

SAMSUNG

SYSTEM AIR CONDITIONER

SINGLE for North America (R454B, Heat Pump)

Hylex Outdoor Unit

AC024FCUDCG

AC036FCUDCG

AC048FCUDCG

AC060FCUDCG

AC024FCUPCG

AC036FCUPCG

AC048FCUPCG

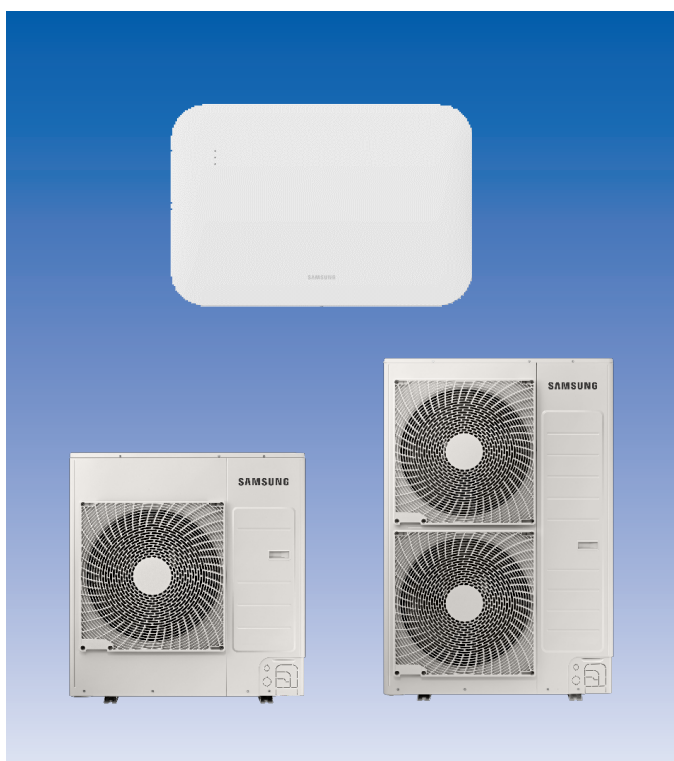
AC060FCUPCG

AHU Control Unit

MXD-U001XN

SERVICE *Manual*

AIR CONDITIONER



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1. Precautions

1-1. Precautions for the Service

- **Use the correct parts when changing the electric parts.**
 - Please check the labels and notices for the model name, proper voltage, and proper current for the electric parts.
- **Fully repair the connection for the types of harness when repairing the product after breakdown.**
 - A faulty connection can cause irregular noise and problems.
- **When disassembling or assembling, make sure that the product is laid down on a work cloth.**
 - Doing so will prevent scratching to the exterior of the rear side of the product.
- **Completely remove dust or foreign substances on the housing, connection, and inspection parts when performing repairs.**
 - This can prevent fire hazards for tracking, short, etc.
- **Please tighten the service valve of the outdoor unit and the valve cap of the charging valve as securely as possible by using a monkey spanner.**
- **Check whether the parts are properly and securely assembled after performing repairs.**
 - These parts should be in the same condition as before the repair.

1-2. Precautions for the Static Electricity and PL

- **Please carefully handle the PCB power terminal during repair and measurement when it is turned on since it is vulnerable to static electricity.**
 - Please wear insulation gloves before performing PCB repair and measurement.
- **Check if the place of installation is at least 2m away from electronic appliances such as TV, video players, and stereos.**
 - This can cause irregular noise or degrade the picture quality.
- **Please make sure the customer does not directly repair the product.**
 - Arbitrary dismantling may result in electric shock or fire.

1-3. Precautions for the Safety

- **Do not pull or touch the power plug or the subsidiary power switch with wet hands.**
 - This may result in electric shock or fire.
- **If the power line or the power plug is damaged, then it must be changed since this is a hazard.**
- **Do not bend the wire too much or position it so that it can be damaged by a heavy object on top.**
 - This may result in electric shock or fire.
- **The use of multiple electric outlets should be prohibited.**
 - This may result in electric shock or fire.
- **Ground the connection if it is necessary.**
 - The connection must be grounded if there is any risk of electrical short due to water or moisture.
- **Unplug the power or turn off the subsidiary power switch when changing or repairing electrical parts.**
 - Doing so will prevent electric shock.
- **Explain to workers that the battery for the remote control needs to be separated for storage purposes when the product will not be used for a long time.**
 - This can cause a problem for the remote control since battery fluid may trickle out.

1-4. Precautions for Handling Refrigerant for Air Conditioner

Environmental Cautions: Air pollution due to gas release

- **Safety Cautions**

If liquid gas is released, then body parts that come into contact with it may experience frostbite/blister/numbness.

If a large amount of gas is released, then suffocation may occur due to lack of oxygen.

If the released gas is heated, then noxious gas may be produced by combustion.

- **Container Handling Cautions**

Do not subject container to physical shock or overheating. (Flowage is possible while moving within the regulated pressure.)

1-5. Precautions for Welding the Air Conditioner Pipe

- **Dangerous or flammable objects around the pipe must be removed before the welding.**

- **If the refrigerant is kept inside the product or the pipe, then remove the refrigerant prior to welding.**

If the welding is carried out while the refrigerant is kept inside, the welding cannot be properly performed. This will also produce noxious gas that is a health hazard. This leakage will also explode with the refrigerant and oil due to an increase in the refrigerant pressure, posing a danger to workers.

- **Please remove the oxide produced inside the pipe during the welding with nitrogen gas.**

Using another gas may cause harm to the product or others.

1-6. Precautions for Additional Supplement of Air Conditioner Refrigerant

- **Precisely calculate the refrigerant by using a scale and S-net, and proceed with the test operation.**

Excessive supplement can cause harm to the product since it can cause an inflow of the liquid refrigerant into the compressor.

- **Do not heat the refrigerant container for a forced injection.**

This may cause harm to the product or others since the refrigerant container may burst.

- **Do not operate the product after removing the product safety pressure switch and sensor.**

If the product is blocked inside, then this may cause harm to the product or others due to the excess pressure increase of the refrigerant gas.

1-7. Other Precautions

- **There should be no leakage of the pipes after installation. When withdrawing the refrigerant, the compressor should be stopped before removing the connecting pipe.**

If the compressor is operating while the refrigerant pipe is not correctly connected and the service valve is opened, then air and other substances can enter the pipe. The interior of the refrigerant cycle may then build up excessive high pressure resulting in explosion and damage.

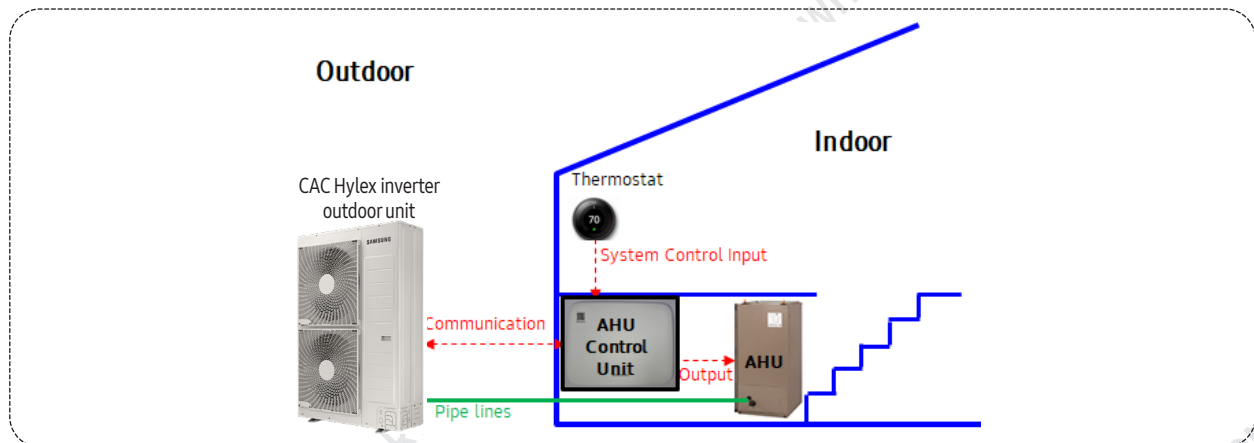
2. Product Specifications

2-1. Outdoor Unit with AHU Control Unit

■ How the system works?

Any types of 3rd party indoor unit via SAMSUNG AHU Control Unit can be connected to SAMSUNG CAC Hylex inverter outdoor unit.

AHU Control Unit installed either inside or nearby the indoor unit in the utility room receives the input signal from Thermostat installed in a living space and transmits the signals to both indoor unit and CAC Hylex inverter outdoor unit respectively.



■ Stabilize the atmosphere with broad temperature allowance and control

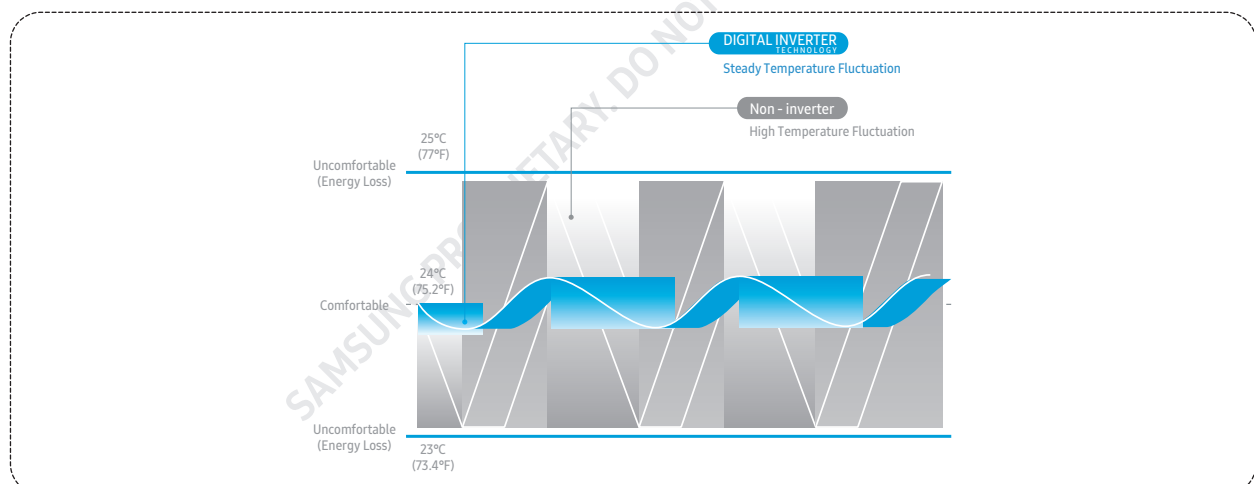
Samsung is dedicated to supporting comfortable living and working environments based on the strength of its technologies. With a single unit, CAC Single delivers reliable comfort and control over multiple areas to ensure a pleasant atmosphere in any climate.

■ Wide temperature performance

No matter how extreme the temperature, the highperforming CAC Single can handle the condition without the need for an additional unit. Featuring a wide temperature allowance, it can cool in heat of up to 52°C(125.6°F) and provide warmth in the freezing cold of -25°C(-13°F) to ensure a constant and comfortable home environment.

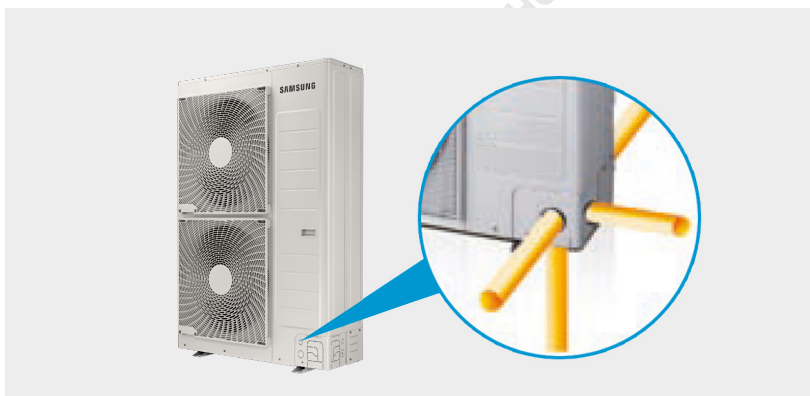
■ Ideal comfort in minutes

The CAC Single digital inverter air conditioner works at maximum capacity at startup. As soon as the temperature reaches the desired or set temperature, CAC Single performs fine adjustments to cope with any changes. This means less temperature fluctuation and ideal comfort in a matter of minutes.

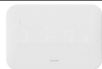


■ Versatile piping installation

CAC Single outdoor units offer a selection of pipe directions. The internal pipe connection ports allow four different pipe directions, supporting a neater, more organized-looking unit upon installation.



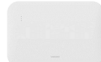
2-2. Product Specifications

Item	ADP® MPAHU + Hylex Outdoor Unit + AHU Control Unit					
	ADP® Indoor Unit		FEMG31A24S001R	FEMG34A36S001R	FEMTT3A48S001R	FEMTT7A60S001R
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	11000/ 24000/ 30000	13000/ 34000/ 40000	14500/ 46000/ 55000	15000/ 54000/ 59000
	Heating (Min/Std/Max)	[Btu/h]	7000/ 25000/ 35000	10000/ 36000/ 37000	11500/ 48000/ 60000	12000/ 56000/ 65000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.95/ 2.28/ 3.20	1.10/ 3.57/ 4.50	1.30/ 4.84/ 5.80	1.40/ 5.40/ 6.50
	Heating (Min/Std/Max)	[kW]	0.70/ 2.44/ 5.35	0.80/ 3.29/ 5.40	1.10/ 4.53/ 7.10	1.20/ 4.97/ 7.30
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	15.2	14.6	14.3	14.3
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	8.0	8.2	8.0	8.0
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	5.0/10.4/ 15.0	6.0/16.3/ 20.0	7.0/ 22.1/ 26.0	8.0/ 24.7/ 29.0
	Heating (Min/Std/Max)	[A]	4.5/11.1/ 24.0	5.0/15.0/ 24.0	7.0/ 20.7/ 32.0	7.5/ 22.7/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	53/55	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 39.3 x 13.0	37.0 x 39.3 x 13.0	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0
		Outdoor Unit [mm]	940 x 998 x 330	940 x 998 x 330	940 x 1210 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 43.1 x 16.8	39.2 x 43.1 x 16.8	39.2 x 54.6 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1096 x 426	995 x 1096 x 426	995 x 1388 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	71.0	71.0	95.0	101.0
		Outdoor Unit [lbs]	156.5	156.5	209.4	222.7
	Shipping Weight	Outdoor Unit [kg]	77.0	77.0	104.0	111.0
		Outdoor Unit [lbs]	169.8	169.8	229.3	244.7
Harness Specifications	Compressor		UF8LF3300FJUSG	UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J

2-2. Product Specifications (cont.)

Item	ADP® MPAHU + Hylex Outdoor Unit + AHU Control Unit					
	ADP® Indoor Unit		FEMG31A24S001R	FEMG34A36S001R	FEMTT3A48S001R	FEMTT7A60S001R
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	19.05	19.05	22.20	22.20
		[inch]	3/4"	3/4"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging		[kg]	2.90	2.90	3.80	4.00
		[lbs]	6.4	6.4	8.4	8.8
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

2-2. Product Specifications (cont.)

Item	ADP® A-Coil + Hylex Outdoor Unit + AHU Control Unit					
	ADP® Indoor Unit		HG33A36D175B1801R	HG35A36D175B2205R	HG48A60D210B2705R	HG48A60D210B2705R
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	11000/ 23000/ 30000	13000/ 33000/ 40000	14500/ 45000/ 55000	15000/ 53000/ 59000
	Heating (Min/Std/Max)	[Btu/h]	7000/ 25000/ 35000	10000/ 34000/ 37000	11500/ 48000/ 60000	12000/ 56000/ 65000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.95/ 2.19/ 3.20	1.10/ 3.47/ 4.50	1.30/ 4.73/ 5.80	1.40/ 5.69/ 6.50
	Heating (Min/Std/Max)	[kW]	0.70/ 2.44/ 5.35	0.80/ 3.11/ 5.40	1.10/ 4.53/ 7.10	1.20/ 5.12/ 7.30
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	14.3	14.3	14.3	14.3
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	8.0	8.0	8.0	8.0
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	5.0/10.0/15.0	6.0/15.8/ 20.0	7.0/ 21.6/ 26.0	8.0/ 26.0/ 29.0
	Heating (Min/Std/Max)	[A]	4.5/11.1/ 24.0	5.0/14.2/ 24.0	7.0/ 20.7/ 32.0	7.5/ 23.4/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	53/55	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 39.3 x 13.0	37.0 x 39.3 x 13.0	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0
		Outdoor Unit [mm]	940 x 998 x 330	940 x 998 x 330	940 x 1210 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 43.1 x 16.8	39.2 x 43.1 x 16.8	39.2 x 54.6 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1096 x 426	995 x 1096 x 426	995 x 1388 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	71.0	71.0	95.0	101.0
		Outdoor Unit [lbs]	156.5	156.5	209.4	222.7
	Shipping Weight	Outdoor Unit [kg]	77.0	77.0	104.0	111.0
		Outdoor Unit [lbs]	169.8	169.8	229.3	244.7
Harness Specifications	Compressor		UF8LF3300FJUSG	UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J

2-2. Product Specifications (cont.)

Item	ADP® A-Coil + Hylex Outdoor Unit + AHU Control Unit					
	ADP® Indoor Unit		HG33A36D175B1801R	HG35A36D175B2205R	HG48A60D210B2705R	HG48A60D210B2705R
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
	AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	19.05	19.05	22.20	22.20
		[inch]	3/4"	3/4"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging	[kg]	2.90	2.90	3.80	4.00	
	[lbs]	6.4	6.4	8.4	8.8	
Chargeless	[mm]	7.5	7.5	7.5	7.5	
	[ft]	24.6	24.6	24.6	24.6	
Additional Refrigerant (Over 24.6ft (7.5m))	[g/m]	46.5	46.5	46.5	46.5	
	[oz/ft]	0.5	0.5	0.5	0.5	
Basic Piping Length	[mm]	7.5	7.5	7.5	7.5	
	[ft]	24.6	24.6	24.6	24.6	
Max. Piping Length	[mm]	50	50	50	50	
	[ft]	164	164	164	164	
Max. Level Diffrence	[mm]	30	30	30	30	
	[ft]	98	98	98	98	

2-2. Product Specifications (cont.)

Item	Allied™ MPAHU + Hylex Outdoor Unit + AHU Control Unit						
	Allied™ Indoor Unit		7AH1AV24PX	7AH1AV36PX	7AH1AV48PX	7AH2AV48PXC71	
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG	
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF	
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN	
Design	Indoor Unit						
	Outdoor Unit						
	AHU Control Unit						
	Remote Controller						
Performance	Cooling (Min/Std/Max)	[Btu/h]	11000/ 24000/ 30000	13000/ 34000/ 40000	14500/ 46000/ 55000	15000/ 54000/ 59000	
	Heating (Min/Std/Max)	[Btu/h]	7000/ 25000/ 35000	10000/ 36000/ 37000	11500/ 48000/ 60000	12000/ 56000/ 65000	
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.95/ 2.18/ 3.20	1.10/ 3.77/ 4.50	1.30/ 4.84/ 5.80	1.40/ 5.68/ 6.50	
	Heating (Min/Std/Max)	[kW]	0.70/ 2.44/ 5.35	0.80/ 3.63/ 5.40	1.10/ 4.53/ 7.10	1.20/ 5.47/ 7.30	
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	15.2	14.6	14.3	14.3	
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	8.1	8.0	8.0	8.0	
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	
Operating Current	Cooling (Min/ Std/Max)	[A]	5.0/ 9.9/ 15.0	6.0/ 17.2/ 20.0	7.0/ 22.1/ 26.0	8.0/ 25.9/ 29.0	
	Heating (Min/Std/Max)	[A]	4.5/ 11.1/ 24.0	5.0/ 16.6/ 24.0	7.0/ 20.7/ 32.0	7.5/ 25.0/ 32.0	
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	53/55	55/57	56/58	
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 39.3 x 13.0	37.0 x 39.3 x 13.0	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0	
		Outdoor Unit [mm]	940 x 998 x 330	940 x 998 x 330	940 x 1210 x 330	940 x 1420 x 330	
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 43.1 x 16.8	39.2 x 43.1 x 16.8	39.2 x 54.6 x 16.8	39.2 x 62.9 x 16.8	
		Outdoor Unit [mm]	995 x 1096 x 426	995 x 1096 x 426	995 x 1388 x 426	995 x 1598 x 426	
	Net Weight	Outdoor Unit [kg]	71.0	71.0	95.0	101.0	
		Outdoor Unit [lbs]	156.5	156.5	209.4	222.7	
	Shipping Weight	Outdoor Unit [kg]	77.0	77.0	104.0	111.0	
		Outdoor Unit [lbs]	169.8	169.8	229.3	244.7	
Harness Specifications	Compressor		UF8LF3300FJUSG	UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG	
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J	
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52	
		[inch]	3/8"	3/8"	3/8"	3/8"	
	Gas Pipe	[mm]	19.05	19.05	22.20	22.20	
		[inch]	3/4"	3/4"	7/8"	7/8"	
Refrigerant Type			R454B	R454B	R454B	R454B	
Factory Charging			[kg]	2.90	2.90	3.80	4.00
			[lbs]	6.4	6.4	8.4	8.8

2-2. Product Specifications (cont.)

Item	Allied™ MPAHU + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7AH1AV24PX	7AH1AV36PX	7AH1AV48PX	7AH2AV48PXC71
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

2-2. Product Specifications (cont.)

Item	Allied™ A-Coil(V) + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7EC24BX-71	7EC36BX-71	7EC48BX-71	7EC48BX-71
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
AHU Control Unit		MXD-U001XN		MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	11000/ 23000/ 30000	13000/ 33000/ 40000	14500/ 45000/ 55000	15000/ 53000/ 59000
	Heating (Min/Std/Max)	[Btu/h]	7000/ 25000/ 35000	10000/ 34000/ 37000	11500/ 48000/ 60000	12000/ 55000/ 65000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.95/ 2.19/ 3.20	1.10/ 3.47/ 4.50	1.30/ 4.73/ 5.80	1.40/ 5.69/ 6.50
	Heating (Min/Std/Max)	[kW]	0.70/ 2.44/ 5.35	0.80/ 3.32/ 5.40	1.10/ 4.68/ 7.10	1.20/ 5.55/ 7.30
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	14.3	14.3	14.3	14.3
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	7.5	8.0	8.0	7.5
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	5.0/10.0/15.0	6.0/15.8/ 20.0	7.0/ 21.6/ 26.0	8.0/ 26.0/ 29.0
	Heating (Min/Std/Max)	[A]	4.5/11.1/ 24.0	5.0/15.1/ 24.0	7.0/ 21.4/ 32.0	7.5/ 25.4/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	53/55	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 39.3 x13.0	37.0 x 39.3 x13.0	37.0 x 47.6 x13.0	37.0 x 55.9 x13.0
		Outdoor Unit [mm]	940 x 998 x 330	940 x 998 x 330	940 x 1210 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 43.1 x 16.8	39.2 x 43.1 x 16.8	39.2 x 54.6 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1096 x 426	995 x 1096 x 426	995 x 1388 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	71.0	71.0	95.0	101.0
		Outdoor Unit [lbs]	156.5	156.5	209.4	222.7
	Shipping Weight	Outdoor Unit [kg]	77.0	77.0	104.0	111.0
		Outdoor Unit [lbs]	169.8	169.8	229.3	244.7
Harness Specifications	Compressor		UF8LF3300FJUSG	UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	19.05	19.05	22.20	22.20
		[inch]	3/4"	3/4"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging		[kg]	2.90	2.90	3.80	4.00
		[lbs]	6.4	6.4	8.4	8.8

2-2. Product Specifications (cont.)

Item	Allied™ A-Coil(V) + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7EC24BX-71	7EC36BX-71	7EC48BX-71	7EC48BX-71
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN	
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

2-2. Product Specifications (cont.)

Item	Allied™ A-Coil(H) + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7EH36AX-71	7EH48CX-71	7EH48CX-71	7EH48BX-71
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	11000/ 23000/ 30000	13000/ 33000/ 40000	14500/ 45000/ 55000	15000/ 53000/ 59000
	Heating (Min/Std/Max)	[Btu/h]	7000/ 25000/ 35000	10000/ 34000/ 37000	11500/ 48000/ 60000	12000/ 55000/ 65000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.95/ 2.19/ 3.20	1.10/ 3.47/ 4.50	1.30/ 4.73/ 5.80	1.40/ 5.69/ 6.50
	Heating (Min/Std/Max)	[kW]	0.70/ 2.44/ 5.35	0.80/ 3.32/ 5.40	1.10/ 4.68/ 7.10	1.20/ 5.75/ 7.30
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	14.3	14.3	14.3	14.3
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	7.5	8.0	8.0	7.5
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	5.0/10.0/15.0	6.0/15.8/ 20.0	7.0/ 21.6/ 26.0	8.0/ 26.0/ 29.0
	Heating (Min/Std/Max)	[A]	4.5/11.1/ 24.0	5.0/15.1/ 24.0	7.0/ 21.4/ 32.0	7.5/ 26.3/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	53/55	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 39.3 x 13.0	37.0 x 39.3 x 13.0	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0
		Outdoor Unit [mm]	940 x 998 x 330	940 x 998 x 330	940 x 1210 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 43.1 x 16.8	39.2 x 43.1 x 16.8	39.2 x 54.6 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1096 x 426	995 x 1096 x 426	995 x 1388 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	71.0	71.0	95.0	101.0
		Outdoor Unit [lbs]	156.5	156.5	209.4	222.7
	Shipping Weight	Outdoor Unit [kg]	77.0	77.0	104.0	111.0
		Outdoor Unit [lbs]	169.8	169.8	229.3	244.7
Harness Specifications	Compressor		UF8LF3300FJUSG	UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	19.05	19.05	22.20	22.20
		[inch]	3/4"	3/4"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging		[kg]	2.90	2.90	3.80	4.00
		[lbs]	6.4	6.4	8.4	8.8

2-2. Product Specifications (cont.)

Item	Allied™ A-Coil(H) + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7EH36AX-71	7EH48CX-71	7EH48CX-71	7EH48BX-71
	Outdoor Unit	Model Code	AC024FCUDCG	AC036FCUDCG	AC048FCUDCG	AC060FCUDCG
		Simple US Code	CCG24UDF	CCG36UDF	CCG48UDF	CCG60UDF
AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN	
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

2-2. Product Specifications (cont.)

