9-2-7 Operation condition secession error

Indoor display

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

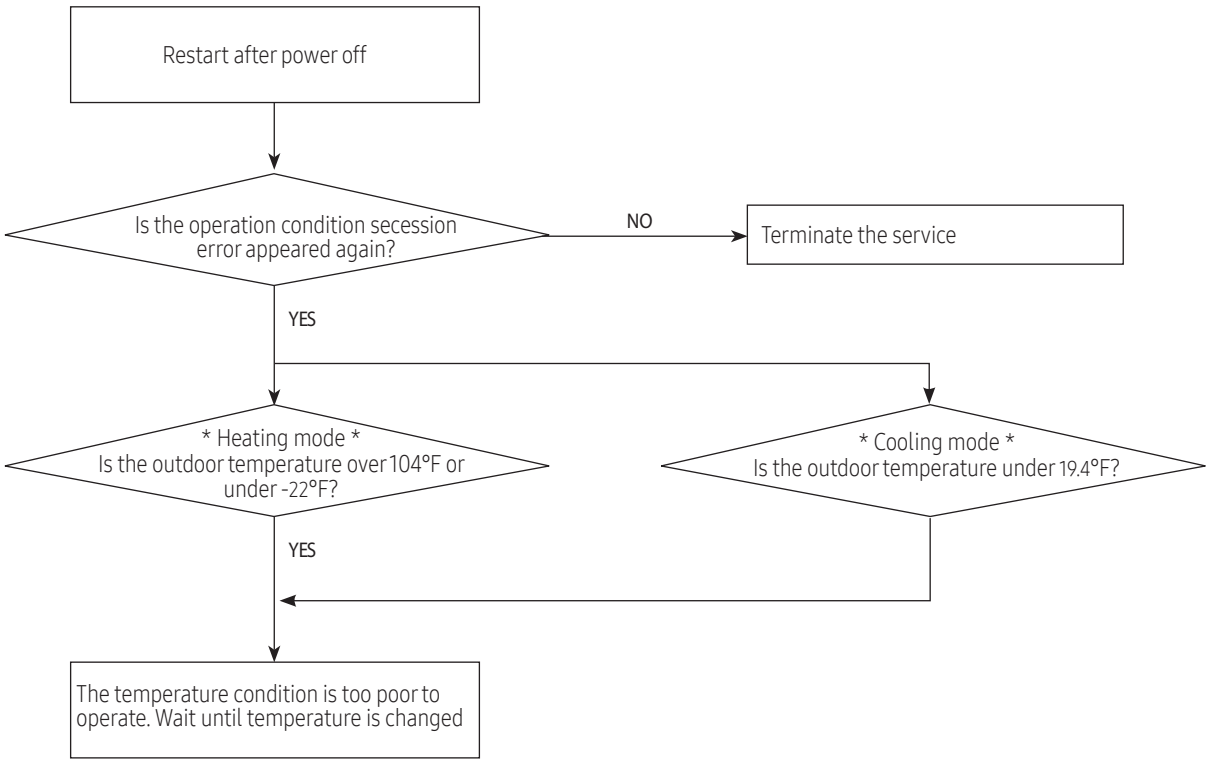
Outdoor display

●	◎	○	Operation condition secession

●LED ON ◎LED BLINKING ○LED OFF

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

2. Troubleshooting procedure



9-2-8 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)

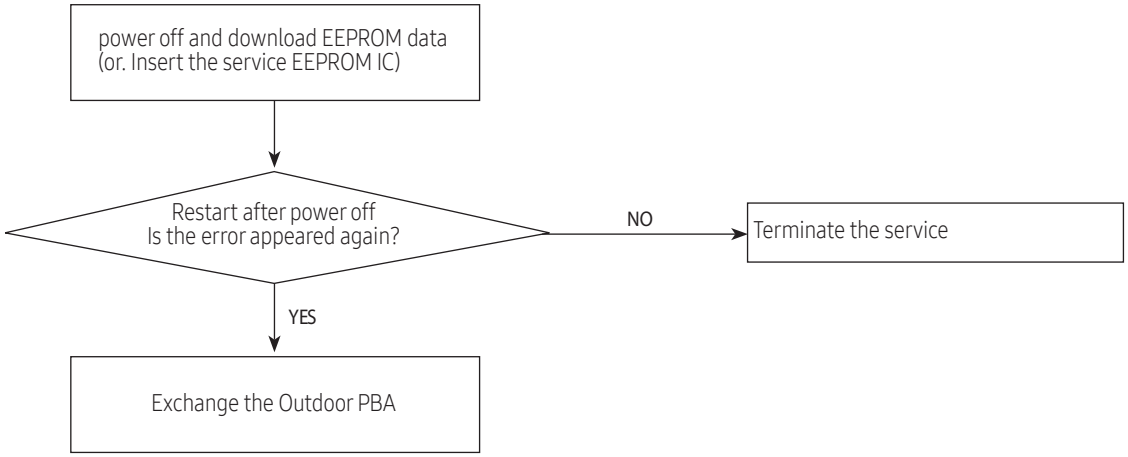
Outdoor display

○	●	○	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



9-2-9 Outdoor Fan motor error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C458	Outdoor fan error

