SAMSUNG

SYSTEM AIR CONDITIONER

	INDOOR UNIT	OUTDOOR UNIT
Basic :	CH44CA	CH44CAX
Model :	CH140EAMC	UH140GAMC
	CH105EAMC	UH105GAMC
Model Code :	CH140EAMC	UH140GAMC
	CH105EAMC	UH105GAMC

SERVICE Manual

AIR CONDITIONER

CH140/105EAMC

UH140GAMC

UH105GAMC

THE FEATURE OF PRODUCT

■ **Energy Saving Function**

■ **Long Lasting Outdoor Unit**

■ **High Ceiling Operation**
: Up to 3.6m height

■ **Built-in Drain Pump**
: Max. 750mm

■ **Long Piping**
: Max. 50m length & 30m height

For more information, Please access to our service web site(http://itself.sec.samsung.co.kr)

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2. Product Specifications

2-1 The Feature of Product

■ **Energy saving function**

Make a profit room temperature with energy saving function(high efficiency air conditioner).

■ **Long Lasting Indoor & Outdoor Units**

Anti-Corrosion Outdoor Cabinet & anti-Bacteria Indoor Heat Exchanger.

■ **High Ceiling Operation**

Broader and wider blow supports up to 3.6 meters high.

■ **Built-in Drain Pump**

Drain Pump for 750mm height difference.

■ **Auto Changeover**

Cooling or Heating automatic operation due to room temperature.

■ **Long Piping**

Max. 50m length & 30m height.
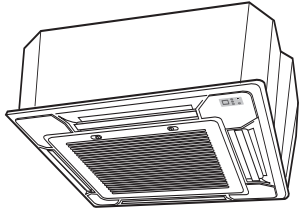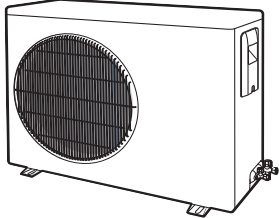
2-2 The abbreviated technology words & the definition of technology terms

Abbreviated technology words	Definition of technology terms
COMP (Full name:compressor)	One that compresses, especially a machine used to compress gases.
BLOWER	One that blows, especially a mechanical device, such as a fan, that produces a current of air.
FAN	A device for creating a current of air or a breeze.
ASSY CONTROL BOX (Full name : assemble control box)	A restraining device of air-condition, measure, or limit.
MOTOR	Something, such as a machine or an engine, that produces or imparts motion.
ASSY EVAP / ASSY COND(Full name : assemble evaporator / assemble condenser)	Heat exchanger; A device, used to transfer heat from a fluid on oneside of a barrier to a fluid on the other side without bringing the fluidsinto direct contact.

2-3 Product Specifications

| MODEL	INDOOR UNIT		CH140EAMC	CH105EAMC
	OUTDOOR UNIT		UH140GAMC	UH105GAMC
Capacity	Cooling	BTU/h	48,000	34,120
		W	14,000	10,000
	Heating	BTU/h	52,800	36,510
		W	15,400	10,700
Power Supply		Φ/V/Hz	3Φ/380~415V/50Hz	3Φ/380~415V/50Hz
Power Input	Cooling	W	5,300	3,560
	Heating	W	5,900	3,600
Running Current	Cooling	A	9.20	6.20
	Heating	A	10.00	6.30
Max current / power			11.5A/6.5kW	8.10A/4.39kW
Indoor Unit	Fan Speed	Hi r.p.m	600±20	540/520±20
		Mid r.p.m	560±20	500/480±20
		Low r.p.m	520±20	460/440±20
	Air Flow Rate	Hi m³/min	29	24.5
		Mid m³/min	27	22.5
		Low m³/min	25	20.5
	Noise Level(Cooling/Heating)	dB(A)	49/50	47/48
	Heat Exchanger	Type	Slit, Φ7, 2Rows, 13Stages, FP1.4	Slit, Φ7, 2Rows, 12Stages, FP1.5
		RowsxStagesxFin pitch	2*13*1.4	2*12*1.5
	Fan	Type	Turbo	Turbo
	Dimensions	H mm	298	298
		W mm	840	840
		D mm	840	840
	Weight	Net/Gross kg	29/35	28/34
Outdoor Unit	Fan Speed	Hi r.p.m	1020±50	1080±50
		Low r.p.m	600±50	750±50
	Noise Level(Cooling/Heating)	dB(A)	67/68	65/66
	Fan	Type	Propeller	Propeller
	Compressor	Type	Scroll , 3phase	Scroll , 3phase
		Model	BN62YFAMT	AN42YBFMT
		Output Btu/h	56,640	37,200
		Protection	External	External
	Refrigerant	Type	R410A	R410A
		Charge g	3,300(116.4oz)	2,750(97.0oz)
		Adding Charge g/m	70	70
		Control	Expansion Valve	Expansion Valve
	Heat Exchanger	Type	Slit, Φ7 Wide fin	Slit, Φ7 normal fin
		RowsxStagesxFin pitch	2*52*1.4	2*42*1.3
	Dimensions	H mm	1128	931
		W mm	932	880
		D mm	375	320
	Weight	Net/Gross kg	121/136	87/92
Piping	Pipe O.D Size	Liquid mm(inch)	19.05(3/4")	19.05(3/4")
		Gas mm(inch)	9.52(3/8")	9.52(3/8")
	Connection Method		Flare	Flare
	Between	Height m	Max.30	Max.30
		Pipe Length m	Max.50	Max.50

2-4 The Comparative Specifications of Product

Item		CH140EAMC	CH105EAMC	CH44CA(Basic)
Design	Indoor Unit			
	Outdoor Unit			
Net Weight	Indoor Unit	29Kg	28Kg	34Kg
	Outdoor Unit	121Kg	84Kg	123Kg
Outer Dimension (WxHxD)	Indoor Unit	298*840*840mm	298*840*840mm	288*840*840mm
	Outdoor Unit	1128*932*375mm	880*931*320mm	1240*930*385mm
Noise	Indoor Unit	49dB↓	48dB↓	52dB↓
	Outdoor Unit	67dB↓	66dB↓	62dB↓
Air Purifying System	Filter	Anti-bacterial Filter	Anti-bacterial Filter	Anti-bacterial Filter

2-5 Accessory and Option Specifications

2-5-1 Accessories
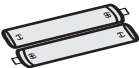
Item	Descriptions	Code-No.	Q'TY	Remark
	Pattern sheet	DB69-01490A	1	
	Insulation drain in/out	DB62-03440H/ DB62-03439H	1	
	Insu Pipe Joint In 1/4 and 1/2	DB72-00143E/ DB72-00143G	1	
	Insu Pipe Joint Out 1/4	DB62-03439J	2	
	Cable-tie	DB65-10088C	8	
	Drain hose	DB94-01065A	1	Indoor Unit
	Pad Stopper	DB69-00165A	1	
	Instruction manual	DB98-26331A	1	
	Installation manual	DB98-26330A	1	
	Safety net	DB63-01480A	1	
	M4x12 tapped Screw	6002-2000213	4	

Accessories(cont.)

Item	Descriptions	Code-No.	Q'TY	Remark
	Nut-Flare	DB60-30010B	1	Outdoor Unit
	Drain Plug	DB67-00477A	1	
	Cap Drain	DB63-10355C	1	
	Rubber Bracket Wire	DB73-00218A	2	
	Installation manual	DB98-26328A	1	

2-5-2 Accessories

■ Wireless Remote Controller Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Wireless remote controller	DB93-00251G	1	
	Battery	DB47-90024A	2	
	Remote control holder	DB61-00204A	1	
	STS 2S-2x10 tapped screw	6002-000581	2	
	Owner's instructions	DB98-05156A	1	
	Installation manual	DB98-05184A	1	

■ Receiver & display unit & Wire kit

Item	Descriptions	Code-No.	Q'TY	Remark
	Receiver & display unit	DB93-01066A	1	Indoor Unit
	STS 2S-2x10 tapped screw	-	4	
	2S-4x12 tapped screw	-	2	
	Owner's instructions	DB98-05160A	1	
	Installation manual	DB98-05186A	1	
	Wire kit	DB39-00223A	1	
	Receiver & display unit	DB93-01066A	5	Standard type
	M4x16 tapped screw	-	7	
	Cable-tie	-	2	
	Owner's instructions	DB98-05160A	1	
	Installation manual	DB98-05186A	1	
	Wire kit	DB39-00223A	1	

■ Wired Remote Controller Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Wired remote controller	DB93-01766C	1	
	Cable-tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	5	
	M4x16 tapped screw	6002-000474	7	
	Indoor unit power drawing cable	DB39-00221A	1	
	Communication cable of the wired remote controller	DB39-00933A	1	
	Wire joint	DB39-90020A	1	
	Owner's instructions	DB98-15731A	1	
	Installation manual	DB98-15770A	1	

■ Centralized Controller Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Centralized controller	DB97-00874B	1	
	Cable-tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	5	
	M4x16 tapped screw	6002-000474	7	
	Owner's instructions	DB98-12721A	1	
	Owner's instructions	DB98-12722A	1	
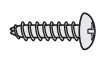
■ Function Controller Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Function controller	DB93-00757G	1	
	Cable-tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	6	
	M4x16 tapped screw	6002-000474	7	
	Owner's instructions	DB98-05164A	1	
	Owner's instructions	DB98-05190A	1	

■ Transmitter Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Transmitter	-	1	
	Transmitter power cable	-	1	
	Transmitter communication cable	-	1	
	Installation manual	-	1	

■ 7-day Scheduler Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	7-day Scheduler	-	1	
	Cable-tie	-	2	
	Cable clamp	-	2	
	M4x16 tapped screw	-	4	
	Owner's instructions	-	1	
	Installation manual	-	1	

5. Exploded Views and Parts List

5-1 Indoor Unit
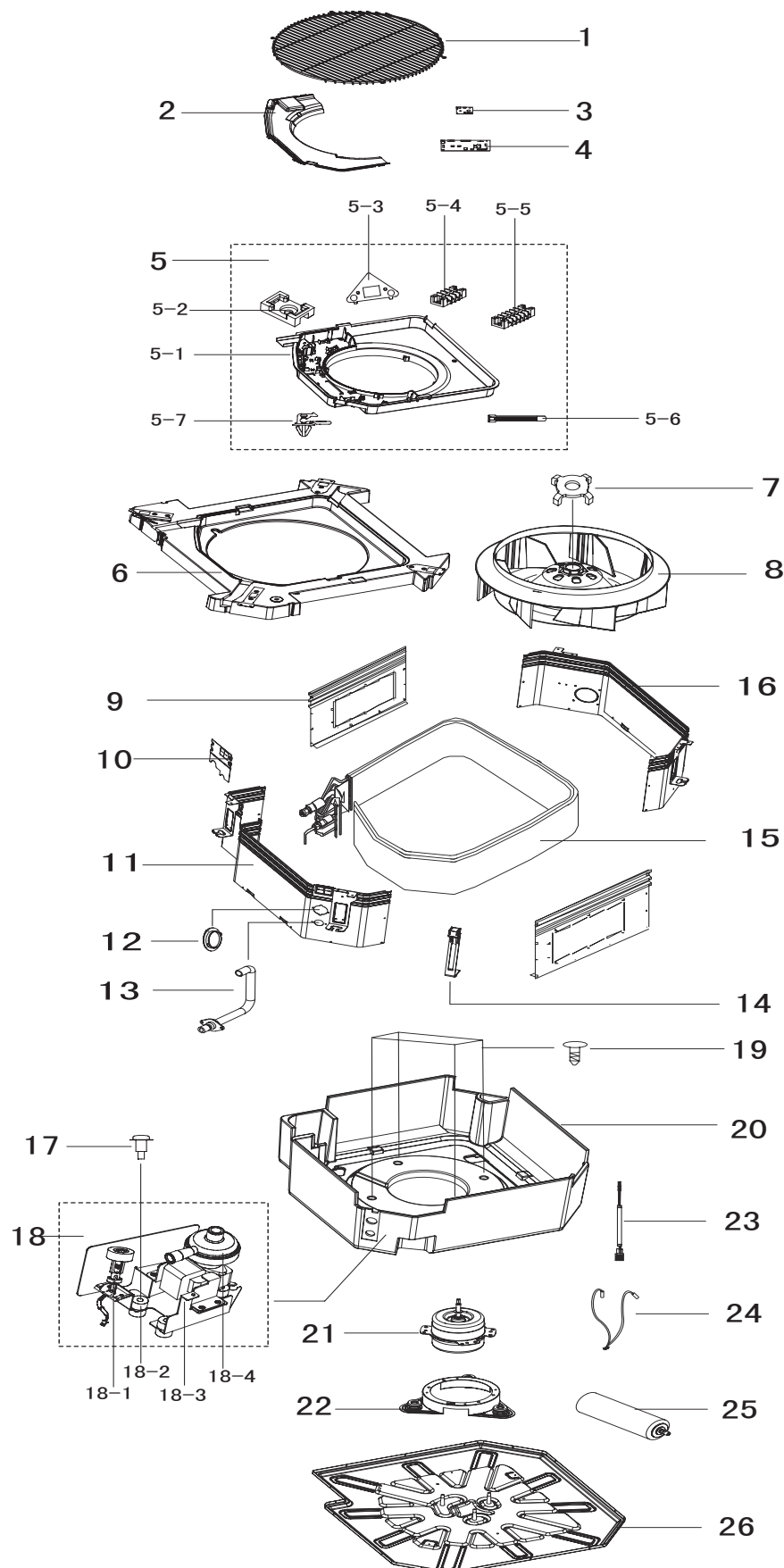
■ **Parts List**

No.	CODE NO.	Description	Specification	Q'TY CH140EAMC	Q'TY CH105EAMC	SA/SNA
1	DB90-02694A	ASSY-GUARD SAFETY	CH140EAMC,SSEC	1	1	SA
2	DB63-01481A	COVER-CONTROL	CH140EAMC,ABS	1	1	SA
3	DB93-04120A	ASSY- MAIN PCB	CH140EAMC	1	1	SA
4	DB93-04119A	ASSY POWER PCB	CH140EAMC	1	-	SA
4	DB93-04119B	ASSY POWER PCB	CH105EAMC	-	1	SA
5	DB93-04137A	ASSY CONTROL IN	ASSY	1	-	SA
5	DB93-04376A	ASSY CONTROL IN	ASSY	-	1	SA
5-1	DB61-02706A	BASE CONTROL	ABS,V0	1	1	SNA
5-2	DB61-02501A	TIE MOUNTS	NYLON66	2	2	SNA
5-3	DB61-02700A	BRACKET EARTH WIRE	SGCC-M	1	1	SNA
5-4	DB65-00029M	TERMINAL BLOCK	ASSY ,6P	1	1	SNA
5-5	DB65-00029X	TERMINAL BLOCK	CH094EAM	1	1	SNA
5-6	DB61-02765A	HOLDER SENSOR	PP	1	1	SNA
5-7	6501-001052	REUSABLE CABLE TIES	NYLON66	2	2	SNA
6	DB94-01062A	ASSY CUSHION DRAIN	ASSY,EPS,V0	1	1	SA
7	DB61-01783A	BRACKET- WASHER FAN	SGCC-M	1	1	SNA
8	DB67-00682A	FAN-TURBO	ABS+GF20%	1	1	SA
9	DB64-01562A	CABI SIDE	SGCC-M	2	2	SA
10	DB90-02692A	ASSY COVER-PIPE	ASSY	1	1	SA
11	DB90-02690A	ASSY CABI FRONT	ASSY,SGCC-M	1	1	SA
12	DB90-01950B	ASSY COVER-DRAIN PUMP	ASSY	1	1	SA
13	DB94-01078A	ASSY HOSE DRAIN	ASSY	1	1	SA
14	DB61-02701A	HOLDER EVAP	STS301	2	2	SA
15	DB96-06221A	ASSY EVAP UNIT	ASSY	1	-	SA
15	DB96-06405A	ASSY EVAP UNIT	ASSY	-	1	SA
16	DB90-02688A	ASSY CABI BACK	ASSY,SGCC-M	1	1	SA
17	DB97-02090B	ASSY-PACKING SCREW	M5X30	3	3	SNA
18	DB94-01064A	ASSY DRAIN PUMP	ASSY	1	1	SA
18-1	DB34-00059A	SWITCH FLOAT	ASSY	1	1	SNA
18-2	DB73-00345A	RUBBER PUMP	NBR	3	3	SNA
18-3	DB61-02709A	BRACKET DRAIN PUMP	SGCC-M	1	1	SNA
18-4	DB67-00615B	DRAIN PUMP	ASSY	1	1	SNA
19	DB61-02349A	CLIP BRUSH	NYLON 66	4	4	SA
20	DB90-02693A	ASSY CUSHION BASE	ASSY,EPS,V0	1	1	SA
21	DB31-00364A	MOTOR FAN	BLDC	1	1	SA
22	DB94-01059A	ASSY BRACKET MOTOR	ASSY	1	1	SA
23	DB39-01259A	CONNECT WIRE	ASSY	1	1	SA
24	DB32-00169A	THERMISTOR	ASSY	1	1	SA
25	DB94-01065A	ASSY DRAIN HOSE	ASSY	1	1	SNA
26	DB90-02689A	ASSY CABINET-BASE	ASSY,SGCC-M	1	1	SA
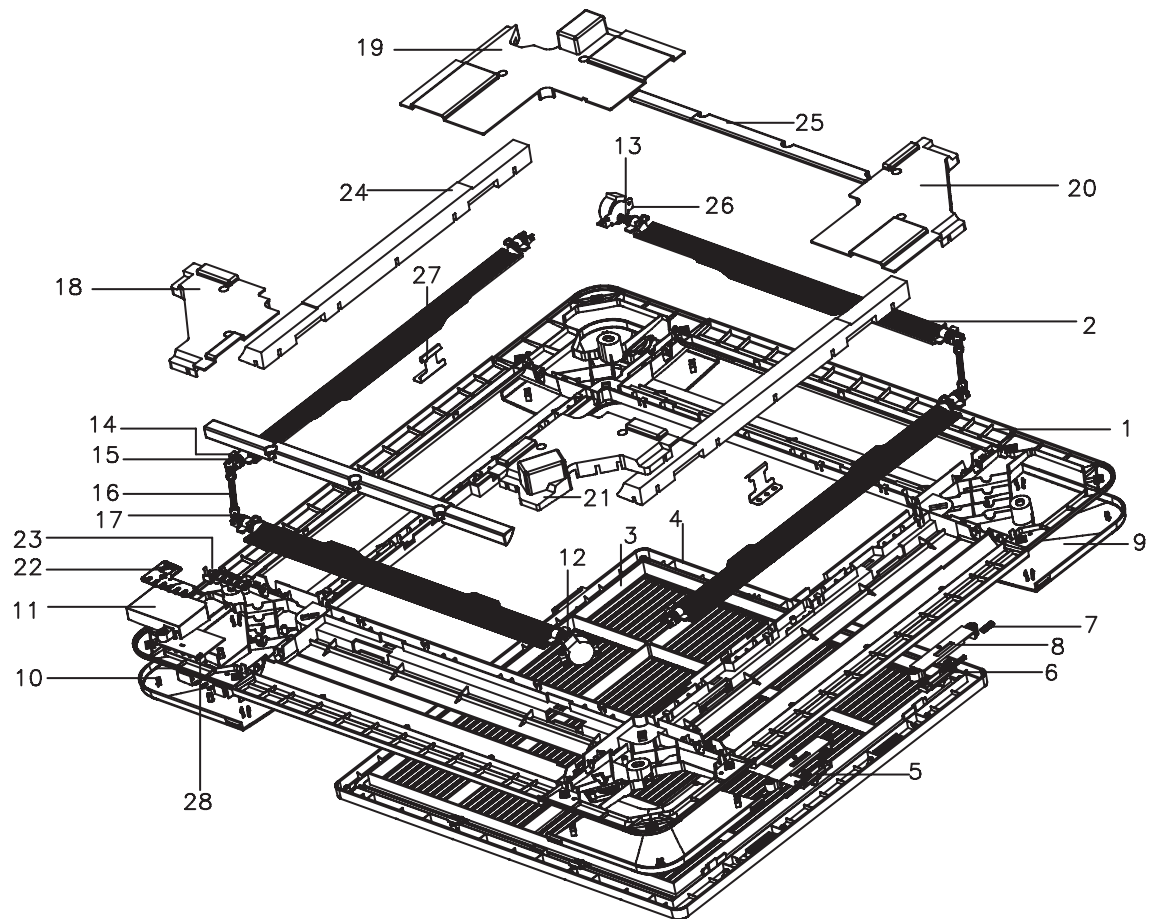
■ Parts List

No.	CODE NO.	Description	Specification	Q'TY	SA/SNA
1	DB64-01564A	Panel Front	HF ABS(Korea)	1	SA
2	DB66-01102A	Blade	PBT+20%GF(Korea)	4	SA
3	DB64-01565A	Grille Air Inlet	HF ABS(Korea)	1	SA
4	DB63-01491A	Filter Air	P.P(BLK)+40%	1	SNA
5	DB64-01566A	Knob Slide A	HF ABS(Korea)	1	SA
6	DB64-01567A	Knob Slide B	HF ABS(Korea)	1	SA
7	DB61-02714A	Spring Knob	STS304, T0.5	2	SAN
8	DB63-01483A	Cover Knob	HIPS	2	SNA
9	DB63-01484A	Corner Cover	HF ABS(Korea)	3	SA
10	DB63-01485A	Corner Cover PCB	HF ABS(Korea)	1	SA
11	DB63-01500A	Cover PCB	HIPS	1	SNA
12	DB66-01103A	Link Motor A	POM	1	SNA
13	DB66-01104A	Link Motor B	POM	1	SNA
14	DB61-02711A	Holder Link Blade	ABS(BLK)	8	SNA
15	DB66-01105A	Link Blade	POM	7	SNA
16	DB66-01106A	Link Universal Joint	POM	2	SNA
17	DB66-01107A	Joint Universal	POM	5	SNA
18	DB63-01486A	Cover Side A	HIPS(BLK)	1	SNA
19	DB63-01487A	Cover Side B	HIPS(BLK)	1	SNA
20	DB63-01488A	Cover Side C	HIPS(BLK)	1	SNA
21	DB63-01489A	Cover Side D	HIPS(BLK)	1	SNA
22	DB64-01558A	INLAY PCB	PC	1	SNA
23	DB64-01559A	Button PCB	ABS	1	SNA
24	DB69-01419A	Cushion In	EPS, 25	4	SNA
25	DB69-01420A	Cushion Out	EPS, 25	4	SNA
26	DB61-02704A	Bracket Stepping Motor	SGCC-M, T1.0	2	SNA
27	DB61-02705A	Plate Hanger	STS304, T0.5	2	SNA
28	DB93-04220A	Assy PCB Display	ASSY	1	SNA

5-3 Outdoor Unit

■ **UH140GAMC**
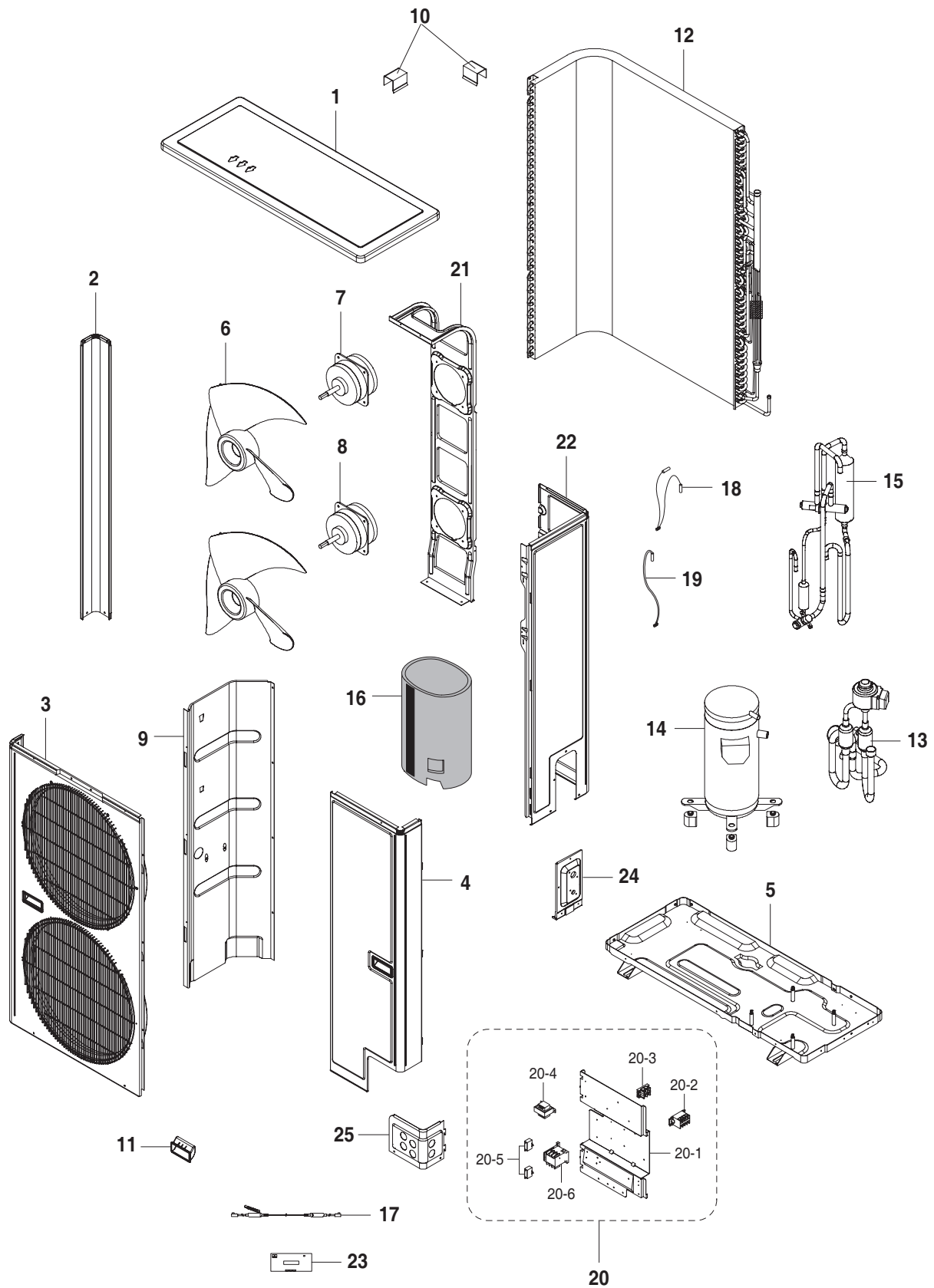
No.	CODE NO.	Description	Specification	Q'TY	SA/SNA
1	DB90-01533A	ASS'Y-CABI TOP COVER	UH140GZMC	1	SA
2	DB90-01588A	ASS'Y-CABI BACK-LF	UH140GZMC,SSEC	1	SA
3	DB90-01535B	ASS'Y-CABI FRONTLF	MH140FXGZ,SSEC	1	SA
4	DB90-01534B	ASS'Y-CABI FRONT	RHMH140FXGZ,SSEC	1	SA
5	DB99-00538D	ASS'Y-CABI BASE PART	UH140GAMC,ASSY	1	SA
6	DB67-00438B	FAN-PROPELLER	UH105GZM1C,AS+GF10%,460,3, BLACK,SSEC	1	SA
7	DB31-00240H	MOTOR CIRCUIT	YSK140-120-4A,VIPS,1.1A,50Hz,240W,50Hz,220V,SSEC	1	SA
8	DB31-00240J	MOTOR CIRCUIT	YSK140-120-4B,VIPS,1.1A,50Hz,240W,50Hz,220V,SSEC	1	SA
9	DB90-01532A	ASS'Y-PARTITION	UH140GZMC,SSEC	1	SNA
10	DB61-00533A	HOLDER CLAMP COND	AS-T1050,SGCC-M	2	SNA
11	DB64-01231A	HANDLE	ABS,-,-,-,SC-90073R	3	SA
12	DB96-06274A	ASS'Y COND OUT	UH140GAMC,SSEC	1	SA
13	DB99-00794A	ASS'Y VALVE 4WAY	UH140GAMC,SSEC	1	SA
14	DB95-00859A	ASS'Y COND	UH140GAMC380-415V,50Hz,R410,SSEC	1	SNA
15	DB99-00795A	ASS'Y VALVE-EXPANSION	UH140GAMC,SSEC	1	SNA
16	DB62-04288A	INSU SOUND COMP	UH140GAMC,PVC+FELT,T11.5 ,SSEC	1	SNA
17	DB95-00564E	ASS'Y HEATER-COMP	UH140GZMC,CHINA	1	SA
18	DB32-00102B	THERMISTOR-OUT	204CT,200K/25,3435K,-20-150,50mA,5V	1	SA
19	DB32-00101B	THERMISTOR-OUT	204CT,200K/25,3435K,-20-150,50mA,5V	1	SA
20	DB93-04138A	ASS'Y CONTROL OUT	UH140GAMC,SSEC	1	SA
20-1	DB61-01860A	CASE CONTROL	UH140GZMC,SGCC-M,T1.0	1	SNA
20-2	DB65-00074C	TERMINAL BLOCK	H175GZM,ASS'Y,-,-,-,-,HSPTYPE,8P	1	SNA
20-3	DB65-40062L	TERMINAL BLOCK	BOARD,-,RING TERMINAL,250V 25A,39x29x39,-,2P	1	SNA
20-4	DB26-10070F	TRANS	DC17,AC230,-,-,-,DC17,DC0.6A	1	SNA
20-5	2301-001367	C-FILM,LEAD-OTHER	6000nF,+10-5%,450V,BK,58x25x40mm	2	SNA
20-6	DB35-00049A	RELAY	XMCO-253LBBC,25A	1	SNA
21	DB61-01855A	BRACKET-MOTOR	UH140GZMC,SGCC-M,T1.6	1	SA
22	DB90-01589A	ASS'Y CABINET BACK-RH	UH140GZMC,SSEC	1	SA
23	DB93-02919P	ASS'Y PCB	UH140GAMC	1	SA
24	DB97-02613A	ASS'YBRACKET-VALVE	ASS'Y,SGCC-M,T1.6,SSEC	1	SA
25	DB61-01857A	BRACKET WIRE	UH140GZMC,SECC-P,T0.8	1	SNA