Item	ADP® MPAHU + Hylex Outdoor Unit + AHU Control Unit					
	ADP® Indoor Unit		FEMG33A25S001R	FEMTT3A37S001R	FEMTT7A60S001R	FEMUU1A60S001R
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	12000/ 24000/ 32000	15000/ 36000/ 42000	15500/ 47000/ 57000	16000/ 55000/ 63000
	Heating (Min/Std/Max)	[Btu/h]	8000/ 25000/ 37000	11000/ 36000/ 55000	12000/ 48000/ 64000	13000/ 56000/ 72000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.80/ 2.05/ 3.00	1.00/ 3.00/ 4.20	1.20/ 4.27/ 5.70	1.30/ 5.09/ 6.40
	Heating (Min/Std/Max)	[kW]	0.60/ 2.28/ 5.10	0.70/ 3.10/ 7.10	0.90/ 4.01/ 7.10	1.10/ 4.82/ 7.10
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	17.0	17.5	16.5	17.0
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	8.5	8.5	8.5	9.0
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	4.0/ 9.3/ 14.0	5.5/ 13.7/ 19.0	6.5/ 19.5/ 25.5	7.5/ 23.2/ 28.5
	Heating (Min/Std/Max)	[A]	4.0/ 10.4/ 24.0	4.5/ 14.1/ 32.0	6.0/ 18.3/ 32.0	7.0/ 22.0/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	55/57	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0
		Outdoor Unit [mm]	940 x 1210 x 330	940 x 1420 x 330	940 x 1420 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 54.7 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1388 x 426	995 x 1598 x 426	995 x 1598 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	87.0	104.0	105.0	105.0
		Outdoor Unit [lbs]	191.8	229.3	231.5	231.5
	Shipping Weight	Outdoor Unit [kg]	96.0	114.0	115.0	115.0
		Outdoor Unit [lbs]	211.6	251.3	253.5	253.5
Harness Specifications	Compressor		UF8LF3300FJUSG	UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	22.20	22.20	22.20	22.20
		[inch]	7/8"	7/8"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging		[kg]	3.20	4.50	5.50	5.50
		[lbs]	7.1	9.9	12.1	12.1

2-2. Product Specifications (cont.)

Item	ADP® MPAHU + Hylex Outdoor Unit + AHU Control Unit					
	ADP® Indoor Unit		FEMG33A25S001R	FEMTT3A37S001R	FEMTT7A60S001R	FEMUU1A60S001R
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
	AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

2-2. Product Specifications (cont.)

Item	ADP® A-Coil + Hylex Outdoor Unit + AHU Control Unit					
	ADP® Indoor Unit		HG35A36D175B2205R	HG48A60D210B2705R	HG50A60D210B2705R	HG50A60D210B2705R
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	12000/ 24000/ 32000	15000/ 34000/ 42000	15500/ 45000/ 57000	16000/ 53000/ 63000
	Heating (Min/Std/Max)	[Btu/h]	8000/ 25000/ 37000	11000/ 35000/ 55000	12000/ 48000/ 64000	13000/ 55000/ 72000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.80/ 2.05/ 3.00	1.00/ 2.95/ 4.20	1.20/ 4.12/ 5.70	1.30/ 5.46/ 6.40
	Heating (Min/Std/Max)	[kW]	0.60/ 2.15/ 5.10	0.70/ 3.01/ 7.10	0.90/ 4.13/ 7.10	1.10/ 5.37/ 7.10
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	16.0	16.0	15.3	14.5
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	8.5	8.5	8.2	8.2
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	4.0/ 9.3/ 14.0	5.5/ 13.5/ 19.0	6.5/ 18.8/ 25.5	7.5/ 24.9/ 28.5
	Heating (Min/Std/Max)	[A]	4.0/ 9.8/ 24.0	4.5/ 13.7/ 32.0	6.0/ 18.9/ 32.0	7.0/ 24.5/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	55/57	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0
		Outdoor Unit [mm]	940 x 1210 x 330	940 x 1420 x 330	940 x 1420 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 54.7 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1388 x 426	995 x 1598 x 426	995 x 1598 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	87.0	104.0	105.0	105.0
		Outdoor Unit [lbs]	191.8	229.3	231.5	231.5
	Shipping Weight	Outdoor Unit [kg]	96.0	114.0	115.0	115.0
		Outdoor Unit [lbs]	211.6	251.3	253.5	253.5
Harness Specifications	Compressor		UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	22.20	22.20	22.20	22.20
		[inch]	7/8"	7/8"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging			[kg]	3.20	4.50	5.50
			[lbs]	7.1	9.9	12.1

2-2. Product Specifications (cont.)

Item	ADP® A-Coil + Hylex Outdoor Unit + AHU Control Unit					
	ADP® Indoor Unit		HG35A36D175B2205R	HG48A60D210B2705R	HG50A60D210B2705R	HG50A60D210B2705R
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN	
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

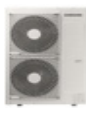
2-2. Product Specifications (cont.)

Item	Allied™ MPAHU + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7AH2AV24PXC**	7AH2AV36PXC**	7AH2AV60PXC**	7AH2AV60PXC**
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
	AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	12000/ 24000/ 32000	15000/ 36000/ 42000	15500/ 47000/ 57000	16000/ 55000/ 63000
	Heating (Min/Std/Max)	[Btu/h]	8000/ 25000/ 37000	11000/ 36000/ 55000	12000/ 48000/ 64000	13000/ 56000/ 72000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.80/ 2.00/ 3.00	1.00/ 3.00/ 4.20	1.20/ 4.27/ 5.70	1.30/ 5.33/ 6.40
	Heating (Min/Std/Max)	[kW]	0.60/ 2.15/ 5.10	0.70/ 3.10/ 7.10	0.90/ 4.39/ 7.10	1.10/ 5.12/ 7.10
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	17.5	17.0	17.0	16.0
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	8.5	8.5	8.5	8.5
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	4.0/ 9.1/ 14.0	5.5/ 13.7/ 19.0	6.5/ 19.5/ 25.5	7.5/ 24.3/ 28.5
	Heating (Min/Std/Max)	[A]	4.0/ 9.8/ 24.0	4.5/ 14.1/ 32.0	6.0/ 20.0/ 32.0	7.0/ 23.4/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	55/57	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0
		Outdoor Unit [mm]	940 x 1210 x 330	940 x 1420 x 330	940 x 1420 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 54.7 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1388 x 426	995 x 1598 x 426	995 x 1598 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	87.0	104.0	105.0	105.0
		Outdoor Unit [lbs]	191.8	229.3	231.5	231.5
	Shipping Weight	Outdoor Unit [kg]	96.0	114.0	115.0	115.0
		Outdoor Unit [lbs]	211.6	251.3	253.5	253.5
Harness Specifications	Compressor		UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	22.20	22.20	22.20	22.20
		[inch]	7/8"	7/8"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging		[kg]	3.20	4.50	5.50	5.50
		[lbs]	7.1	9.9	12.1	12.1

2-2. Product Specifications (cont.)

Item	Allied™ MPAHU + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7AH2AV24PXC**	7AH2AV36PXC**	7AH2AV60PXC**	7AH2AV60PXC**
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN	
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

2-2. Product Specifications (cont.)

Item	Allied™ A-Coil(V) + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7E[C,U]24AX-***+TDR	7E[C,U]48BX-***+TDR	7E[C,U]49CX-***+TDR	7E[C,U]60CX-***+TDR
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
AHU Control Unit		MXD-U001XN		MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	12000/ 23000/ 32000	15000/ 34000/ 42000	15500/ 45000/ 57000	16000/ 53000/ 63000
	Heating (Min/Std/Max)	[Btu/h]	8000/ 25000/ 37000	11000/ 35000/ 55000	12000/ 48000/ 64000	13000/ 55000/ 72000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.80/ 1.96/ 3.00	1.00/ 3.03/ 4.20	1.20/ 4.50/ 5.70	1.30/ 5.46/ 6.40
	Heating (Min/Std/Max)	[kW]	0.60/ 2.36/ 5.10	0.70/ 3.20/ 7.10	0.90/ 4.68/ 7.10	1.10/ 6.19/ 7.10
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	15.2	15.5	14.8	14.5
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	8.1	8.5	8.0	7.7
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	4.0/ 8.9/ 14.0	5.5/ 13.8/ 19.0	6.5/ 20.5/ 25.5	7.5/ 24.9/ 28.5
	Heating (Min/Std/Max)	[A]	4.0/ 10.8/ 24.0	4.5/ 14.6/ 32.0	6.0/ 21.4/ 32.0	7.0/ 28.3/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	55/57	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0
		Outdoor Unit [mm]	940 x 1210 x 330	940 x 1420 x 330	940 x 1420 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 54.7 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1388 x 426	995 x 1598 x 426	995 x 1598 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	87.0	104.0	105.0	105.0
		Outdoor Unit [lbs]	191.8	229.3	231.5	231.5
	Shipping Weight	Outdoor Unit [kg]	96.0	114.0	115.0	115.0
		Outdoor Unit [lbs]	211.6	251.3	253.5	253.5
Harness Specifications	Compressor		UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	22.20	22.20	22.20	22.20
		[inch]	7/8"	7/8"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging		[kg]	3.20	4.50	5.50	5.50
		[lbs]	7.1	9.9	12.1	12.1

2-2. Product Specifications (cont.)

Item	Allied™ A-Coil(V) + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7E[C,U]24AX-***TDR	7E[C,U]48BX-***TDR	7E[C,U]49CX-***TDR	7E[C,U]60CX-***TDR
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
	AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

2-2. Product Specifications (cont.)

Item	Allied™ A-Coil(H) + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7EH24AX-***+TDR	7EH48BX-***+TDR	7EH51CX-***+TDR	7EH51CX-***+TDR
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
AHU Control Unit			MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Design	Indoor Unit					
	Outdoor Unit					
	AHU Control Unit					
	Remote Controller					
Performance	Cooling (Min/Std/Max)	[Btu/h]	12000/ 23000/ 32000	15000/ 34000/ 42000	15500/ 45000/ 57000	16000/ 53000/ 63000
	Heating (Min/Std/Max)	[Btu/h]	8000/ 25000/ 37000	11000/ 35000/ 55000	12000/ 48000/ 64000	13000/ 55000/ 72000
Power Consumption	Cooling (Min/Std/Max)	[kW]	0.80/1.96/ 3.00	1.00/ 3.03/ 4.20	1.20/ 4.50/ 5.70	1.30/ 5.46/ 6.40
	Heating (Min/Std/Max)	[kW]	0.60/ 2.28/ 5.10	0.70/ 3.20/ 7.10	0.90/ 4.68/ 7.10	1.10/ 6.19/ 7.10
Efficiency	SEER2 (Cooling Energy Grade)	[Btu/Wh]	15.4	15.5	14.8	14.5
	HSPF2 (Heating Energy Grade)	[Btu/Wh]	8.1	8.5	8.0	7.7
Voltage/ Frequency (Ø, #, V, Hz)			1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Operating Current	Cooling (Min/Std/Max)	[A]	4.0/ 8.9/14.0	5.5/13.8/19.0	6.5/ 20.5/ 25.5	7.5/ 24.9/ 28.5
	Heating (Min/Std/Max)	[A]	4.0/10.4/ 24.0	4.5/14.6/ 32.0	6.0/ 21.4/ 32.0	7.0/ 28.3/ 32.0
Sound Pressure	Outdoor Unit (Cooling/Heating)	[dB(A)]	50/52	55/57	55/57	56/58
External Dimension	Net Dimensions (WxHxD)	Outdoor Unit [inch]	37.0 x 47.6 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0	37.0 x 55.9 x 13.0
		Outdoor Unit [mm]	940 x 1210 x 330	940 x 1420 x 330	940 x 1420 x 330	940 x 1420 x 330
	Shipping Dimensions (WxHxD)	Outdoor Unit [inch]	39.2 x 54.7 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8	39.2 x 62.9 x 16.8
		Outdoor Unit [mm]	995 x 1388 x 426	995 x 1598 x 426	995 x 1598 x 426	995 x 1598 x 426
	Net Weight	Outdoor Unit [kg]	87.0	104.0	105.0	105.0
		Outdoor Unit [lbs]	191.8	229.3	231.5	231.5
	Shipping Weight	Outdoor Unit [kg]	96.0	114.0	115.0	115.0
		Outdoor Unit [lbs]	211.6	251.3	253.5	253.5
Harness Specifications	Compressor		UF8LF3300FJUSG	UF5LF3450FJXSG	UF5LF3450FJXSG	UF5LF3450FJXSG
	Outdoor Fan Motor		DB31-00658J	DB31-00658J	DB31-00658J	DB31-00658J
Piping Connections	Liquid Pipe	[mm]	9.52	9.52	9.52	9.52
		[inch]	3/8"	3/8"	3/8"	3/8"
	Gas Pipe	[mm]	22.20	22.20	22.20	22.20
		[inch]	7/8"	7/8"	7/8"	7/8"
Refrigerant Type			R454B	R454B	R454B	R454B
Factory Charging			[kg]	3.20	4.50	5.50
			[lbs]	7.1	9.9	12.1

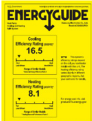
2-2. Product Specifications (cont.)

Item	Allied™ A-Coil(H) + Hylex Outdoor Unit + AHU Control Unit					
	Allied™ Indoor Unit		7EH24AX-***TDR	7EH48BX-***TDR	7EH51CX-***TDR	7EH51CX-***TDR
	Outdoor Unit	Model Code	AC024FCUPCG	AC036FCUPCG	AC048FCUPCG	AC060FCUPCG
		Simple US Code	CCG24UPF	CCG36UPF	CCG48UPF	CCG60UPF
	AHU Control Unit		MXD-U001XN	MXD-U001XN	MXD-U001XN	MXD-U001XN
Chargeless		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Additional Refrigerant (Over 24.6ft (7.5m))		[g/m]	46.5	46.5	46.5	46.5
		[oz/ft]	0.5	0.5	0.5	0.5
Basic Piping Length		[mm]	7.5	7.5	7.5	7.5
		[ft]	24.6	24.6	24.6	24.6
Max. Piping Length		[mm]	50	50	50	50
		[ft]	164	164	164	164
Max. Level Diffrence		[mm]	30	30	30	30
		[ft]	98	98	98	98

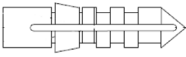
2-3. Specifications of optional items

2-3-1. Accessories

■ AC***FCU*CG

Item	Description	Code No.	Q'ty	Remark
	Manual Install	DB68-13654A	1	Outdoor Unit
	Label Energy	DB68-13645A DB68-13646A DB68-13647A DB68-13648A DB68-13649A DB68-13650A DB68-13651A DB68-13652A	1	
	Rubber-Leg	DB73-20134A	4	

■ MXD-U001XN

Item	Description	Code No.	Q'ty	Remark
	Manual Install	DB68-13653A	1	AHU Control Unit
	Label Instruction (Wiring label)	DB68-12062A	1	
	U-ring	DB60-00444A	24	
	Fan speed control wire	DB93-17752A	1	
	Wi-Fi connecting extension wire	DB93-17392F	1	
	Float switch wire	DB93-14046A	1	
	Holder lock	DB61-00945A	5	
	M4x16 screw	6002-000215	5	
	Cabel tie	6501-000123	2	

3. Disassembly and Reassembly

■ Necessary Tools

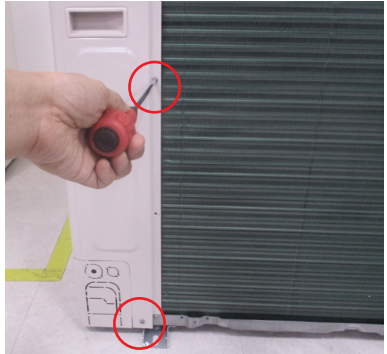
Item	Remarks
+ SCREW DRIVER	
Adjustable Wrench (8mm, 10mm, 13mm)	
M6, M8 Hex Wrench	

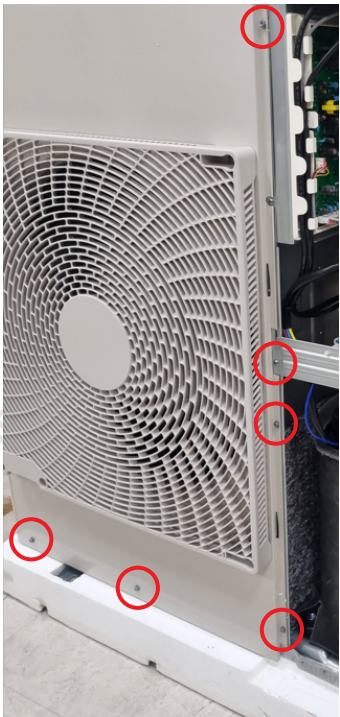
3-1. Outdoor unit

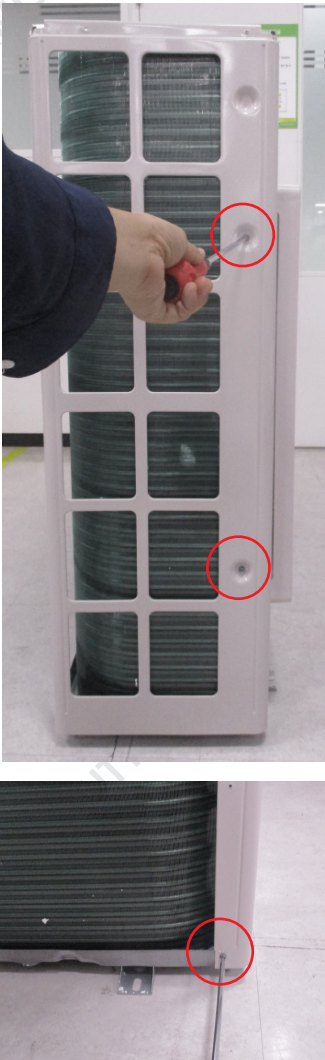
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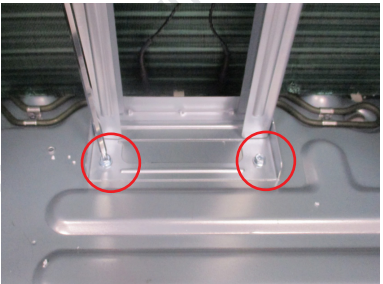
No.	Parts	Procedure	Remark
1	Cabinet Front RH	⚠ Turn off the power before disassembly necessarily. 1) Remove 3ea of screws from the Cabinet Front RH and separate it. (Use + Screw Driver)	
2	Cabinet Upper	1) Remove 8ea of screws which are fixed to each side of Cabinet Upper and separate it. (Use + Screw Driver)	
3	Cabinet-Installation Front Part	1) Remove a screw which is fixed to Cabinet-Installation Front Part and separate it. (Use + Screw Driver)	

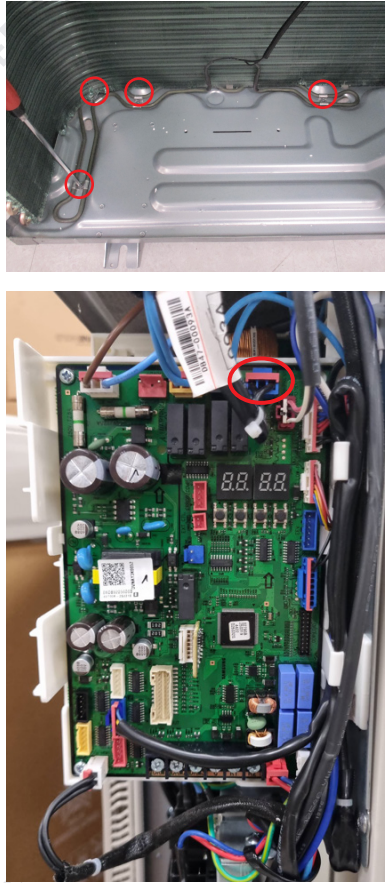
No.	Parts	Procedure	Remark
4	Outdoor Unit Guard	1) Pull out the sensor from the Outdoor Unit Guard and separate it. 2) Remove the 4ea of screws which are fixed to Outdoor Unit Guard and separate it. (Use + Screw Driver)	 

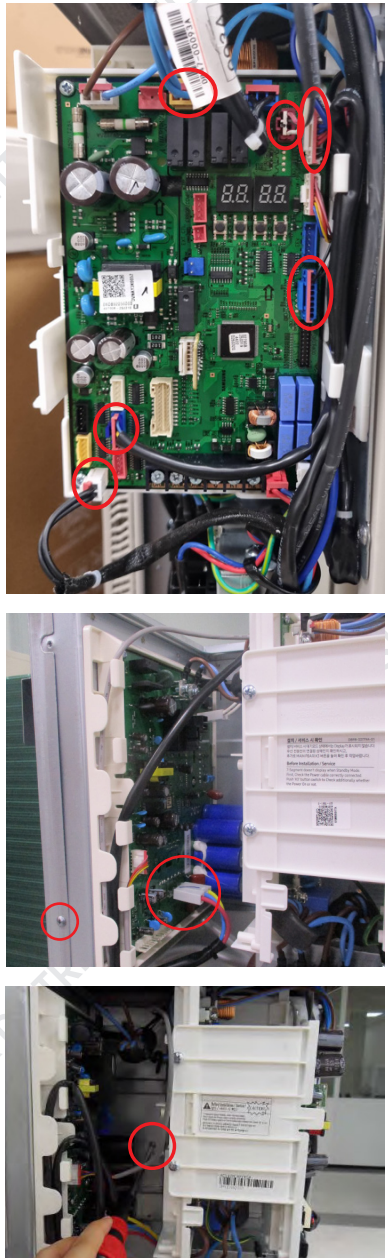
No.	Parts	Procedure	Remark
5	Cabinet Rear RH	1) Pull out the sensor from the Cabinet Rear RH and separate it. 2) Remove 9ea of screws which are fixed to each side of Cabinet Rear RH and separate it. (Use + Screw Driver)	   

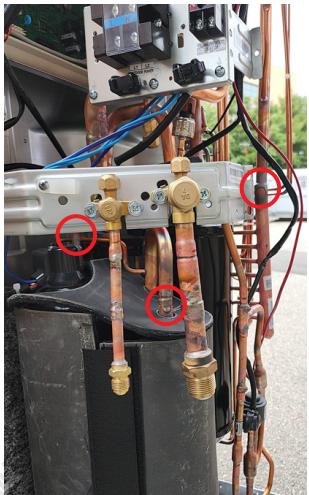
No.	Parts	Procedure	Remark
6	Cabinet-Installation Rear Part	1) Remove a screw from the Cabinet-Installation Rear Part and separate it. (Use +Screw Driver)	
7	Cabinet Front LF	1) Remove 9ea of screws from the Cabinet Front LF and separate it. (Use +Screw Driver)	

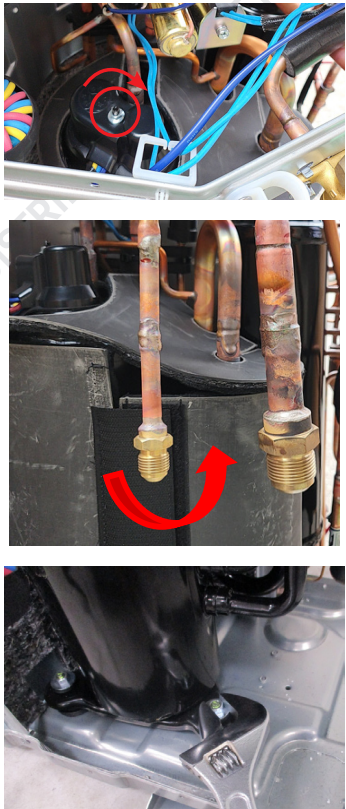
No.	Parts	Procedure	Remark
7	Cabinet Front LF		
8	Fan	1) Remove the 2 hex nuts like the picture on the right side. (Use Hexagon Wrench, Monkey Spanner, Hexagon Socket)	

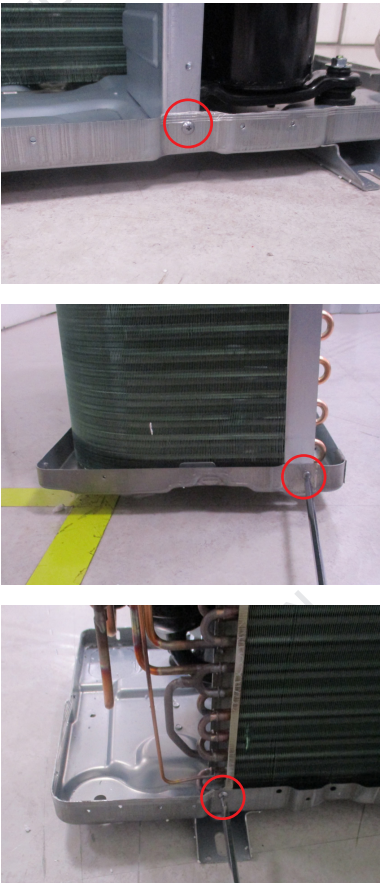
No.	Parts	Procedure	Remark
9	Motor	1) Separate the Fan Propeller. 2) Remove 8ea of screws which are fixed to Motor. (Use +Screw Driver) 3) Separate the Motor Wire connector from the Outdoor Unit Control Part.	 
10	Bracket Motor	1) Remove 2ea of screws from the Bracket Motor and separate it. (Use +Screw Driver)	

No.	Parts	Procedure	Remark
11	Base Heater	1) Remove 4ea of screws from the Base heater and separate it. (Use +Screw Driver) 2) Separate the Base heater Wire connector from the Outdoor Unit Control Part.	

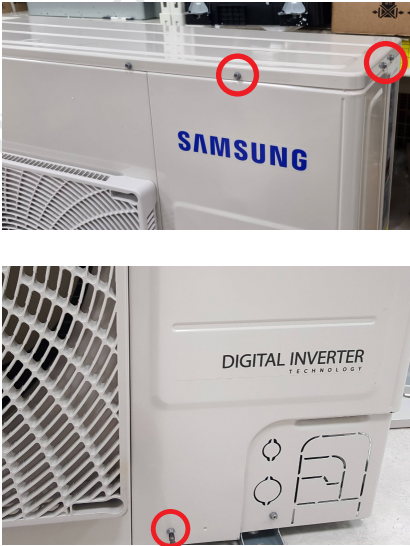
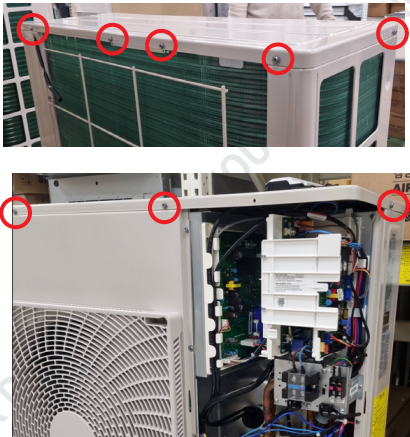
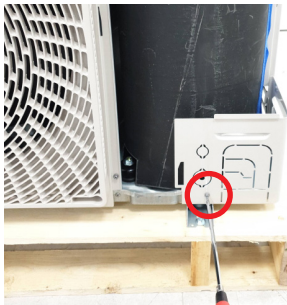
No.	Parts	Procedure	Remark
12	Control Part	1) Separate the 7 connectors from the Outdoor Unit Control part. 2) Remove the 2ea screw which is fixed to Control Part. (Use +Screw Driver) 3) Separate the Control Part.	

