

	INDOOR UNIT	OUTDOOR UNIT
Model:	AC018KNZDCH/AA	AC018JXADCH/AA
	AC024KNZDCH/AA	AC024JXADCH/AA
	AC030KNZDCH/AA	AC030JXADCH/AA
	AC036KNZDCH/AA	AC036JXADCH/AA
	AC042KNZDCH/AA	AC042JXADCH/AA
	AC048KNZDCH/AA	AC048JXADCH/AA
	AC054KNZDCH/AA	AC054KXADCH/AA

SERVICE *Manual*

AHU SERIES



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1. Precautions

1-1 Precautions for the Service

1-1 Precautions for the Service

- Use the standard parts when replacing the electric parts.
 - Confirm the model name, rated voltage, rated current of the electric parts.
- Repair the disconnection of HARNESS securely when repairing the break down.
 - If there is any connection error, it causes an abnormal noise and incorrect operation.
- In case that you assemble or disassemble the products with laying it on the side, do work on the work cloth.
 - If not, the exterior of products can be scratched.
- Remove dust and foreign materials from harness, connection part, and inspection part thoroughly when repairing the break down.
 - It protects the danger of fire such as tracking and short.
- Tighten tightly the service valve of outdoor unit and the cap of charging valve with a monkey spanner.
- Check the assembly status of parts after repairing the break down.
 - It should be same as the status before repairing.

1-2 Precautions for the Static Electricity and PL

- As the PCB power terminal has a weakness for the static electricity, pay attention to it during the repair and measurement.
 - Work with insulation gloves during the repair and measurement of PCB.
- Check the distance between the product and the other electronic appliances such as TV, video, and audio. It should be over 2m.
 - If not, it causes a bad picture quality or a noise.
- Repairing the products by consumer should be strictly prohibited.
 - There is a danger of electric shock or fire due to incorrect disassembly.

1-3 Precautions for the Safety

- Do not pull any electric wires and do not touch an auxiliary power switch with a wet hand.
 - There is a danger of electric shock or fire.
- In case any wire or power plug has been damaged, replace it to eliminate any possible danger.
- Do not bend the power cord by force and do not put any heavy object on the power cord.
 - There is a danger of electric shock or fire.
- Do not use multi socket.
 - There is a danger of electric shock or fire.
- Ground the product if necessary.
 - Be sure to ground the product if there is any danger of electric leakage due to water or moisture.
- Be sure to turn off the auxiliary power switch or pull out the power plug during replacement or repair of electric parts.
 - There is a danger of electric shock.
- In case the product will not be in use for a long time, the battery of remote control should be kept separately.
 - Leakage of inside fluid can cause break down of remote control.

1-4 Others

- Never store or load the air conditioner upside down or sideways to prevent the damage to the compressor.
- Young children or infirm persons should be always supervised when they use the air conditioner.
- Max current is measured according to IEC standard for safety.
- Current is measured according to ISO standard for energy efficiency.
- When installing, make sure there is no leakage. When recovering the refrigerant, ground the compressor first before removing the connection pipe. If the refrigerant pipe is not properly connected and the compressor works with the service valve open, the pipe inhales the air and it makes the pressure inside of the refrigerant cycle abnormally high. It may cause explosion and injury.
- Pump Down Procedure (When removing the product)
 - Turn on the air conditioner and select Cool mode to run the compressor for 3 minutes.
 - Release the valve caps on High and Low pressure side.
 - Use L wrench to close the valve on the high pressure side.
 - Approximately 2 minutes after, close the valve on the low pressure side.
 - Stop operation of the air conditioner.
 - Disconnect the pipes.

2. Product Specifications

2-1 The Feature of Product

- **Built-in Duct Type**

After installed, the air conditioner can be harmonized with a room interior.

- **High Performance & Energy Saving**

With the advanced BLDC inverter technology, it makes a room cool with highly energy saving and arises the efficiency of air conditioner.

- **Long Piping (Length & Height)**

It can give the benefit to the installers and arises the reliability of the air conditioner.

- **Long Ambient Operation (In Low Temperature)**

It can arise the reliability and the capacity of the air conditioner, especially operated in low temperature.

- **Eco-friendly Product (Lead-Free, RoHS, WEEE)**

2-2 Product Specifications

ITEM			AC018KNZDCH/AA AC018JXADCH/AA	AC024KNZDCH/AA AC024JXADCH/AA	AC030KNZDCH/AA AC030JXADCH/AA	AC036KNZDCH/AA AC036JXADCH/AA	AC042KNZDCH/AA AC042JXADCH/AA	AC048KNZDCH/AA AC048JXADCH/AA	AC054KNZDCH/AA AC054KXADCH/AA	
IMAGE	Indoor Unit									
	Outdoor Unit									
Power Supply			1Φ, 208-230V, 60Hz	1Φ, 208-230V, 60Hz	1Φ, 208-230V, 60Hz	1Φ, 208-230V, 60Hz	1Φ, 208-230V, 60Hz	1Φ, 208-230V, 60Hz	1Φ, 208-230V, 60Hz	
Performance	Cooling/Heating	Btu/h	18,000 / 20,000	24,000 / 27,000	30,000 / 32,000	36,000 / 40,000	42,000 / 47,000	48,000 / 53,000	54,000 / 60,000	
Power Consumption	Cooling/Heating	kW	1.60 / 2.00	2.18 / 2.64	2.95 / 2.82	3.16 / 3.62	4.14 / 4.22	5.00 / 4.95	6.72 / 5.80	
EER/COP	Cooling/Heating	Btu/hW	11.25 / 10	11.01 / 10.23	10.17 / 11.35	11.39 / 11.05	10.14 / 11.14	9.6 / 10.71	8.04 / 10.34	
Energy Grade		Energy Grade (C)	SEER 20.1	SEER 19.5	SEER 19.6	SEER 19.0	SEER 18.4	SEER 18.0	SEER 17.1	
		Energy Grade (H)	HSPF 10.5	HSPF 11.5	HSPF 10.4	HSPF 10.2	HSPF 9.6	HSPF 9.7	HSPF 9.0	
Operation Current	Cooling/Heating	A	7.1 / 8.7	9.8 / 11.6	13.0 / 12.3	14.1 / 15.8	18.0 / 18.3	21.3 / 21.6	28.7 / 24.7	
Noise (Cooling / Heating)	Indoor Unit	dB(A)	38 / 38	41 / 41	41 / 41	42 / 42	42 / 42	43 / 43	45 / 45	
	Outdoor Unit	dB(A)	48 / 48	50 / 50	50 / 52	49 / 51	51 / 53	53 / 55	56 / 56	
Size	Net Dimension (WxHxD)	Indoor Unit	mm	445 x 1,092 x 533	445 x 1,092 x 533	533 x 1,219 x 533	533 x 1,219 x 533	622 x 1,492 x 552	622 x 1,492 x 552	622 x 1,492 x 552
		Outdoor Unit	mm	880 x 638 x 310	940 x 998 x 330	940 x 998 x 330	940 x 1,210 x 330	940 x 1,210 x 330	940 x 1,210 x 330	940 x 1,420 x 330
	Shipping Dimension (WxHxD)	Indoor Unit	mm	493 x 1,135 x 665	493 x 1,135 x 665	590 x 1,305 x 665	590 x 1,305 x 665	676 x 1,588 x 695	676 x 1,588 x 695	676 x 1,588 x 695
		Outdoor Unit	mm	1,023 x 730 x 413	995 x 1,096 x 426	995 x 1,096 x 426	995 x 1,388 x 426	995 x 1,388 x 426	995 x 1,388 x 426	995 x 1,598 x 426
Weight	Net	Indoor Unit	kg	44.5	44.5	56.0	56.0	74.0	74.0	74.0
		Outdoor Unit	kg	45.0	64.5	70.0	88.0	88.0	88.0	96.0
	Shipping	Indoor Unit	kg	49.0	49.0	62.0	62.0	80.0	80.0	80.0
		Outdoor Unit	kg	48.0	69.5	74.0	98.0	98.0	98.0	106.0
Connecting Pipe	Liquid	mm	6.35 (1/4")	6.35 (1/4")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	
	Gas	mm	12.7 (1/2")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	19.05 (3/4")	
Refrigerant (R410A)		g	1300	2100	2600	2800	2800	2800	3500	
Additional Refrigerant (R410A)		g/m	10	10	22	33	33	33	33	
Standard		m	7.5	7.5	7.5	7.5	7.5	7.5	7.5	
Extension Length (Maximum)		m	30	50	50	75	75	75	75	
Extension Length (Elevation)		m	20	30	30	30	30	30	30	
Option Code		Product Option	01E06C-105020-27343B-370005	01E06C-105020-274750-370005	01E06C-105020-275A64-370005	01E06C-105020-276470-370005	01E06C-105020-277D8C-370005	01E06C-105020-278CA0-370005	01E06C-105020-27A0B4-370005	
		Installation Option	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	020000-100000-200000-300000	




2-3 Specifications of optional items

2-3-1 Accessories

Item	Description	Code No.	Q'ty	Remark
	Installation manual	-	1	Essential Offer (Indoor Unit)
	Card Warranty	-	1	
	Cap Drain	DB63-10355C	3	Essential Offer (Outdoor Unit)
	Drain Plug	DB67-00806A	1	
	Rubber Leg	DB73-20134A	4	
	Manual Install	DB68-05462A	1	

3. Disassembly and Reassembly

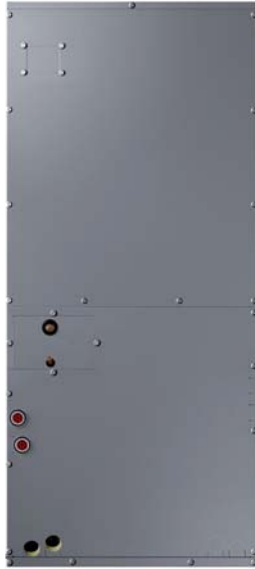

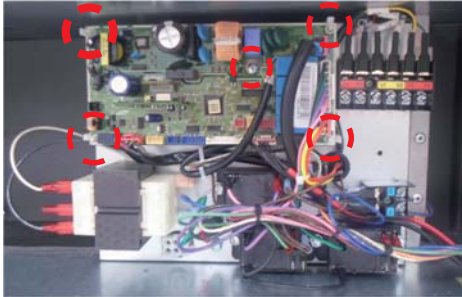
■ Necessary Tools


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


3-1 Indoor Unit

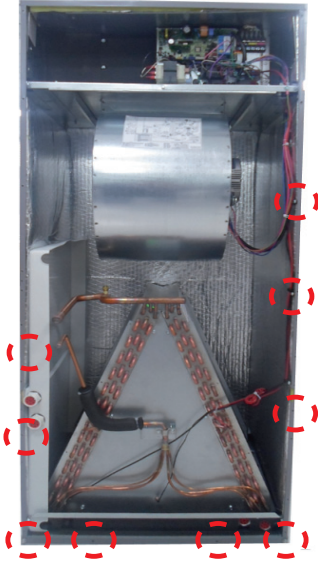
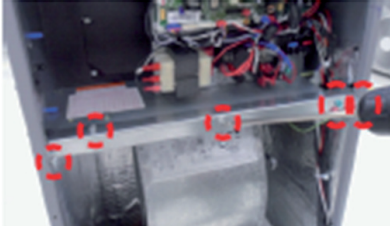
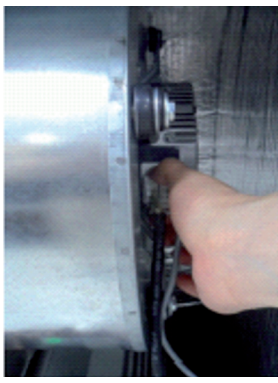
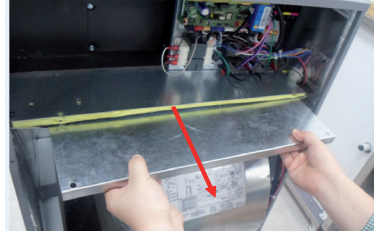
■ V-AHU

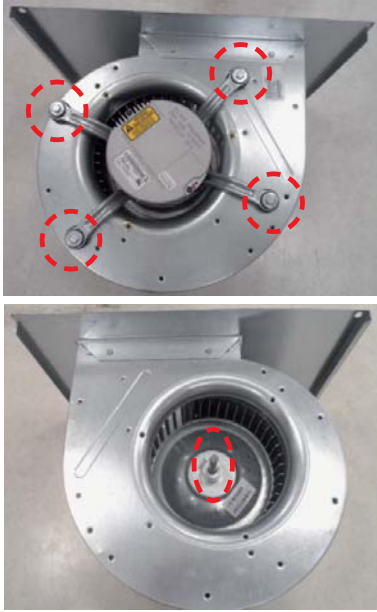
- AC018/024/030/036/042/048/054KNZDCH/AA

No	Parts	Procedure	Remark
1	FRONT VIEW	1) Stop the operation of the air conditioner and disconnect the main power supply.	
2	Control-BOX	1) Loosen 11 of the front screw(CCW) and detach the Cabinet Front Up. 2) Disconnect the Connector Wire that is connected to the indoor unit's PBA 3) Unscrew the 1 fixed screws on middle of the PBA and 4 fixed PBA HOLDER, and disassemble the PBA from the indoor unit. (Use + Screw Driver)	 

No	Parts	Procedure	Remark
3	DRAIN PAN	<p>1) Loosen 11 of the front screw(CCW) and detach the Cabinet Front Down.</p> <p>2) Loosen 2 of the Left side screw(CCW).</p> <p>3) Loosen 5 of the front screw(CCW) and detach the 2 Bracket drain and 1 Bracket Low</p> <p>4) Pull the Heat Exchanger and Drain.</p> <p>5) Detach the Drain from indoor Unit.</p>	






No	Parts	Procedure	Remark
4	Heat Exchanger	<p>1) Loosen 11 of the front screw(CCW) and detach the Cabinet Front Down.</p> <p>2) Loosen 2 of the Left side screw(CCW).</p> <p>3) Loosen 5 of the front screw(CCW) and detach the 2 Bracket drain and 1 Bracket Low.</p> <p>4) Disconnect the Connector Wire that is connected to the Heat Exchanger.</p> <p>5) Pull the Heat Exchanger and Drain.</p> <p>6) Detach the Heat Exchanger.</p>	

No	Parts	Procedure	Remark
5	FAN & MOTOR	<p>1) Loosen 11 of the front screw(CCW) and detach the Cabinet Front Down.</p> <p>2) Loosen 6 of the Front screw(CCW) and detach the Bracket.</p> <p>3) Disconnect the Connector Wire that is connected to the Motor.</p> <p>5) Pull the A'ssy Fan Blower.</p>	   

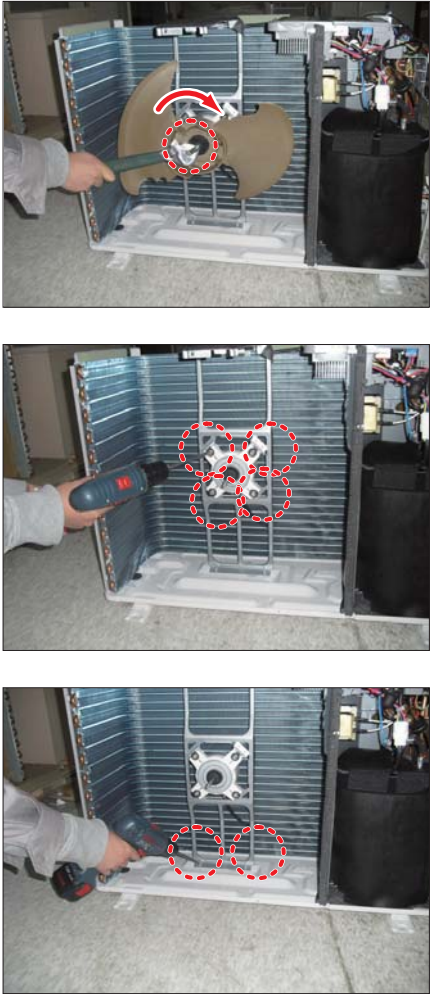
No	Parts	Procedure	Remark
		<p>6) Loosen 4 of the screw and 1 nut on the CASE and Detach the motor and fan.</p>	



3-2 Outdoor Unit

■ AC018JXADCH

No	Parts	Procedure	Remark
1	common work	<p>1) loosen 1 pcs screw of cover control, and detach it.</p> <p>2) loosen 5 pcs screws on both right and left cabinet side edges and to detach the cover-top</p> <p>3) Loosen 7 screws fixed to disassemble cabi-front , and detach it.</p>	    





No	Parts	Procedure	Remark
	<p>common work</p>	<p>4) loosen 7 screws to disassemble the cabi-right ,and detach it.</p> <p>5) loosen 2 screws to disassemble steel-bar.</p> <p>6) loosen 3 screws to disassemble cabi-left.</p>	   




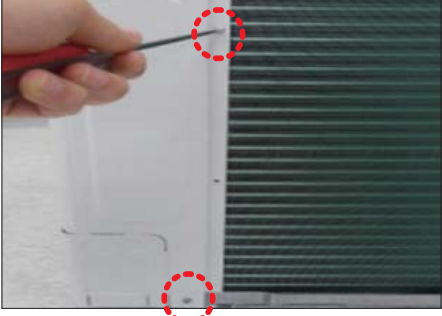
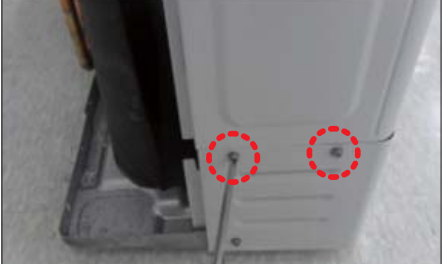
No	Parts	Procedure	Remark
2	fan&motor	<p>1) loosen 1 screw as indication and detached the fan.</p> <p>2) loosen 4 pcs motor screws and disconnect the wire between assy control out and motor.</p> <p>3) loosen 2 pcs bracket-motor screw and detach it.</p>	


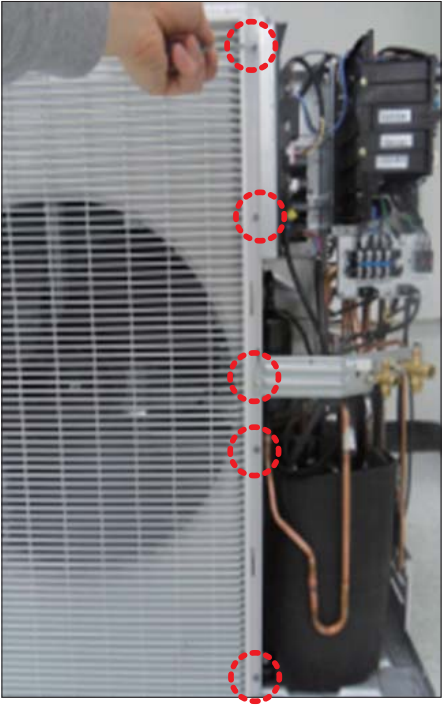
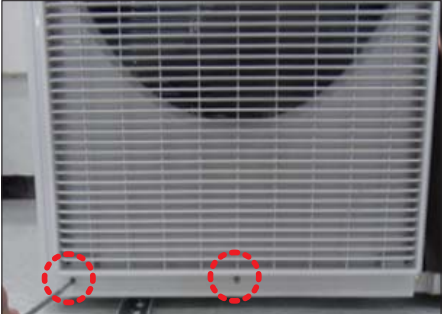
No	Parts	Procedure	Remark
3	assy control out	<ol style="list-style-type: none"> 1) loosen fixing 1 screw from cover -control 2) detach several connections from assy control out, take out assy control out. 	
4	Heat exchanger	<ol style="list-style-type: none"> 1) Release the refrigerant at first 2) Loosen fixing screw on both side. 3) disassembly the pipes in both inlet and outlet with welding torch. 4) detach the heat exchanger. 	