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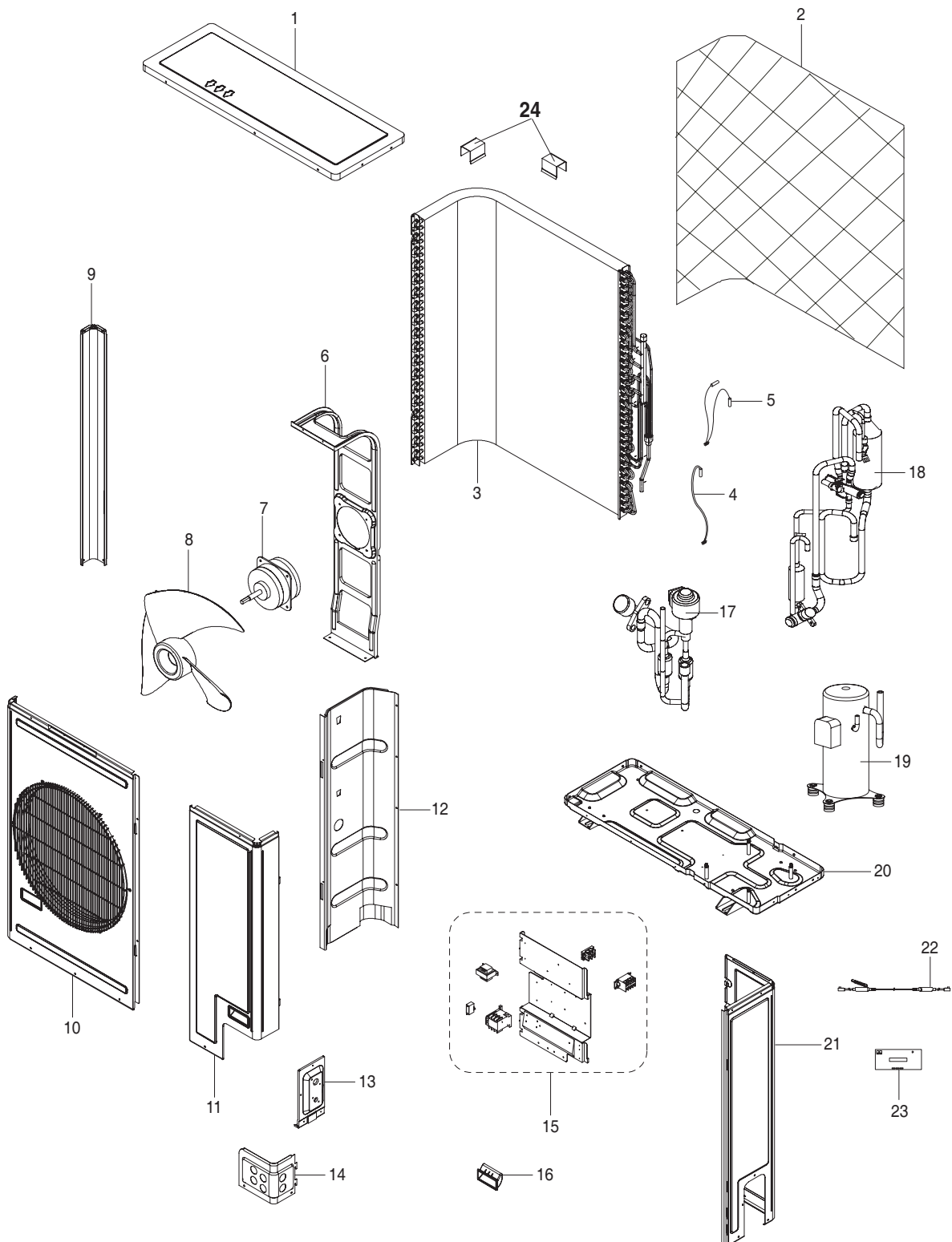
■ **UH105GAMC**

No.	CODE NO.	Description	Specification	Q'TY	SA/SNA
1	DB90-01527A	ASS'Y-CABI TOP COVER	ASS'Y,UH105GZMC	1	SA
2	DB61-01908A	GUIDE-SCREEN	UH105GZMC,P.E.H 100% T2.5	1	SNA
3	DB96-06415A	ASSY COND-UNIT	UH105GAMC,SSEC	1	SA
4	DB32-00101C	THERMISTOR-OUT	204CT,200K/25,3435K,-20-150,50MA,5V	1	SA
5	DB32-00102C	THERMISTOR-OUT	204CT,200K/25,3435K,-20-150,50MA,5V	1	SA
6	DB90-02321A	ASSY-BRACKET MOTOR	ASS'Y,UH105GZM1C,SSEC	1	SA
7	DB31-00322H	MOTOR FAN	YDK150S43023-03C	1	SA
8	DB67-00438B	FAN-PROPELLER	UH105GZM1C,AS+GF10%,	1	SA
9	DB90-01593A	ASSY CABINET BACK-LF	UH105GZMC,SSEC	1	SA
10	DB90-01591A	ASSY CABINET FRONT-LF	UH105GZMC,SSEC	1	SA
11	DB90-01528A	ASSY-CABI FRONT RH	ASS'Y,UH105GZMC	1	SNA
12	DB90-01526A	ASSY-PARTITION	ASS'Y,UH105GZMC	1	SA
13	DB97-02613A	ASSY BRACKET-VAVLE	ASSY,SGCC-M,T1.6,SSEC	1	SA
14	DB61-01910A	BRACKET-WIRE	UH140GZMC,SSEC	1	SA
15	DB93-04375A	ASSY CONTROL OUT	HP,-,36K BTU,-,AC 380V	1	SA
16	DB64-01231A	HANDLE	SC-90073R ,SSEC	3	SA
17	DB99-00836A	ASSY VALVE EXPANSION	UH105GAMC,SSEC	1	SA
18	DB99-00835A	ASSY VALVE 4WAY	UH105GAMC,SSEC	1	SA
19	DB95-00861A	ASSY COMP	Scroll compressor,380-415V,50HZ,3phase,R410A	1	SA
20	DB99-00539C	ASSY-CABI BASE PART	UH105GZMC,SSEC	1	SA
21	DB90-01638A	ASSY CABINET BACK-RH	UH105GZMC,SSEC	1	SA
22	DB95-00564D	ASSY HEATER-COMP	DC30ET,BAC,220V/40W	1	SA
23	DB93-02919Q	ASSY-OUTDOOR MAIN PCB	UH105GAMC, OUTDOOR MAIN	1	SA
24	DB70-00163A	PLATE-COND	MH18VA1,SGCC-M, ,T0.8	2	SA

5-4 Ass'y Control In

■ **CH140EAMC : DB93-04137A**

No.	CODE NO.	Description	Specification	QT'Y	SA/SNA
1	DB61-02706A	BASE-CONTROL	ABS,T1.0,-,-,BLACK,SSEC	1	SA
2	DB61-02700A	BRACKET-EARTH WIRE	SGCC-M,T0.8,W50,L81	1	SNA
3	DB61-02765A	HOLDER-SENSOR	PP,T6.0,-,-,WHITE,SSEC	1	SNA
4	DB65-00029M	TERMINAL BLOCK	250V 20A,90.5,,5mA,4P	1	SNA
5	DB65-00029X	TERMINAL BLOCK	250V 20A,90.5,,5mA,6P	1	SNA
6	DB61-02501A	MOUNT-TIE	AP-HN230N,NYLON 66,-,15.5,24.5,BLACK	2	SNA
7	6501-001052	CABLE TIE	DACT-140-7.6,T1.2,W7.6,L140,BLACK,NYLON 66	2	SNA
8	6002-000214	SCREW-TAPPING	TH,+,-,1,M4.0,L16,ZPC(BLK),SWRCH18A	7	SNA
9	6009-001001	SCREW-SPECIAL	TH,+,-,M4,L8,ZPC(WHT),SWRCH18A	3	SNA
10	DB68-02809A	LABEL BAR CODE	W170,L115,FOR PACKING CASE	1	SNA
11	DB39-01249A	CONNECT WIRE	UL1007 AWG#18,-,3P,280,BRN,	1	SNA
12	DB39-01250A	CONNECT WIRE	UL1007 AWG#18,-,3P,350,BLK,-,YH396-03V,GP140078,	1	SNA
13	DB39-01251A	CONNECT WIRE	UL1007 AWG#22,-,2P,370,RED,-,YH396-02V,GP140078,	1	SNA
14	DB39-01251B	CONNECT WIRE	,UL1007 AWG#22,-,2P,350,BLU,-,YH396-02V,GP140078	1	SNA
15	DB39-01251C	CONNECT WIRE	UL1007 AWG#22,-,2P,170,WHT,-,VH-2Y,ST710389-3	1	SNA
16	DB39-01252A	CONNECT WIRE	UL1007 AWG#18,-,3P,200,WHT,-,YH396-03V,YH396-03V	1	SNA
17	6501-000123	CABLE TIE	DACT-140,-,W3.6,L146,NTR,NYLON66	1	SNA
18	DB31-40005A	CORE	NI-ZN,18,BNF-18	2	SNA
19	DB93-01469U	ASSY-NOISE ABSORBER	220nF*2,250V,L800	1	SNA
20	DB39-01276A	LEAD CONNECTOR	200,GRN/YEL,18,ST710095-03	1	SNA

■ **CH105EAMC : DB93-04376A**

No.	CODE NO.	Description	Specification	QT'Y	SA/SNA
1	DB61-02706A	BASE-CONTROL	ABS,T1.0,-,-,BLACK,SSEC	1	SA
2	DB61-02700A	BRACKET-EARTH WIRE	SGCC-M,T0.8,W50,L81	1	SNA
3	DB61-02765A	HOLDER-SENSOR	PP,T6.0,-,-,WHITE,SSEC	1	SNA
4	DB65-00029M	TERMINAL BLOCK	250V 20A,90.5,,5mA,4P	1	SNA
5	DB65-00029X	TERMINAL BLOCK	250V 20A,90.5,,5mA,6P	1	SNA
6	DB61-02501A	MOUNT-TIE	AP-HN230N,NYLON 66,-,15.5,24.5,BLACK	2	SNA
7	6501-001052	CABLE TIE	DACT-140-7.6,T1.2,W7.6,L140,BLACK,NYLON 66	2	SNA
8	6002-000214	SCREW-TAPPING	TH,+,-,1,M4.0,L16,ZPC(BLK),SWRCH18A	7	SNA
9	6009-001001	SCREW-SPECIAL	TH,+,-,M4,L8,ZPC(WHT),SWRCH18A	3	SNA
10	DB68-02809A	LABEL BAR CODE	W170,L115,FOR PACKING CASE	1	SNA
11	DB39-01249A	CONNECT WIRE	UL1007 AWG#18,-,3P,280,BRN,	1	SNA
12	DB39-01250A	CONNECT WIRE	UL1007 AWG#18,-,3P,350,BLK,-,YH396-03V,GP140078,	1	SNA
13	DB39-01251D	CONNECT WIRE	CH105EAMC,AWG 22,UL1007,2,470,RED, BLU,22	1	SNA
14	DB39-01251B	CONNECT WIRE	,UL1007 AWG#22,-,2P,350,BLU,-,YH396-02V,GP140078	1	SNA
15	DB39-01251C	CONNECT WIRE	UL1007 AWG#22,-,2P,170,WHT,-,VH-2Y,ST710389-3	1	SNA
16	DB39-01252A	CONNECT WIRE	UL1007 AWG#18,-,3P,200,WHT,-,YH396-03V,YH396-03V	1	SNA
17	6501-000123	CABLE TIE	DACT-140,-,W3.6,L146,NTR,NYLON66	1	SNA
18	DB31-40005A	CORE	NI-ZN,18,BNF-18	2	SNA
19	DB39-01276A	CONNECT WIRE GROUND	CH140EAMC,UL1015 AWG#18,-,-,200,GRN/YEL	1	SNA

■ UH140GAMC : DB93-04138A

| No.	CODE NO.	Description	Specification	QU'TY	SA/SNA
1	DB61-01860A	ASS'Y CASE CONTROL	ASS'Y	1	SA
2	DB35-00049A	MAGNET SWITCH	XMCO-253LBBC,25A	1	SA
3	DB26-10070F	TRANS POWER	AC230,DC17,DC0.6A	1	SA
4	DB61-01582A	CASE PCB	UH070EZM,ABS,2.5,-,-,BLACK,DPM,5V	1	SA
5	2301-001367	C-FILM	6000nF,+10-5%,450V,BK,58x25x40mm	2	SA
6	DB65-00074C	TERMINAL BLOCK 8P	H175GZM,HSP TYPE,8P	1	SA
7	DB65-40062L	TERMINAL BLOCK 2P	BOARD,-,RING TERMINAL,250V 25A,39X29X39,-,2P	1	SA
8	DB61-40291A	HOLDER WIRE	PP,BLK,MULTI	2	SA
9	6001-001123	SCREW TAPPING	PH,+,-,M4,L22,ZPC(YEL),SWRCH18A,FP	4	SNA
10	6002-000234	SCREW TAPPING	TH,+,-,2S,M4,L16,ZPC(YEL),SWRCH18A	2	SNA
11	6009-001001	SCREW-SPECIAL	TH,+,-,M4,L8,ZPC(WHT),SWRCH18A	5	SNA
12	6002-000239	SCREW-SPECIAL	TH,+,-,2S,M4,L8,ZPC(YEL),SWRCH18A	13	SNA
13	6002-000231	SCREW-SPECIAL	TH,+,-,2S,M4,L12,ZPC(YEL),SWRCH18A	2	SNA
14	DB68-02799C	LABEL CAUTION	UH105GZMC/SER	1	SNA
15	DB39-01007A	CONNECTOR WIRE GROUND	UH105GZM,-,UL1015,AWG#18	1	SNA
16	DB39-00987A	CONNECT WIRE COMM	UH140GCM,UL1007 AW22,-,3P	1	SNA
17	DB39-01005A	CONNECT WIRE COMP SIGNAL	UH105(140)GZM	1	SA
18	DB39-01008B	CONNECT WIRE-COMP	UH140GZM,-,UL	1	SA
19	DB39-01006A	CONNECT WIRE-MAIN	UH105GZM,-,UL1015	1	SA
20	DB39-00189B	CONNECT WIRE-PHASE	RFPC050H2M0	1	SA
21	DB39-00986A	CONNECT WIRE-POWER	UH140GCM,UL1015 AW18	1	SA
22	DB61-00206B	HOLDER-WIRE	GALVA-SBHG,BLK,SHRINK TUBE S-PJT SSEC	2	SA
23	DB98-16209A	ASSY-CAUTION	R407C,SCRO ,HP,-,10.5KW	1	SNA
24	DB73-00219A	RUBBER-PCB	UH140GZMC,CR UL97-V0	3	SNA
25	DB62-02840D	INSULATION PARTITION-CONTROL	UH140GZMC,PE-FOAM,3,15,35,BLACK	7	SNA
26	DB68-02809A	LABEL BAR CODE	W170,L115,FOR PACKING CASE	1	SNA
27	-	BLOCK COVER A	40*28*T1	1	SNA
28	-	BLOCK COVER B	40*44*T1	1	SNA
29	-	BLOCK COVER C	46*57*T1	1	SNA
30	DB73-00099B	RUBBER MAGNET-S/W	DVM OUTDOOR,CR	1	SNA
31	DB39-00885A	CONNECT WIRE-CCH	UH035EAM,YH396-03AV,SMH601-01	1	SNA
32	6501-000123	CABLE TIE	DACT-140,-,W3.6,L146,NTR,NYLON66	1	SNA
33	DB31-40005A	CORE	NI-ZN,18,BNF-18	2	SNA
34	DB93-01469S	ASSY PCB-NOISE ABSORBER	EH140EAMC,220nF*2,275V	1	SNA
35	DB93-01469T	ASSY-NOISE ABSORBER	UH140GZMC,2.2nF*2,400V	1	SNA

■ UH105GAMC : DB93-04375A

| No.	CODE NO.	Description	Specification	QU'TY	SA/SNA
1	DB61-01860A	ASS'Y CASE CONTROL	ASS'Y	1	SA
2	DB35-00049A	MAGNET SWITCH	XMCO-253LBBC,25A	1	SA
3	DB26-10070F	TRANS POWER	AC230,DC17,DC0.6A	1	SA
4	DB61-01582A	CASE PCB	UH070EZM,ABS,2.5,-,-,BLACK,DPM,5V	1	SA
5	2301-001379	C-FILM	6000nF,+10-5%,450V,BK,58x25x40mm	1	SA
6	DB65-00074C	TERMINAL BLOCK 8P	H175GZM,HSP TYPE,8P	1	SA
7	DB65-40062L	TERMINAL BLOCK 2P	BOARD,-,RING TERMINAL,250V 25A,39X29X39,-,2P	1	SA
8	DB61-40291A	HOLDER WIRE	PP,BLK,MULTI	2	SA
9	6001-001123	SCREW TAPPING	PH,+,-,M4,L22,ZPC(YEL),SWRCH18A,FP	4	SNA
10	6002-000234	SCREW TAPPING	TH,+,-,2S,M4,L16,ZPC(YEL),SWRCH18A	2	SNA
11	6009-001001	SCREW-SPECIAL	TH,+,-,M4,L8,ZPC(WHT),SWRCH18A	5	SNA
12	6002-000239	SCREW-SPECIAL	TH,+,-,2S,M4,L8,ZPC(YEL),SWRCH18A	13	SNA
13	6002-000231	SCREW-SPECIAL	TH,+,-,2S,M4,L12,ZPC(YEL),SWRCH18A	2	SNA
14	DB68-02799C	LABEL CAUTION	UH105GZMC/SER	1	SNA
15	DB39-01007A	CONNECTOR WIRE GROUND	UH105GZM,-,UL1015,AWG#18	1	SNA
16	DB39-00987A	CONNECT WIRE COMM	UH140GCM,UL1007 AW22,-,3P	1	SNA
17	DB39-01005A	CONNECT WIRE COMP SIGNAL	UH105(140)GZM	1	SA
18	DB39-01008B	CONNECT WIRE-COMP	UH140GZM,-,UL	1	SA
19	DB39-01006A	CONNECT WIRE-MAIN	UH105GZM,-,UL1015	1	SA
20	DB39-00189B	CONNECT WIRE-PHASE	RFPC050H2M0	1	SA
21	DB39-00986A	CONNECT WIRE-POWER	UH140GCM,UL1015 AW18	1	SA
22	DB61-00206B	HOLDER-WIRE	GALVA-SBHG,BLK,SHRINK TUBE S-PJT SSEC	2	SA
23	DB98-16209A	ASSY-CAUTION	R407C,SCRO ,HP,-,10.5KW	1	SNA
24	DB73-00219A	RUBBER-PCB	UH140GZMC,CR UL97-V0	3	SNA
25	DB62-02840D	INSULATION PARTITION-CONTROL	UH140GZMC,PE-FOAM,3,15,35,BLACK	7	SNA
26	DB68-02809A	LABEL BAR CODE	W170,L115,FOR PACKING CASE	1	SNA
27	-	BLOCK COVER A	40*28*T1	1	SNA
28	-	BLOCK COVER B	40*44*T1	1	SNA
29	-	BLOCK COVER C	46*57*T1	1	SNA
30	DB73-00099B	RUBBER MAGNET-S/W	DVM OUTDOOR,CR	1	SNA
31	DB39-00885A	CONNECT WIRE-CCH	UH035EAM,YH396-03AV,SMH601-01	1	SNA
32	6501-000123	CABLE TIE	DACT-140,-,W3.6,L146,NTR,NYLON66	1	SNA
33	DB31-40005A	CORE	NI-ZN,18,BNF-18	2	SNA
34	DB93-01469S	ASSY PCB-NOISE ABSORBER	EH140EAMC,220nF*2,275V	1	SNA

8. Schematic Diagram
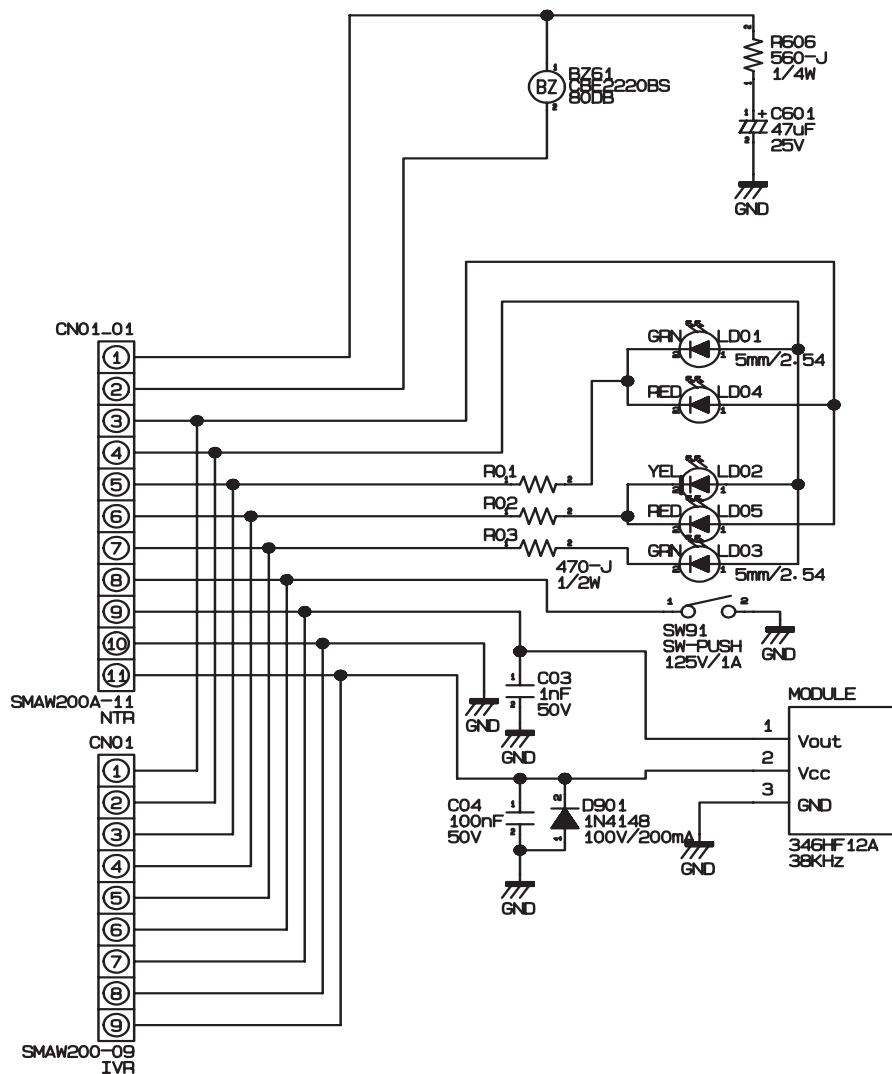
8-1 Indoor Unit
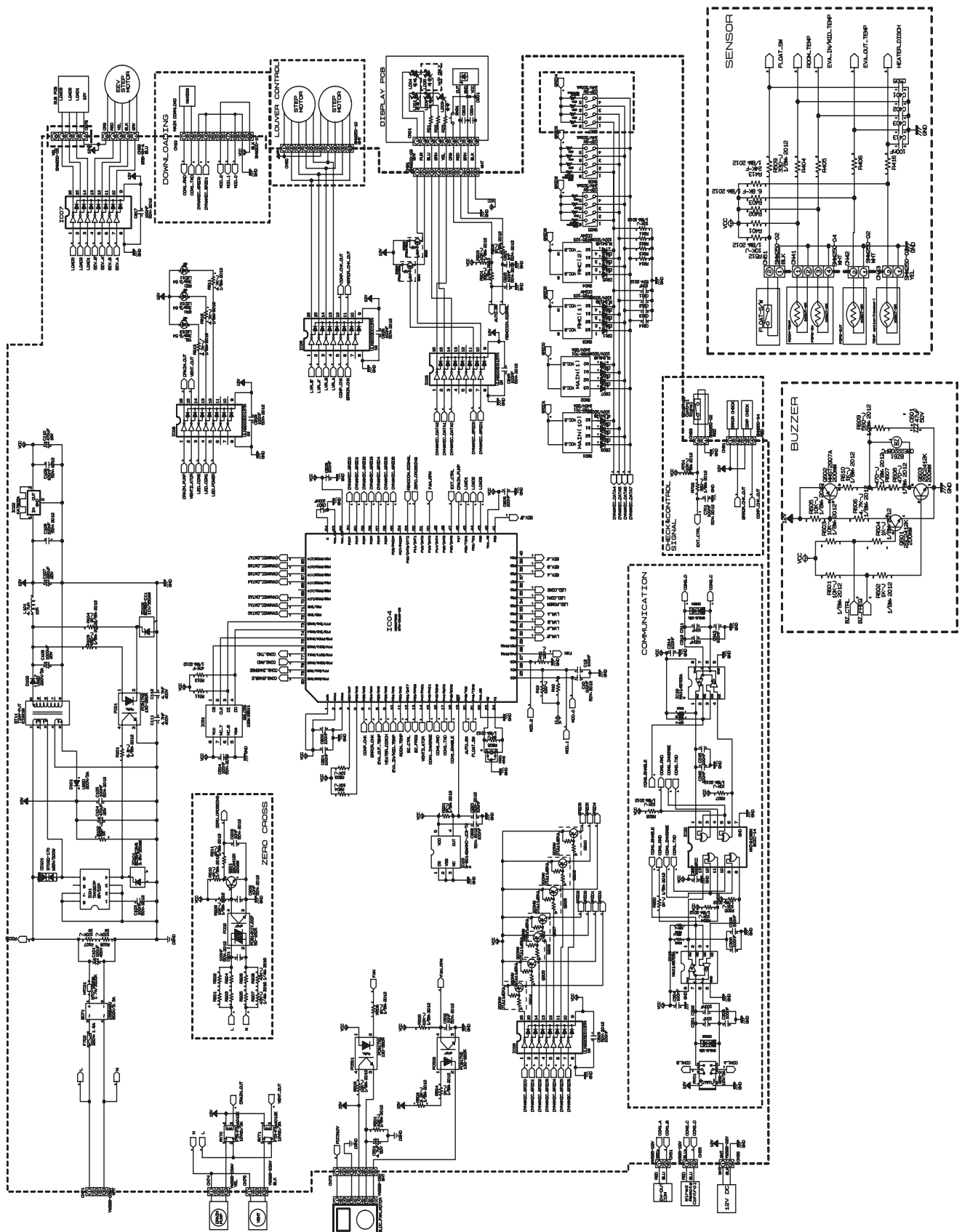
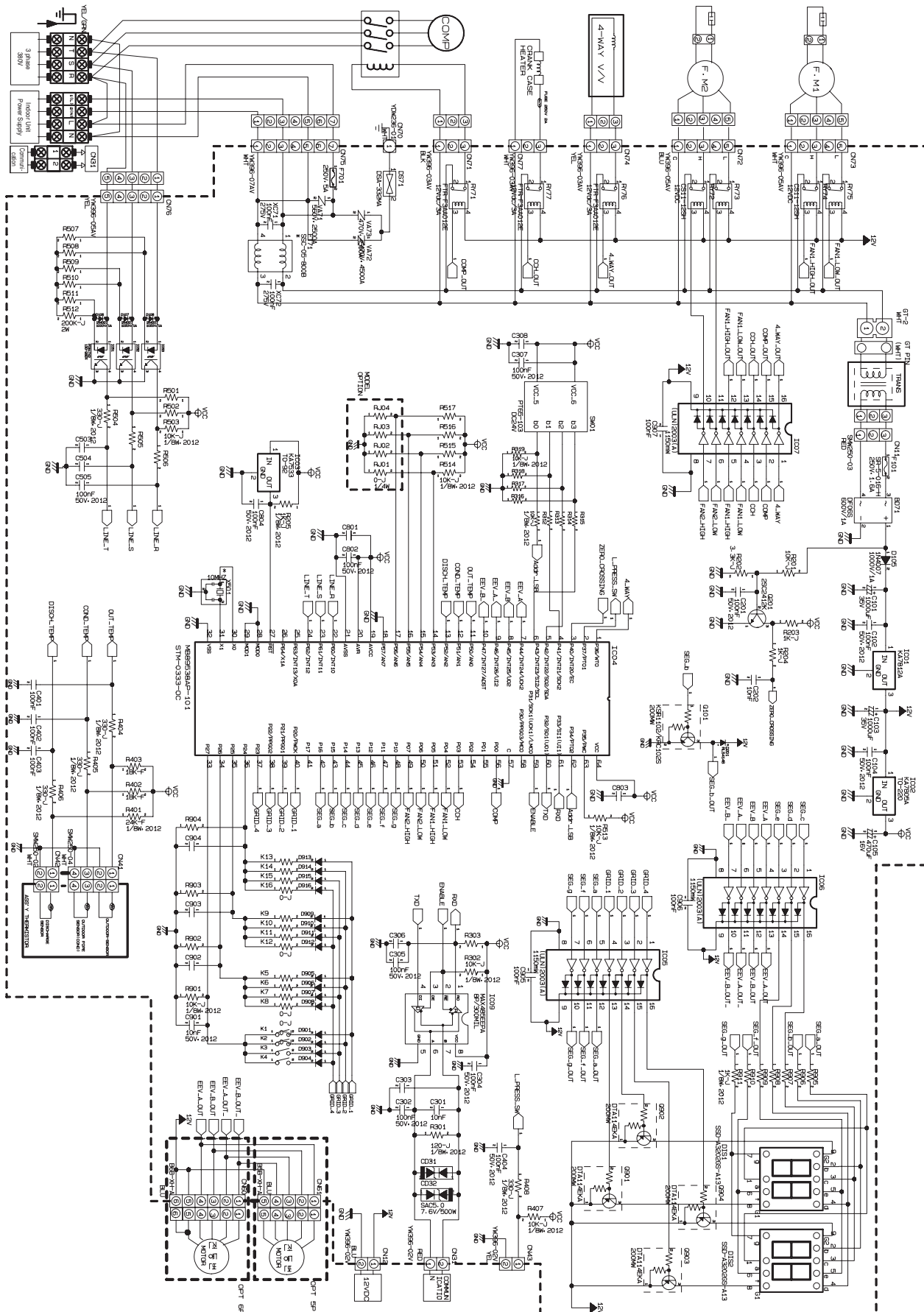This Document can not be used without Samsung's authorization.