No.	Parts	Procedure	Remark
13	4 Way Valve	1) First, discharge the refrigerant Remove 2ea of screws which are fixed to Service Valve. (Use +Screw Driver) 2) Separate the inlet and outlet pipes by welding torch. ⚠ If you separate the Compressor, Heat Exchanger or Pipe, please fully discharge refrigerant in the Compressor and then separate the Pipe by welding torch.	 

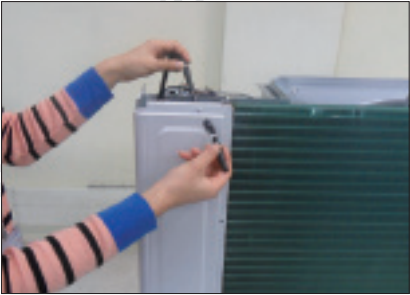
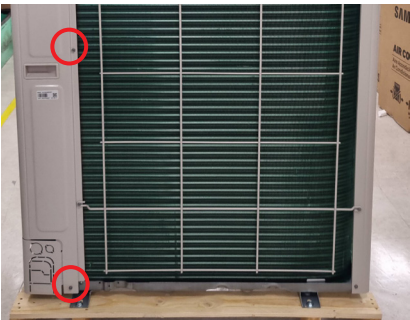
No.	Parts	Procedure	Remark
14	EEV Valve	1) Remove 2ea of screws which are fixed to Service Valve and separate it. (Use +Screw Driver) 2) Separate the inlet and outlet pipes by welding torch	
15	Compressor	1) Remove a hex nut from the end of Cover and separate it (Use Hexagon Wrench, Monkey Spanner, Hexagon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

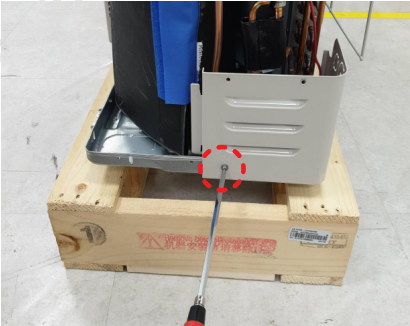
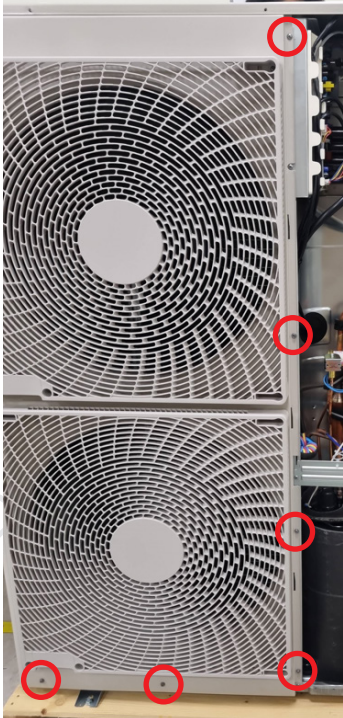
No.	Parts	Procedure	Remark
16	Condenser Connection Part	1) Remove 3ea of screws which are fixed to each side of Condenser Connection Part and separate it. (Use + Screw Driver)	
17	Accumulator	1) Separate the inlet and outlet pipes of Accumulator by welding torch	

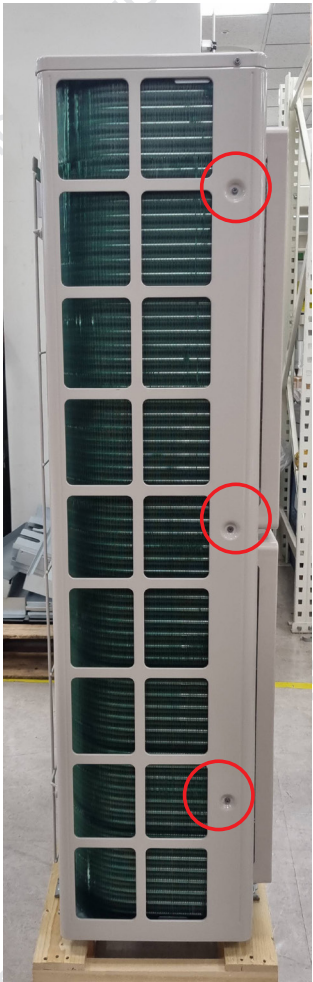
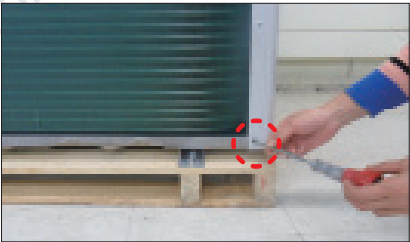
■ AC024/036FCUPCG, AC048/060FCU*CG

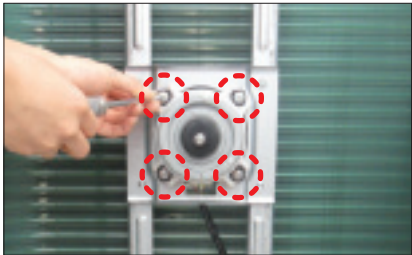
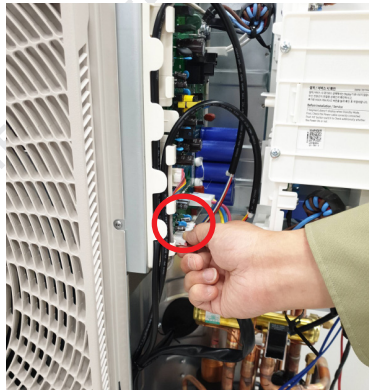
No.	Parts	Procedure	Remark
1	Cabinet Front RH	⚠ Turn off the power before disassembly necessarily. 1) Remove the 3 screws from the Cabinet Front RH and separate it. (Use + Screw Driver)	
2	Cabinet Upper	1) Remove the 8 screws which is fixed to each side of Cabinet Upper and separate it. (Use + Screw Driver)	
3	Cabinet-Installation Front Part	1) 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)	 

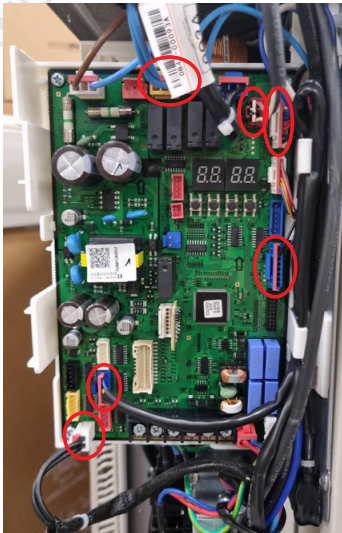
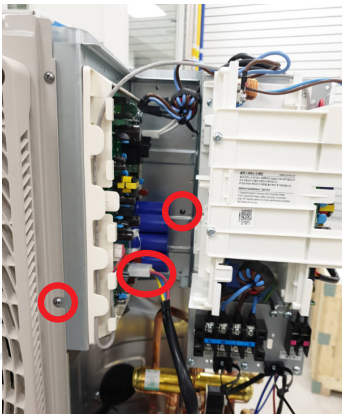
No.	Parts	Procedure	Remark
5	Cabinet Rear RH	1) Pull out the sensor from the Cabinet Rear RH and separate it. 2) Remove the 9 screws which is fixed to each side of Cabinet Rear RH and separate it. (Use + Screw Driver)	  

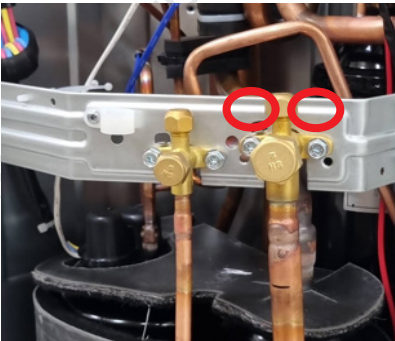
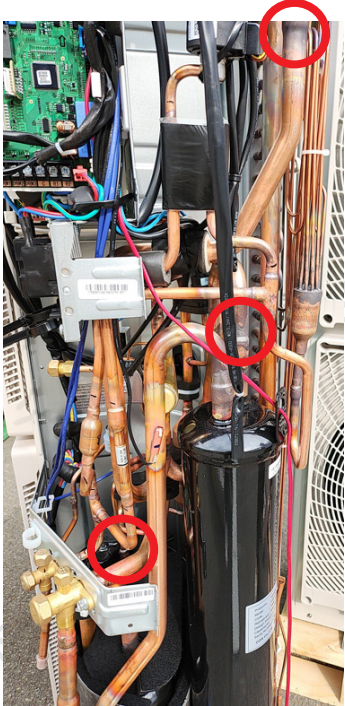
No.	Parts	Procedure	Remark
6	Cabinet-Installation Rear Part	1) Remove the 1 screw from the Cabinet-Installation Rear Part and separate it. (Use +Screw Driver)	
7	Cabinet Front LF	1) Remove the screws from the Cabinet Front LF and separate it. (Use +Screw Driver) * AC024FCUPCG, AC048FCUDCG: 9 screws AC036/048FCUPCG, AC060FCU*CG: 10 screws	

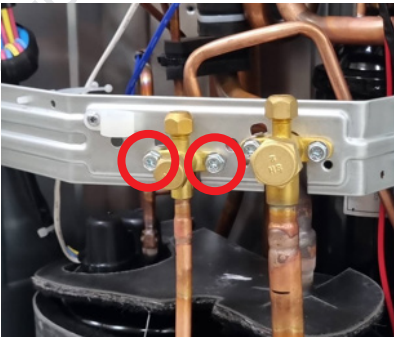
No.	Parts	Procedure	Remark
7	Cabinet Front LF		 

No.	Parts	Procedure	Remark
8	Fan	1) Remove the 2 fixing nuts like the picture on the right side. (Use Hexagon Wrench, Monkey Spanner, Hexagon Socket)	
9	Motor	1) Separate the Fan Propeller. 2) Remove the 8 screws which is fixed to Motor. (Use +Screw Driver) 3) Separate the Motor Wire connector from the Outdoor Unit Control Part.	 
10	Bracket Motor	1) Remove the 2 screws from the Bracket Motor and separate it. (Use +Screw Driver)	

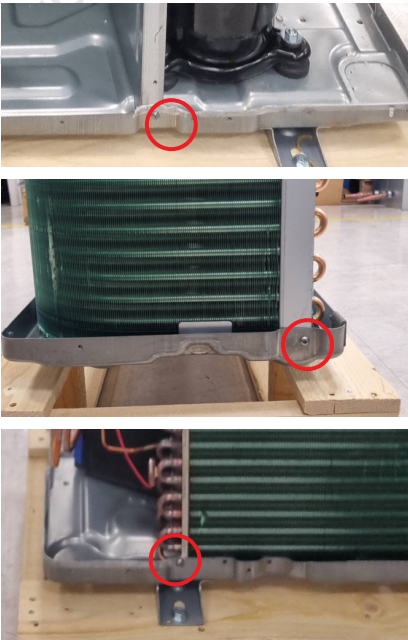
No.	Parts	Procedure	Remark
11	Base Heater	1) Remove 4ea pf screws from the Base heater and separate it. (Use + Screw Driver) 2) Seperate the Base heater Wire connector from the Outdoor Unit Control Part.	

No.	Parts	Procedure	Remark
12	Control Part	1) Separate the 7 connectors from the Outdoor Unit Control part. 2) Remove the 2 screws which is fixed to Control Part. (Use +Screw Driver) 3) Separate the Control Part.	 

No.	Parts	Procedure	Remark
13	4 Way Valve	1) First, discharge the refrigerant. 2) Remove the 2 screw which is fixed to Service Valve. (Use +Screw Driver) 3) Separate the inlet and outlet pipes by welding torch. ⚠ If you separate the Compressor, Heat Exchanger or Pipe, please fully discharge refrigerant in the Compressor and then separate the Pipe by welding torch.	 

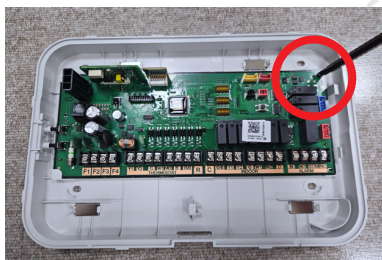
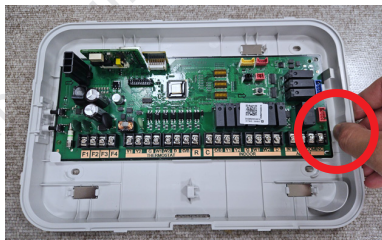
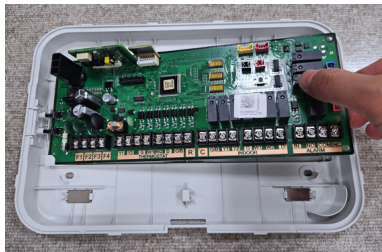
No.	Parts	Procedure	Remark
14	EEV Valve	1) Remove the 2 screws which is fixed to Service Valve and separate it. (Use +Screw Driver) 2) Separate the inlet and outlet pipes by welding torch	 

No.	Parts	Procedure	Remark
15	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)	

No.	Parts	Procedure	Remark
16	Condenser Connection Part	1) Remove 3ea of screws which are fixed to each side of Condenser Connection Part and separate it. (Use + Screw Driver.)	
17	Accumulator	1) Remove 1 screw which is fixed to the Base Out and take out the hook from the Base Out 2) Separate the inlet and outlet pipes of Accumulator by welding torch	

3-2. AHU Control Unit

■ MXD-U001XN

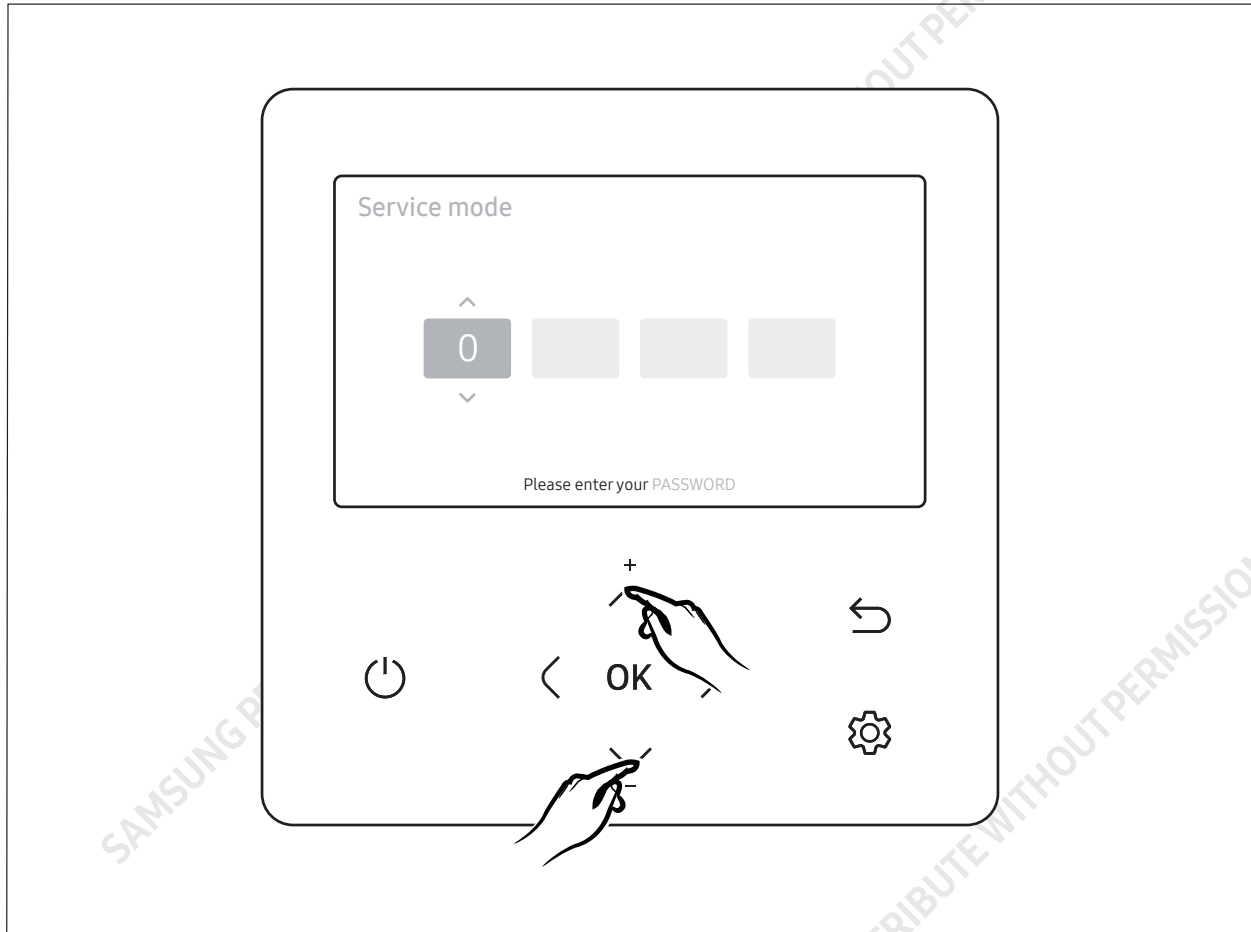
No.	Parts	Procedure	Remark
1	Case top (Front cover)	⚠ Turn off the power before disassembly necessarily. 1) Pull Case Top (Front Cover) upwards to separate it from Case Bottom (Rear Cover).	 
2	PCB	1) Remove 1ea screw from the PCB (Use +Screw Driver) and push the rib down to separate the PCB from the case.	  

4. Troubleshooting

4-1. Setting AHU Control Unit (ACU) installation option

4-1-1. Order for Setting Options (Wired Remote Controller)

- Check the option you have set



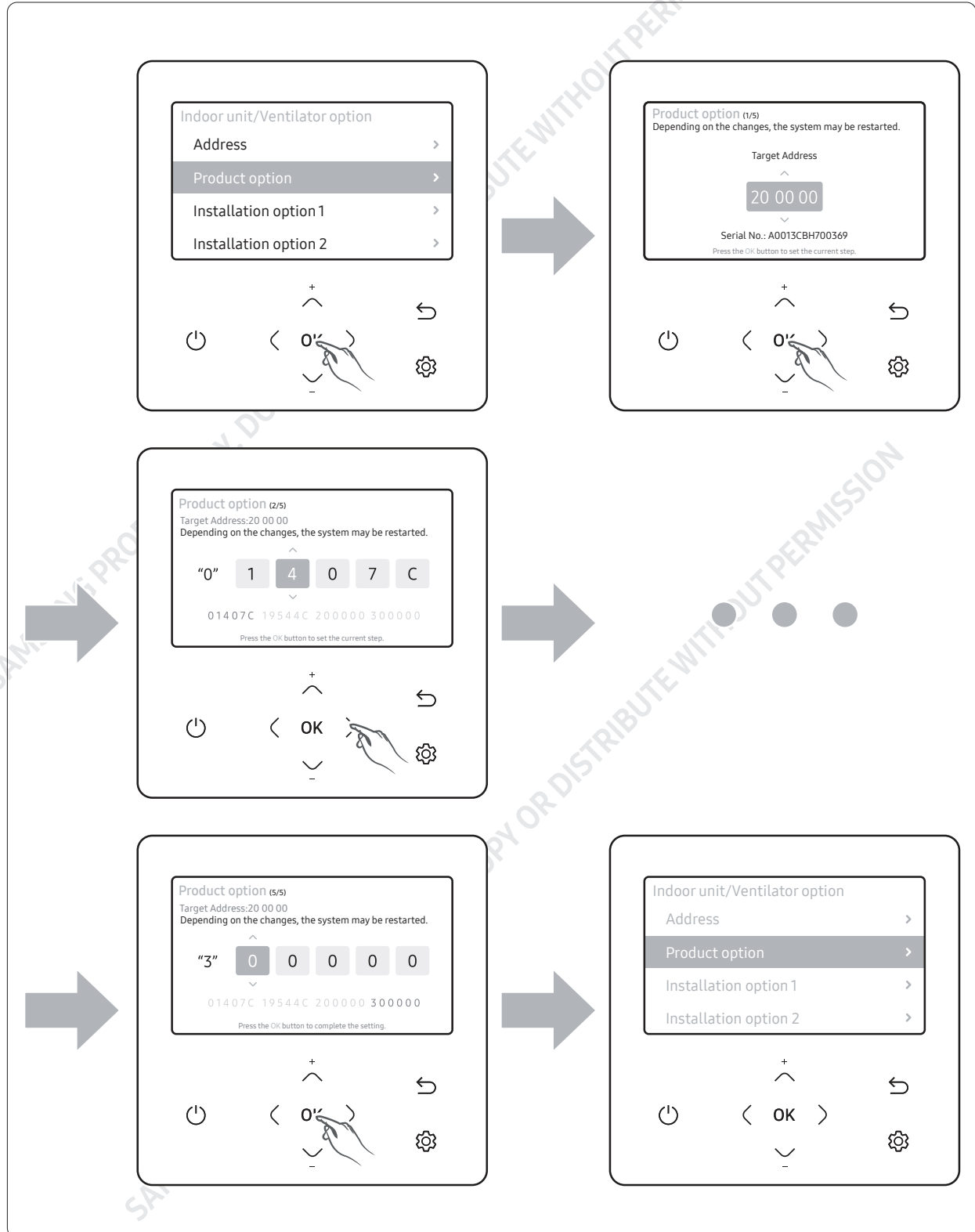
1. If you want to use the various additional functions for your Wired Remote Control, press the $\wedge$ and $\vee$ buttons at the same time for more than 3 seconds.
 - The password entry screen appears.
2. Enter the password, "0202," and then press the OK button.
 - The settings screen for installation/ service mode appears.
3. See the list of additional functions for the Wired Remote Control on the next page, and then select the Product option menu.
 - Once you have entered the settings screen, the current setting appears.
 - Refer to the chart for data setting.
 - Using the $\wedge$ / $\vee$ buttons, change the settings and press the $\rightarrow$ button to move to the next setting.
 - Press the OK button to save the new setting.
 - Press the $\hookrightarrow$ button to move to the Home screen.



NOTE

- While setting the data, you can press the $\hookrightarrow$ button to move to the Home screen after checking the saving status at a popup screen.

Order for Setting Options (Wired Remote Controller) (Cont.)



Order for Setting Options (Wired Remote Controller) (Cont.)

Product Option (1/5)

Depending on the changes, the system may be restarted.

Target Address

^

20 00 01

v

Serial No. : *****

Press the OK button to set the current step.

[Product Option page 2]

Product Option(2/5)

Target Address: 20 00 01
 Depending on the changes, the system may be restarted.

"0" 1 **0** 0 0 0

^

v

00000 00000 00000 00000

Press the OK button to set the current step.

[Product Option page 3]

Product Option(3/5)

Target Address: 20 00 01
 Depending on the changes, the system may be restarted.

"1" **0** 0 0 0 0

^

v

00000 00000 00000 00000

Press the OK button to set the current step.

[Product Option page 4]

Product Option(4/5)

Target Address: 20 00 01
 Depending on the changes, the system may be restarted.

"2" **0** 0 0 0 0

^

v

00000 00000 00000 00000

Press the OK button to set the current step.

[Product Option page 5]

Product Option(5/5)

Target Address: 20 00 01
 Depending on the changes, the system may be restarted.

"3" **0** 0 0 0 0

^

v

00000 00000 00000 00000

Press the OK button to set the current step.

Order for Setting Options (Wired Remote Controller) (Cont.)

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	*	*	*	*	*

Page number

SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	*	*	*	*	*

Page number

SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	*	*	*	*	*

Page number

SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	*	*	*	*	*

Page number



- Option code will not be applied if you don't press the OK button.

4-1-2. Setting AHU Control Unit (ACU) installation option

- The installation options of AHU Control Unit (ACU) are set to 020000-166000-200000-300000 by default.

