SAMSUNG Air Conditioner

2009

SAMSUNG

CAC
Technical Data Book

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Technical Data Book

01 Model Identification

1. Nomenclature

Model Name

S	H	0	3	5	E	A	V	1
①	②	③	③	③	④	⑤	⑥	⑦

① Product Type (I)

Indoor Unit	Cassette	Slim 1-Way	**S**
		4-Way	**C**
		Mini 4-Way	**T**
	Duct	Slim	**E**
		MSP	**D**
	Ceiling	-	**F**
	Console	-	**J**
Universal Outdoor Unit			**U**

② Mode

H/P (Heat Pump)	**H**

③ Capacity

BTU	kW X 10
9K	26
12K	35
18K	52
21K	60
24K	70
32K	90
36K	105
48K	140

④ Power Supply

Normal	N
1ø, 220~240V, 50Hz	**E**
3ø, 380~415V, 50Hz	**G**

⑤ Refrigerant

R410A	**A**

⑥ Product Type (II)

Inverter		**V**
	Residential	**S**

⑦ Version

02 Specifications

1. Specifications

1-1. Slim 1 Way Cassette

Model		Indoor Unit		SH026EAV1	SH035EAV1
		Outdoor Unit		UH026EAV1	UH035EAV1
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	980/2600/3500	980/3500/4100
		Heating (Min/Std/Max)	W	950/3300/4600	950/4000/4750
	Input	Cooling (Min/Std/Max)	W	245/695/1120	250/1140/1420
		Heating (Min/Std/Max)	W	210/910/1300	210/1160/1390
	Running Current	Cooling (Min/Std/Max)	A	1.6/3.3/5.2	1.6/5.3/6.6
		Heating (Min/Std/Max)	A	1.4/5.3/6.4	1.4/5.5/6.8
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.74 A	3.07 B
		Heating	W/W	3.63 A	3.45 B
	Dehumidification Rate		l/h	0.74	1.00
	Option Code (Std)			078775 - 1380F8	077775 - 15824D
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	950, R410A	950, R410A
	Additional Refrigerant Charge		g/m	0	0
	Ambient Range	Cooling	°C	-10~43	-10~43
		Heating	°C	-15~24	-15~24
INDOOR	Indoor Fan Motor	Output	W	20	20
		Model		PFS019WTVE	PFS019WTVE
		No. of Poles		4	4
		Input	W	46	46
		Running Current	A	0.21	0.21
		Capacitor	μF/Vac	1.5/450	1.5/450
	Indoor Fan	Type		Cross Flow Fan	Cross Flow Fan
		No. Used / Diameter	EA/mm	1/97.4	1/97.4
	Indoor Fan RPM	Cooling (H/M/L)	rpm	1030/890/780	1200/1060/950
		Heating (H/M/L)	rpm	1130/990/880	1270/1130/1030
	External Static Pressure (Min/Std/Max)		mmAq	-	-
	Air Circulation	H/M/L	CMM	8.0/7.0/6.0	8.5/7.5/6.5
	Temperature Controller			THEMISTOR	THEMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch	mm	1.5	1.5
		No. of Rows & Column		2R12C	2R12C
	Set Dimensions (WxHxD)	Net	mm	970x135x410	970x135x410
		Gross	mm	1164x212x478	1164x212x478
		Weight (Net/Gross)	kg	9.9/13	9.9/13
	Sound Level	Pressure Level (High/Low)	dB(A)	30/25	32/27
		Power Level (High)	dB(A)	43	45
	Panel Model			PSSMA	PSSMA
	Drain Pump			DEFAULT	DEFAULT

Model		Indoor Unit		SH026EAV1	SH035EAV1
		Outdoor Unit		UH026EAV1	UH035EAV1
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Single BLDC	Single BLDC
		Quantity	No	1	1
		Model		G4C090LUDER	G4C090LUDER
		Maker		Samsung	Samsung
		Capacity	Btu/hr	9300	9300
		Motor Type		BLDC	BLDC
		Motor Input	W	861	861
		Oil Type		POE	POE
		Oil Charge	cc	320	320
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.9	7.9
		Fin Pitch		1.3	1.3
		No. of Rows & Column		1R24C	1R24C
	Outdoor Fan Motor	Output	W	25	25
		Model		SIC-52FV-F726-2	SIC-52FV-F726-2
		No. of Poles		8	8
		Input	W	35	35
		Running Current	A	0.15	0.15
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	1/400	1/400
		Type	Top / Side	Side	Side
		Speed	rpm	200~900	200~900
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	47	47
		Power Level (Cooling)	dB(A)	60	60
	Dimensions (WxHxD)	Net	mm	790x548x285	790x548x285
		Gross	mm	938x610x382	938x610x382
		Weight (Net/Gross)	kg	32.6/35.4	32.6/35.4
OTHER	Power Supply Cable		No.xmm^2	2x2.5	2x2.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	1/4(6.35)
		Gas Side	inch(mm)	3/8(9.52)	3/8(9.52)
		Length (Std)	m	5	5
		Max Length/Elevation	m	20/15	20/15
	Drain hose	In Diameter	mm	12.7	12.7
		Out Diameter	mm	19.1	19.1

Note

1. Capacities are based on the following conditions.
   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
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1. Specifications

1-2. Console

Model		Indoor Unit		JH026EAV1	JH035EAV1	JH052EAV1
		Outdoor Unit		UH026EAV1	UH035EAV1	UH052EAV1
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	980/2600/3600	990/3500/4100	1200/5000/6000
		Heating (Min/Std/Max)	W	950/3500/4600	990/4000/4900	1400/5600/8200
	Input	Cooling (Min/Std/Max)	W	230/670/1040	250/1090/1340	390/1560/2030
		Heating (Min/Std/Max)	W	210/970/1250	210/1108/1350	330/1553/2900
	Running Current	Cooling (Min/Std/Max)	A	1.5/3.3/4.9	1.7/5.2/6.2	2.0/7.8/9.2
		Heating (Min/Std/Max)	A	1.4/4.7/6.2	1.4/5.3/6.5	1.7/7.8/13.0
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.88 A	3.21 A	3.21 A
		Heating	W/W	3.61 A	3.61 A	3.61 A
	Dehumidification Rate		l/h	0.74	1.00	1.45
	Option Code (Std)			087777-1380B6	087777-1580D8	087777-1980F9
	Refrigerant Control			EEV	EEV	EEV
	Refrigerant Charge (Std)		g, type	950, R410A	950, R410A	1450, R410A
	Additional Refrigerant Charge		g/m	0	0	30
	Ambient Range	Cooling	°C	-10~43	-10~43	-15~43
		Heating	°C	-15~24	-15~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	35	35	35
		Model		SIC-55CVL-F137-2	SIC-55CVL-F137-2	SIC-55CVL-F137-2
		No. of Poles		8	8	8
		Input	W	45	45	45
		Running Current	A	0.15	0.15	0.15
		Capacitor	µF/Vac	-	-	-
	Indoor Fan	Type		Turbo-Fan	Turbo-Fan	Turbo-Fan
		No. Used / Diameter	EA/mm	1/410	1/410	1/410
	Indoor Fan RPM	Cooling (H/M/L/UL)	rpm	440/380/340/240	480/420/380/260	520/460/400/280
		Heating (H/M/L/UL)	rpm	480/420/380/280	520/460/420/300	560/500/440/300
	External Static Pressure (Min/Std/Max)		mmAq	-	-	-
	Air Circulation	H/M/L	CMM	8.1/7.0/6.0	9.0/8.0/7.0	11.3/9.6/8.3
	Temperature Controller			THERMISTOR	THEMISTOR	THEMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0	7.0
		Fin Pitch	mm	1.2	1.2	1.2
		No. of Rows & Column		2R20C	2R20C	2R20C
	Set Dimensions (WxHxD)	Net	mm	720x620x199	720x620x199	720x620x199
		Gross	mm	810x710x295	810x710x295	810x710x295
		Weight (Net/Gross)	kg	15.2/20.3	15.2/20.3	16/20.3
	Sound Level	Pressure Level (High/Low)	dB(A)	38/23	39/24	44/25
		Power Level (High)	dB(A)	51	52	57
	Panel Model			-	-	-
	Drain Pump			-	-	-

Model		Indoor Unit		JH026EAV1	JH035EAV1	JH052EAV1
		Outdoor Unit		UH026EAV1	UH035EAV1	UH052EAV1
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-	-
		Type		Single BLDC	Single BLDC	Twin BLDC
		Quantity	No	1	1	1
		Model		G4C090LUDER	G4C090LUDER	G8T200FUAEW
		Maker		Samsung	Samsung	Samsung
		Capacity	Btu/hr	9300	9300	20000
		Motor Type		BLDC	BLDC	BLDC
		Motor Input	W	861	861	1818
		Oil Type		POE	POE	POE
		Oil Charge	cc	320	320	700
		O.L.P Type (Model Name)		Internal	Internal	Internal
		Capacitor	μF/Vac	-	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.9	7.9	7.0
		Fin Pitch		1.3	1.3	1.3
		No. of Rows & Column		1R24C	1R24C	2R28C
	Outdoor Fan Motor	Output	W	25	25	45
		Model		SIC-52FV-F726-2	SIC-52FV-F726-2	FMA6531SSA
		No. of Poles		8	8	8
		Input	W	35	35	70
		Running Current	A	0.15	0.15	0.25
		Capacitor	μF/Vac	-	-	-
	Outdoor Fan	Type		Propeller	Propeller	Propeller
		No. Used /Diameter	EA/mm	1/400	1/400	1/420
		Type	Top / Side	Side	Side	Side
		Speed	rpm	200~900	200~900	250~1000
	Air Circulation	Outdoor	CMM	-	-	-
	Sound	Pressure Level (Cooling)	dB(A)	47	47	49
		Power Level (Cooling)	dB(A)	60	60	62
	Dimensions (WxHxD)	Net	mm	790x548x285	790x548x285	880x638x310
		Gross	mm	938x610x382	938x610x382	1023x704x413
		Weight (Net/Gross)	kg	32.6/35.4	32.6/35.4	50 / 53
OTHER	Power Supply Cable		No.xmm²	2x2.5	2x2.5	2x2.5
	Connecting Cable		No.xmm²	4x1.25	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	1/4(6.35)	1/4"(6.35)
		Gas Side	inch(mm)	3/8(9.52)	3/8(9.52)	1/2"(12.7)
		Length (Std)	m	5	5	5
		Max Length/Elevation	m	20/15	20/15	50/30
	Drain hose	In Diameter	mm	12	12	12
		Out Diameter	mm	18	18	18

Note

1. Capacities are based on the following conditions.
   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑ : 7.5m], Level difference of Zero
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1. Specifications

1-3. 4 Way Cassette

Model		Indoor Unit		CH070EAV1	CH090EAS	CH090EAV
		Outdoor Unit		UH070EAV1	UH090EAS	UH090EAV
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	2100/7100/8400	3100/9000/10000	3200/9000/10000
		Heating (Min/Std/Max)	W	2000/8000/11600	2750/9500/13000	3000/10000/13900
	Input	Cooling (Min/Std/Max)	W	510/2120/2700	680/2800/3400	750/2800/3200
		Heating (Min/Std/Max)	W	500/2190/3750	530/2630/4550	580/2770/4660
	Running Current	Cooling (Min/Std/Max)	A	2.6/9.7/12.1	3.2/12.4/15.0	3.5/12.5/14.1
		Heating (Min/Std/Max)	A	2.6/10.0/16.9	2.54/11.65/20.0	2.8/12.2/20.6
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.35 A	3.21 A	3.21 A
		Heating	W/W	3.65 A	3.61 A	3.61 A
	Dehumidification Rate		l/h	2.0	2.9	2.6
	Option Code (Std)			045777-1C80FB	045777-1E820A	045777-1E820A
	Refrigerant Control			EEV	EEV	EEV
	Refrigerant Charge (Std)		g, type	1400, R410A	2400, R410A	2600, R410A
	Additional Refrigerant Charge		g/m	30	55	40
	Ambient Range	Cooling	°C	-15~43	-15~50	-15~50
		Heating	°C	-20~24	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	40	95	95
		Model		SIC-67FV-F135-1	DL-95835SSIA	DL-95835SSIA
		No. of Poles		8	8	8
		Input	W	62	90	90
		Running Current	A	0.2	0.3	0.3
		Capacitor	μF/Vac	-	-	-
	Indoor Fan	Type		Turbo	Turbo	Turbo
		No. Used / Diameter	EA/mm	1/462	1/462	1/462
	Indoor Fan RPM	Cooling (H/M/L)	rpm	500/460/420	520/460/400	520/440/360
		Heating (H/M/L)	rpm	500/460/420	520/460/400	540/460/380
	External Static Pressure (Min/Std/Max)		mmAq	-	-	-
	Air Circulation	H/M/L	CMM	17.2/16.0/14.5	24.0/22.0/20.0	24.0/22.0/20.0
	Temperature Controller			THERMISTOR	THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0	7.0
		Fin Pitch	mm	1.4	1.4	1.4
		No. of Rows & Column		2R9C	2R13C	2R13C
	Set Dimensions (WxHxD)	Net	mm	840x218x840	840x298x840	840x298x840
		Gross	mm	939x324x923	925x360x925	925x360x925
		Weight (Net/Gross)	kg	26/31	29/35	29/35
	Sound Level	Pressure Level (High/Low)	dB(A)	36/30	39/32	39/32
		Power Level (High)	dB(A)	49	52	52
	Panel Model			P4SMA	P4SMA	P4SMA
	Drain Pump			DEFAULT	DEFAULT	DEFAULT

Model		Indoor Unit		CH070EAV1	CH090EAS	CH090EAV
		Outdoor Unit		UH070EAV1	UH090EAS	UH090EAV
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-	-
		Type		Twin BLDC	Twin BLDC	Twin BLDC
		Quantity	No	1	1	1
		Model		G8T260FUAEW	G5T360FUAEK	G5T360FUAEK
		Maker		Samsung	Samsung	Samsung
		Capacity	Btu/hr	26500	37500	37500
		Motor Type		BLDC	BLDC	BLDC
		Motor Input	W	2387	3409	3409
		Oil Type		POE	POE	POE
		Oil Charge	cc	700	1100	1100
		O.L.P Type (Model Name)		Internal	Internal	Internal
		Capacitor	μF/Vac	-	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.94	7.0
		Fin Pitch		1.3	1.3	1.4
		No. of Rows & Column		2R36C	2R42C	2R52C
	Outdoor Fan Motor	Output	W	97	125	125
		Model		DL-95835SSOA-5	FMBC531SSA	FMBC531SSA
		No. of Poles		8	8	8
		Input	W	125	130	130
		Running Current	A	0.4	0.35	0.35
		Capacitor	μF/Vac	-	-	-
	Outdoor Fan	Type		Propeller	Propeller	Propeller
		No. Used /Diameter	EA/mm	1/460	1/460	2/460
		Type	Top / Side	Side	Side	Side
		Speed	rpm	250~1000	100~1050	150~1050
	Air Circulation	Outdoor	CMM	-	-	-
	Sound	Pressure Level (Cooling)	dB(A)	52	52	56
		Power Level (Cooling)	dB(A)	65	65	69
	Dimensions (WxHxD)	Net	mm	880x798x310	880x950x320	932x1128x375
		Gross	mm	1038x861x406	1043x1062x411	1091x1286x472
		Weight (Net/Gross)	kg	57/61	78/85	90/99
OTHER	Power Supply Cable		No.xmm^2	2x2.5	4x3.5	4x3.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	3/8"(9.52)	3/8(9.52)
		Gas Side	inch(mm)	5/8(15.88)	5/8"(15.88)	5/8(15.88)
		Length (Std)	m	5	5	7.5
		Max Length/Elevation	m	50/30	75/30	75/30
	Drain hose	In Diameter	mm	26	26	26
		Out Diameter	mm	32	32	32

Note

1. Capacities are based on the following conditions.
   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
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1. Specifications

1-3. 4 Way Cassette

Model		Indoor Unit		CH105EAV	CH105EAV
		Outdoor Unit		UH105EAV	UH105GAV
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	3200/10500/12000	3200/10500/12000
		Heating (Min/Std/Max)	W	2600/11200/15500	2600/11200/15500
	Input	Cooling (Min/Std/Max)	W	700/3270/3800	700/3270/3800
		Heating (Min/Std/Max)	W	580/3100/5600	580/3100/5600
	Running Current	Cooling (Min/Std/Max)	A	3.3/14.5/16.8	1.3/5.0/6.0
		Heating (Min/Std/Max)	A	3.6/13.7/24.3	1.1/5.0/8.6
	Power Supply		ø/V/Hz	1/220~240/50	3/380~415/50
	COP	Cooling	W/W	3.21 A	3.21 A
		Heating	W/W	3.61 A	3.61 A
	Dehumidification Rate		l/h	3.0	3.0
	Option Code (Std)			045777-11C22A	045777-11C22A
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	2800, R410A	2800, R410A
	Additional Refrigerant Charge		g/m	40	40
	Ambient Range	Cooling	°C	-15~50	-15~50
		Heating	°C	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	95	95
		Model		DL-95835SSIA	DL-95835SSIA
		No. of Poles		8	8
		Input	W	90	90
		Running Current	A	0.3	0.3
		Capacitor	μF/Vac	-	-
	Indoor Fan	Type		Turbo	Turbo
		No. Used / Diameter	EA/mm	1/462	1/462
	Indoor Fan RPM	Cooling (H/M/L)	rpm	560/480/400	560/480/400
		Heating (H/M/L)	rpm	600/520/400	600/520/440
	External Static Pressure (Min/Std/Max)		mmAq	-	-
	Air Circulation	H/M/L	CMM	25.7/23.5/21.5	25.7/23.5/21.5
	Temperature Controller			THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch	mm	1.4	1.4
		No. of Rows & Column		2R13C	2R13C
	Set Dimensions (WxHxD)	Net	mm	840x298x840	840x298x840
		Gross	mm	925x360x925	925x360x925
		Weight (Net/Gross)	kg	29/35	29/35
	Sound Level	Pressure Level (High/Low)	dB(A)	40/33	40/33
		Power Level (High)	dB(A)	53	53
	Panel Model			P4SMA	P4SMA
	Drain Pump			DEFAULT	DEFAULT

Model		Indoor Unit		CH105EAV	CH105EAV
		Outdoor Unit		UH105EAV	UH105GAV
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Twin BLDC	Twin BLDC
		Quantity	No	1	1
		Model		G5T360FUAEK	G5T360FUBEK
		Maker		Samsung	Samsung
		Capacity	Btu/hr	37500	37500
		Motor Type		BLDC	BLDC
		Motor Input	W	3409	3409
		Oil Type		POE	POE
		Oil Charge	cc	1100	1100
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch		1.5	1.5
		No. of Rows & Column		2R52C	2R52C
	Outdoor Fan Motor	Output	W	125	125
		Model		FMBC531SSA	FMBC531SSA
		No. of Poles		8	8
		Input	W	130	130
		Running Current	A	0.35	0.35
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	2/460	2/460
		Type	Top / Side	Side	Side
		Speed	rpm	150~1050	150~1050
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	56	56
		Power Level (Cooling)	dB(A)	69	69
	Dimensions (WxHxD)	Net	mm	932x1162x375	930x1168x375
		Gross	mm	1091x1286x472	1060x1268x487
		Weight (Net/Gross)	kg	90/99	105/110
OTHER	Power Supply Cable		No.xmm^2	2x4	4x3.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	3/8(9.52)	3/8(9.52)
		Gas Side	inch(mm)	5/8(15.88)	5/8(15.88)
		Length (Std)	m	7.5	7.5
		Max Length/Elevation	m	75/30	75/30
	Drain hose	In Diameter	mm	26	26
		Out Diameter	mm	32	32

Note

1. Capacities are based on the following conditions.
   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
   Because there is always an ongoing improvement on our products.