■ Power PCB
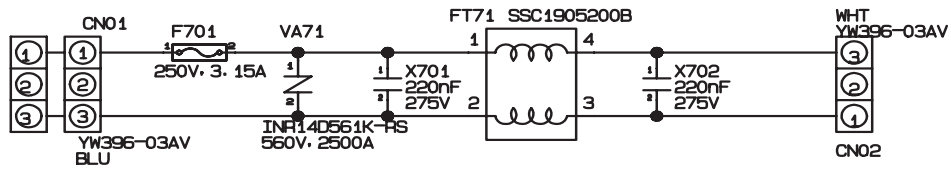
■ Display PCB

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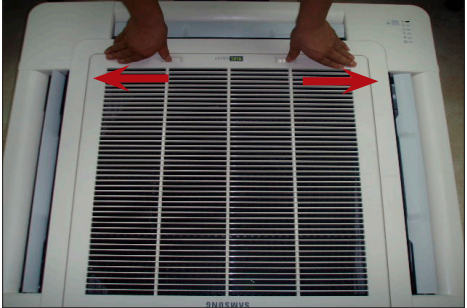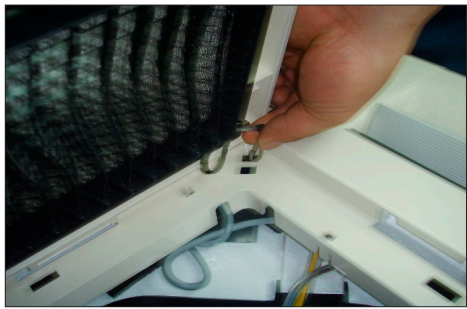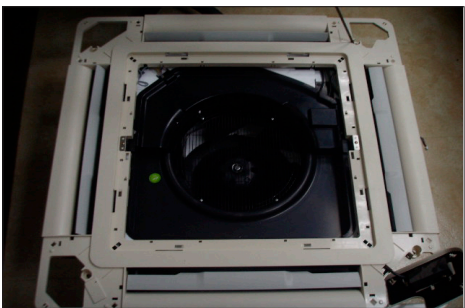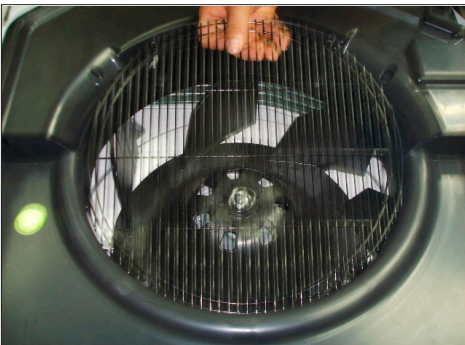
4. Disassembly and Reassembly
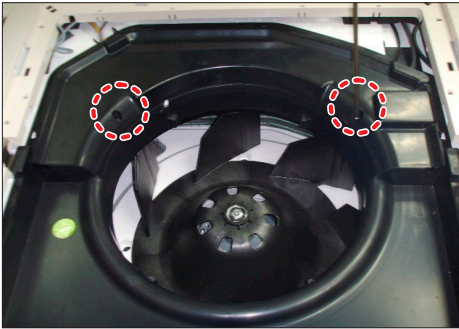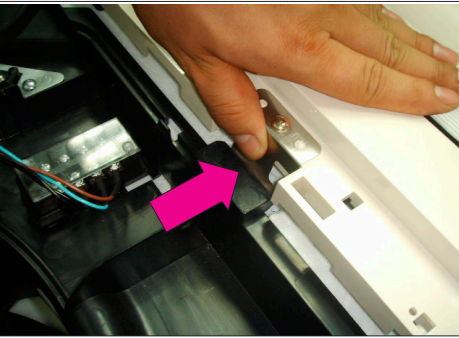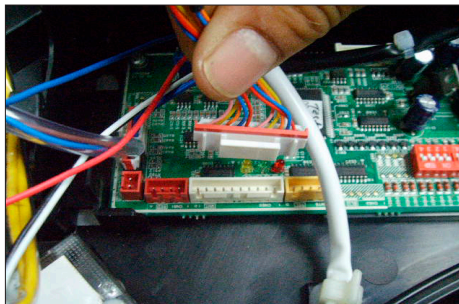
Stop operation of the air conditioner and remove the power cord before repairing the unit.
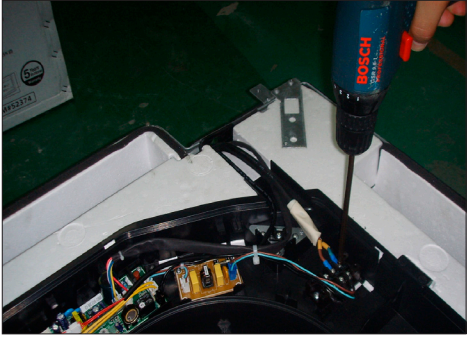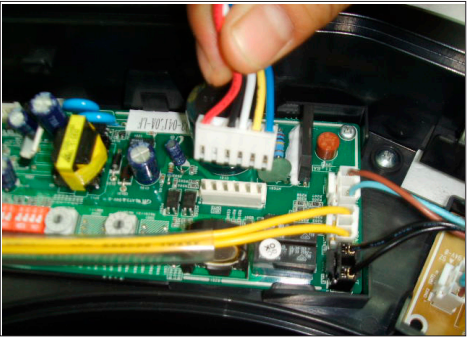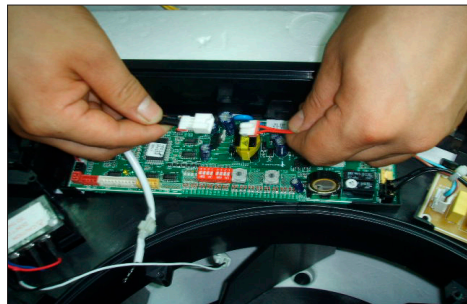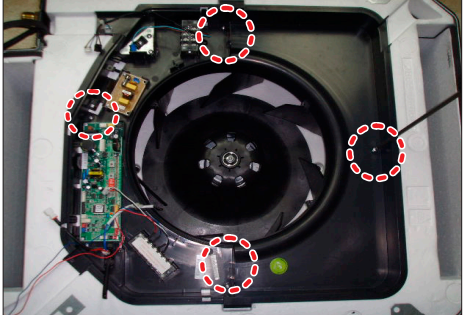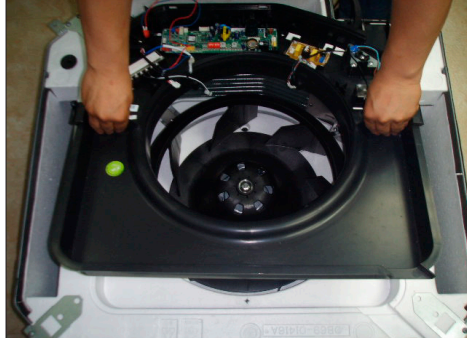
4-1 Indoor Unit
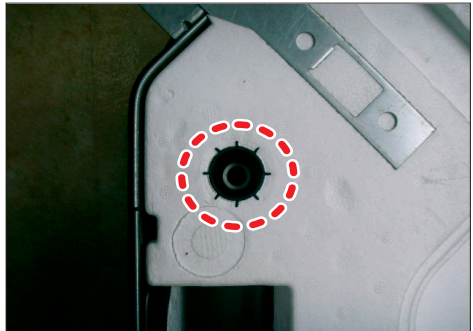
■ CH140/105EAMC
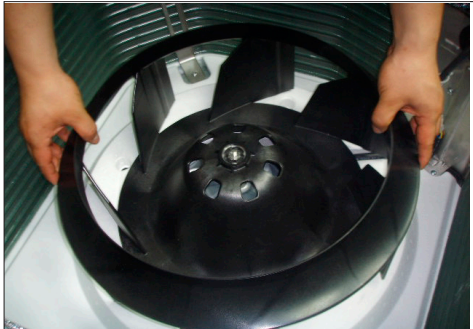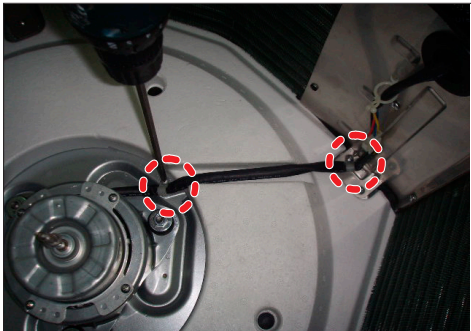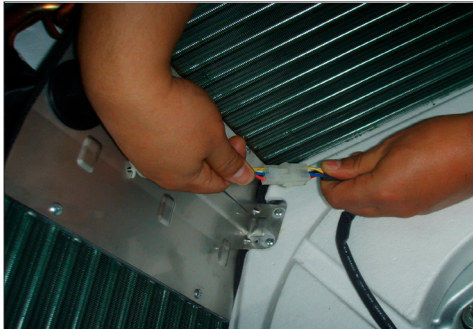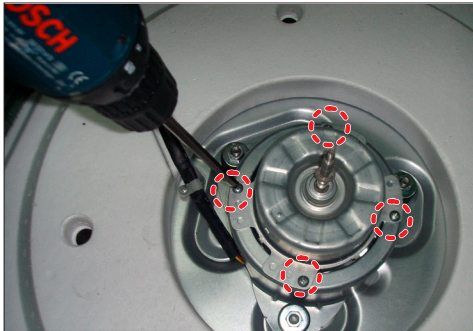
No	Parts	Procedure	Remark
1	Front Grille - Dust-Collecting Filter	1) Push the tap on the Front Grille to open it. 2) Disassembly of Front Grille. 　(1) Open the Front Grille at about 45˚ degrees and draw it forward. 　(2) Disassemble the Safety Clip. 3) Filter Disassembly 　(1) Draw the Dust-Collecting Filter forward. 　(2) Disassemble the Filter.	
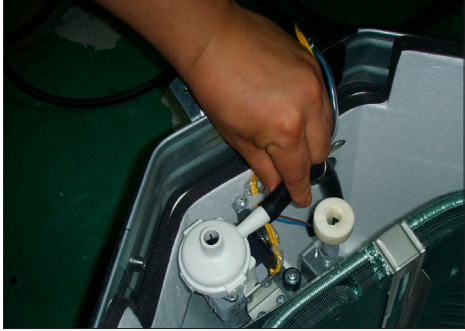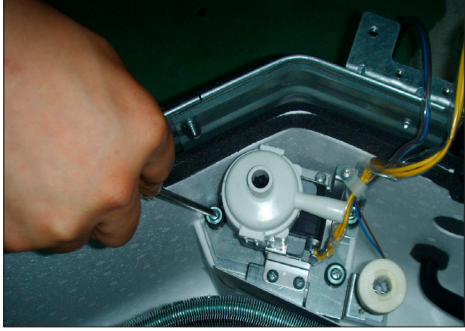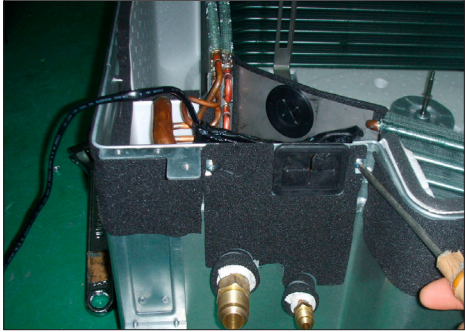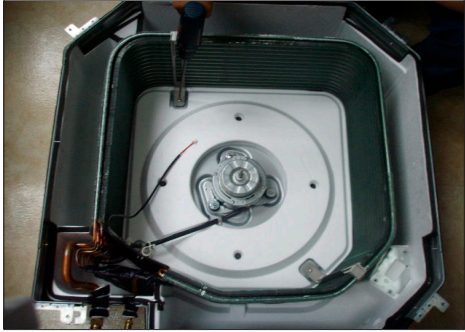
No	Parts	Procedure	Remark
		4) Open the corner cover slowly to disassemble it. (There are three hooks.)	
		5) Pull the corner cover forward carefully by using two hands.	
		6) Loosen four bolts of the front panel slowly.	
		7) Loosen four screws of the safety net to disassemble it.	
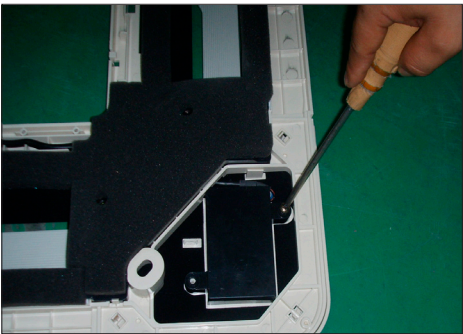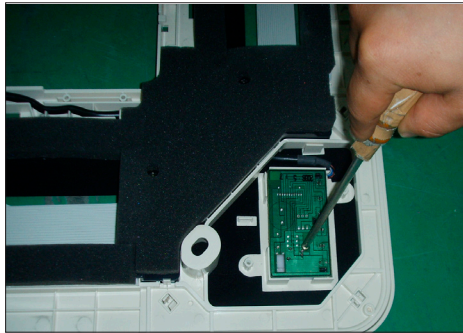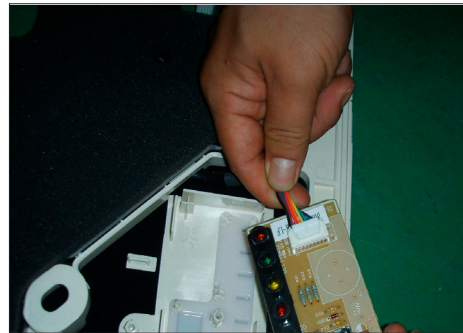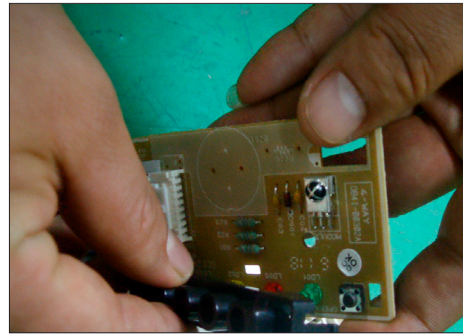
No	Parts	Procedure	Remark
4-3		8) To uncover the Componet Electronic Box cover. 　(1) Loosen two screws in the mark ⭕ . 　(2) Draw the both side hooks toward the arrow direction. 9) Disassemble two cables between the indoor unit and panel. 　-Stepping motor connector. 　-Receiving & display unit connector wire. 10) Hold on two hooks on both sides of the indoor unit and disassemble the Front Panel. 11) Take away the disassembled Panel out of the main body.	
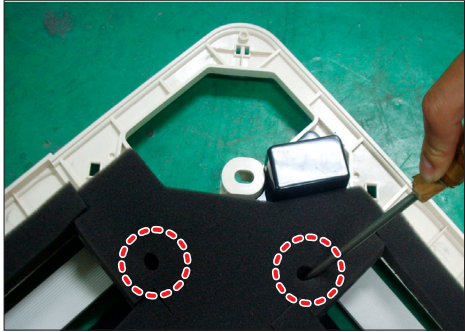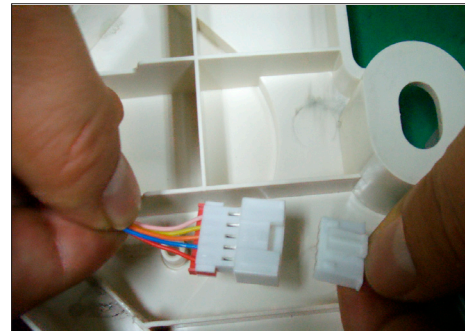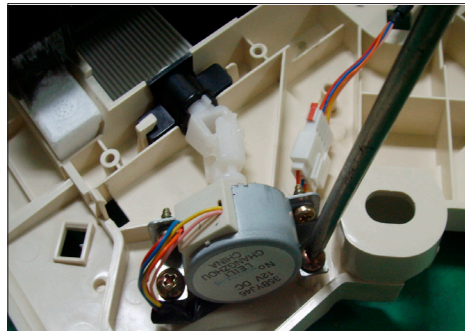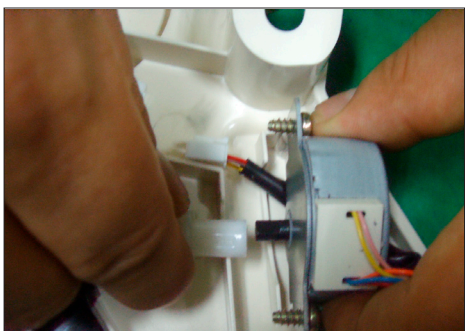
No	Parts	Procedure	Remark
2	Electronic Part Indoor &Outdoor Connecting Cable	1) Disconnect all Indoor and Outdoor Cables connected to the Terminal Board.	
3	Fan& Motor	1) Disassemble the Fan Motor Wire Connector, Thermistor Wire Connector, Drain Pump Wire Connector and Float Switch Wire Connector.	
		2) Loosen four screws in the mark ⬭.	
		3) Disassemble the Base Control from the main body.	

No	Parts	Procedure	Remark
		4) Disassemble the Rubber Cap Drain Socket to remove the water on the Cushion Drain. (Prepare something like a gutter to put the water in.)	
		* In this point, you can check the Drain Pump Impeller operates well or not.	

		5) Loosen eight bolts in the mark ⬭.
		
		  * At first, there are 2 bolts per one corner and when reassembly, there should be at least 1 bolt per one corner fastened.
		    * 2 Bolts per one corner recommended..	

		6) Disassemble the Drain Cushion from the main body.	
		7) Loosen the nut	

No	Parts	Procedure	Remark
		8) Take out the Washer.	
		9) Lift the Fan to disassemble from the Motor.	
		10) Loosen the screw and disassemble the Motor Connector to disassemble Motor.	
		11)Loosen four screws in the mark ⭕.	

No	Parts	Procedure	Remark
4	Drain Pump	1) Disassemble the Hose from the Drain Pump. 2) Loosen the 3 bolts to disassemble the Drain Pump from the main body.	
5	Heat Exchanger	1) Loosen 2 screws to disassemble the Cover Pipe beside the main body. 2) Loosen two screws fixing the Holder Evap to disassemble the Heat Exchanger.	

No	Parts	Procedure	Remark
6	Front Panel (PCB Part)	1) Loosen two screws to disassemble the Cover PCB.	
		2) Loosen the screw fixing the PCB to disassemble it.	
		3) Disassemble the PCB Wire from the PCB.	
		4) Disassemble the Button PCB from the PCB.	

No	Parts	Procedure	Remark
7	Panel Front (Stepping Motor)	1) Loosen the two screws fixing the Cover Side. (There are 4 Cover Side.) 2) Draw two hooks then lift up the Cover Side. 3) Disassemble the Stepping Motor Wire Connected. 4) Disassemble the Stepping Motor from the Panel Front. 5)Disassemble the link and bracket from the Stepping Motor.	

4-2 Outdoor Unit

■ UH140GAMC

No	Parts	Procedure	Remark
1	Cabinet	1) Turn off the equipment and disassemble the power cable. 2) Uncover the Cabinet Top. 3) Uncover the Control Box Cover 4) Pull out the assemble Cable. 5) Disassemble the Cabinet Side 6) Disassemble the Cabinet Front. ✻ Check whether each part is fixed to the electronic connector firmly at the time of part assembly.	
2	Fan Motor & Propeller Fan	1) Loosen the blot fixing the Propeller Fan. 2) Disassemble the Fan.	

■ UH105GAMC

No	Parts	Procedure	Remark
1	Cabinet	1) Turn off the equipment and disassemble the power cable. 2) Uncover the Cabinet Top. 3) Uncover the Control Box Cover 4) Pull out the assemble Cable. 5) Disassemble the Cabinet Side 6) Disassemble the Cabinet Front. ✳ Check whether each part is fixed to the electronic connector firmly at the time of part assembly.	
2	Fan Motor & Propeller Fan	1) Loosen the blot fixing the Propeller Fan. 2) Disassemble the Fan.	

12. Troubleshooting

12-1 Operation Specification

12-1-1 Tracking process marked on display part

- Left numeral is an address that outdoor unit transfers communication.

  0 - 1 - 2 - 3 ... - F (Calling indoor unit)
- Right numeral marks address that is answered.
- During the tracking, left calls indoor unit through

  0 - 1 - 2 - 3 ... - d - E - F and checks. At this time

  connected indoor unit set on " 0 " and the indoor unit set 0 address

  marked on right.

  Right side mark is marked by when left side is 0 .