Option	SEG1		SEG2		SEG3			SEG4		SEG5		SEG6			
Explanation	PAGE		MODE		Emergency Heater/ Furnace Auto change			Minimizing fan operation when thermostat is off		Central control		Emergency stop ¹⁾			
Indication and details	Indication	Details	Indication	Details	Indication	Details		Indication	Details	Indication	Details	Indication	Details		
	0		2		0	Use	Disuse	0	Fan off when Auto air flow is set otherwise set air flow will be kept	0	Disuse	0	Disuse		
					1	Disuse	Disuse								
					2	Use	Use	1	Keeping the set air flow	1	Use	8	Use		
					3	Disuse	Use	2	Fan off						
Option	SEG7		SEG8		SEG9			SEG10		SEG11		SEG12			
Explanation	PAGE		Aux Heater Stage 1 ²⁾		Aux Heater/ Furnace Stage 2 ³⁾			Aux heater Lockout temp. ⁴⁾		Heat Pump Lockout temp.		Furnace Auto Change ⁵⁾			
Indication and details	Indication	Details	Indication	Details		Indication	Details		Indication	Details	Indication	Details	Indication	Details	
	1		0	No temp. offset	No delay	0	No temp. offset	No delay	0	Disuse	0	Disuse	0	20 mins	2°F (1.1°C)
			1	No temp. offset	10 mins	1	No temp. offset	10 mins	1	65°F (18.3°C)	1	45°F (7.2°C)	1	30 mins	2°F (1.1°C)
			2	No temp. offset	20 mins	2	No temp. offset	20 mins	2	60°F (15.6°C)	2	40°F (4.4°C)	2	45 mins	2°F (1.1°C)
			3	2°F (1.1°C)	No delay	3	2°F (1.1°C)	No delay	3	55°F (12.8°C)	3	35°F (1.7°C)	3	60 mins	2°F (1.1°C)
			4	2°F (1.1°C)	10 mins	4	2°F (1.1°C)	10 mins	4	50°F (10°C)	4	30°F (-1.1°C)	4	75 mins	2°F (1.1°C)
			5	2°F (1.1°C)	20 mins	5	2°F (1.1°C)	20 mins	5	45°F (7.2°C)	5	25°F (-3.9°C)	5	90 mins	2°F (1.1°C)
			6	4°F (2.2°C)	No delay	6	4°F (2.2°C)	No delay	6	40°F (4.4°C)	6	20°F (-6.7°C)	6	120 mins	2°F (1.1°C)
			7	4°F (2.2°C)	10 mins	7	4°F (2.2°C)	10 mins	7	35°F (1.7°C)	7	15°F (-9.4°C)	7	150 mins	2°F (1.1°C)
			8	4°F (2.2°C)	20 mins	8	4°F (2.2°C)	20 mins	8	30°F (-1.1°C)	8	10°F (-12.2°C)	8	180 mins	2°F (1.1°C)
			9	6°F (3.3°C)	No delay	9	6°F (3.3°C)	No delay	9	25°F (-3.9°C)	9	5°F (-15°C)	9	30 mins	4°F (2.2°C)
			A	6°F (3.3°C)	10 mins	A	6°F (3.3°C)	10 mins	A	20°F (-6.7°C)	A	0°F (-17.8°C)	A	45 mins	4°F (2.2°C)
			B	6°F (3.3°C)	20 mins	B	6°F (3.3°C)	20 mins	B	15°F (-9.4°C)	B	-5°F (-20.6°C)	B	60 mins	4°F (2.2°C)
			C	8°F (4.4°C)	No delay	C	8°F (4.4°C)	No delay	C	10°F 12.2°C)	C	-10°F (-23°C)	C	90 mins	4°F (2.2°C)
			D	8°F (4.4°C)	10 mins	D	8°F (4.4°C)	10 mins	D	5°F (-15°C)	D	-15°F (-26°C)	D	120 mins	4°F (2.2°C)
			E	8°F (4.4°C)	20 mins	E	8°F (4.4°C)	20 mins	E	0°F (-17.8°C)	E	-20°F (-29°C)	E	150 mins	4°F (2.2°C)
			F	180 mins	4°F (2.2°C)										

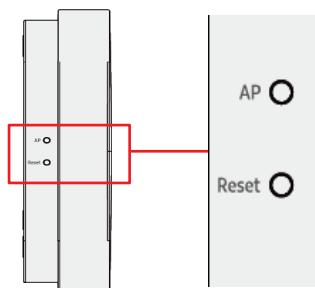
Option	SEG13		SEG14			SEG15		SEG16	SEG17	SEG18
Explantion	PAGE		Use of external control			External control output		Reserved	Reserved	Reserved
Indication and details	Indication		Details	Indication	Details	Indication	Details			
	2	0,4		Disuse	Existing control	0	Thermo on			
		1,5		On/Off						
		2,6		Off						
		3,7		Window On/off						
		8,C		Disuse	Reverse control	1	Operation on			
		9,D		On/Off						
		A,E		Off						
		B,F		Window On/off						
Option	SEG19		SEG20			SEG21		SEG22	SEG23	SEG24
Explantion	PAGE		Reserved			Reserved		Reserved	Reserved	Reserved
Indication and details	Indication	Details								
	3									

- 1) SEG6
If emergency stop is in use, external control (SEG14) input will be change to disuse
- 2) SEG8
heat pump & Stage 1 offset temperature/delay; HP conditions applied to furnace Stage 1
- 3) SEG9
Stage 1 & Stage 2 offset temperature/delay
- 4) SEG10
Not for furnace as furnace may use auto change
- 5) SEG12
The heating source will automatically switch to furnace if the room temperature exceeds the offset temperature for longer than the operation time.

4-2. Setting SmartThings application

4-2-1. LED Display indicator specifications when checking Wi-Fi Easy Setup and Wi-Fi status

- AP button on the side of AHU Control Unit (ACU) can be used for Easy Setup and connection info reset.



Easy setup	Press AP  button for 5 seconds for entering AP.
Connection info reset	Press AP  button for 5 seconds → Wi-Fi LED light flashes → Press AP  button for 10 seconds → Wi-Fi and Error LED lights flash

4-2-2. LED Indicator Status

		LED Display			Remarks
		Power	Wi-Fi	Error	
					
Easy Setup	AP entry	●	○	X	Wi-Fi LED light flashes (0.5 On/0.5 Off)
	Check device	●	○	X	Wi-Fi LED light flashes (0.5 On/0.5 Off)
	Registering devices	●	○	X	Wi-Fi LED light flashes (1.5 On/0.5 Off)
	Connected	●	●	X	Wi-Fi LED light on
	Connection failed	●	X	X	All LED lights turn off, and the system operates in the previous mode
Connection info reset		●	○	○	Wi-Fi and Error LED lights flash
All devices reset		●	○	○	Wi-Fi and Error LED lights flash

4-2-3. Troubleshooting for SmartThings

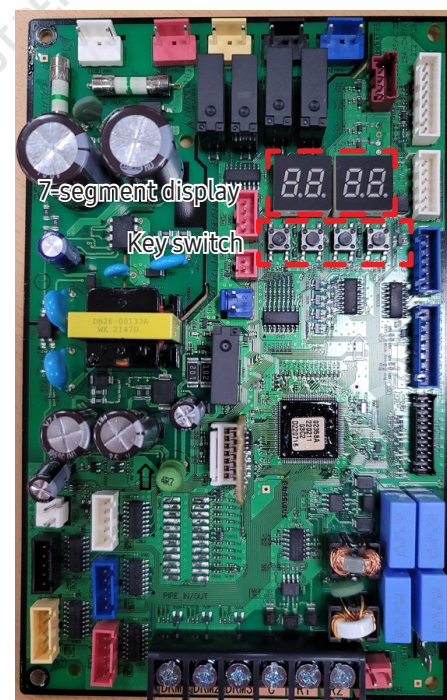
Symptom		Measure
The installed SmartThings app cannot access the air conditioner.		Make sure you have connected the air conditioner to a wireless router.
I cannot log in with my Samsung account.		Try recovering your ID and password from the Samsung account page.
Adding device(s)	A failure message appears while adding devices.	This may fail temporarily due to the distance from the router or some interferences. Try again later.
	While adding the device, the progress stops at 0%-1% and a message appears saying that adding the device has failed.	You cannot add any device without deleting it once the device has already been added to the SmartThings app. To add the connected device again, first remove it and then proceed with the process.
	While adding the device, the progress is stuck at 99% and a message appears saying that adding the device has failed.	- If you are using a Samsung smartphone, the server may not be connected temporarily. Restart the SmartThings app and then try adding the device again. - If your phone is not a Samsung product, check that you have entered a wrong Wi-Fi password. Try adding devices again.
	The app displays an authorization failure before pressing the user agreement button.	Check if a Wi-Fi Kit Single is already connected from the SmartThings app. When there are devices added, first remove them, and try again.
	The app displays an authorization failure on the user agreement screen.	Make sure to press the [Power] button within 2 minutes after the screen appears. Try adding devices again.
	The screen requests to initialize the user account.	This happens when the user has already added devices. Follow the instructions provided in the SmartThings app.
After adding a device, the SmartThings app displays the disconnection event.		This happens when a device is being added to the server or it is temporarily disconnected from the router. End the SmartThings app and then launch it again.

4-2. Diagnostic Checkliest

4-2-1. Test operation mode and check mode

■ Display Option key

Key	Push type		Mode	Display			
				SEG1	SEG2	SEG3	SEG4
K1	Short	1st	Heating test mode ¹⁾	H	1	8	
		2nd	Defrost test mode ²⁾	H	3	8	
		3rd	End Key operation	8	8	8	8
K2	Short	1st	Cooling test mode ³⁾	H	2	8	8
		2nd	Inverter check	H	4	8	8
		3rd	Pump down	H	6	8	8
		4th	Reserved	H	8	8	8
		5th	Inverter Fault Detection (Comp#1) ⁴⁾	H	A	8	8
		6th	Auto trial operation ⁵⁾	H	C	8	8
		7th	Auto check ⁶⁾ (Install commissioning mode)	H	E	8	8
		8th	End Key operation	8	8	8	8
K3	Short	1st	Reset	8	8	8	8



1) Heating test mode: system operates in heating mode (set 104°F (40°C)) and checks for any error.

2) Defrost test mode operates when outdoor temperature is under 50°F(10°C) for 1 minute after pressing K1 for defrost test mode.

3) Cooling test mode: system operates in cooling mode (set 37.4°F (3°C)) and checks for any error.

4) Indication on the display and action to take when an inverter fault is detected.

5) Auto Test Mode: System will determine test mode (cool or heat) based on ambient temperature

* Test mode will continue to operate for 10 hours; any K button press pressing any K button will terminate the test mode

* If an error occurs during the test operation, the test mode will terminate and display the associated error codes

6) Auto Check Mode: System will determine test mode (cool or heat) based on ambient temperature

* Test mode will continue to operate for 10~20mins and self-terminate test mode if no errors are found; pressing any K button press will terminate the test mode

* If an error occurs during the test operation, the test mode will terminate and display the associated error codes

	SEG1	SEG2	SEG3	SEG4	Action to take
Fault detection is in progress	7	1	8	8	-
OK	7	8	0	H	-
NG	7	8	H	C	PBA defect: Replace the PBA
Check	7	8	C	H	Manual inspection is required
Going into fault detection mode failed	7	8	F	8	Try fault detection again

Test operation mode and check mode (Cont.)

K4 short push	Display contents	SEG1	SEG2	SEG3	SEG4	Unit
1	Order frequency	1	Hundreds digit	Tens digit	Units digit	Hz
2	Current frequency	2	Hundreds digit	Tens digit	Units digit	Hz
3	The number of preset indoor units	3	Hundreds digit	Tens digit	Units digit	EA
4	Ambient temperature sensor	4	Hundreds digit or - ¹⁾	Tens digit	Units digit	°F or °C ²⁾
5	Compressor discharge sensor	5	Hundreds digit	Tens digit	Units digit	°F or °C ²⁾
6	Eva-Mid sensor	6	Hundreds digit or - ¹⁾	Tens digit	Units digit	°F or °C ²⁾
7	Condenser sensor	7	Hundreds digit or - ¹⁾	Tens digit	Units digit	°F or °C ²⁾
8	Current	8	Tens digit	Units digit	The first place of decimals	A
9	Outdoor fan RPM	9	Thousands digit	Hundreds digit	Tens digit	rpm
10	Target discharge temperature	A	Hundreds digit or - ¹⁾	Tens digit	Units digit	°F or °C ²⁾
11	EEV	B	Hundreds digit	Tens digit	Units digit	step
12	The capacity sum of indoor units	C	Tens digit	Unit digit	The first place of decimals	kBtu/h or kW ³⁾
13	Protective control	D	0: Cooling 1: Heating	<Protective control> 0: No Protective control 1: Freezing 2: Non-stop defrosting 3: Over-load 4: Discharge 5: Total electric current	<Frequency status> 0: Normal 1: Hold 2: Down 3: Up_limit 4: Down_limit	-
14	IPM temperature	E	Hundreds digit or - ¹⁾	Tens digit	Units digit	°F or °C ²⁾
15	The number of connected indoor units	F	0	Tens digit	Units digit	EA
16	ESC EEV(CAM)	G	Hundreds digit	Tens digit	Units digit	step
17	ESC IN sensor	H	Hundreds digit or - ¹⁾	Tens digit	Units digit	°F or °C ²⁾
18	ESC OUT sensor	I	Hundreds digit or - ¹⁾	Tens digit	Units digit	°F or °C ²⁾
19	Suction sensor	J	+ / - Hundreds for Fahrenheit	Tens digit	Units digit	°F or °C ²⁾
20	Pressure sensor	K	+ / - Hundreds for Fahrenheit	Tens digit	Units digit	psi or kg/cm ² ⁴⁾

¹⁾ Sub-zero temperatures are expressed as a minus, instead of hundreds digit.

²⁾ The temperature unit can be switched between Fahrenheit and Celsius using Setting outdoor unit option switches.

³⁾ When the temperature unit is set to Celsius by using the option switch on the outdoor unit, the value is shown in kW.

⁴⁾ When the temperature unit is set to Celsius by using the option switch on the outdoor unit, the value is shown in kg/cm².

Test operation mode and check mode (Cont.)

■ Version Check & Address Check

		Display contents	SEG1	SEG2	SEG3	SEG4
K4 long push	-	Main micom version	Year (Dec)	Month (Hex)	Date (Tens digit)	Date (Units digit)
	After short push 1	Inverter micom version	Year(Dec)	Month (Hex)	Date (Tens digit)	Date (Units digit)
	After short push 2	E2P version	Year(Dec)	Month (Hex)	Date (Tens digit)	Date (Units digit)
	After short push 3	Page 1 - AUTO Page 2 - (SEG1,2 - Indoor: "A", "0") (SEG3,4 - Address: ex)00)				
	After short push 4	Page 1 - MANU Page 2 - (SEG1,2 - Indoor: "A", "0") (SEG3,4 - Address: ex)00)				

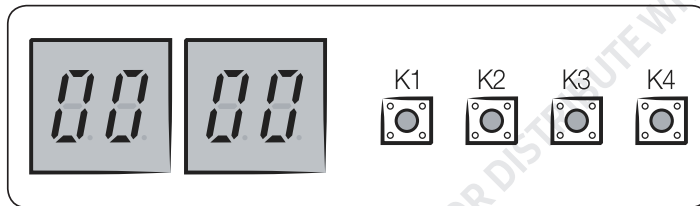
- Long push K4(Main micom ver.) → short push 1 more (Inv. micom ver.) → short push 1 more (E2P. ver.)
 → short push 1 more (Automatic address) → short push 1 more (Manual address) → short push 1 more (Main micom ver.)
 → → Long push K4(veiw mode end)

Test operation mode and check mode (Cont.)

■ Setting outdoor unit option switch and address manually

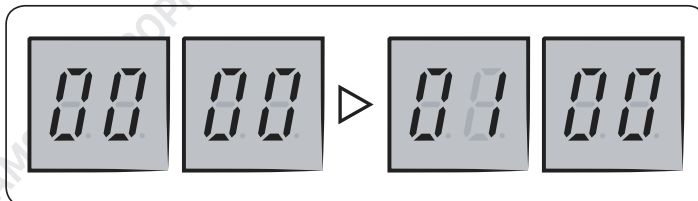
▶ Setting the option

- Press and hold K2 to enter the option setting. (Only available when the operation is stopped)
- If you enter the option setting, display will show the following.



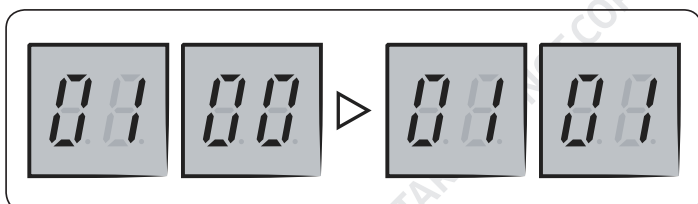
- Seg 1 and Seg 2 will display the number for selected option.
- Seg 3 and Seg 4 will display the number for set value of the selected option.
- If you have selected desired option, you can shortly press the K2 switch to adjust the value of the Seg 3, Seg 4 and change the function for the selected option

Example)



- If you have selected desired option, you can shortly press the K2 switch to adjust the value of the Seg 3, Seg 4 and change the function for the selected option.

Example)



- After selecting the function for options, press and hold the K2 switch for 2 seconds.
Edited value of the option will be saved when entire segments blinks and tracking mode begins.

Test operation mode and check mode (Cont.)

Option item	SEG1	SEG2	SEG3	SEG4	Function
Channel address	0	0	A	U	Automatic setting (Factory default)
			00~15		Manual setting
Snow accumulation prevention control	0	1	0	0	Disabled (Factory default)
			0	1	Enabled
Step for Silence mode	0	2	0	0	Disabled (Factory default)
			0	1	Step1
			0	2	Step2
			0	3	Step3
Type of Silence mode	0	3	0	0	Automatic Silence mode (Factory default)
			0	1	Manual Silence mode
Temperature unit	0	4	0	0	Celsius
			0	1	Fahrenheit(default)
Current restriction rate ¹⁾	0	6	0	0	100% (Factory default)
			0	1	95%
			0	2	90%
			0	3	85%
			0	4	80%
			0	5	75%
			0	6	70%
			0	7	65%
			0	8	60%
			0	9	55%
			1	0	50%
			1	1	100%
Dedicated mode for cooling/heating	0	7	0	0	Cooling/ Heating operation (default)
			0	1	Cooling operation only
			0	2	Heating operation only
Long-piping pressure calibration ²⁾	0	8	0	0	Within 98.4 ft (30 m) (Factory default)
			0	1	98.4 ~ 164.0 ft (30 ~ 50 m) (Cooling:-9.96psi, Heating:+4.27psi)
Target low pressure calibration for cooling ³⁾	0	9	0	0	Initial set pressure for cooling (Factory default)
			0	1	-2.84 psi
			0	2	-5.69 psi
			0	3	-8.53 psi
			0	4	-11.38 psi
			0	5	-14.22 psi
			0	6	+2.84 psi
			0	7	+5.69 psi
			0	8	+8.53 psi
			0	9	+11.38 psi
			1	0	+14.22 psi

Test operation mode and check mode (Cont.)

Option item	SEG1	SEG2	SEG3	SEG4	Function
Target high pressure calibration for heating ⁴⁾	1	0	0	0	Initial set pressure for heating (Factory default)
			0	1	+2.84 psi
			0	2	+5.69 psi
			0	3	+8.53 psi
			0	4	+11.38 psi
			0	5	+14.22 psi
			0	6	-2.84 psi
			0	7	-5.69 psi
			0	8	-8.53 psi
			0	9	-11.38 psi
			1	0	-14.22 psi
Cumulative defrosting time	1	1	0	0	Disable (Factory default)
			0	1	90mins
			0	2	60mins
			0	3	40mins
Defrosting frequency offset	1	2	0	0	Disable (Factory default)
			0	1	-5Hz
			0	2	-10Hz
			0	3	-15Hz
Defrosting-off temperature Offset	1	3	0	0	Disable (Factory default)
			0	1	+5.4°F (3°C)
			0	2	+10.8°F (6°C)
			0	3	+16.2°F (9°C)
Outdoor fan settings when defrosting is ON ⁵⁾	1	5	0	0	100rpm (default)
			0	1	Stop
			0	2	120rpm
			0	3	140rpm
			0	4	160rpm

¹⁾ Current restriction rate: When restriction option is set, cooling and heating performance may decrease.

²⁾ Set this value only when the diameter of the installed gas piping is smaller than the standard piping diameter.

Do NOT use it for performance enhancement purposes.

³⁾ Target low pressure for cooling can be set in a range of 113.79–170.68 psi.

⁴⁾ Target high pressure for heating can be set in a range of 284.47–526.26 psi.

⁵⁾ When the 'Fan operation during defrost' switch is ON, change the outdoor fan speed setting during defrost mode, as follows: select Stop if the frost does not melt even after operation using defrost mode; or increase the fan speed if the high-pressure switch is activated during defrost mode.

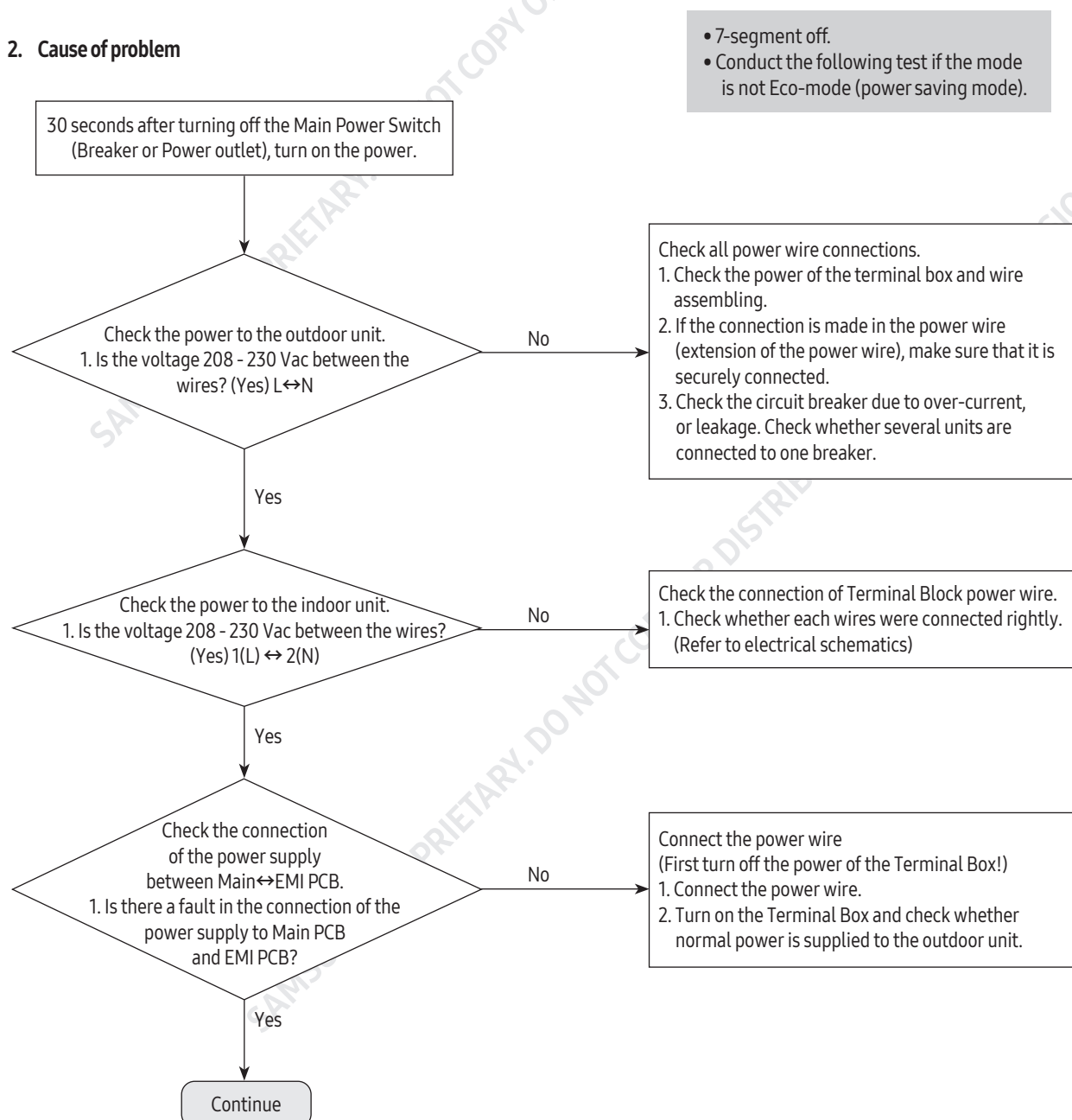
4-3. Troubleshooting by symptoms

4-3-1. When the outdoor unit power is not ON - Initial Diagnosis: Single phase products

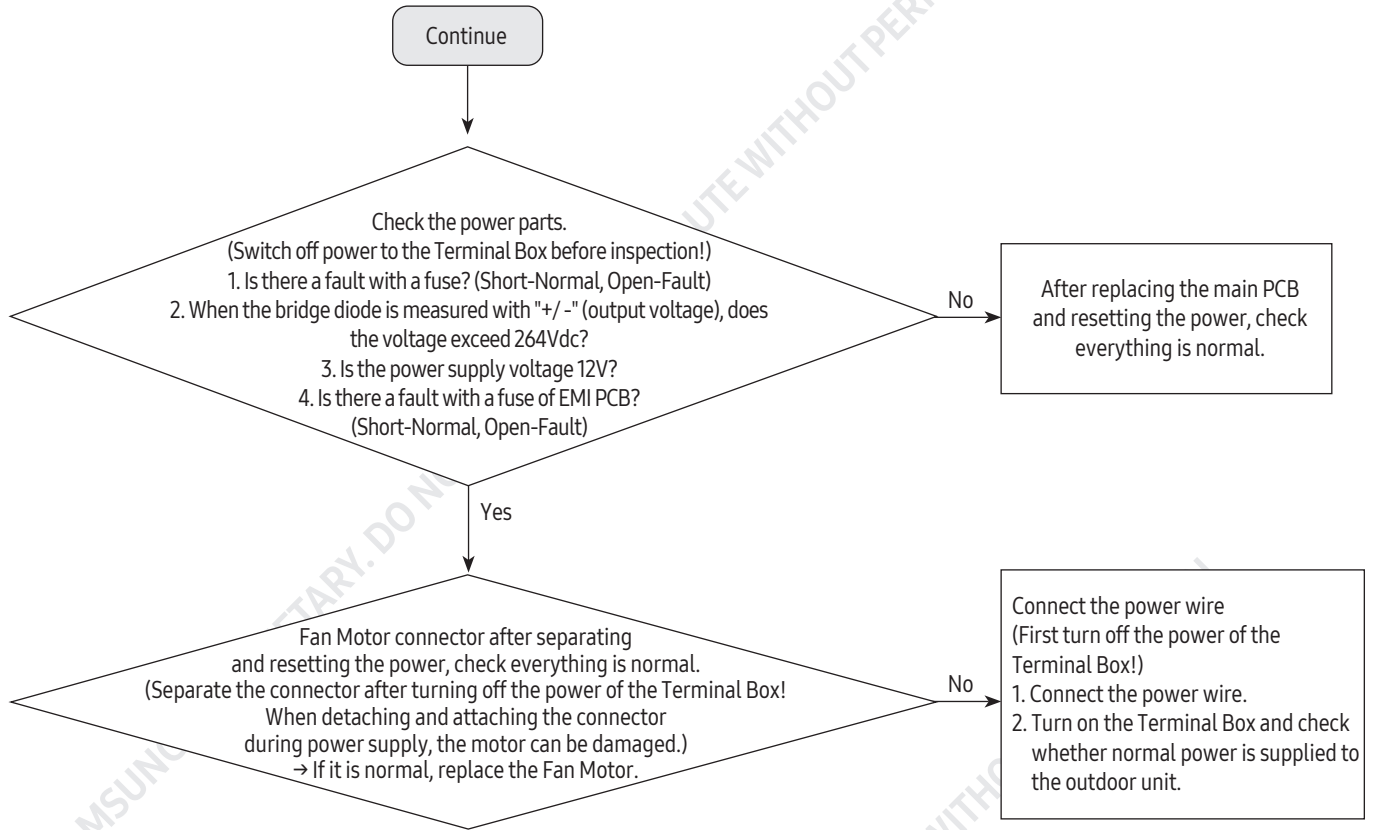
1. Test items

- 1) Check the power connection of outdoor unit.
- 2) Check the whole connection part of the power wire.
- 3) Check the power on the indoor unit.
- 4) Check the connection of the power wire of the Terminal Block.
- 5) Check the connection of the power wire between the Main ↔ EMI PBA of the outdoor unit.
- 6) Connect the power wire. (Never forget to turn off the power of the Terminal Box).
- 7) Check the power supply parts. (Check after turning off the power of the Terminal Box!)
- 8) Check everything is normal after separating the fan motor connector and resetting the power.
(Separate the connector after turning off the power of the Terminal Box! When detaching and attaching the connector during power supply, the motor can be damaged.)