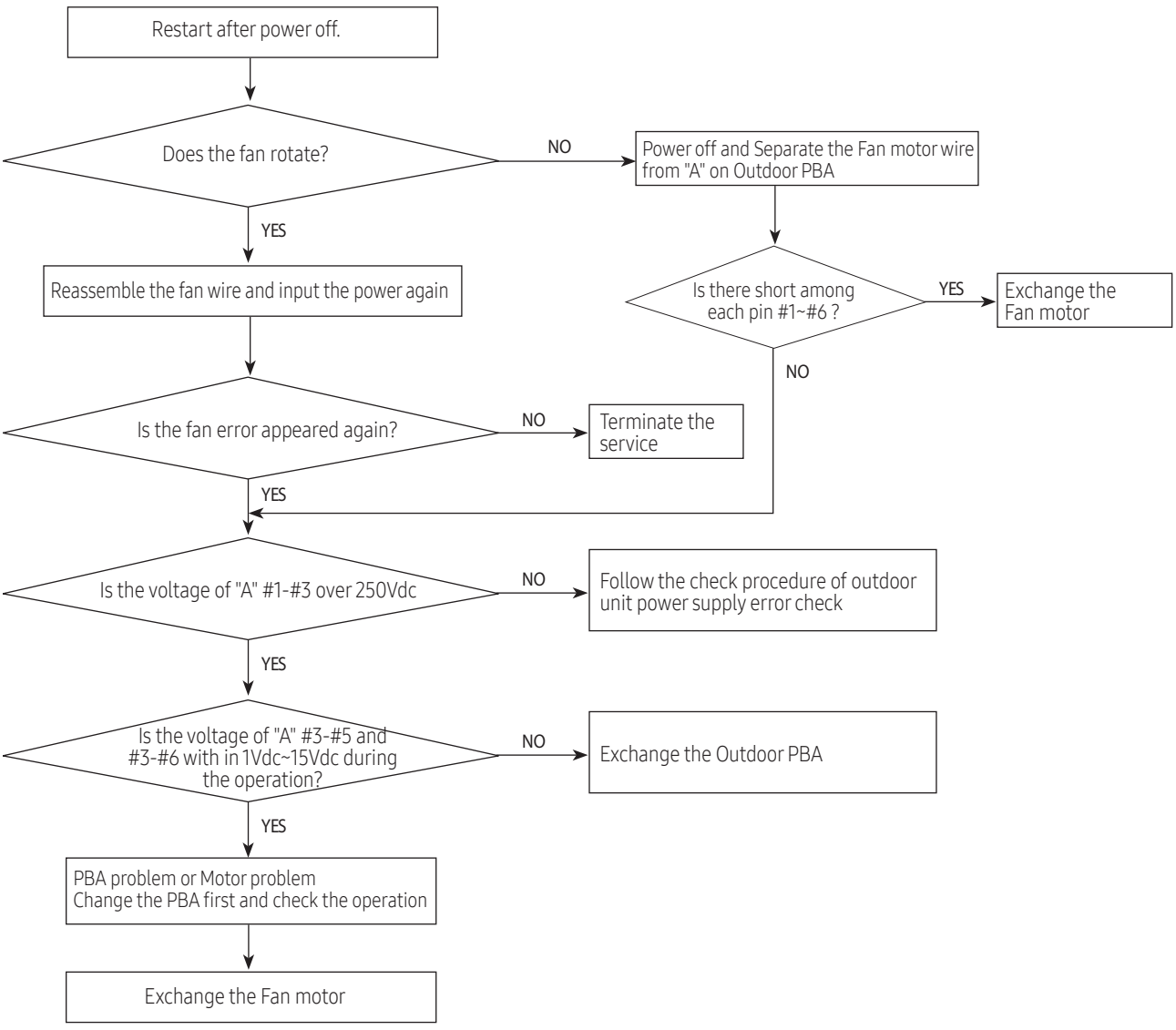
Outdoor display

●	○	○	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



9-2-10 Compressor starting error

Indoor display

7-SEG DISPLAY	DESCRIPTION
C461	Comp starting error

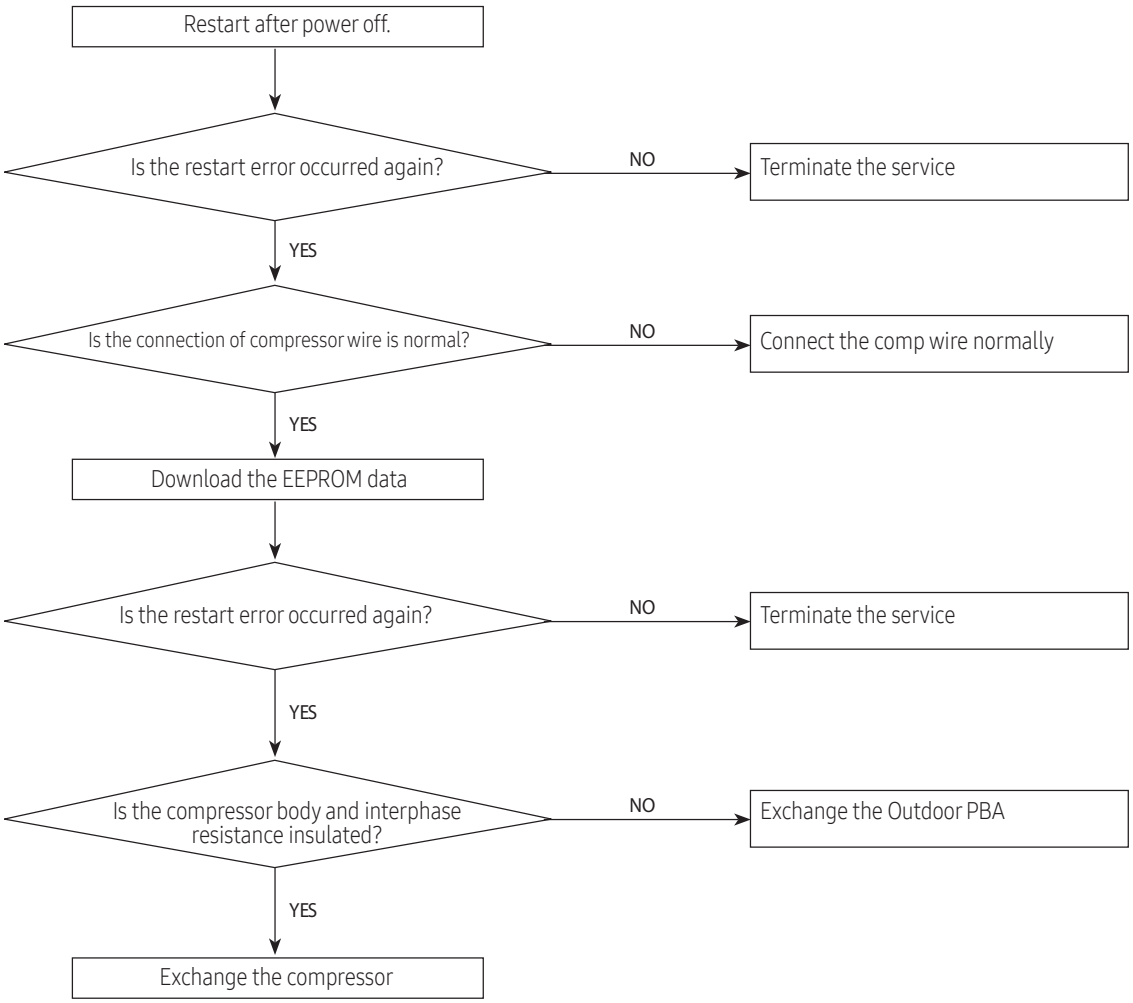
Outdoor display

○	◎	○	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



9-2-11 Compressor wire missing error/rotation error

Indoor display

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

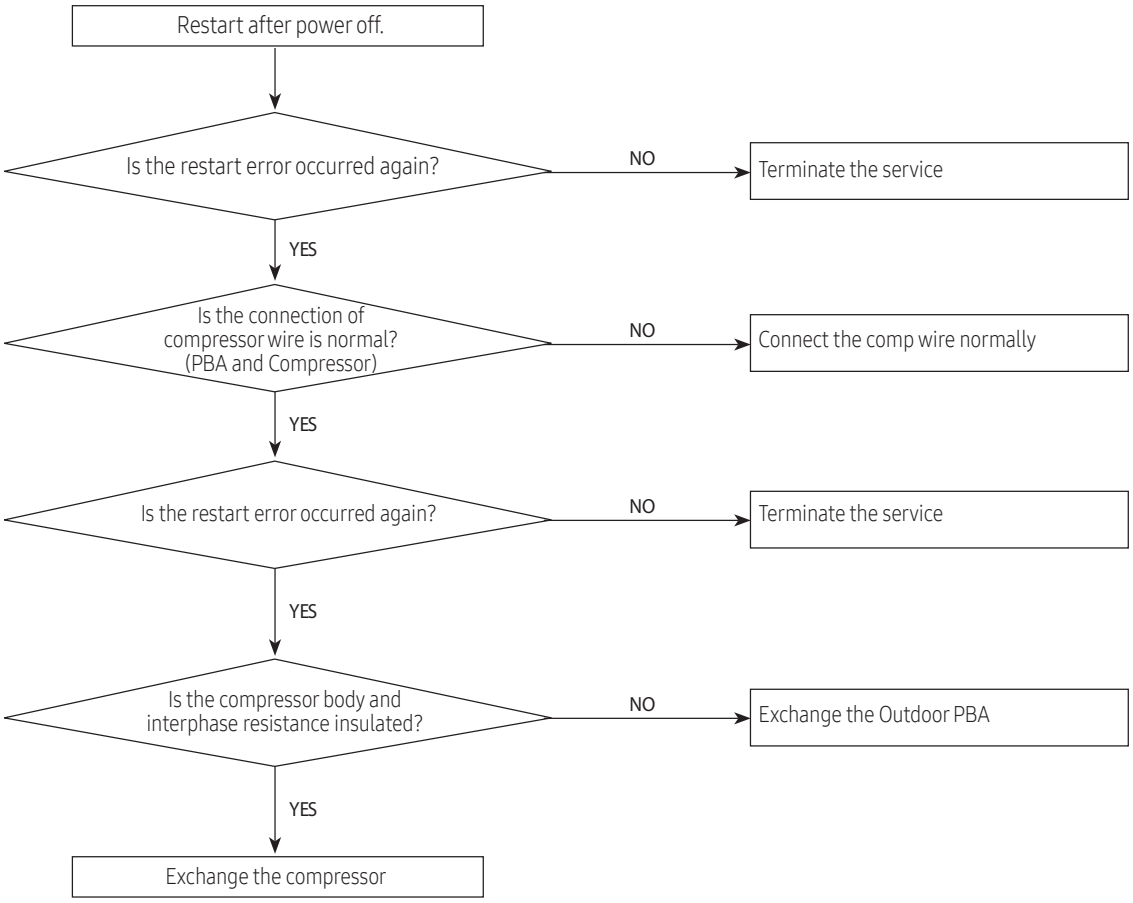