  (If SW02(MAIN) that set indoor unit address is controlled to " 0 ",

  indoor unit number marked on outdoor unit is marked by " 0 ".)

| Left | Right |

DISPLAY PART (DS1)
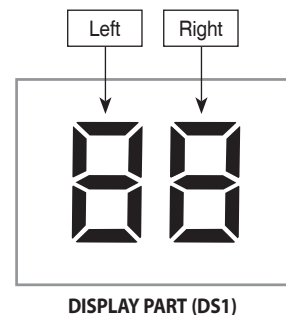
12-1-2 Option set part for Outdoor unit PCB

Data display part

KEY

Setting switch for indoor unit installation numbers
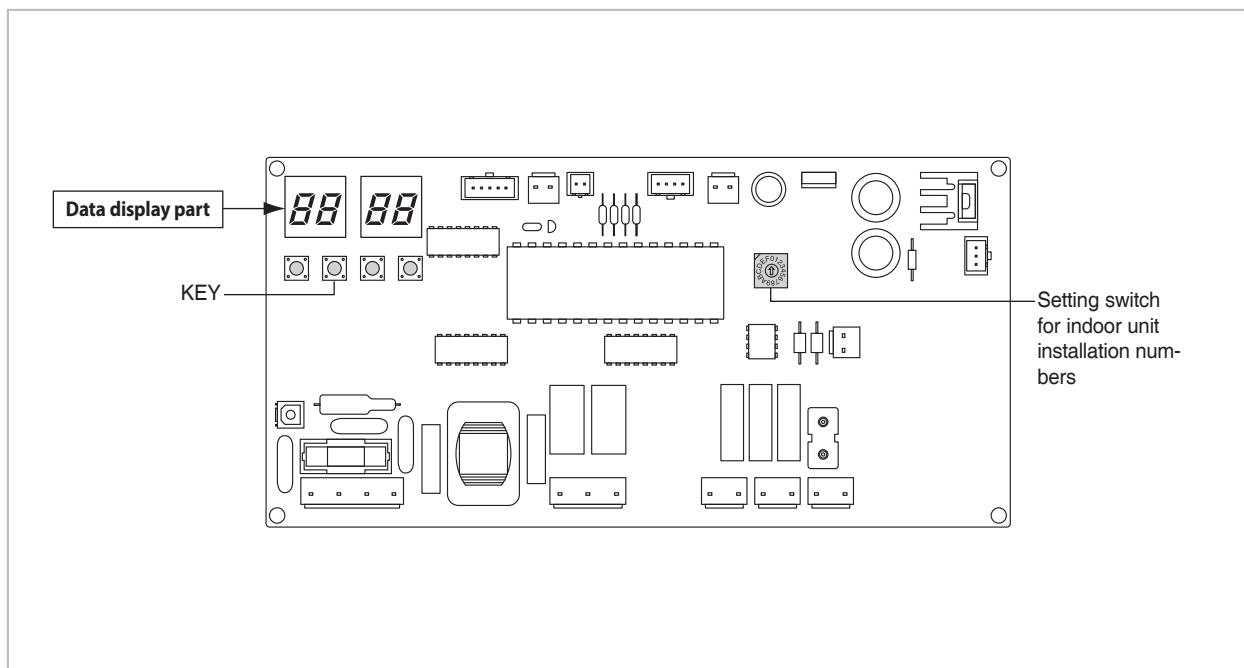
■ **Setting switch for indoor unit installation numbers**

Counts of Indoor Unit Installation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Numbers of the switch	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

● Example : When the installed indoor unit is one, control the arrow of switch
forward to '0' or '1' as figure.
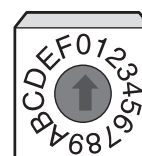
12-1-3 Setting Up Option Switches

■ **KEY**
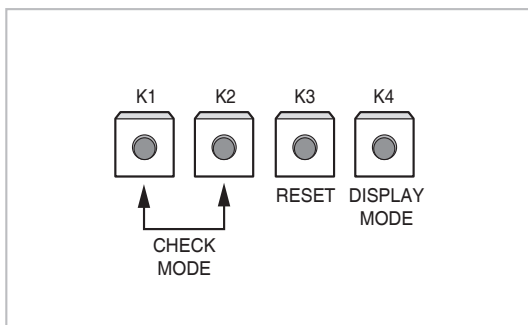
■ **Display**
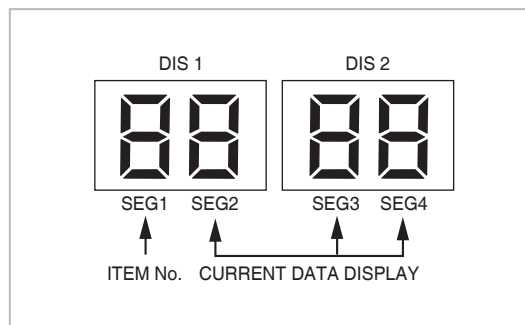
■ **Summary of KEY functions**

Function / Number of press times	K1 (Displayed on SEG 3, 4)	K2 (Displayed on SEG 3, 4)	K3 (Displayed on SEG 3, 4)	K4 (Displayed on SEG 3, 4)
1	Adding refrigerant at heating mode	Adding refrigerant at cooling mode	Reset	Displays data
2	Test operation at heating mode	Test operation at cooling mode	-	-
3	End	Pump Down for recovery of refrigerant	-	-
4	-	End	-	-

✳ Use the K1 only for heat pump models.

12-2 Troubleshooting

12-2-1 Wired remote controller display error occurring

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

Display	Description	Remarks
416	Compressor down due to protection control of the discharge temperature sensor	Error about protection control of the outdoor unit
450	Control due to the condenser temperature sensor when cooling mode	
451	Error of the low pressure switch (Protection control)	
425	Reverse phase error (Protection control)	
554	In removing frost	
221	Error of the outdoor temperature sensor (Open/Short)	Error about the outdoor unit sensor (Open/Short) Detection during the operation of the indoor unit (sensing and sending errors into the communication data)
230	Error of condenser temperature sensor (Open/Short)	
251	Error of discharge temperature sensor (Open/Short)	
201	- System down caused by communication error after completion of tracking - Mismatching of the indoor unit numbers set with those communication after completion of 5 times tracking	Communication and the indoor unit errors
121	Error of temperature sensor in the indoor unit (Open/Short)	Self-diagnosis of the indoor and outdoor unit
122	Error of the heat exchanger sensor in the indoor unit (Open/Short)	
419	Error of electronic expansion valve open in the outdoor unit (when it is detected more than once)	
422	Error of electronic expansion valve close in the outdoor unit (when it is detected more than once)	
601	Error of communication between the indoor unit and the wired remote controller	Wired remote controller errors
602	Master wired remote controller ⇆ Slave wired remote controller	
606	COM1/COM2 Cross-installed error	
EA	Error of setting option for wired remote controller COM2	

12-2-2 LED Display on the receiver & display unit

- If an error occurs during the operation, an LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

■ **LED Display**

Error type	LED lamp display					Remarks
	Concealed Type ⏻		⏲	❋	▦	
	Blue	Red				
	Standard Type					
	⏻	❋				
Power reset	◐	✕	✕	✕	✕	
Error of temperature sensor in the indoor unit (Open/Short)	✕	✕	◐	✕	✕	
Error of heat exchanger sensor in the indoor unit	◐	✕	◐	✕	✕	
Error of the outdoor temperature sensor Error of the condenser temperature sensor Error of the discharge temperature sensor	◐	✕	✕	◐	✕	
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 outdoor unit, the mismatching of the communication numbers and installed numbers after completion of tracking. (Communication error for more than 2 minutes)	✕	✕	◐	◐	✕	1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)
Communication error between indoor units	◐	✕	✕	✕	◐	
1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. 2'nd detection of high temperature cond 4. 2'nd detection of high temperature discharge 5. Error of reverse phase 6. Compressor down due to 6'th detection of freezing	✕	✕	◐	◐	◐	
Detection of the float switch	✕	✕	✕	◐	◐	
Error of setting option switches for optional accessories	✕	✕	◐	✕	◐	
EEPROM error	◐	✕	◐	◐	✕	
EEPROM option error						

●: On   ◐: Flickering   ✕: Off

12-2-3 Outdoor Unit

If an error occurs during the operation, it is displayed on the outdoor unit PCB.

Display	Explanation	Remark
$Er \leftrightarrow P0$	High temperature of Discharge (Protection control)	Error about protection control of outdoor unit
$Er \leftrightarrow P1$	High temperature of outdoor heat exchanger (Protection control)	
$Er \leftrightarrow P3$	Low pressure of outdoor (Protection control)	
$Er \leftrightarrow P4$	Reverse phase error (Protection control)	
$Er \leftrightarrow P5$	COMP DOWN to protect being frozen	
$Er \leftrightarrow P9$	In removing frost	
$Er \leftrightarrow t1$	Error of OUT TEMP sensor (OPEN/SHORT)	Errors about outdoor unit sensor (OPEN/SHORT) Detection during the operation of indoor unit (Sensing and sending errors into the communication data)
$Er \leftrightarrow t2$	Error of temperature sensor in outdoor heat exchanger (OPEN/SHORT)	
$Er \leftrightarrow t3$	Error of Discharge TEMP sensor (OPEN/SHORT)	
$Er \leftrightarrow E1$	System Down caused by communication error after completion of tracking	Communication and indoor unit errors
$Er \leftrightarrow E2$	Mismatching of the indoor unit numbers set with those communicated after completion of tracking	
$Er \leftrightarrow E3$	Error of float switch in indoor unit	Self-diagnosis of indoor and outdoor unit (x:indoor unit address)
$Er \leftrightarrow E5$	Error of setting option switches for optional accessories	
$Er \leftrightarrow 9x$	OPEN/SHORT error of room sensor in indoor unit	
$Er \leftrightarrow rx$	OPEN/SHORT error of eva in sensor in indoor unit	
$Er \leftrightarrow U x$	EEPROM option error	Displays of operating status
$Er \leftrightarrow u x$	Error of fan starting	
$Er \leftrightarrow G4$	Open error of electronic expansion valve in outdoor unit (Detected once or more times)	
$Er \leftrightarrow G5$	Close error of electronic expansion valve in outdoor unit (Detected once or more times)	
tU Flicker	Below -5°C when cooling (Outdoor temperature)	
$t0$ Flicker	Over 30°C when heating (Outdoor temperature)	
K1, K2, K3, K4, K5 Flicker		

The order of priority : E1 → E2 → E5 → P0 → P1 →P3 → P4 → P5 → P9 → t1 → t2 → t3 → tu → to → G4 → G5 → E3 → qx → rx → vx → K1, K2, K3, K4, K5

- In case that the same error displays from multi-indoor units, the one having the faster address has the priority.

12-3 Sequence for trouble diagnosis

12-3-1 Outdoor temp. sensor(OPEN/SHORT)

Outdoor unit display	$Er \rightarrow t\,1$ **(Outdoor temp. sensor OPEN/SHORT error)**
Indoor unit display	◑(Operation)　✕(Timer)　◑ (Airflow)　✕ (Filter)
How to determine	Disconnection and short of outdoor temp. sensor
Reason of error	Disconnection or leak of applied sensor

Does the out temperature sensor connected to PCB? (CN41)

No → Reoperation after connect to connector PCB

Yes ↓

Measure the resistance value between two terminals after separating the out temp. sensor connector from PCB

Temp. (˚C)	Resistance (kΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

At this time, Is largely deviate the resistance value from side table value?

Yes → Outdoor unit thermistor is defective(replace)

No ↓

Check the out temp. sensor is normal or not by use of out data display part
Check the temp. data is normal or not after pressing K4 3 times. At this time, is occurred the difference between the out temp. and data?

No → PCB and sensor are normal. To perform the test operation by use of K2

Yes ↓

Reoperation after PCB replacement

12-3-2 Outdoor heat exchanger temp. sensor error(OPEN/SHORT)

Outdoor unit display	$Er \rightarrow t2$ **(Outdoor heat exchanger temp. sensor error(OPEN/SHORT)**
Indoor unit display	◑ (Operation) ✕ (Timer) ◑ (Airflow) ✕ (Filter)
How to determine	Disconnection and short of outdoor heat exchanger temp. sensor
Reason of error	Disconnection or leak of Applied sensor

Does the out heat exchanger temp. sensor connected to PCB? (CN41)

No → Reoperation after connect to connector PCB

Yes

Measure the resistance value between two terminals after separating the out heat exchanger temp. sensor connector from PCB

Temp. (˚C)	Resistance (kΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

At this time, Is largely deviate the resistance value from side table value?

Yes → Outdoor heat exchanger temp. is defective(replace)

No

Check the out temp. sensor is normal or not by use of out data display part
Check the temp. data is normal or not after pressing K4 2 times. At this time, is occurred the difference between the out temp. and data?

No → PCB and sensor are normal. To perform the test operation by one of K2

Yes

Reoperation after PCB replacement

12-3-3 Outdoor discharge temp. sensor error(OPEN/SHORT)

Outdoor unit display	$Er \rightarrow E3$ **(Outdoor discharge temp. sensor OPEN/SHORT error)**
Indoor unit display	◑ (Operation) ✕ (Timer) ◑ (Airflow) ✕ (Filter)
How to determine	Disconnection and short of outdoor discharger temp. sensor
Reason of error	Disconnection or leak of Applied sensor

Does the outdoor discharge temp. sensor connected to PCB? (CN42)

No

Reoperation after connect to connector PCB

Yes

Measure the resistance value between two terminals after separating the outdoor discharge temp. sensor connector from PCB

Temp. (˚C)	Resistance (kΩ)
130	8.9
120	11.2
100	18.5
80	32
60	59
25	200
20	242
10	362
0	553

At this time, Is largely deviate the resistance value from side table value?

Yes

Outdoor heat exchanger temp. is defective(replace)

No

Check the out temp. sensor is normal or not by use of out data display part →Check the temp. data is normal or not after pressing K4 1 times. At this time, is occurred the difference between the out temp. and data?

No

PCB and sensor are normal. To perform the test operation by use of K2

Yes

Reoperation after PCB replacement

12-3-4 Communication error during the operation

Outdoor unit display	$Er \rightarrow E1$ (Communication error during the operation)
Indoor unit display	✕ (Operation) ◑ (Timer) ◑ (Airflow) ✕ (Filter)
How to determine	Disconnection and short of communication lines
Reason of error	Communication error between the indoor unit and outdoor unit.

Check the display after
pressing the reset key on outdoor PCB

When tracking, is there any
indoor answer from display part?

No →

Multi type

After 2 minutes, check if PCB address
setting of indoor unit displayed the
communication error among indoor units are
overlapped or not.
(If the indoor unit address is overlapped, the
communication error is occurred.)
- In this case, the communication error is
  occurred to over two indoor units set wrong.

Yes

Measure the 2 lines of outdoor side
by scope after removing the
communication line connecting from
outdoor unit to indoor unit.

If address is not fault
exchange the indoor unit PCB after
communication line check.

At this time, is the voltage
between lines rectangular wave over DC±0.7V
like below figure?

No →

Yes

After connecting again the communication
line connecting from outdoor unit to indoor unit,
remove the communication
connector on indoor unit PCB, and find the
indoor unit preventing communication
through connecting the communication
connectors each by each, and then replace
the indoor unit PCB after line check.

Replace PCB after checking
the outdoor unit communication line
and connector

Good

Bad

+0.7V

-0.7V

12-3-5 Communication error between indoor and outdoor after initial power input.

Outdoor unit display	$Er \rightarrow E2$ **(Tracking error)**
Indoor unit display	✕(Operation) ◑ (Timer) ◑ (Airflow) ✕ (Filter)
How to determine	Mismatching the communicating indoor unit and setting switch indoor numbers When outdoor tracking
Reason of error	Communication error between the indoor unit and outdoor unit, and installation number switch setting miss

Check the setting value of
indoor unit installation number setting
switch of outdoor PCB and actual indoor unit
installation numbers

If the indoor unit number installed is one, set the
outdoor unit switch forward to "0", "1"
→"0" and "1" spell the connection of an indoor unit.

Is equal indoor unit actual
installation number and installation
number setting switch?

No

Yes

After setting the indoor unit installation setting
number switch correctly, re-perform the
tracking by pressing the reset key K3 of
outdoor unit PCB

Press the reset key K3 of outdoor unit
PCB and check the display to check the
number of indoor units answering to the
tracking

When tracking, is there any
indoor answer from display part?

No

Yes

Multi type

After 2 minutes, check if PCB address setting
of indoor unit displayed the communication error
among indoor units is overlapped or not .
(If the indoor unit address is overlapped, the
communication error is occurred.)
- In this case, the communication error is
  occurred to over two indoor units set wrong

To measure the 2 lines of outdoor unit side by
use of scope after removing the communication
line connecting from outdoor unit to indoor unit

At this time, is the voltage
between lines rectangular wave over
DC±0.7V?

If address is not fault
exchange the indoor unit PCB after
communication line check.

Yes

After connecting again the communication line
connecting from outdoor unit to indoor unit,
check this communication is reverse or not,
and if there is no fault, find the indoor unit
preventing communication through connecting
indoor units each by each, and then
exchange the indoor unit PCB after line check

12-3-6 Indoor float switching error

Outdoor unit display	$Er \rightarrow E3$ **(Indoor float switching error)**
Indoor unit display	✕ (Operation) ✕ (Timer) ◖ (Airflow) ◖ (Filter)
How to determine	The status continues over 1 minute that indoor unit float switch is opened.
Reason of error	The rising of water level of drain pan due to the disorder of indoor unit drain pump, the badness of detection sensor

Is the resistance value when measuring the resistance value of two terminal after taking out the floating switch connector connected to indoor unit PCB? (Open status)

No

Re-assembly the floating switch connector and perform the reset of outdoor power(Required the reset of indoor unit power)

Yes

Is the same error occurred?

No

Yes

Is much the water of drain pan ?

Replace the indoor unit PCB

Normal operation

Yes

No

Reset the indoor unit power and check the drain pump operation

Check the floating switch is bad. Reset the indoor unit power after replace

Does the drain pump operate?

No

Yes

Is the terminal voltage of drain pump PCB about AC220V?

No

Does the water level decrease?

No

Yes

Yes

Replace the drain pump

Replace the indoor unit PCB

Normal operation
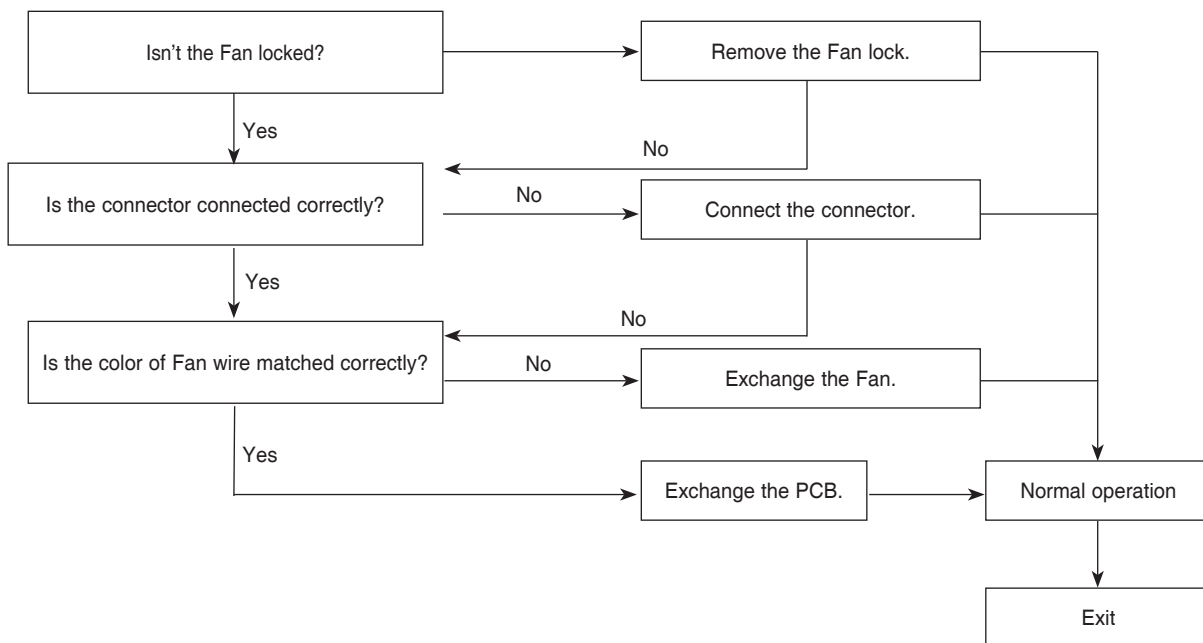
Replace the drain pump

Note : E3 error should be released when indoor unit power is reset.

12-3-7 Fan error

1   Checklist :

     1) Isn't the fan locked?

     2) Is the sensor placed correctly?

     3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?

     4) Is the resistance value of sensor connection pull_up correct?

2   Troubleshooting procedure

Isn't the Fan locked?	→	Remove the Fan lock.

Yes

No

Is the connector connected correctly?	No →	Connect the connector.

Yes

No

Is the color of Fan wire matched correctly?	No →	Exchange the Fan.

Yes

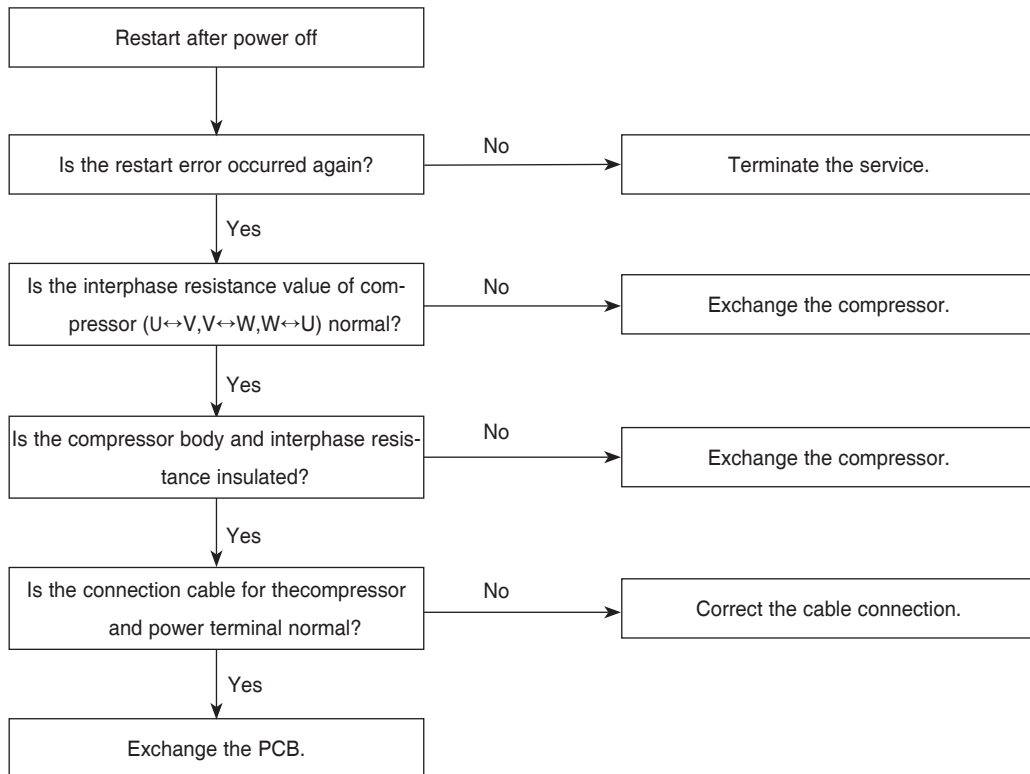| Exchange the PCB.	→	Normal operation

Exit

12-3-8 Compressor start error

1 Checklist :
    1) Is the connection of cable for the compressor and power?
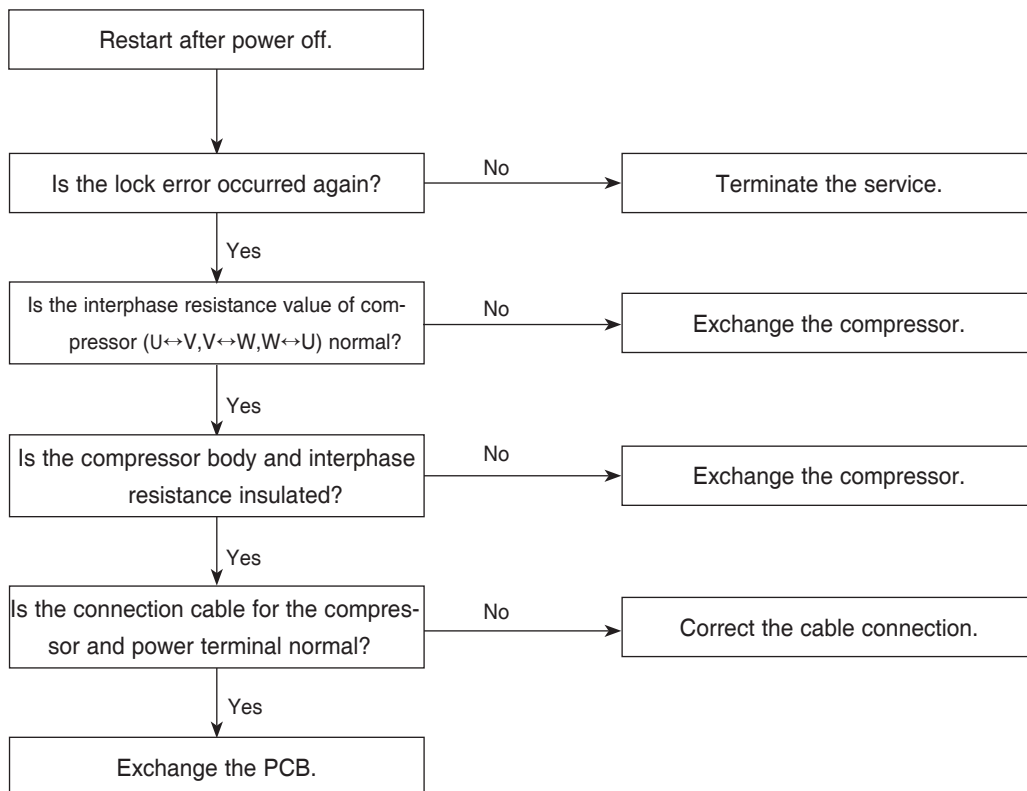   2) Is the interphase resistance of compressor normal?

2 Troubleshooting procedure

```
┌─────────────────────────────┐
│   Restart after power off    │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐   No    ┌─────────────────────────────┐
│ Is the restart error         │────────▶│    Terminate the service.   │
│ occurred again?              │         └─────────────────────────────┘
└─────────────────────────────┘
              │ Yes
              ▼
┌─────────────────────────────┐   No    ┌─────────────────────────────┐
│ Is the interphase resistance │────────▶│   Exchange the compressor.  │
│ value of com-pressor         │         └─────────────────────────────┘
│ (U↔V,V↔W,W↔U) normal?        │
└─────────────────────────────┘
              │ Yes
              ▼
┌─────────────────────────────┐   No    ┌─────────────────────────────┐
│ Is the compressor body and   │────────▶│   Exchange the compressor.  │
│ interphase resis-tance        │         └─────────────────────────────┘
│ insulated?                   │
└─────────────────────────────┘
              │ Yes
              ▼
┌─────────────────────────────┐   No    ┌─────────────────────────────┐
│ Is the connection cable for   │────────▶│ Correct the cable connection.│
│ thecompressor and power       │         └─────────────────────────────┘
│ terminal normal?             │
└─────────────────────────────┘
              │ Yes
              ▼
┌─────────────────────────────┐
│      Exchange the PCB.       │
└─────────────────────────────┘
```

12-3-9 Compressor lock error

1   Checklist :
    1) Is the connection of cable for the compressor and power?
    2) Is the interphase resistance of compressor normal?

2   Troubleshooting procedure

```
┌─────────────────────────────┐
│    Restart after power off.  │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐     No      ┌─────────────────────────────┐
│ Is the lock error occurred  │────────────▶│     Terminate the service.   │
│           again?            │             └─────────────────────────────┘
└─────────────────────────────┘
              │ Yes
              ▼
┌─────────────────────────────┐     No      ┌─────────────────────────────┐
│ Is the interphase resistance│────────────▶│    Exchange the compressor.  │
│ value of compressor         │             └─────────────────────────────┘
│ (U↔V,V↔W,W↔U) normal?       │
└─────────────────────────────┘
              │ Yes
              ▼
┌─────────────────────────────┐     No      ┌─────────────────────────────┐
│ Is the compressor body and  │────────────▶│    Exchange the compressor.  │
│ interphase resistance       │             └─────────────────────────────┘
│ insulated?                  │
└─────────────────────────────┘
              │ Yes
              ▼
┌─────────────────────────────┐     No      ┌─────────────────────────────┐
│ Is the connection cable for │────────────▶│   Correct the cable          │
│ the compressor and power    │             │   connection.                │
│ terminal normal?            │             └─────────────────────────────┘
└─────────────────────────────┘
              │ Yes
              ▼
┌─────────────────────────────┐
│      Exchange the PCB.       │
└─────────────────────────────┘
```

12-3-10 When the remote control is not receiving

1   Check if the connector was normally assembled.

2   Put the set in operation and check the voltage of No. 15(+) and No. 16(-) of the main PCB CN91 while operating the remote control. When the voltage descends below 3V, the assembly module PCB is normal and the main PCB is poor. Then replace the main PCB.

3   Replace the assembly display PCB because the module PCB is poor if the voltage between No. 15~16 of CN91 maintains 5V after the remote control starts operation.