1. Specifications

1-3. 4 Way Cassette

Model		Indoor Unit		CH140EAV	CH140EAV
		Outdoor Unit		UH140EAV	UH140GAV
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	3800/14000/15400	3800/14000/15400
		Heating (Min/Std/Max)	W	3450/16000/18500	3450/16000/18500
	Input	Cooling (Min/Std/Max)	W	900/4650/5400	900/4650/5400
		Heating (Min/Std/Max)	W	750/4690/5800	750/4690/5800
	Running Current	Cooling (Min/Std/Max)	A	4.0//20.6/23.5	1.4/7.2/8.5
		Heating (Min/Std/Max)	A	3.6/20.8/26.5	1.3/7.3/10.2
	Power Supply		ø/V/Hz	1/220~240/50	3/380~415/50
	COP	Cooling	W/W	3.01 B	3.01 B
		Heating	W/W	3.41 B	3.41 B
	Dehumidification Rate		l/h	4.0	4.0
	Option Code (Std)			046777-13C24E	046777-13C24E
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	2800, R410A	2800, R410A
	Additional Refrigerant Charge		g/m	40	40
	Ambient Range	Cooling	°C	-15~50	-15~50
		Heating	°C	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	95	95
		Model		DL-95835SSIA	DL-95835SSIA
		No. of Poles		8	8
		Input	W	90	90
		Running Current	A	0.3	0.3
		Capacitor	μF/Vac	-	-
	Indoor Fan	Type		Turbo	Turbo
		No. Used / Diameter	EA/mm	1/462	1/462
	Indoor Fan RPM	Cooling (H/M/L)	rpm	600/540/480	600/540/480
		Heating (H/M/L)	rpm	640/580/520	640/580/520
	External Static Pressure (Min/Std/Max)		mmAq	-	-
	Air Circulation	H/M/L	CMM	30.0/28.0/26.0	30.0/28.0/26.0
	Temperature Controller			THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch	mm	1.3	1.3
		No. of Rows & Column		2R13C	2R13C
	Set Dimensions (WxHxD)	Net	mm	840x298x840	840x298x840
		Gross	mm	925x360x925	925x360x925
		Weight (Net/Gross)	kg	29/35	29/35
	Sound Level	Pressure Level (High/Low)	dB(A)	45/38	45/38
		Power Level (High)	dB(A)	58	58
	Panel Model			P4SMA	P4SMA
	Drain Pump			DEFAULT	DEFAULT

Model		Indoor Unit		CH140EAV	CH140EAV
		Outdoor Unit		UH140EAV	UH140GAV
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Twin BLDC	Twin BLDC
		Quantity	No	1	1
		Model		G5T450FUAEX	G5T450FUAEX
		Maker		Samsung	Samsung
		Capacity	Btu/hr	46500	46500
		Motor Type		BLDC	BLDC
		Motor Input	W	4115	4115
		Oil Type		POE	POE
		Oil Charge	cc	1100	1100
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch		1.5	1.5
		No. of Rows & Column		2R52C	2R52C
	Outdoor Fan Motor	Output	W	125	125
		Model		FMBC531SSA	FMBC531SSA
		No. of Poles		8	8
		Input	W	130	130
		Running Current	A	0.35	0.35
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	2/460	2/460
		Type	Top / Side	Side	Side
		Speed	rpm	150~1050	150~1050
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	59	59
		Power Level (Cooling)	dB(A)	72	72
	Dimensions (WxHxD)	Net	mm	932x1162x375	930x1168x375
		Gross	mm	1091x1286x472	1060x1268x487
		Weight (Net/Gross)	kg	94/103	105/110
OTHER	Power Supply Cable		$No.xmm^2$	2x6	4x3.5
	Connecting Cable		$No.xmm^2$	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	3/8(9.52)	3/8(9.52)
		Gas Side	inch(mm)	3/4(19.05)	3/4(19.05)
		Length (Std)	m	7.5	7.5
		Max Length/Elevation	m	75/30	75/30
	Drain hose	In Diameter	mm	26	26
		Out Diameter	mm	32	32

Note

1. Capacities are based on the following conditions.
   - Cooling :
     - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   - Heating :
     - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
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1. Specifications

1-4. Mini 4 Way Cassette

Model		Indoor Unit		TH026EAV1	TH035EAV1
		Outdoor Unit		UH026EAV1	UH035EAV1
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	990/2600/3500	990/3500/4200
		Heating (Min/Std/Max)	W	980/3300/4600	980/4000/5000
	Input	Cooling (Min/Std/Max)	W	260/730/1100	260/1090/1400
		Heating (Min/Std/Max)	W	240/900/1400	250/1100/1400
	Running Current	Cooling (Min/Std/Max)	A	1.6/3.4/5.1	1.6/5.0/6.4
		Heating (Min/Std/Max)	A	1.5/4.3/6.6	1.5/5.1/6.7
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.56 A	3.21 A
		Heating	W/W	3.67 A	3.64 A
	Dehumidification Rate		l/h	0.74	1.0
	Option Code (Std)			045771-1383D9	045773-158109
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	950, R410A	950, R410A
	Additional Refrigerant Charge		g/m	0	0
	Ambient Range	Cooling	°C	-10~43	-10~43
		Heating	°C	-15~24	-15~24
INDOOR	Indoor Fan Motor	Output	W	35	35
		Model		ASS035AUEA	ASS035AUEA
		No. of Poles		4	4
		Input	W	110	110
		Running Current	A	0.48	0.48
		Capacitor	μF/Vac	3.5/450	3.5/450
	Indoor Fan	Type		Turbo Fan	Turbo Fan
		No. Used / Diameter	EA/mm	1/320	1/320
	Indoor Fan RPM	Cooling (H/M/L)	rpm	580/540/500	650/570/500
		Heating (H/M/L)	rpm	580/540/500	650/570/500
	External Static Pressure (Min/Std/Max)		mmAq	-	-
	Air Circulation	H/M/L	CMM	11.0/10.0/9.0	12.0/11.0/10.0
	Temperature Controller			THEMISTOR	THEMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch	mm	1.4	1.4
		No. of Rows & Column		2R10C	2R10C
	Set Dimensions (WxHxD)	Net	mm	575x260x575	575x260x575
		Gross	mm	670x310x635	670x310x635
		Weight (Net/Gross)	kg	15.7/19.2	15.7/19.2
	Sound Level	Pressure Level (High/Low)	dB(A)	30/25	34/27
		Power Level (High)	dB(A)	43	47
	Panel Model			PMSMA	PMSMA
	Drain Pump			DEFAULT	DEFAULT

Model		Indoor Unit		TH026EAV1	TH035EAV1
		Outdoor Unit		UH026EAV1	UH035EAV1
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Single BLDC	Single BLDC
		Quantity	No	1	1
		Model		G4C090LUDER	G4C090LUDER
		Maker		Samsung	Samsung
		Capacity	Btu/hr	9300	9300
		Motor Type		BLDC	BLDC
		Motor Input	W	861	861
		Oil Type		POE	POE
		Oil Charge	cc	320	320
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.94	7.94
		Fin Pitch		1.3	1.3
		No. of Rows & Column		1R24C	1R24C
	Outdoor Fan Motor	Output	W	25	25
		Model		SIC-52FV-F726-2	SIC-52FV-F726-2
		No. of Poles		8	8
		Input	W	35	35
		Running Current	A	0.15	0.15
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	1/400	1/400
		Type	Top / Side	Side	Side
		Speed	rpm	200~900	200~900
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	47	47
		Power Level (Cooling)	dB(A)	60	60
	Dimensions (WxHxD)	Net	mm	790x548x285	790x548x285
		Gross	mm	938x610x382	938x610x382
		Weight (Net/Gross)	kg	32.6/35.4	32.6/35.4
OTHER	Power Supply Cable		No.xmm^2	2x2.5	2x2.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	1/4(6.35)
		Gas Side	inch(mm)	3/8(9.52)	3/8(9.52)
		Length (Std)	m	5	5
		Max Length/Elevation	m	20/15	20/15
	Drain hose	In Diameter	mm	26	26
		Out Diameter	mm	32	32

Note

1. Capacities are based on the following conditions.
   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
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1. Specifications

1-4. Mini 4 Way Cassette

Model		Indoor Unit		TH052EAV1	TH060EAV1
		Outdoor Unit		UH052EAV1	UH060EAV1
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	1050/4700/6300	1800/5800/6500
		Heating (Min/Std/Max)	W	1300/5500/8600	1800/7000/10000
	Input	Cooling (Min/Std/Max)	W	420/1460/2150	520/1930/2050
		Heating (Min/Std/Max)	W	350/1590/2950	470/2180/3600
	Running Current	Cooling (Min/Std/Max)	A	2.5/6.7/10.0	2.6/8.8/9.4
		Heating (Min/Std/Max)	A	2.1/7.4/13.8	2.4/10.0/16.0
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.22 A	3.01 B
		Heating	W/W	3.46 B	3.21 C
	Dehumidification Rate		l/h	1.5	1.7
	Option Code (Std)			048774-198080	045774-1B80D5
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	1450, R410A	1500, R410A
	Additional Refrigerant Charge		g/m	30	30
	Ambient Range	Cooling	°C	-15~43	-15~43
		Heating	°C	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	35	35
		Model		ASS035AUEA	ASS035AUEA
		No. of Poles		4	4
		Input	W	110	110
		Running Current	A	0.48	0.48
		Capacitor	μF/Vac	3.5/450	3.5/450
	Indoor Fan	Type		Turbo Fan	Turbo Fan
		No. Used / Diameter	EA/mm	1/320	1/320
	Indoor Fan RPM	Cooling (H/M/L)	rpm	770/710/630	820/780/730
		Heating (H/M/L)	rpm	770/710/630	820/780/730
	External Static Pressure (Min/Std/Max)		mmAq	-	-
	Air Circulation	H/M/L	CMM	12.9/12.0/11.0	13.6/12.5/11.5
	Temperature Controller			THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch	mm	1.4	1.4
		No. of Rows & Column		2R10C	2R10C
	Set Dimensions (WxHxD)	Net	mm	575x260x575	575x260x575
		Gross	mm	670x310x635	670x310x635
		Weight (Net/Gross)	kg	16.3/20	16.3/20
	Sound Level	Pressure Level (High/Low)	dB(A)	41/33	41/33
		Power Level (High)	dB(A)	54	54
	Panel Model			PMSMA	PMSMA
	Drain Pump			DEFAULT	DEFAULT

Model		Indoor Unit		TH052EAV1	TH060EAV1
		Outdoor Unit		UH052EAV1	UH060EAV1
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Twin BLDC	Twin BLDC
		Quantity	No	1	1
		Model		G8T200FUAEW	G8T260FUAEW
		Maker		Samsung	Samsung
		Capacity	Btu/hr	20000	26500
		Motor Type		BLDC	BLDC
		Motor Input	W	1818	2387
		Oil Type		POE	POE
		Oil Charge	cc	700	700
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch		1.3	1.3
		No. of Rows & Column		2R28C	2R36C
	Outdoor Fan Motor	Output	W	45	97
		Model		FMA6531SSA	DL-95835SSOA-5
		No. of Poles		8	8
		Input	W	70	125
		Running Current	A	0.25	0.4
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	1/420	1/460
		Type	Top / Side	Side	Side
		Speed	rpm	250~1000	250~1000
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	49	52
		Power Level (Cooling)	dB(A)	62	65
	Dimensions (WxHxD)	Net	mm	880x638x310	880x798x310
		Gross	mm	1023x704x413	1038x861x406
		Weight (Net/Gross)	kg	50 / 53	57/61
OTHER	Power Supply Cable		No.xmm^2	2x2.5	2x2.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	1/4(6.35)
		Gas Side	inch(mm)	1/2(12.7)	5/8(15.88)
		Length (Std)	m	5	5
		Max Length/Elevation	m	50/30	50/30
	Drain hose	In Diameter	mm	26	26
		Out Diameter	mm	32	32

Note

1. Capacities are based on the following conditions.
   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
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1. Specifications

1-5. Slim Duct

Model		Indoor Unit		EH035EAV1	EH052EAV1	EH070EAV1
		Outdoor Unit		UH035EAV1	UH052EAV1	UH070EAV1
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	980/3500/4200	1700/5000/6000	2200/7100/8000
		Heating (Min/Std/Max)	W	980/4000/5200	1500/6000/8000	2000/8000/12000
	Input	Cooling (Min/Std/Max)	W	260/1150/1400	420/1550/1950	570/2200/2650
		Heating (Min/Std/Max)	W	210/1105/1700	360/1650/2700	500/2150/3800
	Running Current	Cooling (Min/Std/Max)	A	1.7/5.3/6.4	2.5/7.0/8.5	2.9/10/12.5
		Heating (Min/Std/Max)	A	1.3/5.3/7.9	2.1/7.5/12.0	2.6/9.8/17.9
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.04 B	3.23 A	3.23 A
		Heating	W/W	3.62 A	3.64 A	3.72 A
	Dehumidification Rate		l/h	1.0	1.5	2.0
	Option Code (Std)			013773-1581DB	015771-1983E6	015774-1C8278
	Refrigerant Control			EEV	EEV	EEV
	Refrigerant Charge (Std)		g, type	950, R410A	1450, R410A	1900, R410A
	Additional Refrigerant Charge		g/m	0	30	30
	Ambient Range	Cooling	°C	-10~43	-15~43	-15~43
		Heating	°C	-15~24	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	25	60	60
		Model		YSK110-25-4SM	YSK140-60-4B	YSK140-60-4B
		No. of Poles		4	4	4
		Input	W	75	127	127
		Running Current	A	0.35	0.59	0.59
		Capacitor	μF/Vac	3.0/450	4.0/450	4.0/450
	Indoor Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
		No. Used / Diameter	EA/mm	2/140	3/140	3/140
	Indoor Fan RPM	Cooling (H/M/L)	rpm	900/750/600	1060/960/860	1350/1300/1230
		Heating (H/M/L)	rpm	900/750/600	1060/960/860	1350/1300/1230
	External Static Pressure (Min/Std/Max)		mmAq	0/2/4	0/2/4	0/2/4
	Air Circulation	H/M/L at Std E.S.P	CMM	11.0/10.0/9.0	16.5/15.0/13.5	19.6/18.0/16.5
	Temperature Controller			Thermistor	Thermistor	Thermistor
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0	7.0
		Fin Pitch	mm	1.5	1.3	1.3
		No. of Rows & Column		2R12C	3R12C	3R12C
	Set Dimensions (WxHxD)	Net	mm	900x199x600	1100x199x600	1100x199x600
		Gross	mm	1133x333x722	1330x330x730	1330x330x730
		Weight (Net/Gross)	kg	26/31	31/39	31/39
	Sound Level	Pressure Level (High/Low)	dB(A)	32/27	33/30	36/32
		Power Level (High)	dB(A)	45	46	49
	Panel Model			-	-	-
	Drain Pump (Optional)			MDP-E075SEE	MDP-E075SEE	MDP-E075SEE

Model		Indoor Unit		EH035EAV1	EH052EAV1	EH070EAV1
		Outdoor Unit		UH035EAV1	UH052EAV1	UH070EAV1
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-	-
		Type		Single BLDC	Twin BLDC	Twin BLDC
		Quantity	No	1	1	1
		Model		G4C090LUDER	G8T200FUAEW	G8T260FUAEW
		Maker		Samsung	Samsung	Samsung
		Capacity	Btu/hr	9300	20000	26500
		Motor Type		BLDC	BLDC	BLDC
		Motor Input	W	861	1818	2387
		Oil Type		POE	POE	POE
		Oil Charge	cc	320	700	700
		O.L.P Type (Model Name)		Internal	Internal	Internal
		Capacitor	μF/Vac	-	-	-
	Outdoor Coil	Tube Size (OD)	mm	8.0	7.0	7.0
		Fin Pitch		1.3	1.3	1.3
		No. of Rows & Column		1R24C	2R28C	2R36C
	Outdoor Fan Motor	Output	W	25	45	97
		Model		YDK95-45-4-1	FMA6531SSA	DL-95835SSOA-5
		No. of Poles		8	8	8
		Input	W	35	70	125
		Running Current	A	0.15	0.25	0.4
		Capacitor	μF/Vac	-	-	-
	Outdoor Fan	Type		Propeller	Propeller	Propeller
		No. Used /Diameter	EA/mm	1/400	1/420	1/460
		Type	Top / Side	Side	Side	Side
		Speed	rpm	200~900	250~1000	250~1000
	Air Circulation	Outdoor	CMM	-	-	-
	Sound	Pressure Level (Cooling)	dB(A)	47	49	52
		Power Level (Cooling)	dB(A)	60	62	65
	Dimensions (WxHxD)	Net	mm	790x548x285	880x638x310	880x798x310
		Gross	mm	938x610x382	1023x704x413	1038x861x406
		Weight (Net/Gross)	kg	32.6/35.4	50 / 53	57/61
OTHER	Power Supply Cable		No.xmm^2	2x2.5	2x2.5	2x2.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	1/4(6.35)	1/4(6.35)
		Gas Side	inch(mm)	3/8(9.52)	1/2(12.7)	5/8(15.88)
		Length (Std)	m	5	5	5
		Max Length/Elevation	m	20/15	50/30	50/30
	Drain hose	In Diameter	mm	26	26	26
		Out Diameter	mm	32	32	32

Note

1. Capacities are based on the following conditions.
   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
   Because there is always an ongoing improvement on our products.

1. Specifications

1-6. MSP Duct

Model		Indoor Unit		DH052EAV1	DH070EAV1	DH090EAV
		Outdoor Unit		UH052EAV1	UH070EAV1	UH090EAV
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	1700/5000/6000	2200/7100/8000	3000/9000/10000
		Heating (Min/Std/Max)	W	1700/6000/8300	1900/8000/11000	3300/9500/13500
	Input	Cooling (Min/Std/Max)	W	550/1560/1950	600/2210/2600	840/2800/3400
		Heating (Min/Std/Max)	W	480/1760/2750	470/2210/3700	760/2780/4790
	Running Current	Cooling (Min/Std/Max)	A	3.1/7.5/9.3	3.5/10.2/12.0	4.0/12.5/15.0
		Heating (Min/Std/Max)	A	2.6/8.4/13.1	2.6/10.2/17.0	3.5/12.3/21.0
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.21 A	3.21 A	3.21 A
		Heating	W/W	3.41 B	3.62 A	3.41 B
	Dehumidification Rate		l/h	1.5	2.0	2.6
	Option Code (Std)			019771-1983A2	017771-1C83C2	015774-1E8293
	Refrigerant Control			EEV	EEV	EEV
	Refrigerant Charge (Std)		g, type	1450, R410A	1900, R410A	2600, R410A
	Additional Refrigerant Charge		g/m	30	30	40
	Ambient Range	Cooling	°C	-15~43	-15~43	-15~50
		Heating	°C	-20~24	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	200	200	200
		Model		YSK140-200-4E1	YSK140-200-4	YSK140-200-4
		No. of Poles		4	4	4
		Input	W	251	304	304
		Running Current	A	1.13	1.37	1.37
		Capacitor	μF/Vac	8/450	8/450	8/450
	Indoor Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
		No. Used / Diameter	EA/mm	2/175	2/175	2/175
	Indoor Fan RPM	Cooling (H/M/L)	rpm	1060/970/880	1050/920/770	1340/1280/1180
		Heating (H/M/L)	rpm	1060/970/880	1050/920/770	1340/1280/1180
	External Static Pressure (Min/Std/Max)		mmAq	0/4/6	0/4/8	0/6/8
	Air Circulation	H/M/L at Std E.S.P	CMM	16.5/15.0/13.5	19.6/18.0/16.5	24.0/22.0/20.0
	Temperature Controller			THERMISTOR	THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0	7.0
		Fin Pitch	mm	1.3	1.3	1.3
		No. of Rows & Column		3R10C	3R10C	3R10C
	Set Dimensions (WxHxD)	Net	mm	900X260X480	1150X260X480	1150X260X480
		Gross	mm	1146X363X584	1396X363X584	1396X363X584
		Weight (Net/Gross)	kg	29.5/34.5	34/40	34/40
	Sound Level	Pressure Level (High/Low)	dB(A)	37/33	39/35	39/35
		Power Level (High)	dB(A)	50	52	52
	Panel Model			-	-	-
	Drain Pump (Optional)			MDP-M075SGU3	MDP-M075SGU1	MDP-M075SGU1

Model		Indoor Unit		DH052EAV1	DH070EAV1	DH090EAV
		Outdoor Unit		UH052EAV1	UH070EAV1	UH090EAV
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-	-
		Type		Twin BLDC	Twin BLDC	Twin BLDC
		Quantity	No	1	1	1
		Model		G8T200FUAEW	G8T260FUAEW	G5T360FUAEK
		Maker		Samsung	Samsung	Samsung
		Capacity	Btu/hr	20000	26500	37500
		Motor Type		BLDC	BLDC	BLDC
		Motor Input	W	1818	2387	3409
		Oil Type		POE	POE	POE
		Oil Charge	cc	700	700	1100
		O.L.P Type (Model Name)		Internal	Internal	Internal
		Capacitor	μF/Vac	-	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.0	7.0
		Fin Pitch		1.3	1.3	1.5
		No. of Rows & Column		2R28C	2R36C	2R52C
	Outdoor Fan Motor	Output	W	45	97	125
		Model		FMA6531SSA	DL-95835SSOA-5	FMBC531SSA
		No. of Poles		8	8	8
		Input	W	70	125	130
		Running Current	A	0.25	0.4	0.35
		Capacitor	μF/Vac	-	-	-
	Outdoor Fan	Type		Propeller	Propeller	Propeller
		No. Used /Diameter	EA/mm	1/420	1/460	2/460
		Type	Top / Side	Side	Side	Side
		Speed	rpm	250~1000	250~1000	150~1050
	Air Circulation	Outdoor	CMM	-	-	-
	Sound	Pressure Level (Cooling)	dB(A)	49	52	56
		Power Level (Cooling)	dB(A)	62	65	69
	Dimensions (WxHxD)	Net	mm	880x638x310	880x798x310	932x1128x375
		Gross	mm	1023x704x413	1038x861x406	1091x1286x472
		Weight (Net/Gross)	kg	50 / 53	57/61	90/99
OTHER	Power Supply Cable		No.xmm^2	2x2.5	2x2.5	4x3.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	1/4(6.35)	3/8(9.52)
		Gas Side	inch(mm)	1/2(12.7)	5/8(15.88)	5/8(15.88)
		Length (Std)	m	5	5	7.5
		Max Length/Elevation	m	50/30	50/30	75/30
	Drain hose	In Diameter	mm	26	26	26
		Out Diameter	mm	32	32	32

Note

1. Capacities are based on the following conditions.
   - Cooling :
     - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   - Heating :
     - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
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1. Specifications

1-6. MSP Duct

Model		Indoor Unit		DH105EAV	DH105EAV
		Outdoor Unit		UH105EAV	UH105GAV
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	3350/10500/12000	3350/10500/12000
		Heating (Min/Std/Max)	W	2600/11200/15500	2600/11200/15500
	Input	Cooling (Min/Std/Max)	W	830/3270/3700	830/3270/3700
		Heating (Min/Std/Max)	W	740/3100/5500	740/3100/5500
	Running Current	Cooling (Min/Std/Max)	A	3.8/14.7/16.8	1.4/5.0/6.1
		Heating (Min/Std/Max)	A	4.5/14.1/25.0	1.3/5.0/8.5
	Power Supply		ø/V/Hz	1/220~240/50	3/380~415/50
	COP	Cooling	W/W	3.21 A	3.21 A
		Heating	W/W	3.61 A	3.61 A
	Dehumidification Rate		l/h	3.0	3.0
	Option Code (Std)			015774-11C299	015774-11C299
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	2800, R410A	2800, R410A
	Additional Refrigerant Charge		g/m	40	40
	Ambient Range	Cooling	°C	-15~50	-15~50
		Heating	°C	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	200	200
		Model		YSK140-200-4	YSK140-200-4
		No. of Poles		4	4
		Input	W	304	304
		Running Current	A	1.37	1.37
		Capacitor	μF/Vac	8/450	8/450
	Indoor Fan	Type		Sirocco Fan	Sirocco Fan
		No. Used / Diameter	EA/mm	2/175	2/175
	Indoor Fan RPM	Cooling (H/M/L)	rpm	1310/1255/1210	1310/1255/1210
		Heating (H/M/L)	rpm	1310/1255/1210	1310/1255/1210
	External Static Pressure (Min/Std/Max)		mmAq	0/8/10	0/8/10
	Air Circulation	H/M/L at Std E.S.P	CMM	28.1/26.0/24.0	28.1/26.0/24.0
	Temperature Controller			THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch	mm	1.3	1.3
		No. of Rows & Column		3R14C	3R14C
	Set Dimensions (WxHxD)	Net	mm	1150X320X480	1150X320X480
		Gross	mm	1396X424X584	1396X424X584
		Weight (Net/Gross)	kg	39/46	39/46
	Sound Level	Pressure Level (High/Low)	dB(A)	39/35	39/35
		Power Level (High)	dB(A)	52	52
	Panel Model			-	-
	Drain Pump (Optional)			MDP-M075SGU1	MDP-M075SGU1

Model		Indoor Unit		DH105EAV	DH105EAV
		Outdoor Unit		UH105EAV	UH105GAV
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Twin BLDC	Twin BLDC
		Quantity	No	1	1
		Model		G5T360FUAEK	G5T360FUBEK
		Maker		Samsung	Samsung
		Capacity	Btu/hr	37500	37500
		Motor Type		BLDC	BLDC
		Motor Input	W	3409	3409
		Oil Type		POE	POE
		Oil Charge	cc	1100	1100
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch		1.5	1.5
		No. of Rows & Column		2R52C	2R52C
	Outdoor Fan Motor	Output	W	125	125
		Model		FMBC531SSA	FMBC531SSA
		No. of Poles		8	8
		Input	W	130	130
		Running Current	A	0.35	0.35
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	2/460	2/460
		Type	Top / Side	Side	Side
		Speed	rpm	150~1050	150~1050
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	56	56
		Power Level (Cooling)	dB(A)	69	69
	Dimensions (WxHxD)	Net	mm	932x1162x375	930x1168x375
		Gross	mm	1091x1286x472	1060x1268x487
		Weight (Net/Gross)	kg	90/99	105/110
OTHER	Power Supply Cable		No.xmm^2	2x4	4x3.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	3/8(9.52)	3/8(9.52)
		Gas Side	inch(mm)	5/8(15.88)	5/8(15.88)
		Length (Std)	m	7.5	7.5
		Max Length/Elevation	m	75/30	75/30
	Drain hose	In Diameter	mm	26	26
		Out Diameter	mm	32	32