2. Cause of problem



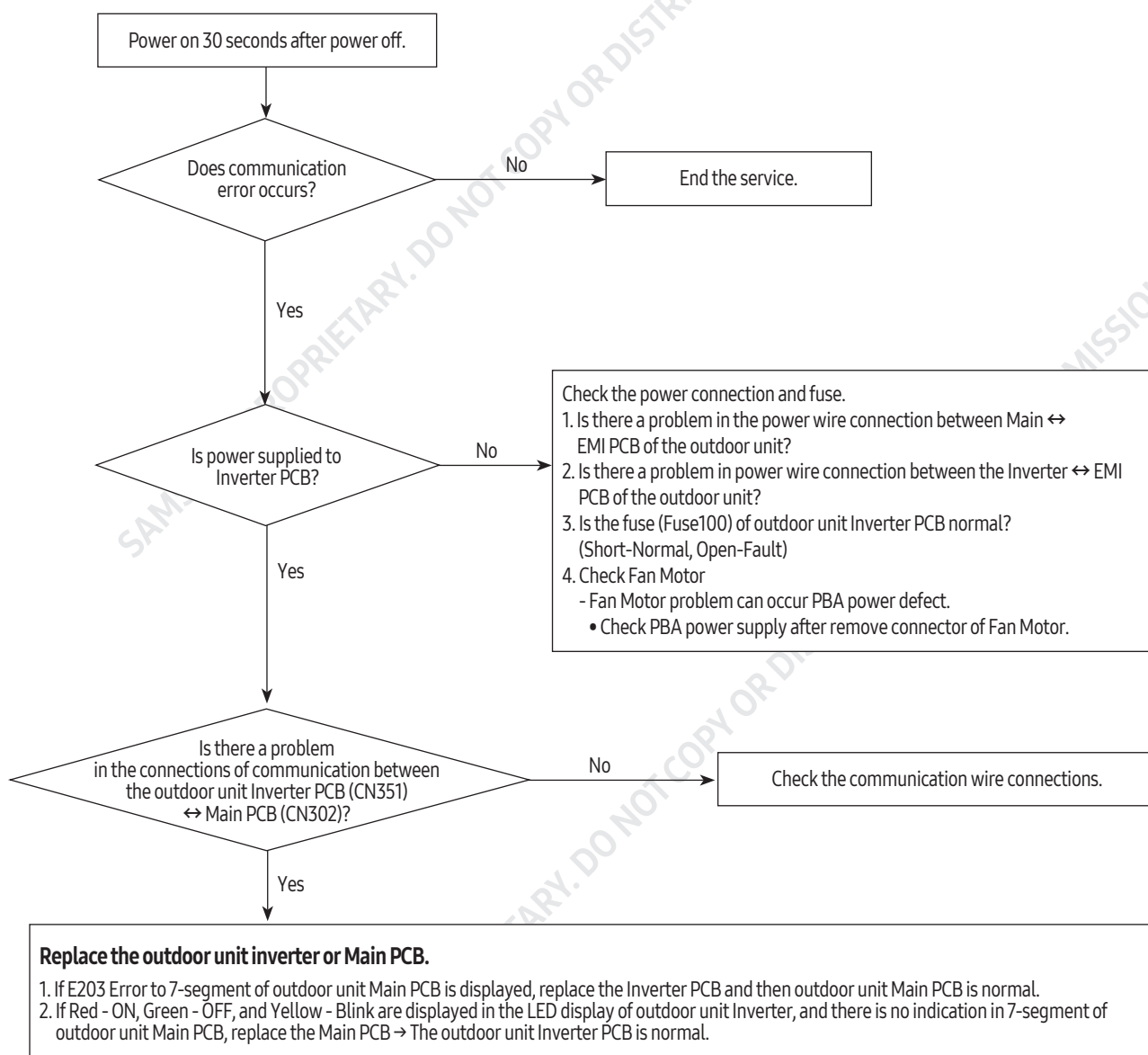
When the outdoor unit power is not ON - Initial Diagnosis: Single phase products (Cont.)



4-3-2. Communication error between outdoor unit INV ↔ MAIN MICOM (1 min.) - (E203)

Outdoor unit display	E203
Judgment Method	Refer to checking method, as shown below
Cause of problem	Communication error between the outdoor unit INV and Main Micom for one minutes

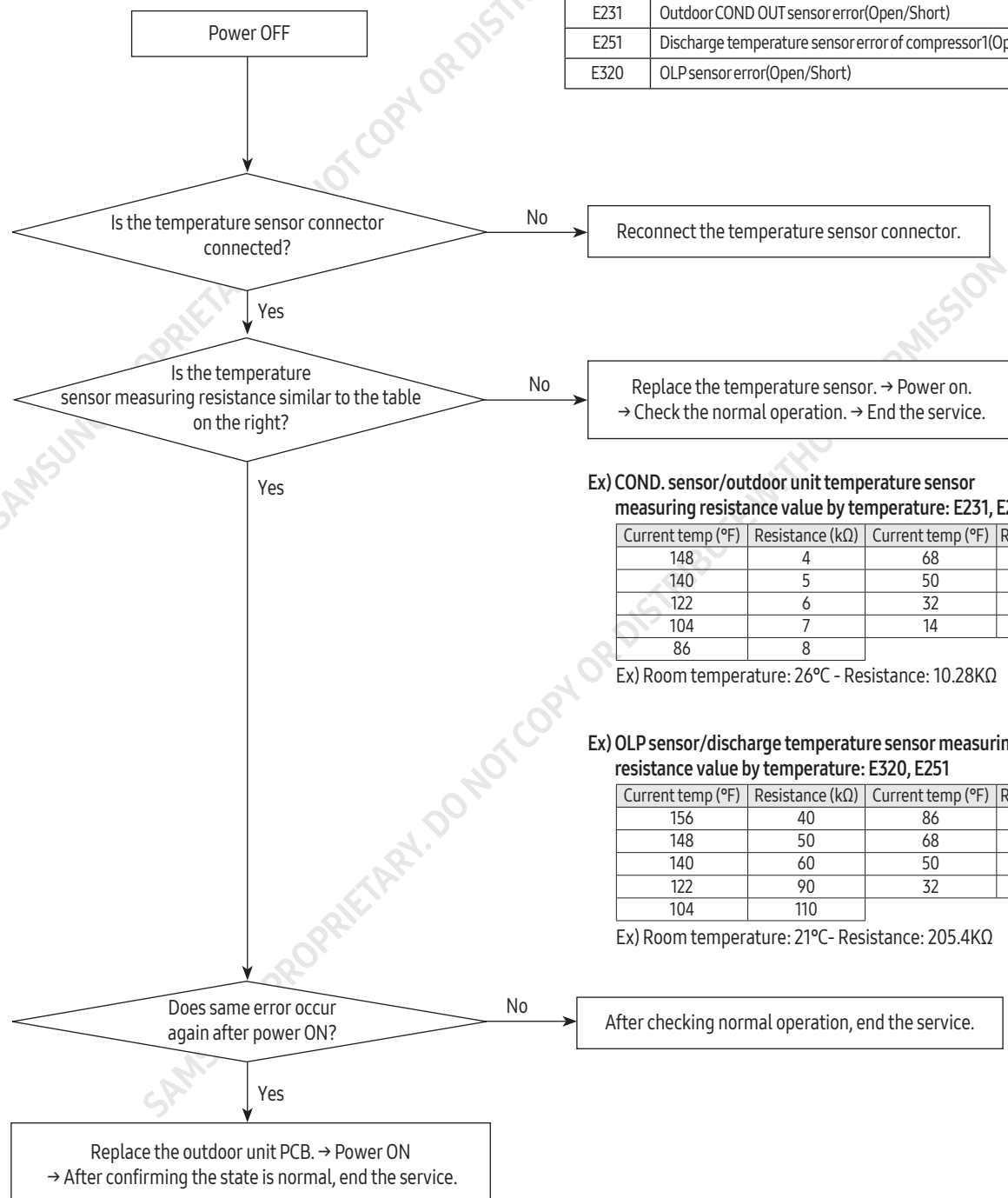
1. Cause of problem



4-3-3. Outdoor sensor error - (E221, E231, E251, E320)

Outdoor unit display	<i>E22 1, E23 1, E25 1, E320</i>
Judgment Method	• Refer to checking method, as shown below.
Cause of problem	• Communication error between the outdoor unit INV and Main Micom for one minutes

1. Cause of problem



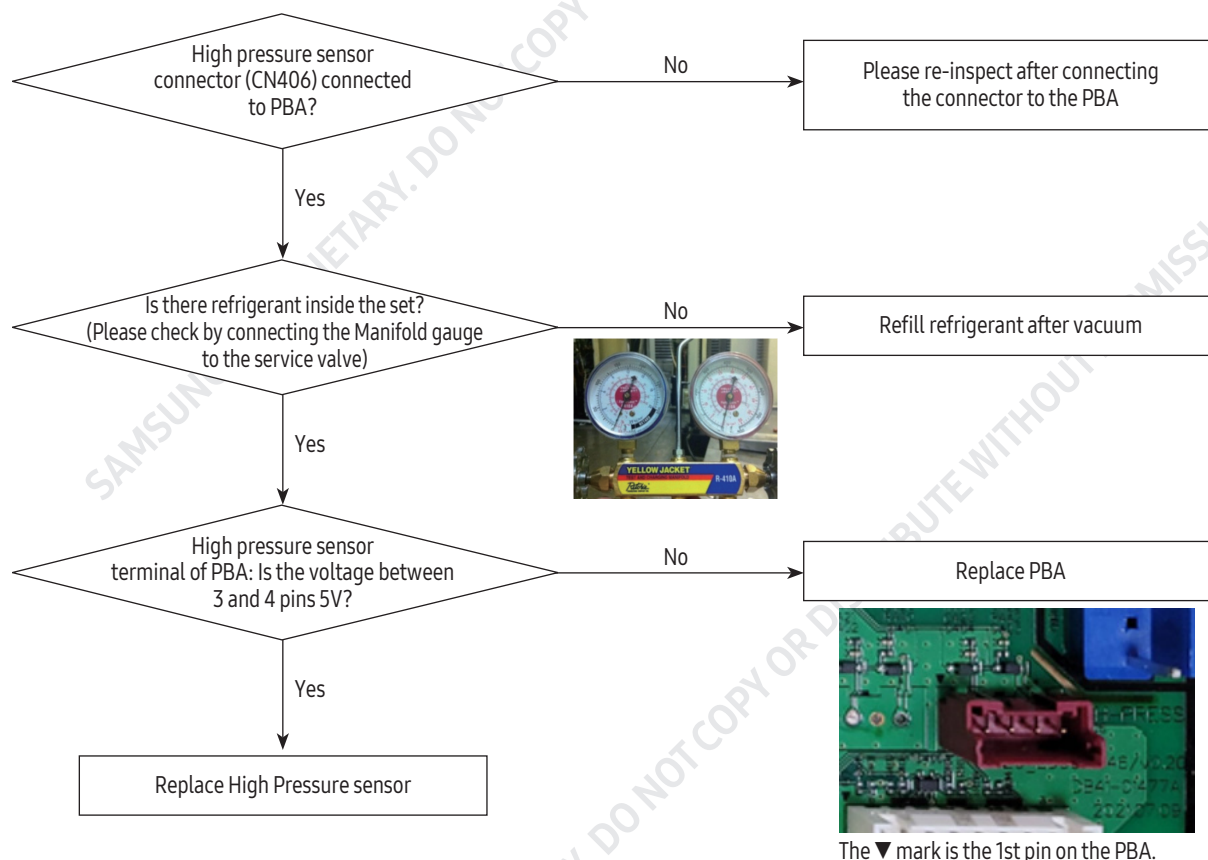
4-3-4. High Pressure sensor error (Open/Short) - (E291)

Outdoor unit display	E291
Judgment Method	• Detect according to temperature detected with the high pressure sensor.
Cause of problem	• Disconnection or breakdown of relevant sensor.

1. High Pressure sensor Open/Short error determination method

- 1) Identifies from when power is supplied or 2 minutes after RESET, and only when set is stopped.
- 2) An Open/Short error will occur if the input voltage standard range of 0.5V ~ 4.95V is exceeded.

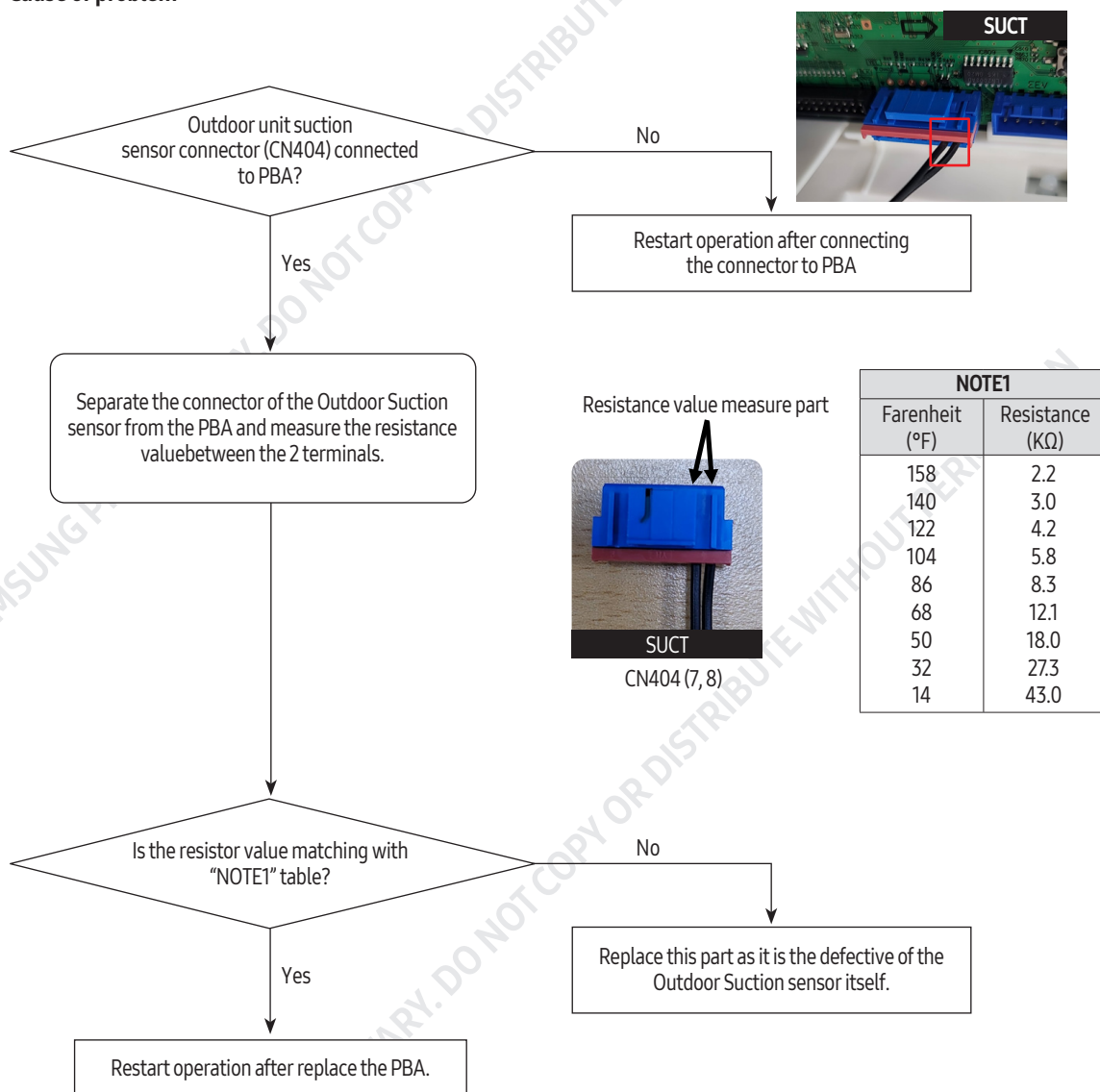
2. Cause of problem



4-3-5. Suction Temperature sensor error (Open/Short) - (E308)

Outdoor unit display	E308
Judgment Method	• Detect according to temperature detected with the suction #1 pipe temperature thermistor.
Cause of problem	• Disconnection or breakdown of relevant sensor. (More than 4.5V or 0.5V less than)

1. Cause of problem



4-3-6. Compressor down due to freezing control - (E403)

Outdoor unit display	E403
Judgment Method	• Check outdoor unit condenser.
Cause of problem	-

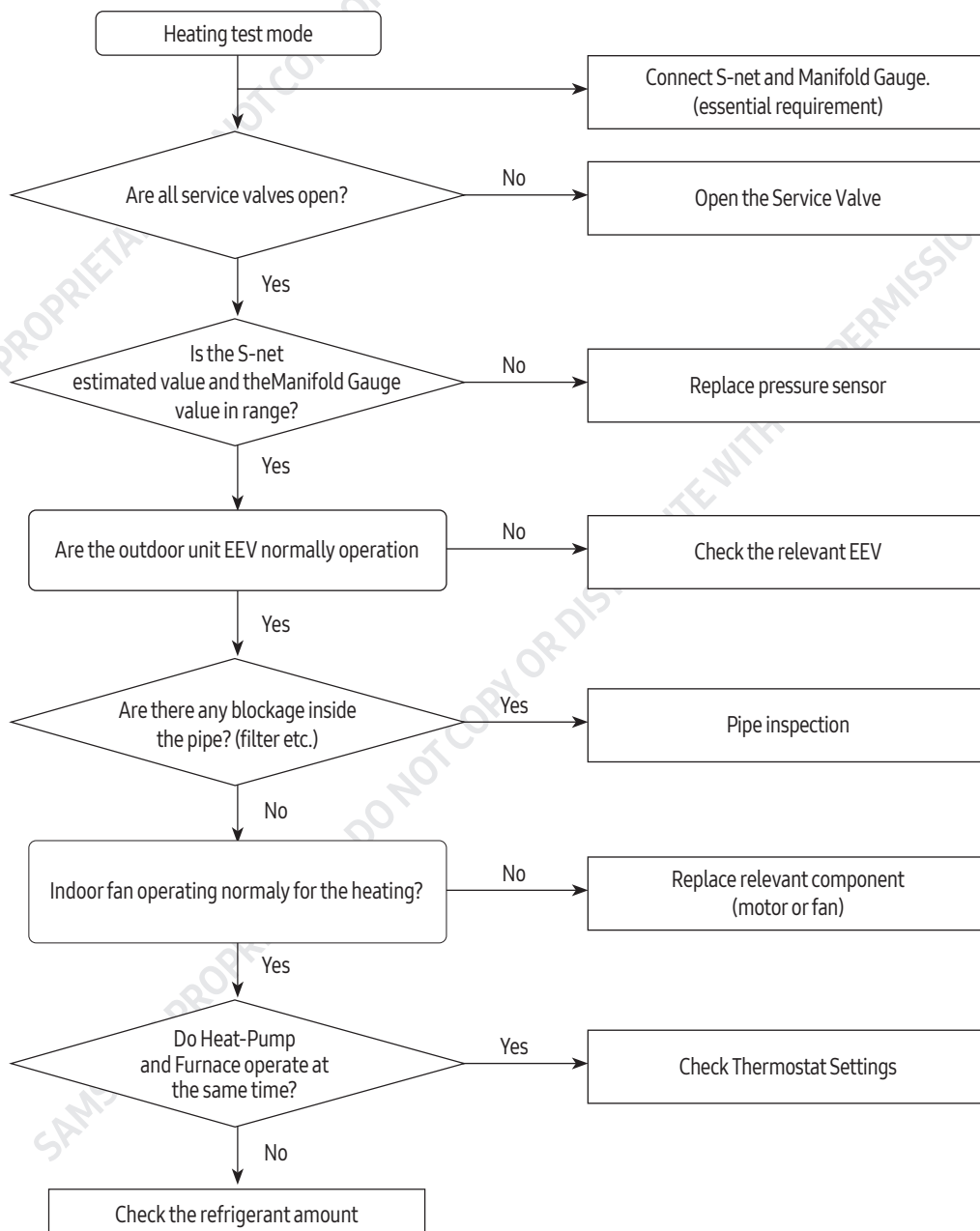
4-3-7. System stop due to overload protection control - (E404)

Outdoor unit display	E404
Judgment Method	• Check whether fan or motor operate normally. • Check the operation of EEV. • Check comp. when it starts.
Cause of problem	-

4-3-8. Comp. Down due to High Pressure Protection Control - (E407)

Outdoor unit display	E407 (Air Cooled)
Judgment Method	Value of the high pressure sensor is detected at 568.9 psi (40kg/ cm²) or more
Cause of problem	◀Heating Operation▶ - Service valve locked/Excessive refrigerant - Indoor Unit fan motor problem (constrained, defective) - Indoor heat exchanger is contaminated - Simultaneous operation of Heat-Pump and Furnace

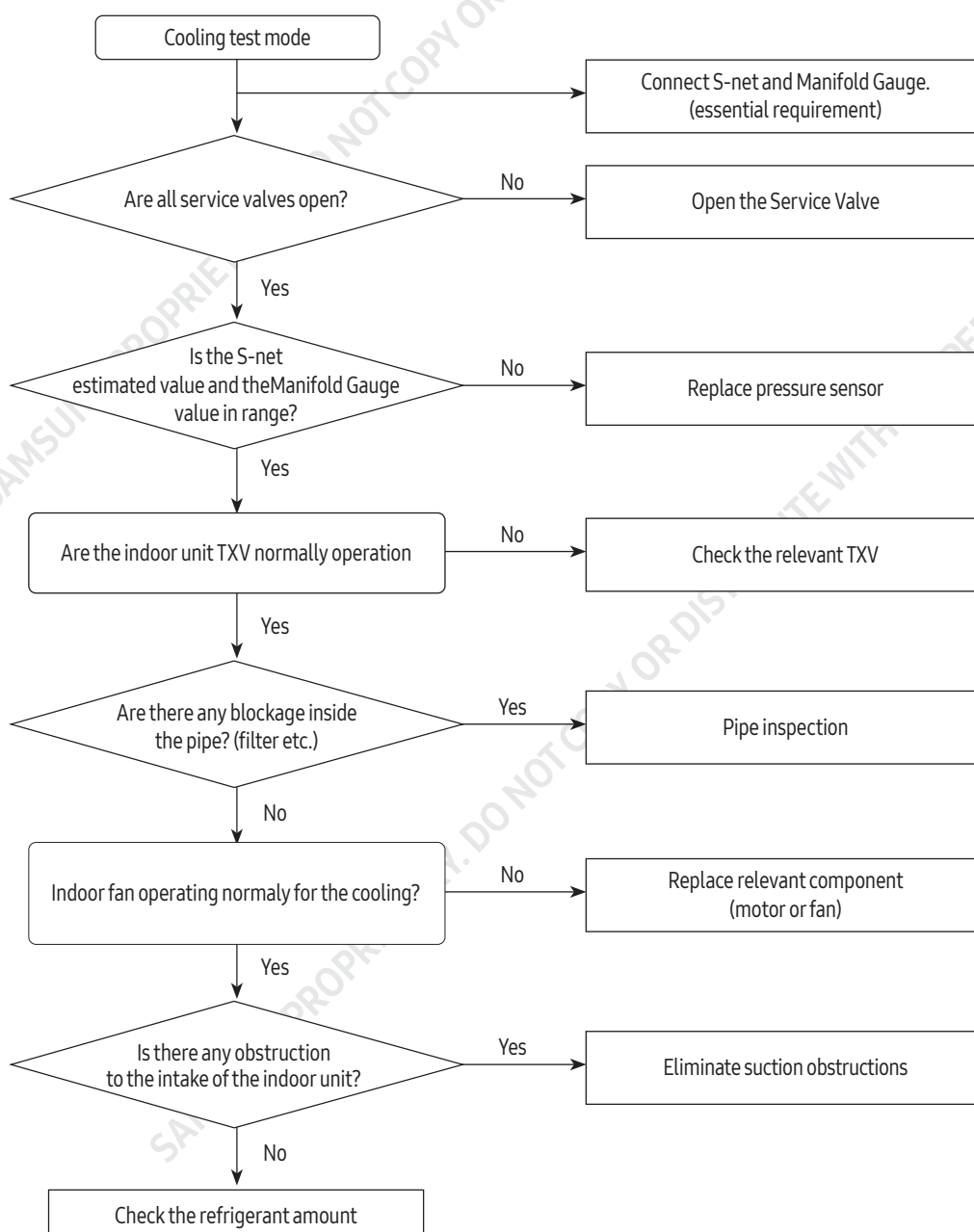
1. Cause of problem



4-3-9. Comp. down due to low pressure sensor protection (E410)

Outdoor unit display	E4 10 (Air Cooled)
Judgment Method	• Less than 14.2psi(1kg/cm²) for 3 minutes after 5 minutes after cooling mode compressor on • Less than 42.7psi(3kg/cm²) for 3 minutes after 10 minutes after cooling mode compressor on
Cause of problem	◀Cooling Operation▶ • Indoor unit fan motor problem (constrained, defective) • Indoor unit heat exchanger is contaminated • Service valve locked • Obstruction of indoor unit air intake

1. Cause of problem



4-3-10. Comp. down due to discharge temperature protection control - (E416)

Outdoor unit display	E4 16
Judgment Method	• Check for lack of refrigerant. • Check the blockage of the solenoid valve. • Check the malfunction of the exhaust temperature sensor. • Check the EEV.
Cause of problem	-

4-3-11. Heating operation restricted at outdoor temperature over Theat_high value (default: 86°F(30°C)) - (E440)

Outdoor unit display	<i>E440</i>
Judgment Method	Check the range of temperature limited for heating operation. Check the outdoor temperature sensor.
Cause of problem	-