3. Alignment and Adjustments

3-1 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.

■ Indoor unit LED lamp display at error detecting

Abnormal conditions	LED lamp display					Remarks
	Green ⏻	Red *❄	Yellow ⏱	Green ❀	Orange ▦	
Power reset	◑	X	X	X	X	
Error of temperature sensor in the indoor unit (Open/Short)	X	X	◑	X	X	
Error of heat exchanger sensor in the indoor unit	◑	X	◑		X	
Error of the outdoor temperature sensor Error of the condensor temperature sensor Error of the discharge temperature sensor	◑	X	X	◑	X	
1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. 2'nd detection of high temperature cond 4. 2'nd detection of high temperature discharge 5.Error of reverse phase 6.Compressor down due to 6'th detection of freezing	X	X	◑	◑	◑	
Detection of the float switch	X	X	X	◑	◑	
Error of setting option switches for optional accessories	X	X	◑	X	◑	

● : On ◑ : Flickering X: OFF

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

■ LED Display

Abnormal conditions	LED lamp display					Remarks
	Green	Red	Yellow	Green	Orange	
	⏻	*💧	⏱	❁	▦	
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 communciation error from the outdoor unit , the mismatching of the communication numbers and installed numbers after completion of tracking(Communication error for more than 2 minutes)	X	X	◑	◑	X	
EEPROM option error	◑	◑	◑	◑	◑	

● : On   ◑ : Flickering   X : OFF

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

■ OPTION ITEMS

MODEL / REMOCON	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
CH140EAMC	0	4	5	8	0	7	1	3	5	3	4	0
CH105EAMC	0	4	4	0	0	7	1	F	1	2	1	D

# ■ Wired Remocon Error Display

Display	Description	Remarks
416	Compressor down due to protection control of the discharge temperature sensor	Error about protection control of the outdoor unit
450	Control due to the condenser temperature sensor when cooling mode	
451	Error of the low pressure switch (Protection control)	
425	Reverse phase error (Protection control)	
551	In removing frost	
221	Error of the outdoor temperature sensor (Open/Short)	Error about the outdoor unit sensor (Open/Short) Detection during the operation of the indoor unit (sensing and sending errors into the communication data)
237	Error of condenser temperature sensor (Open/Short)	
251	Error of discharge temperature sensor (Open/Short)	
201	- System down caused by communication error after completion of tracking - Mismatching of the indoor unit numbers set with those communication after completion of 5 times tracking	Communication and the indoor unit errors
121	Error of temperature sensor in the indoor unit (Open/Short)	Self-diagnosis of the indoor and outdoor unit
122	Error of the heat exchanger sensor in the indoor unit (Open/Short)	
419	Error of electronic expansion valve open in the outdoor unit (when it is detected more than once)	
422	Error of electronic expansion valve close in the outdoor unit (when it is detected more than once)	
601	Error of communication between the indoor unit and the wired remote controller	Wired remote controller errors
602	Master wired remote controller ⇄ Slave wired remote controller	
606	COM1/COM2 Cross-installed error	
8ER	Error of setting option for wired remote controller COM2	

3-2 Setting Option Setup Method

ex) Option No. : 085115-1d2340

Step 1 : **Enter the Option Setup mode.**

1st Take out the batteries of remote control.

2nd Press the temperature ⌃⌄ button simultaneously and insert the battery again.

3rd Make sure the remocon display shown as 00 / 00 / 00 .
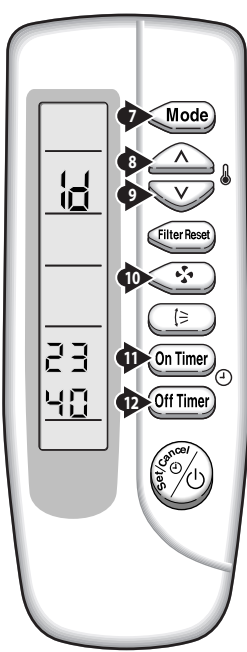
Display part Mode
⌃
⌄
Filter Reset
⁘
▷
On Timer
Off Timer
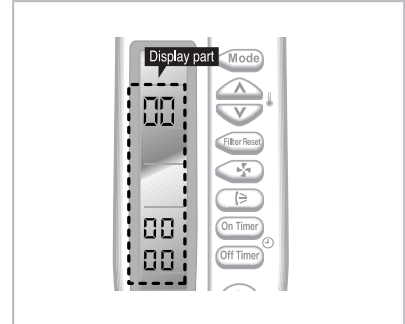
Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**

1
The default value is 00 .
Otherwise, push the (Mode) button to 0 .
Every time you push the button, the display panel reads 1 or 0 repeatedly.

2
Push the ⌃ button to set the display panel to 8 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3
Push the ⌄ button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4
Push the ⁘ button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5
Push the (On Timer) button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6
Push the (Off Timer) button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Mode
⌃
⌄
Filter Reset
⁘
≥
On Timer
Off Timer
Set/Cancel ⏻

✳ Setting is not required if you must 0 a value which has a 0 default.

Press **Mode** button, then the default value is 88 .

Push the ⌃ button to set the display panel to *d* .

Every time you push the button, the display panel reads *0* ➡ *1* ➡ *2* ➡ *3* ➡ … *9* ➡ *A* ➡ *b* ➡ *c* ➡ *d* ➡ *E* ➡ *F* repeatedly.

Push the ⌄ button to set the display panel to *2* .

Every time you push the button, the display panel reads *0* ➡ *1* ➡ *2* ➡ *3* ➡ … *9* ➡ *A* ➡ *b* ➡ *c* ➡ *d* ➡ *E* ➡ *F* repeatedly.

Push the 🍃 button to set the display panel to *3* .

Every time you push the button, the display panel reads *0* ➡ *1* ➡ *2* ➡ *3* ➡ … *9* ➡ *A* ➡ *b* ➡ *c* ➡ *d* ➡ *E* ➡ *F* repeatedly.

Push the **On Timer** button to set the display panel to *4* .

Every time you push the button, the display panel reads *0* ➡ *1* ➡ *2* ➡ *3* ➡ … *9* ➡ *A* ➡ *b* ➡ *c* ➡ *d* ➡ *E* ➡ *F* repeatedly.

Push the **Off Timer** button to set the display panel to *0* .

Every time you push the button, the display panel reads *0* ➡ *1* ➡ *2* ➡ *3* ➡ … *9* ➡ *A* ➡ *b* ➡ *c* ➡ *d* ➡ *E* ➡ *F* repeatedly.

✳ Setting is not required if you must *0* a value which has a *0* default.

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

Press the Mode Selection key, **Mode** to set the display part to *0* and check the display part.

➡ The display part shows 08 / 51 / 15 .

Press the Mode Selection key, **Mode** set the display part to *1* and check the display part.

➡ The display part shows 1d / 23 / 40 .

Step 4 : Pressing the ON/OFF button (🔘)

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound ''Ding'' or ''Diriring''

is heard and the OPERATION ICON(⏻) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

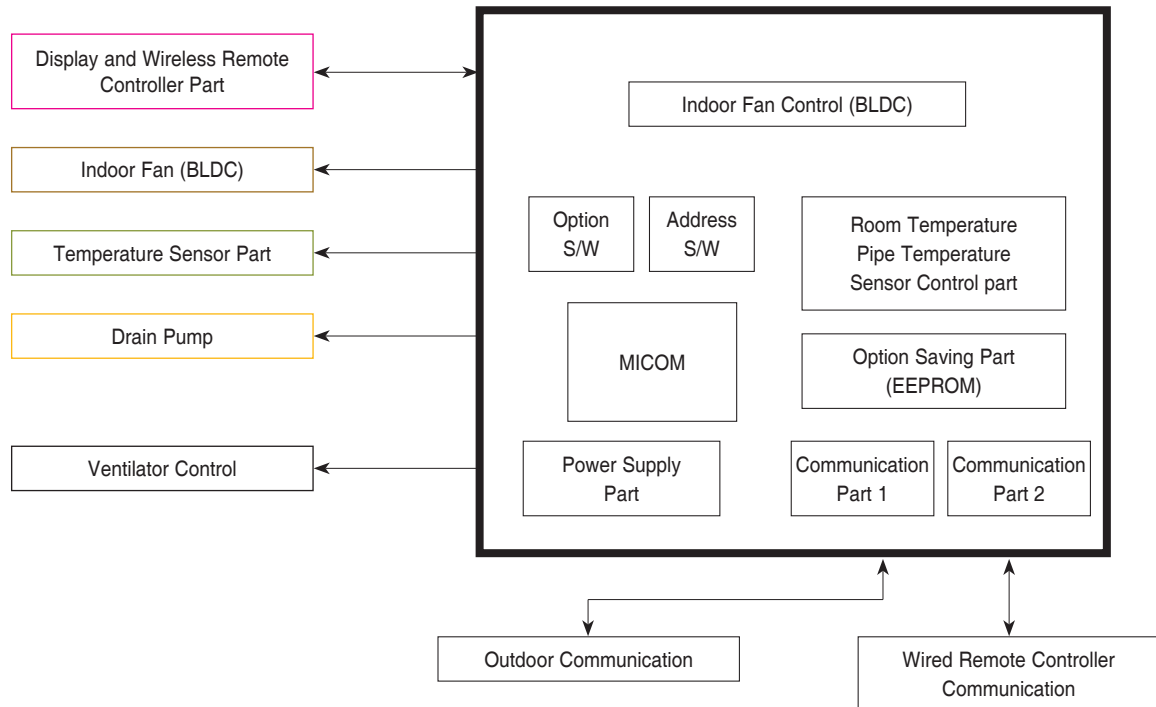**Third,** Press ON/OFF button(🔘) with the direction of remote control for set.
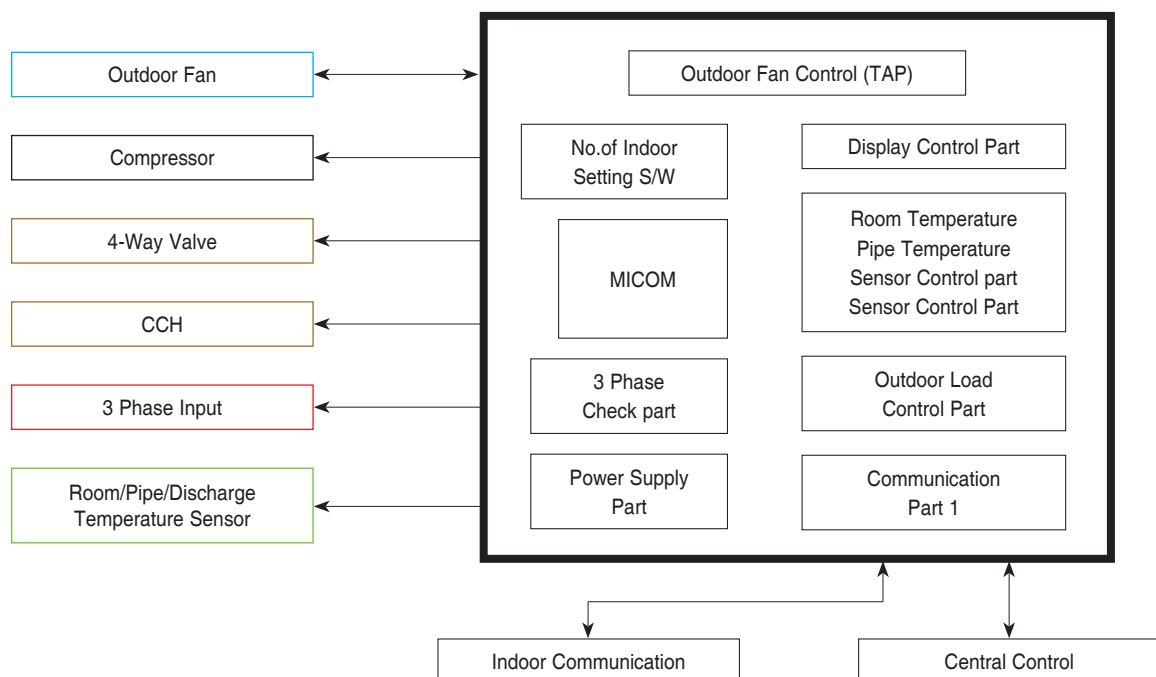

• Error Mode

1st — If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd — If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.
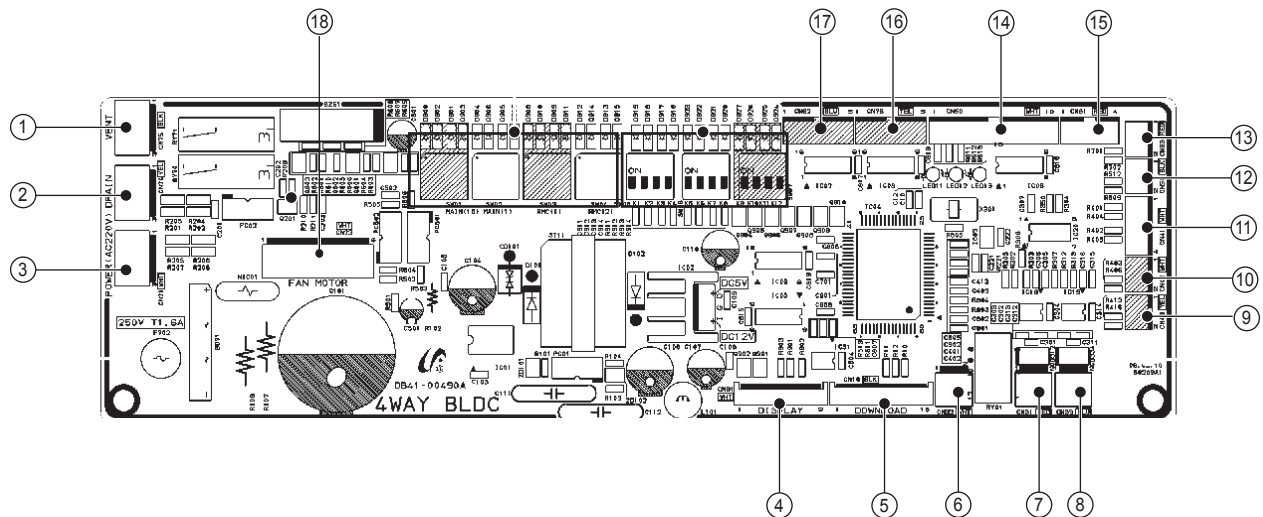
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13. Block Diagram

13-1 Indoor Unit

| Display and Wireless Remote Controller Part |
| Indoor Fan (BLDC) |
| Temperature Sensor Part |
| Drain Pump |
| Ventilator Control |

Indoor Fan Control (BLDC)

Option S/W | Address S/W

Room Temperature Pipe Temperature Sensor Control part

MICOM

Option Saving Part (EEPROM)

Power Supply Part

Communication Part 1 | Communication Part 2

Outdoor Communication

Wired Remote Controller Communication

13-2 Outdoor Unit

| Outdoor Fan |
| Compressor |
| 4-Way Valve |
| CCH |
| 3 Phase Input |
| Room/Pipe/Discharge Temperature Sensor |

Outdoor Fan Control (TAP)

No.of Indoor Setting S/W

Display Control Part

MICOM

Room Temperature Pipe Temperature Sensor Control part Sensor Control Part

3 Phase Check part

Outdoor Load Control Part

Power Supply Part

Communication Part 1

Indoor Communication

Central Control

10. PCB Diagram

10-1 Indoor PCB

|				
①	Ventilator	⑫	Floating Switch
②	Drain Pump	⑬	External control
③	Power in	⑭	step motor
④	Display	⑮	operation check
⑤	Micon download	⑯	SUB PCB connector
⑥	Wire Remote Controller Power	⑰	EEV
⑦	Indoor/Outdoor Communication	⑱	BLDC MOTOR
⑧	Wired Remote Controller Communication		
⑨	Thermistor Discharge		
⑩	EVA out sensor		
⑪	Indoor Pipe in Temperature Sensor		
	Indoor Room Temperature Sensor		
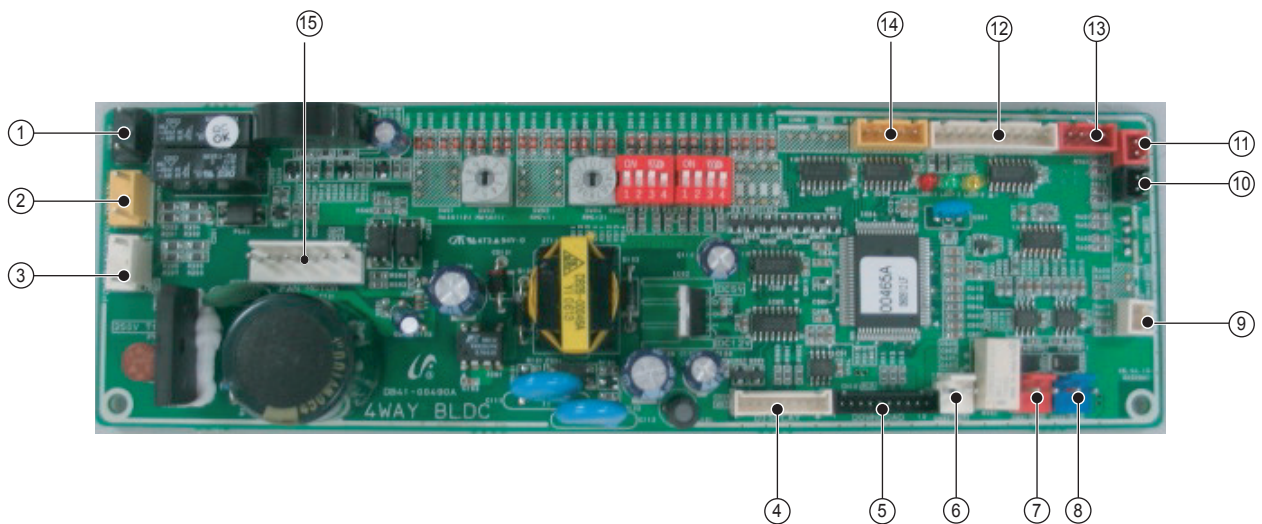
|				
①	Ventilator(YW396-03AV,BLK)	⑩	Floating Switch(SMW250-02,BLK)
②	Drain Pump(YW396-03AV,YEL)	⑪	External control(SMW250-02,RED)
③	Power in(YW396-03AV,WHT)	⑫	step motor(SMW250-10,WHT)
④	Display(SMW200-09,WHT)	⑬	operation check(SMW250-04,RED)
⑤	Micon download(SMW200-10,BLK)	⑭	SUB PCB connector(SMW250-05,YEL)
⑥	Wire Remote Controller Power(YW396-02V,WHT)	⑮	BLDC MOTOR: YW396-06AV(WHT)
⑦	Indoor/Outdoor Communication(YW396-02V,RED)		
⑧	Wired Remote Controller Communication(YW396-02V,BLU)		
⑨	Indoor Pipe in Temperature Sensor		
	Indoor Room Temperature Sensor(SMW250-04,WHT)		
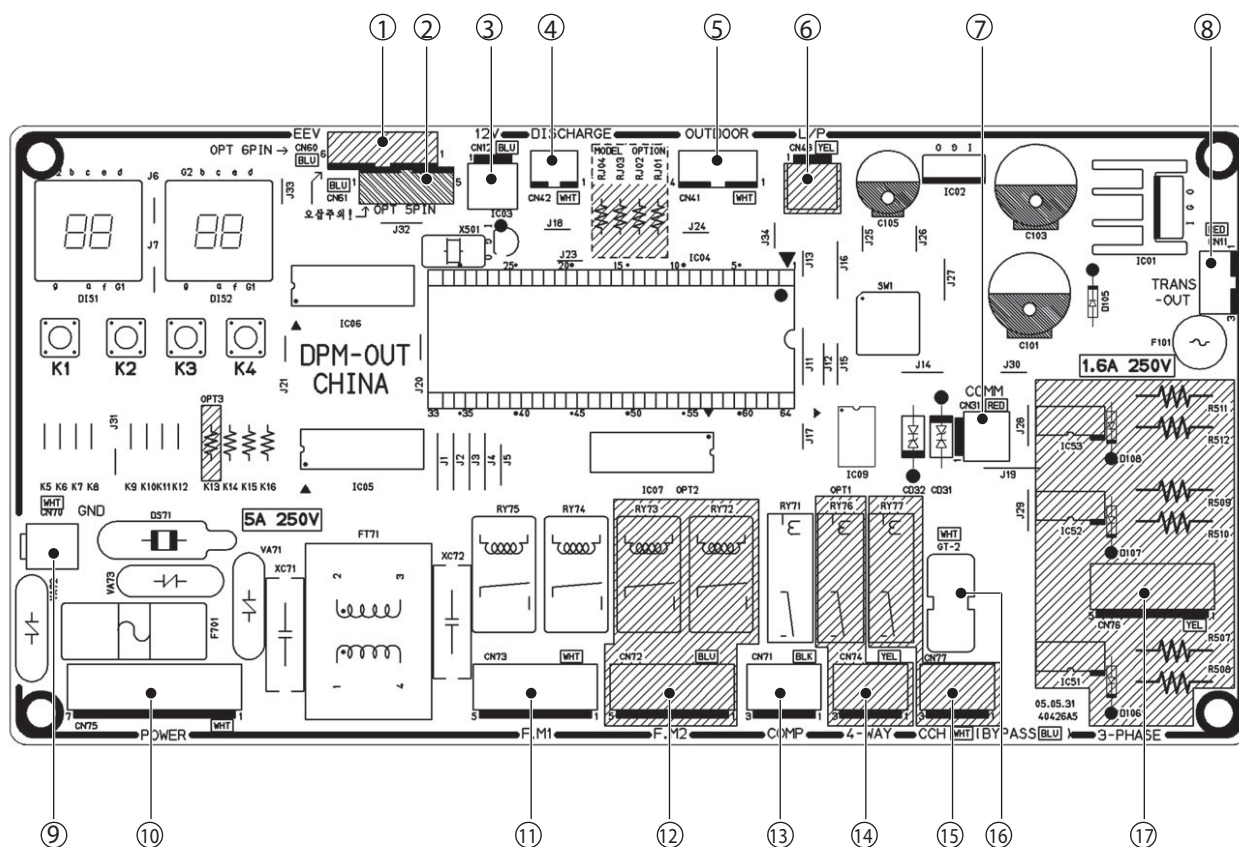
①	EEV(2,000 Step)	⑨	GROUND
②	EEV(480 Step)	⑩	Main Power In
③	Transmitter Power(12V)	⑪	Outdoor Fan 1
④	Discharge Temperature Sensor	⑫	Outdoor Fan 2
⑤	Outdoor Temperature Sensor	⑬	Compressor Output
	Outdoor Pipe Temperature Sensor	⑭	4-Way Valve Output
⑥	Low Pressure S/W	⑮	Bypass
⑦	Communication	⑯	Transformer In
⑧	Transformer Out	⑰	3 Phase Check

■ UH140GAMC
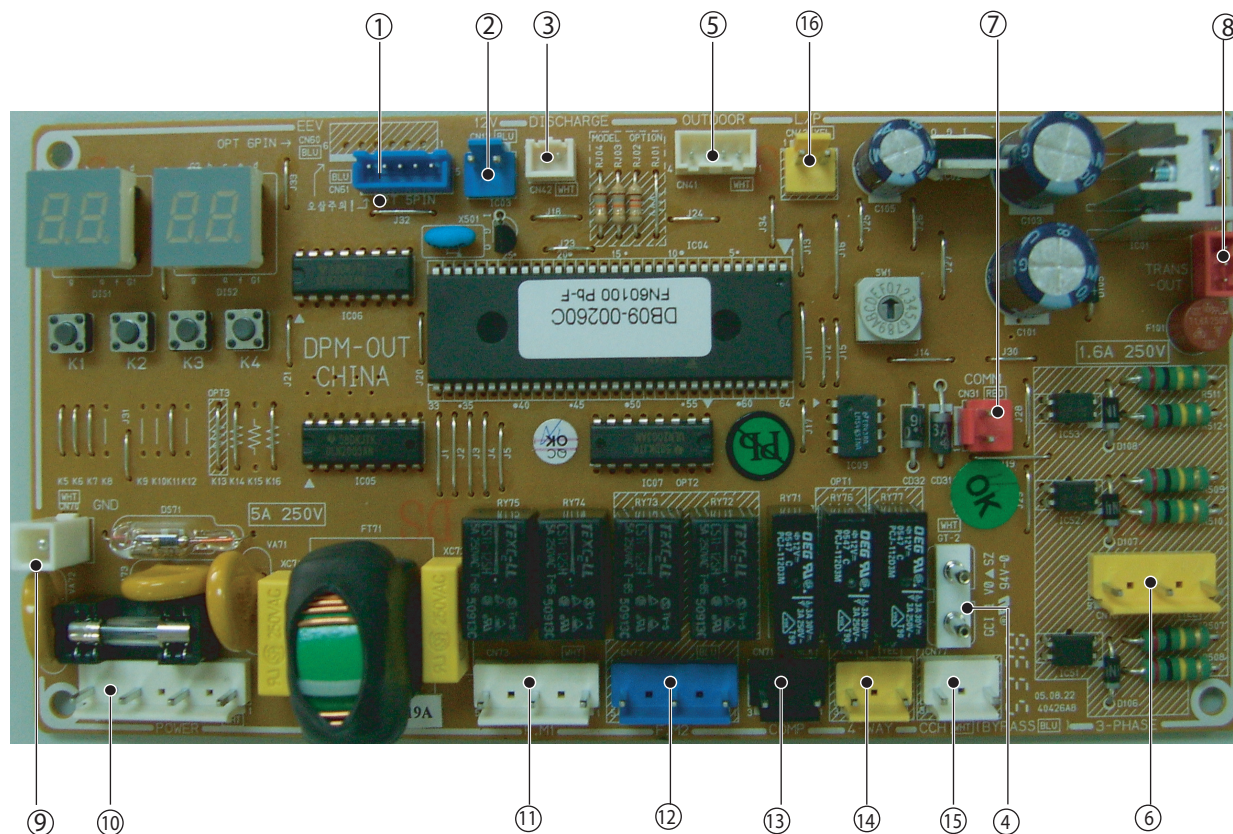
| ①	EEV(2,000 Step) : B6B-XH-A(BLU)	⑨	GROUND : YDW236-01(WHT)
②	EEV(480 Step) : B5B-XH-A(BLU)	⑩	Main Power In : YW396-07AV(WHT)
③	Transmitter Power(12V) : YW396-02V(WHT)	⑪	Outdoor Fan 1 : YW396-05AV(WHT)
④	Transformer In : GT-2(WHT)	⑫	Outdoor Fan 2 : YW396-05AV(BLU)
⑤	Outdoor Temperature Sensor : SMW250-04(WHT)	⑬	Compressor Output : YW396-03AV(BLK)
	Outdoor Pipe Temperature Sensor : SMW250-04(WHT)	⑭	4-Way Valve Output : YW396-03AV(YEL)
⑥	3 Phase Check : YW396-05AV(YEL)	⑮	Bypass : YW396-03AV(WHT)
⑦	Communication : YW396-02V(RED)	⑯	Low Pressure S/W :YW396-02AV,YEL
⑧	Transformer Out : SMW250-03(RED)		