Note

1. Capacities are based on the following conditions.
   - Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   - Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
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1. Specifications

1-6. MSP Duct

Model		Indoor Unit		DH140EAV	DH140EAV
		Outdoor Unit		UH140EAV	UH140GAV
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	3450/14000/15400	3450/14000/15400
		Heating (Min/Std/Max)	W	3750/16000/18500	3750/16000/18500
	Input	Cooling (Min/Std/Max)	W	1110/4650/5700	1110/4650/5700
		Heating (Min/Std/Max)	W	1020/4430/5800	1020/4430/5800
	Running Current	Cooling (Min/Std/Max)	A	5.0/20.6/23.5	1.8/7.4/8.8
		Heating (Min/Std/Max)	A	4.5/19.6/26.5	1.7/7.0/9.5
	Power Supply		ø/V/Hz	1/220~240/50	3/380~415/50
	COP	Cooling	W/W	3.01 B	3.01 B
		Heating	W/W	3.61 A	3.61 A
	Dehumidification Rate		l/h	4.0	4.0
	Option Code (Std)			015774-13C3D2	015774-13C3D2
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	2800, R410A	2800, R410A
	Additional Refrigerant Charge		g/m	40	40
	Ambient Range	Cooling	°C	-15~50	-15~50
		Heating	°C	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	370	370
		Model		YDK-370S43223-01	YDK-370S43223-01
		No. of Poles		4	4
		Input	W	558	558
		Running Current	A	2.49	2.49
		Capacitor	μF/Vac	8/450	8/450
	Indoor Fan	Type		Sirocco Fan	Sirocco Fan
		No. Used / Diameter	EA/mm	2/230	2/230
	Indoor Fan RPM	Cooling (H/M/L)	rpm	1080/980/880	1080/980/880
		Heating (H/M/L)	rpm	1080/980/880	1080/980/880
	External Static Pressure (Min/Std/Max)		mmAq	0/8/12	0/8/12
	Air Circulation	H/M/L at Std E.S.P	CMM	36.8/34.0/31.5	36.8/34.0/31.5
	Temperature Controller			THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch	mm	1.3	1.3
		No. of Rows & Column		3R16C	3R16C
	Set Dimensions (WxHxD)	Net	mm	1200X360X650	1200X360X650
		Gross	mm	1447X425X769	1447X425X769
		Weight (Net/Gross)	kg	55/60	55/60
	Sound Level	Pressure Level (High/Low)	dB(A)	43/38	43/38
		Power Level (High)	dB(A)	56	56
	Panel Model			-	-
	Drain Pump (Optional)			MDP-M075SGU2	MDP-M075SGU2

Model		Indoor Unit		DH140EAV	DH140EAV
		Outdoor Unit		UH140EAV	UH140GAV
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Twin BLDC	Twin BLDC
		Quantity	No	1	1
		Model		G5T450FUAEX	G5T450FUBEX
		Maker		Samsung	Samsung
		Capacity	Btu/hr	46500	46500
		Motor Type		BLDC	BLDC
		Motor Input	W	4115	4115
		Oil Type		POE	POE
		Oil Charge	cc	1100	1100
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch		1.5	1.5
		No. of Rows & Column		2R13C	2R13C
	Outdoor Fan Motor	Output	W	125	125
		Model		FMBC531SSA	FMBC531SSA
		No. of Poles		8	8
		Input	W	130	130
		Running Current	A	0.35	0.35
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	2/460	2/460
		Type	Top / Side	Side	Side
		Speed	rpm	150~1050	150~1050
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	59	59
		Power Level (Cooling)	dB(A)	72	72
	Dimensions (WxHxD)	Net	mm	932x1162x375	930x1168x375
		Gross	mm	1091x1286x472	1060x1268x487
		Weight (Net/Gross)	kg	94/103	105/110
OTHER	Power Supply Cable		No.xmm^2	2x6	4x3.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	3/8(9.52)	3/8(9.52)
		Gas Side	inch(mm)	3/4(19.05)	3/4(19.05)
		Length (Std)	m	7.5	7.5
		Max Length/Elevation	m	75/30	75/30
	Drain hose	In Diameter	mm	26	26
		Out Diameter	mm	32	32

Note

1. Capacities are based on the following conditions.

   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero

   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
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1. Specifications

1-7. Residential MSP Duct

Model		Indoor Unit		DH052EAS	DH070EAS
		Outdoor Unit		UH052EAS	UH070EAS
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	1600/5000/6000	2200/7100/8000
		Heating (Min/Std/Max)	W	1500/6000/9000	1900/8000/10500
	Input	Cooling (Min/Std/Max)	W	540/1550/1950	700/2720/3070
		Heating (Min/Std/Max)	W	500/1750/3000	620/2490/3670
	Running Current	Cooling (Min/Std/Max)	A	2.7/7.1/8.7	3.1/12.4/13.7
		Heating (Min/Std/Max)	A	2.5/8.0/13.5	2.7/11.4/16.3
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.23 A	2.61 D
		Heating	W/W	3.43 B	3.21 C
	Dehumidification Rate		l/h	1.5	2.0
	Option Code (Std)			018771-1983A2	015773-1C8185
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	1350, R410A	1350, R410A
	Additional Refrigerant Charge		g/m	30	30
	Ambient Range	Cooling	°C	-10~43	-10~43
		Heating	°C	-15~24	-15~24
INDOOR	Indoor Fan Motor	Output	W	200	200
		Model		YSK140-200-4E1	YSK140-200-4E1
		No. of Poles		4	4
		Input	W	251	251
		Running Current	A	1.13	1.13
		Capacitor	μF/Vac	8/450	8/450
	Indoor Fan	Type		Sirocco Fan	Sirocco Fan
		No. Used / Diameter	EA/mm	2/175	2/175
	Indoor Fan RPM	Cooling (H/M/L)	rpm	1060/960/830	1270/1140/940
		Heating (H/M/L)	rpm	1060/960/830	1270/1140/940
	External Static Pressure (Min/Std/Max)		mmAq	0/4/6	0/4/6
	Air Circulation	H/M/L at Std E.S.P	CMM	12.5/10.0/7.5	14.5/13.0/10.5
	Temperature Controller			THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch	mm	1.3	1.3
		No. of Rows & Column		3R10C	3R10C
	Set Dimensions (WxHxD)	Net	mm	900X260X480	900X260X480
		Gross	mm	1146X363X584	1146X363X584
		Weight (Net/Gross)	kg	29.5/34.5	29.5/34.5
	Sound Level	Pressure Level (High/Low)	dB(A)	37/33	38/34
		Power Level (High)	dB(A)	50	51
	Panel Model			-	-
	Drain Pump (Optional)			MDP-M075SGU3	MDP-M075SGU3

Model		Indoor Unit		DH052EAS	DH070EAS
		Outdoor Unit		UH052EAS	UH070EAS
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Twin BLDC	Twin BLDC
		Quantity	No	1	1
		Model		G8T200FUAEW	G8T260FUAEW
		Maker		Samsung	Samsung
		Capacity	Btu/hr	20000	26500
		Motor Type		BLDC	BLDC
		Motor Input	W	1818	2387
		Oil Type		POE	POE
		Oil Charge	cc	700	700
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch		1.3	1.3
		No. of Rows & Column		2R28C	2R28C
	Outdoor Fan Motor	Output	W	60	60
		Model		YDK95-60-4-1	YDK95-60-4-1
		No. of Poles		4	4
		Input	W	142	142
		Running Current	A	0.62	0.62
		Capacitor	μF/Vac	4/450	4/450
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	1/420	1/420
		Type	Top / Side	Side	Side
		Speed	rpm	1000/530	1000/530
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	49	52
		Power Level (Cooling)	dB(A)	62	65
	Dimensions (WxHxD)	Net	mm	880x638x310	880x638x310
		Gross	mm	1023x704x413	1023x704x413
		Weight (Net/Gross)	kg	50 / 53	50 / 53
OTHER	Power Supply Cable		No.xmm^2	2x2.5	2x2.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	1/4(6.35)
		Gas Side	inch(mm)	1/2(12.7)	5/8(15.88)
		Length (Std)	m	5	5
		Max Length/Elevation	m	50/30	50/30
	Drain hose	In Diameter	mm	26	26
		Out Diameter	mm	32	32

Note

1. Capacities are based on the following conditions.
   - Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   - Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
   Because there is always an ongoing improvement on our products.

1. Specifications

1-7. Residential MSP Duct

Model					DH090EAS	DH105EAS
		Outdoor Unit			UH090EAS	UH105EAS
SYSTEM	Capacity	Cooling (Min/Std/Max)	W		3100/9000/10000	3000/10500/12000
		Heating (Min/Std/Max)	W		2900/9500/13000	3300/11200/13700
	Input	Cooling (Min/Std/Max)	W		850/3200/3600	840/3730/4400
		Heating (Min/Std/Max)	W		680/2960/4650	760/3720/5000
	Running Current	Cooling (Min/Std/Max)	A		3.82/14.0/15.8	4.0/16.5/19.5
		Heating (Min/Std/Max)	A		3.1/13.0/20.5	3.5/16.5/22.0
	Power Supply		ø/V/Hz		1/220~240/50	1/220~240/50
	COP	Cooling	W/W		2.81 C	2.81 C
		Heating	W/W		3.21 C	3.01 D
	Dehumidification Rate		l/h		3.3	3.0
	Option Code (Std)				015774-1E8293	015774-11C293
	Refrigerant Control				EEV	EEV
	Refrigerant Charge (Std)		g, type		2400, R410A	2600, R410A
	Additional Refrigerant Charge		g/m		55	40
	Ambient Range	Cooling	°C		-15~50	-15~50
		Heating	°C		-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W		200	200
		Model			YSK140-200-4	YSK140-200-4
		No. of Poles			4	4
		Input	W		304	304
		Running Current	A		1.37	1.37
		Capacitor	µF/Vac		8/450	8/450
	Indoor Fan	Type			Sirocco Fan	Sirocco Fan
		No. Used / Diameter	EA/mm		2/175	2/175
	Indoor Fan RPM	Cooling (H/M/L)	rpm		1340/1280/1180	1340/1280/1180
		Heating (H/M/L)	rpm		1340/1280/1180	1340/1280/1180
	External Static Pressure (Min/Std/Max)		mmAq		0/6/8	0/6/8
	Air Circulation	H/M/L at Std E.S.P	CMM		21.5/21.0/20.0	21.5/20.5/20.0
	Temperature Controller				THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm		7	7.0
		Fin Pitch	mm		1.3	1.3
		No. of Rows & Column			3R10C	3R10C
	Set Dimensions (WxHxD)	Net	mm		1150X260X480	1150X260X480
		Gross	mm		1396X363X584	1396X363X584
		Weight (Net/Gross)	kg		34/40	34/40
	Sound Level	Pressure Level (High/Low)	dB(A)		39/35	40/33
		Power Level (High)	dB(A)		52	53
	Panel Model				-	-
	Drain Pump (Optional)				MDP-M075SGU1	MDP-M075SGU1

Model		Indoor Unit		DH090EAS	DH105EAS
		Outdoor Unit		UH090EAS	UH105EAS
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Twin BLDC	Twin BLDC
		Quantity	No	1	1
		Model		G5T360FUAEK	G5T360FUAEK
		Maker		Samsung	Samsung
		Capacity	Btu/hr	37500	37500
		Motor Type		BLDC	BLDC
		Motor Input	W	3409	3409
		Oil Type		POE	POE
		Oil Charge	cc	1100	1100
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.9	7.0
		Fin Pitch		1.3	1.5
		No. of Rows & Column		2R42C	2R52C
	Outdoor Fan Motor	Output	W	125	125
		Model		FMBC531SSA	FMBC531SSA
		No. of Poles		8	8
		Input	W	130	130
		Running Current	A	0.35	0.35
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	1/460	2/460
		Type	Top / Side	Side	Side
		Speed	rpm	750/950/1000	150~1050
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	52	56
		Power Level (Cooling)	dB(A)	65	69
	Dimensions (WxHxD)	Net	mm	880x950x320	932x1128x375
		Gross	mm	1043x1062x411	1091x1286x472
		Weight (Net/Gross)	kg	78/85	90/99
OTHER	Power Supply Cable		No.xmm^2	4x3.5	2x4
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	3/8"(9.52)	3/8(9.52)
		Gas Side	inch(mm)	5/8"(15.88)	5/8(15.88)
		Length (Std)	m	5	7.5
		Max Length/Elevation	m	75/30	75/30
	Drain hose	In Diameter	mm	26	26
		Out Diameter	mm	32	32

Note

1. Capacities are based on the following conditions.
   Cooling : - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   Heating : - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
   - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
   Because there is always an ongoing improvement on our products.

1. Specifications

1-8. Ceiling

Model				FH052EAV1	FH070EAV1
		Indoor Unit		FH052EAV1	FH070EAV1
		Outdoor Unit		UH052EAV1	UH070EAV1
SYSTEM	Capacity	Cooling (Min/Std/Max)	W	1700/5000/5600	2000/7100/8000
		Heating (Min/Std/Max)	W	1700/6000/8000	2000/8000/11000
	Input	Cooling (Min/Std/Max)	W	480/1660/1900	590/2520/2900
		Heating (Min/Std/Max)	W	430/1870/3050	450/2750/3750
	Running Current	Cooling (Min/Std/Max)	A	2.8/7.8/9.0	2.8/11.5/13.3
		Heating (Min/Std/Max)	A	2.4/8.8/14.5	2.5/12.5/17.5
	Power Supply		ø/V/Hz	1/220~240/50	1/220~240/50
	COP	Cooling	W/W	3.01 B	2.81 C
		Heating	W/W	3.21 C	2.91 D
	Dehumidification Rate		l/h	1.5	2.0
	Option Code (Std)			035770-198000	035770-1C8000
	Refrigerant Control			EEV	EEV
	Refrigerant Charge (Std)		g, type	1450, R410A	1900, R410A
	Additional Refrigerant Charge		g/m	30	30
	Ambient Range	Cooling	°C	-15~43	-15~43
		Heating	°C	-20~24	-20~24
INDOOR	Indoor Fan Motor	Output	W	35	45
		Model		Y5S413B217	Y5S413B215
		No. of Poles		4	4
		Input	W	35	101
		Running Current	A	0.32	0.51
		Capacitor	μF/Vac	3	6
	Indoor Fan	Type		Sirocco Fan	Sirocco Fan
		No. Used / Diameter	EA/mm	2/140	2/140
	Indoor Fan RPM	Cooling (H/M/L)	rpm	1050/950/860	1320/1240/1160
		Heating (H/M/L)	rpm	1050/950/860	1320/1240/1160
	External Static Pressure (Min/Std/Max)		mmAq	-	-
	Air Circulation	H/M/L	CMM	14.5/13.0/11.5	16.0/14.5/13.0
	Temperature Controller			THERMISTOR	THERMISTOR
	Indoor Coil	Tube Size (OD)	mm	7	7.0
		Fin Pitch	mm	1.3	1.3
		No. of Rows & Column		3R12C	3R12C
	Set Dimensions (WxHxD)	Net	mm	1000X200X650	1000X200X650
		Gross	mm	1074X294X726	1074X294X726
		Weight (Net/Gross)	kg	22/26	22/26
	Sound Level	Pressure Level (High/Low)	dB(A)	38/32	41/36
		Power Level (High)	dB(A)	51	54
	Panel Model			-	-
	Drain Pump			-	-

Model		Indoor Unit		FH052EAV1	FH070EAV1
		Outdoor Unit		UH052EAV1	UH070EAV1
OUTDOOR	Compressor	Locked Rotor Amp.	A	-	-
		Type		Twin BLDC	Twin BLDC
		Quantity	No	1	1
		Model		G8T200FUAEW	G8T260FUAEW
		Maker		Samsung	Samsung
		Capacity	Btu/hr	20000	26,500
		Motor Type		BLDC	BLDC
		Motor Input	W	1818	2,387
		Oil Type		POE	POE
		Oil Charge	cc	700	700
		O.L.P Type (Model Name)		Internal	Internal
		Capacitor	μF/Vac	-	-
	Outdoor Coil	Tube Size (OD)	mm	7.0	7.0
		Fin Pitch		1.3	1.3
		No. of Rows & Column		2R28C	2R36C
	Outdoor Fan Motor	Output	W	45	97
		Model		FMA6531SSA	DL-95835SSOA-5
		No. of Poles		8	8
		Input	W	70	125
		Running Current	A	0.25	0.4
		Capacitor	μF/Vac	-	-
	Outdoor Fan	Type		Propeller	Propeller
		No. Used /Diameter	EA/mm	1/420	1/460
		Type	Top / Side	Side	Side
		Speed	rpm	250~1000	250~1000
	Air Circulation	Outdoor	CMM	-	-
	Sound	Pressure Level (Cooling)	dB(A)	49	52
		Power Level (Cooling)	dB(A)	62	65
	Dimensions (WxHxD)	Net	mm	880x638x310	880x798x310
		Gross	mm	1023x704x413	1038x861x406
		Weight (Net/Gross)	kg	50 / 53	57/61
OTHER	Power Supply Cable		No.xmm^2	2x2.5	2x2.5
	Connecting Cable		No.xmm^2	4x1.25	4x1.25
	Connecting Tube (ø Socket Flare)	Liquid Side	inch(mm)	1/4(6.35)	1/4(6.35)
		Gas Side	inch(mm)	1/2(12.7)	5/8(15.88)
		Length (Std)	m	5	5
		Max Length/Elevation	m	50/30	50/30
	Drain hose	In Diameter	mm	12	12
		Out Diameter	mm	18	18

Note

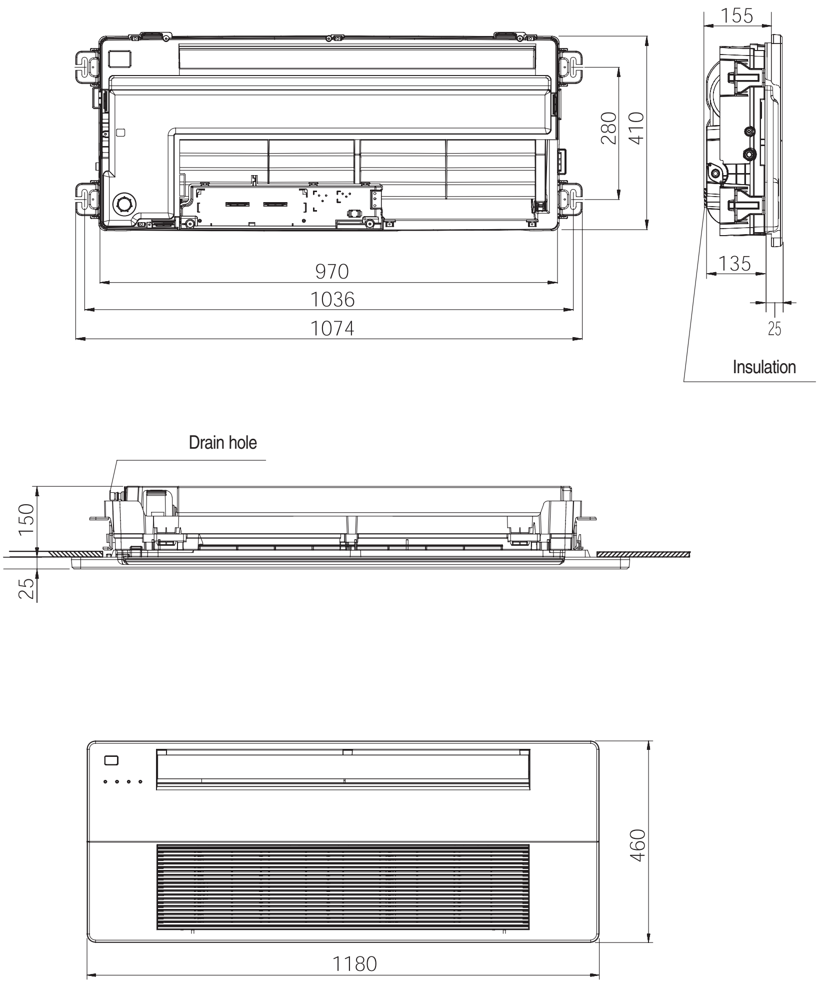
1. Capacities are based on the following conditions.
   - Cooling :
     - Indoor Temperature 27°C DB/19°C WB, Outdoor Temperature 35°C DB/24°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
   - Heating :
     - Indoor Temperature 20°C DB/15°C WB, Outdoor Temperature 7°C DB/6°C WB
     - Interconnecting Piping Length [7.0kW ↓: 5.0m, 9.0kW ↑: 7.5m], Level difference of Zero
2. Capacities are Net Capacities.
3. Product specifications in this publication can be changed without a prior notice.
   Because there is always an ongoing improvement on our products.