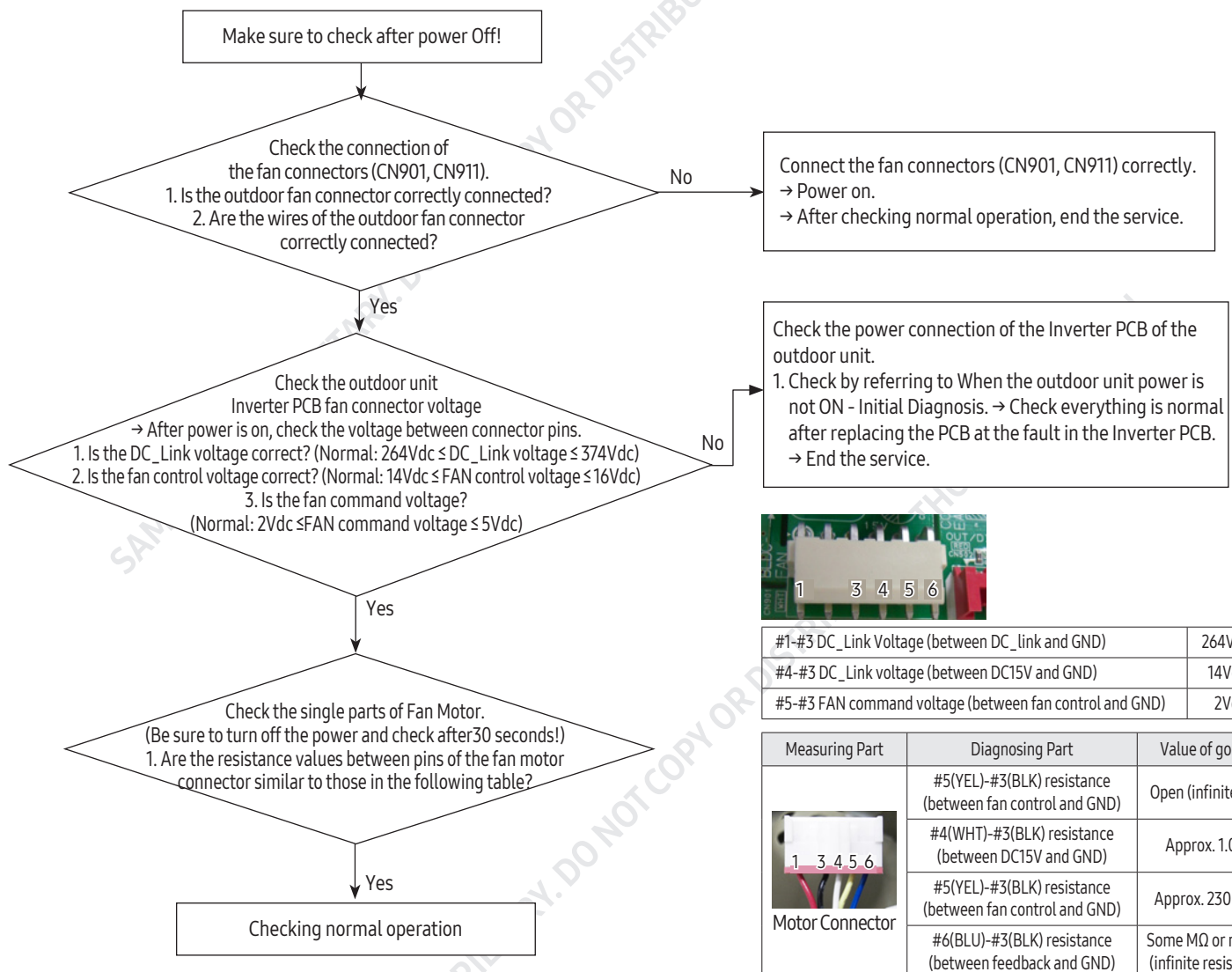
4-3-12. Cooling operation restricted at outdoor temperature over Tcool_low value (default: 32°F(0°C)) - (E441)

Outdoor unit display	<i>E441</i>
Judgment Method	Check the range of temperature limited for cooling operation. Check the outdoor temperature sensor.
Cause of problem	

4-3-13. Outdoor unit FAN error - (E458, E475)

Outdoor unit display	E458, E475
Judgment Method	Refer to checking method, as shown below.
Cause of problem	-

1. Cause of problem



※ At least 30 seconds after power is OFF, attach/detach the fan motor connector!

→ Threatened to cause secondary damage to the motor and the PCB.

※ Check the Inverter PCB or Fan Motor single parts and only if there is a fault, replace!

※ Do not replace the Main PCB of the outdoor unit relating to the fault in the Fan Motor!

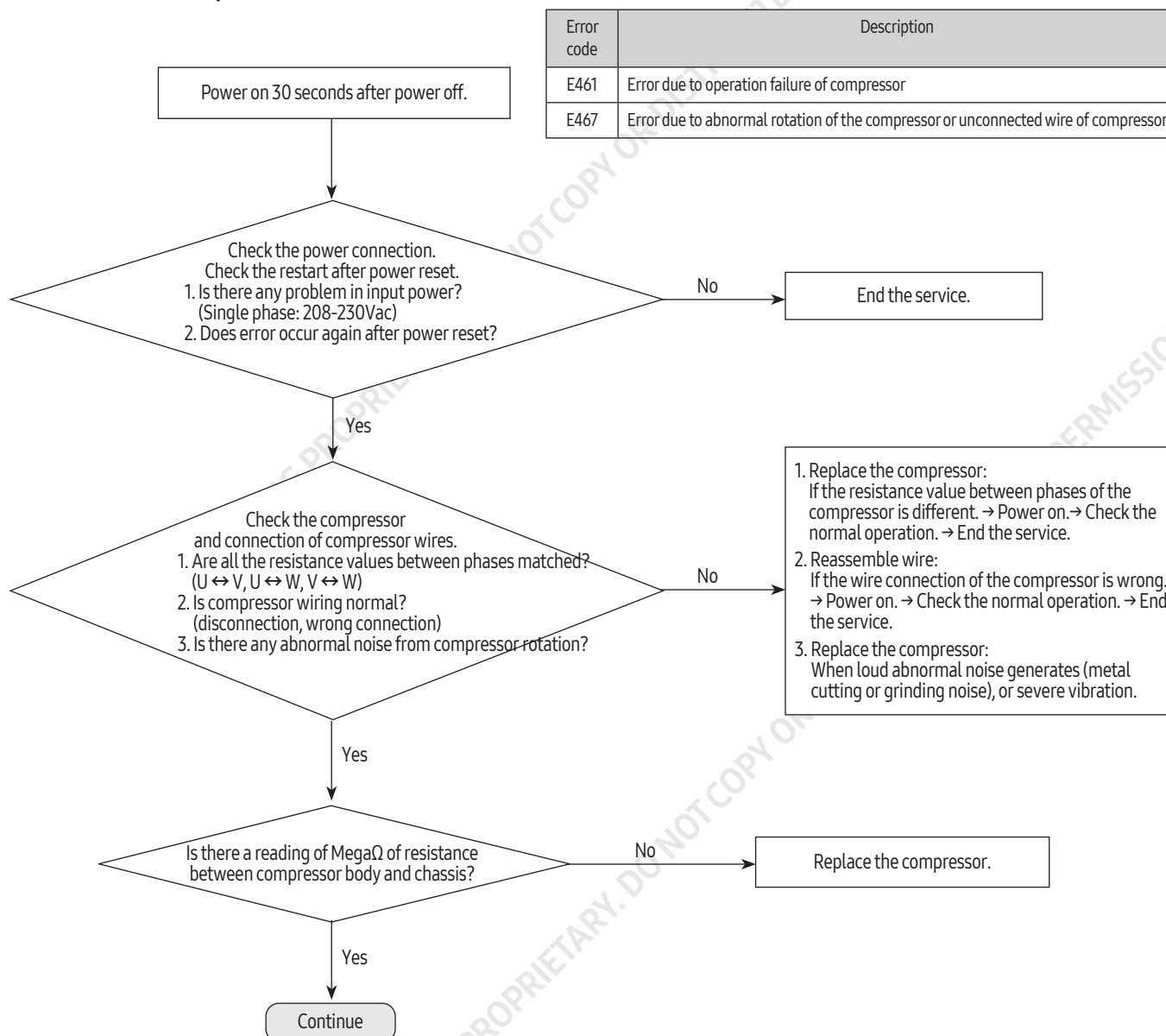
→ If the error is indicated on 7-segment of the Main PCB of the outdoor unit, the Main PCB of the outdoor unit has no fault.

→ In case of a control problem, it is possible to solve with S/W update.

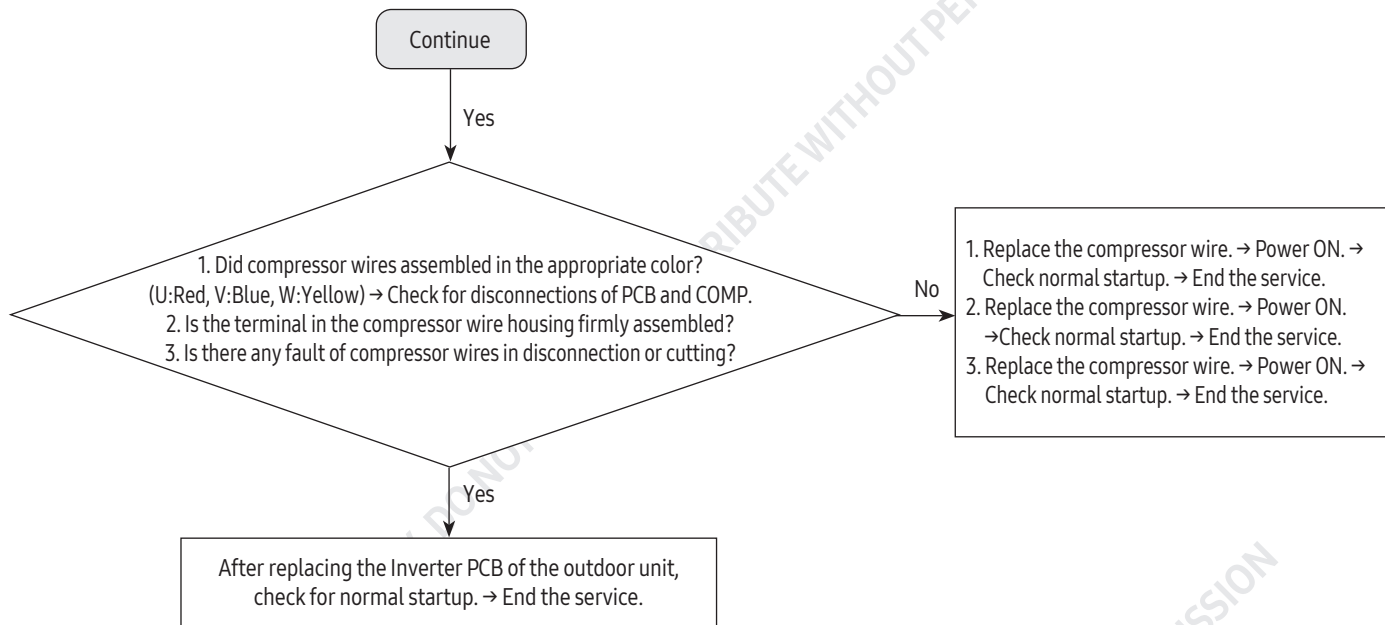
4-3-14. Compressor error - (E461, 467)

Outdoor unit display	E461, E467
Judgment Method	Refer to checking method, as shown below.
Cause of problem	-

1. Cause of problem



Compressor error - (E461, 467) (cont.)



※ E461, E467 Error-related, EMI/ outdoor unit Main/ Indoor unit Main PCB do not replace!

→ This error is related to the compressor and Inverter PCB. (Not related to the above PCB)

※ Ensure that the service valve is open!

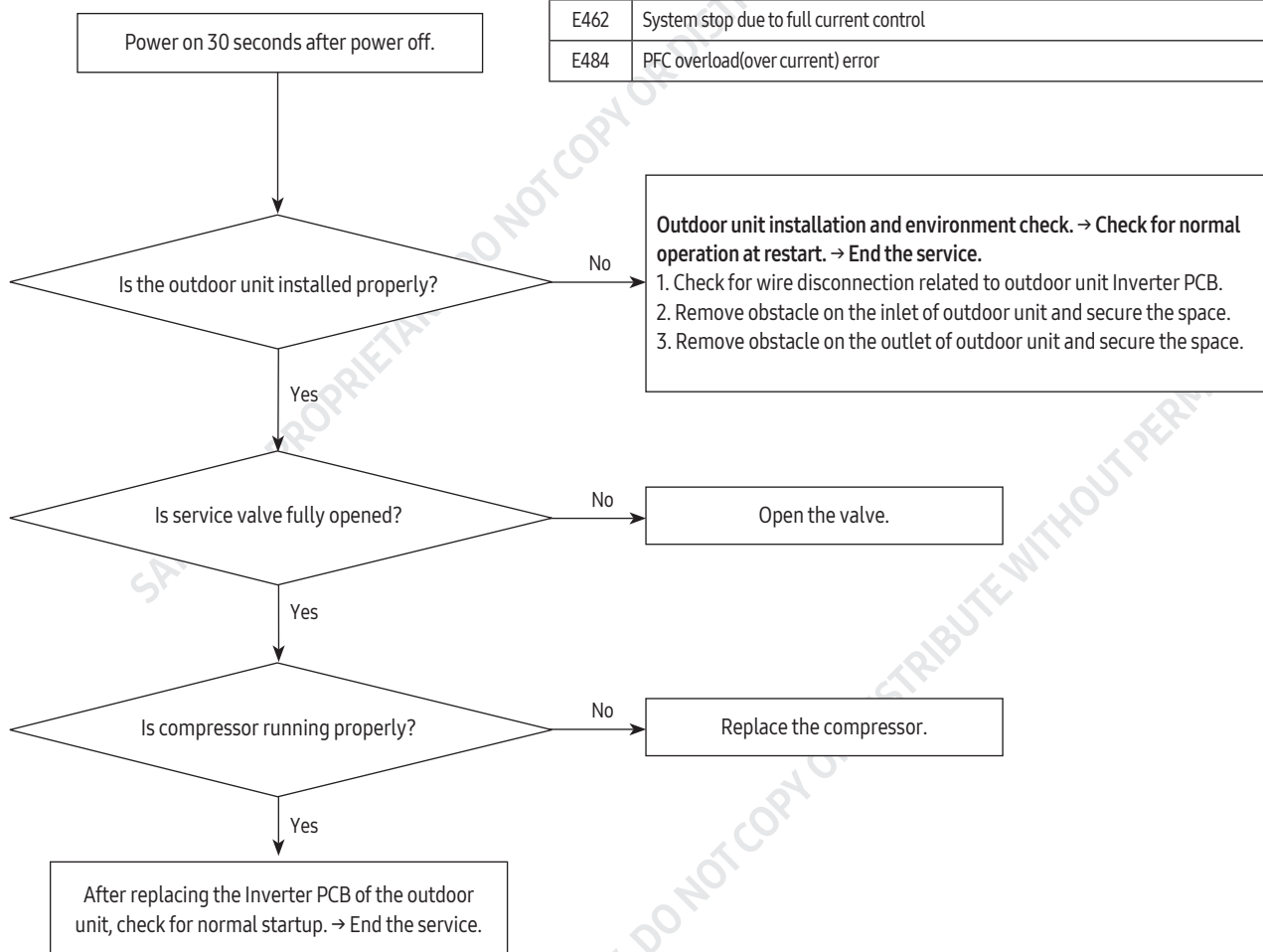
→ When the service valve is closed, the defects may be caused by differential pressure when starting the compressor.

4-3-15. Current error - (E462, 484)

Outdoor unit display	E462, E484
Judgment Method	Refer to checking method, as shown below.
Cause of problem	-

1. Cause of problem

Error code	Description
E462	System stop due to full current control
E484	PFC overload(over current) error



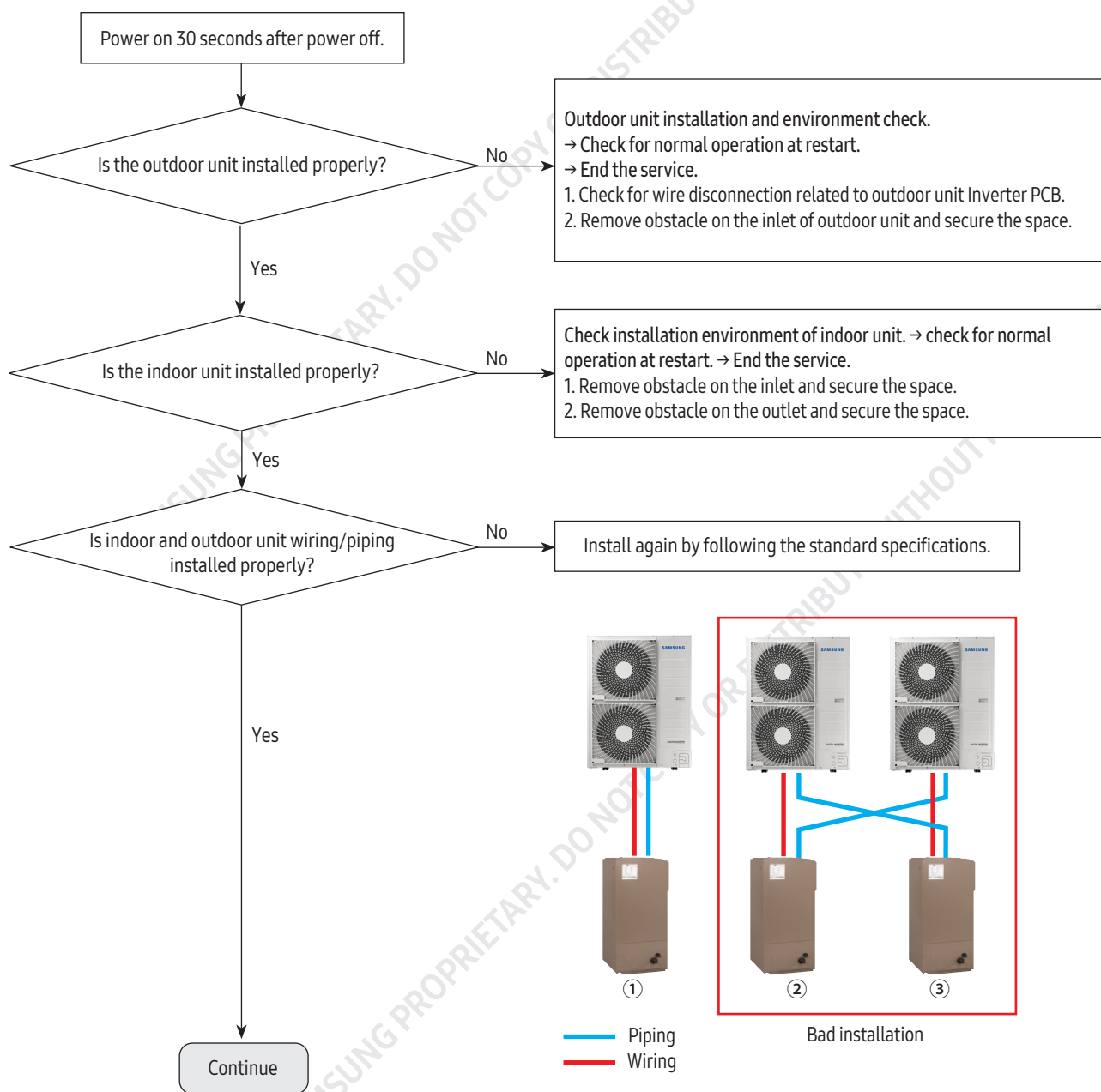
4-3-16. Over Load Protection Error (E463)

Outdoor unit display	E463
Judgment Method	Check the OLP sensor.
Cause of problem	-

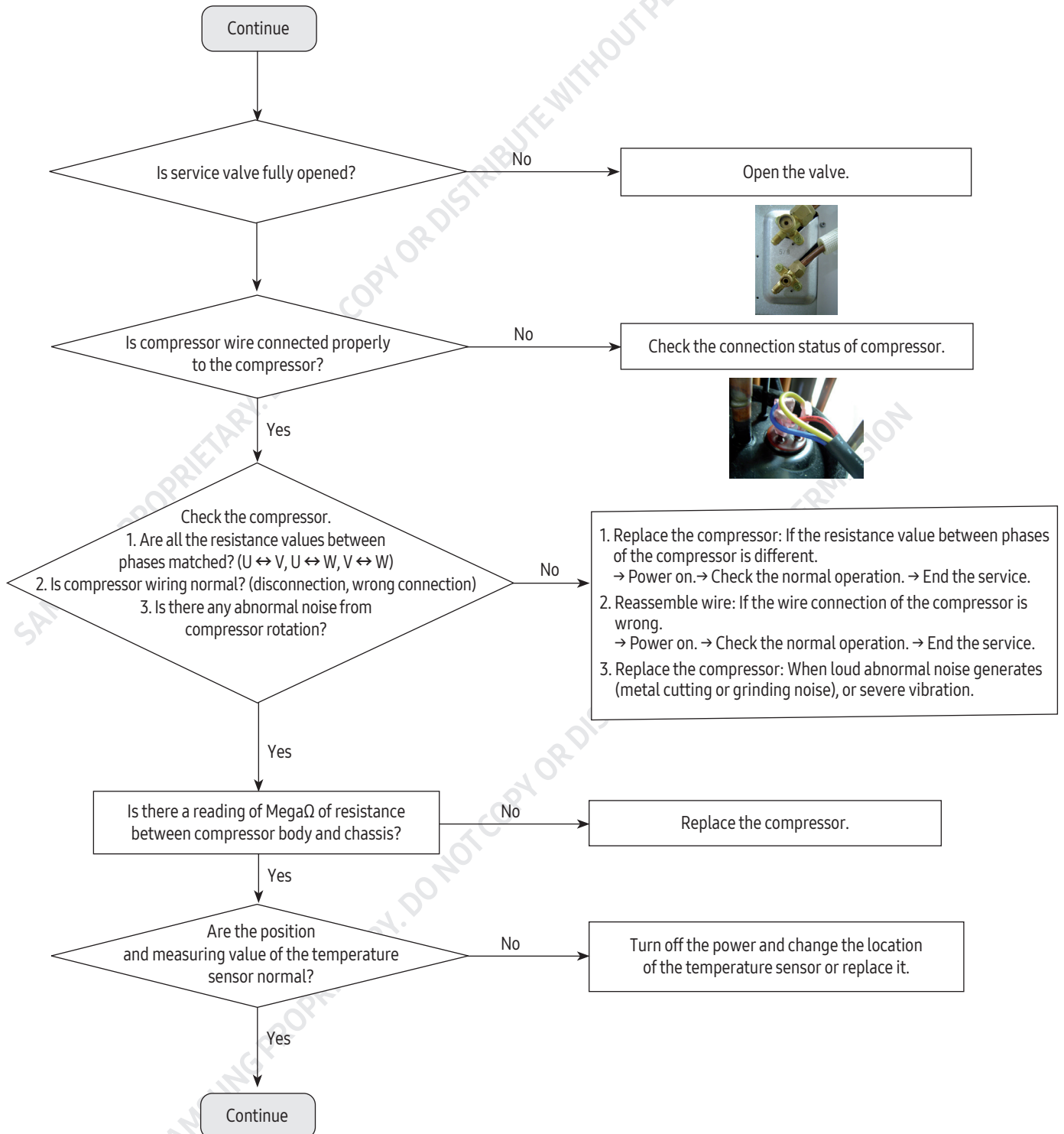
4-3-17. IPM (Over Current) error - (E464)

Outdoor unit display	E464
Judgment Method	Refer to checking method, as shown below.
Cause of problem	

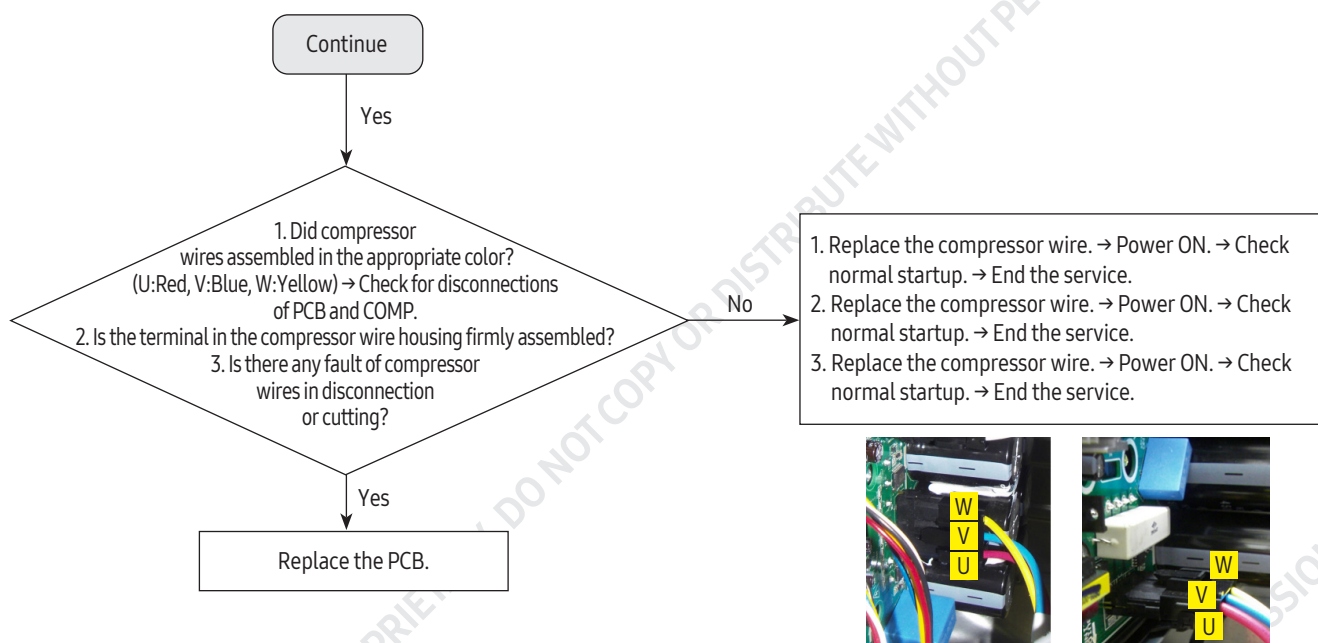
1. Cause of problem



IPM (Over Current) error - (E464) (cont.)

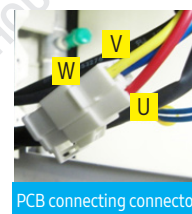
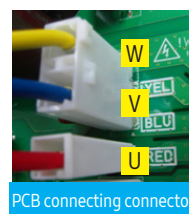


IPM (Over Current) error - (E464) (cont.)