■ UH105GAMC
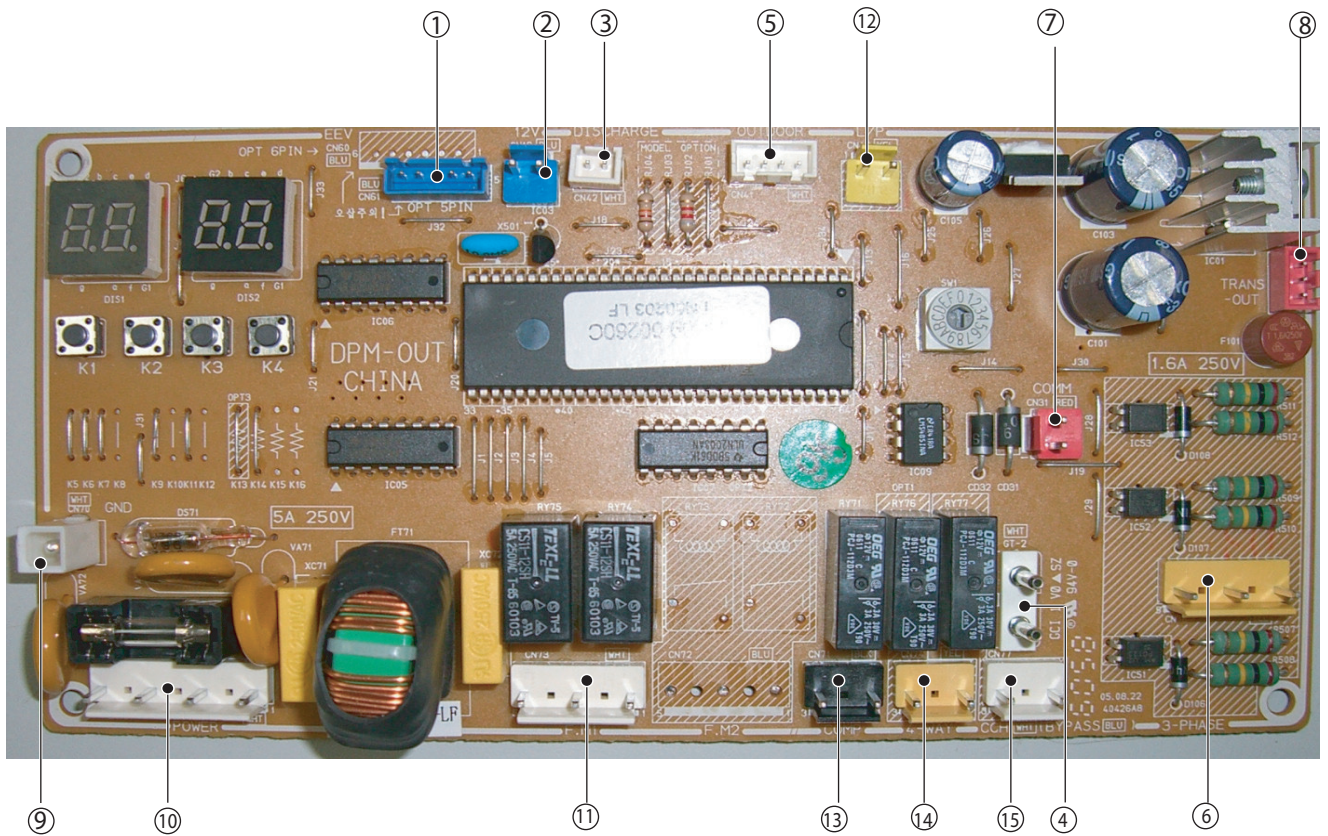
| ①	EEV(2,000 Step) : B6B-XH-A(BLU)	⑨	GROUND : YDW236-01(WHT)
②	EEV(480 Step) : B5B-XH-A(BLU)	⑩	Main Power In : YW396-07AV(WHT)
③	Transmitter Power(12V) : YW396-02V(WHT)	⑪	Outdoor Fan 1 : YW396-05AV(WHT)
④	Transformer In : GT-2(WHT)	⑫	Low Pressure S/W :YW396-02AV,YEL
⑤	Outdoor Temperature Sensor : SMW250-04(WHT)	⑬	Compressor Output : YW396-03AV(BLK)
	Outdoor Pipe Temperature Sensor : SMW250-04(WHT)	⑭	4-Way Valve Output : YW396-03AV(YEL)
⑥	3 Phase Check : YW396-05AV(YEL)	⑮	Bypass : YW396-03AV(WHT)
⑦	Communication : YW396-02V(RED)		
⑧	Transformer Out : SMW250-03(RED)		

MEMO

7. Wiring Diagram

7-1 Indoor Unit

■ CH140EAMC
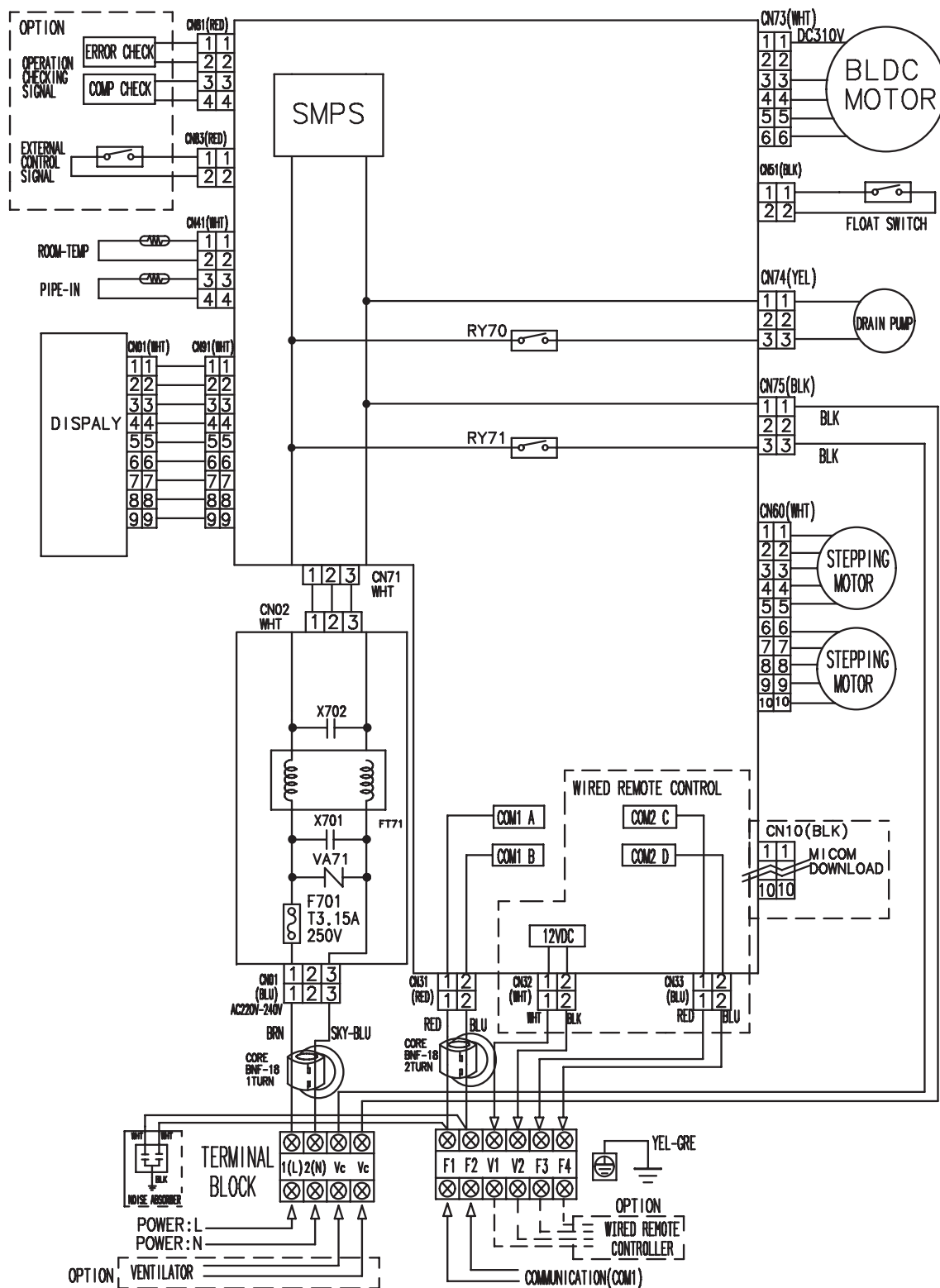
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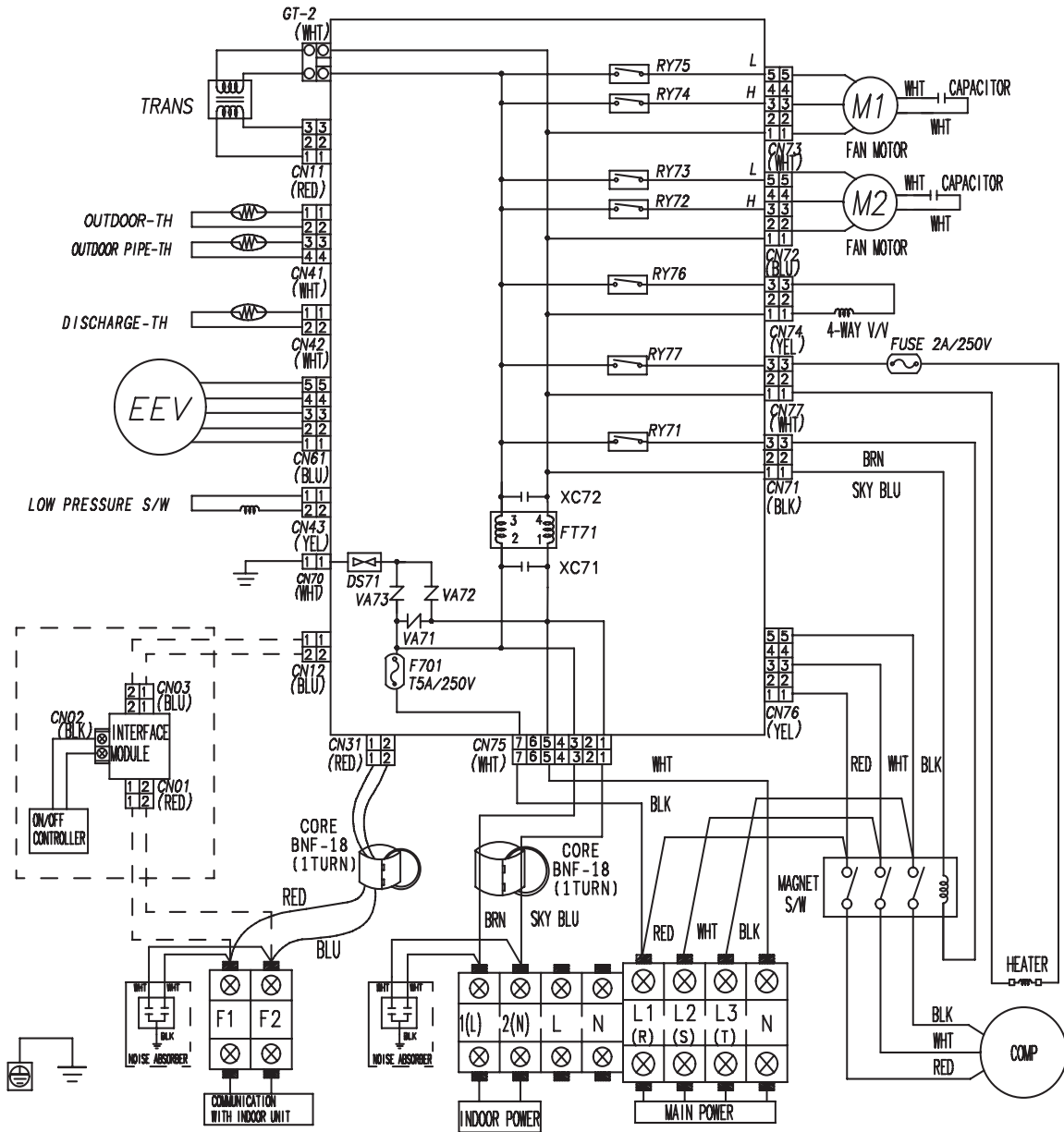
■ CH105EAMC
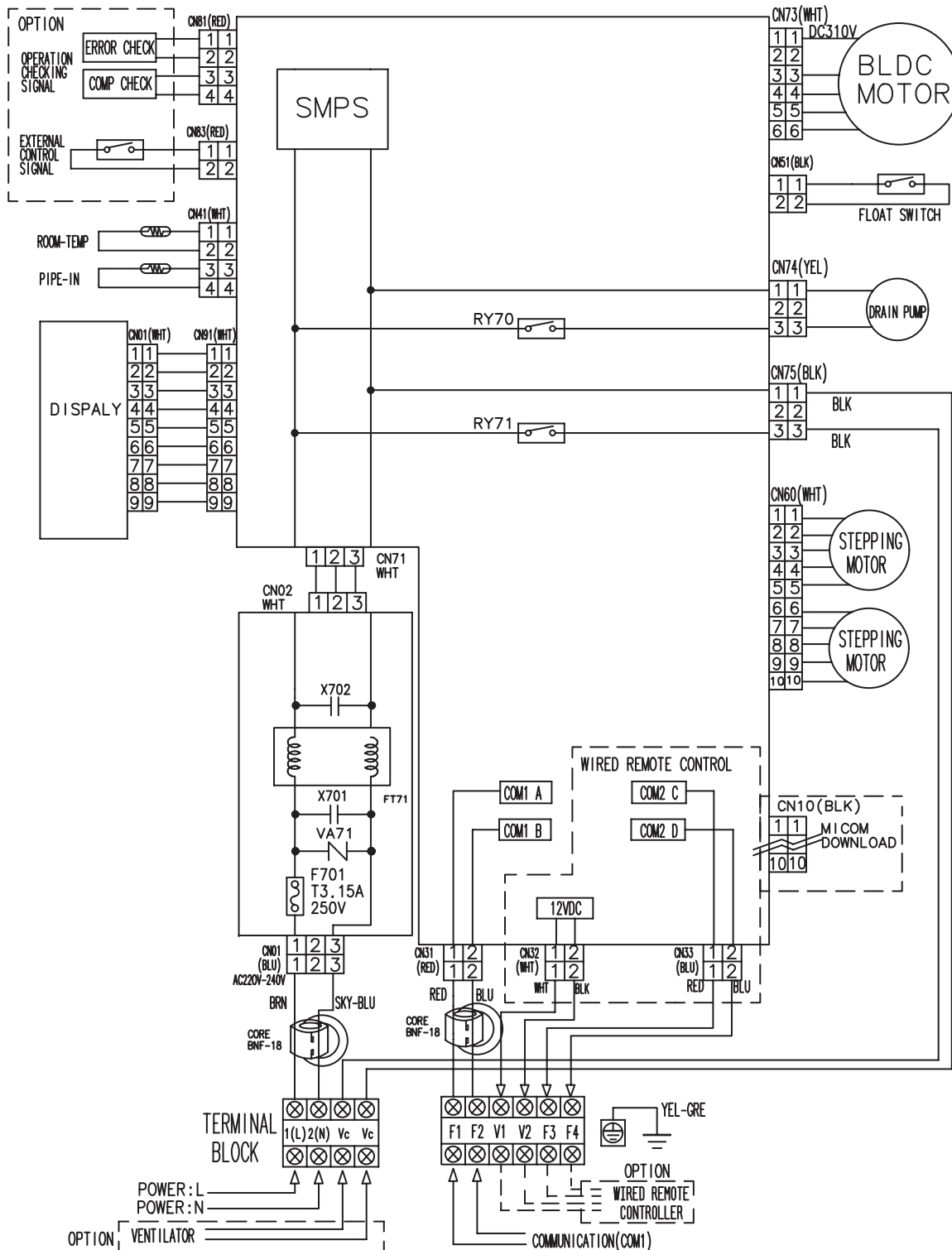
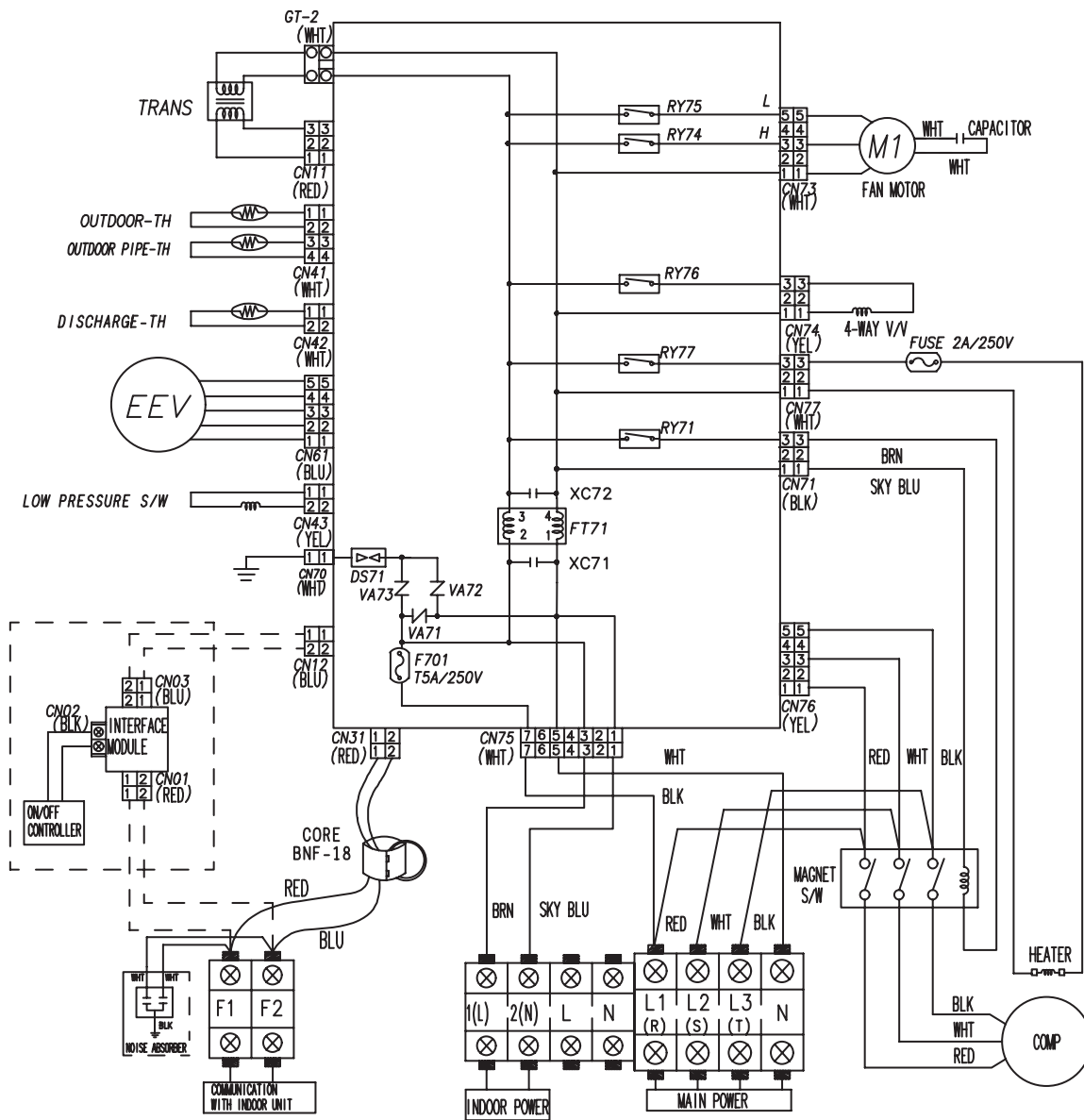This Document can not be used without Samsung's authorization.

7-2 Outdoor Unit

■ UH140GAMC

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■ UH105GAMC

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6. Electrical Parts List

■ Indoor PCB : DB93-04120A(CH140/105EAMC)

Location No.	Code No.	Specification	Loc.	QU'TY	SA/SNA	Remark
BUZZER-PIEZO	3002-001129	CBE2220BP	BZ61	1	SNA	
C-AL	2401-000038	470uF,20%,25V,GP,TP,10x12.5mm,	C104	1	SNA	
C-AL	2401-000151	1000uF,20%,25V,GP,TP,10x20,5	C106	1	SNA	
C-AL	2401-000832	220uF,20%,25V,GP,TP,8x11.5,5	C107	1	SNA	
C-AL	2401-000037	470uF,20%,16V,GP,TP,8x11.5,5,-40to+85C	C110	1	SNA	
C-AL	2401-000027	4.7uF,20%,50V,GP,TP,5x11,5	C501	1	SNA	
C-AL	2401-002300	47uF,20%,50V,GP,TP,6.3x11,5	C601	1	SNA	
C-CERAMIC,DISC	2201-000007	4.7NF,20%,400V,Y5P,BK,16X7MM,7.5	C111,C112	2	SNA	
C-CER,CHIP	2203-000192	100nF,+80-20%,50V,Y5V,TP,2012,	C10,C105,C108,C12/ C201,C221,C222/ C304~307,C314~316/ C401~403,C413,C504/ C505,C701,C801,C802/ C806~808,C815~819/ C902,C103,C109	34	SNA	
C-CER,CHIP	2203-001562	10nF,+80-20%,50V,Y5V,TP,2012	C202,C203,C502/ C911~914	7	SNA	
C-CER,CHIP	2203-000257	10nF,10%,50V,X7R,TP,1608	C301,C311	2	SNA	
C-CER,CHIP	2203-000189	100nF,+80-20%,25V,Y5V,TP,1608,	C302,C303,C312,C313	4	SNA	
C-CER,CHIP	2203-000444	1nF,10%,50V,X7R,2012	C901	1	SNA	
DIODE-SWITCHING	0401-000133	LL4148,100V,200MA,SOD-80C,TP	D900~927	28	SNA	
FUSE	3601-001308	250V,1.6A,TIME-LAG,PLASTIC,8.4x7.6mm	F702	1	SNA	
IC TR-ARRAY	0506-000175	ULN2003D013TR	IC05~09	5	SNA	
INDUCTOR-RADIAL	2702-001123	4.7uH,10%,6.5X7.5MM	L101	1	SNA	
LED	0601-001373	ROUND,RED,3MM`,630NM	LED11	1	SNA	
LED	0601-001375	ROUND,GRN,3mm,570nm,3.8x5.3mm	LED12	1	SNA	
LED	0601-001377	ROUND,YEL,3mm,585nm,3.8x5.3mm	LED13	1	SNA	
THERMISTOR-NTC	1404-001316	18ohm,1.7A,3100K,14.5mW/ C,-,13.5,B	NTC01	1	SNA	
TR-SMALL SIGNAL	0501-000534	2SC2412K,NPN,200mW,SOT-23,TP,1	Q201,Q601,Q603	3	SNA	
TR-SMALL SIGNAL	0501-002296	MMST2907A,PNP,200MW,SMT3,TP,100-3	Q602	2	SNA	
TR-DIGITAL	0504-000001	DTA114EKA,PNP,200MW,10K/ 10K,SOT-23,TP	Q901,Q902,Q904~910	9	SNA	
R-CHIP	2007-001074	6.8ohm,5%,1/8W,TP,2012	R101	1	SNA	
R-CHIP	2007-000023	120ohm,5%,1/8W,TP,2012	R10~12	3	SNA	
R-CHIP	2007-001118	680ohm,5%,1/8W,TP,2012	R103	1	SNA	
R-CHIP	2007-000468	1Kohm,5%,1/8W,TP,2012	R104	1	SNA	
R-CHIP	2007-000944	47Kohm,5%,1/4W,TP,3216	R201~208	8	SNA	
R-CHIP	2007-000468	1Kohm,5%,1/8W,TP,2012	R210,R211,R221,R350/ R504,R506,R602,R604/ R610,R902	10	SNA	
R-CHIP	2007-001067	6.8Kohm,1%,1/8W,TP,2012	R401~403	3	SNA	

■ Indoor PCB : DB93-04120A(CH140/105EAMC)

Location No.	Code No.	Specification	Loc.	QU'TY	SA/SNA	Remark
R-CHIP	2007-000766	330ohm,5%,1/8W,TP,2012	R404~406,R416,R509/ R702,R901	7	SNA	
R-CHIP	2007-000613	24Kohm,1%,1/8W,TP,2012	R413	2	SNA	
R-CHIP	2007-000493	2.2Kohm,5%,1/8W,TP,2012	R502	1	SNA	
R-CHIP	2007-000355	12Kohm,5%,1/8W,TP,2012	R503	1	SNA	
R-CHIP	2007-000938	47Kohm,1%,1/8W,TP,2012	R511,R513	2	SNA	
R-CHIP	2007-000931	470ohm,5%,1/8W,TP,2012	R607,R608	2	SNA	
R-CHIP	2007-000030	560ohm,5%,1/8W,TP,2012	R609	2	SNA	
R-CHIP	2007-000872	4.7Kohm,5%,1/8W,TP,2012	R611~613,R606	4	SNA	
R-CHIP	2007-000477	1Mohm,5%,1/8W,TP,2012	R805	1	SNA	
R-CHIP	2007-000300	10Kohm,5%,1/8W,TP,2012	R209,R302~307,R312/ R313,R501,R505,R512/ R601,R603,R605,R701/ R803,R804,R903/ R911~914	23	SNA	
RELAY-MINIATURE	3501-001154	PCJ-112D3M,12VDC,3A	RY70,RY71	2	SNA	
TRANS SWITCHING	DB26-00046A	EI2218,TINY-PJT,-,110~240V (FREE	ST11	1	SNA	
SWITCH-DIP	3407-000121	DS-04;24V,300mA,SLIDE,STANDARD	SW05~07	3	SNA	
RESONATOR-CERAMIC	2802-001179	4MHZ,0.5%,BK,8X3X5.5MM	X301	1	SNA	
DIODE-ZENER	0403-000252	BZX84C3V6,3.4-3.8V,350MW,SOT-23,TP	ZD101	1	SNA	
DIODE-ZENER	0403-001285	BZX84-C11,10.4-11.6V,350mW,SOT-23,TP	ZD102	1	SNA	
LABEL BAR CODE	DB68-02809A	W170,L115		1	SNA	
PBA LOGIC BOARD	DB41-00490A	60209A1	PCB	1	SNA	
C-AL	2401-000345	100uF,20%,450V,GP,TP,25x31,10m	C101	1	SNA	
CONNECTOR-HEADER	3711-005716	SMW200-10,BLK	CN10	1	SNA	
CONNECTOR-HEADER	3711-000177	YW396-02V,RED	CN31	1	SNA	
CONNECTOR-HEADER	3711-000178	YW396-02V,WHT	CN32	1	SNA	
CONNECTOR-HEADER	3711-000176	YW396-02V,BLU	CN33	1	SNA	
CONNECTOR-HEADER	3711-000940	SMW250-04,WHT	CN41	2	SNA	
CONNECTOR-HEADER	3711-000015	SMW250-02,WHT	CN42	2	SNA	
CONNECTOR-HEADER	3711-000798	SMW250-02,YEL	CN43	2	SNA	
CONNECTOR-HEADER	3711-000794	SMW250-02,BLK	CN51	2	SNA	

■ Indoor PCB : DB93-04120A(CH140/105EAMC)