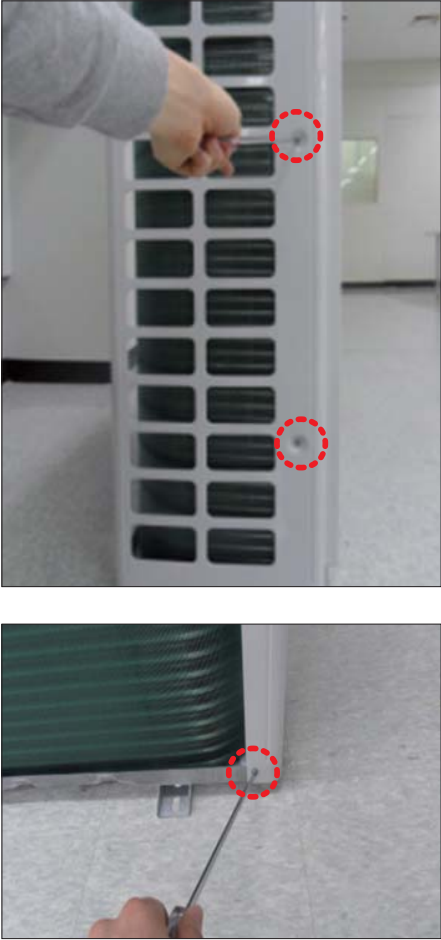

No	Parts	Procedure	Remark
5	compressor	<p>1) disconnect the compressor lead wire .</p> <p>2)disassembly the felt comp sound. loosen the 3 bolts at the bottom of</p>	 

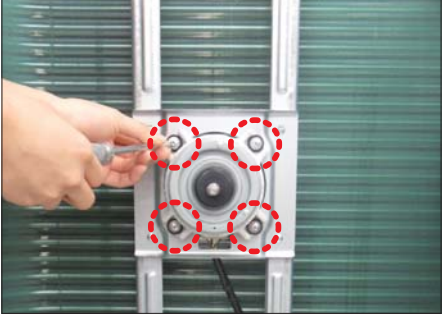


■ AC024JXADCH, AC030JXADCH


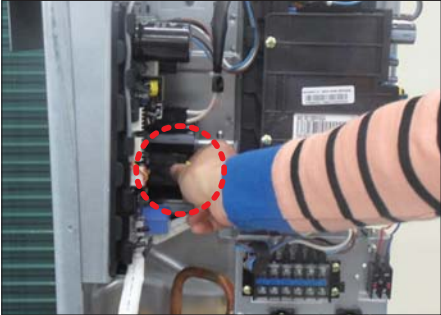

No	Parts	Procedure	Remark
1	Cabi Front RH	<p> You must turn off the Power before disassembly.</p> <p>1) Unscrew and remove two mounting screw in the Cabinet Front RH. (Use +Screw Driver)</p>	
2	Cabi Top	<p>1) Unscrew and remove 9 screws on each side of the Cabinet-Top. (Use +Screw Driver)</p>	
3	Cabi Install Front	<p>1) Unscrew and remove 1 screw in the Cabinet-Install Front. (Use +Screw Driver)</p>	



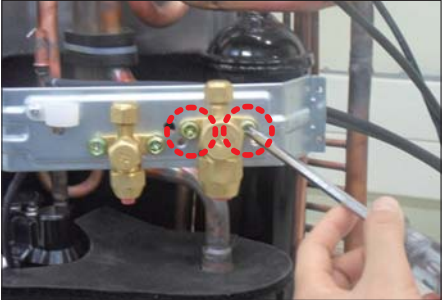


No	Parts	Procedure	Remark
4	Guard Cond	1) Pull the sensor from Guard Cond. 2) Unscrew and remove 4 screws in the Guard Cond. (Use +Screw Driver)	 
5	Cabi Back RH	1) Pull the sensor from Cabi Back RH. 2) Unscrew and remove 4 screws on each side of the Cabinet Back RH. (Use +Screw Driver)	  

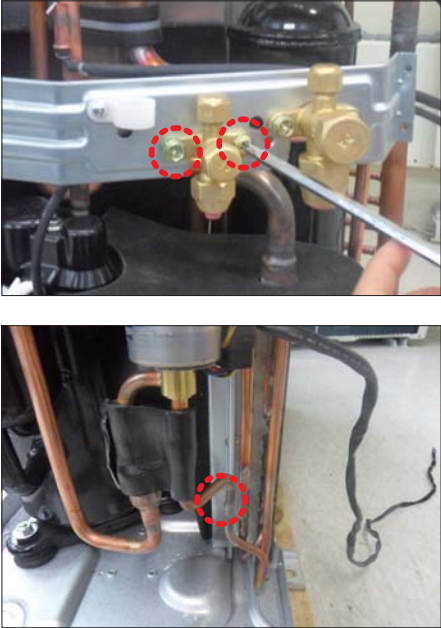

No	Parts	Procedure	Remark
6	Cabi Install Back	1) Unscrew and remove 1 screw in the Cabinet-Install Back. (Use +Screw Driver)	
7	Cabi Front LF	1) Unscrew and remove 10 screws in the Cabinet-Front LF. (Use +Screw Driver)	 


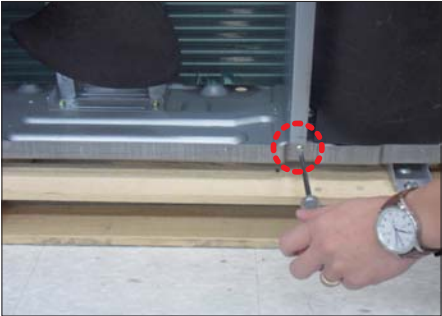
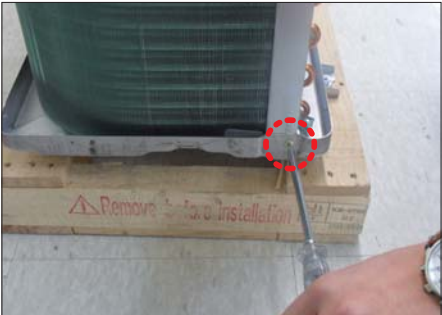
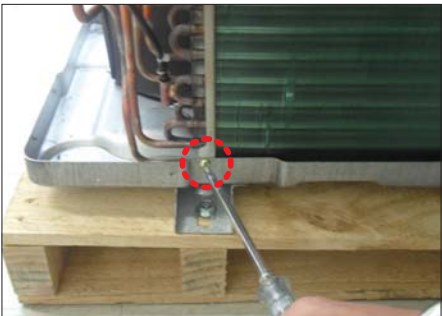
No	Parts	Procedure	Remark
			
8	Fan	<p>1) Turn 2 mounting nuts as shown in the picture and remove it. (Use Adjustable Wrench)</p>	

No	Parts	Procedure	Remark
9	Motor	<ol style="list-style-type: none"> 1) Separate the Fan Propeller. 2) Unscrew and remove the 8 Motor mounting screws. (Use +Screw Driver) 3) Disconnect the Motor wire From Ass'y Control Out. 	 
10	Bracket Motor	<ol style="list-style-type: none"> 1) Unscrew and remove 2 mounting screws in Bracket Motor. (Use +Screw Driver) 	

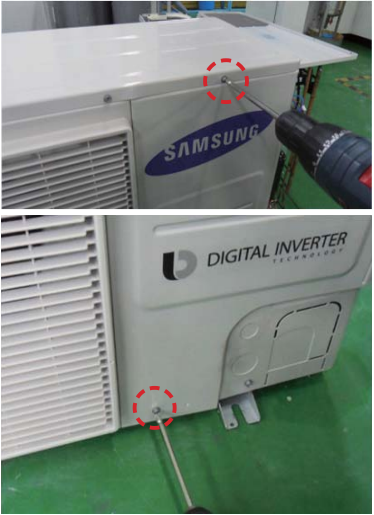



No	Parts	Procedure	Remark
11	Control Out	<p>1) Disconnect 4 Connecters From Ass'y Control Out.</p> <p>2) Unscrew and remove 1 mounting screw in Control Out. (Use +Screw Driver)</p> <p>3) Separate Ass'y Control Out.</p>	  





No	Parts	Procedure	Remark
12	Ass'y 4way Valve	<ol style="list-style-type: none"> 1) Purge the Coolant first. 2) Unscrew and remove 2 mounting screws in muffler. 3) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver) <ol style="list-style-type: none"> 4) Separate the pipe from the Entrance/Exit using a welder. <p> When removing the compressor, Heat Exchanger, and Pipe, purge the Coolant inside the Compressor completely and remove the pipe with a welding flame.</p>	   


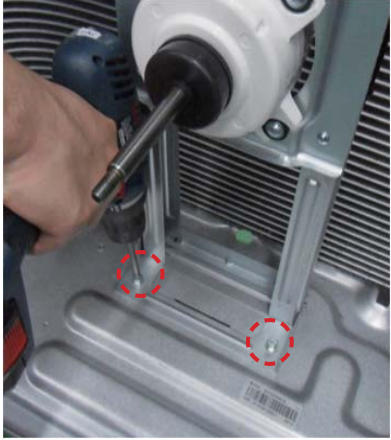
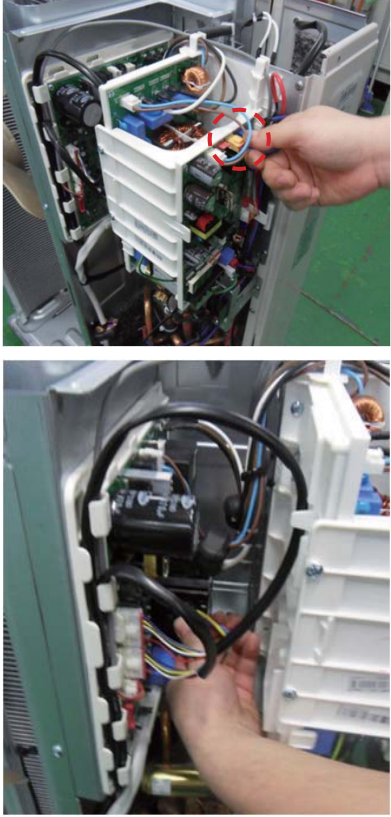
No	Parts	Procedure	Remark
13	Assy EEV Valve	1) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver) 2) Separate the pipe from the Entrance/Exit using a welder.	
14	Compressor	1) Unscrew and remove 1 mounting nut in Cover Terminal. (Use Adjustable Wrench) 2) Separate the Compressor Felt Sound.	



No	Parts	Procedure	Remark
		<p>3) As shown in the picture, unscrew and remove 3 mounting screws from the bottom. (Use Adjustable Wrench)</p>	
15	Cond Out	<p>1) Unscrew and remove 3 screws on each side of the Assy Cond Out. (Use +Screw Driver)</p> <p>2) Separate the Compressor Felt Sound.</p>	  

■ AC036JXADCH, AC042JXADCH, AC048JXADCH, AC054KXADCH

No	Parts	Procedure	Remark
1	Cabi Front RH	<p>⚠ You must turn off the Power before disassembly.</p> <p>1) Unscrew and remove two mounting screw in the Cabinet Front RH. (Use +Screw Driver)</p>	
2	Cabi Top	<p>1) Unscrew and remove 9 screws on each side of the Cabinet-Top. (Use +Screw Driver)</p>	
3	Cabi Install Front	<p>1) Unscrew and remove 1 screw in the Cabinet-Install Front. (Use +Screw Driver)</p>	
4	Guard Cond	<p>1) Pull the sensor from Guard Cond.</p> <p>2) Unscrew and remove 4 screws in the Guard Cond. (Use +Screw Driver)</p>	

No	Parts	Procedure	Remark
5	Cabi Back RH	1) Pull the sensor from Cabi Back RH. 2) Unscrew and remove 4 screws on each side of the Cabinet Back RH. (Use +Screw Driver)	
6	Cabi Install Back	1) Unscrew and remove 1 screw in the Cabinet-Install Back. (Use +Screw Driver)	
7	Cabi Front LF	1) Unscrew and remove 10 screws in the Cabinet-Front LF. (Use +Screw Driver)	
8	Fan	1) Turn 2 mounting nuts as shown in the picture and remove it. (Use Adjustable Wrench)	

No	Parts	Procedure	Remark
9	Motor	<ol style="list-style-type: none"> 1) Separate the Fan Propeller. 2) Unscrew and remove the 8 Motor mounting screws. (Use +Screw Driver) 3) Disconnect the Motor wire From Ass'y Control Out. 	
10	Bracket Motor	<ol style="list-style-type: none"> 1) Unscrew and remove 2 mounting screws in Bracket Motor. (Use +Screw Driver) 	
11	Control Out	<ol style="list-style-type: none"> 1) Disconnect 4 Connectors From Ass'y Control Out. 2) Unscrew and remove 1 mounting screw in Control Out. (Use +Screw Driver) 3) Separate Ass'y Control Out. 	

No	Parts	Procedure	Remark
12	Assy 4way Valve	<p>1) Purge the Coolant first.</p> <p>2) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver)</p> <p>3) Separate the pipe from the Entrance/Exit using a welder.</p> <p>⚠ When removing the compressor, Heat Exchanger, and Pipe, purge the Coolant inside the Compressor completely and remove the pipe with a welding flame.</p>	
13	Assy EEV Valve	<p>1) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver)</p> <p>2) Separate the pipe from the Entrance/Exit using a welder.</p>	

4. Troubleshooting































4-1 Indoor Display Error and Check Method

■ Error detection and reoperation

- If error occurs during the operation, badness is indicated by LED flickering and all operation is stopped except LED.
- When reoperating by remote control and switch determine the error mode after normal operation.

4-1-1 Indoor unit LED lamp display at error detecting


LED Display on the receiver & display unit

Abnormal conditions	Indicators					Remarks
	Concealed Type					
	Green	Red				
	Standard Type					
						
Power reset.		X	X	X	X	
Error of Room sensor in the indoor unit.(Open/Short)	X	X		X	X	
Error of EVA-IN,EVA-OUT sensor in the indoor unit. (Open/Short)		X		X	X	
Error of Fan motor in the indoor unit.	X	X	X		X	
1. Error of Outdoor. 2. Thermal Fuse Open Error of Indoor's Terminal Block.	X	X				
1. Clogging of outdoor's service valve. 2. the refrigerant leakage .		X	X			
Detection of the float switch.	X	X	X			
1. Error of EEPROM. 2. Error of Option setting.						
1. Error of Outdoor Temp. sensor. 2. Error of Cond Temp. sensor. 3. Error of discharge Temp. sensor.		X	X		X	
1. No communication for 2 minutes between indoor units (Communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from the out- door unit, the mismatching of the communication num- bers and installed numbers after completion of tracking. (Communication error for more than 2 minutes)	X	X			X	1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)

● : On,  : Flickering, X : OFF

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

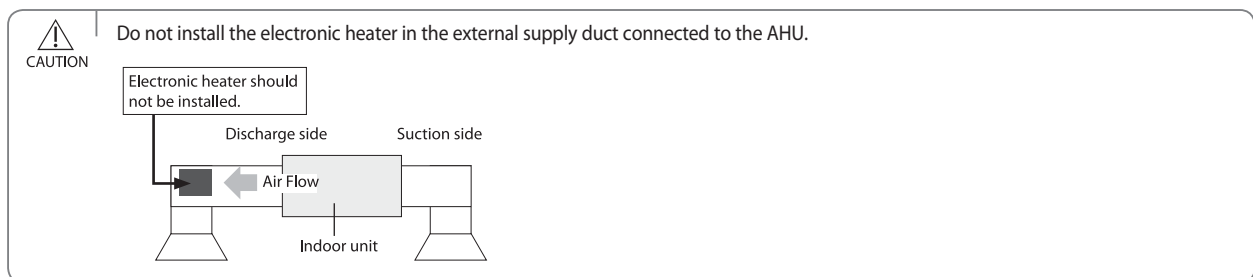
4-1-2 Wired Remocon Error Display

- If an error occurs, () is displayed on the wired remote controller.
- If you would like to see an error code, press the Test button.