※ Do not replace EMI and Main PCB of outdoor unit.
→ E464 is related to Inverter PCB.

※ Ensure that the service valve is open!
→ When the service valve is closed, the defects may be caused by differential pressure when starting the compressor.



4-3-18. Compressor over load error- (E465)

Outdoor unit display	E465
Judgment Method	If the compressor is abnormally run, replace the compressor and then ensure that it works normally. → If the compressor is normally run, check the assembling between the heat sink plate and the Inverter PCB and then If there is no abnormality, replace the Inverter PCB.
Cause of problem	-

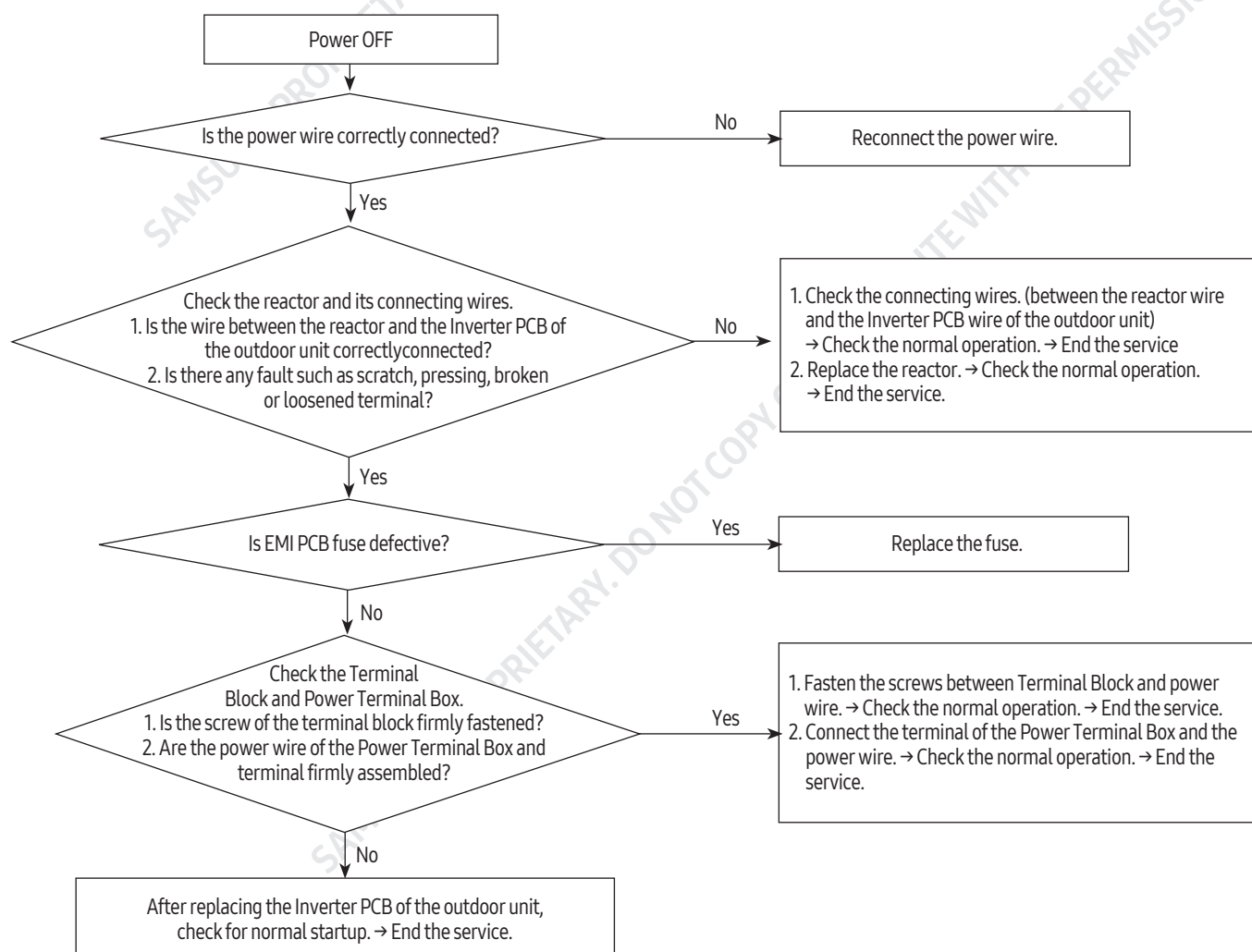
4-3-19. DC Link voltage under/over error - (E466) Overvoltage of H/W detect DC Link error - (E483) AC Input voltage sensor error - (E488)

Outdoor unit display	E466, E483, E488
Judgment Method	Refer to checking method, as shown below.
Cause of problem	

1. Test items

- 1) Check the power connection./ Check the restart after power reset.
→ Is there a fault in input power? (Single phase: 208-230Vac)
→ Does error occur again at operation after power is reset?
- 2) Check the connection of the power, and check whether the jointed power connection exists.
→ After having installed several units, please check that communication wires are not interchanged with piping.
- 3) Check the reactor and its connecting wires.
- 4) Check the fuses of EMI PBA.
- 5) Check the Terminal Block and Power Terminal Box and the wire assembly.

2. Check procedure



4-3-20. Current sensor error - (E468)

Outdoor unit display	E468
Judgment Method	Check power connection. Check Inverter PCB.
Cause of problem	-

4-3-21. DC Link voltage sensor error (Short/Open) - (E469)

Outdoor unit display	E469
Judgment Method	Check the value of DC Link. Check the reactor disconnection.
Cause of problem	DC Link is not normal (DC Link voltage: 264~374V)

4-3-22. Outdoor unit EEPROM Read/Write error (Option) - (E470) Outdoor unit EEPROM Read/Write error (H/W) - (E471)

Outdoor unit display	E470, E471
Judgment Method	• Check EEPROM data • Upload EEPROM data corresponding model name to Main PCB.
Cause of problem	No or incorrect EEPROM data in the set.

4-3-23. IPM(IGBT Module) heat sink error - (E474) IPM overheat error - (E500)

Outdoor unit display	<i>E474, E500</i>
Judgment Method	• Check if IPM is correctly assembled on the heat sink • Check if the inlet is blocked. • Replace the IPM.
Cause of problem	-

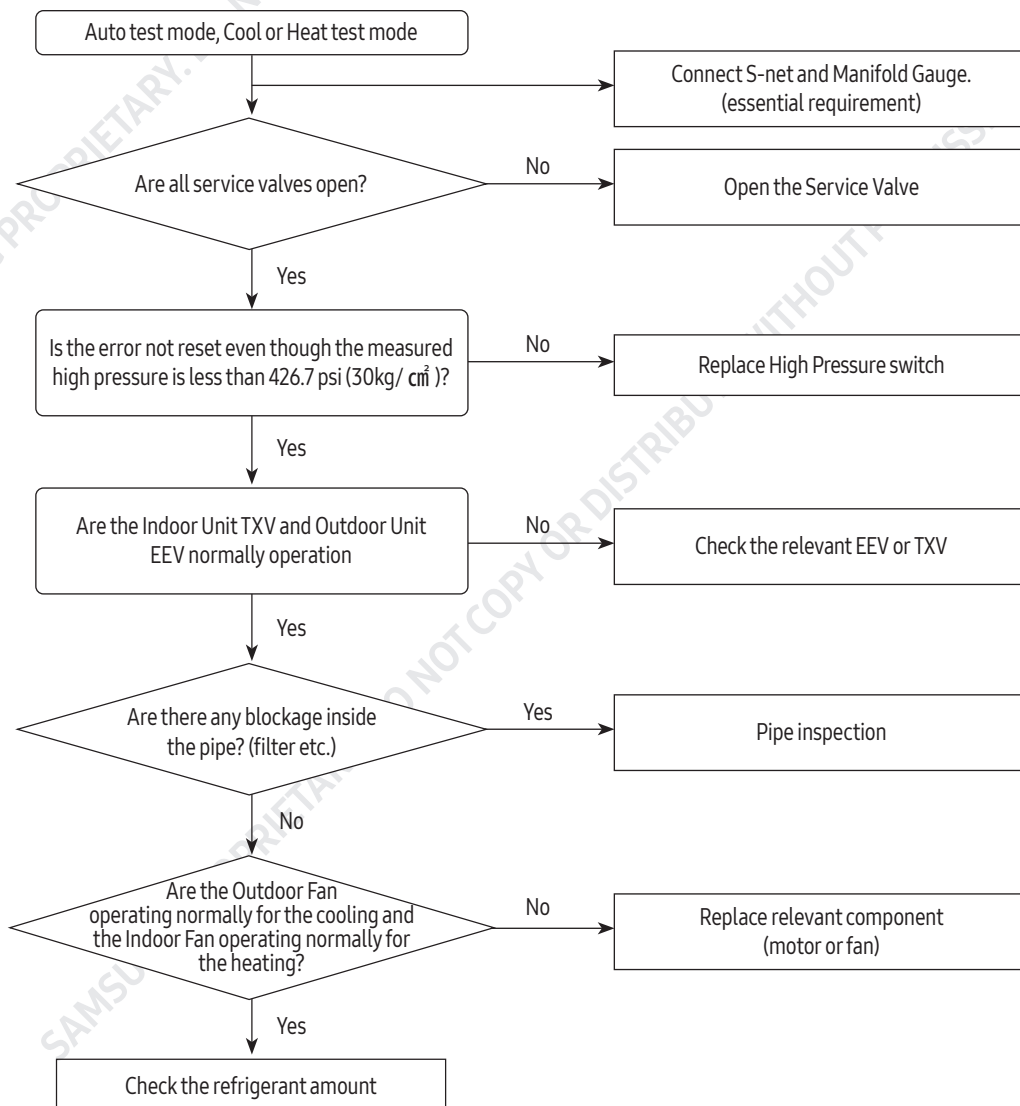
4-3-24. Input current sensor error (Short/Open) - (E485)

Outdoor unit display	<i>E485</i>
Judgment Method	• Check the input sensor while the set is in stop status. • If error occurs, turn on/off the power several times. The same error occurs while the power is off, replace the inverter PCB.
Cause of problem	-

4-3-25. Error due to high pressure switch open or compressor down by high pressure - (E507)

Outdoor unit display	E507 (Air Cooled)
Judgment Method	Value of the high pressure switch is detected at 597.4 psi (42kg/ cm^2) or more
Cause of problem	◀Cooling Operation▶ - Service valve locked/Excessive refrigerant - Outdoor Unit fan motor problem (constrained, defective) - Outdoor heat exchanger is contaminated ◀Heating Operation▶ - Service valve locked/Excessive refrigerant - Indoor Unit fan motor problem (constrained, defective) - Indoor heat exchanger is contaminated - Simultaneous operation of Heat-Pump and Furnace

1. Cause of problem



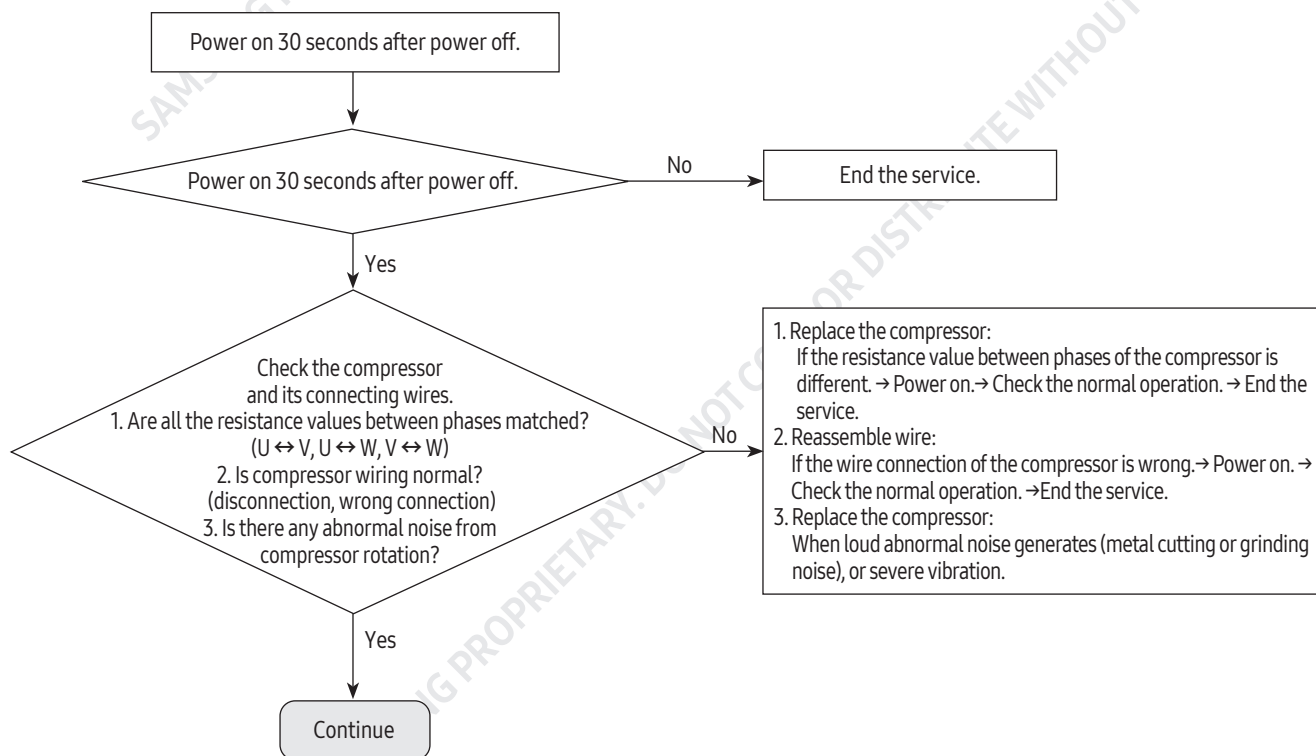
4-3-26. Gas leakage error - (E554)

Outdoor unit display	E554
Judgment Method	• Check if the service valve is open • Check if there's any blockage on the refrigerant pipe. • Check the EEV connection and operation • Check if connecting wire and the pipe are okay. • Check the compressor
Cause of problem	-

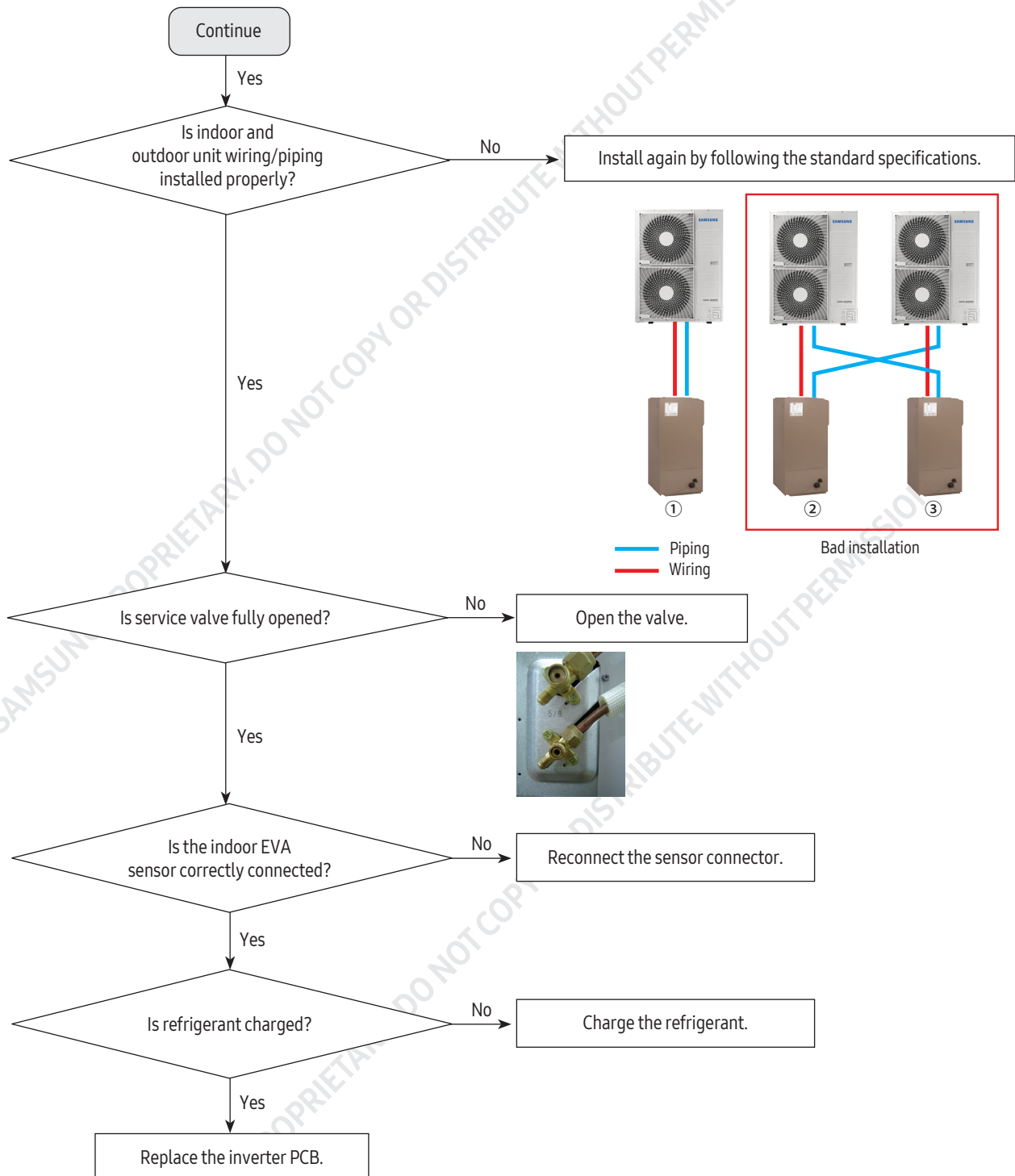
1. Test items

- 1) Check the power connection./ Check the restart after power reset.
 → Is there a fault in input power? (Single phase: 208-230Vac)
 → Does error occur again at operation after power is reset?
- 2) Check the compressor and the state of compressor wire assembling.
- 3) Check the outdoor unit installation environment.
 → Check for disconnection of the wires regarding the Inverter PCB of the outdoor unit and check the installation environment.
 → At the site where several units were installed at the same time, check whether communication wire and pipes have been wrongly connected!

2. Check procedure



Gas leakage error (Error Code: E554) (Cont.)

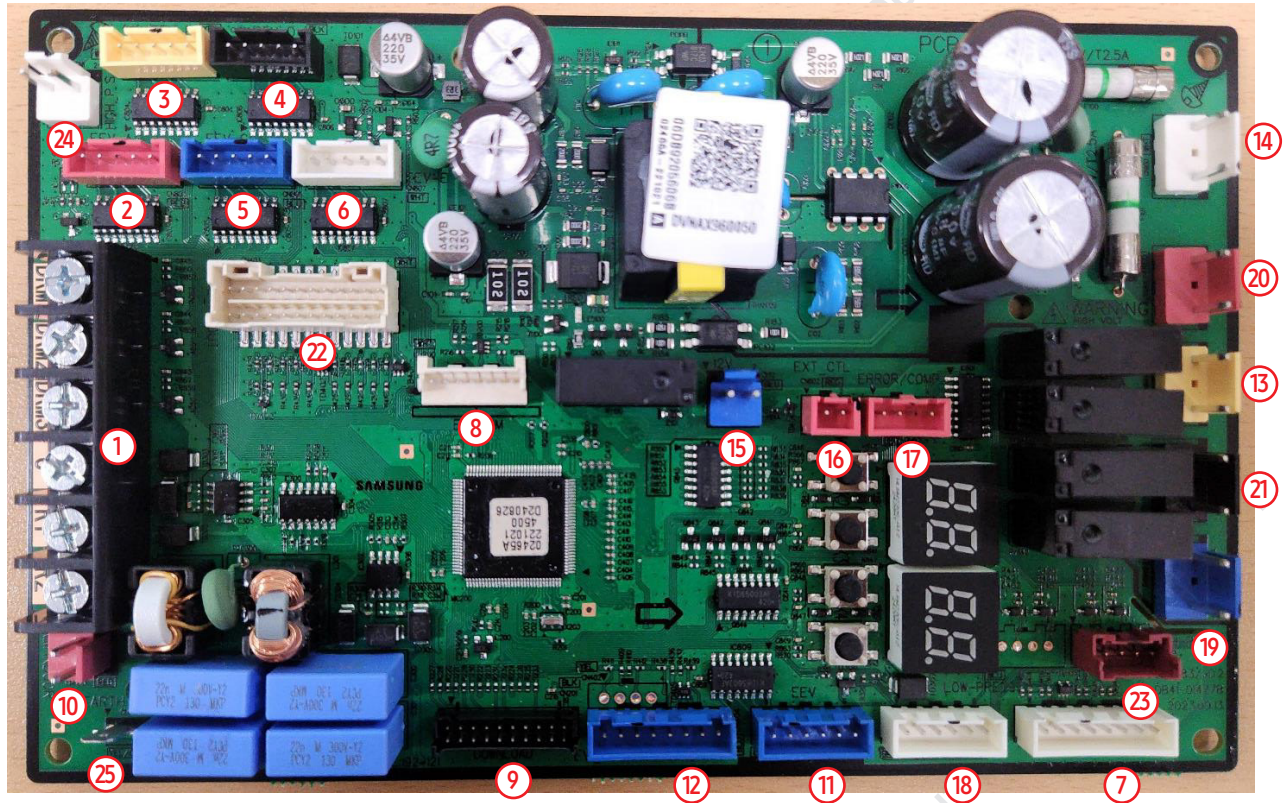


4-3-27. Blockage detected on high pressure pipe during heating operation - (E534)

Outdoor unit display	E534
Judgment Method	• Check if the service valve is open • Check if there's any blockage on the refrigerant pipe. • Check the EEV connection and operation • Check if connecting wire and the pipe are okay. • Check the compressor • Check the troubleshooting of E464, E465 as well.
Cause of problem	- Condition: A and (B or C) A: Within 10 mins after operating outdoor unit compressor for heating B: E464 occurs C: E465 occurs

5. PCB Diagram and Parts List

5-1. Outdoor Unit Main PBA

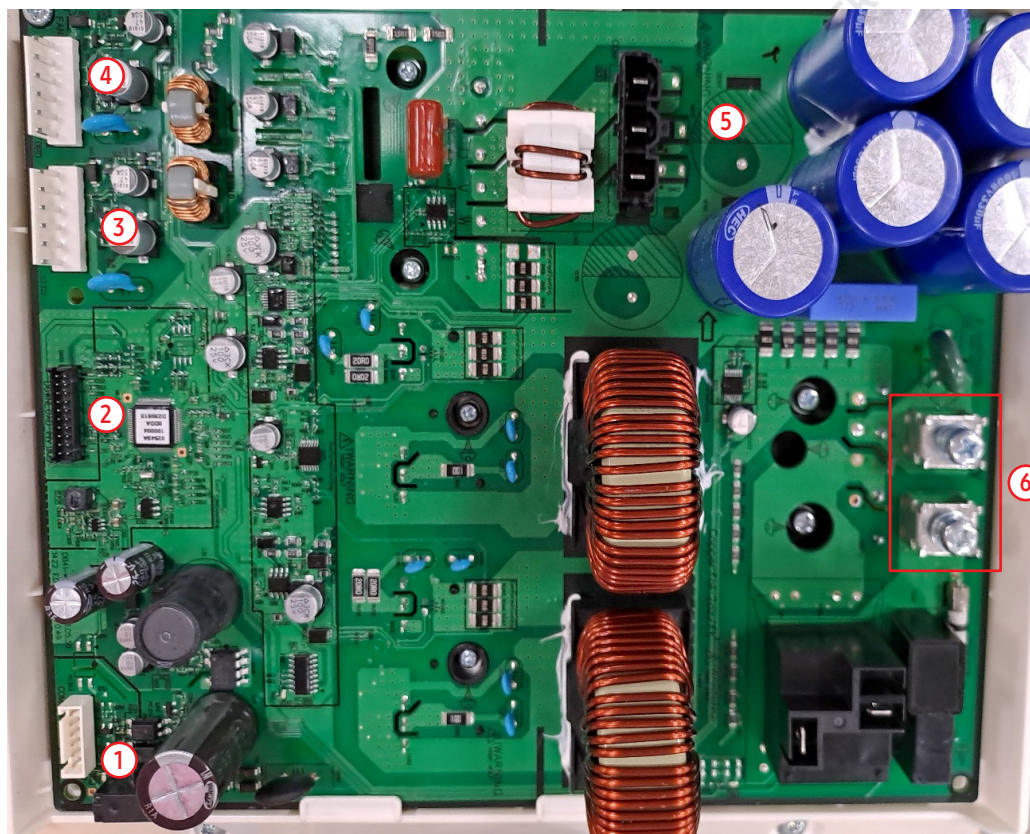


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① CN303 - DRED & UPPER CTRL #1: DRED SIGNAL (DRM1) #2: DRED SIGNAL (DRM2) #3: DRED SIGNAL (DRM3) #4: GND #5: R1 #6: R2	② CN803 - EEV A #1: EEV A SIGNAL #2: EEV A SIGNAL #3: EEV A SIGNAL #4: EEV A SIGNAL #5: GND	③ CN804 - EEV B #1: EEV B SIGNAL #2: EEV B SIGNAL #3: EEV B SIGNAL #4: EEV B SIGNAL #5: GND	④ CN806 - EEV D #1: EEV D SIGNAL #2: EEV D SIGNAL #3: EEV D SIGNAL #4: EEV D SIGNAL #5: GND
⑤ CN805 - MAIN EEV #1: EEV D SIGNAL #2: EEV D SIGNAL #3: EEV D SIGNAL #4: EEV D SIGNAL #5: GND	⑥ CN807 - EEV E #1: EEV A SIGNAL #2: EEV A SIGNAL #3: EEV A SIGNAL #4: EEV A SIGNAL #5: GND	⑦ CN401 - TEMPERATURE SENSOR #1: OUTDOOR TEMPERATURE SENSOR #3: DISCHARGE TEMPERATURE SENSOR #5: CONDENSOR TEMPERATURE SENSOR #7: OLP TEMPERATURE SENSOR #2,4,6,8: GND	⑧ CN200 - EEPROM #1: GND #2: - #3: 5V #4: EEPROM SIGNAL #5: EEPROM SIGNAL #6: EEPROM SIGNAL #7: EEPROM SIGNAL
⑨ CN306 - DOWNLOAD #1~20: DOWNLOAD SIGNAL	⑩ CN303 - ODU ↔ IDU COMMUNICAION #1: F1 #2: F2	⑪ CN809 - MAIN EEV (EDM) #1: EEV A SIGNAL #2: EEV A SIGNAL #3: EEV A SIGNAL #4: EEV A SIGNAL #5: GND	⑫ CN404 - TEMPERATURE SENSOR #1: ESC IN TEMPERATURE SENSOR #3: ESC OUT TEMPERATURE SENSOR #5: LIQUID TEMPERATURE SENSOR #7: SUCTION TEMPERATURE SENSOR #2,4,6,8: GND
⑬ CN844 - 4WAY VALVE #1: L - RELAY CONTACT OUTPUT #2: - #3: N - NEUTRAL POWER OUTPUT	⑭ CN101 - AC POWER INPUT #1: L - LIVE POWER INPUT #2: - #3: N - NEUTRAL POWER INPUT	⑮ CN12 - DC12V #1: 12V #2: GND	⑯ CN800 - EXTERNAL CONTROL #1: GND #2: EXTERNAL CONTROL INPUT SIGNAL
⑰ CN801 - ERROR CHECK/COMP CHECK #1: DC 12V #2: ERROR CHECK #3: DC 12V #4: COMP CHECK	⑱ CN302 - MAIN ↔ INV COMMUNICAION #1: TXD #2: RXD #3: GND #4: DC 5V #5: DC 12V #6: INV POWER CTRL	⑲ CN845 - BASE HEATER #1: L - RELAY CONTACT OUTPUT #2: - #3: N - NEUTRAL POWER OUTPUT	⑳ CN847 - AC-LOAD #2: - #3: N - NEUTRAL POWER OUTPUT
㉑ CN846 - EVI V/V #1: L - LIVE POWER INPUT #2: - #3: N - NEUTRAL POWER INPUT	㉒ CN401 - PIPE TEMPERTURE SENSOR #1~10: PIPE IN TEMPERATURE SENSOR #13~22: PIPE OUT TEMPERATURE SENSOR	㉓ CN405 - HIGH PRESSURE SENSOR #1: HIGH PRESSURE SENSING #3: GND #4: 5V	㉔ CN1 - HIGH PRESSURE SWITCH #1: HIGH PRESSURE SENSING #2: GND
㉕ CN301 - EARTH #1: EARTH			