2. Dimensions

2-1. Slim 1 Way Cassette

1) SH026EAV1/SH035EAV1

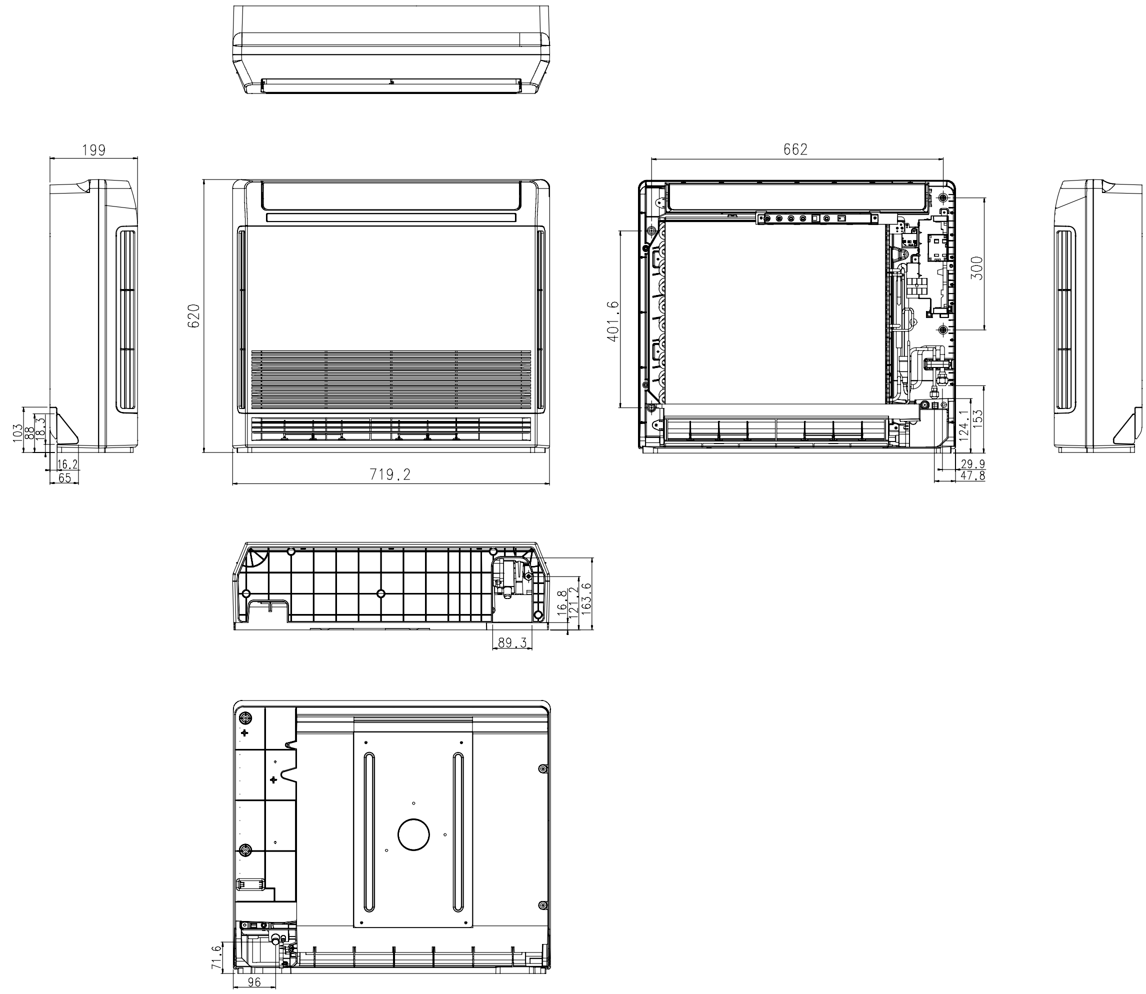
Unit : mm



2-2. Console

1) JH026EAV1/JH035EAV1

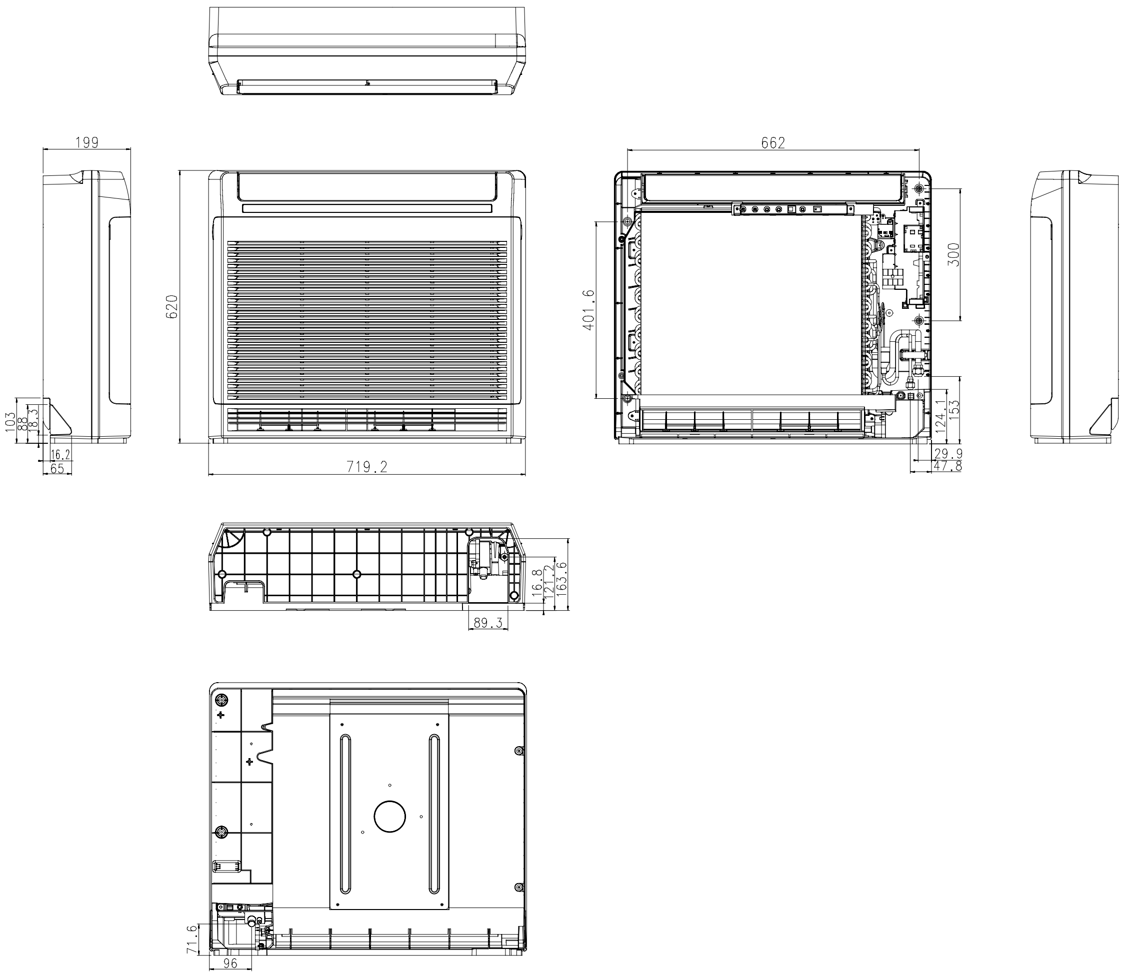
Unit : mm



2-2. Console

2) JH052EAV1

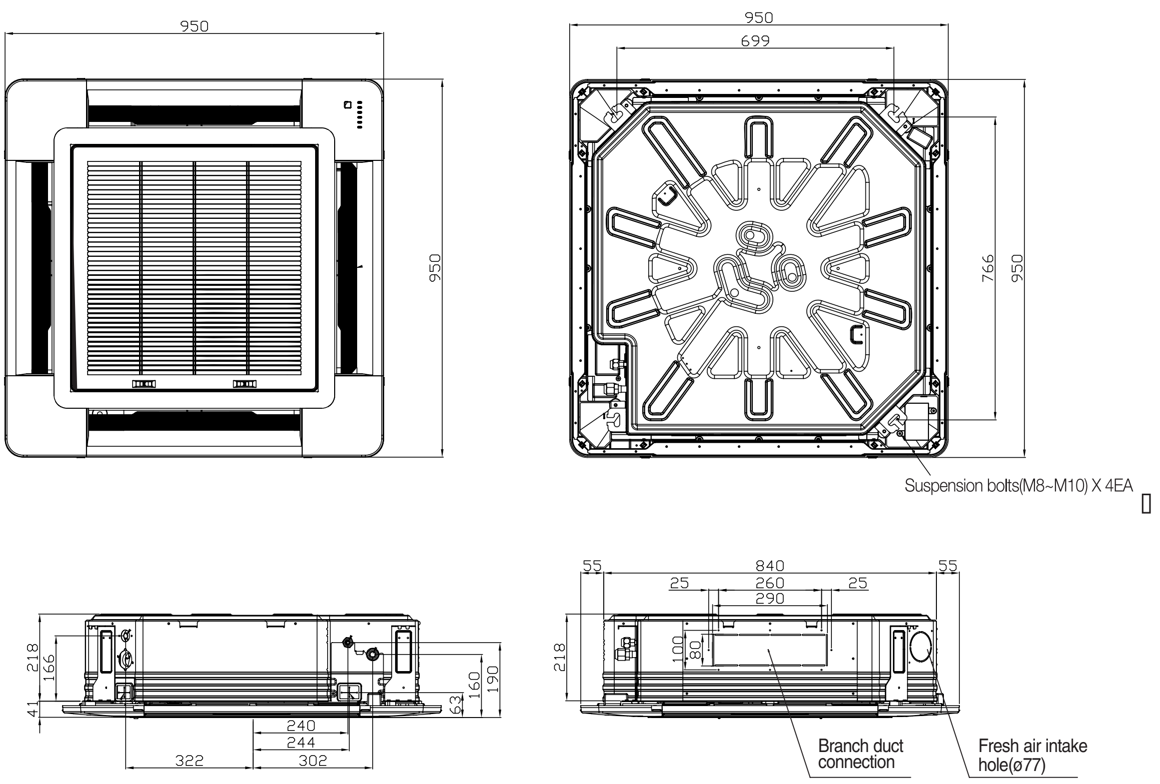
Unit : mm



2-3. 4 Way Cassette

1) CH070EAV1

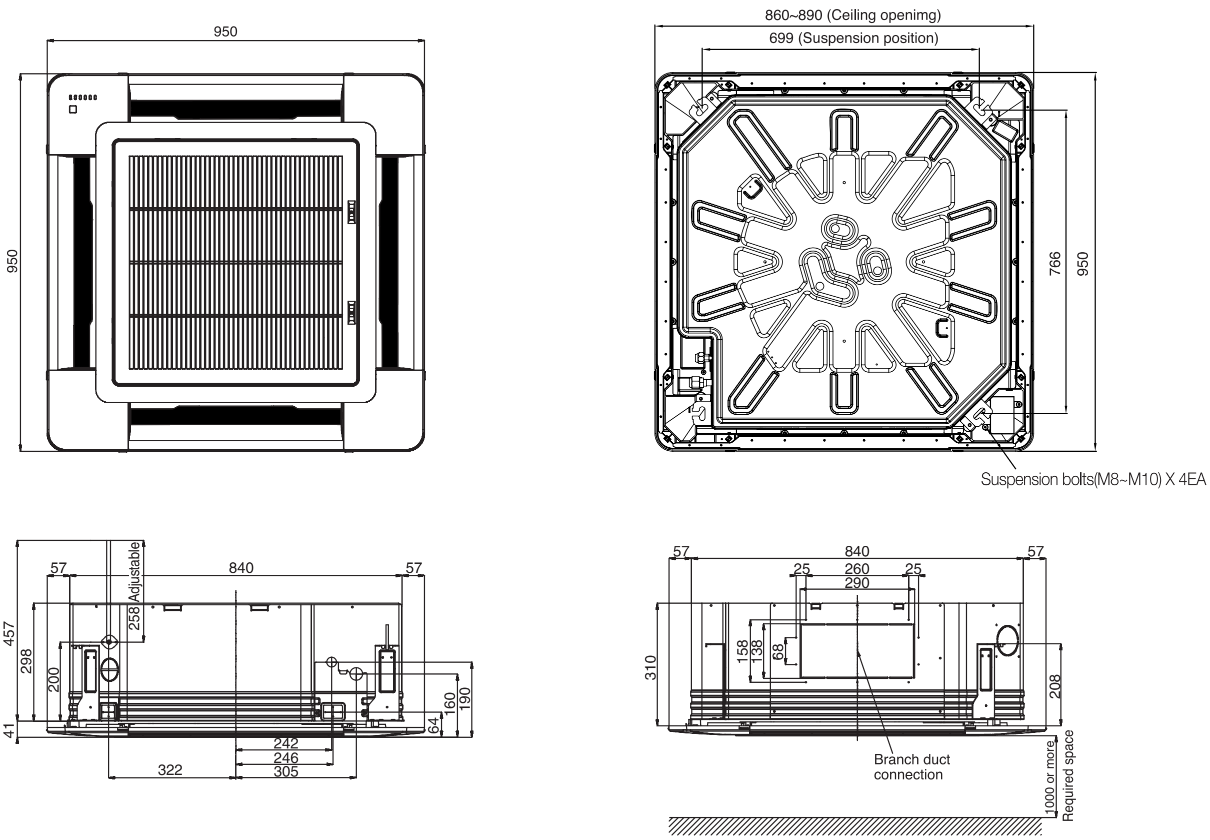
Unit : mm



2-3. 4 Way Cassette

2) CH090EAS/CH090EAV/CH105EAV/CH140EAV

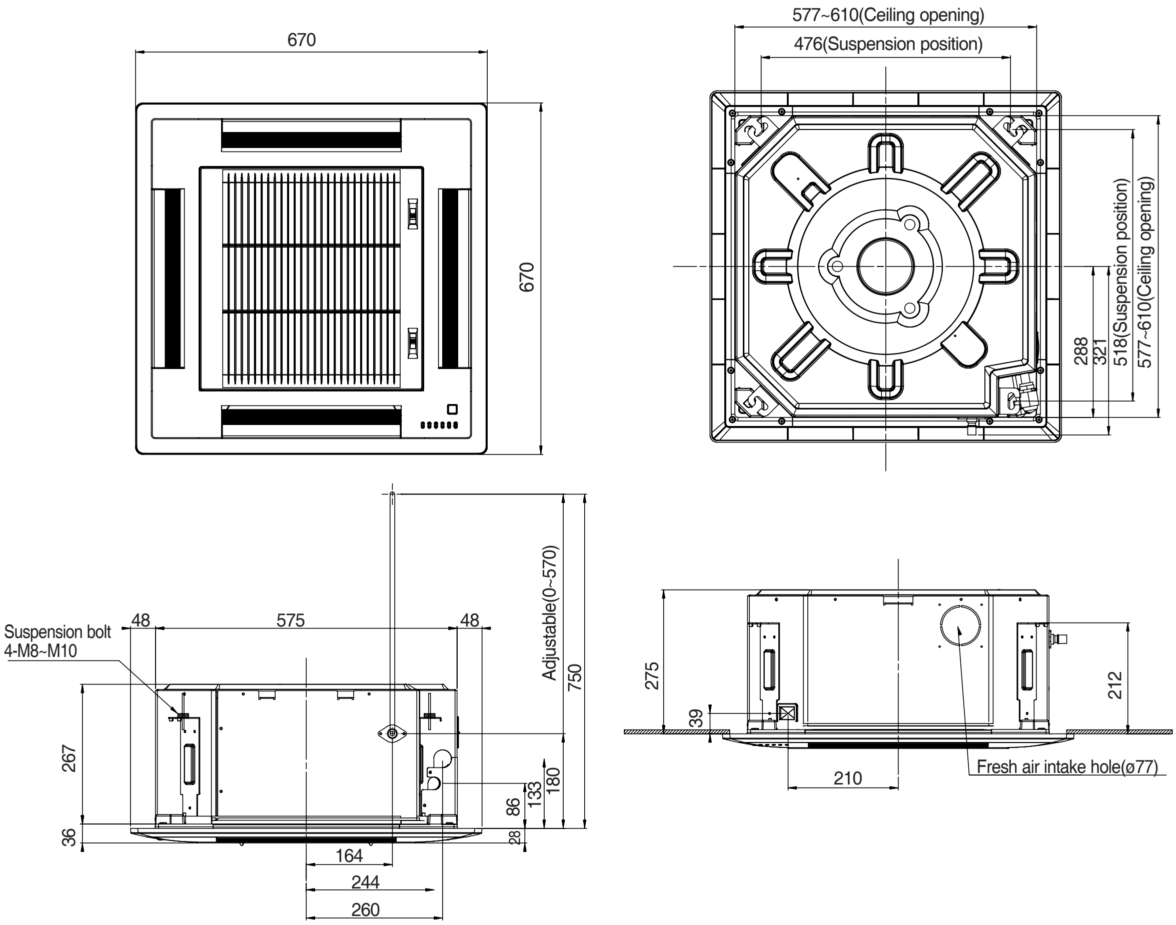
Unit : mm



2-4. Mini 4 Way Cassette

1) TH026EAV1/TH035EAV1/TH052EAV1/TH060EAV1

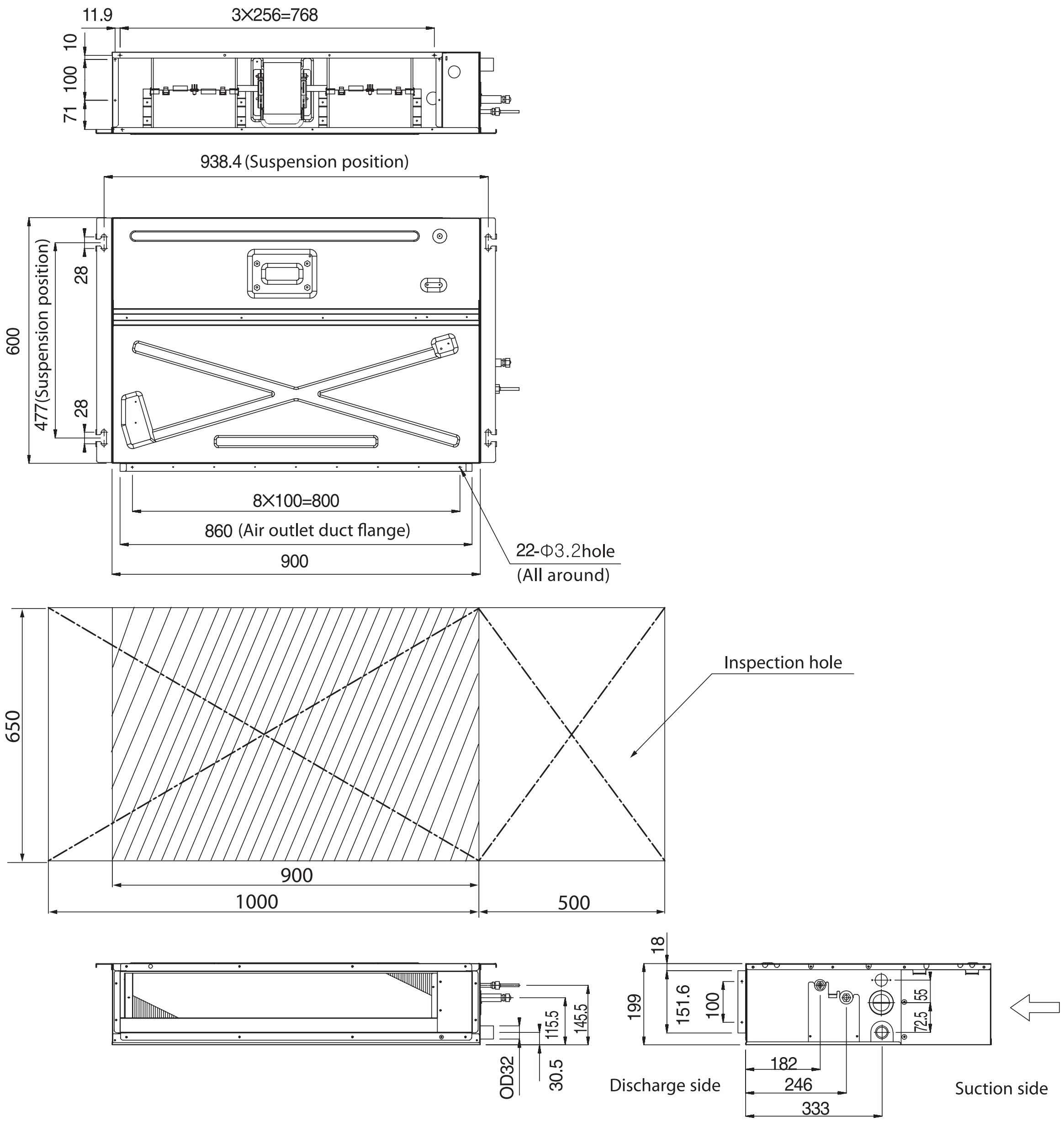
Unit : mm



2-5. Slim Duct

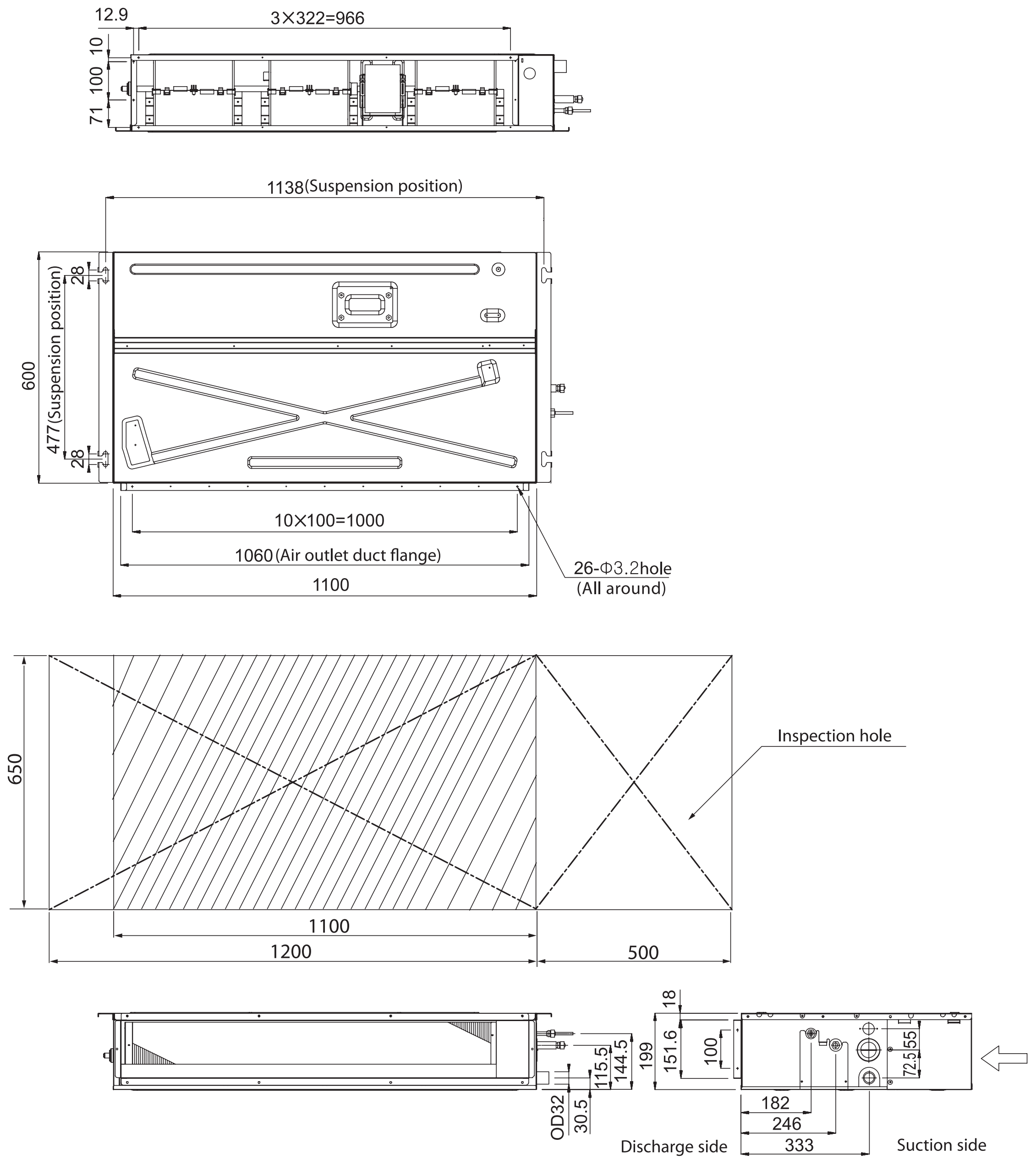
1) EH035EAV1

Unit : mm



2) EH052EAV1/EH070EAV1

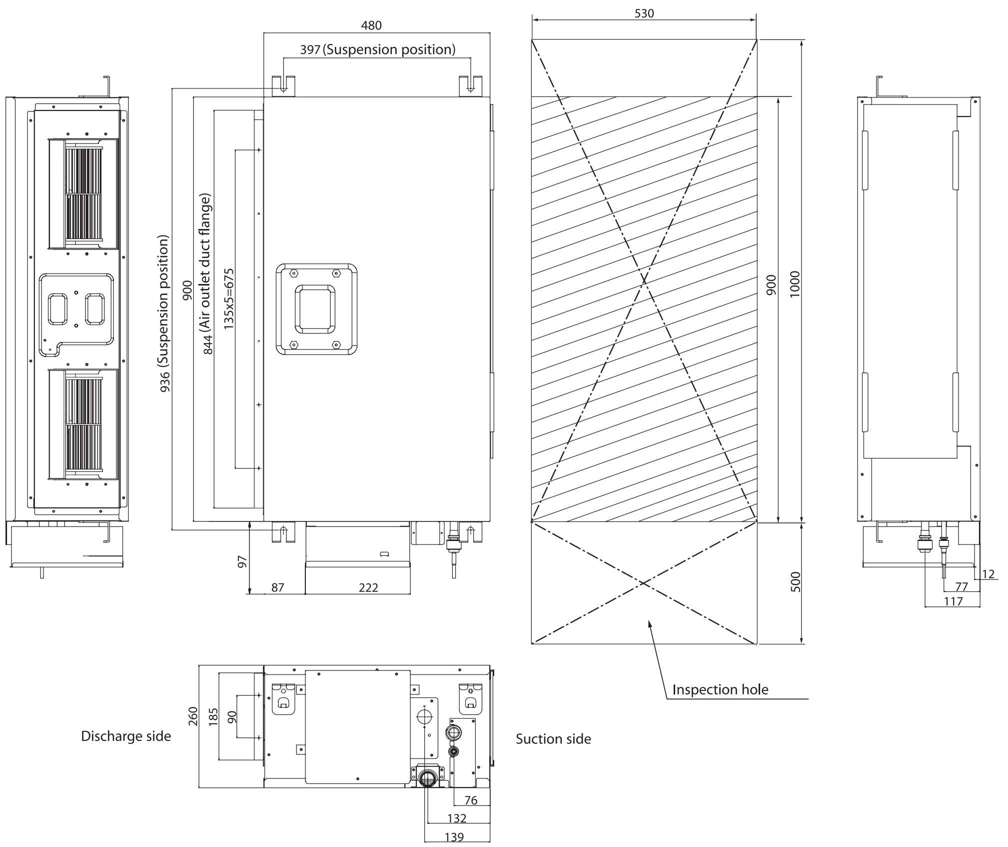
Unit : mm



2-6. MSP Duct

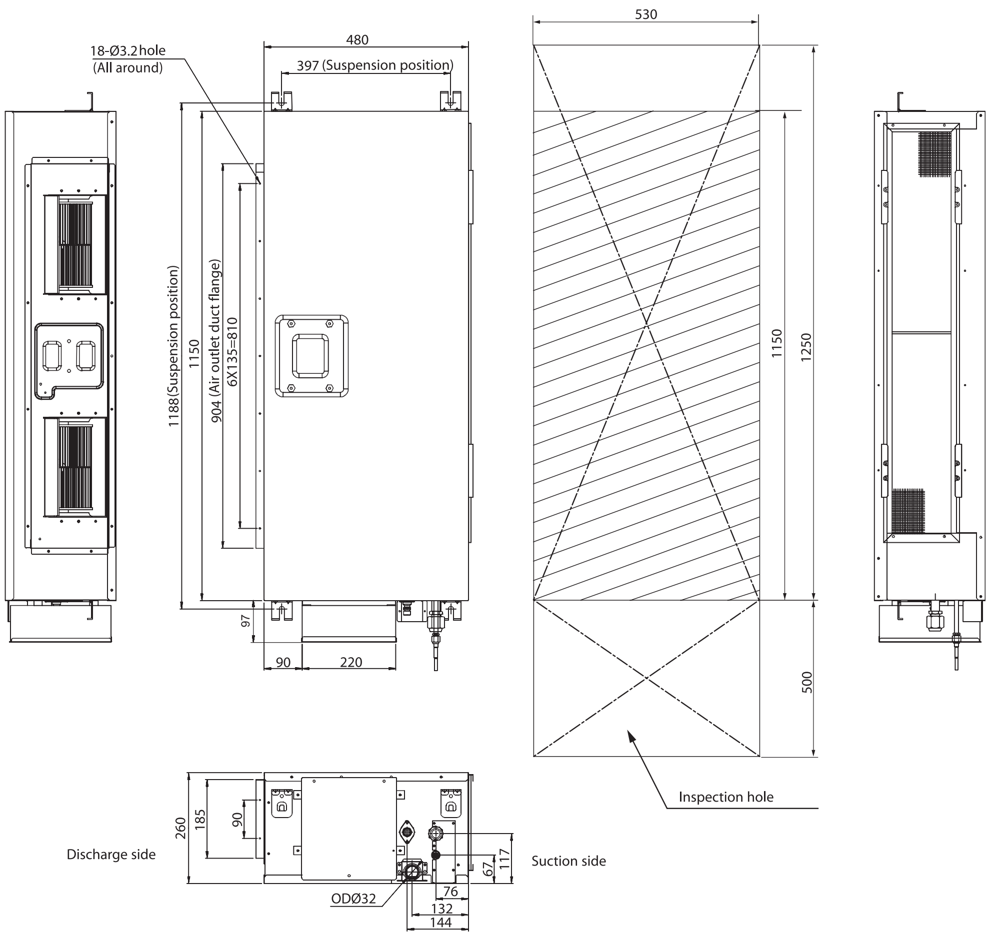
1) DH052EAV1/DH052EAS/DH070EAS

Unit : mm



2) DH070EAV1/DH090EAS/DH090EAV/DH105EAS

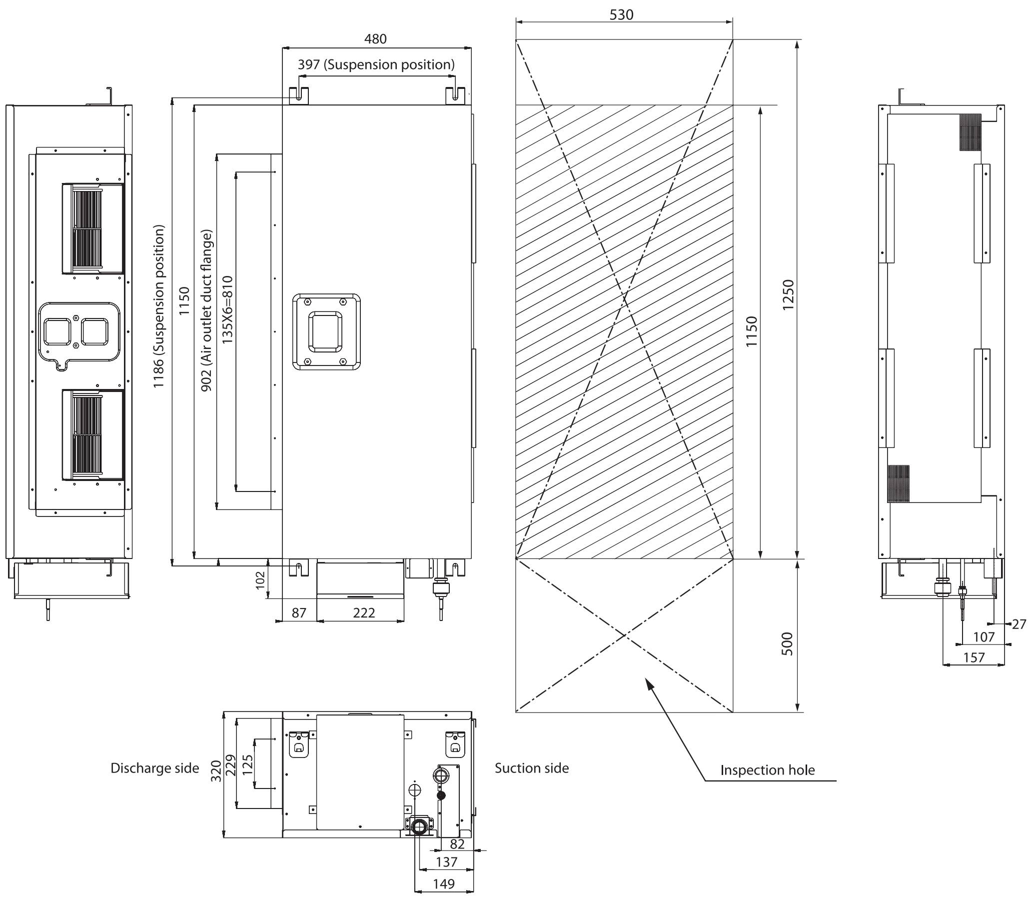
Unit : mm



2-6. MSP Duct

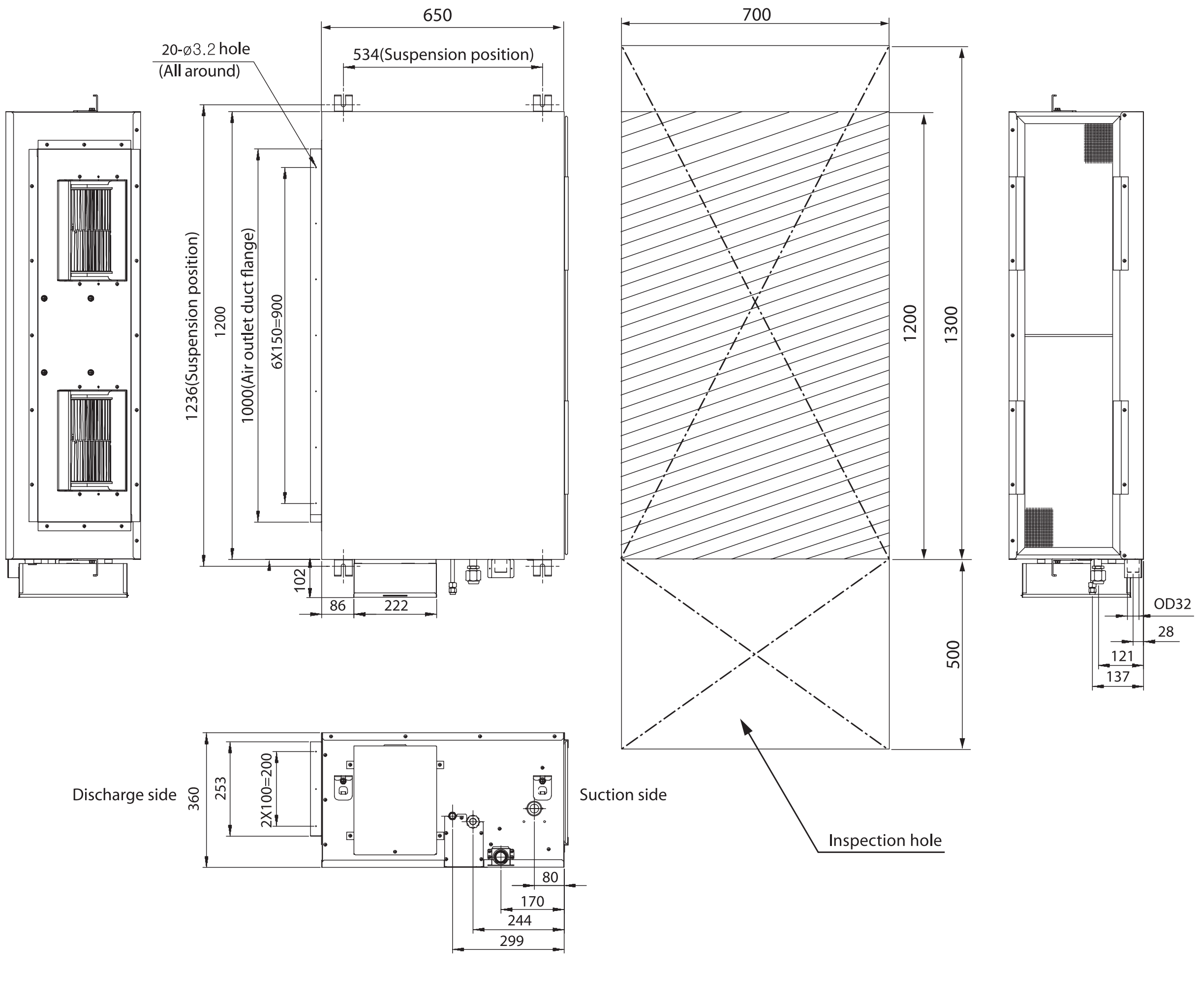
3) DH105EAV

Unit : mm



4) DH140EAV

Unit : mm

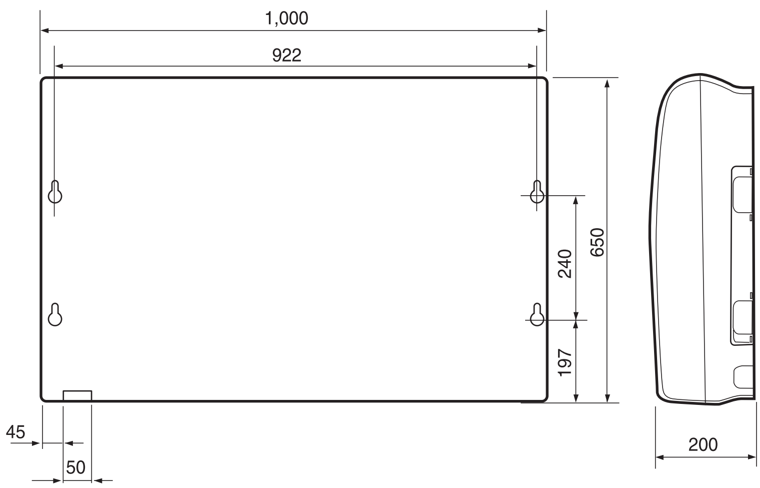


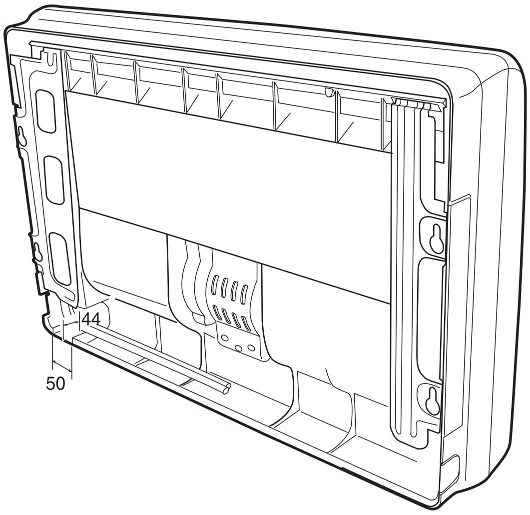
2. Dimensions

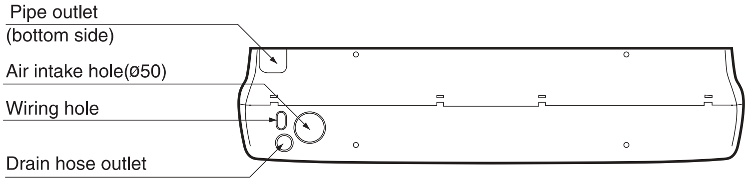
2-7. Ceiling

1) FH052EAV1/FH070EAV1

Unit : mm



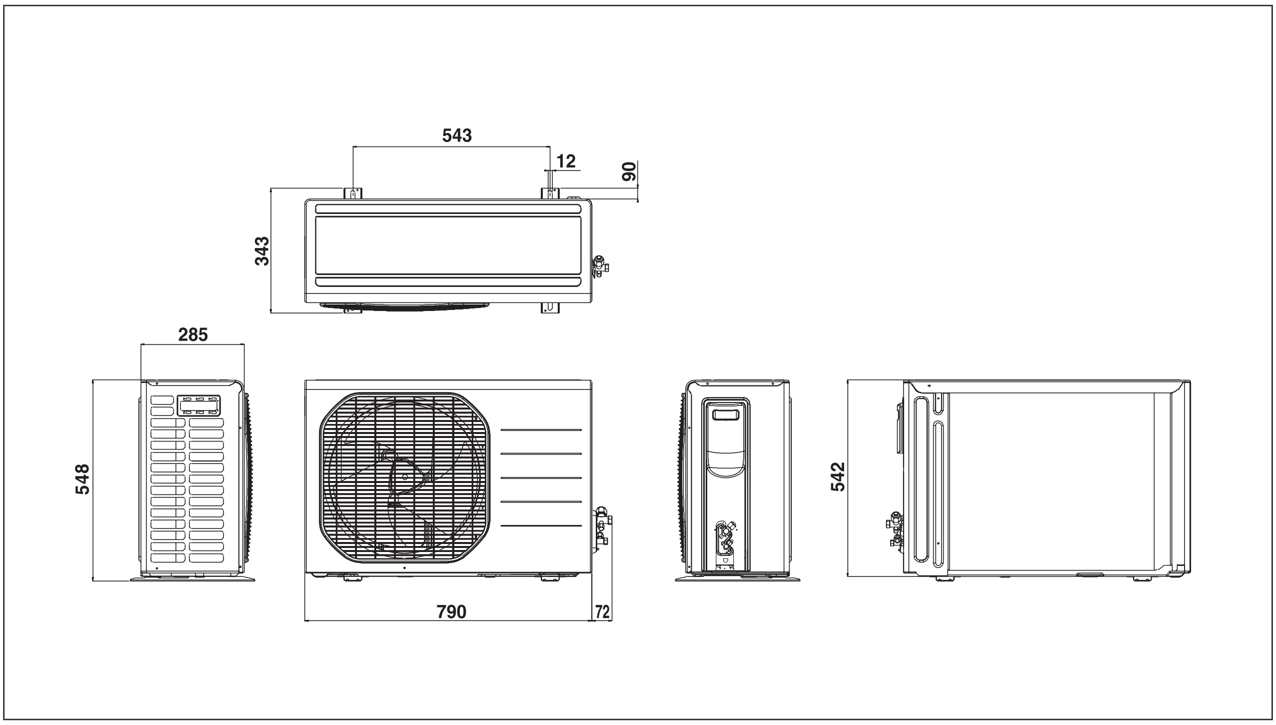




2-8. Outdoor Unit

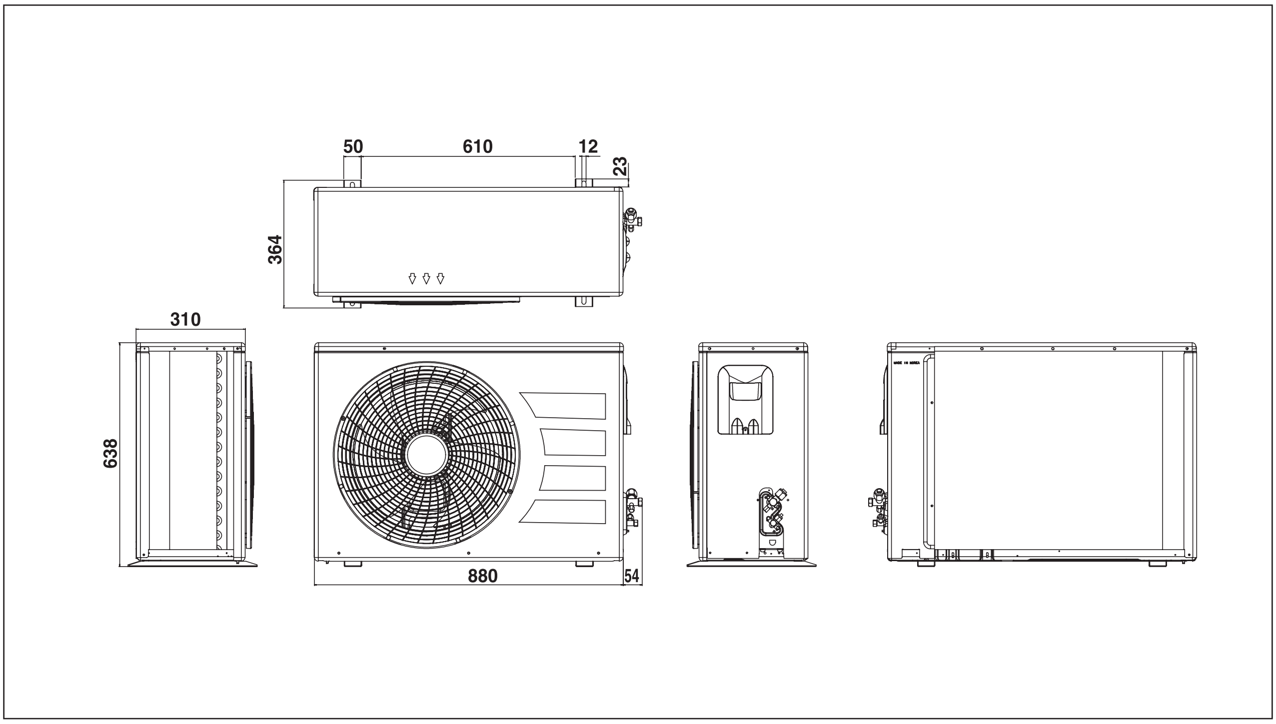
1) UH026EAV1/UH035EAV1

Unit : mm



2) UH052EAV1

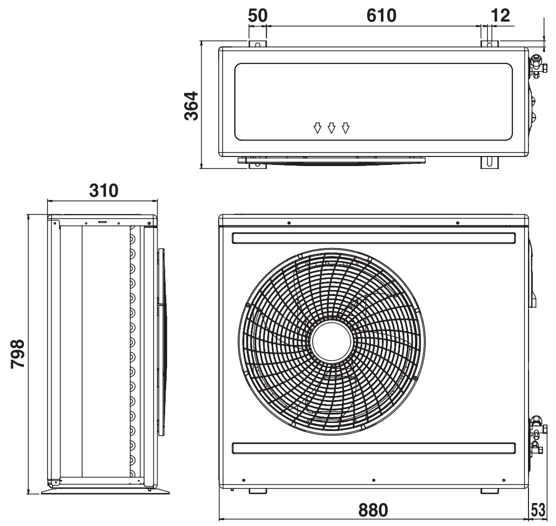
Unit : mm



2-8. Outdoor Unit

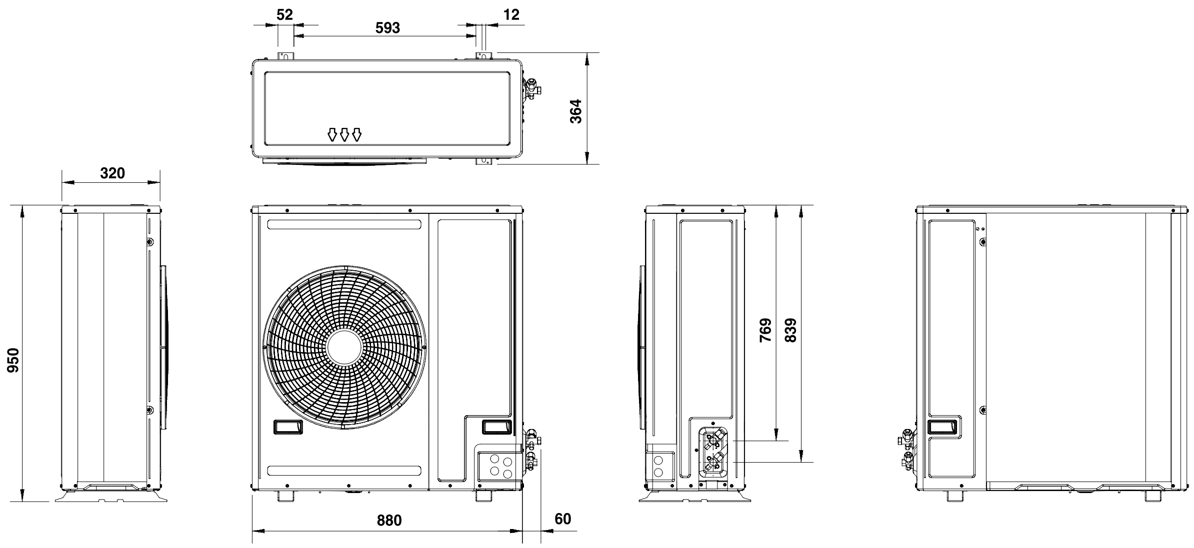
3) UH060EAV1/UH070EAV1

Unit : mm



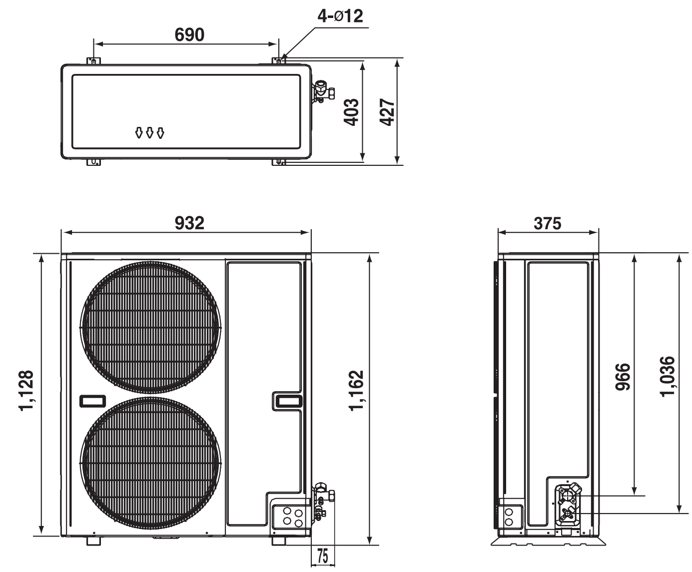
4) UH090EAS

Unit : mm



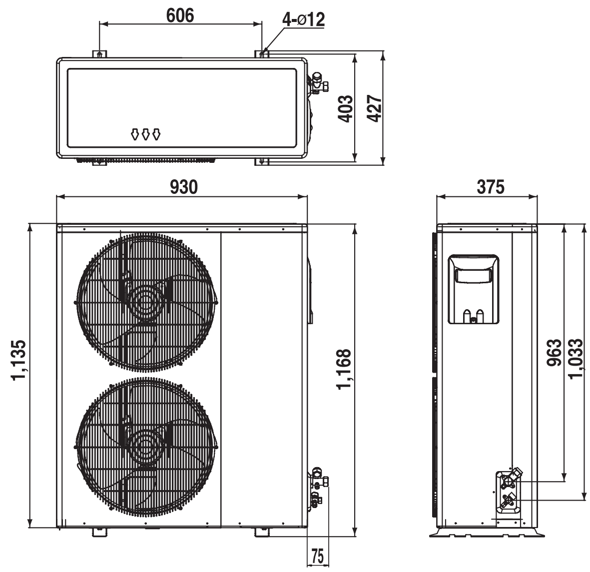
5) UH090EAV/UH105EAV/UH140EAV

Unit : mm



6) UH105GAV/UH140GAV

Unit : mm



Technical Data Book

03 Installations

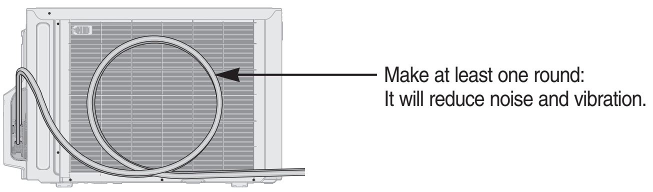
1. Additional Refrigerant

Refrigerant must be added if the piping exceeds standard pipe length.
Check the outdoor unit status before adding refrigerant.
This operation should be performed by qualified service technician.

MODEL	DIAMETER OF EXTENSION PIPE LIQ. / VAP. (mm)	MIN. EXTENSION LENGTH (m)	MAX. EXTENSION LENGTH (total, m)	MAX. EXTENSION LENGTH (elevation, m)	STD. PIPE LENGTH (m)	ADDITIONAL REFRIGERANT (g/m)
UH026EAV1	6.35 / 9.52	3	20	15	5	0
UH035EAV1	6.35 / 9.52	3	20	15	5	0
UH052EAV1	6.35 / 12.7	3	50	30	5	30
UH052EAS	6.35 / 12.7	3	50	30	5	30
UH060EAV1	6.35 / 15.8	3	50	30	5	30
UH070EAV1	6.35 / 15.8 (STD)	3	50	30	5	30
	9.52 / 15.8 (OPTIONAL)	3	50	30	5	30
UH070EAS	6.35 / 15.8	3	50	30	5	30
UH090EAV1	9.52 / 15.8	3	75	30	7.5	40
UH090EAS	9.52 / 15.8	3	75	30	5	55
UH105EAS	9.52 / 15.8	3	75	30	7.5	40
UH105G(E)AV	9.52 / 15.8	3	75	30	7.5	40
UH140G(E)AV	9.52 / 19.05	3	75	30	7.5	40

Min. extension length means the shortest possible length of a pipe which can perform normal operation without any trouble when observed from the side of the cycle. If pipe length is too short, noise and vibration can be delivered to indoor unit via interconnection pipe. Therefore it is recommended to install the pipe which is longer than 3m.

✳ Minimum pipe length: equal or more than 3 meters.

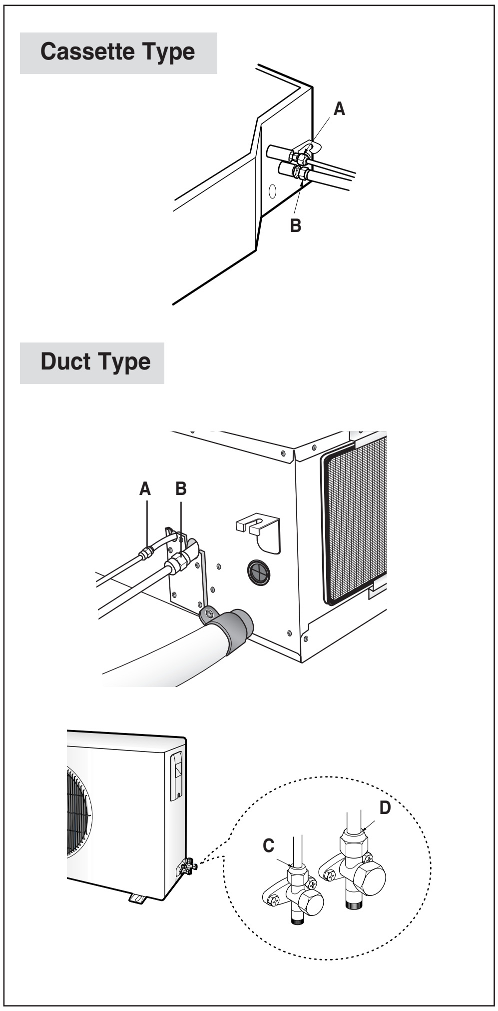


❇ The appearance of the unit may be different from the diagram depending on the model.

2. Gas Leak Test

◆ Before completing the installation (insulation of piping), you must check that there are no gas leaks.

To check for gas leaks on the...	Then, using a leak detector, check the...
Indoor unit	Flare nuts at the end of sections A and B.
Outdoor unit	Valves on sections C and D.



3. Drain Hose Installation

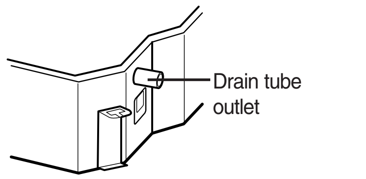
3-1. Cassette Type

◆ Care must be taken when installing the drain hose for the indoor unit to ensure that any condensate water is correctly drained outside.

1) Installing the drain hose

(1) Insert the flexible hose to the drain tube outlet, if necessary.