Location No.	Code No.	Specification	Loc.	QU'TY	SA/SNA	Remark
CONNECTOR-HEADER	3711-000577	SMW250-10,WHT	CN60	1	SNA	
CONNECTOR-HEADER	3711-001001	B5B-XH-A,BLU	CN62	1	SNA	
CONNECTOR-HEADER	3711-000203	YW396-03AV,WHT	CN71	1	SNA	
CONNECTOR-HEADER	3711-000296	YW396-06V,WHT	CN73	1	SNA	
CONNECTOR-HEADER	3711-003406	YW396-03AV,YEL	CN74	1	SNA	
CONNECTOR-HEADER	3711-003405	YW396-03AV,BLK	CN75	1	SNA	
CONNECTOR-HEADER	3711-001000	SMW250-05,YEL	CN76	1	SNA	
CONNECTOR-HEADER	3711-000939	SMW250-04,RED	CN81	1	SNA	
CONNECTOR-HEADER	3711-000796	SMW250-02,RED	CN83	1	SNA	
CONNECTOR-HEADER	3711-004712	SMW200-09,WHT	CN91	1	SNA	
DIODE-BRIDGE	0402-001227	D3SBA60,600V,2.3A,SIP-4,BK	BD71	1	SNA	
DIODE-TVS	0406-001105	ST02D-170,155/170/185V,200W,DO-214	CD101	1	SNA	
DIODE-TVS	0406-001204	SMBJ5.0CA,6.4/-/7.07V,600W,SMB	CD312,CD334	2	SNA	
DIODE-RECTIFIER	0402-001194	GUF20D	D101,D102	2	SNA	
IC-PWM CONTROLLER	1203-002710	TNY267P,DIP,8P,9.65X6.35MM,PLAS	IC01	1	SNA	
IC-POSI.FIXED REG.	1203-000274	KA7805,TO-220,3P,-,PLASTIC,4.8/5	IC02	1	SNA	
IC-RESET	1203-003334	S-80142ANMC-JC3-T2	IC03	1	SNA	
IC MICOM	DB09-00395A	MB90F823,-,80 P,5 V,24 MHz,STM-0519-OS,-	IC04	1	SNA	
IC-BUS TRANSCEIVER;	1006-001325	MAX1487ESA	IC18,IC19	2	SNA	
IC-CMOS LOGIC	0801-000393	74HC86,OR GATE,SOP,14P,150MIL,QUAD,	IC20	1	SNA	
IC-EPROOM	1103-001175	93LC56,128x16,SOP,8P,5x4mm,2.5/6.0V,-40	IC51	1	SNA	
PHOTO-COUPLER	0604-000117	TR,130-260%,200mW,DIP-4,ST	PC01,PC501,PC502	3	SNA	
PHOTO-COUPLER	0604-001003	TR,50-150%,200mW,DIP-4,ST	PC02	1	SNA	
RELAY-MINIATURE	3501-001248	G6S-2,12V,-,11.7MA,DPDT,4MS,4MS	RY01	1	SNA	
SWITCH-ROTARY	3406-001098	240V AC,25A,6P(10C),L14mm	SW01,SW02	2	SNA	
SWITCH-DIGITAL	DB34-00009A	PT65 103,ROTARY DIP,-,DC24V Max,0.	SW03,SW04	2	SNA	
R-METAL OXIDE(S)	2003-002246	620ohm,5%,1W,AA,TP,2.4X6.4MM	R102	1	SNA	
R-METAL OXIDE	2003-000448	100Kohm,5%,2W,AA,TP,4.3x12mm	R107,R108	2	SNA	

■ Outdoor PCB:DB93-02919P (UH140GAMC)

Location No.	CODE	Specification	LOC.	Q'TY	SA/SNA	Remark
C-CER,CHIP	2203-001562	10nF,+80-20%,50V,Y5V,TP,2012	C202,C301,C901~C904	6	SNA	
C-CER,CHIP	2203-000192	100nF,+80-20%,50V,Y5V,TP,2012,	C102,C104,C201,C302~C308 C401~C404,C503~C505 C801~C804,C905~C907	24	SNA SNA SNA	
R-CHIP	2007-000468	1Kohm,5%,1/8W,TP,2012	R203~R205,R905~R911	10	SNA	
R-CHIP	2007-000300	10Kohm,5%,1/8W,TP,2012	R201,R302,R303,R312~R319, R407 R501~R503,R513~R517, R901~R904	24	SNA SNA	
R-CHIP	2007-000023	120ohm,5%,1/8W,TP,2012	R301	1	SNA	
R-CHIP	2007-000686	3.3Kohm,5%,1/8W,TP,2012	R202	1	SNA	
R-CHIP	2007-000766	330ohm,5%,1/8W,TP,2012	R404~R406,R408,R504~R506	7	SNA	
R-CHIP	2007-000454	18Kohm,1%,1/8W,TP,2012	R402,R403	2	SNA	
R-CHIP	2007-000613	24Kohm,1%,1/8W,TP,2012	R401	1	SNA	
R-CHIP	2007-000033	0ohm,5%,1/4W,DA,TP,3216	J8,J9,J10,J22	4	SNA	
TR-SMALL SIGNAL	0501-000534	2SC2412K,NPN,200mW,SOT-23,TP,1	Q201	1	SNA	
TR-DIGITAL	0504-000001	DTA114EKA,PNP,200MW,10K/10K,SOT-23,TP	Q901~Q904	4	SNA	
TR-DIGITAL	0504-001064	DTC114EKA,NPN,200MW,10K/10K,SOT-23,TP	Q101	1	SNA	
DIODE-SWITCHING	0401-000133	LL4148,100V,200MA,SOD-80C,TP	D201,D901~D916	17	SNA	
DIODE-RECTIFIER	0402-000137	1N4007,1000V,1A,DO-41,TP	D105~D108	4	SNA	
R-CARBON	2001-000068	5.1Kohm,5%,1/4W,TP,2.4X6.4MM	RJ02	1	SNA	
R-CARBON	2001-000975	18Kohm,5%,1/4W,TP,2.4*6.4mm	RJ01 ,RJ03,RJ04	3	SNA	
JUMPER	3812-001283	TCWA,300V,52mm(TAPPING),1/0.6mm	K5~K7,K9,K11,K13~15 J1~J7,J11~J21,J23~J34	38	SNA SNA	
DIODE-BRIDGE	0402-001298	DF06S,600V/1A,SMD-4	BD71	1	SNA	
C-AL	2401-001397	470uF,20%,25V,GP,TP,10x12.5mm,	C105	1	SNA	
C-AL	2401-000173	1000uF,20%,35V,GP,TP,13x25,5	C101,C103	2	SNA	
SWITCH-PUSH	3404-001220	TSTB-2	K1~K4	4	SNA	
RESONATOR-CERAMIC	2802-001198	10MHZ,0.5%,BK,8X3X5.5MM	X501	1	SNA	
FUSE	3601-001094	250V,5A,FAST-ACTING,GLASS,5x20mm	F701	1	SNA	
FUSE CHIP	3602-000147	HF-004/J	F701	2	SNA	
FUSE	3601-001308	250V,1.6A,TIME-LAG,PLASTIC	F101	1	SNA	
IC-DARLINGTON DRIVER	0506-000180	ULN2003	IC05~IC07	3	SNA	
HEAT SINK	DB62-03085A	A6063,25,15,15	IC01	1	SNA	
SCREW TAPPING	6002-000630	MSCPHTT3*8		1	SNA	
LED DISPLAY-7SEG	DB07-00054A	CSD-322GLH	DIS1,DIS2	2	SNA	
NOISE FILTER	DB27-00022A	JL2510-0008,8mH,5A	FT71	1	SNA	
C-FILM	2301-001220	100nF,10%,275V,BK,18*6*12,15	XC71,XC72	2	SNA	
RELAY-MINIATURE	3501-001154	PCJ-112D3M,12VDC,3A	RY71	1	SNA	
RELAY-MINIATURE	3501-001163	CS11-12SH	RY72,RY73,RY74,RY75	4	SNA	
VARISTOR	1405-000147	TVR14471,470V,4500A	VA72,VA73	2	SNA	

■ Outdoor PCB:DB93-02919P (UH140GAMC)

Location No.	CODE	Specification	LOC.	Q'TY	SA/SNA	Remark
VARISTOR	1405-000154	TVR14561,560V,4500A	VA71	1	SNA	
PCB BOARD	DB41-00304A	FR-1 ,W196xH98, NO-40426A5	PCB BOARD	1	SNA	
CONNECTOR-TERMINAL	3712-001062	TJC4-2A,WHT,8mm	GT-2	1	SNA	
LABEL BAR CODE	DB68-02809A	W170,L115		1	SNA	
CONNECTOR-HEADER	3711-000179	YW396-02AV,YEL	CN43	1	SNA	
CONNECTOR-HEADER	3711-000015	SMW250-02,WHT,BOX,2P,1R,2.5mm,STRAIGHT,SN	CN42	1	SNA	
CONNECTOR-HEADER	3711-000880	SMW250-03,RED,BOX,3P,1R,2.5mm,STRAIGHT,SN	CN11	1	SNA	
CONNECTOR-HEADER	3711-000940	SMW250-04,WHT,BOX,4P,1R,2.5mm,STRAIGHT,SN	CN41	1	SNA	
CONNECTOR-HEADER	3711-000177	YW396-02AV,RED	CN31	1	SNA	
CONNECTOR-HEADER	3711-000176	YW396-02AV,BLU,	CN12	1	SNA	
CONNECTOR-HEADER	3711-000203	YW396-03AV,WHT	CN77	1	SNA	
CONNECTOR-HEADER	3711-003405	YW396-03AV,BLK	CN71	1	SNA	
CONNECTOR-HEADER	3711-000260	YW396-05AV,BLU	CN72	1	SNA	
CONNECTOR-HEADER	3711-000262	YW396-05AV,WHT	CN73	1	SNA	
CONNECTOR-HEADER	3711-000263	YW396-05AV,YEL	CN76	1	SNA	
CONNECTOR-HEADER	3711-000315	YW396-07AV,WHT	CN75	1	SNA	
CONNECTOR-HEADER	3711-001001	B5B-XH-A,BLU,BOX,5P,1R,2.5mm,STRAIGHT,SN	CN61	1	SNA	
CONNECTOR-HEADER	3711-000744	YDW236-01,WHT,BOX,1P,1R,6MM,STRAIGHT,NI	CN70	1	SNA	
PHOTO-COUPLER	0604-001038	PC123X2YSZ0F	IC51~IC53	3	SNA	
IC-BUS TRANSCEIVER	1006-001297	MAX485	IC09	1	SNA	
SWITCH-DIGITAL	DB34-00009A	PT65 103,ROTARY DIP,-,DC24V MAX,0.4VA,50MOHM MAX	SW1	1	SNA	
IC MICOM	DB09-00391A	MB89538AP-101,64P,+5V,10MHz,STM-0333-BC,-,8BIT,STICK,DIP,750M	IC04	1	SNA	
IC-POSI.FIXED REG.	1203-000243	KA7812A,T0-220,3P,-,PLASTIC,11.5/12.5V 16W	IC01	1	SNA	
IC-POSI.FIXED REG.	1203-000274	KA7805A,3P,-,PLASTIC,4.8/5	IC02	1	SNA	
IC-VOLTAGE COMP.	1202-000001	KA7533,TO-92,3P,-,SINGLE,-,-,PLA	IC03	1	SNA	
POSISTOR	DB47-00016A	DSA-332MA,2pF MAX,100MOhm,ASM-3500	DS71	1	SNA	
DIODE-TVS	0406-001109	SAC5.0,7.6/-/-V,500W,DO-15	CD31,CD32	2	SNA	
R-METAL OXIDE	2003-002114	200Kohm,5%,2W,AA,TP,4x12mm	R507~R512	6	SNA	

■ Outdoor PCB:DB93-02919Q (UH105GAMC)

Location No.	CODE	Specification	LOC.	Q'TY	SA/SNA	Remark
C-CER,CHIP	2203-001562	10nF,+80-20%,50V,Y5V,TP,2012	C202,C301,C901~C904	6	SNA	
C-CER,CHIP	2203-000192	100nF,+80-20%,50V,Y5V,TP,2012,	C102,C104,C201,C302~C308	24	SNA	
			C401~C404,C503~C505		SNA	
			C801~C804,C905~C907		SNA	
R-CHIP	2007-000468	1Kohm,5%,1/8W,TP,2012	R203~R205,R905~R911	10	SNA	
R-CHIP	2007-000300	10Kohm,5%,1/8W,TP,2012	R201,R302,R303,R312~R319,R407	24	SNA	
			R501~R503,R513~R517,R901~R904		SNA	
R-CHIP	2007-000023	120ohm,5%,1/8W,TP,2012	R301	1	SNA	
R-CHIP	2007-000686	3.3Kohm,5%,1/8W,TP,2012	R202	1	SNA	
R-CHIP	2007-000766	330ohm,5%,1/8W,TP,2012	R404~R406,R408,R504~R506	7	SNA	
R-CHIP	2007-000454	18Kohm,1%,1/8W,TP,2012	R402,R403	2	SNA	
R-CHIP	2007-000613	24Kohm,1%,1/8W,TP,2012	R401	1	SNA	
R-CHIP	2007-000033	0ohm,5%,1/4W,DA,TP,3216	J8,J9,J10,J22	4	SNA	
TR-SMALL SIGNAL	0501-000534	2SC2412K,NPN,200mW,SOT-23,TP,1	Q201	1	SNA	
TR-DIGITAL	0504-000001	DTA114EKA,PNP,200MW,10K/10K,SOT-23,TP	Q901~Q904	4	SNA	
TR-DIGITAL	0504-001064	DTC114EKA,NPN,200MW,10K/10K,SOT-23,TP	Q101	1	SNA	
DIODE-SWITCHING	0401-000133	LL4148,100V,200MA,SOD-80C,TP	D201,D901~D916	17	SNA	
DIODE-RECTIFIER	0402-000137	1N4007,1000V,1A,DO-41,TP	D105	1	SNA	
R-CARBON	2001-000068	12Kohm,5%,1/4W,TP,2.4X6.4MM	RJ04	1	SNA	
R-CARBON	2001-000975	8.2Kohm,5%,1/4W,TP,2.4*6.4mm	RJ02	1	SNA	
JUMPER	3812-001283	TCWA,300V,52mm(TAPPING),1/0.6mm	K5~K7,K19~10,K12,K15	43	SNA	
			J1~J7,J11~J21,J23~J34,RJ01,RJ03		SNA	
DIODE-BRIDGE	0402-001298	DF06S,600V/1A,SMD-4	BD71	1	SNA	
C-AL	2401-001397	470uF,20%,25V,GP,TP,10x12.5mm,	C105	1	SNA	
C-AL	2401-000173	1000uF,20%,35V,GP,TP,13x25,5	C101,C103	2	SNA	
SWITCH-PUSH	3404-001220	TSTB-2	K1~K4	4	SNA	
RESONATOR-CERAMIC	2802-001198	10MHZ,0.5%,BK,8X3X5.5MM	X501	1	SNA	
FUSE	3601-000297	250V,5A,TIME-LAG,GLASS,5x20mm	F701	1	SNA	
FUSE	3601-001308	250V,1.6A,TIME-LAG,PLASTIC	F101	1	SNA	
IC-DARLINGTON DRIVER	0506-000180	ULN2003	IC05~IC07	3	SNA	
HEAT SINK	DB62-03085A	A6063,25,15,15	IC01	1	SNA	
SCREW TAPPING		MSCPHTT3*8		1	SNA	
LED DISPLAY-7SEG	DB07-00054A	CSD-322GLH	DIS1,DIS2	2	SNA	
NOISE FILTER	DB27-00022A	JL2510-0008,8mH,5A	FT71	1	SNA	
C-FILM	2301-001220	100nF,10%,275V,BK,18*6*12,15	XC71,XC72	2	SNA	
RELAY-MINIATURE	3501-001154	PCJ-112D3M,12VDC,3A	RY71,RY76,RY77	3	SNA	

■ Outdoor PCB:DB93-02919Q (UH105GAMC)

RELAY-MINIATURE	3501-001163	CS11-12SH	RY74,RY75	2	SNA	
VARISTOR	1405-000147	TVR14471,470V,4500A	VA72,VA73	2	SNA	
VARISTOR	1405-000154	TVR14561,560V,4500A	VA71	1	SNA	
PCB BOARD	DB41-00304A	FR-1 ,W196xH98, NO-40426A6	PCB BOARD	1	SNA	
CONNECTOR-TERMINAL	3712-001062	TJC4-2A,WHT,8mm	GT-2	1	SNA	
LABEL BAR CODE	DB68-02809A	W170▯L115		1	SNA	
SWITCH-DIGITAL	DB34-00009A	PT65 103,ROTARY DIP,-,DC24V MAX,0.4VA,50MOHM MAX	SW1	1	SNA	
CONNECTOR-HEADER	3711-000015	SMW250-02,WHT,BOX,2P,1R,2.5mm,STRAIGHT,SN	CN42	1	SNA	
CONNECTOR-HEADER	3711-000880	SMW250-03,RED,BOX,3P,1R,2.5mm,STRAIGHT,SN	CN11	1	SNA	
CONNECTOR-HEADER	3711-000940	SMW250-04,WHT,BOX,4P,1R,2.5mm,STRAIGHT,SN	CN41	1	SNA	
CONNECTOR-HEADER	3711-000179	YW396-02AV,YEL	CN43	1	SNA	
CONNECTOR-HEADER	3711-000177	YW396-02AV,RED	CN31	1	SNA	
CONNECTOR-HEADER	3711-000176	YW396-02AV,BLU,	CN12	1	SNA	
CONNECTOR-HEADER	3711-000203	YW396-03AV,WHT	CN77	1	SNA	
CONNECTOR-HEADER	3711-003406	YW396-03AV,YEL	CN74	1	SNA	
CONNECTOR-HEADER	3711-003405	YW396-03AV,BLK	CN71	1	SNA	
CONNECTOR-HEADER	3711-000262	YW396-05AV,WHT	CN73	1	SNA	
CONNECTOR-HEADER	3711-000263	YW396-05AV,YEL	CN76	1	SNA	
CONNECTOR-HEADER	3711-000315	YW396-07AV,WHT	CN75	1	SNA	
CONNECTOR-HEADER	3711-001001	B5B-XH-A,BLU,BOX,5P,1R,2.5mm,STRAIGHT,SN	CN61	1	SNA	
CONNECTOR-HEADER	3711-000744	YDW236-01,WHT,BOX,1P,1R,6MM,STRAIGHT,NI	CN70	1	SNA	
PHOTO-COUPLER	0604-001038	PC123X2YSZ0F	IC51~IC53	3	SNA	
IC-BUS TRANSCEIVER	1006-001297	LMS485	IC09	1	SNA	
IC MICOM	DB09-00260C	MB89538AP-101,64P,+5V,10MHz,STM-0333-BC,-,8BIT,STICK,DIP,750M	IC04	1	SNA	
IC-POSI.FIXED REG.	1203-000243	KA7812A,T0-220▯3P,-,PLASTIC,11.5/12.5V 16W,0to+125▯▯1A▯-▯ST	IC01	1	SNA	
IC-POSI.FIXED REG.	1203-000274	KA7805A,3P,-,PLASTIC,4.8/5	IC02	1	SNA	
IC-VOLTAGE COMP.	1202-000001	KA7533,TO-92,3P,-,SINGLE,-,-,PLA	IC03	1	SNA	
POSISTOR	DB47-00016A	DSA-332MA,2pF MAX,100MOhm,ASM-3500	DS71	1	SNA	
DIODE-TVS	0406-001109	SAC5.0,7.6/-/-V,500W,DO-15	CD31,CD32	2	SNA	
FUSE HOLDER	DB61-00924A	FH-51B	F701	1	SNA	
R-METAL OXIDE	2003-002114	200Kohm,5%,2W,AA,TP,4x12mm	R507~R512	6	SNA	

9. Circuit Descriptions

9-1 PCB Circuit Descriptions

■ CH140/105EAMC

C110 Voltage between two ends DC5V

C107 Voltage between two ends DC12V

C104 Voltage between two ends DC15V

C101 Voltage between two ends DC310V

POWER(AC220V)

PCB POWER PART
LOADING PART
BLDC FAN MOTOR CONTROL PART
485 COMMUNICATION PART
EXTERNAL CONTROL PART
ADDRESS & OPTION SWITCH SET PART
DISPLAY PCB PART
LOUVER CONTROL PART
EEV & SUB-PCB PART
TEMPERATURE SENSOR PART

■ UH140/105GAMC

Outdoor Fan Control Part	Temperature Sensor Part
Outdoor Load Control Part (4-WAY V.V, CCH,COMP)	Display Part
3 Phase Check Part	485 Communication Part
Discharge Temperature Control Part	Transmitter Power(12V)
No. of Indoor Setting S/W	EEV Control Part

Indoor Unit

Outdoor Unit

Allowable pipe length : Max. 50m
Allowable drop distance : Max. 30m

3-Way valve

Liquid pipe

Filter

Expansion
valve

Filter

Heat
Exchanger
(Evaporator)

Heat
Exchanger
(Condenser)

Gas pipe

3-Way valve

Accumulator

Compressor

Muffle

← Cooling

⇐ Gas leak check point

✳ Amount of refilling per extension length of 1mm; when extending the pipe length by more than 7.5m, "A" g of R410 , refrigerant should be refilled per extension length of 1m.

Model	"A" g
CH140EAMC	70g
CH105EAMC	70g

11. Operating Instructions

11-1 Name of Each Part

11-1-1 Indoor Unit

Air flow blades(outlet)

Air inlet

Air filter(under the grille)

Filter Sign indicator

Fan indicator

Timer indicator

Removing frost indicator

On/Off indicator
On/Off button

Remote control sensor

11-1-2 Outdoor Unit

■ **UH140GAMC**

Air Inlet(Rear)

Air Outlet

Connection Valve

■ **UH105GAMC**

Air Inlet(Rear)

Air Outlet

Connection Valve
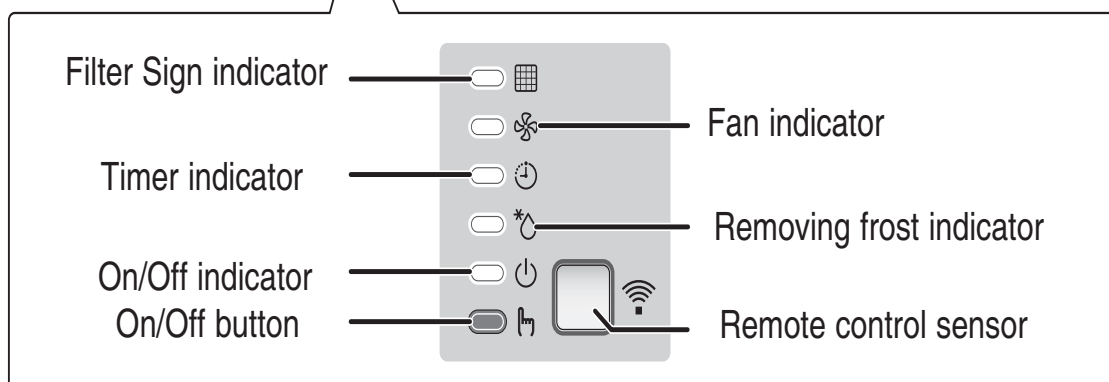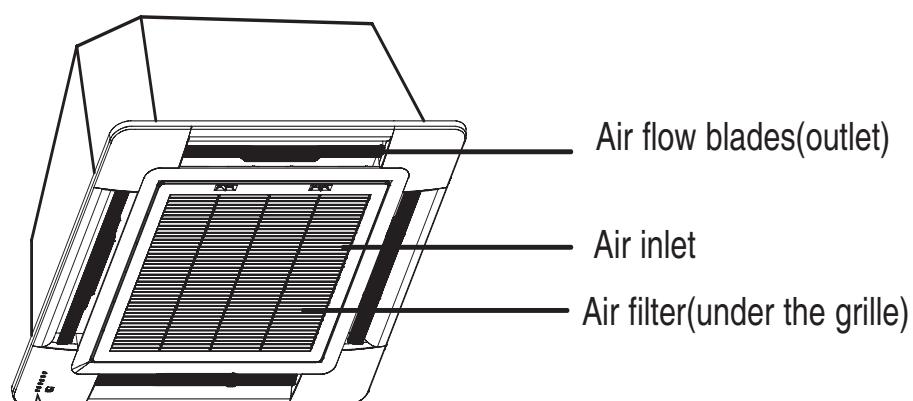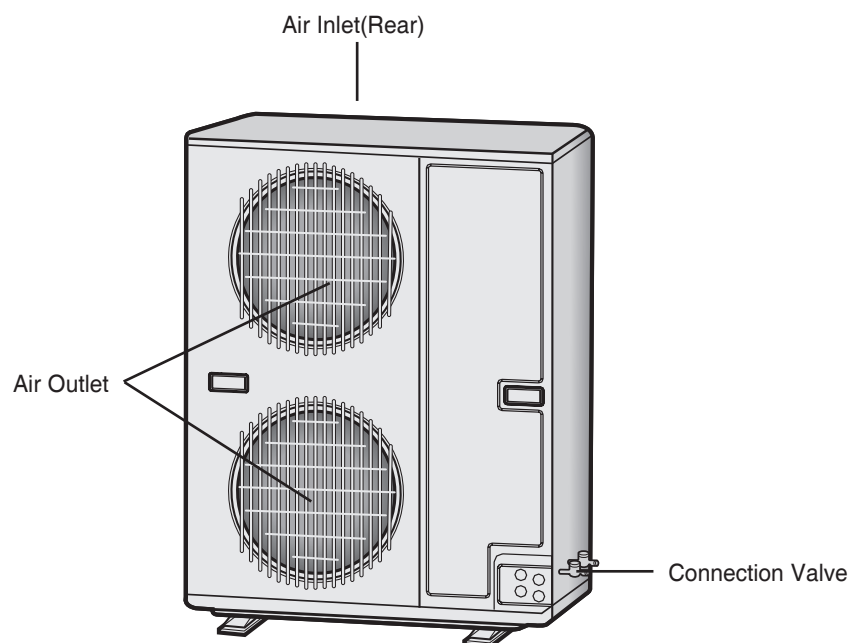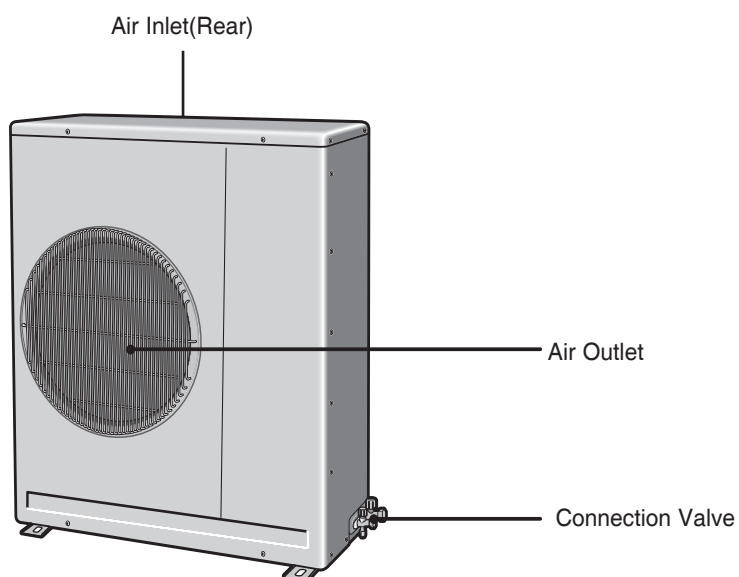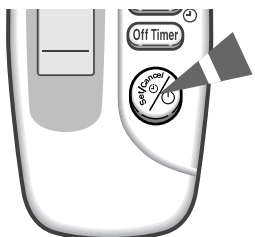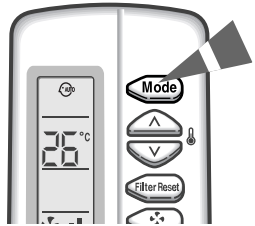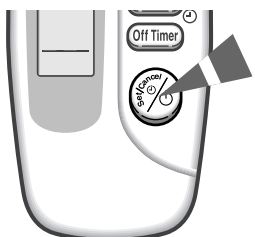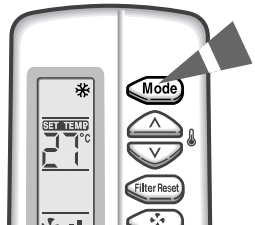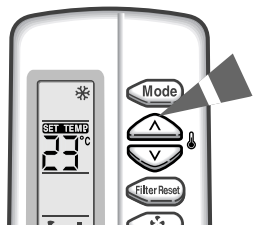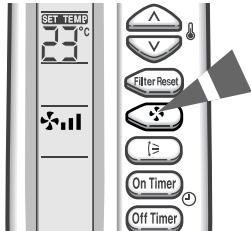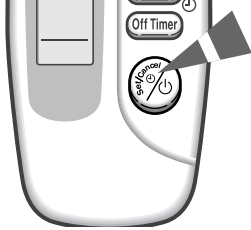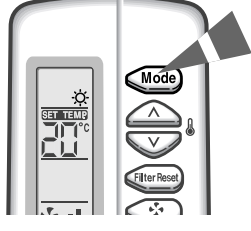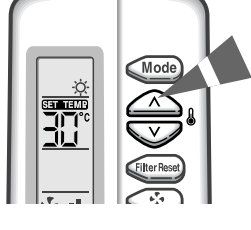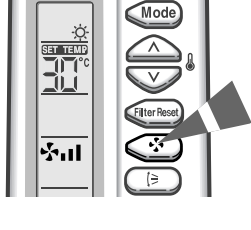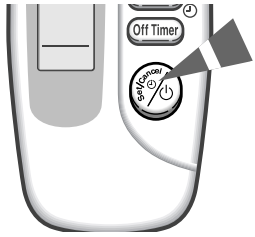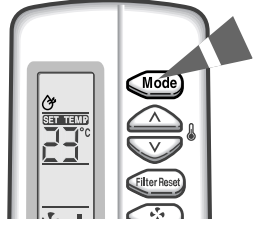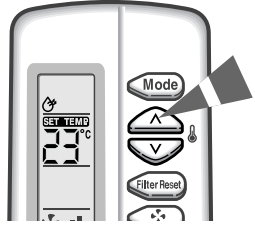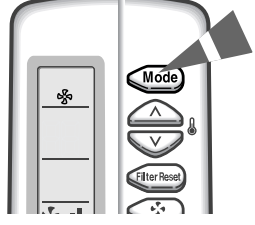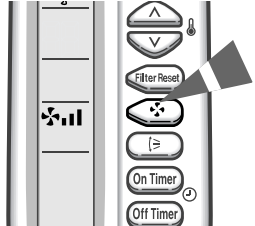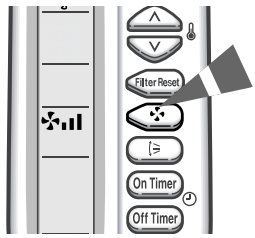
11-2 Main Function

11-2-1 Basic Function

Mode	Explanation	Remark
Selecting the Automatic Operating Mode	1. If necessary, press ⊘ (On/Off) button. 2. To select the AUTO mode, press the (Mode) button until ⬠AUTO is displayed at the top of the wireless remote controller. 3. To adjust the temperature, press the ⬦ buttons one or more times until the required temperature is displayed. Possible temperatures are between 18˚C and 30˚C inclusive.	
Cooling Your Room	1. If necessary, press ⊘ (On/Off) button. 2. To select the COOL mode, press the (Mode) button until ❄ is displayed at the top of the wireless remote controller. 3. To adjust the temperature, press the ⬦ buttons one or more times until the required temperature is displayed. Possible temperatures are between 18˚C and 30˚C inclusive.	