Error mode	Contents	Error type
808	Indoor unit communication error	Communication error
808	Duplicated address setting error	Communication error
809	No response error address from indoor unit	Communication error
821	Indoor temperature sensor (open/short error)	Indoor sensor error
822	Indoor unit Eva In sensor (Open/Short)	Indoor sensor error
202	Indoor/outdoor communication error (1 min)	Communication error
203	Communication error between indoor/outdoor INV↔MAIN MICOM (1 min)	Communication error
221	Outdoor temperature sensor error	Outdoor sensor error
231	COND temperature sensor error	Outdoor sensor error
251	[Inverter] Emission temperature sensor error	Outdoor sensor error
403	Detection of Indoor Freezing (when Comp. Stops)	Outdoor unit protection control error
404	Protection of Outdoor Overload (when Comp. Stops)	Outdoor unit protection control error
416	Emission temperature excessively high	Outdoor unit protection control error
422	High pressure blockage error (Refrigerant completely Leakage error)	Self diagnostic error
440	Heating operation blocked	Self diagnostic error
441	Cooling operation blocked	Self diagnostic error
458	Outdoor fan 1 error	Self diagnostic error
461	[Inverter] Compressor startup error	Outdoor unit protection control error
462	[Inverter] Total current error/PFC over current error	Outdoor unit protection control error
463	OLP Overheat and Comp. Stop	Outdoor unit protection control error
464	[Inverter] IPM over current error	Outdoor unit protection control error
465	Compressor V limit error	Outdoor unit protection control error
466	DC LINK over/low voltage error	Outdoor unit protection control error

Wired remote controller (cont.)

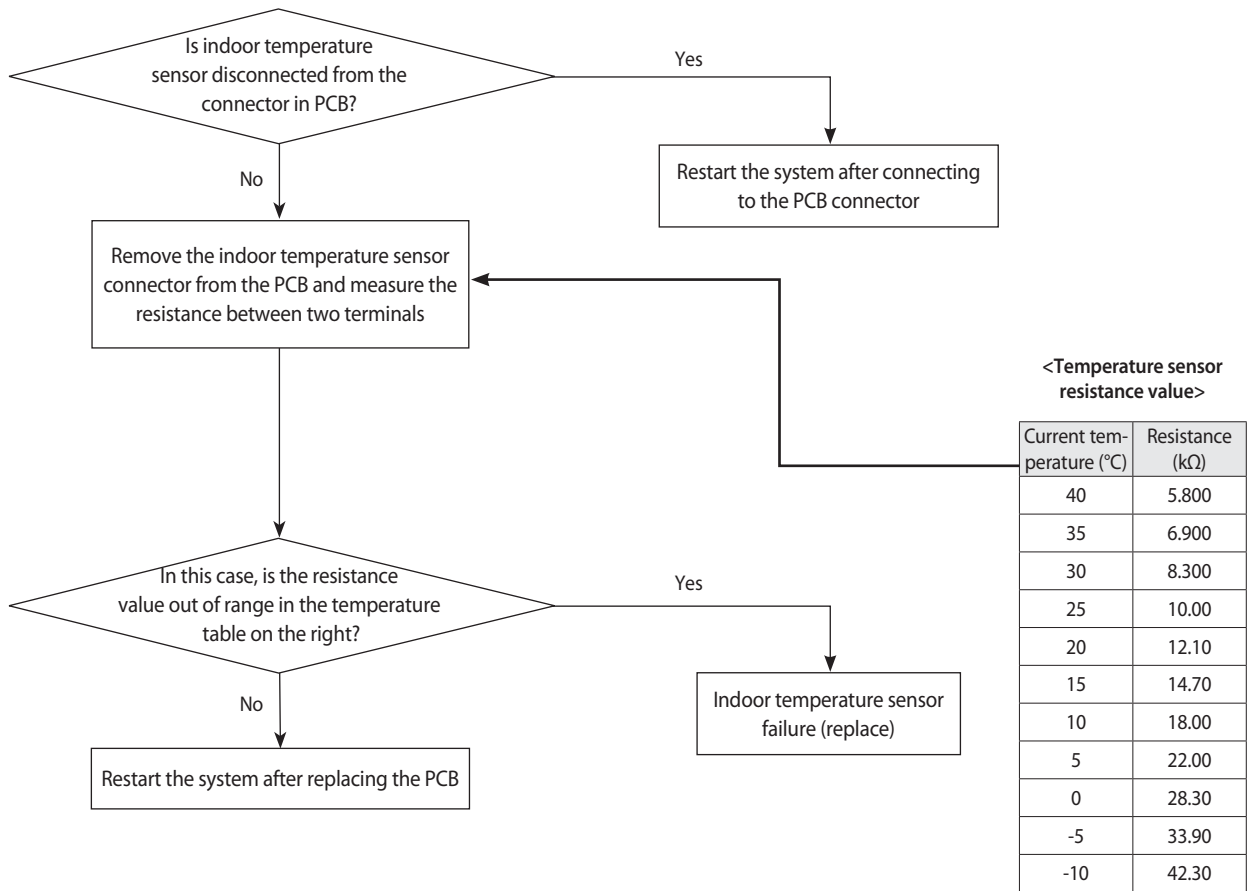
Error mode	Contents	Error type
467	[Inverter] Compressor rotation error	Outdoor unit protection control error
468	[Inverter] Current sensor error	Outdoor unit protection control error
469	[Inverter] DC LINK voltage sensor error	Outdoor unit protection control error
470	EEPROM Read/Write error	Outdoor unit protection control error
471	[Inverter] OTP error	Outdoor unit protection control error
472	AC ZERO CROSSING SIGNAL OUT error	Outdoor unit protection control error
473	Compressor LOCK error	Outdoor unit protection control error
475	Outdoor fan 2 error	Self diagnostic error
500	IPM Overheat Error for Outdoor Unit Inverter Comp.	Outdoor unit protection control error
554	Gas leak error	Self diagnostic error
556	Capacities not matched	Outdoor unit protection control error
601	Communication error between the indoor unit and wired remote controller	Wired remote controller error
602	Communication error between the Master and Slave wired remote controllers	Wired remote controller error



4-2 Troubleshooting by symptoms

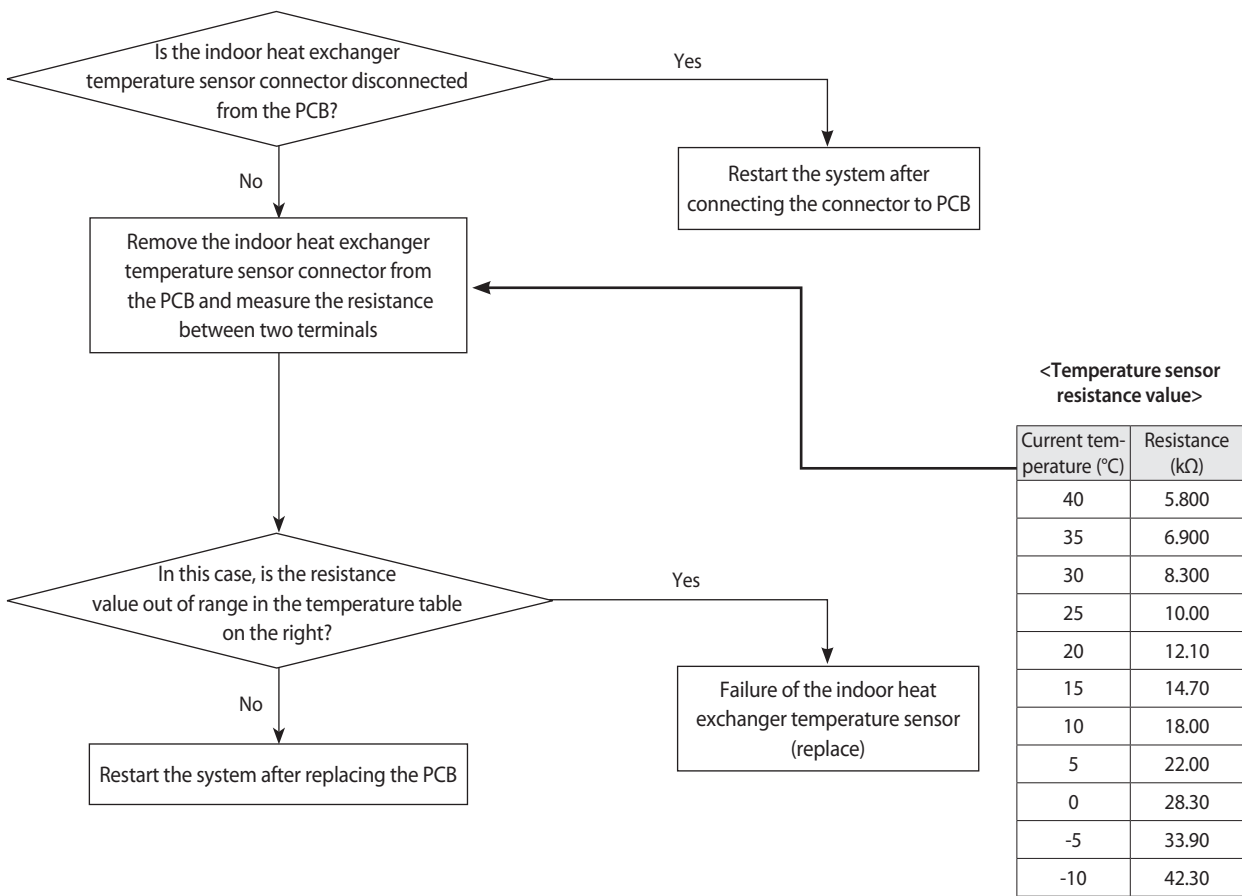
4-2-1 Indoor temperature sensor (open/short)

Indoor unit display	X (Operation) X (Defrost) ● (Timer) X(Fan) X (Filter)
Wire remote controller display	E121
Symptom	Error of Room sensor in the indoor unit(Open/Short)
Failure	Short or leakage of the Room sensor



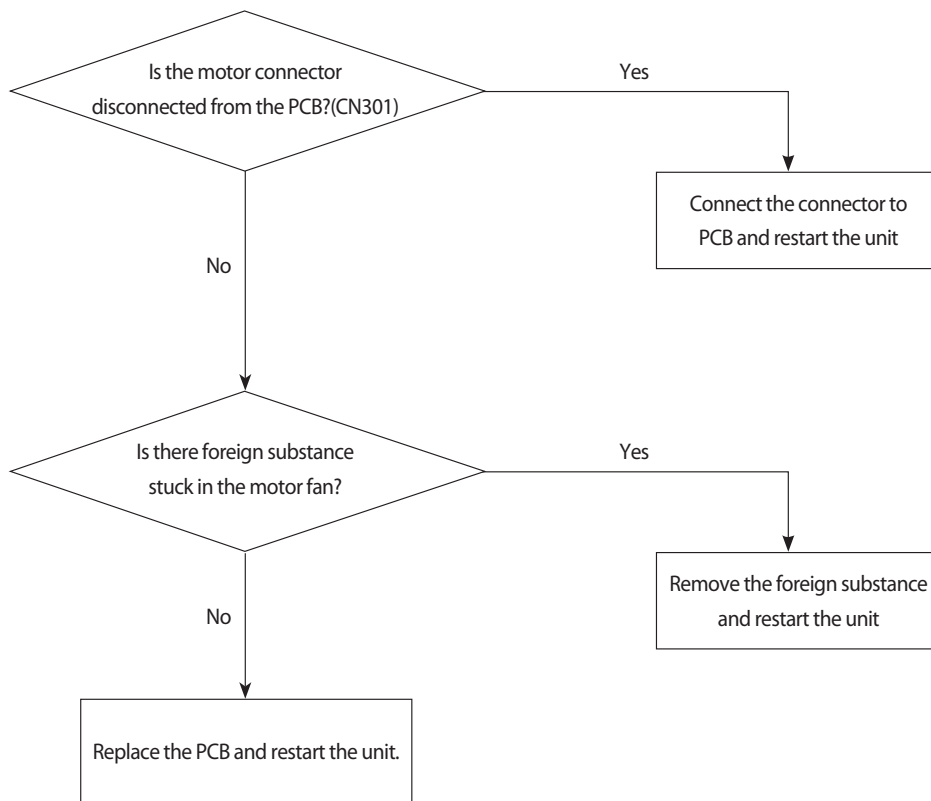
4-2-2 Eva in and out sensor (open/short)

Indoor unit display	● (Operation) X (Defrost) ● (Timer) X (Fan) X (Filter)
Wire remote controller display	E122, E123
Symptom	Error of EVA-IN, EVA-OUT sensor in the indoor unit (Open/Short)
Failure	Short or leakage of the EVA sensor



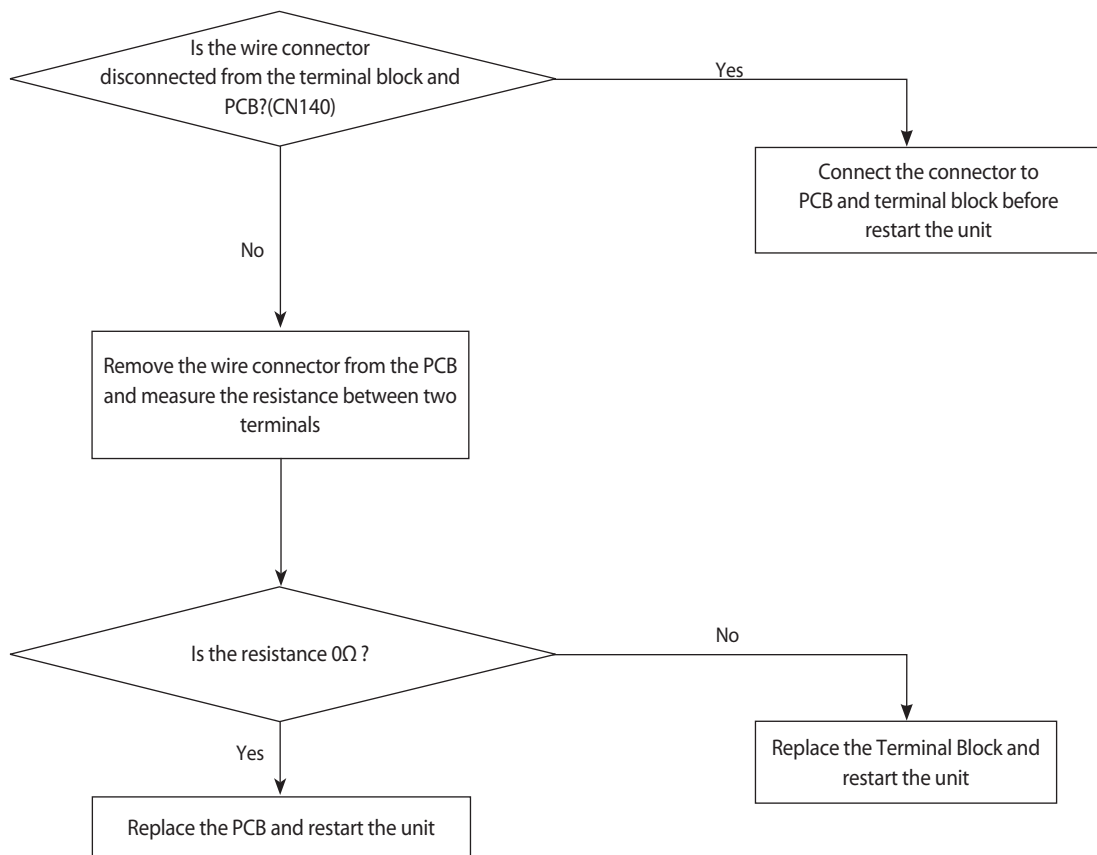
4-2-3 Fan error

Indoor unit display	X (Operation) X (Defrost) X(Timer) ● (Fan) X (Filter)
Wire remote controller display	E154
Symptom	Error of Fan motor in the indoor unit
Failure	Fan error



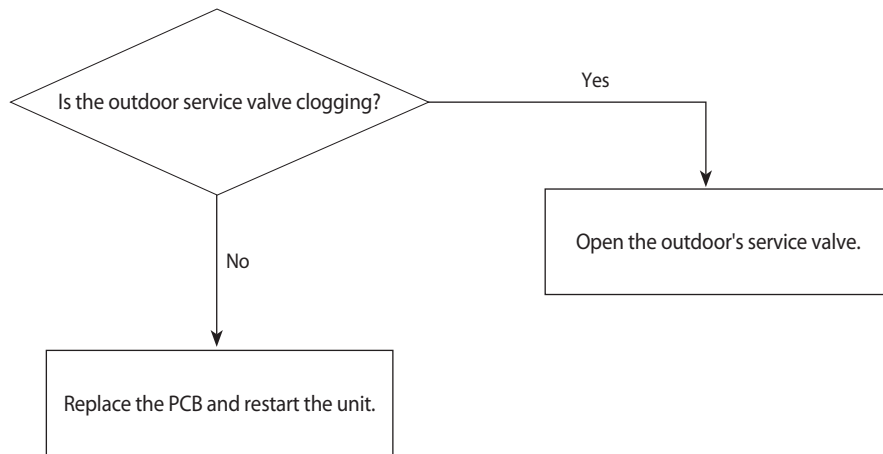
4-2-4 Terminal Block's Terminal Fuse(Open)

Indoor unit display	X (Operation) X (Defrost) ● (Timer) ● (Fan) ● (Filter)
Wire remote controller display	E198
Symptom	Error of Terminal Block's Terminal Fuse(Open)
Failure	Fuse open



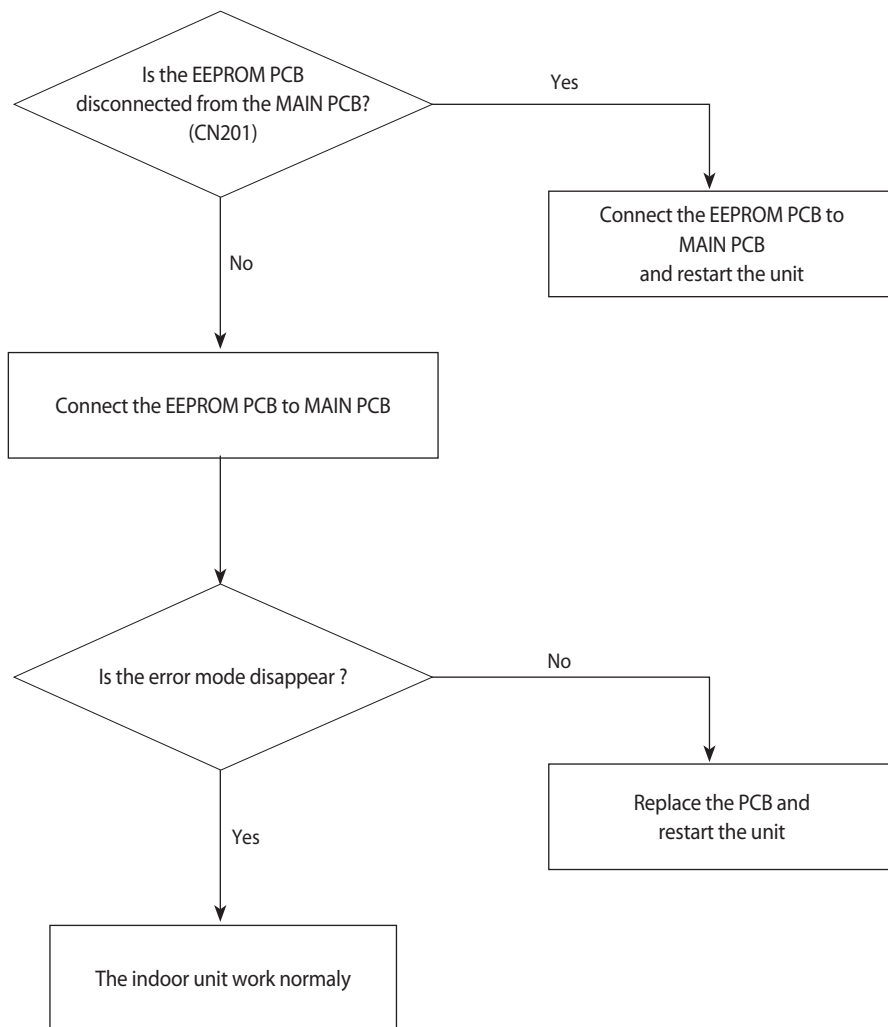
4-2-5 Outdoor's service valve(Clog)