Note Attach the drain hose to the drain tube outlet with the adhesives to prevent water leaks, then secure the hose with a band etc. (The band is not supplied with the air conditioner.)

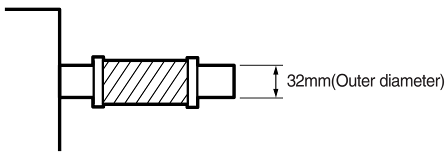


(2) Install the drain hose so that its length can be as short as possible. Internal diameter of the drain hose should be the same or slightly bigger than the external diameter of drain outlet pipe.

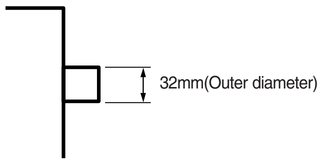
Note ◆ Give a slight slant to the drain hose for proper drainage of condensate.
◆ Secure the drain hose with the band joint and the cable-tie not to be separated from the unit.

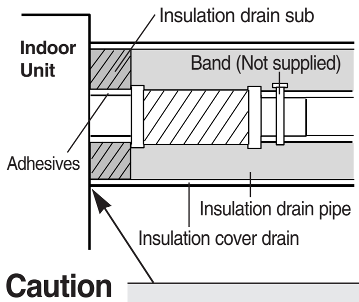
Inner diameter of the drain hose

◆ Flexible hose is connected



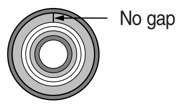
◆ Flexible hose is not connected





Caution

Must fit tightly against body without any gap.



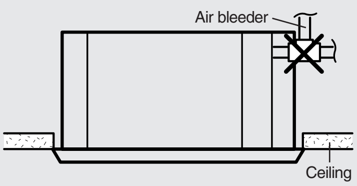
(3) Wrap the drain hose with the insulation drain as shown in figure and secure it.

Note When connecting the drain hose without the flexible hose, you should attach it to the drain tube outlet with adhesives and tapes to prevent water leaks.

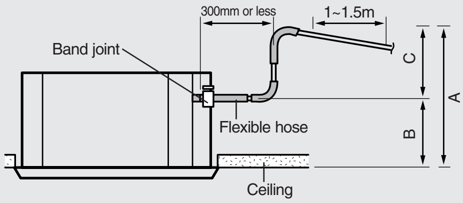
Caution

◆ **Check that the indoor unit is level with the ceiling by using the leveler.**

- Do not install air bleeding tubes, as this may cause water to spray from the drain tube outlet.

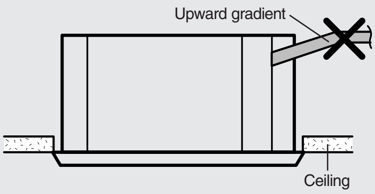


- If height of 'C' is higher than 50cm, there may be possibility of water leak.

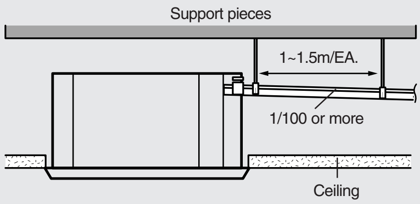


	SH∗∗∗EAV1	TH∗∗∗EAV1	CH070EAV1	CH090/105/140EAV/CH090EAS
A	750	750	750	750
B	132	166	166	197
C	618	584	584	553

- Do not give the hose with upward gradient after the connection port. This will cause water to flow backwards when the unit is stopped, resulting in water leaks.



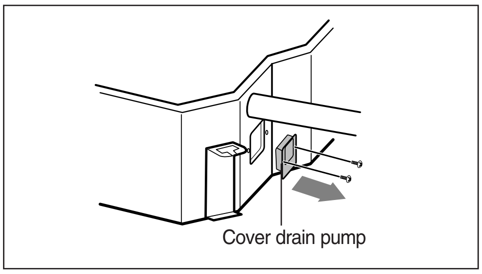
- Do not apply force to the piping on the unit side when connecting the drain hose. The hose should not be allowed to hang loose from its connection to the unit. Fasten the hose to a wall, frame or other support as close to the unit as possible.



2) Testing the drainage

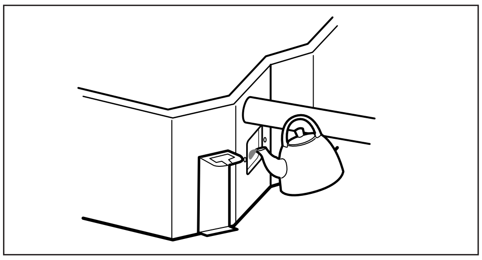
◆ You should test the drainage after completing the installation. Prepare about 2 litters of water.

(1) Remove two screws on the cover drain pump and pull out the cover.



(2) Pour water into the indoor unit as shown in figure.

Note Pour water into the indoor unit to check if it is correctly installed. Otherwise, there may be possibility of water leakage problem.



(3) Confirm that the water flows out through the drain hose.

Note You can check the drainage only when the air conditioner is in cooling mode.

(4) Reassemble the cover drain pump and the screws.

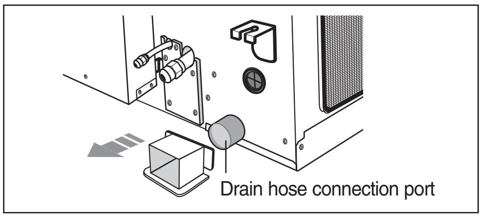
3. Drain Hose Installation

3-2. Duct Type

◆ Care must be taken when installing the drain hose for the indoor unit to ensure that any condensate water is correctly drained out. The drain hose can be installed to the right or left side of the base pan.

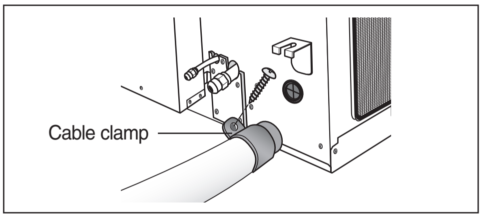
1) Installing the drain hose

(1) Unscrew the 4 tapped screws to remove the cover of the drain hose connection port.



(2) Insert the flexible hose to the drain hose port.

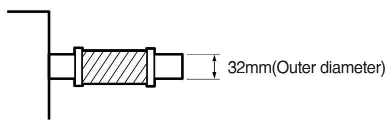
Note Fix the flexible hose to the indoor unit with the supplied cable clamp securely. (Use the screwdriver to fix the flexible hose securely.)



(3) Install the drain hose so that its length can be as short as possible. Internal diameter of the drain hose should be the same or slightly bigger than the external diameter of the drain hose port.

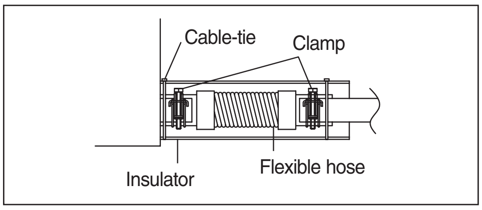
Note ◆ Give a slightly slant to the drain hose for proper drainage of condensate.