Outdoor display

●	○	●	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

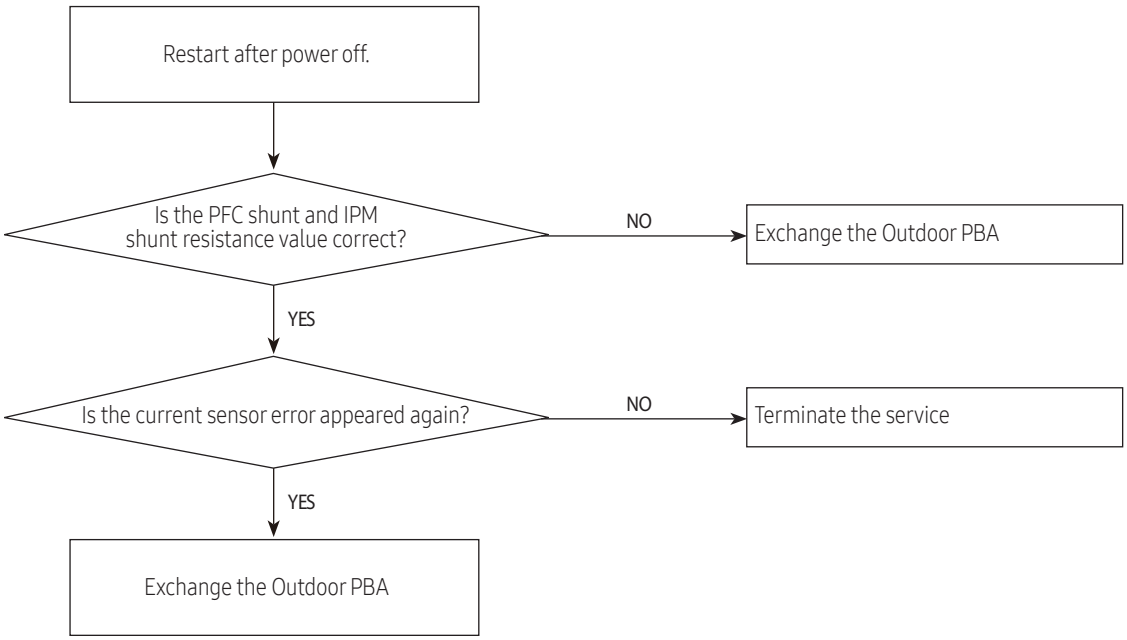
Outdoor display

●	◎	●	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



9-2-13 O.C(Over Current) error

Indoor display

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

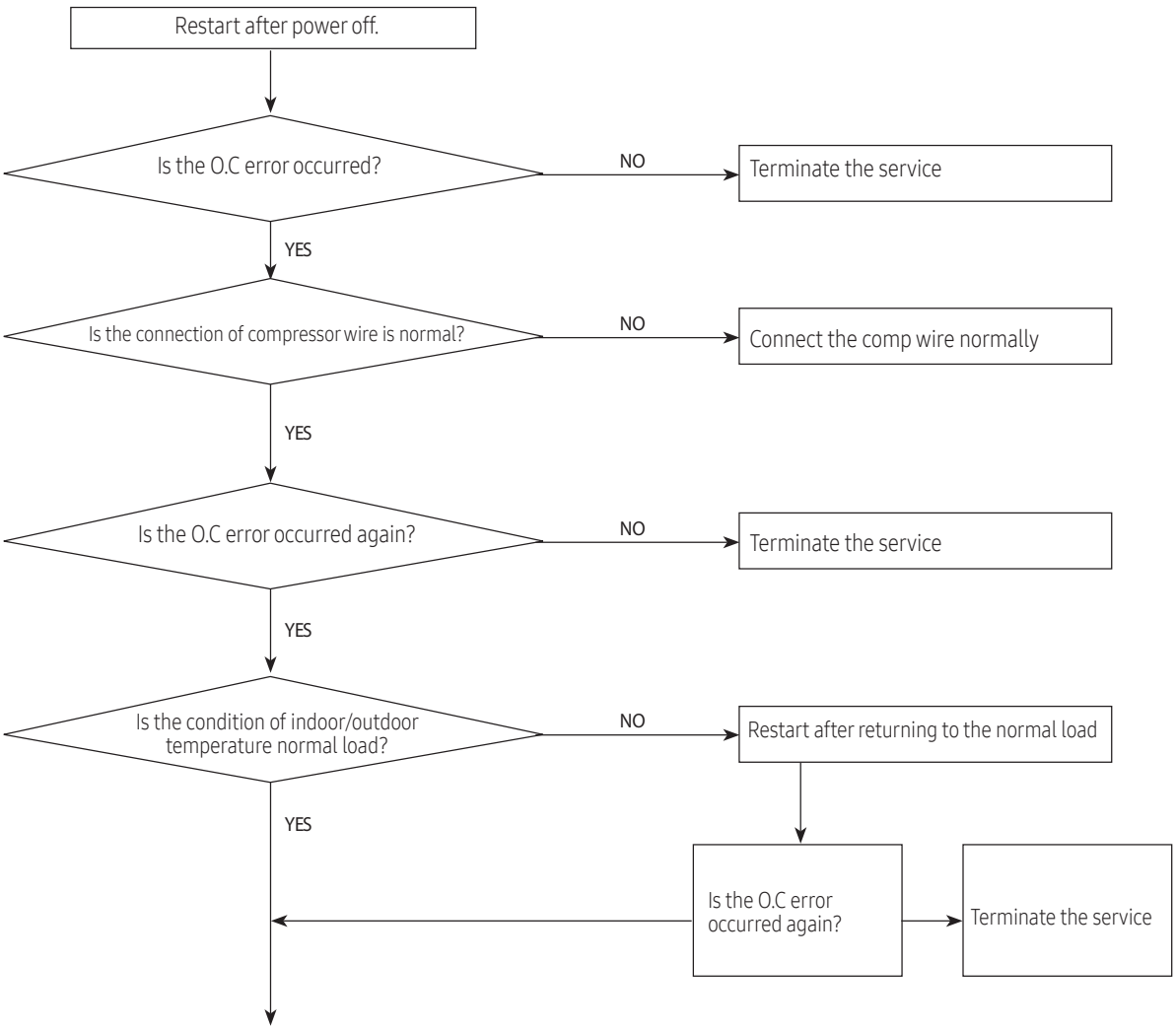
Outdoor display

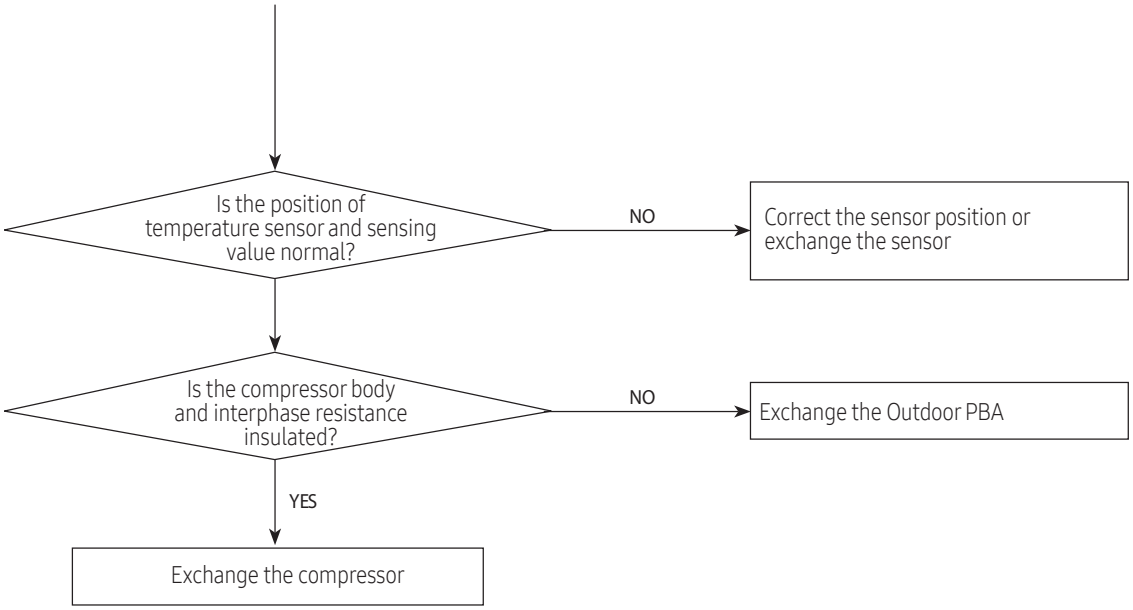
○	○	◎	Current sensor error

●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