Indoor unit display	● (Operation) X (Defrost) X (Timer) ● (Fan) ● (Filter)
Wire remote controller display	E422
Symptom	Clogging of outdoor's service valve
Failure	Valve clog



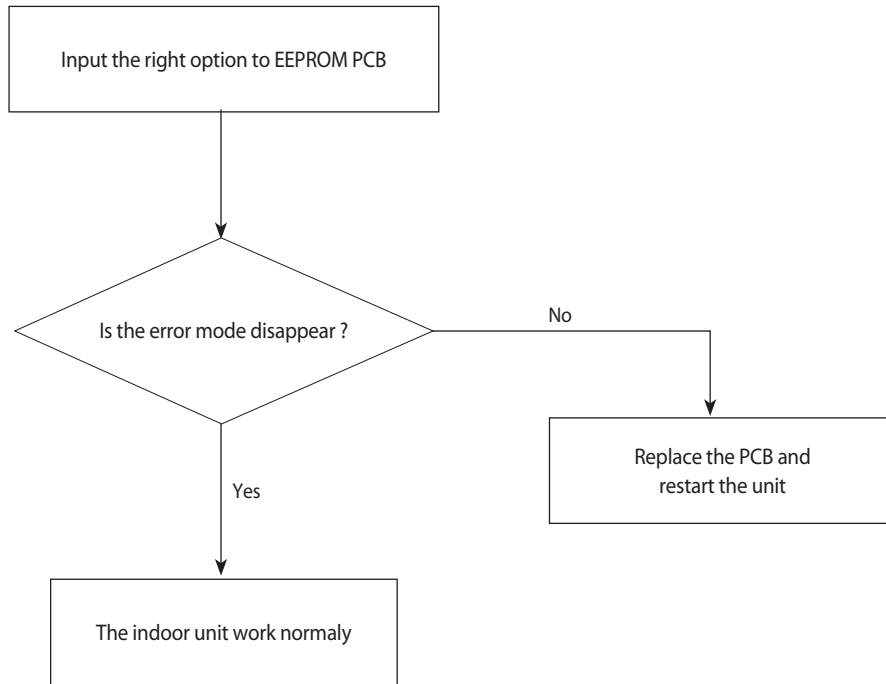
4-2-6 EEPROM error

Indoor unit display	● (Operation) ● (Timer) ● (Fan) ● (Filter) ● (Defrost)
Wire remote controller display	E162
Symptom	EEPROM PCB disconnected from the MAIN PCB
Failure	Option error



4-2-7 Option error

Indoor unit display	● (Operation) ● (Timer) ● (Fan) ● (Filter) ● (Defrost)
Wire remote controller display	E163
Symptom	EEPROM option setting error
Failure	Option error



4-3 Setting the indoor unit option code

In order to set the indoor unit option code use the wired remote controller and follow the directions below.

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

- 1) Press the **Set** and **ESC** buttons at the same time for more than 3 seconds and then a Main menu will be displayed.
- 2) Press the **↑/↓** button to select **4** and then press **→** button to enter a Sub-menu setting screen.
- 3) Press the **↑/↓** button to select **2** and then press **→** button to enter a Indoor unit option code setting screen.

NOTE

- The first digit represents the page number and the remaining five digits are option codes.
- The option code which is currently setting will flicker.

- 4) Press the **↑/↓** button to set the option code in order. Press **→** button to go to the next page.
- 5) Press the **Set** button to save and complete the option setting.
- 6) Press the **ESC** button to exit to normal mode.

NOTE

- Press the **ESC** button anytime during setup to exit without setting.

CAUTION

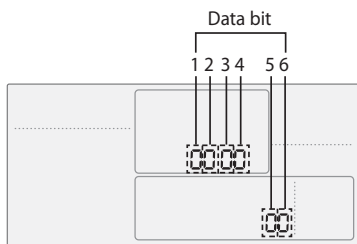
- Option code will not be applied if you don't press the **Set**
- Setting indoor unit option code is only possible in Master wired remote controller. You can only check the indoor unit option code in Slave wired remote controller.
- Setting indoor unit option code is possible when one indoor unit is connected. If more than 2 indoor units are connected, you can only check the Master indoor unit option code.

4-3-1 Setting an indoor unit address and installation option

Set the indoor unit address and installation option with remote controller option. Set the each option separately since you cannot set the ADDRESS setting and indoor unit installation setting option at the same time. You need to set twice when setting indoor unit address and installation option.

Setting an indoor unit address

- 1) Press the **Set** and **ESC** buttons at the same time for more than 3 seconds and then a Main menu will be displayed.
- 2) Press the **Up/Down** button to select **4** and then press **Right** button to enter a Sub-menu setting screen.
- 3) Press the **Up/Down** button to select **1** and then press **Right** button to enter a Indoor Address setting screen.



NOTE

- The Main/RMC Address which is currently setting will flicker.
- Data bit 1 and 2 present Indoor unit main address checking
- Data bit 3 and 4 present Indoor unit main address setting(outdoor unit reset is needed to set).

- 4) Press the **Up/Down** button to set the Indoor unit Main/RMC Address.
- 5) Press the **Set** button to save and complete the option setting.
- 6) Press the **ESC** button to exit to normal mode.











NOTE

- Press the **ESC** button anytime during setup to exit without setting.
- Address will not be applied if you don't press **Set** button.
- Setting Main/RMC Address of an Indoor unit is available only with a master wired remote controller.

Setting an indoor unit installation option




In order to check and set the indoor unit installation option code use the wired remote controller and follow the directions below.

- 1) Press the  and  buttons at the same time for more than 3 seconds and then a Main menu will be displayed.
- 2) Press the / button to select **4** and then press  button to enter a Sub-menu setting screen.
- 3) Press the / button to select **3** and then press  button to enter a Indoor unit installation option code setting screen.



NOTE


- The first digit represents the page number and the remaining five digits are installation option.
- The total option codes are 24 digits. You can set six digits at a time and it is distinguished by page number (0, 1, 2, 3).

- 4) Press the / button to set the installation option code in order. Press  button to go to the next page.


SGE1	SGE2	SGE3	SGE4	SGE5	SGE6
0	2	RESERVED	Exterior temperature sensor	Central control	RESERVED
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	RESERVED	RESERVED	Use of Heater	RESERVED	Master / Slave
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	External control	External control output	RESERVED	Buzzer	RESERVED
SEG19	SEG20	SEG21	SEG22	SEG23	-
3	Individual control of a remote controller	Heating setting compensation	RESERVED	RESERVED	-



Option No. : 02XXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Explanation	PAGE		MODE		RESERVED		Use of external temperature sensor		Use of central control		RESERVED	
Indication and Details	Indication	Details	Indication	Details			Indication	Details	Indication	Details		
	0		2				0	Disuse	0	Disuse		
					1	Use	1	Use				
Option	SEG7		SEG8		SEG9		SEG10		SEG11		SEG12	
Explanation	PAGE		Use of drain pump		Use of Hot Coil		Use of Heater		RESERVED		Master / Slave	
Indication and Details	Indication	Details	RESERVED		RESERVED		Indication	Details			Indication	Details
	1						0	Disuse			0	slave
							1	Use	1	master		
										-	-	
Option	SEG13		SEG14		SEG15		SEG16		SEG17		SEG18	
Explanation	PAGE		Use of external control		Setting the output of external control		RESERVED		Buzzer control		RESERVED	
Indication and Details	Indication	Details	Indication	Details	Indication	Details			Indication	Details		
	2		0	Disuse	0	Thermo on			0	Use of buzzer		
			1	ON/OFF Control	1	Operation on	1	Non use of buzzer				
			2	OFF Control								
		3	WINDOW ON/OFF Control									
Option	SEG19		SEG20		SEG21		SEG22		SEG23		-	
Explanation	PAGE		control of a remote controller		Heating setting compensation		RESERVED		RESERVED		-	
Indication and Details	Indication	Details	Indication	Details	Indication	Details					Indication	Details
	3		0 or 1	Indoor 1	0	Disuse						
			2	Indoor 2	1	2°C						
			3	Indoor 3	2	5°C						
		4	Indoor 4									

5. Press the  button to save and complete the option setting.

6. Press the  button to exit to normal mode.

 NOTE

- Press  button anytime during setup to exit without setting.
- Option code will not be applied if you don't press  button.
- Setting Installation option code is available only with a master wired remote controller.
- Setting Installation option code is available when there is one on one connection between a wired remote controller and an indoor unit.

Selecting motor speed

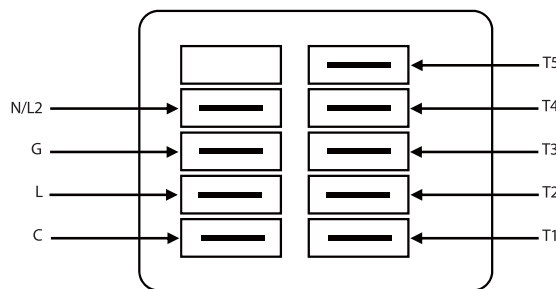
Selecting the Constant Torque Blower Speed

This air handler uses a Constant Torque high efficiency motor. This motor operates on 240 VAC. The motor speed taps are 24 VAC, 0.03 amps, 60 Hz, 1 PH. The speed taps can be adjusted according to installation needs. Table 4 shows the motor lead connection labeling and the connection denitions. See blower tables in later section for airw data.

Total 24 VAC circuit amps are 0.14 amps.

Change Motor Speeds

1. Turn o **all** electrical supply circuits to the air handler at the main service (House Circuit Breaker) panel.
2. Remove the blower door and switch air handler circuit breaker(s) to "OFF".
3. Disconnect the wire from the isolation relay terminal and reconnect the desired wire to the terminal. The RED wire is high speed. The VIOLET wire is mid speed. The GREEN wire is low speed. The ORANGE wire is electric heat high fan speed. The ORANGE wire must be connected to a speed tap that will provide sucient airw for the size of the electric heat kit. Refer to the heat kit installation manuals for minimum CFM for electric heat kit activation (usually speed tap 5).
4. Turn the circuit breakers on and reinstall air handler blower door.
5. Turn on all electrical supply circuits to the air handler at the main service (House Circuit Breaker) panel.
6. When black wire(Standard) is required to be connected to tap 5, the orange wire which originally is connected to tap 5 can be connected to any tap except tap 5.



Terminal	Connection	Default speed tap settings					
		AC018KNZDCH/ AA	AC024KNZDCH/ AA	AC030KNZDCH/ AA	AC036/042KNZDCH/ AA	AC048KNZDCH/ AA	AC054KNZDCH/ AA
C	Speed tap common - 24 VAC common						
L	Supply voltage - 240 VAC Line 1						
G	Ground connection						
N/L2	Supply voltage - 240 VAC Line 2						
T1	Low speed tap - 24 VAC input		"Low" speed	"Low" speed	"Low" speed	"Low" speed	"Low" speed
T2	Medium-low speed tap - 24 VAC input	"Low" speed	"Mid" speed	"Mid" speed		"Mid" speed	"Mid" speed
T3	Medium speed tap - 24 VAC input	"Mid" speed		"High" speed			
T4	Medium-high speed tap - 24 VAC input	"High" speed "	"High" speed		High speed for electric heat	"High" speed	High speed for electric heat
T5	High speed tap - 24 VAC input	High speed for electric heat	High speed for electric heat	High speed for electric heat	"High" speed	High speed for electric heat	"High" speed

Motor control/voltage taps

Blower CFM tables

**AC018KNZDCH/AA,AC024KNZDCH/AA,AC030KNZDCH/AA,AC036KNZDCH/AA,
AC042KNZDCH/AA,AC048KNZDCH/AA,AC054KNZDCH/AA**

AC018KNZDCH/AA

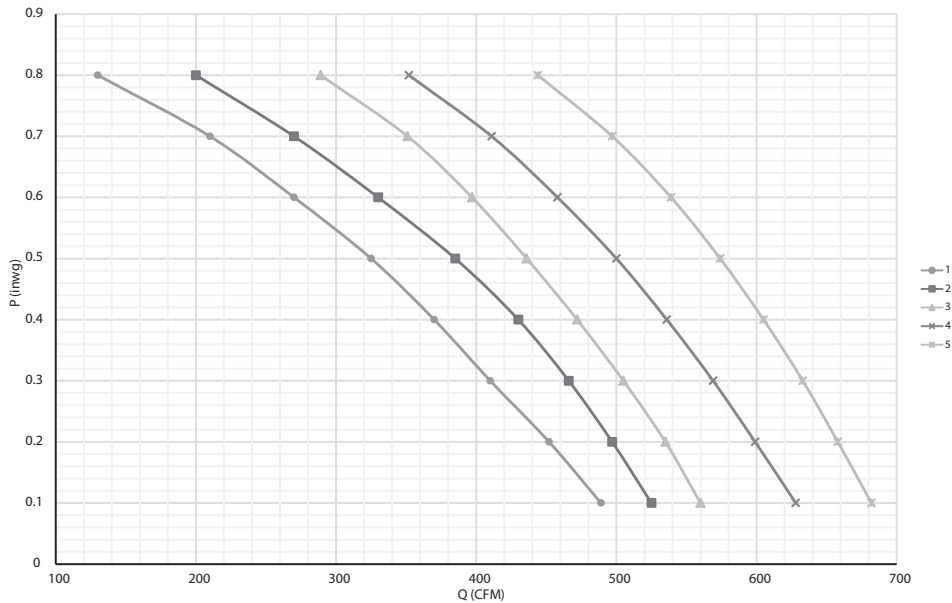
HP : 1/3

Default motor taps:

High / Mid /Low = 4/3/2

Motor TapP	(inwg)	CFMM	otor Tap	P(inwg)C	FM
1	0.1	489	4	0.1	628
	0.2	452		0.2	599
	0.3	410		0.3	569
	0.4	370		0.4	536
	0.5	325		0.5	500
	0.6	270		0.6	458
	0.7	210		0.7	411
	0.8	130		0.8	352
2	0.1	525	5	0.1	682
	0.2	497		0.2	658
	0.3	466		0.3	633
	0.4	430		0.4	605
	0.5	385		0.5	574
	0.6	330		0.6	539
	0.7	270		0.7	497
	0.8	200		0.8	444
3	0.1	560	5	0.1	682
	0.2	535		0.2	658
	0.3	505		0.3	633
	0.4	472		0.4	605
	0.5	436		0.5	574
	0.6	397		0.6	539
	0.7	351		0.7	497
	0.8	289		0.8	444

= Default Setting



AC024KNZDCH/AA

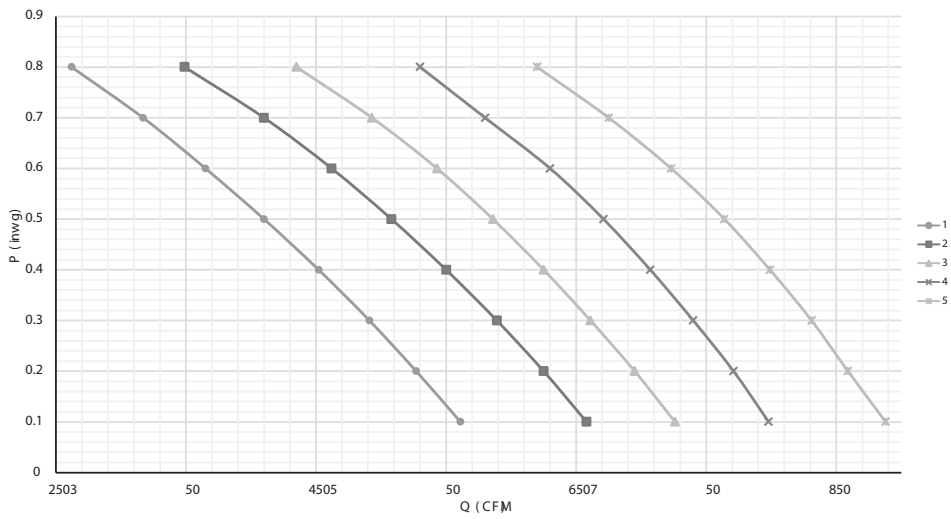
HP : 1/3

Default motor taps:

High / Mid /Low = 4/2/1

Motor TapP	(inwg)	CFMM	otor Tap	P(inwg)C	FM
1	0.1	561	4	0.1	798
	0.2	527		0.2	771
	0.3	491		0.3	740
	0.4	452		0.4	707
	0.5	410		0.5	671
	0.6	365		0.6	630
	0.7	317		0.7	580
	0.8	262		0.8	530
2	0.1	658	5	0.1	888
	0.2	625		0.2	859
	0.3	589		0.3	831
	0.4	550		0.4	799
	0.5	508		0.5	764
	0.6	462		0.6	723
	0.7	410		0.7	675
	0.8	349		0.8	620
3	0.1	726			
	0.2	695			
	0.3	661			
	0.4	625			
	0.5	586			
	0.6	543			
	0.7	493			
	0.8	435			