◆ Fix the flexible hose to the PVC with the supplied cable tie securely.

◆ **Inner diameter of the drain hose**

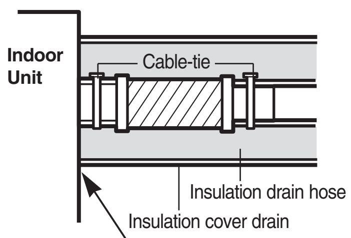


(4) Wrap the drain hose with the insulation drain as shown in figure and secure it.

EH035EAV✳

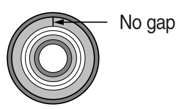


DH✳✳✳EAV✳/DH✳✳✳EAS/EH052/070EAV✳



Caution

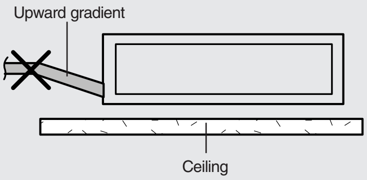
Must fit tightly against body without any gap.



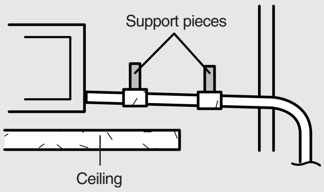
Caution

When not installing the drain pump

- Do not give the hose and upward gradient after the connection port. This will cause water to flow backwards when the unit is stopped, resulting in water leaks.

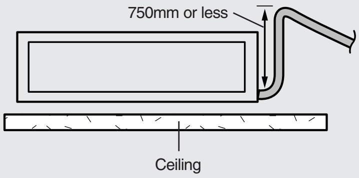


- Do not apply force to the piping on the unit side when connecting the drain hose. The hose should not be allowed to hang loose from its connection to the unit. Fasten the hose to a wall, frame or other support as close to the unit as possible.



When installing the drain pump

- If it is necessary to increase the height of the drain hose somewhat, the portion directly after 750mm. If it is raised higher than 750mm, there can be water leaks.

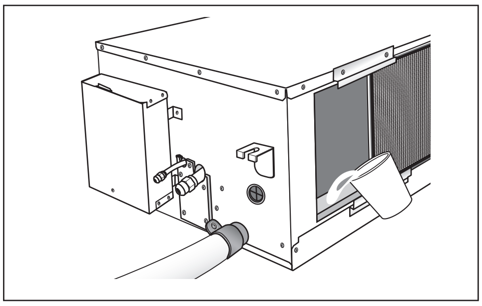


2) Testing the drainage

◆ Prepare a little water about 5 liters.

(1) Pour water into the base pan in the indoor unit as shown in figure.

(2) Confirm that the water flows out through the drain hose.



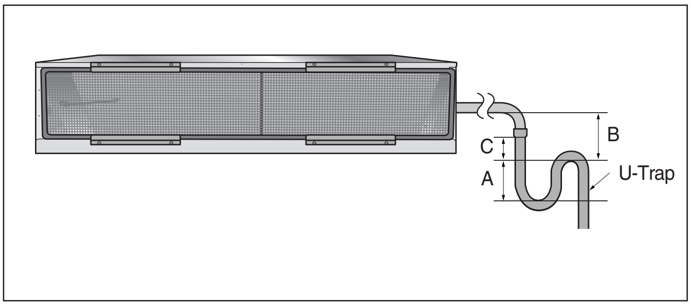
3) How to design U-Trap for natural drain

◆ Install the U-Trap to make smooth drainage when you install duct indoor unit.

Note

A ≥ 70mm
B ≥ 2C
C ≥ 2 x ESP
ESP = External Static Pressure(mmAq)

Ex) ESP = 8mmAq
A ≥ 70mm
B ≥ 32mm
C ≥ 16mm



4. “Pump Down” Operation

◆ “Pump Down” shall be carried out when an evaporator replaced or when the unit is relocated in another area.

1. Remove the caps from the liquid valve and the suction valve.

▼

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

▼

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

▼

4. Turn the liquid valve clockwise to close.

▼

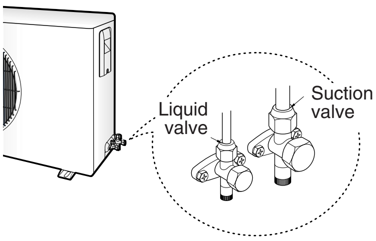
5. When the pressure gauge indicates "0" turn the suction valve clockwise to close.

▼

6. Stop operation of the air conditioner.

▼

7. Close the cap of each valve.



Relocation of the Air Conditioner

• Refer to this procedure when the unit is relocated.

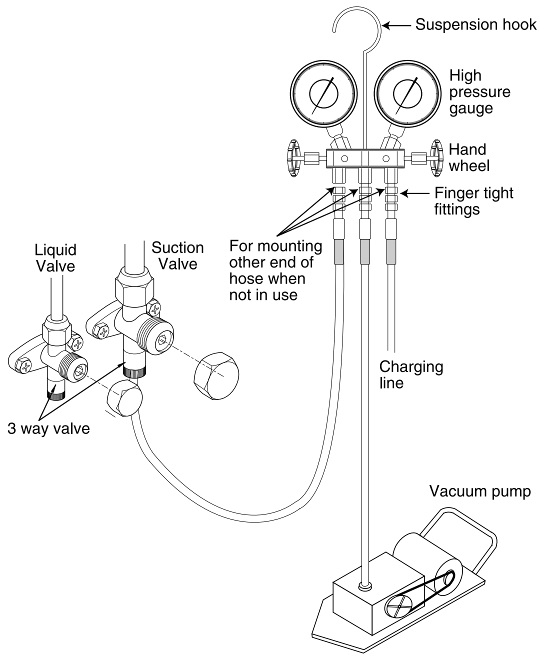
1. Carry out the pump down procedure (refer to the details of 'pump down').
2. Remove the power cord.
3. Disconnect the assembly cable from the indoor and outdoor units.
4. Remove the flare nut connecting the indoor unit and the pipe.
5. Disconnect the pipe connected to the outdoor unit. At this time, cover the valve of the outdoor unit and the other pipe using a cap or vinyl plug to prevent foreign material from entering.
6. Make sure you do not bend the connection pipes in the middle and store together with the cables.
7. Move the indoor and outdoor units to a new location.
8. Remove the mounting plate for the indoor unit and move it to a new location.

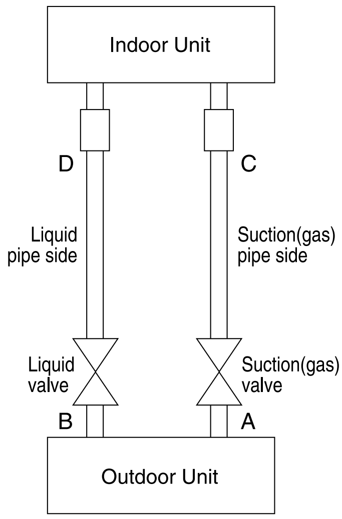
5. Recharge the Refrigerant

5-1. The Vacuum

◆ Use the vacuum pump to remove N2 gas or air inside the indoor unit and pipes.

1. Tighten all pipe connections (A, B, C, D) to prevent any leakage.
2. Check that the suction and liquid valves are closed.
3. Remove the cap on the opposite side of the Suction tube connection (A) and connect a hose from the pressure gauge of which other end is connected to the vacuum pump.
4. Operate the vacuum pump enough until the pressure gauge indicates "0".
5. Disconnect the hose from the suction valve carefully not to break the vacuum.
6. Turn on the suction and liquid valves counterclockwise to open the outdoor unit to the indoor unit.
7. Check the leakage on the connections. (A, B, C, D)
8. Check each valve for leakage.