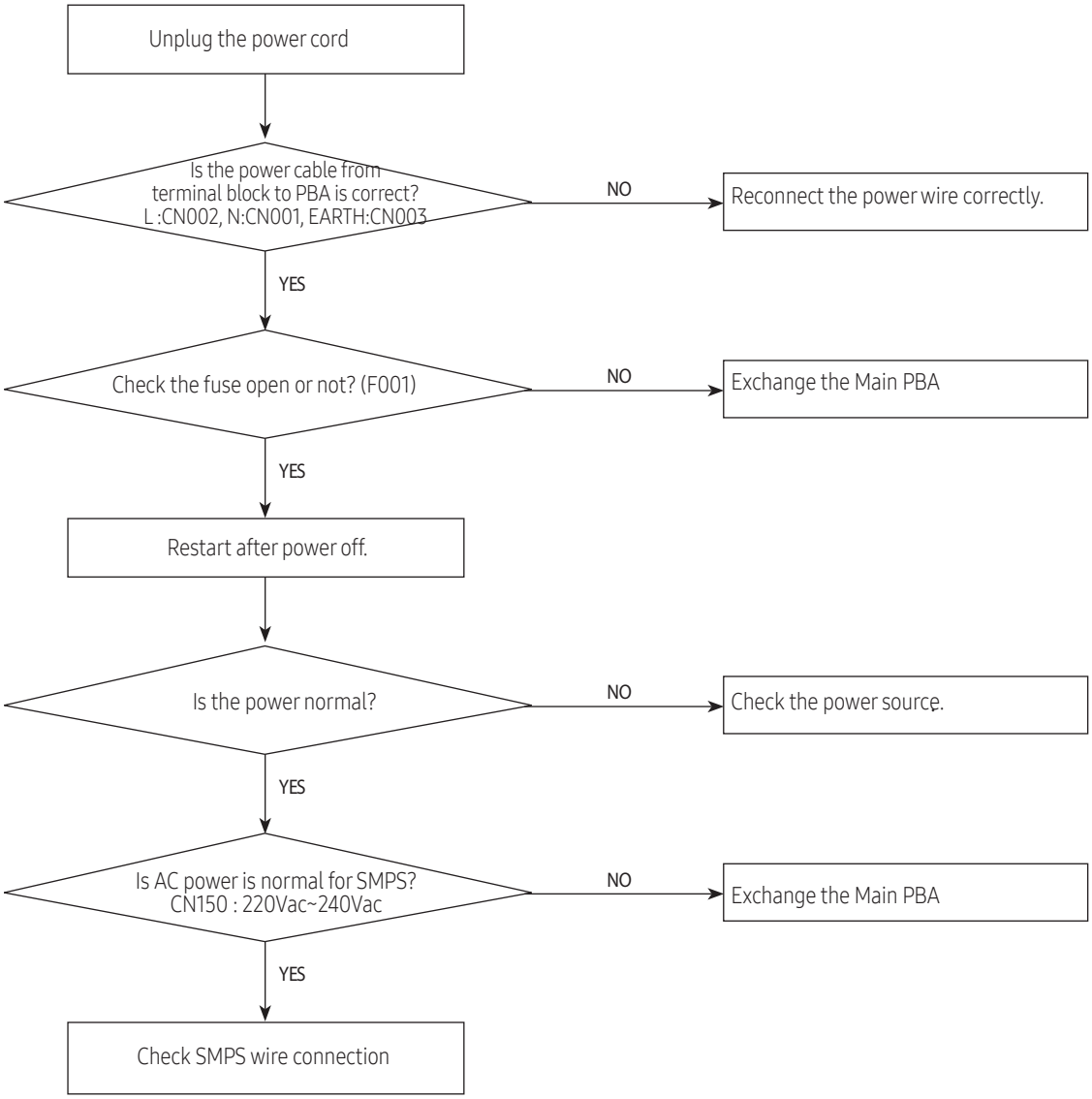



Is the position of temperature sensor and sensing value normal?
NO
Correct the sensor position or exchange the sensor
Is the compressor body and interphase resistance insulated?
NO
Exchange the Outdoor PBA
YES
Exchange the compressor

9-2-14 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?

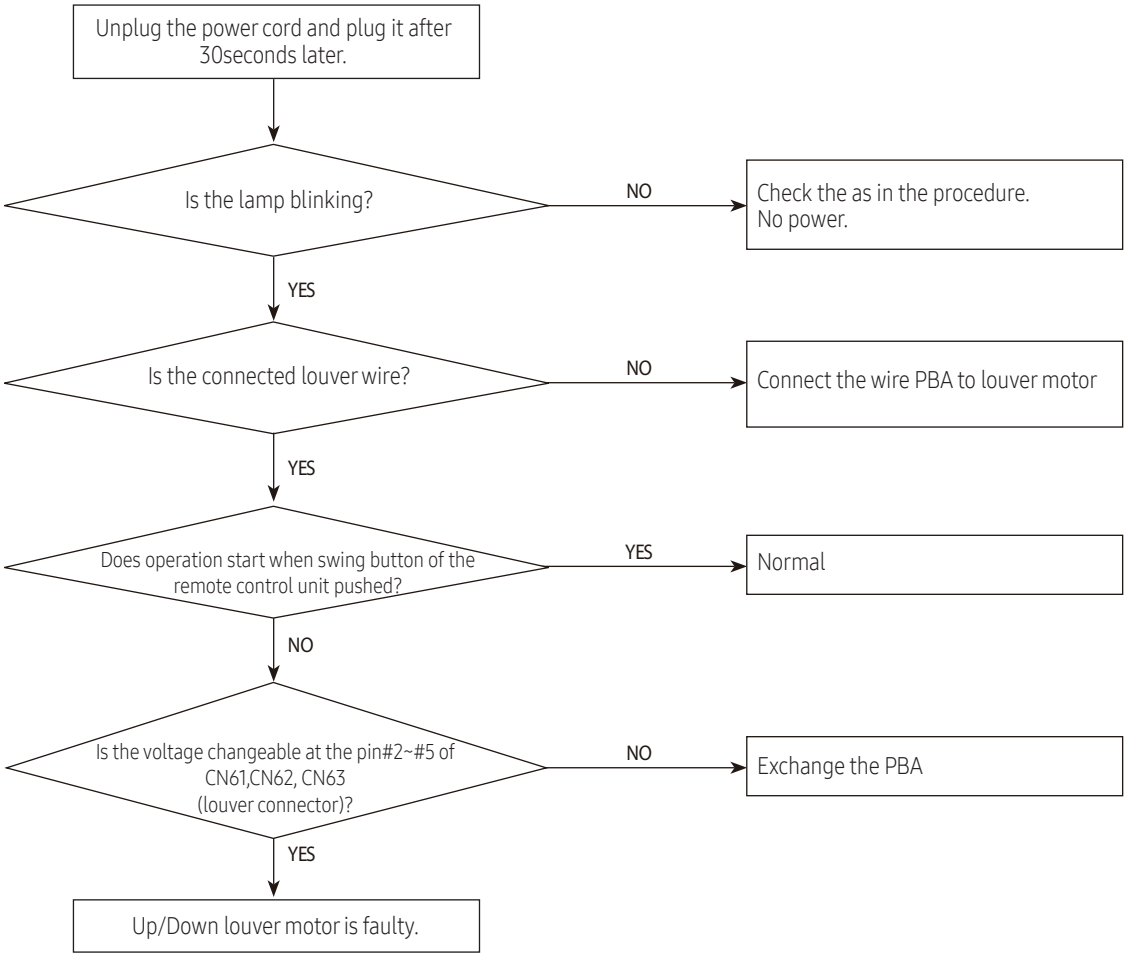
2. Troubleshooting procedure



9-2-15 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)