Basic Function(cont.)
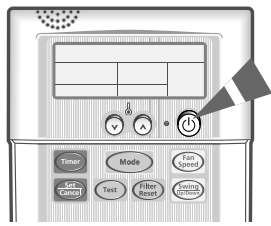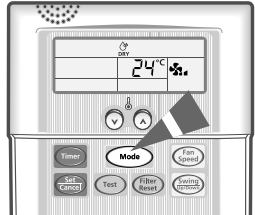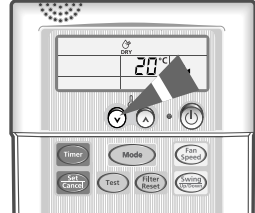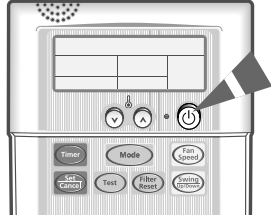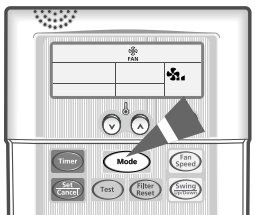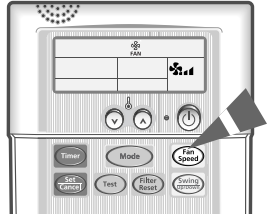
Mode	Explanation	Remark
Dry Mode	4. Select the fan speed by pressing the ⬬ button one or more times until the intended value is displayed : 🌀❚❚❚ Automatic(rotated : 🌀➔ 🌀❚➔🌀❚❚) 🌀❚ Low 🌀❚❚ Medium 🌀❚❚❚ High	
Heating Your Room **(Except cooling only models)**	1. If necessary, press 🔘 (On/Off) button. 2. To select the HEAT mode, press the (Mode) button until ☼ is displayed at the top of the wireless remote controller. 3. To adjust the temperature, press the ▲▼ buttons one or more times until the required temperature is displayed. Possible temperatures are between 16°C and 30°C inclusive. 4. Select the fan speed by pressing the ⬬ button one or more times until the intended value is displayed : 🌀❚❚❚ Automatic (rotated 🌀➔ 🌀❚ ➔ 🌀❚❚) 🌀❚ Low 🌀❚❚ Medium 🌀❚❚❚ High	

Mode	Explanation	Remark
Removing Excess Humidity	1. If necessary, press ⊘ (On/Off) button.	
	2. To select the DRY mode, press the (Mode) button until ◌ is displayed at the top of the wireless remote controller.	
	3. To adjust the temperature, press the ⊖ buttons one or more times until the required temperature is displayed. Possible temperatures are between 18˚C and 30˚C inclusive.	
Airing Room	1. If necessary, press ⊘ (On/Off) button.	
	2. To select the FAN mode, press the (Mode) button until ✿ is displayed at the top of the wireless remote controller.	
	3. Select the fan speed by pressing the ⊙ button one or more times until the intended value is displayed: ✿ Low ✿ Medium ✿ High	

11-2-2 Wired Remote Controller

Mode	Explanation	Remark
Selecting the Automatic Operating Mode	1. If necessary, press ⏻ (ON/OFF) button.	
	2. To select the AUTO mode, press the **Mode** button until ↻ AUTO is displayed at the top of the wired remote controller.	
	3. To adjust the temperature, press the ⌄ ∧ buttons one or more times until the required temperature is displayed. Possible temperatures are between 18˚C and 30˚C inclusive.	
Cooling Your Room	1. If necessary, press ⏻ (ON/OFF) button.	
	2. To select the COOL mode, press the **Mode** button until ❄ COOL is displayed at the top of the wired remote controller.	
	3. To adjust the temperature, press the ⌄ ∧ buttons one or more times until the required temperature is displayed. Possible temperatures are between 18˚C and 30˚C inclusive.	

Mode	Explanation	Remark
Cooling Your Room	4. Select the fan speed by pressing the (Fan Speed) button one or more times until the intended value is displayed : ⚙❚❚ Automatic (rotated : ⚙➔ ⚙❚ ➔ ⚙❚❚) ⚙❚ Low ⚙❚❚ Medium ⚙❚❚❚ High	
Heating Your Room **(Except cooling only models)**	1. If necessary, press (⏻) (On/Off) button.	
	2. To select the HEAT mode, press the (Mode) button until ☼ HEAT is displayed at the top of the wireless remote controller.	
	3. To adjust the temperature, press the (v) (^) buttons one or more times until the required temperature is displayed. Possible temperatures are between 18˚C and 30˚C inclusive.	
	4. Select the fan speed by pressing the (Fan Speed) button one or more times until the intended value is displayed : ⚙❚❚ Automatic(rotated : ⚙❚ ➔ ⚙❚ ➔ ⚙❚❚) ⚙❚ Low ⚙❚❚ Medium ⚙❚❚❚ High	

Samsung Electronics

Mode	Explanation	Remark
Removing Excess Humidity	1. If necessary, press ⏻ (ON/OFF) button.	
	2. To select the DRY mode, press the **Mode** button until ⟳ DRY is displayed at the top of the wired remote controller.	
	3. To adjust the temperature, press the ⌄ ⌃ buttons one or more times until the required temperature is displayed. Possible temperatures are between 18˚C and 30˚C inclusive.	
Airing Your Room	1. If necessary, press ⏻ (ON/OFF) button.	
	2. To select the FAN mode, press the **Mode** button until ✿ FAN is displayed at the top of the wired remote controller.	
	3. Select the fan speed by pressing the **Fan Speed** button one or more times until the intended value is displayed: ✿▪ Low ✿▪▪ Medium ✿▪▪▪ High	

11-3 Wireless Remote Control-Buttons and Display

Operating mode

Temperature setting

Fan speed

Air flow direction

On Timer setting

Off Timer setting

Battery discharge indicator

SET TEMP
°C

ON TIMER
Hr.
OFF TIMER
Hr.

Mode — Mode selection button

∧
∨ — Temperature adjustment buttons

Filter Reset — Filter Reset button

— Fan speed adjustment button

— Swing button

On Timer — On Timer button

Off Timer — Off Timer button

Set/Cancel — On/Off & Timer Set/ Cancel button

Note : • After cleaning the air filter, press the Filter Reset button.

Operating mode

Removing frost indicator —

Centralized controller indicator
(In case of installing the Centralized controller)

Communication error indicator —

Temperature setting

On Timer setting

Fan speed

Off Timer setting

Air flow direction

Test indicator

Filter Sign indicator

On/Off button

Temperature adjustment buttons —

On/Off indicator

Timer button

Fan speed adjustment button

Timer Set/Cancel button —

Swing button(Except Duct type)

Test button —

Filter Reset button

Mode selection button

Note : • The (Test) button is for your installation specialist. You must not press it.

• After cleaning the air filter, press the (Filter Reset) button. Then the wired remote controller will display the
Filter Sign indicator when the time to clean the air filter.

14. Reference Sheet

14-1 Index for Model Name

■ Project model code for New Built-in Product.

Model Code

C	H	*	*	*	*	A	M	-	C	/			
①	②		③	④	⑤	⑥		⑦	⑧				

Buyer code

Product Type(I) (①②)

Indoor Unit & Outdoor Unit	Cassette	1 way	K
		2 way	G
		4 way	C
		Mini 4 way	T
	Duct	Silhouette	D
		HSP	H
		LSP	L
		Buint-in	B
	Ceiling	-	F
	Console	-	N
	PAC	-	P
	Split	-	W
Universal Outdoor Unit(DPM)			U

Capacity (③)

BTU	kwx10
9K	26
12K	35
14K	40
18K	52
21K	60
24K	70
28K	82
32K	94
36K	105
44K	128
48K	140
60K	175
72K	210
80K	230
96K	280

Product Type(II) (⑥)

Normal	Indoor	A
	Outdoor	X
Universal (DPM)	Indoor	M
	Outdoor	M
Inverter		V

Plant (⑧)

SEC	None
SSEC	C
TSE	T

Version (⑦)

Refrigerant (⑤)

R-22	Z
R407C	C
R410A	A

Power Supply (④)

Normal	N	H
115V,60Hz	A	-
220V,60Hz	B	TB
208~230V,60Hz	C	-
200~220V,50Hz	D	-
220~240V,50Hz	E	TE
220V,60Hz,3Φ	F	TF
380~415V,50Hz,3Φ	G	TG
127V, 50Hz	H	-
220~240V,50/60Hz,1Φ	M	-
380V,60Hz,3Φ	H	-
Inverter 1Φ	V	
Inverter 3Φ	W	

Mode

C/O	C
H/P	H
H/P+Heater	E
C/O+Heater	G
C/O+Hydronic	N

14-2 Pressure Graph

◆ **Model : CH140EAMC/UH140GAMC**

Cooling Low Pressure
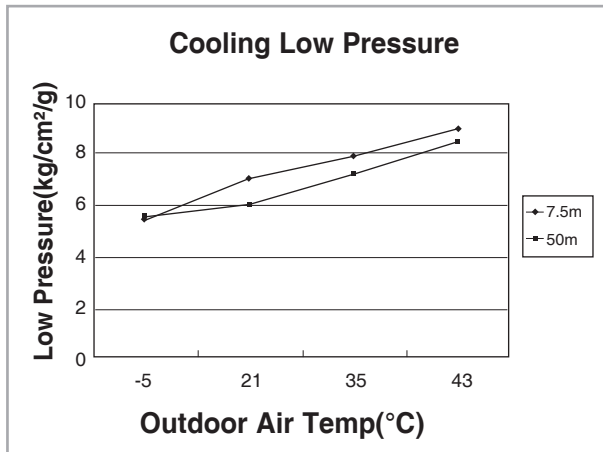
◆ **Model : CH105EAMC/UH105GAMC**

Cooling Low Pressure
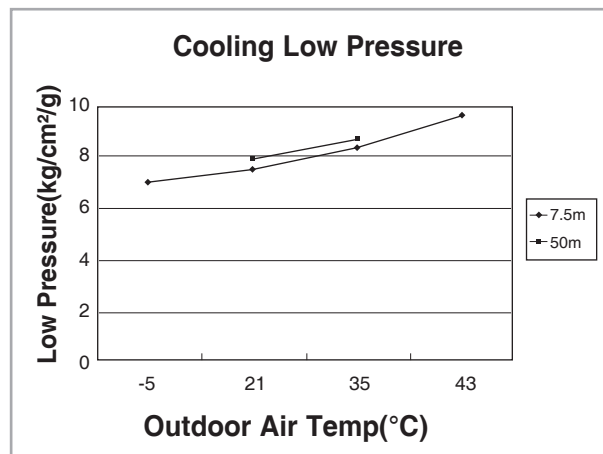
14-3 Pressure & Capacity mark

■ Power/Heat

W	cal/s	kcal/h	Btu/h	HP	kg·m/s	lb·m/s
1	0.23885	0.85985	3.4121	0.001341	0.10197	0.73756
4.1868	1	3.6	14.286	0.0056146	0.42693	3.088
1.163	0.27778	1	3.9683	0.0015596	0.11859	0.85778
0.29307	0.06999	0.252	1	3.9302×10^{-4}	0.029885	0.21616
745.7	178.11	641.19	2,544.4	1	76.04	550
9.8067	2.3423	8.4322	33.462	0.013151	1	7.233
1.3558	0.32383	1.1658	4.6262	0.0018182	0.13826	1

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

Classification	Class	Description
Smells	Q	Whenever the air conditioner is turned on, it stinks.
	A	There are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. These kinds of organic materials noxious to human bodies. So, we recommend against the use of them.
	Q	Whenever the air conditioner is turned on, it smells sour.
	A	When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out the problem or refresh the room frequently.
	Q	Whenever the air conditioner is turned on, it smells musty.
	A	It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of Ventilation to prevent must. When the product is kept without drying up the inside with Ventilation, mold would grow inside resulting in must. So, open the windows and switch on the Ventilation function to get rid of the saturated smell inside.
	Q	Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.
	A	It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.
	Q	It sends out bad smells.
	A	When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the Ventilation function.
Operation	Q	It won't start.
	A	There is a power failure or it is plugged out. Also, check if the power distribution panel is switched off.
	Q	It goes off during operation.
	A	When the hot air does not escape properly, it goes off during operation. It occurs when it does not ventilate properly because the outdoor unit is covered, the back of the outdoor unit is blocked by a cardboard or a plywood panel, and the front of the outdoor unit is blocked by the closed window or other obstacles. Clear the above obstacles from the outdoor unit.
	Q	It generally works properly. But, when it's considerably hot, it goes off during operation.
	A	It occurs when the outdoor unit is exposed to direct sunlight and the hot air does not escape properly. Set up a sun blind over the outdoor unit and clear the neighboring obstacles from the outdoor unit to provide good ventilation. When it goes off frequently during a heat wave, it would prevent the turn-off and increase the cooling capacity cleaning the outdoor unit or spraying some water to the heat exchanger.
	Q	The remote controller won't operate.
	A	When the batteries run out or the transmitter or receiver of the remote controller is blocked by obstacles, change the batteries or keep the obstacles away from the controlling area. Also, the remote controller may not work under intensive light from a 3-wave length lamp or a neon sign due to the EMI. In this case, take the remote controller closer to the receiver.

Q & A for Non-trouble(cont.)

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

14-5 Cleaning/Filter Change

For the best use of your air conditioner, you must clean it every 2 weeks to remove the dust accumulated on the air filter.

⚠️ • Before cleaning your air conditioner, check if you have turned off the circuit breaker.

1. Disassembly the Front Grille(Refer to Indoor Unit disassembly).

2. Bend the hook, and Pull out the air filter in the direction of the arrow.

3. Remove all dust on air filter with a vacuum cleaner or a brush. In case of serious dust accumulation, put the air filter in warm detergent water and shake it vertically.

Hook

4. Dry the air filter.

5. When you have finished, insert the filter into the unit.

6. Clean the outdoor unit with a vacuum cleaner or a brush once a month.
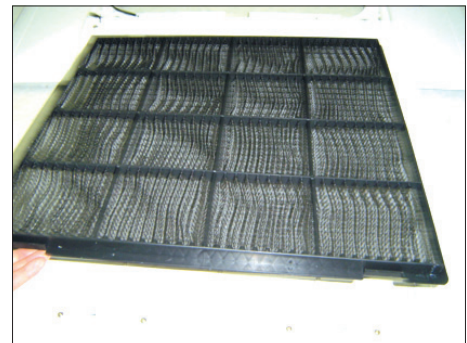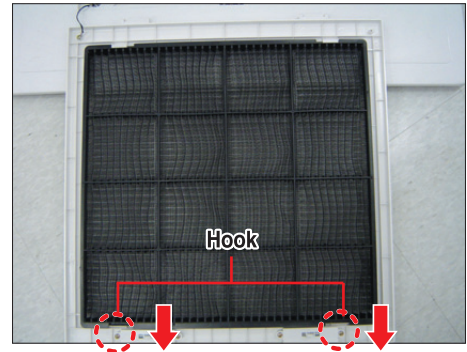
Note : • After cleaning the air conditioner, press the Filter Reset button.

Wired Remote Controller

Wireless Remote Controller

Filter Reset
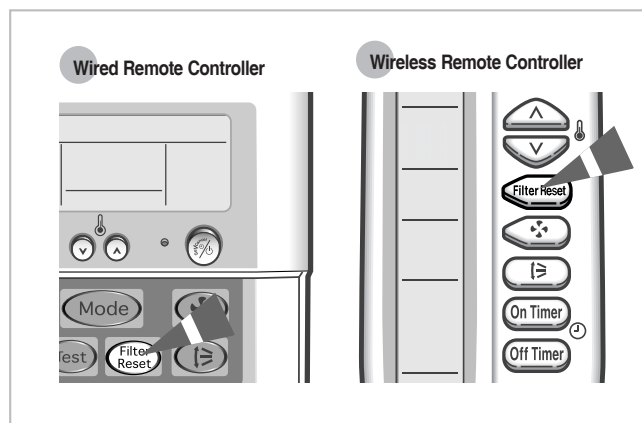
14-6 Installation

14-6-1 Before Installation

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

14-6-2 Installation Procedure

■ Location
Install the product in an area to guarantee the best cooling effect, convenience of piping and electric work, and inexistence of vibration or wind
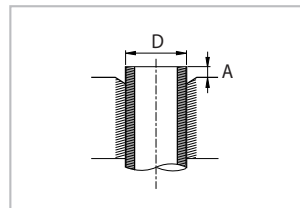
■ Fixing Indoor Unit & Outdoor Unit
Fix the air conditioner indoor unit securely to the wall. Secure the outdoor unit in a suitable position.

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

<Torque & Depth>

Outer Diameter(D)	Torque(kgf·cm)	Depth(A)
6.35mm(1/4")	140~170	1.3mm
9.52mm(3/8")	250~280	1.8mm
12.70mm(1/2")	380~420	2.0mm
15.88mm(5/8")	440~480	2.2mm
19.05mm(3/4")	990~1,210	2.2mm
22.23mm(7/8")	990~1,210	2.2mm

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

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

■ Testing Drainage
Pure water into the drain pan in the indoor unit, and confirm that the water flows out the drain hose.

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

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

14-7 Installation Diagram of Indoor Unit and Outdoor Unit

14-7-1 Air-Purge Procedure

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

⬇

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

⬇

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

⬇

4) Purge the air from the system using vacuum pump for about 30 minutes.
   – Make sure that pressure gauge show -0.1MPa(-76cmHg) after about 30 minutes.
   – This procedure is very important in order to avoid gas leak.
   – Turn off the vacuum pump.
   – Close the valve of the low pressure side of manifold gauge clockwise.
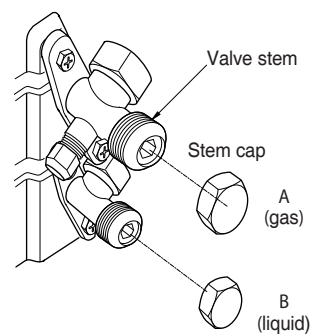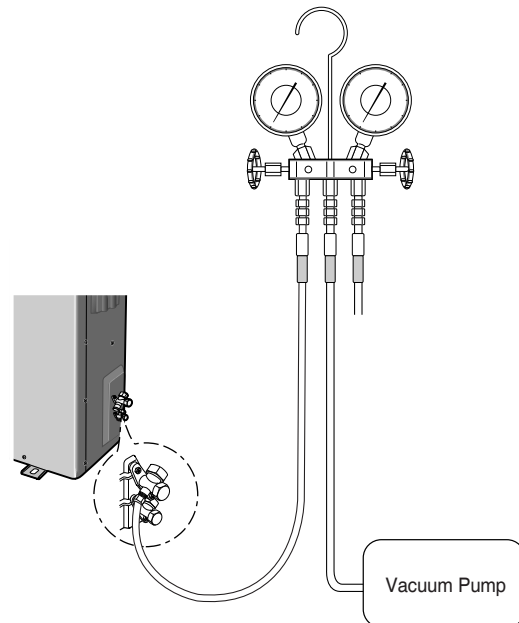   – Remove the hose of the low pressure side of manifold gauge.

⬇

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

⬇

6) Mount the valve stem nuts and the service port cap to the valve, and tighten them at the torque of 183kgf•cm with a torque wrench.

⬇

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

Outdoor unit   Indoor unit

A   Gas pipe side   C

B   Liquid pipe side   D

Vacuum Pump

Valve stem

Stem cap

A (gas)

B (liquid)
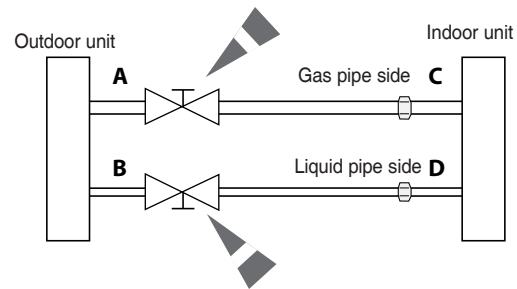
14-7-2 "Pump down" Procedure

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

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

⬇

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

⬇

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

⬇

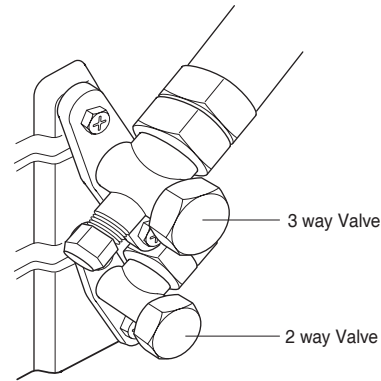4) Turn the 3 way valve clockwise to close.

⬇

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

⬇

6) Stop operation of the air conditioner.

⬇

7) Close the cap of each valve.

3 way Valve

2 way Valve

Remarks

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

MEMO

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# 1. Precautions

1-1 Installing the air conditioner

● Users should not install the air conditioner by themselves.
  Ask the dealer or authorized company to install the air conditioner except the window-type air conditioner in U.S.A and Canada.

● If you don't install the air conditioner properly, it may cause a fire, a water leakage or an electric shock.

● You must install the air conditioner according to the national wiring regulations and safety regulations.

● Install the indoor unit higher than 2.5m from the floor to avoid the injury caused by the operation of the fan. (except the window-type air conditioner)

● The manufacturer is not responsible for any accidents or injury caused by an incorrect installation.
  When installing the built-in type air conditioner, keep all electric cables such as the power cable and the connection cord in pipes, ducts, or cable channels to protect them from the danger of impact or any other incidents.
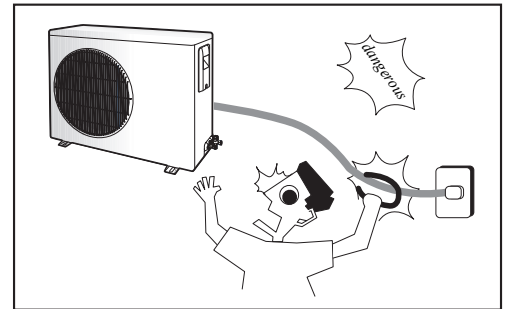
**Avoid Dangerous Contact**

1-2 Power supply and circuit breaker

● If the power cord of the air conditioner is damaged, it must be replaced by the manufacturer or a qualified person in order to avoid a hazard.

● The air conditioner must be plugged into an independent circuit if applicable or connect the power cable to the auxiliary circuit breaker.
  An all pole disconnection from the power supply must be incorporated in the fixed wiring with a contact opening of >3mm.

● Do not extend an electric cord to the air conditioner.

● The air conditioner must be plugged in after you complete the installation.
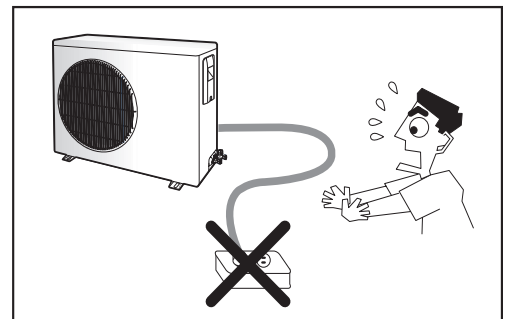
No Tapping and No Extension Cords

1-3 During operation

● Do not repair the air conditioner at your discretion.
  It is recommended to contact a service center directly.
● Never spill any kind of liquid on the air conditioner.
  If this happens, turn off the air conditioner and contact an authorized service center.
● Do not insert anything between the airflow blades to prevent damage of the inner fan and consequent injury. Keep children away from the air conditioner.
● Do not place any obstacles in front of the air conditioner.
● Do not spray any kind of liquid into the indoor unit. If this happens, turn off the air conditioner and contact a service center.
● Make sure that the air conditioner is well ventilated at all times:
  Do not place a cloth or other materials over it.
● Remove the batteries if you don't use the remote control for a long time. (If applicable)
● Use the remote control within 7 meters from the indoor unit. (If applicable)
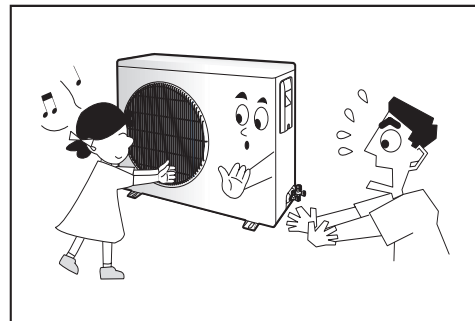
No children Nearby

1-4 Disposing of the unit

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

1-5 Others

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