= Default Setting



AC030KNZDCH/AA

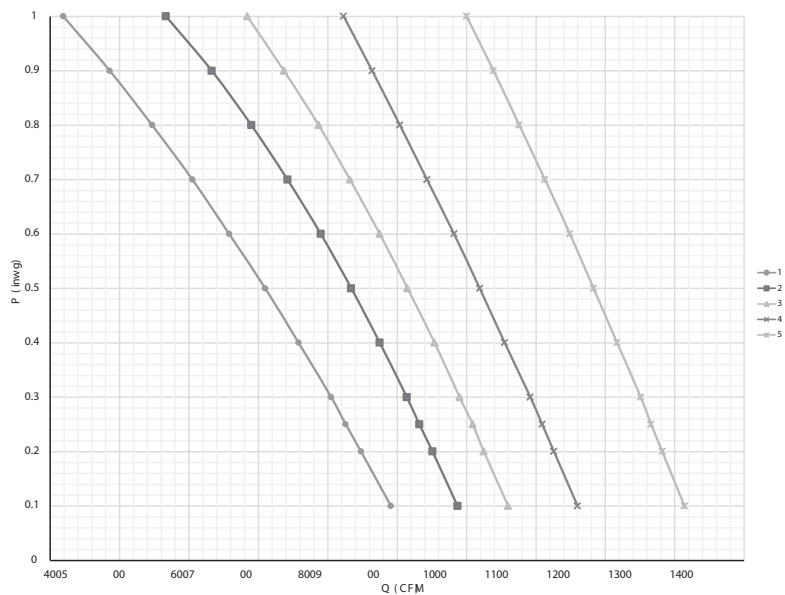
HP : 1/2

Default motor taps:

High / Mid /Low = 3/2/1

Motor TapP	(inwg)	CFMM	otor Tap	P(inwg)C	FM
1	0.1	891	4	0.1	1160
	0.2	848		0.2	1126
	0.25	826		0.25	1109
	0.3	805		0.3	1092
	0.4	758		0.4	1055
	0.5	710		0.5	1019
	0.6	658		0.6	982
	0.7	605		0.7	943
	0.8	547		0.8	904
	0.9	486		0.9	864
2	1	419	5	1	823
	0.1	987		0.1	1314
	0.2	951		0.2	1282
	0.25	932		0.25	1266
	0.3	914		0.3	1251
	0.4	875		0.4	1217
	0.5	834		0.5	1183
	0.6	790		0.6	1149
	0.7	742		0.7	1113
	0.8	690		0.8	1076
3	0.9	633		0.9	1039
	1	567		1	1000
	0.1	1060			
	0.2	1025			
	0.25	1009			
	0.3	990			
	0.4	954			
	0.5	915			
	0.6	875			
	0.7	832			
0.8	787				
0.9	737				
1	684				

= Default Setting



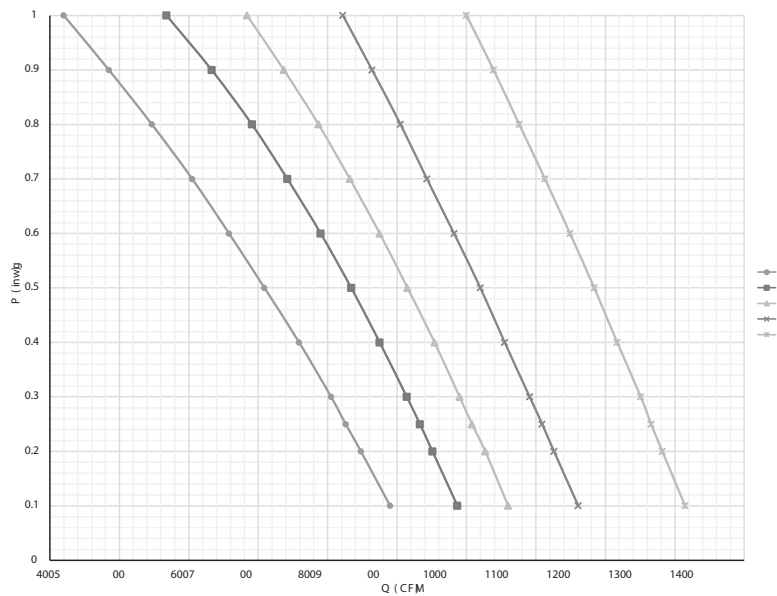
AC036KNZDCH/AA

HP : 1/2

Default motor taps:

High / Mid /Low = 5/3/1

Motor Tap	P (inwg)	CFMM	Motor Tap	P (inwg)	CFM
1	0.1	891	4	0.1	1160
	0.2	848		0.2	1126
	0.25	826		0.25	1109
	0.3	805		0.3	1092
	0.4	758		0.4	1055
	0.5	710		0.5	1019
	0.6	658		0.6	982
	0.7	605		0.7	943
	0.8	547		0.8	904
	0.9	486		0.9	864
2	1	419	5	1	823
	0.1	987		0.1	1314
	0.2	951		0.2	1282
	0.25	932		0.25	1266
	0.3	914		0.3	1251
	0.4	875		0.4	1217
	0.5	834		0.5	1183
	0.6	790		0.6	1149
	0.7	742		0.7	1113
	0.8	690		0.8	1076
0.9	633	0.9	1039		
1	567	1	1000		
3	0.1	1060	<div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: #cccccc; margin-right: 5px;"></div> = Default Setting </div>		
	0.2	1025			
	0.25	1009			
	0.3	990			
	0.4	954			
	0.5	915			
	0.6	875			
	0.7	832			
	0.8	787			
	0.9	737			
1	684				



AC042KNZDCH/AA

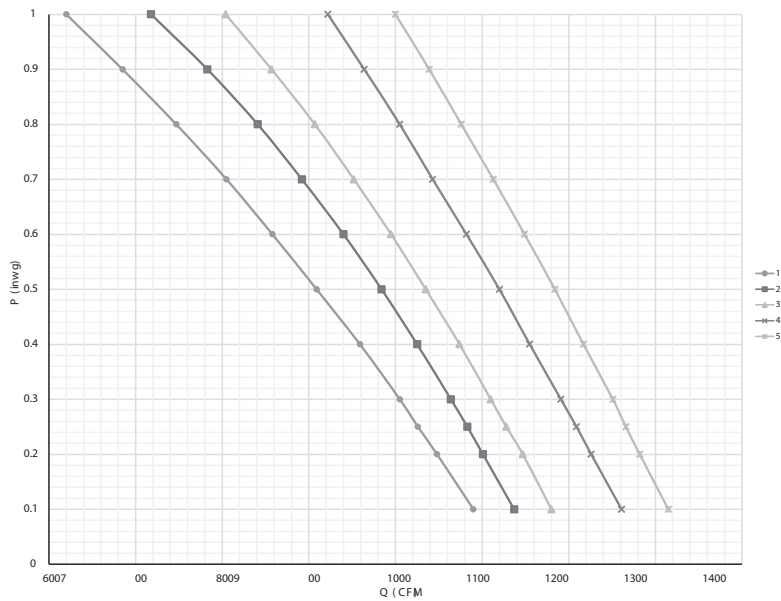
HP : 1/2

Default motor taps:

High / Mid /Low = 5/3/1

Motor TapP	(inwg)	CFMM	otor Tap	P(inwg)C	FM
1	0.1	1090	4	0.1	1261
	0.2	1048		0.2	1226
	0.25	1026		0.25	1209
	0.3	1005		0.3	1191
	0.4	959		0.4	1155
	0.5	909		0.5	1120
	0.6	858		0.6	1082
	0.7	805		0.7	1043
	0.8	747		0.8	1005
	0.9	685		0.9	964
2	1	620	5	1	922
	0.1	1137		0.1	1315
	0.2	1101		0.2	1282
	0.25	1083		0.25	1266
	0.3	1064		0.3	1251
	0.4	1025		0.4	1217
	0.5	984		0.5	1184
	0.6	940		0.6	1149
	0.7	892		0.7	1113
	0.8	841		0.8	1076
3	0.9	783		0.9	1039
	1	718		1	1000
	0.1	1180			
	0.2	1147			
	0.25	1128			
	0.3	1110			
	0.4	1074			
	0.5	1035			
	0.6	995			
	0.7	952			
0.8	907				
0.9	857				
1	804				

= Default Setting



AC048KNZDCH/AA

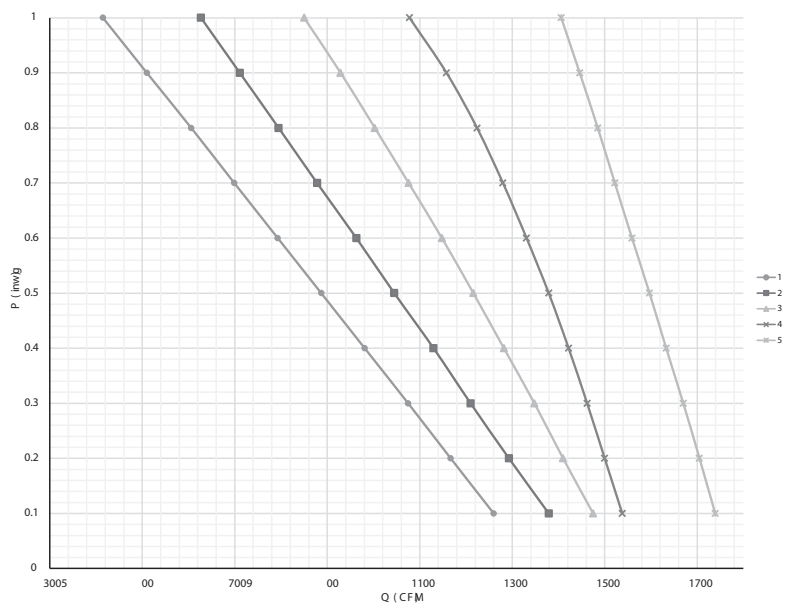
HP : 3/4

Default motor taps:

High / Mid /Low = 4/2/1

Motor Tap	P (inwg)	CFMM	otor Tap	P(inwg)C	FM
1	0.1	1260	4	0.1	1538
	0.2	1167		0.2	1500
	0.3	1075		0.3	1462
	0.4	981		0.4	1422
	0.5	887		0.5	1379
	0.6	793		0.6	1331
	0.7	699		0.7	1280
	0.8	606		0.8	1224
	0.9	510		0.9	1158
	1	415		1	1078
2	0.1	1379	5	0.1	1739
	0.2	1293		0.2	1705
	0.3	1210		0.3	1670
	0.4	1130		0.4	1633
	0.5	1045		0.5	1597
	0.6	963		0.6	1559
	0.7	878		0.7	1522
	0.8	795		0.8	1485
	0.9	711		0.9	1446
	1	627		1	1406
3	0.1	1475			
	0.2	1410			
	0.3	1348			
	0.4	1282			
	0.5	1216			
	0.6	1148			
	0.7	1076			
	0.8	1003			
	0.9	929			
	1	850			

 = Default Setting



AC054KNZDCH/AA

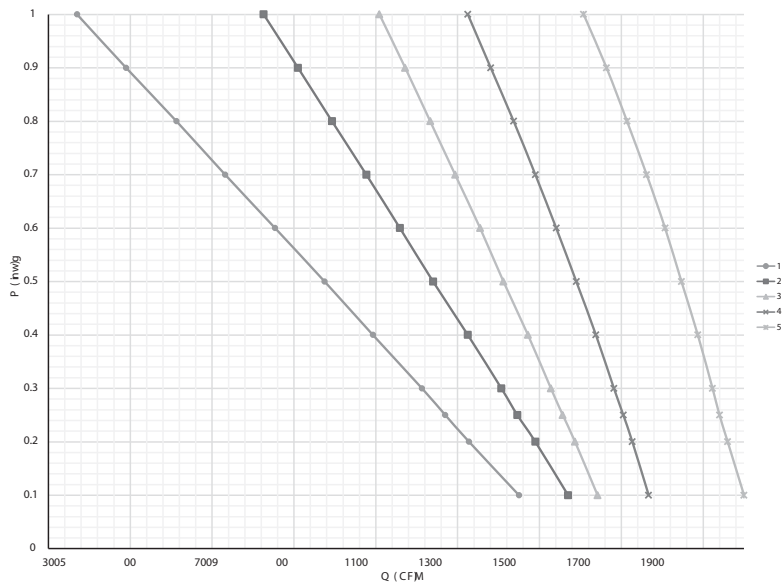
HP : 3/4

Default motor taps:

High / Mid /Low = 5/2/1


Motor TapP	(inwg)	CFMM	otor Tap	P(inwg)C	FM
1	0.1	1450	4	0.1	1767
	0.2	1328		0.2	1727
	0.25	1270		0.25	1705
	0.3	1213		0.3	1682
	0.4	1093		0.4	1638
	0.5	975		0.5	1590
	0.6	854		0.6	1541
	0.7	732		0.7	1490
	0.8	613		0.8	1437
	0.9	490		0.9	1381
2	1	370	5	1	1325
	0.1	1570		0.1	2000
	0.2	1490		0.2	1960
	0.25	1446		0.25	1940
	0.3	1407		0.3	1923
	0.4	1325		0.4	1887
	0.5	1240		0.5	1847
	0.6	1159		0.6	1807
	0.7	1077		0.7	1762
	0.8	993		0.8	1714
3	0.9	910		0.9	1664
	1	826		1	1608
	0.1	1642			
	0.2	1587			
	0.25	1557			
	0.3	1528			
	0.4	1472			
	0.5	1412			
	0.6	1355			
	0.7	1294			
0.8	1233				
0.9	1172				
1	1109				

= Default Setting



4-4 Items to be checked first

1. The input voltage should be rating voltage $\pm 10\%$ range.
The air conditioner may not operate properly if the voltage is out of this range.
2. Is the link cable linking the indoor unit and the outdoor unit linked properly?
The indoor unit and the outdoor unit shall be linked by 4 cables.
Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
Otherwise the air conditioner may not operate properly.
3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the air conditioner.

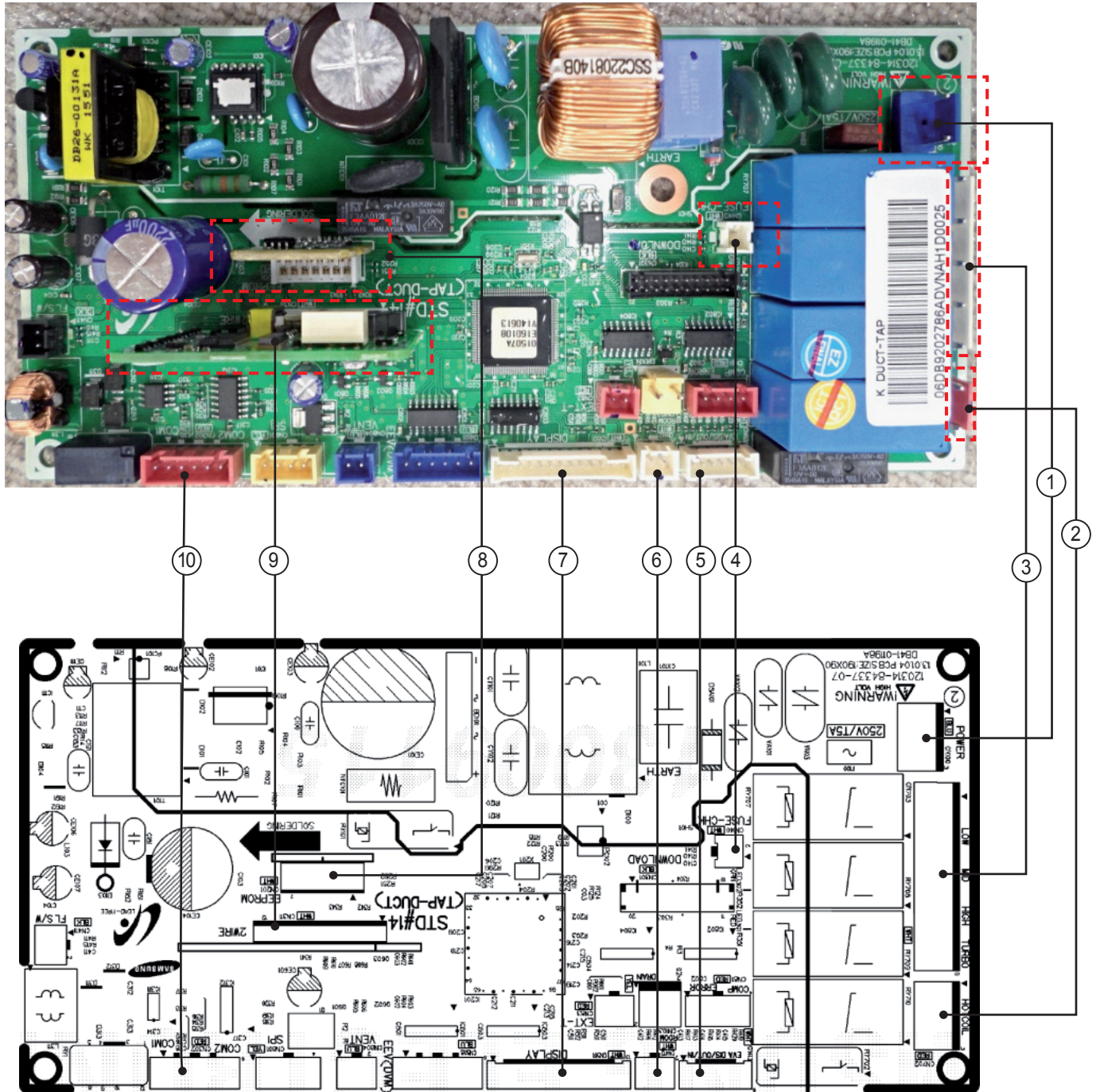
No	Operation of air conditioner	Explanation
1	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. [In case of heat pump model] In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew.
2	Compressor stops operation intermittently in DRY() mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
3	[In case of heat pump model] Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continues operation for up to 12 minutes(maximum) until the deice is completed.
4	[In case of heat pump model] The compressor and indoor fan stop intermittently in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
5	[In case of heat pump model] Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation

5. PCB Diagram and Part List

5-1 Indoor Unit

5-1-1 MAIN PCB Diagram

- AC018KNZDCH, AC024KNZDCH, AC030KNZDCH, AC036KNZDCH, AC042KNZDCH, AC048KNZDCH, AC054KNZDCH

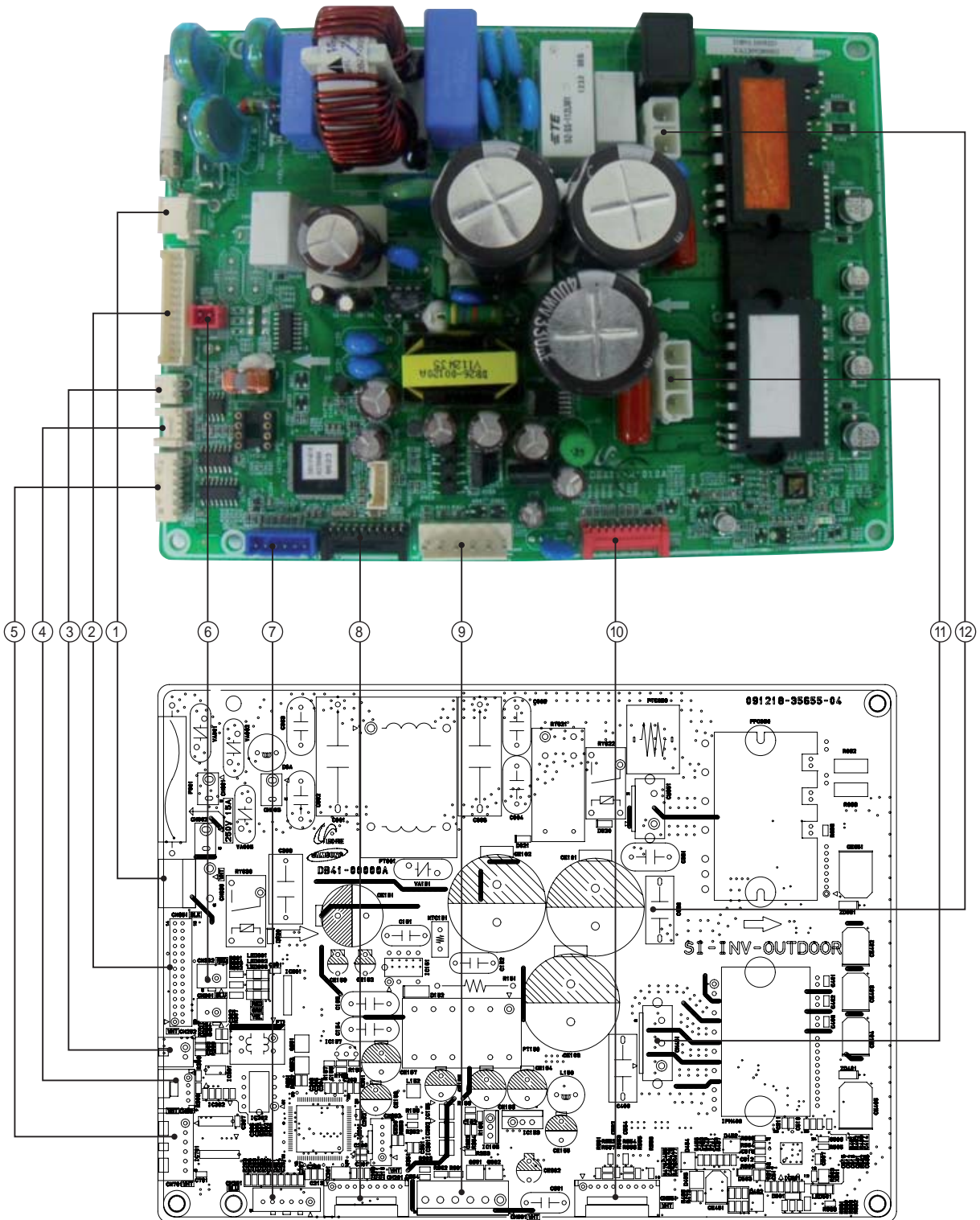


<p>① CN100 – POWER CONNECTOR</p> <p>#1 : L (L1) #2 : NC #3 : N (L2)</p>	<p>② CN702 – HEATER CONTROL</p> <p>#1 : N (L2) #2 : NC #3 : L (L1)</p>	<p>③ CN703 – FAN RPM CONTROL</p> <p>#1 : RELAY_N (COMMON) #3 : RPM LOW – LFSR connect #5 : RPM MID – MFSR connect #7 : RPM HIGH – HFSR connect #2, 4, 6, 8, 9 : NC</p>	<p>④ CN140 – FUSE CHECK</p> <p>#1 : THERMAL FUSE SHORT/OPEN CHECK #2 : SGND</p>
<p>⑤ CN413 – EVA SENSOR</p> <p>#1 : EVA IN TEMP #3 : EVA OUT TEMP #5 : DISCHARGE TEMP (NOT USE) #2, 4, 6 : SGND</p>	<p>⑥ CN412 – ROOM SENSOR</p> <p>#1 : INDOOR ROOM TEMP #2 : SGND</p>	<p>⑦ CN501 – DISPLAY & IR RECEIVER KIT</p> <p>#1 : 12V #2 : LED1 #3 : LED2 #4 : LED3 #5 : LED4 #6 : LED5 #7 : BUZZER #8 : SIGNAL OUT (NOT USE) #9 : AUTO SW (NOT USE) #10 : REMOTE CTRL RECEIVE SIGNAL #11 : SGND #12 : 5V #13 : BUZZER</p>	<p>⑧ CN201 – EEPROM</p> <p>#1 : SGND #2 : NC #3 : 5V #4 : EEPROM_SELECT #5 : EEPROM_SO #6 : EEPROM_SI #7 : EEPROM_CLK</p>
<p>⑨ CN311 – 2 WIRE COMM SUB PBA</p> <p>#1 : 12V #2 : COM2_PCTRL_MICOM #3 : COM2_VCHECK_A #4 : COM2_VCHECK_B #5 : COM2_MICOM_AD #6 : VCC ON/OFF CTRL #7 : COM2_ENABLE #8 : COM2_C #9 : COM2_D #10 : COM2_TX #11 : COM2_RX #12 : SGND</p>	<p>⑩ CN302 – COMM</p> <p>#1 : F1 – INDOOR/OUTDOOR COMM #2 : F2 – INDOOR/OUTDOOR COMM #3 : V1 – 12V #4 : V2 – SGND #5 : F3 – WIRED CONTROLLER COMM #6 : F4 – WIRED CONTROLLER COMM</p>		

5-2 Outdoor Unit

5-2-1 Main PCB

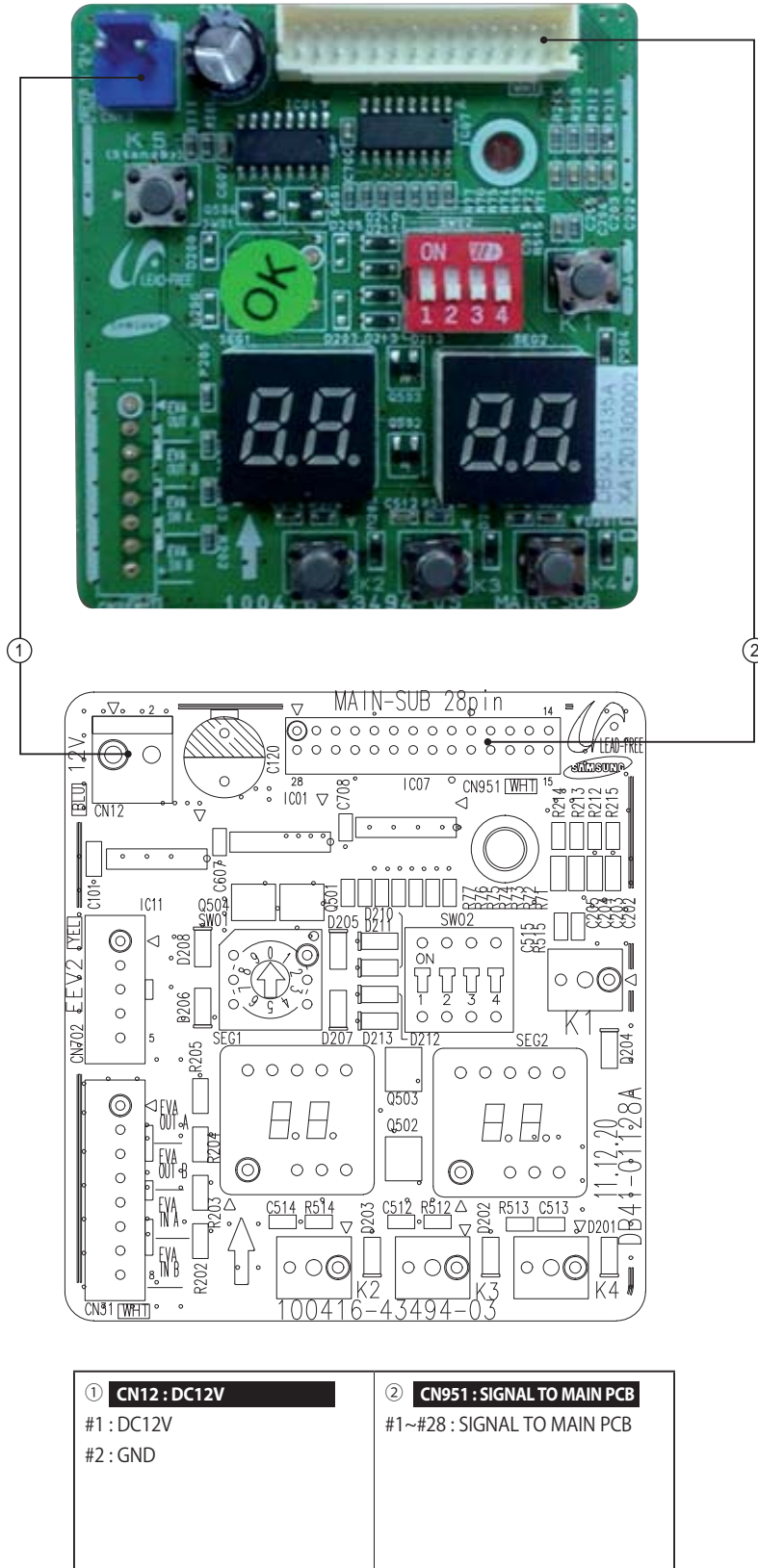
■ AC018JXADCH



<p>① CN030 : 4WAY VALVE #1~#3 : AC220V</p>	<p>② CN951 : SIGNAL TO SUB PCB #1~#28 : SIGNAL TO SUB PCB</p>	<p>③ CN252 : THERMISTOR #1~#2 : OLP THERMISTOR</p>	<p>④ CN851:S-NET Communication #1 : DC12V #2 : RXD #3 : TXD #4 : GND</p>
<p>⑤ CN701 : EEV #1~#5 : EEV SIGNAL #6 : DC12V</p>	<p>⑥ CN302:Communication(COM1) #1 : COM1(F1) #2 : COM2(F2)</p>	<p>⑦ CN251 : THERMISTOR #1~#2 : OUTDOOR THERMISTOR #3~#4 : DISCHARGE THERMISTOR #5~#6 : COND THERMISTOR</p>	<p>⑧ CN201 : Downloader #1~#10 : Download</p>
<p>⑨ CN901 : BLDC MOTOR #1: DV310V #3: GND #4: DC15V #5: FAN_PWM #6: FAN_Feedback</p>	<p>⑩ CN551: Downloader #1~#10 : Download</p>	<p>⑪ CN451 : COMP POWER #1 : COMP U-Phase #2 : COMP V-Phase #3 : COMP W-Phase</p>	<p>⑫ CN051 : Reactor #1~#2 : Reactor</p>

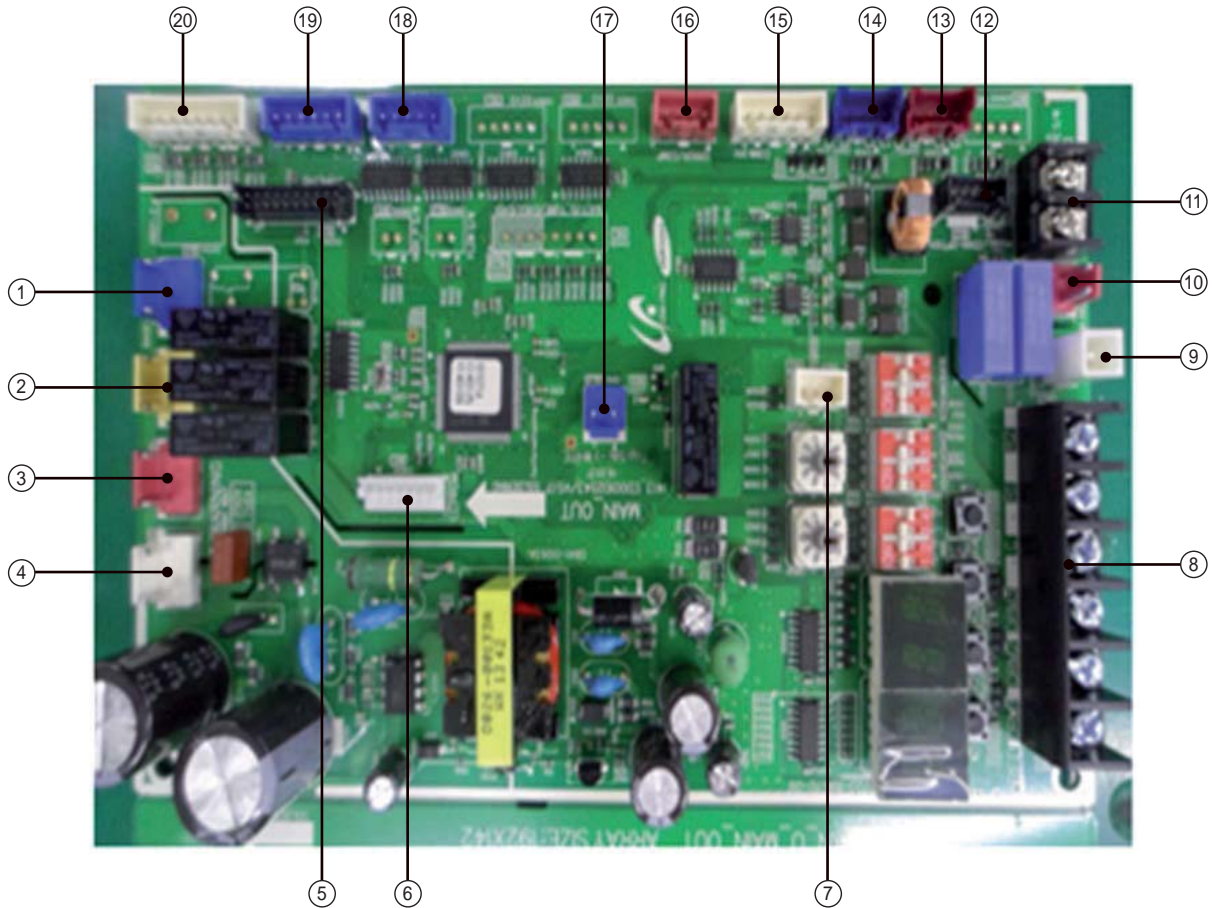
5-2-2 SUB PCB

■ AC018JXADCH



5-2-3 MAIN PCB

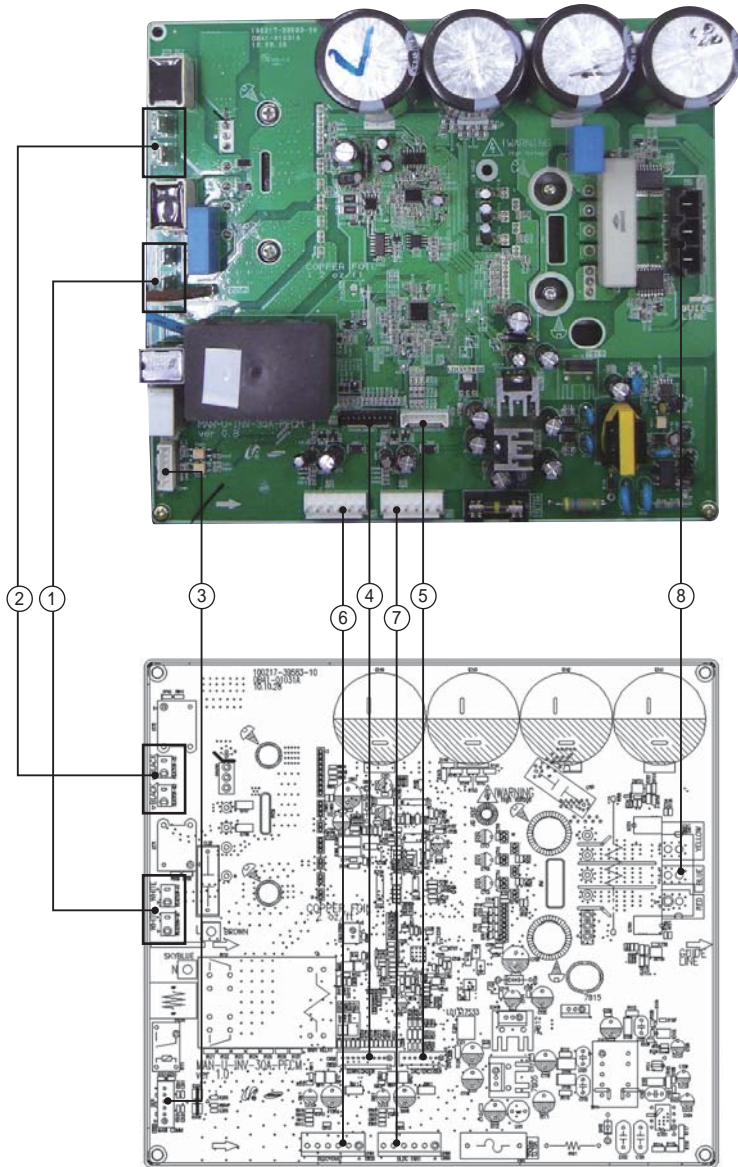
■ AC024JXADCH, AC030JXADCH, AC036JXADCH, AC042JXADCH, AC048JXADCH, AC054KXADCH



No	Part Code	Local	Function	Description
1	3711-003404	CN703	BASE-HEATER	YW396-03AV BLU
2	3711-003406	CN702	4WAY-1	YW396-03AV YEL
3	3711-003407	CN701	HOTGAS	YW396-03AV RED
4	3711-000203	CN101	POWER	YW396-03AV WHT
5	3711-002001	CN306	DOWNLOAD	YDW200-20P BLK
6	3711-007817	CN806	EEPROM	B7P-MQ WHT
7	3711-000024	CN501	MODE SELECTOR	SMW250-03 WHT
8	DB65-00320A	CN304	DRED	DAPC-2009-6P BLK
9	3711-000744	CN103	EARTH	YDW236-01 WHT
10	3711-000177	CN303	COMM-INDOOR	YW396-02V RED
11	3716-001162	CN003	QUIET S/W	BR-7623-2P BLK
12	3711-005096	CN302	COMM-OPTION	SMW200-05 BLK
13	3711-007069	CN402	HIGH PRESSURE S/W	B04B-XARK-1 RED
14	3711-007325	CN401	LOW PRESSURE S/W	B04B-XARK-1 BLU
15	3711-001038	CN305	COMM INV	SMW250-06 WHT
16	3711-000939	CN801	ERROR/COMP CHECK	SMW250-04 RED
17	3711-000176	CN12	DC12V	YW396-02V BLU
18	3711-000997	CN803	EEV1	SMW250-05 BLU
19	3711-001036	CN802	EEV4	SMW250-06 BLU
20	3711-001084	CN403	OUT TEMP/COND/DISQ/OLP	SMW250-08 WHT