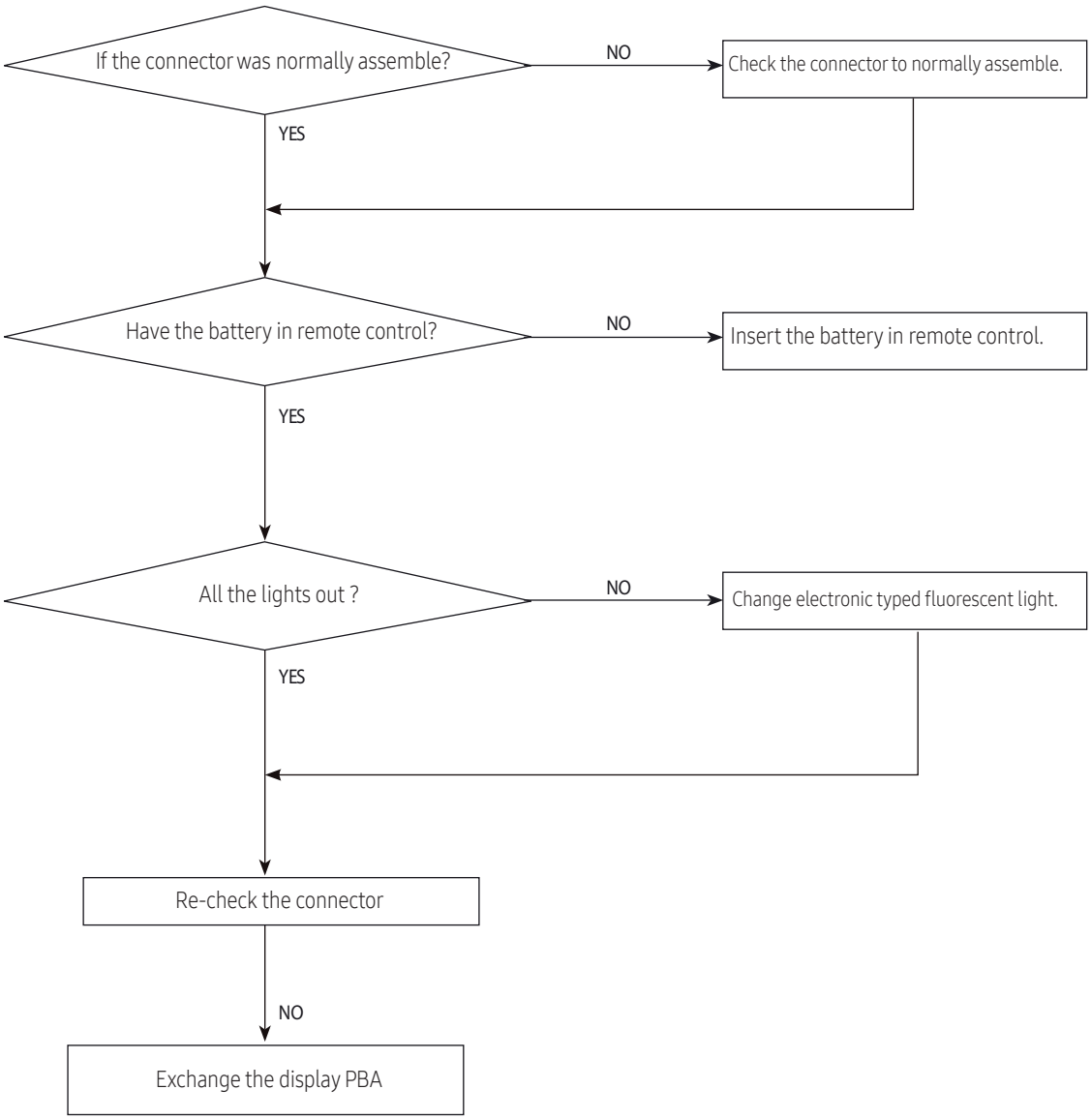
2. Troubleshooting procedure



9-2-16 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

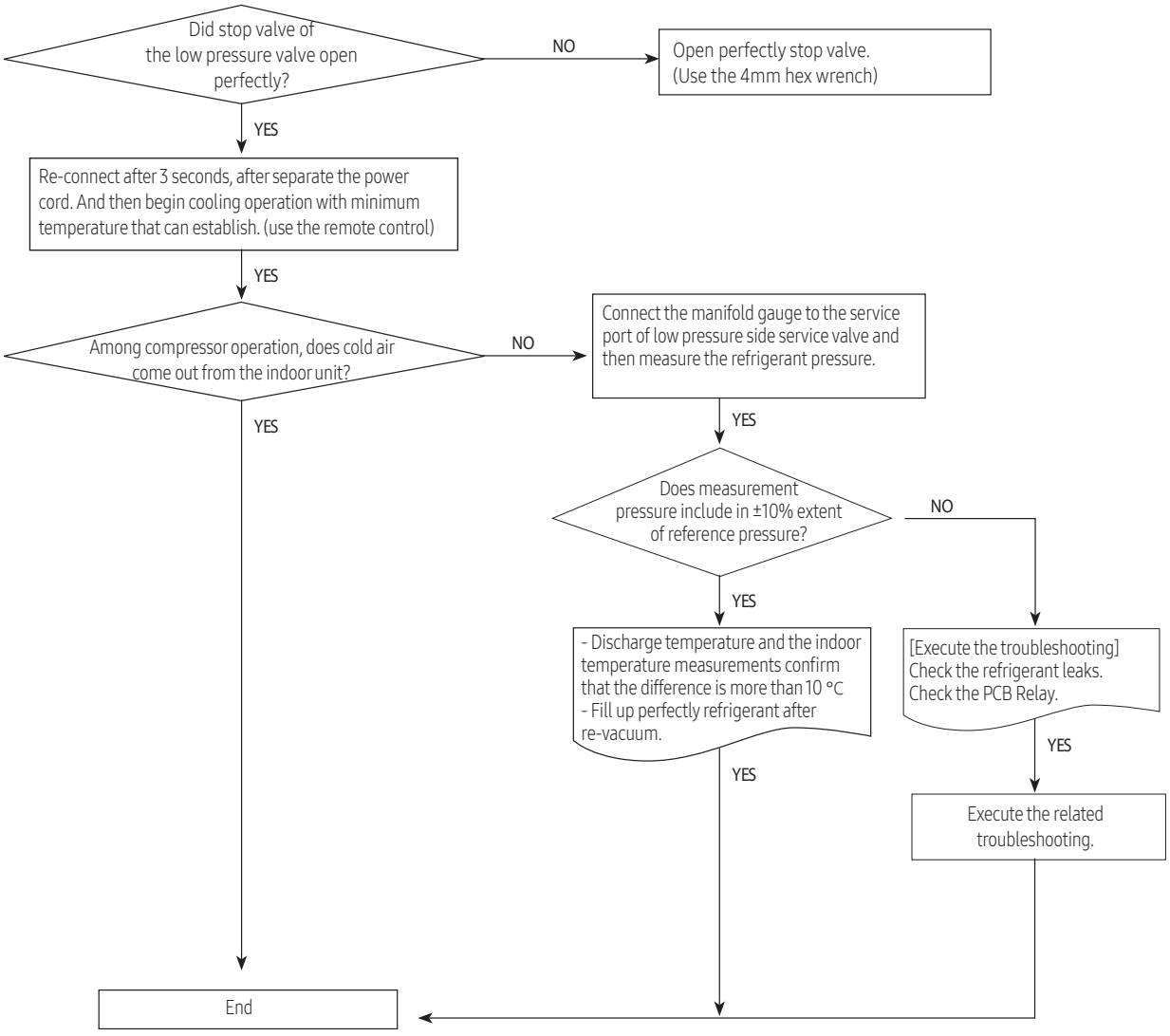


9-2-17 Smart Install error

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



9-2-18 Outdoor OLP over temperature error (One way Inverter Only)