✳ **Important Information**

◆ When you want to vacuumize the whole system

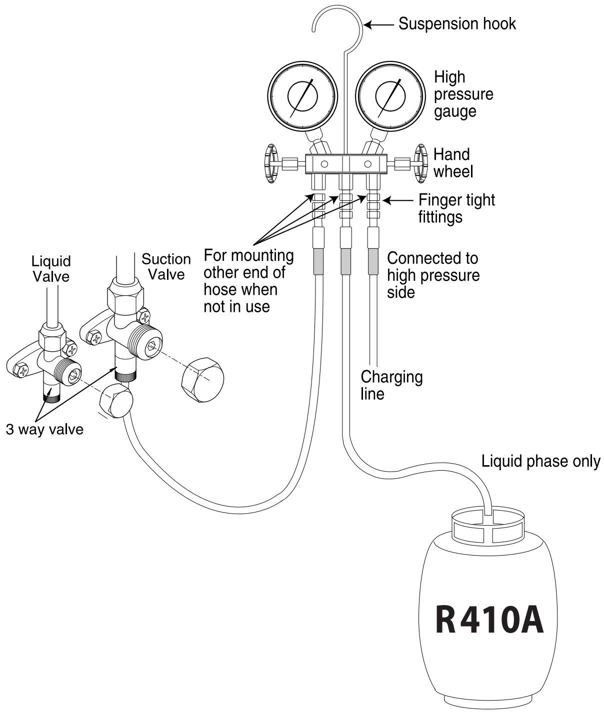
EEV full open condition	Power source is connected & Air conditioner is not operating
EEV control condition	Power source is connected & Air conditioner is operating

Installations

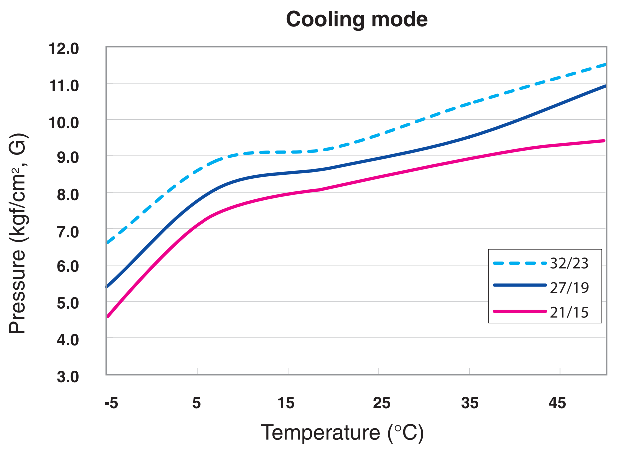
5-2. Recharge the Refrigerant

◆ Refill the air-conditioner with refrigerant when the refrigerant has leaked during installation or operation.

1. Turn the suction valve clockwise to close, connect the pressure gauge(low pressure side) to the service valve, and open the suction valve again.
2. Connect the tank to recharge with Refrigerant
3. Set the unit to cool operation mode.
4. Check the pressure indicated by the pressure gauge(low pressure side).
   * Standard pressure should be R410A 9~10.5kg/cm² in a regular operation mode.
5. Open the refrigerant tank and charge with refrigerant until the rated pressure is reached.
   * It is recommended not to pour the refrigerant in too quickly, but gradually while operating a pressure valve.
6. Stop operation of the air conditioner.
7. Close the suction valve, disconnect the pressure gauge, and open the suction valve again.
8. Close the cap of each valve.



6. Pressure Chart

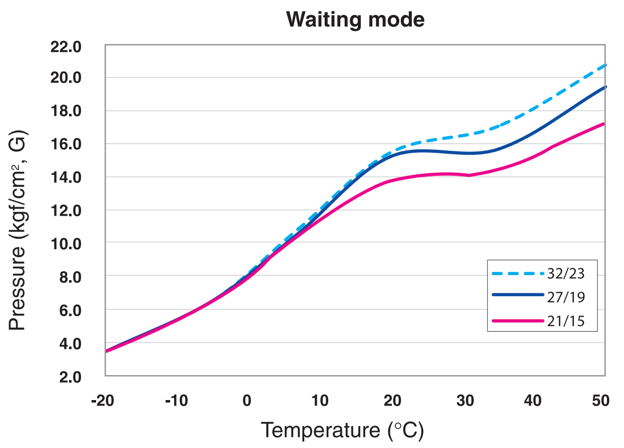


Pressure at Cooling mode

Unit : kgf/cm², G

Indoor(°C) / Outdoor(°C)	32/23	27/19	21/15
50	11.5	10.9	9.4
35	10.4	9.5	9.0
20	9.2	8.7	8.2
7	8.9	8.1	7.4
-5	6.6	5.4	4.6

✳ Indoor : DB(Dry Bulb temperature)/WB(Wet Bulb temperature)
✳ Outdoor Unit : DB(Dry Bulb temperature)

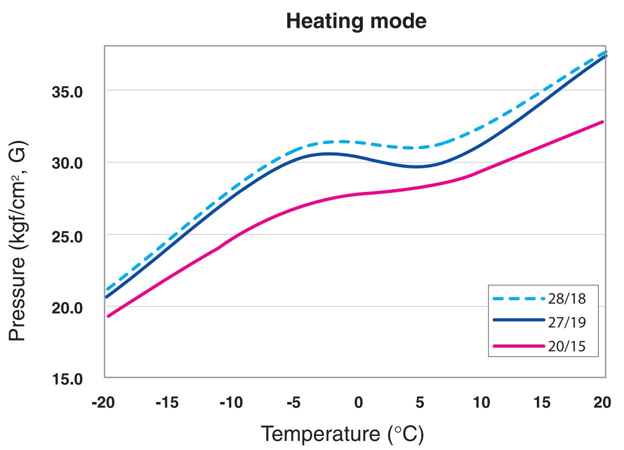


Pressure at Waiting mode

Unit : kgf/cm², G

Indoor(°C) / Outdoor(°C)	32/23	27/19	21/15
50	20.8	19.4	17.3
35	17.1	15.7	14.4
20	15.5	15.2	13.9
7	10.8	10.6	10.4
-5	6.5	6.5	6.4
-20	3.4	3.4	3.4

✳ Indoor : DB(Dry Bulb temperature)/WB(Wet Bulb temperature)
✳ Outdoor Unit : DB(Dry Bulb temperature)



Pressure at Heating mode

Unit : kgf/cm², G

Indoor(°C) / Outdoor(°C)	28/18	27/19	20/15
20	37.7	37.4	32.9
7	31.3	30.0	28.5
-5	30.8	30.1	26.9
-20	21.1	20.7	19.2

✳ Indoor : DB(Dry Bulb temperature)/WB(Wet Bulb temperature)
✳ Outdoor Unit : DB(Dry Bulb temperature)

Note 1. The pressure of the inverter can be different depending on comp Hz.
2. These graph and data are obtained on the test mode, after 5 minutes from the initial start up.

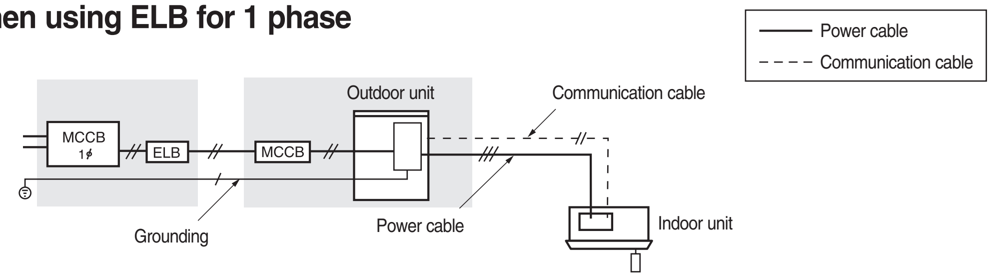
7. How to Connect the Cables

※ Two electronic cables must be connected to the outdoor unit.

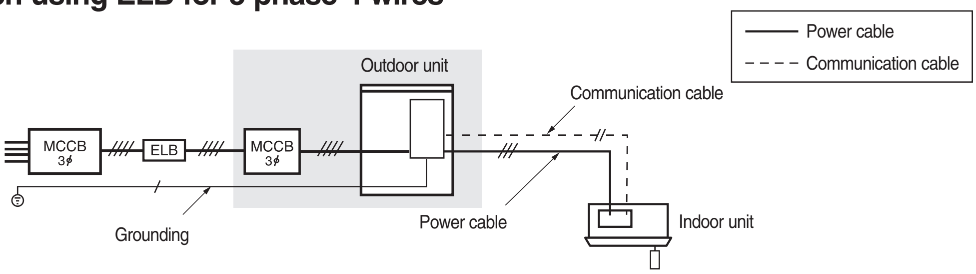
- One is connection cord between indoor unit and outdoor unit.
  Another is power cable between outdoor unit and auxiliary circuit breaker.
- Specially for Russian and European market, before installation, the supply authority should be consulted to determine the supply system impendance to ensure compliance.

7-1. Examples of Air Conditioning System

1) When using ELB for 1 phase



2) When using ELB for 3 phase 4 wires



◆ If an outdoor unit is installed in a place in danger of an electric leak or submergence, you must install the ELB.

7-2. Cable Specifications

1) Power cable

Type of Outdoor Unit	Outdoor	POWER SUPPLY				
		Power Supply ø/V/Hz	Power Cable mm²/wires	MCCB A	Type GL(ELB) A	Max. Length m
A	UH026EAV1	1/220-240V/50Hz	1.5 / 2	15	15	<10
	UH035EAV1					
B	UH052EAV1	1/220-240V/50Hz	2.0 / 2	20	20	<10
	UH052EAS					
	UH070EAS					
C	UH060EAV1	1/220-240V/50Hz	2.0 / 2	20	20	<10
	UH070EAV1					
D	UH090EAS	1/220-240V/50Hz	2.5 / 2	25	25	<10
	UH090EAV	1/220-240V/50Hz	2.5 / 2	25	25	<10
	UH105EAV	1/220-240V/50Hz	4.0 / 2	30	30	<10
	UH105EAS					
	UH140EAV	1/220-240V/50Hz	6.0 / 2	40	40	<10
	UH105GAV	3/380-415V/50Hz	2.5 / 4	20	20	<10
	UH140GAV		3.0 / 4			

◆ The power cable is not supplied with air conditioner.
◆ For power cable, use the grade H07RN-F or H05RN-F materials.

2) Connection cord between IDU and ODU

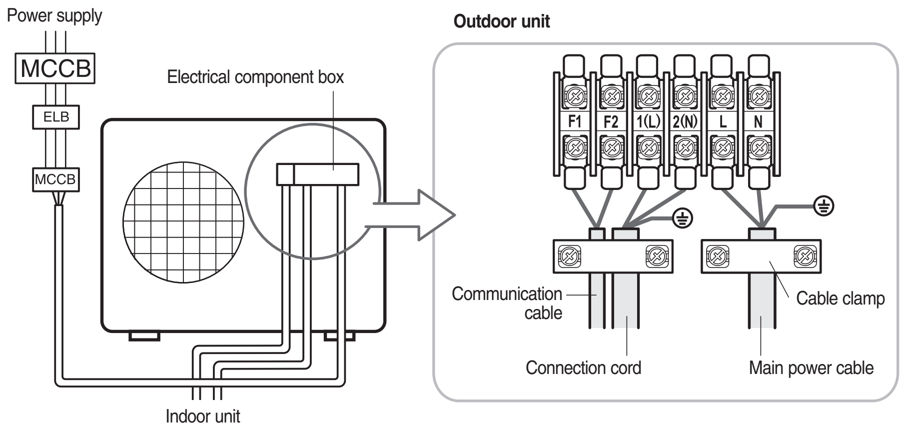
POWER SUPPLY (SINGLE PHASE)			Earth Cable	Communation Cable	Home Server
Power Supply	Max/Min(V)	Connection Cable			
1ø, 220-240V, 50Hz	±10%	1.25mm²	ø1.6mm, 1wire	0.75mm²~1.25mm², 2 Wires	0.75mm²~1.25mm², 2 Wires

◆ For connection cord, use the grade H07RN-F or H05RN-F materials.

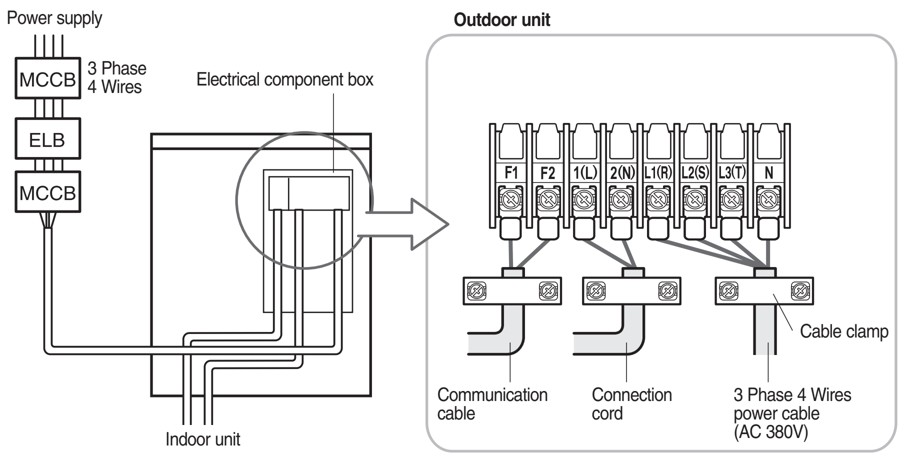
7-3. Wiring Diagram

1) Power cable

◆ When using an ELB for 1 phase



◆ When using an ELB for 3 phase 4 wires



Caution

◆ You should connect the power cable with the power cable terminal and fasten it with a clamp.

◆ The unbalanced power must be maintained within 2% of supply rating.

- If the power is unbalanced greatly, it may shorten the life of the condenser. If the unbalanced power is exceeded over 4% of supply rating, the indoor unit is protected, stopped and the error mode indicates.

◆ To protect the product from water and possible shock, you should keep the power cable and the connection cord of the indoor and outdoor units in the iron pipe.

◆ Connect the power cable with the auxiliary circuit breaker. An all pole disconnection from the power supply must be incorporated in the fixed wiring(≥ 3mm).

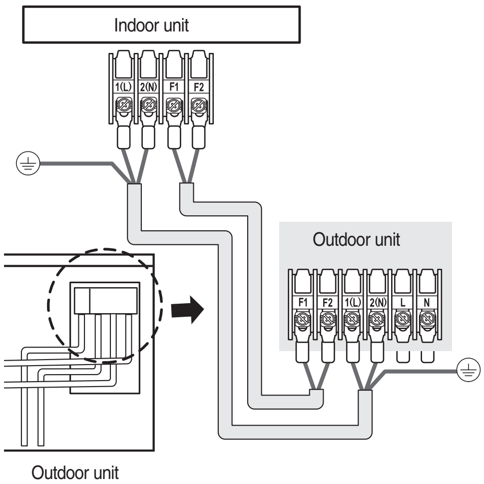
◆ Must keep the cable in a protection tube.

◆ Keep distances of 50mm or more between power cable and communication cable.

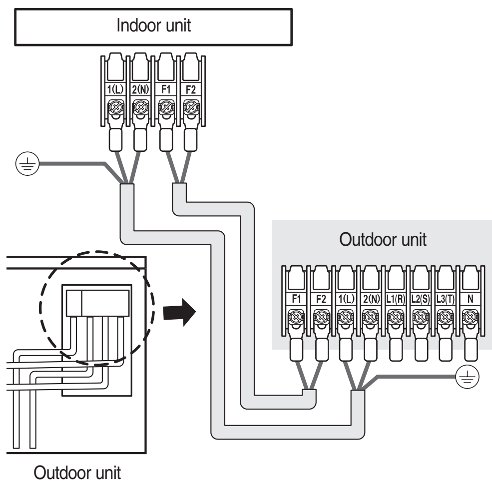
7-3. Wiring Diagram

2) Connection cord

◆ UH✳✳✳EAV✳/UH✳✳✳EAS



◆ UH✳✳✳GAV



Note Ground wire for the indoor unit and outdoor unit connection cable must be clamped to a soft copper tin-plated eyelet terminal with M4 screw hole(NOT SUPPLIED WITH UNIT ACCESSORIES).

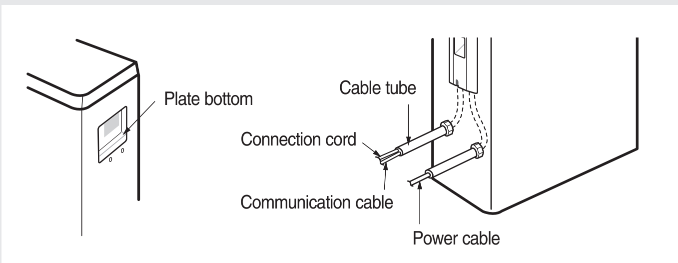
7-4. Connecting the Power Terminal

◆ Connect the cables to the terminal board using the compressed ring terminal.
◆ Connect the rated cables only.
◆ Connect using a driver which is able to apply the rated torque to the screws.
◆ If the terminal connection is too loose, fire may occur caused by arc.
If the terminal connection is too tight, the terminal may be damaged.

TIGHTENING TORQUE (kgf·cm)		
M3	5.9	1∅ 220V
M4	30.0	3∅ 380V

Caution

◆ When connecting cables, you can connect the cables to the electrical part or connect them through the holes below depending on the spot.
◆ When connecting cables, make the cable pass through the cable tube as shown at the figure.



◆ Must keep the cable in a protection tube.
◆ Keep distances of 50mm or more between power cable and communication cable.
◆ When the cables are connected through the hole, remove the Plate bottom.

8. Function of Indoor & Outdoor PCB Switch

8-1. Function of Indoor PCB Switch

◆ Before setting up the option switches, always make sure that you have turned off the main power.

1) Rotary switch (SW02)

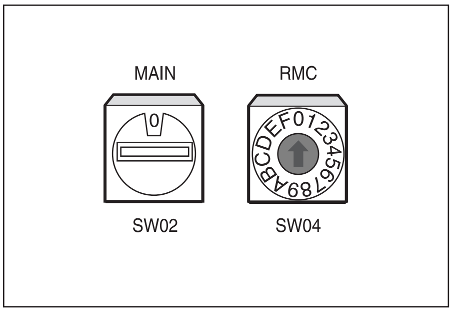
(1) You don't have to assign the MAIN address when installing one indoor unit for one outdoor unit.

(2) The MAIN address is for communication between the indoor unit and the outdoor unit. Therefore, you must set it to operate the air conditioner properly.

(3) It is required to set the RMC address if you install the centralized controller.

(4) If you install optional accessories such as the wired remote controller, centralized controller, etc. see an appropriate installation manual.

(5) If an optional accessory is not installed, you do not have to set the RMC address. However, adjust K1 and K2 switches of the SW05 DIP switch to "ON" position in this case.



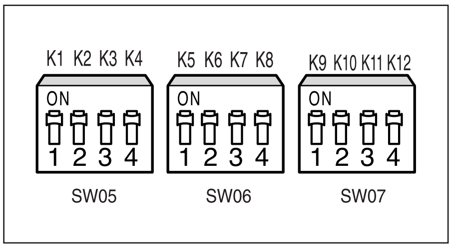
2) DIP switch (SW05, SW06, SW07)

◆ Adjust the switch to the desired position referring to the table below.

DIP SWITCH	FUNCTION	ON (Default)	OFF	Remark
K1	Wired remote control	Not use	Use	-
K2	Centralized control	Not use	Use	-
K3	RPM up	Normal	Up	FH052/070EAV1 Only
K4	Option drain pump	Not use	Use	-
K5	Heating thermo-off	+2°C(5°C)	+5°C(2°C)	( ) → CH, TH...
K6	Filter signal display	1,000hr	2,000hr	-
K7	Hot water coil	Not use	Use	Duct model only
K8	Electrical heater	N/A	N/A	-
K9	Min.EEV step at heating	N/A	N/A	-
K10	Transmitter grouping	N/A	N/A	-
K11	External control	Not use	Use	-
K12	Spare	-	-	-

✳ N/A : Not Available

◆ **DIP Switch**
The default setting of a switch is ON.

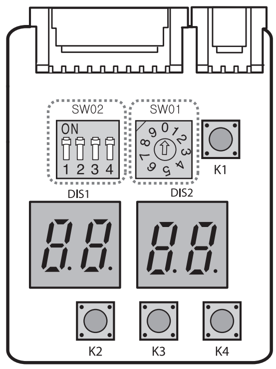


Installations

8-2. Function of Outdoor PCB Switch for Test Operation

1) Testing operations

(1) Check the power supply between the outdoor unit and the auxiliary circuit breaker.
- ◆ Single phase power supply: L, N

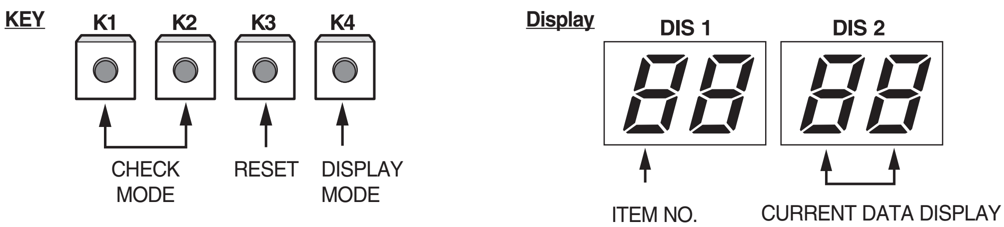


(2) Check the indoor unit.
- ◆ Check that you have connected the power and communication cables correctly. (If the power cable and communication cables one mixed up or connected incorrectly, the PCB will be damaged.)
- ◆ Check the thermistor sensor, drain pump/hose, and display are connected correctly.

(3) Press K1&K2 on the outdoor unit PCB the system will follow this sequence :
- ◆ K1 push one → start Heating test mode→ K1 push two → test mode stop
- ◆ K2 push one → start Cooling test mode→ K2 push two → test mode stop

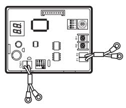
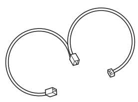
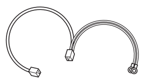
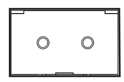
(4) After 12 minutes of operation, check discharged air temperature :
- ◆ Cooling mode(indoor unit check) Inlet air temp. - Outlet air temp. : From 10°C to 12°C at outdoor temperature of 30~35°C
- ◆ Heating mode(indoor unit check)?Outlet air temp. - Inlet air temp. : From 11°C to 14°C at outdoor temperature of 3~9°C
- ◆ In heating mode, the indoor fan motor can remain off to avoid cold air blown into conditioned space for a few miniutes.