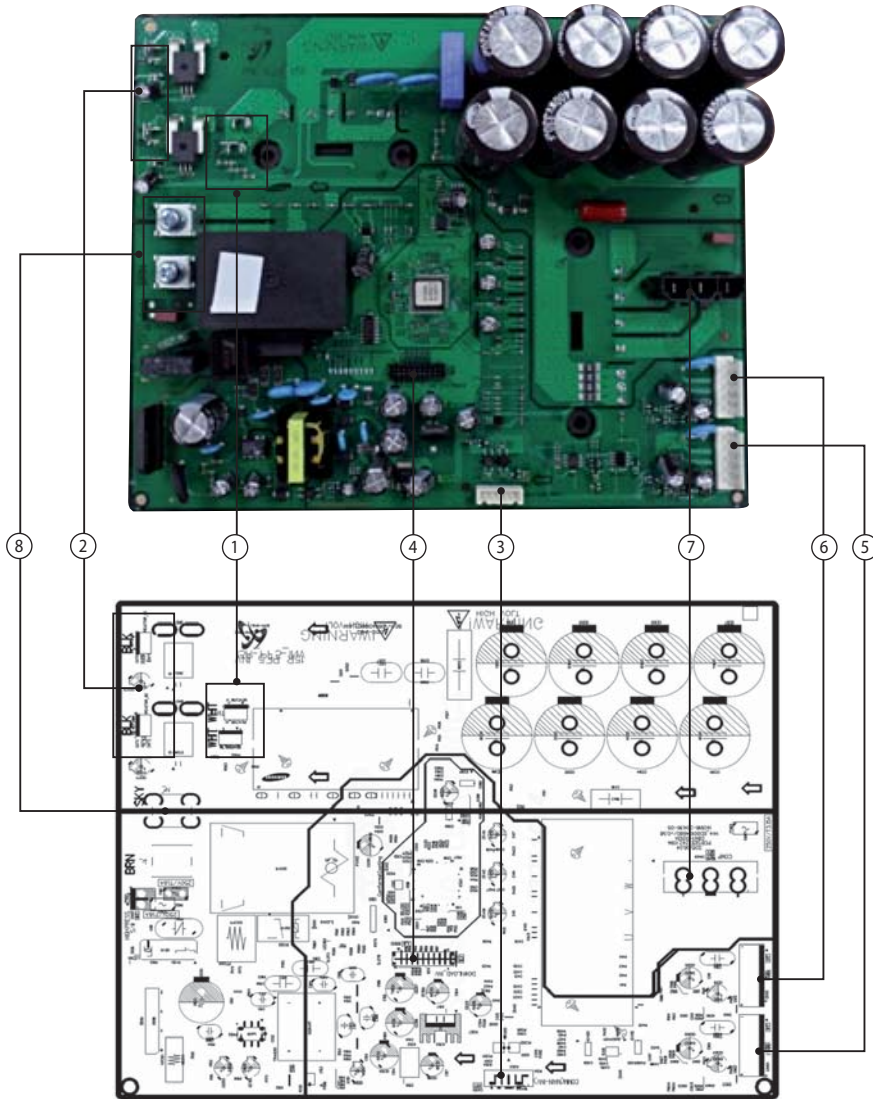
5-2-4 INVERTER PCB

■ AC024JXADCH, AC030JXADCH, AC036JXADCH, AC042JXADCH, AC048JXADCH



<p>① Reactor-A1/B1 #Reactor-A2 : WHT #Reactor-B2 : WHT</p>	<p>② Reactor-A2/B2 #Reactor-A2 : BLK #Reactor-B2 : BLK</p>	<p>③ CN50(2PIN/RED)-Communication #1 : RXD, #2 : TXD #3 : GND, #4 : DC 5V #5 : DC 12V, #6 : INV. SMPS signal</p>	<p>④ CN22-Downloader #1 : RXD_ATARO, #2 : TXD_ATARO #3, #8 : N.C, #4~#7 : DATA signal #9 : GND, #10 : DC 5V</p>
<p>⑤ CN21-DAC/ENCODER For S/W engineer debugging</p>	<p>⑥ CN91-FAN2 #1 : DC 360V #2 : N.C #3 : GND #4 : DC 15V #5 : FAN RPM #6 : FAN RPM feedback</p>	<p>⑦ CN90-FAN1 #1 : DC 360V #2 : N.C #3 : GND #4 : DC 15V #5 : FAN RPM #6 : FAN RPM feedback</p>	<p>⑧ CN71-COMP. #1 : COMP. U-phase(RED) #2 : COMP. V-phase(BLU) #3 : COMP. U-phase(YEL)</p>

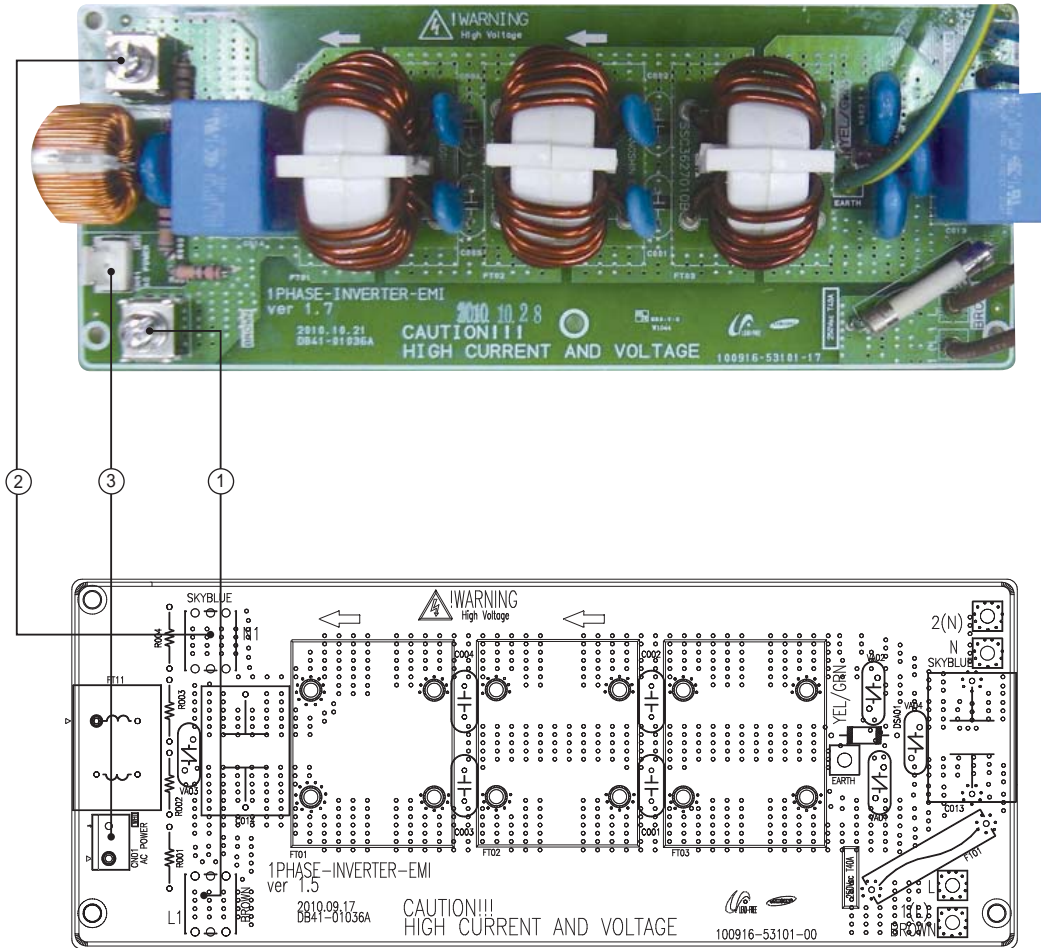
■ AC054KXADCH



<p>① Reactor-A1/B1 #Reactor-A1 : WHT #Reactor-B1 : WHT</p>	<p>② Reactor-A2/B2 #Reactor-A2 : BLK #Reactor-B2 : BLK</p>	<p>③ CN351 - Main COMM #1 : RXD #2 : TXD #3 : GND #4 : DV5V #5 : DV12V #6 : INV, SMPS SIGNAL</p>	<p>④ CN551 - Downloader #1 : RXD_INV #2 : TXD_INV #3 : BOOT_INV #4 : TDO_INV #5 : TCK_INV #6 : TDI_INV #7 : TMS_INV #8 : nTRST #9 : GND #10~#11 : 5V #14 #18 #19 : ENC #17 : GND #20 : SUB</p>
<p>⑤ CN901 - FAN1 #1 : DC310V #2 : N.C #3 : GND #4 : DV15V #5 : FAN RPM #6 : FAN RPM Feedback</p>	<p>⑥ CN911 - FAN2 #1 : DC310V #2 : N.C #3 : GND #4 : DV15V #5 : FAN RPM #6 : FAN RPM Feedback</p>	<p>⑦ CN401 - Compressor #1 : Compressor U-phase(RED) #2 : Compressor V-phase(BLU) #3 : Compressor W-phase(YEL)</p>	<p>⑧ L, N- 220V Power #1 : L-Phase/BRN #2 : N-Phase/SKY</p>

5-2-5 EMI PCB

■ AC024JXADCH, AC030JXADCH, AC036JXADCH, AC042JXADCH, AC048JXADCH, AC054KXADCH

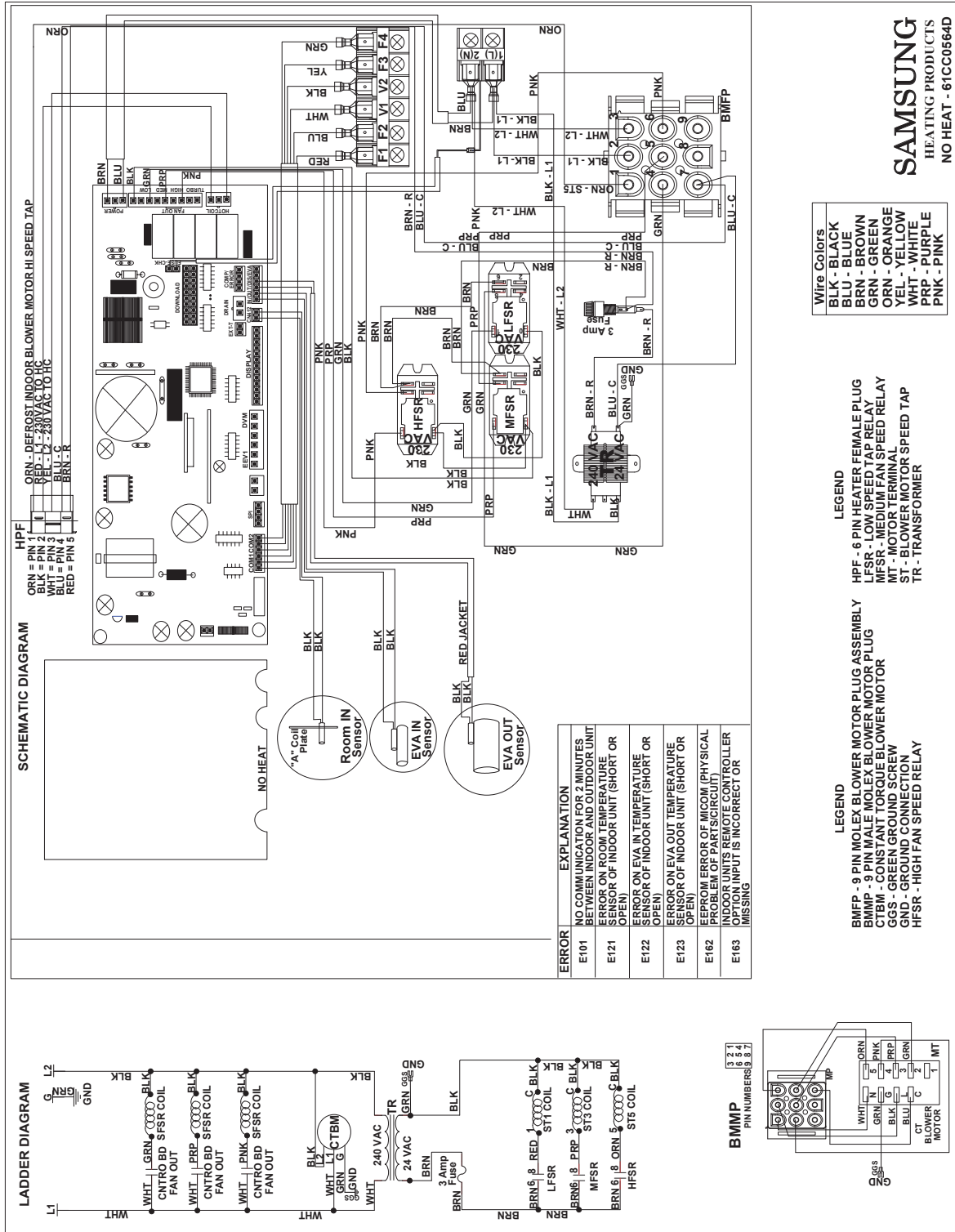


<p>① L1-AC POWER L phase L1 : BRN</p>	<p>② N1-AC POWER N phase N1 : SKY-BLU</p>	<p>③ CN01-AC POWER #1-#3 : AC 220~240V</p>
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6. Wiring Diagram

6-1 Indoor Unit

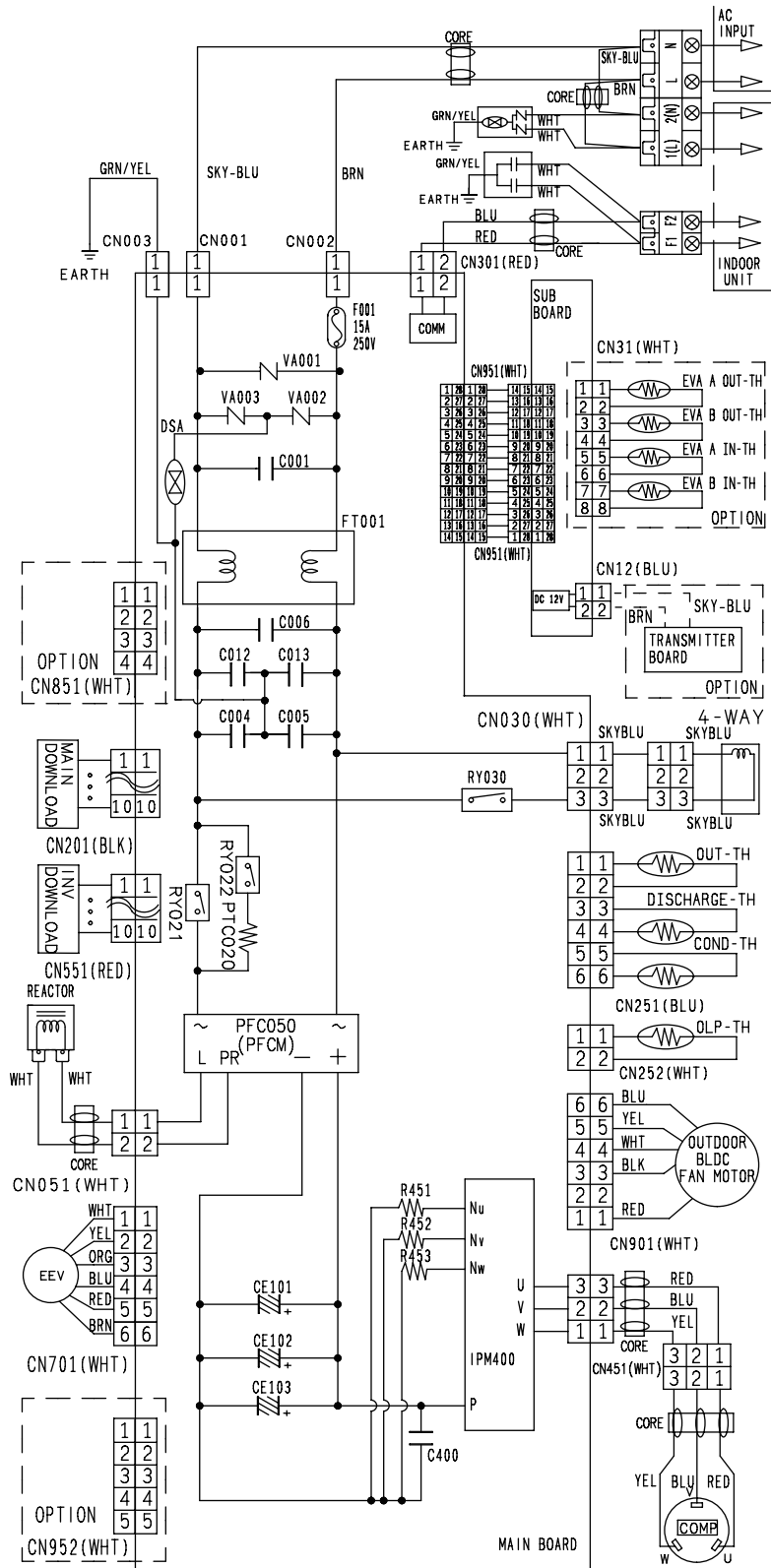
- AC018KNZDCH / AC024KNZDCH / AC030KNZDCH / AC036KNZDCH / AC042KNZDCH / AC048KNZDCH / AC054KNZDCH