Indoor display

DESCRIPTION
No display about the outdoor condition

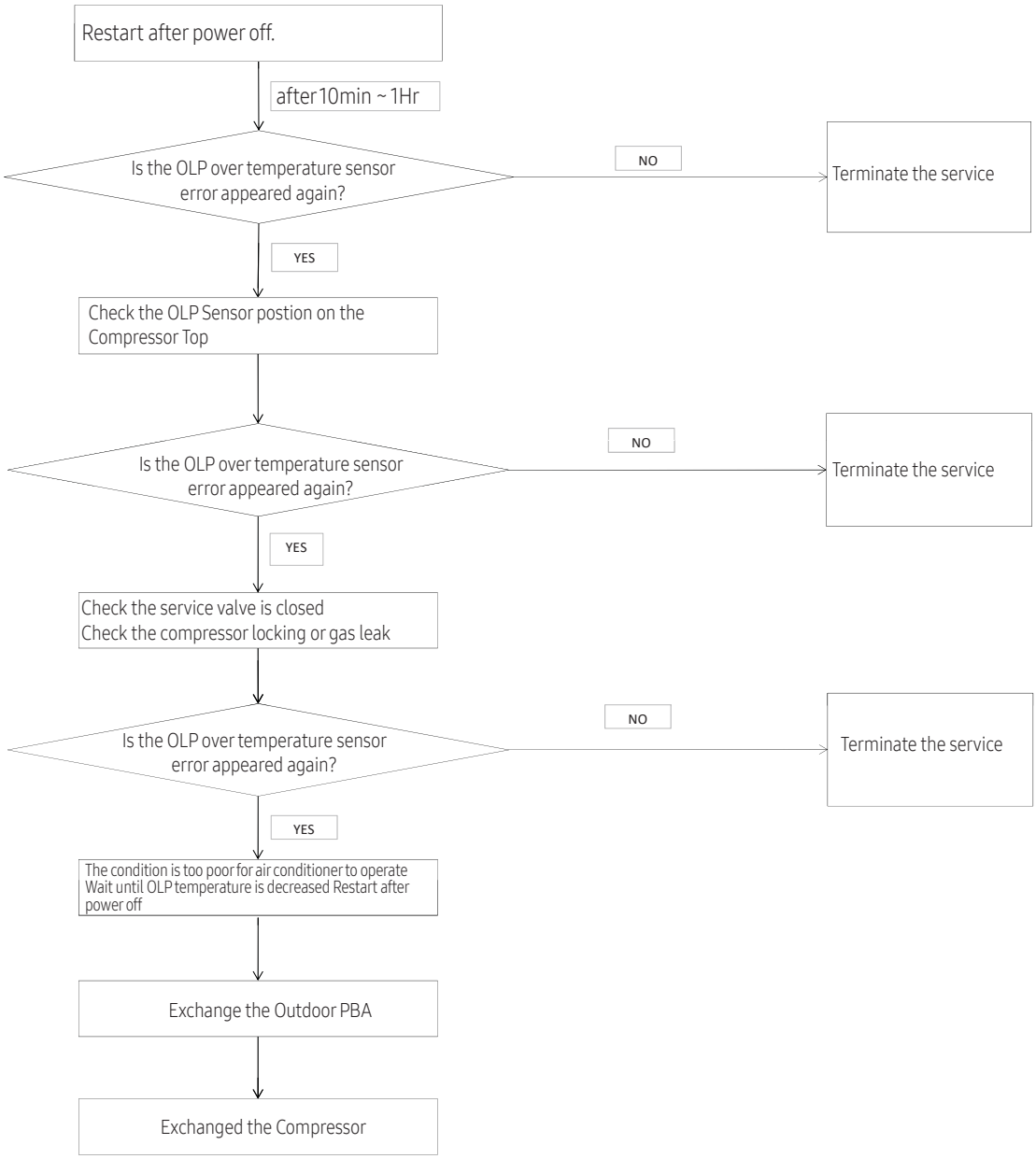
Outdoor display

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

●LED ON ◎LED BLINKING ○LED OFF

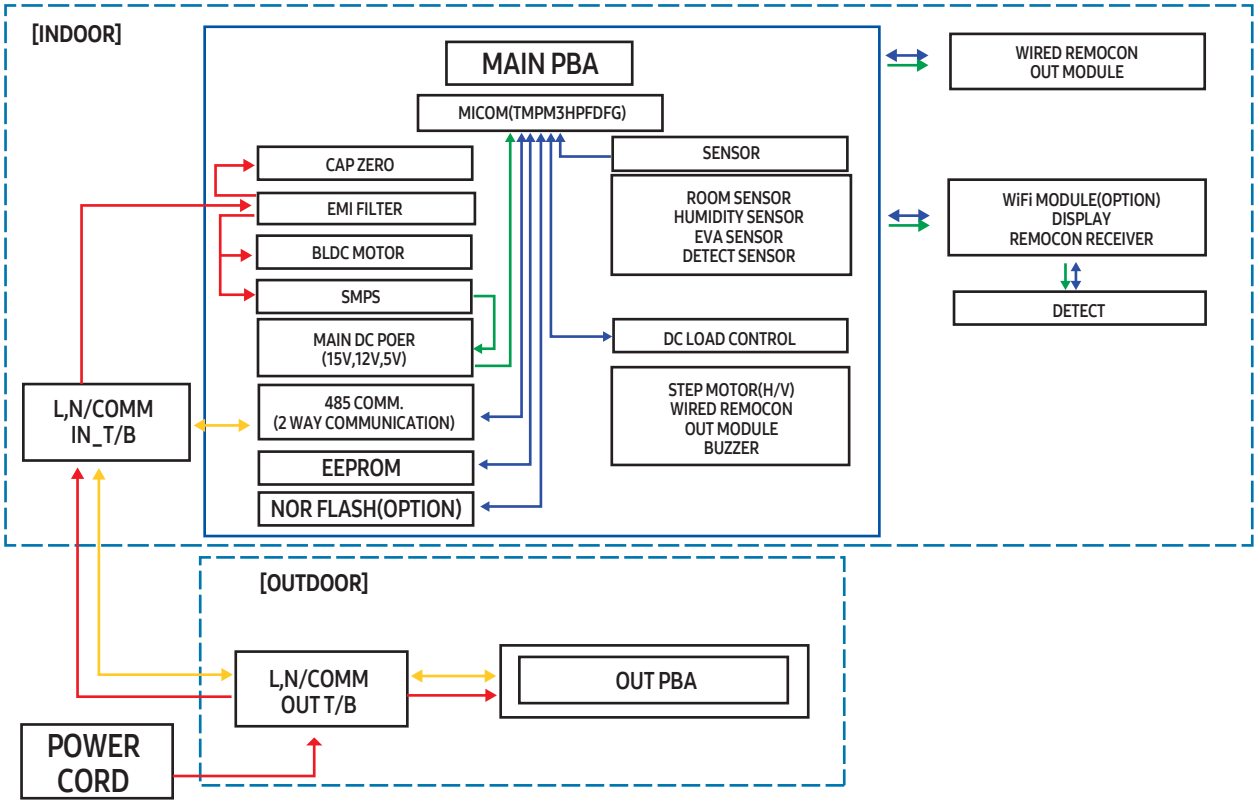
1. Checklist :
   1) Is the sensor placed correctly?
   2) Check the service valve is closed
   3) Check the compressor locking or gas leak