5-2. Outdoor Unit Inverter PBA

■ PF4: AC024/036FCUDCG, AC024FCUPCG



① CN351-COMM (MAIN-INV) #1: RXD #2: TXD #3: GND #4: DC 5V #5: DC 12V #6: POWER_SAVE	② CN551-DOWNLOAD INV	③ CN911-FAN2 #1: P_DC #3: GND #4: DC15V #5: PWM_FAN2 #6: FEEDBACK_FAN2	④ CN901-FAN1 #1: P_DC #3: GND #4: DC15V #5: PWM_FAN1 #6: FEEDBACK_FAN1
⑤ CN404-COMP #1: COMP-U PHASE #2: COMP-V PHASE #3: COMP-W PHASE	⑥ L, N- AC POWER INPUT #1: L - LIVE POWER INPUT/ BRN #2: N - NEUTRAL POWER INPUT/ SKY		

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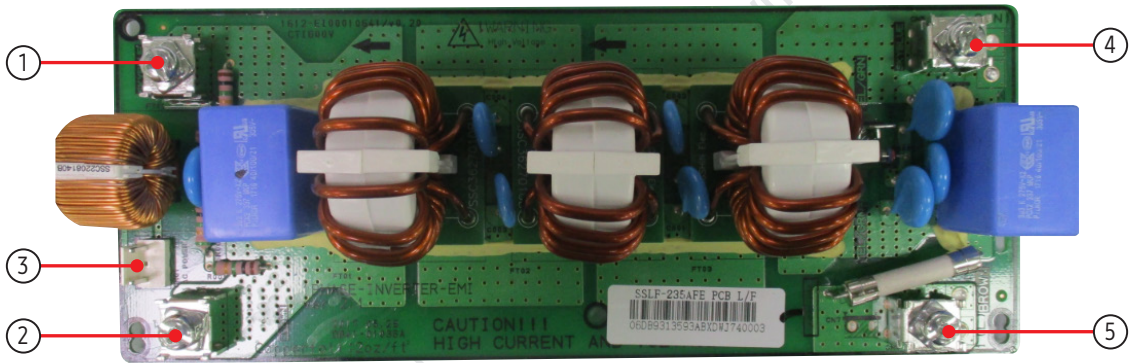
■ PF5: AC036FCUPCG, AC048/060FCU*CG



① CN351-COMM (MAIN-INV) #1: RXD #2: TXD #3: GND #4: DC 5V #5: DC 12V #6: POWER_SAVE	② CN551-DOWNLOAD INV	③ CN911-FAN2 #1: P_DC #3: GND #4: DC15V #5: PWM_FAN2 #6: FEEDBACK_FAN2	④ CN901-FAN1 #1: P_DC #3: GND #4: DC15V #5: PWM_FAN1 #6: FEEDBACK_FAN1
⑤ CN404-COMP #1: COMP-U PHASE #2: COMP-V PHASE #3: COMP-W PHASE	⑥ L, N- AC POWER INPUT #1: L - LIVE POWER INPUT/ BRN #2: N - NEUTRAL POWER INPUT/ SKY		

5-3. Outdoor Unit EMI PBA

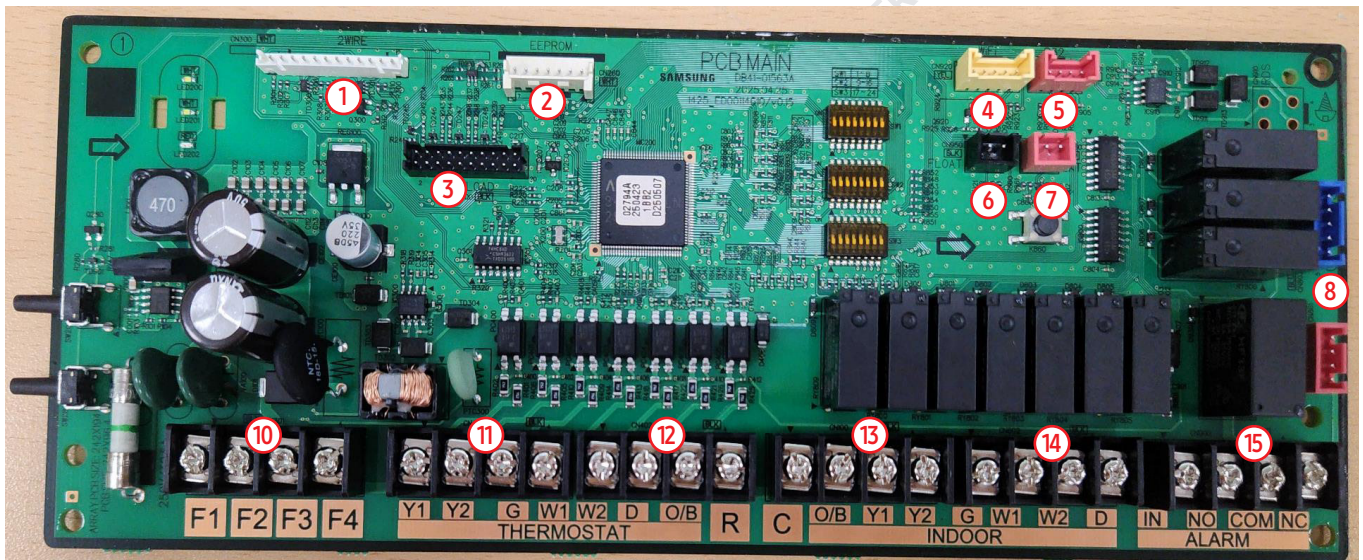
■ AC***FCU*CG



① N1: AC POWER (N) #1: AC POWER (N)	② L1: AC POWER (L) #1: AC POWER (L)	③ CN01: POWER #1: AC POWER (L) #3: AC POWER (N)	④ CN5: AC POWER (N) #1: AC POWER (N)
⑤ CN4: AC POWER (L) #1: AC POWER (L)			

5-4. AHU Control Unit PBA

■ MXD-U001XN



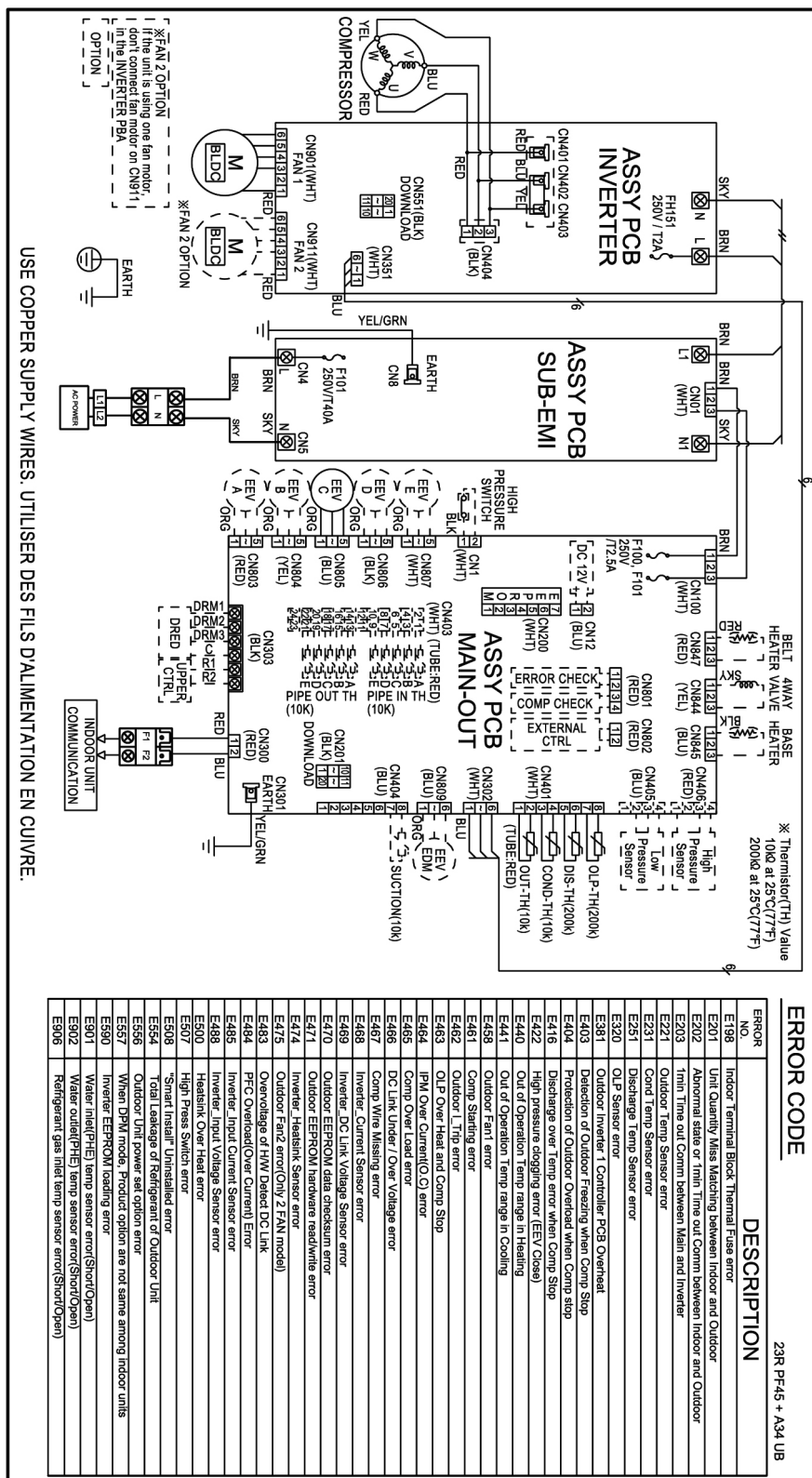
① CN300 - SUB PBA #1: DC 12V #2: PCTRL_MICOM #3: VCHECK_A #4: VCHECK_B #5: MICOM_AD #6: VCC_PS_OUT #7: ENABLE #8: C #9: D #10: Tx #11: Rx #12: GND	② CN260 - EEPROM #1: GND #2: - #3: DC 12V #4: EEPROM SIGNAL #5: EEPROM SIGNAL #6: EEPROM SIGNAL #7: EEPROM SIGNAL	③ CN200 - DOWNLOAD #1~20: DOWNLOAD SIGNAL	④ CN920 - WiFi #1: EEV D SIGNAL #2: EEV D SIGNAL #3: EEV D SIGNAL #4: EEV D SIGNAL #5: GND
⑤ CN901 - SENSOR #1: GND #2: R32_LIFE_SIGNAL #3: R32_ALARM_SIGNAL #4: DC 5V	⑥ CN950 - FLOAT SWITCH #1: FLOAT_SW #2: GND	⑦ CN860 - EXT CTRL #1: GND #2: EXT_CTRL	⑧ CN803 - FAN SPEED CONTROL #1: G3 (INDOOR FAN 3STEP) #2: - #3: G2 (INDOOR FAN 2STEP) #4: -
⑨ CN861 - ERROR CHECK/COMP CHECK #1: DC 12V #2: ERROR_CHK_OUT #3: DC 12V #4: COMP_CHK_OUT	⑩ CN301 - ODU ↔ IDU COMMUNICAITON #1: F1 #2: F2 #3: F3 #4: F4	⑪ CN400 - THERMOSTAT #1: Y1 (COMP STAGE1) #2: Y2 (COMP STAGE2) #3: G (FAN) #4: W1 (AUX HEATER STAGE 1)	⑫ CN402 - THERMOSTAT #1: W2 (AUX HEATER STAGE 2) #2: (De) HUMIDIFIER #3: O/B (4WAY VALVE) #4: R (AC POWER)
⑬ CN100 - AHU / INDOOR #1: C (AC POWER) #2: O/B (4WAY VALVE) #3: Y1 (COMP STAGE1) #4: Y2 (COMP STAGE 2)	⑭ CN802 - AHU / INDOOR #1: G (FAN) #2: W1 (AUX HEATER STAGE 1) #3: W2 (AUX HEATER STAGE 2) #4: (De) HUMIDIFIER	⑮ CN900 - ALARM #1: RDS ALM IN #2: RDS ALM ONT (NORMAL OPEN) #3: COMP_CHK_OUT #4: RDS ALM ONT (NORMAL CLOSE)	

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6. Wiring Diagram

6-1. Outdoor Unit

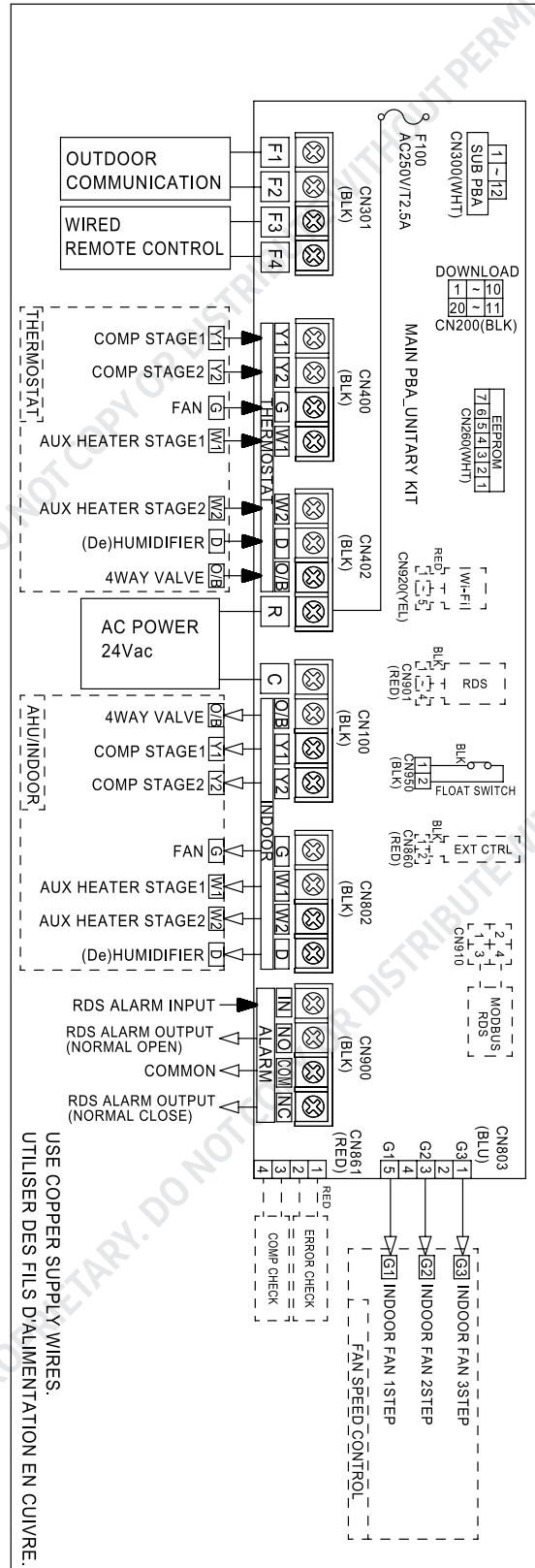
■ AC***FCU*CG



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6-2. AHU Control Unit

■ MXD-U001XN

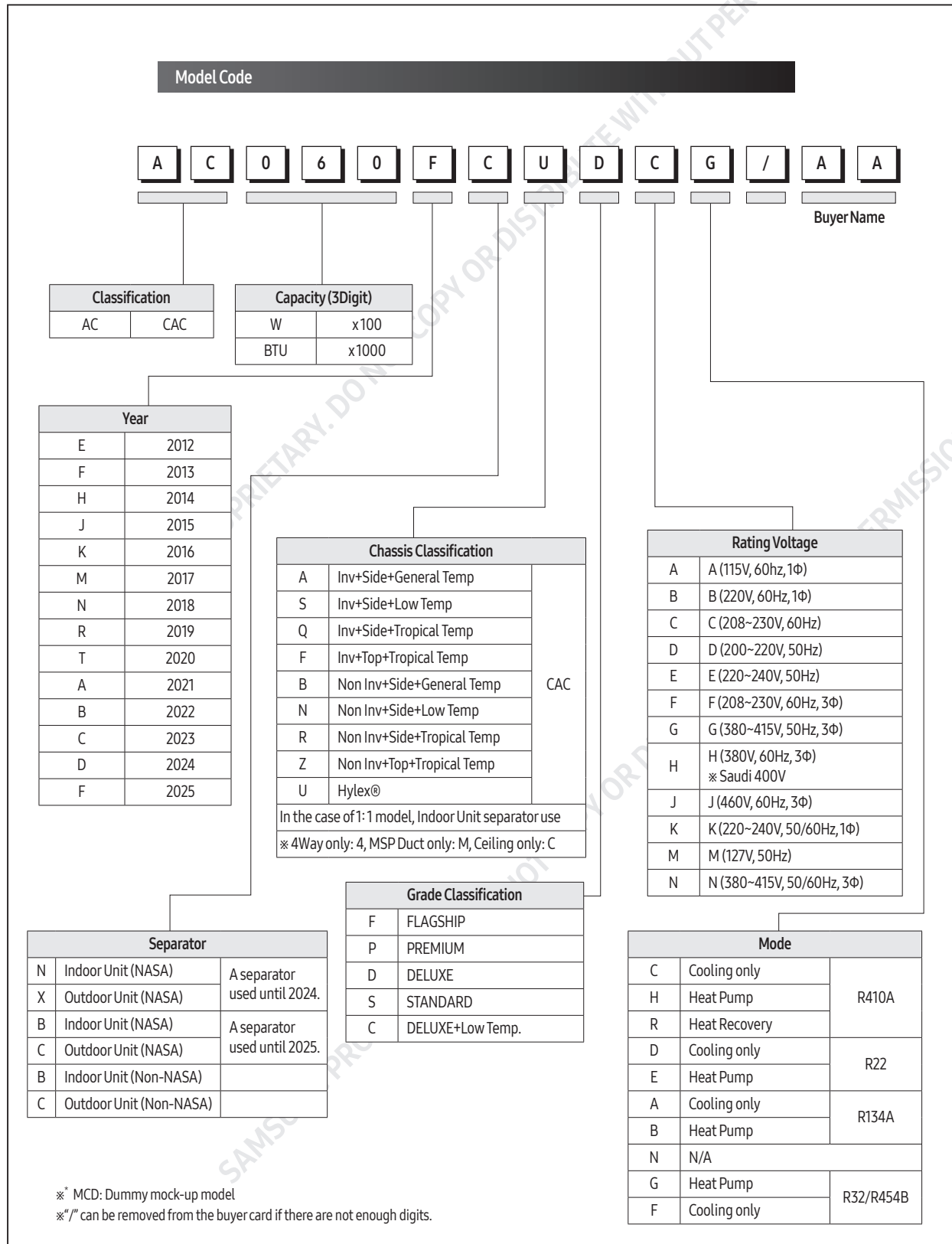


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7. Reference Sheet

7-1. Index for Model Name

7-1-1. Outdoor Unit



Index for Model Name (cont.)

7-1-2. Outdoor Unit

Model Code - Simple US Code

(1)	(2)	(3)	(4)	(5)	(6)	(7)
C	C	G	60	U	D	F

(1) classification	
C	CAC

(5) Product notation		
A	Inv + Side + General Temp.	CAC
S	Inv + Side + Low Temp.	
U	Hylex®	

(6) Feature	
F	Flagship
S	Standard
D	Deluxe
P	Premium

(2) Product Type		
X	Outdoor Unit	A separator used until 2024
C	Outdoor Unit	A separator used after 2025

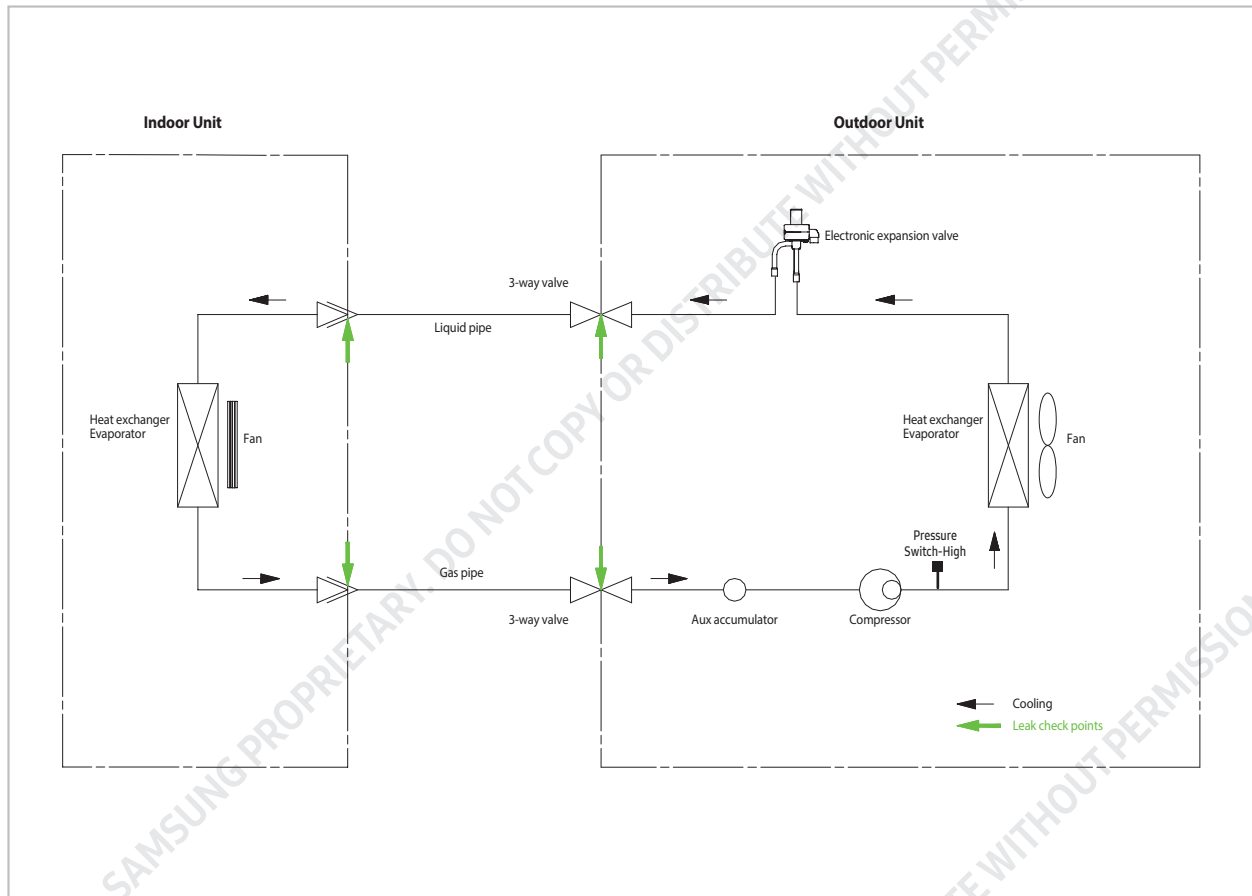
(3) Mode		
H	Heat Pump	R410A
G	Heat Pump	R32/ R454B

(4) Capacity	
	x1,000 BTU/H

(7) Version	
R	2019
T	2020
A	2021
B	2022
C	2023
D	2024
F	2025

※ Model name for the column/bundle packaging is “~S”.

7-2. Refrigerating Cycle Diagram



■ CONDENSER

High temperature and high pressure gas state refrigerant discharged from the compressor is converted to a liquid state as it is cooled down by the heat emission in the outdoor condenser unit, and sent to the evaporator.

■ COMPRESSOR

Low temperature and low pressure refrigerant is compressed and sent to the cycling system.

■ EVAPORATOR

Liquid refrigerant sucked in through the capillary tubes cools down the room by absorbing the surrounding heat as it evaporates (converting from liquid to gas). (Absorbing heat required for evaporation)

■ SERVICE VALVE

You can open the valve by turning the need valve counterclockwise using hex wrench, and it is used for vacuum, gas purging, refrigerant injection, refrigerant purging, and indoor-outdoor unit connection.

■ ACCUMULATOR

Accumulator prevents the flow of liquid-state refrigerant into the compressor.
(Liquid-state refrigerant flowing into the compressor will overload the compressor.)



GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
Europe, Middle East & Africa	https://gspn1.samsungcsportal.com
East Asia, West Asia	https://gspn2.samsungcsportal.com
North America	https://gspn3.samsungcsportal.com
China	https://gspn4.samsung.com.cn
CIS	https://gspn5.samsungcsportal.com
Latin America	https://gspn6.samsungcsportal.com

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