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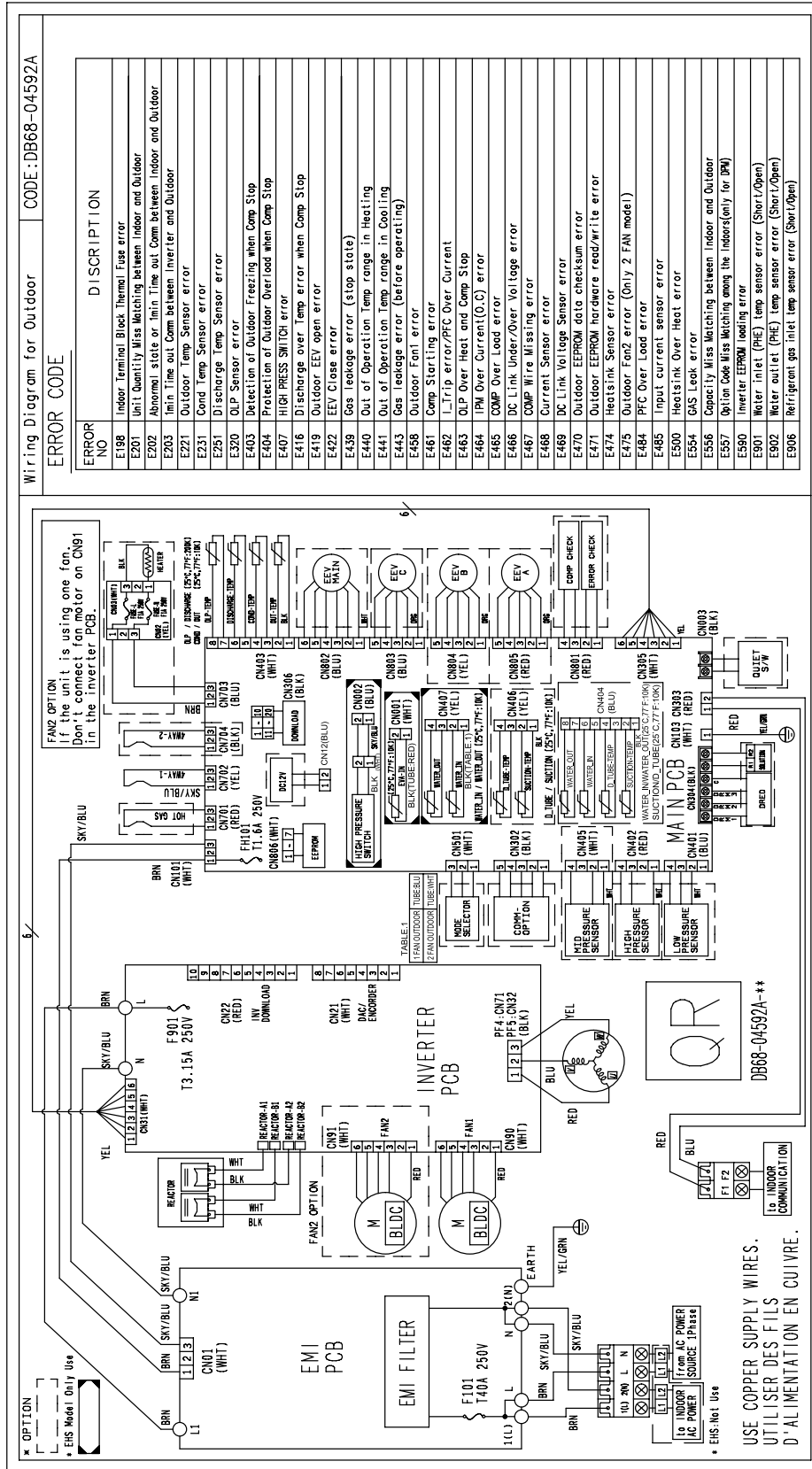
6-2 Outdoor Unit

- AC018JXADCH

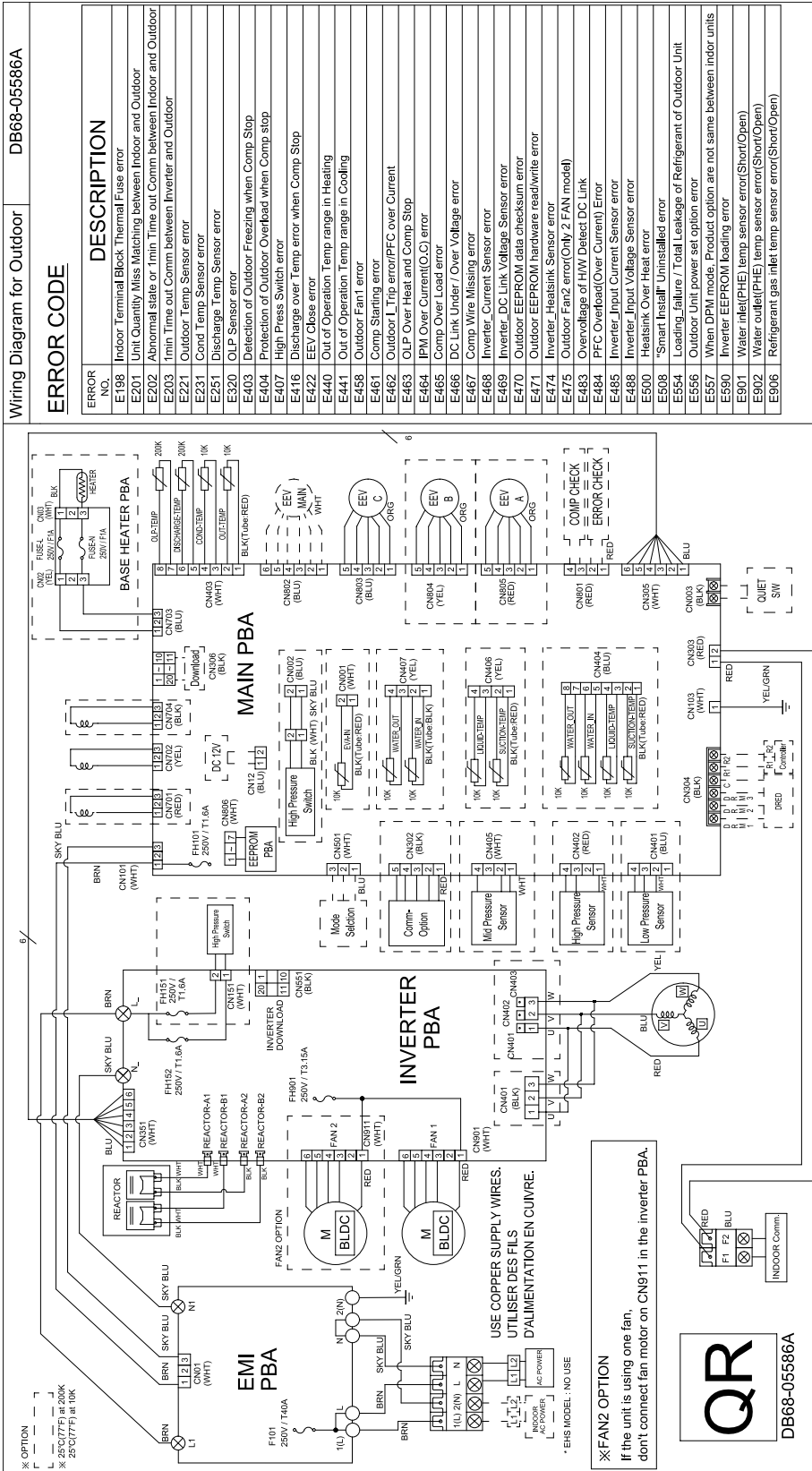


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- AC024JXADCH, AC030JXADCH, AC036JXADCH, AC042JXADCH, AC048JXADCH



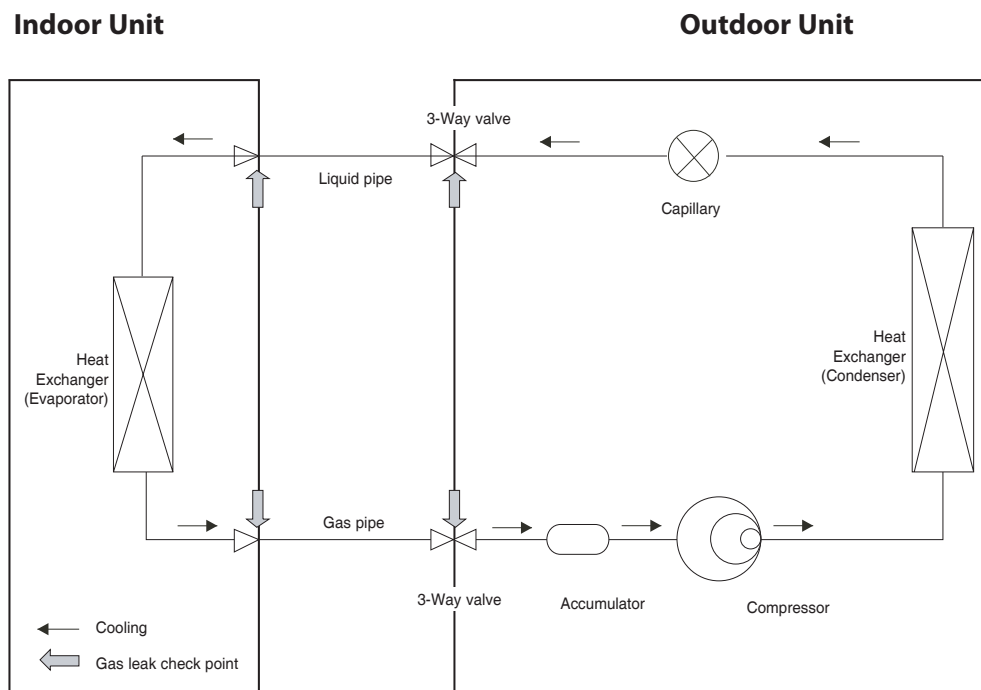
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7. Reference Sheet

7-1 Refrigerating Cycle Diagram



■ CONDENSER

High temperature and high pressure gas state coolant 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 coolant is compressed and sent to the cycling system.

■ EVAPORATOR

Liquid coolant 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

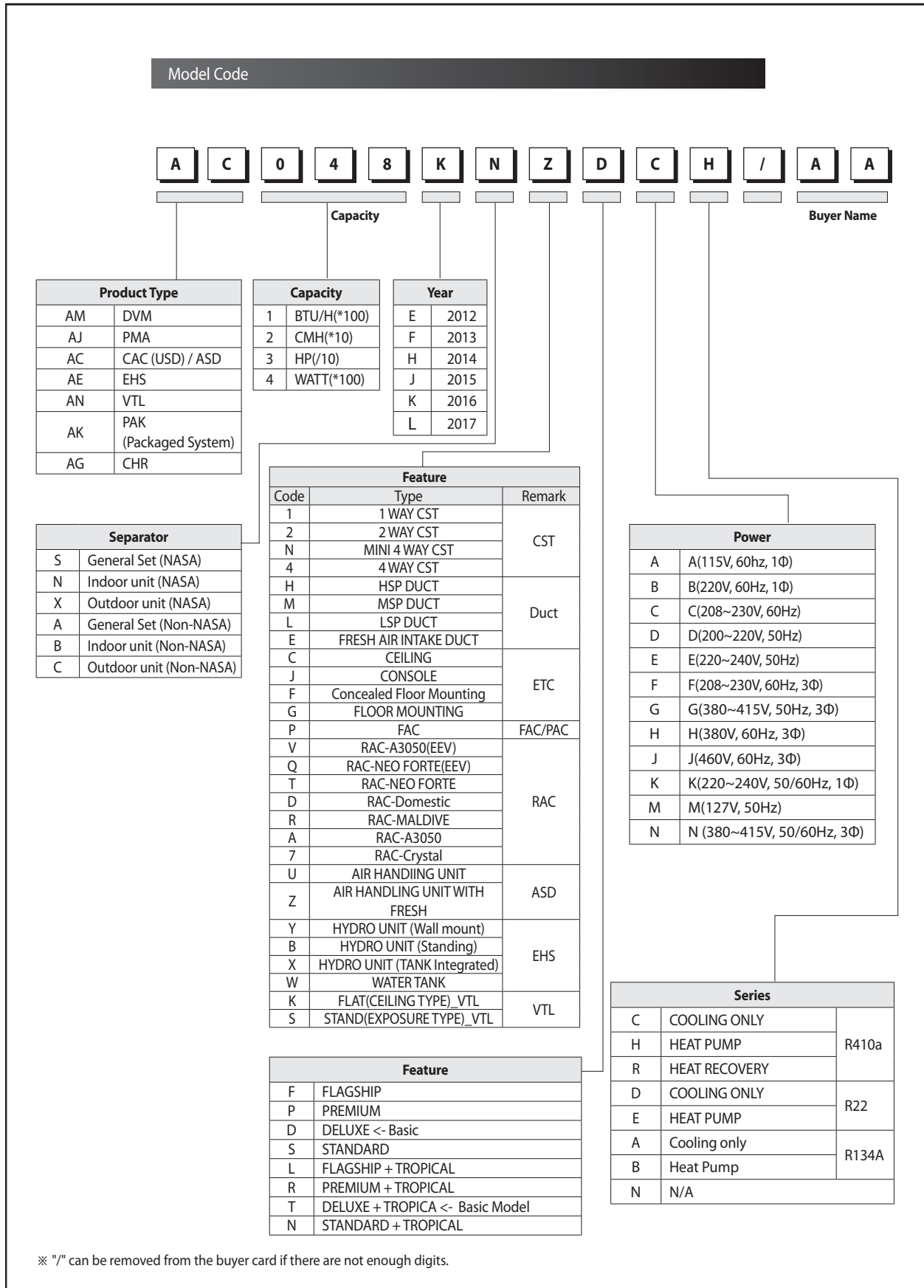
You can open the valve by turning the need valve counterclockwise using hex wrench, and it is used for vacuum, gas purging, coolant injection, coolant purging, and indoor-outdoor unit connection.

■ ACCUMULATOR

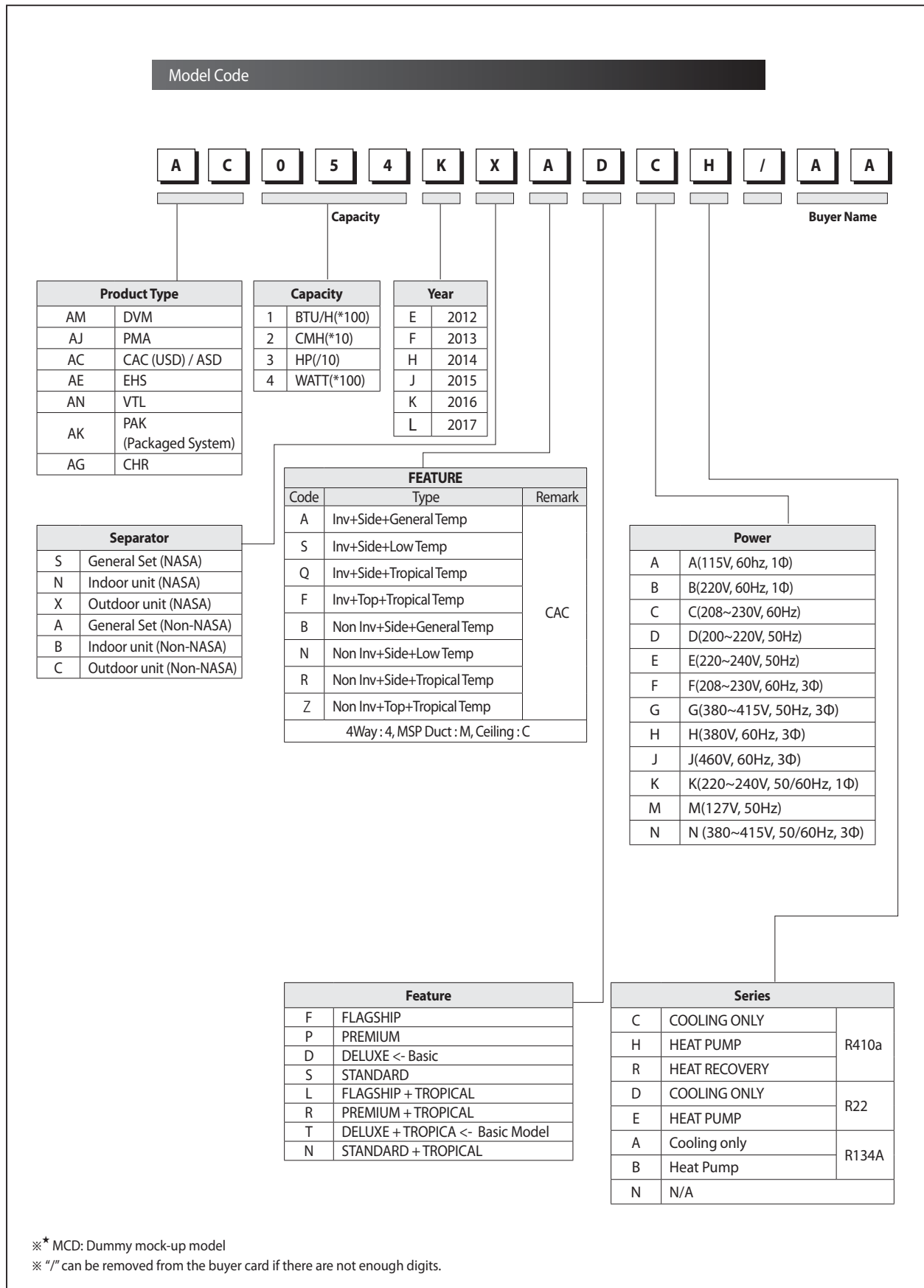
Accumulator prevents the flow of liquid-state coolant into the compressor. (Liquid-state coolant flowing into the compressor will overload the compressor.)

7-2 Index of Model Name

7-2-1 Indoor Unit



7-2-2 Outdoor Unit





GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
Europe, CIS, Mideast & Africa	gspn1.samsungcsportal.com
Asia	gspn2.samsungcsportal.com
North & Latin America	gspn3.samsungcsportal.com
China	china.samsungportal.com

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