2. Troubleshooting procedure

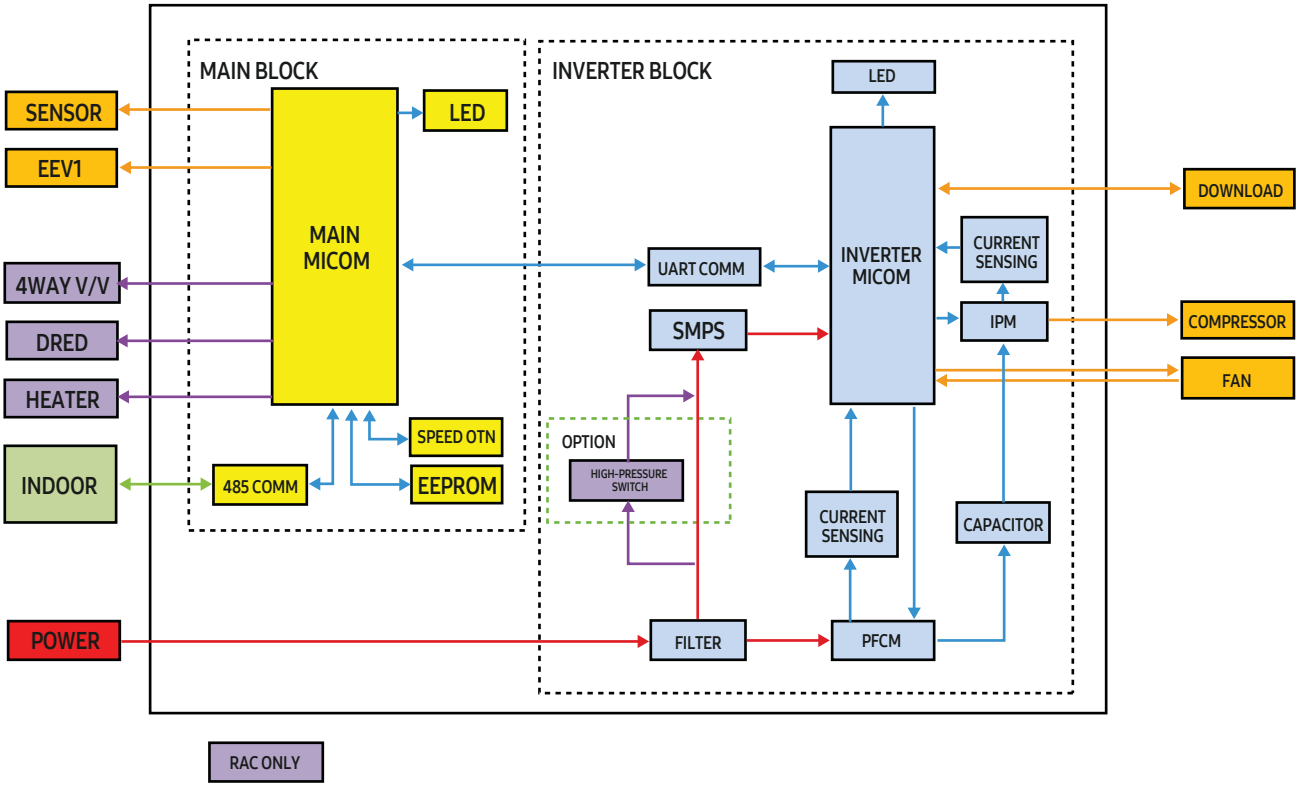


10. Block Diagram

10-1 Indoor unit



10-2 Outdoor unit



10-2-1 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.

10-2-2 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).

10-2-3 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

10-2-4 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

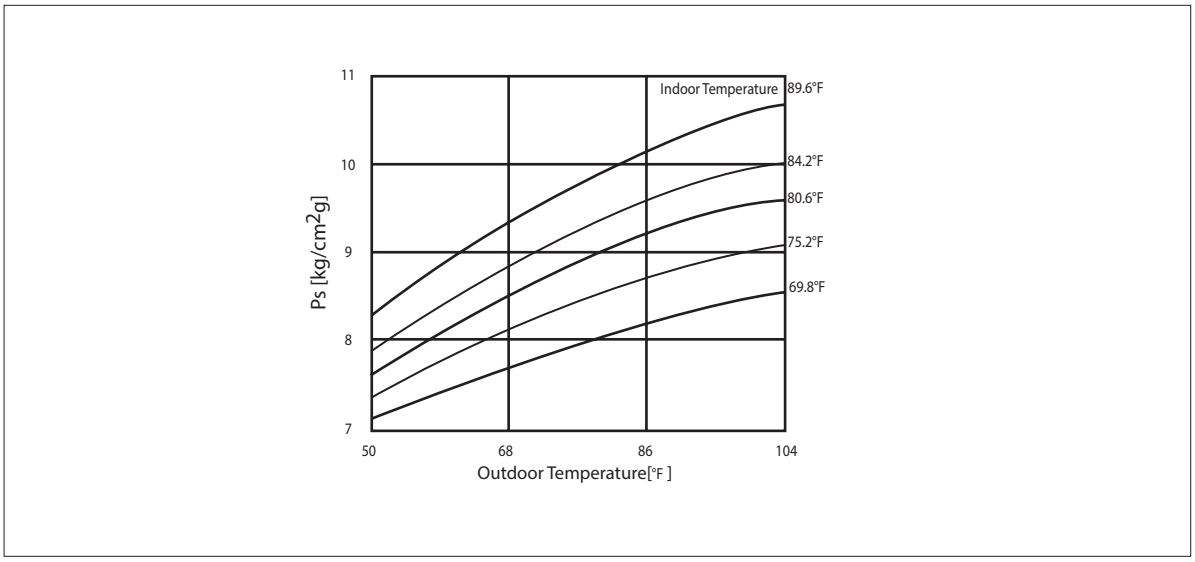
11. Reference Sheet

11-1 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 :** 68°F ~ 89.6°F

■ **Outdoor Temp. Variation :** 23°F ~ 113°F



11-2 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

11-3 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.

11-4 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:

If the air conditioner is off, Auto clean starts immediately. If the air conditioner is running, Auto clean starts as soon as the air conditioner turns off.

NOTE

- You can also activate Auto clean from the Options menu:

  Options (Clean 3sec) ▶ < > ▶ Select Clean. ▶ SET ℃⇌℉ 3sec

- Once Auto clean is selected, it is always activated whenever the air conditioner turns off.
- Auto clean runs for 10 to up to 30 minutes depending on internal dry conditions. The indoor unit display shows the cleaning progress from 1% to 99%.
- If you start another function while Auto clean is progressing, Auto clean pauses and will resume when the other function stops.
- When Auto clean completes, the air conditioner turns off.

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.

or

Options (Clean 3sec) ▶ < > ▶ Select Clean. ▶ SET ℃⇌℉ 3sec

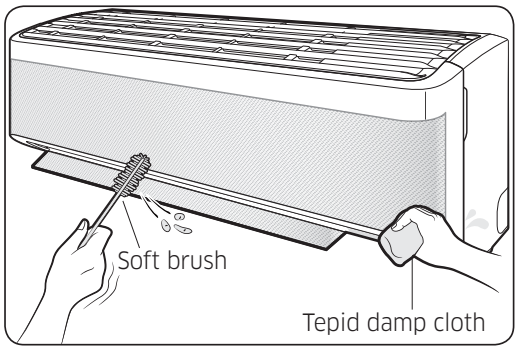
NOTE

- Canceling Auto clean does not deactivate it.

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 ℃⇌℉ 3sec



Cleaning the outside of the indoor unit

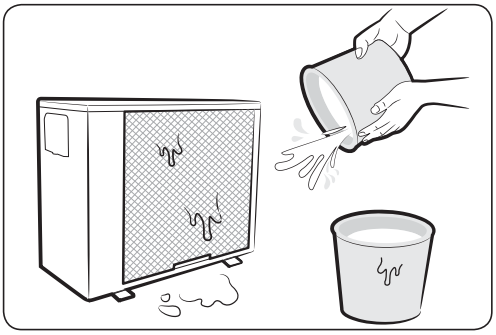
1 Turn off the air conditioner and wait until the fan stops.
2 Disconnect the power supply.
3 Use a soft brush or tepid damp cloth to clean the exterior.

⚠ 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

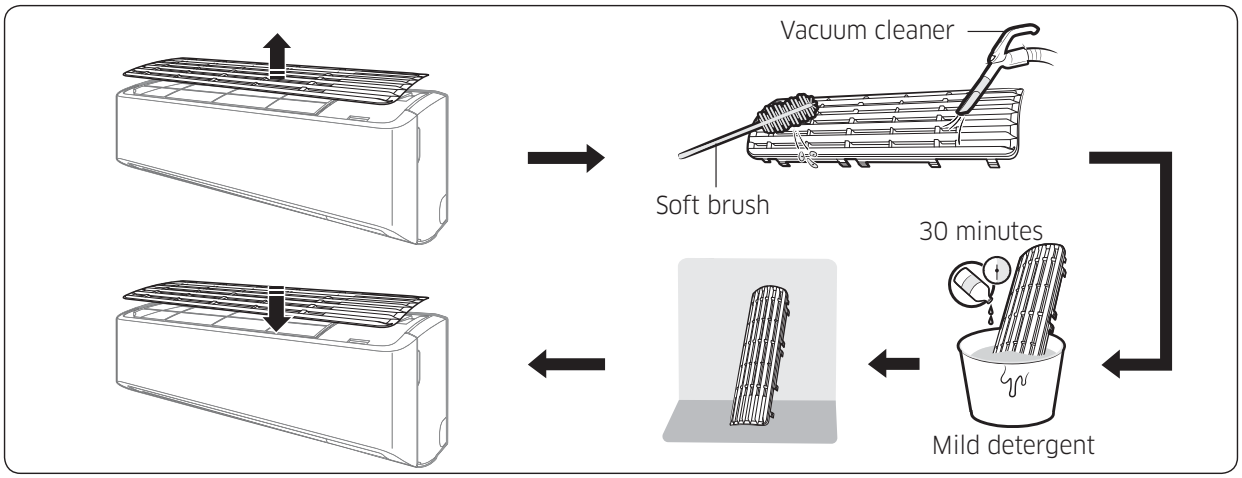
1 Turn off the air conditioner and wait until the fan stops.
2 Disconnect the power supply.
3 Spray water on the heat exchanger to remove dust and other debris.

⚠ 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.



1 Slide the filter off of the unit.
2 Use a soft brush or vacuum cleaner to remove any dust or debris on the filter.
3 Soak the filter in a solution of water and mild detergent for 30 minutes.
4 Rinse the filter and let it air dry in a well-ventilated area that is out of direct sunlight.
5 Reinstall the filter.
6 Reset the filter-cleaning reminder:

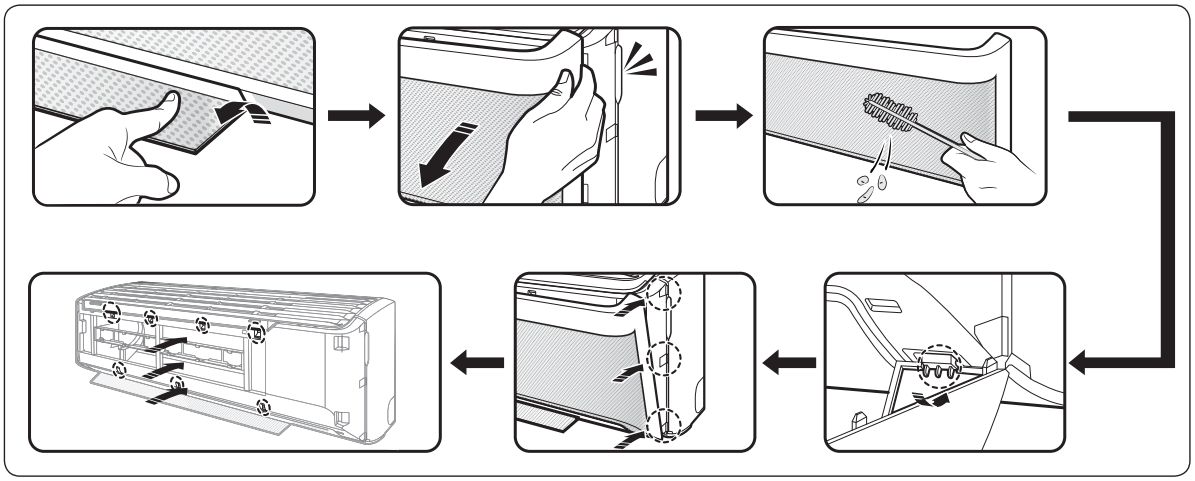
In operation ▶ Options (Clean 3sec) ▶ < > ▶ Select Filter Reset. ▶ SET °C↔°F 3sec

⚠ CAUTION

- Take care not to damage the filter during cleaning.
- Do not scrub the air filter with a hard-bristle brush or another cleaning utensil.
- Do not expose the air filter to direct sunlight when drying it.

Cleaning the Wind-Free panel

Clean the Wind-Free panel at least once a month.



1 Pull the airflow blade open.
2 Hold and pull both sides of the Wind-Free panel until it comes free from the air conditioner.
3 Use a soft brush or vacuum cleaner to remove any dust.
4 Hang the Wind-Free panel in the grooves at the bottom left and right.
5 Align the projections of the Wind-Free panel with the grooves at the top, middle, and bottom of the front panel.
6 After inserting the Wind-Free panel, press the top 4 places and the bottom 3 places by hand so that there is no gap to the panel.

⚠ CAUTION

- If you attach the Wind-Free panel without the airflow blade being open, it may become obstructed by the Wind-Free panel and may not open properly.

11-5 Installation

11-5-1 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.

11-5-2 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

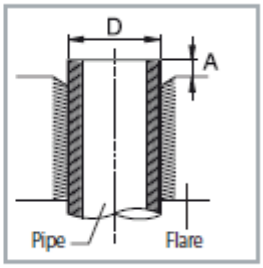
Fix the air conditioner indoor unit securely to the wall. Secure the outdoor unit in a suitable position.

■ 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.

11-6 Installation Diagram of Indoor Unit and Outdoor Unit

11-6-1 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.

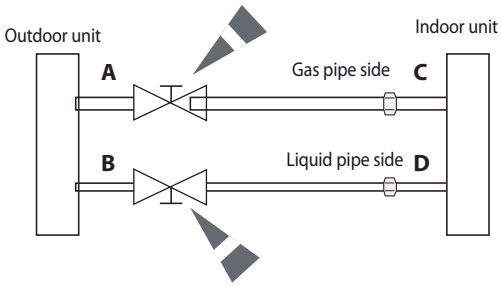
3) Open the valve of the low pressure side of manifold gauge counter-clockwise.

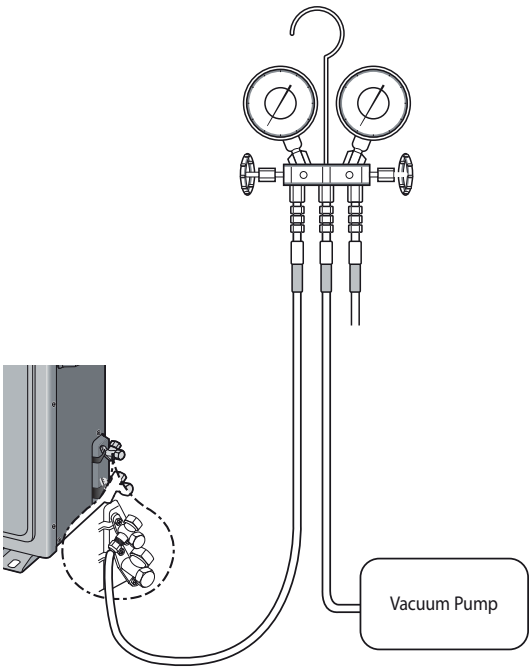
4) Purge the air from the system using vacuum pump for about 30 minutes.
   - After that, please recheck that pressure is stabilized.
   - Close the valve of the low pressure side of manifold gauge clockwise.
   - Remove the hose of the low pressure side of manifold gauge.

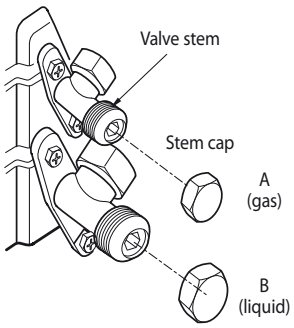
5) Set valve cork of both liquid side and gas side of packed valve to the open position.

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.







11-6-2 "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.

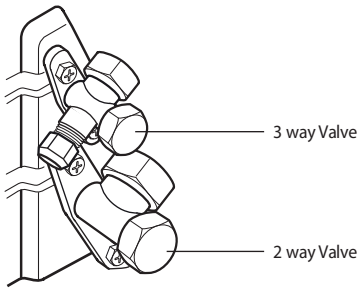
3) Set the unit to cool operation mode. (Check if the compressor is operating.)

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.

11-7. 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	0	9	T	S	F	A	B	W	K	N/X	C	V

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 R410A	S

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	9th
1st Model	A
2nd Model	B
3rd Model	C
...	
18 th Model	R

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)
CV	KCV	XCV	CV

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