✳ Setting of PCB Display of the Outdoor unit



8-3. Transmitter Installation (Optional)

1) Accessories (Transmitter: MIM-B04A)

Transmitter	Transmitter power cable	Transmitter communication cable	Installation Manual	Case	Cable-tie
					

2) Installing the transmitter

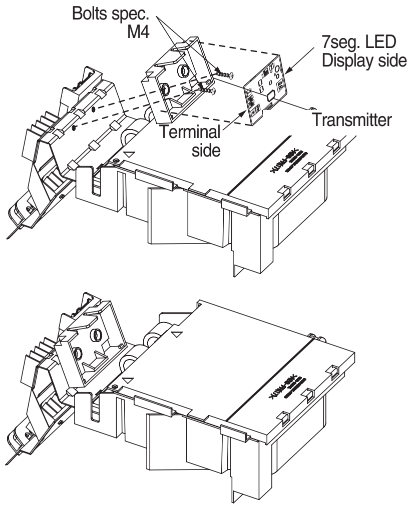
(1) Fix the case with bolts on the side of the control box in the outdoor unit. (See the picture)

(2) Attach the transmitter PCB to the case in the control box of the outdoor unit, then connect the power and the communication cable between the transmitter and the outdoor unit.

(3) If you install a transmitter to an outdoor unit, every indoor unit which is connected to an outdoor unit can be controlled simultaneously.

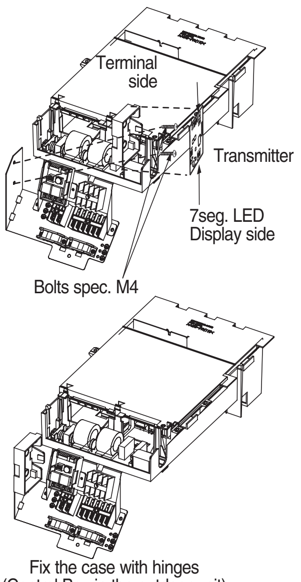
(4) Each outdoor unit connected to the same centralized controller has its own transmitter.

UH026EAV1/UH035EAV1



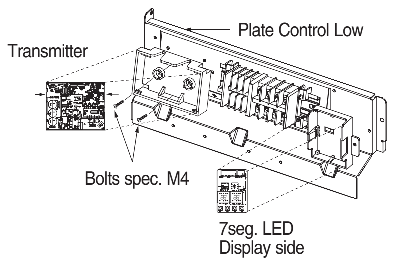
Fix the case with hinges
(Control Box in the outdoor unit)

UH060EAV1/UH070EAV1

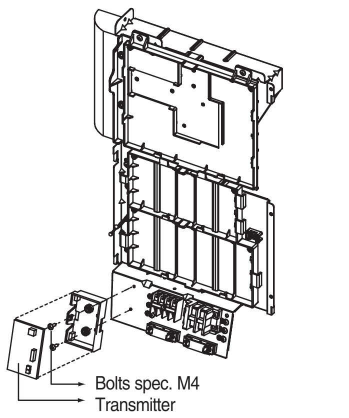


Fix the case with hinges
(Control Box in the outdoor unit)

UH090EAV/UH105EAV/UH105EAS/UH140EAV



UH090EAS



Fix the case with bolts
(Control Box in the outdoor unit)

Technical Data Book

04 Performance Data

1. Capacity/Power Consumption Table

1-1. Slim 1 Way Cassette

1) SH026EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	2.68	1.90	0.41	2.90	1.98	0.61	3.26	2.26	0.93	2.24	1.78	0.72	2.57	1.93	1.25
16	22	2.88	1.90	0.43	3.04	1.95	0.61	3.42	2.22	0.93	2.35	1.76	0.72	2.71	1.91	1.27
18	25	3.00	2.00	0.43	3.18	2.05	0.62	3.59	2.34	0.93	2.46	1.85	0.72	2.84	2.00	1.27
19	27	3.06	2.10	0.43	3.24	2.16	0.62	3.67	2.48	0.93	2.52	1.96	0.72	2.91	2.13	1.27
22	30	3.24	2.02	0.44	3.45	2.08	0.62	3.91	2.40	0.94	2.69	1.90	0.73	3.11	2.06	1.27
24	32	3.37	1.96	0.44	3.58	2.03	0.63	4.06	2.34	0.94	2.80	1.86	0.73	3.25	2.01	1.29

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	2.07	0.95	2.86	1.04	3.03	1.12	3.17	1.05	3.31	0.92	3.61	0.95
18	2.22	0.96	2.78	1.06	2.97	1.17	3.13	1.06	3.27	0.93	3.56	0.95
20	2.31	0.98	2.72	1.07	2.93	1.18	3.08	1.06	3.22	0.94	3.52	0.96
21	2.36	0.98	2.70	1.07	2.89	1.18	3.06	1.08	3.20	0.94	3.49	0.97
22	2.50	0.98	2.66	1.07	2.87	1.20	3.03	1.08	3.17	0.94	3.47	0.97
24	2.60	0.99	2.61	1.09	2.81	1.21	2.98	1.09	3.13	0.95	3.42	0.98

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

2) SH035EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	3.26	2.35	0.78	3.45	2.44	0.90	3.69	2.52	1.16	3.06	2.38	1.16	2.56	2.00	1.25
16	22	3.50	2.35	0.81	3.62	2.40	0.90	3.86	2.48	1.16	3.22	2.35	1.16	2.70	1.98	1.27
18	25	3.64	2.47	0.81	3.79	2.52	0.92	4.05	2.61	1.16	3.37	2.47	1.16	2.83	2.08	1.27
19	27	3.72	2.60	0.81	3.86	2.66	0.92	4.15	2.77	1.16	3.45	2.62	1.16	2.90	2.21	1.27
22	30	3.94	2.50	0.83	4.11	2.56	0.92	4.42	2.68	1.18	3.68	2.54	1.18	3.10	2.14	1.27
24	32	4.10	2.43	0.83	4.27	2.50	0.93	4.59	2.61	1.18	3.84	2.48	1.18	3.24	2.09	1.29

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	2.25	1.23	3.48	1.34	3.68	1.43	3.85	1.35	4.01	1.18	4.37	1.23
18	2.41	1.25	3.39	1.37	3.61	1.50	3.81	1.36	3.97	1.20	4.32	1.23
20	2.51	1.27	3.31	1.38	3.56	1.51	3.74	1.36	3.91	1.21	4.27	1.24
21	2.56	1.27	3.28	1.38	3.51	1.51	3.71	1.38	3.88	1.21	4.23	1.25
22	2.72	1.27	3.24	1.38	3.49	1.53	3.67	1.38	3.85	1.21	4.21	1.25
24	2.83	1.28	3.17	1.40	3.42	1.55	3.62	1.40	3.81	1.22	4.15	1.27

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-2. Console

1) JH026EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	2.72	2.00	0.35	2.90	2.11	0.51	3.29	2.09	0.84	2.32	1.99	0.71	2.57	2.05	1.18
16	22	2.92	2.00	0.37	3.05	2.08	0.51	3.45	2.06	0.84	2.44	1.96	0.71	2.71	2.02	1.20
18	25	3.03	2.10	0.37	3.19	2.18	0.52	3.62	2.17	0.84	2.55	2.06	0.71	2.84	2.13	1.20
19	27	3.10	2.21	0.37	3.25	2.30	0.52	3.70	2.30	0.84	2.61	2.19	0.71	2.91	2.26	1.20
22	30	3.28	2.12	0.38	3.46	2.22	0.52	3.94	2.23	0.85	2.78	2.12	0.72	3.11	2.19	1.20
24	32	3.42	2.07	0.38	3.60	2.16	0.53	4.10	2.17	0.85	2.90	2.07	0.72	3.25	2.14	1.22

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	1.92	0.99	2.85	1.10	3.21	1.15	3.34	0.96	3.59	0.95	4.47	1.02
18	2.06	1.00	2.77	1.12	3.15	1.20	3.30	0.97	3.55	0.96	4.41	1.02
20	2.14	1.02	2.71	1.13	3.10	1.21	3.24	0.97	3.50	0.97	4.36	1.03
21	2.18	1.02	2.69	1.13	3.06	1.21	3.22	0.99	3.48	0.97	4.32	1.04
22	2.32	1.02	2.65	1.13	3.04	1.23	3.18	0.99	3.45	0.97	4.30	1.04
24	2.41	1.03	2.60	1.15	2.98	1.24	3.14	1.00	3.41	0.98	4.24	1.05

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

2) JH035EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	3.32	2.49	0.68	3.49	2.59	0.78	3.85	2.75	1.09	3.07	2.61	1.10	2.71	2.24	1.27
16	22	3.56	2.49	0.71	3.67	2.55	0.78	4.03	2.70	1.09	3.23	2.57	1.10	2.86	2.21	1.29
18	25	3.71	2.61	0.71	3.84	2.68	0.80	4.23	2.85	1.09	3.38	2.70	1.10	3.00	2.32	1.29
19	27	3.79	2.75	0.71	3.91	2.82	0.80	4.33	3.02	1.09	3.46	2.87	1.10	3.07	2.47	1.29
22	30	4.02	2.64	0.73	4.17	2.72	0.80	4.61	2.92	1.11	3.69	2.78	1.11	3.28	2.39	1.29
24	32	4.18	2.57	0.73	4.33	2.65	0.81	4.79	2.85	1.11	3.85	2.72	1.11	3.43	2.34	1.31

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	2.04	1.03	3.42	1.28	3.89	1.43	3.79	1.24	4.03	1.08	5.54	1.47
18	2.18	1.04	3.33	1.30	3.81	1.50	3.74	1.25	3.99	1.10	5.47	1.47
20	2.27	1.06	3.25	1.31	3.76	1.51	3.68	1.25	3.93	1.11	5.41	1.49
21	2.32	1.06	3.22	1.31	3.71	1.51	3.65	1.27	3.90	1.11	5.36	1.51
22	2.46	1.06	3.18	1.31	3.68	1.53	3.62	1.27	3.87	1.11	5.34	1.51
24	2.56	1.07	3.12	1.33	3.61	1.55	3.56	1.28	3.83	1.12	5.26	1.53

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-2. Console

3) JH052EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	4.41	3.19	0.94	4.76	3.42	0.95	5.22	3.73	1.34	4.82	3.46	2.03	4.58	3.07	2.39
16	22	4.73	3.19	0.98	5.00	3.37	0.95	5.47	3.67	1.34	5.07	3.41	2.03	4.83	3.04	2.43
18	25	4.93	3.34	0.98	5.23	3.54	0.98	5.74	3.86	1.34	5.31	3.58	2.03	5.06	3.19	2.43
19	27	5.03	3.52	0.98	5.33	3.73	0.98	5.87	4.10	1.34	5.43	3.80	2.03	5.18	3.39	2.43
22	30	5.33	3.38	1.00	5.68	3.60	0.98	6.26	3.97	1.36	5.79	3.68	2.06	5.53	3.28	2.43
24	32	5.54	3.29	1.00	5.90	3.50	0.99	6.50	3.86	1.36	6.05	3.60	2.06	5.78	3.21	2.47

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	3.29	2.03	5.22	2.42	5.39	2.28	5.71	2.28	5.55	1.55	4.62	1.51
18	3.53	2.06	5.09	2.46	5.29	2.39	5.65	2.30	5.48	1.57	4.56	1.51
20	3.67	2.09	4.97	2.49	5.21	2.41	5.55	2.30	5.40	1.59	4.51	1.53
21	3.75	2.09	4.93	2.49	5.15	2.41	5.51	2.34	5.37	1.59	4.47	1.55
22	3.98	2.09	4.86	2.49	5.11	2.44	5.45	2.34	5.32	1.59	4.45	1.55
24	4.14	2.12	4.77	2.53	5.00	2.48	5.38	2.36	5.26	1.60	4.39	1.57

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1-3. 4 Way Cassette

1) CH070EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	9.65	7.33	2.30	9.44	7.41	2.39	9.42	6.90	2.92	8.39	6.06	3.62	7.60	5.62	4.09
16	22	10.34	7.33	2.40	9.90	7.29	2.39	9.87	6.78	2.92	8.83	5.97	3.62	8.01	5.55	4.14
18	25	10.77	7.70	2.40	10.37	7.66	2.45	10.35	7.14	2.92	9.23	6.27	3.62	8.39	5.84	4.14
19	27	11.00	8.10	2.40	10.56	8.07	2.45	10.60	7.58	2.92	9.45	6.66	3.62	8.59	6.21	4.14
22	30	11.66	7.78	2.46	11.26	7.78	2.45	11.28	7.34	2.96	10.08	6.45	3.67	9.18	6.01	4.14
24	32	12.12	7.57	2.46	11.68	7.58	2.49	11.73	7.14	2.96	10.52	6.30	3.67	9.59	5.87	4.22

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	4.91	2.70	7.09	2.47	7.45	2.66	7.73	2.47	8.02	2.15	8.66	2.22
18	5.27	2.73	6.91	2.51	7.31	2.78	7.64	2.50	7.93	2.17	8.54	2.22
20	5.48	2.78	6.75	2.54	7.20	2.81	7.51	2.50	7.81	2.20	8.45	2.25
21	5.59	2.78	6.70	2.54	7.11	2.81	7.46	2.54	7.76	2.20	8.37	2.28
22	5.93	2.78	6.60	2.54	7.06	2.85	7.38	2.54	7.69	2.20	8.33	2.28
24	6.17	2.81	6.47	2.58	6.91	2.89	7.27	2.57	7.60	2.23	8.22	2.30

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-3. 4 Way Cassette

2) CH090EAS

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	10.32	7.33	2.20	10.43	7.41	2.27	9.42	6.90	2.92	8.69	6.58	3.47	7.36	5.94	3.69
16	22	11.06	7.33	2.30	10.95	7.29	2.27	9.87	6.78	2.92	9.15	6.49	3.47	7.76	5.87	3.74
18	25	11.51	7.70	2.30	11.46	7.66	2.32	10.35	7.14	2.92	9.57	6.81	3.47	8.12	6.17	3.74
19	27	11.76	8.10	2.30	11.67	8.07	2.32	10.60	7.58	2.92	9.80	7.24	3.47	8.32	6.56	3.74
22	30	12.46	7.78	2.36	12.44	7.78	2.32	11.28	7.34	2.96	10.45	7.01	3.52	8.89	6.35	3.74
24	32	12.96	7.57	2.36	12.91	7.58	2.35	11.73	7.14	2.96	10.90	6.85	3.52	9.29	6.21	3.81

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	6.63	3.82	10.33	4.54	10.76	4.27	11.34	4.17	12.15	4.16	11.83	3.36
18	7.10	3.86	10.06	4.62	10.55	4.46	11.20	4.22	12.02	4.21	11.67	3.36
20	7.39	3.93	9.83	4.67	10.40	4.50	11.01	4.22	11.84	4.26	11.55	3.40
21	7.54	3.93	9.75	4.67	10.27	4.50	10.93	4.29	11.76	4.26	11.44	3.44
22	8.00	3.93	9.62	4.67	10.19	4.56	10.82	4.29	11.66	4.26	11.39	3.44
24	8.32	3.97	9.42	4.74	9.98	4.63	10.67	4.33	11.52	4.31	11.23	3.48

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 7.5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

3) CH090EAV

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)																	
WB	DB	-15			-10			21			35			45			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	9.02	6.46	2.44	9.23	6.54	2.50	8.94	6.46	2.64	7.97	6.30	2.92	5.98	3.91	2.68	3.04	3.10	1.85
16	22	9.67	6.46	2.55	9.69	6.44	2.50	9.36	6.34	2.64	8.39	6.20	2.92	6.31	3.86	2.72	3.20	3.08	1.85
18	25	10.06	6.78	2.55	10.14	6.76	2.56	9.82	6.68	2.64	8.78	6.52	2.92	6.61	4.06	2.72	3.38	3.25	1.85
19	27	10.28	7.14	2.55	10.33	7.13	2.56	10.05	7.09	2.64	8.99	6.92	2.92	6.77	4.32	2.72	3.45	3.45	1.88
22	30	10.89	6.85	2.61	11.01	6.87	2.56	10.71	6.87	2.68	9.58	6.70	2.96	7.23	4.18	2.72	3.71	3.35	1.88
24	32	11.33	6.68	2.61	11.43	6.69	2.60	11.13	6.68	2.68	10.00	6.55	2.96	7.56	4.09	2.77	3.87	3.28	1.88

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-15		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	7.09	4.37	9.19	4.02	9.56	3.73	9.68	3.44	9.88	2.77	12.50	3.17
18	7.60	4.42	8.95	4.08	9.38	3.90	9.56	3.48	9.77	2.80	12.33	3.17
20	7.91	4.50	8.74	4.13	9.24	3.94	9.40	3.48	9.63	2.84	12.20	3.20
21	8.07	4.50	8.67	4.13	9.12	3.94	9.34	3.53	9.56	2.84	12.09	3.24
22	8.56	4.50	8.55	4.13	9.06	3.99	9.24	3.53	9.48	2.84	12.04	3.24
24	8.91	4.55	8.38	4.19	8.87	4.05	9.11	3.57	9.37	2.87	11.87	3.28

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 7.5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-3. 4 Way Cassette

4) CH105EAV

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)																	
WB	DB	-15			-10			21			35			45			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	11.88	8.14	2.79	11.85	8.15	2.86	10.22	7.38	3.02	9.11	7.19	3.34	7.69	6.30	3.91	6.98	5.82	4.19
16	22	12.73	8.14	2.91	12.43	8.01	2.86	10.70	7.25	3.02	9.59	7.09	3.34	8.10	6.23	3.96	7.34	5.78	4.19
18	25	13.26	8.55	2.91	13.01	8.42	2.92	11.23	7.63	3.02	10.03	7.45	3.34	8.49	6.55	3.96	7.74	6.11	4.19
19	27	13.54	9.00	2.91	13.26	8.87	2.92	11.49	8.10	3.02	10.27	7.91	3.34	8.69	6.96	3.96	7.91	6.48	4.27
22	30	14.35	8.64	2.98	14.13	8.56	2.92	12.23	7.85	3.06	10.95	7.66	3.39	9.29	6.73	3.96	8.50	6.30	4.27
24	32	14.92	8.41	2.98	14.67	8.33	2.97	12.72	7.63	3.06	11.43	7.49	3.39	9.70	6.58	4.04	8.87	6.16	4.27

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE(WB)											
DB	-20		-15		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	9.97	5.00	10.50	4.59	10.93	4.27	11.06	3.93	11.29	3.16	14.29	3.62
18	9.59	5.06	10.23	4.67	10.72	4.46	10.93	3.97	11.17	3.20	14.10	3.62
20	9.04	5.15	9.99	4.71	10.56	4.50	10.74	3.97	11.00	3.24	13.95	3.66
21	8.85	5.15	9.91	4.71	10.43	4.50	10.67	4.04	10.93	3.24	13.82	3.70
22	8.51	5.15	9.78	4.71	10.35	4.56	10.56	4.04	10.84	3.24	13.75	3.70
24	7.94	5.20	9.58	4.79	10.14	4.63	10.41	4.08	10.71	3.28	13.56	3.75

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 7.5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

5) CH140EAV

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)																	
WB	DB	-15			-10			21			35			45			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	12.84	9.19	3.61	13.58	9.62	4.13	14.01	9.83	4.69	12.65	8.83	5.69	10.63	8.08	5.46	8.65	7.30	5.27
16	22	13.77	9.19	3.77	14.25	9.46	4.13	14.67	9.66	4.69	13.32	8.70	5.69	11.21	7.98	5.53	9.10	7.26	5.27
18	25	14.33	9.65	3.77	14.92	9.94	4.23	15.39	10.17	4.69	13.93	9.14	5.69	11.74	8.39	5.53	9.59	7.67	5.27
19	27	14.64	10.16	3.77	15.20	10.48	4.23	15.75	10.80	4.69	14.26	9.71	5.69	12.03	8.93	5.53	9.80	8.14	5.37
22	30	15.51	9.75	3.86	16.20	10.10	4.23	16.77	10.46	4.76	15.20	9.40	5.77	12.85	8.64	5.53	10.54	7.91	5.37
24	32	16.13	9.50	3.86	16.81	9.84	4.29	17.43	10.17	4.76	15.87	9.19	5.77	13.43	8.44	5.64	10.99	7.73	5.37

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE(WB)											
DB	-20		-15		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	9.56	5.98	12.44	6.06	13.74	5.54	14.13	5.82	18.08	6.31	19.77	5.33
18	10.24	6.05	12.12	6.16	13.47	5.78	13.96	5.88	17.87	6.39	19.51	5.33
20	10.66	6.16	11.84	6.22	13.28	5.84	13.72	5.88	17.61	6.47	19.30	5.39
21	10.88	6.16	11.75	6.22	13.11	5.84	13.62	5.97	17.49	6.47	19.12	5.45
22	11.54	6.16	11.58	6.22	13.01	5.92	13.48	5.97	17.35	6.47	19.03	5.45
24	12.01	6.23	11.35	6.32	12.75	6.01	13.29	6.04	17.14	6.55	18.77	5.52

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 7.5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

1. Capacity/Power Consumption Table

1-4. Mini 4 Way Cassette

1) TH026EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	2.69	2.06	0.51	2.96	2.21	0.65	3.24	2.34	0.89	2.31	1.88	0.76	2.46	1.97	1.23
16	22	2.89	2.06	0.53	3.10	2.18	0.65	3.39	2.30	0.89	2.43	1.86	0.76	2.59	1.95	1.25
18	25	3.01	2.17	0.53	3.25	2.29	0.67	3.56	2.42	0.89	2.54	1.95	0.76	2.71	2.05	1.25
19	27	3.07	2.28	0.53	3.31	2.41	0.67	3.64	2.57	0.89	2.60	2.07	0.76	2.78	2.18	1.25
22	30	3.25	2.19	0.54	3.53	2.32	0.67	3.88	2.49	0.90	2.77	2.00	0.77	2.97	2.11	1.25
24	32	3.38	2.13	0.54	3.66	2.26	0.68	4.03	2.42	0.90	2.89	1.96	0.77	3.10	2.06	1.27

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	2.12	0.94	2.91	1.03	3.08	1.11	3.22	1.04	3.36	0.91	3.66	0.94
18	2.27	0.95	2.84	1.05	3.02	1.16	3.18	1.05	3.32	0.92	3.61	0.94
20	2.36	0.97	2.77	1.06	2.98	1.17	3.13	1.05	3.27	0.93	3.57	0.95
21	2.41	0.97	2.75	1.06	2.94	1.17	3.11	1.07	3.25	0.93	3.54	0.96
22	2.56	0.97	2.71	1.06	2.92	1.19	3.08	1.07	3.22	0.93	3.52	0.96
24	2.66	0.98	2.66	1.08	2.86	1.20	3.03	1.08	3.18	0.94	3.47	0.97

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

2) TH035EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	3.49	2.70	0.77	3.67	2.85	0.90	3.89	2.90	1.15	3.42	2.43	1.43	2.65	2.33	1.27
16	22	3.74	2.70	0.80	3.85	2.80	0.90	4.07	2.85	1.15	3.60	2.39	1.43	2.80	2.30	1.29
18	25	3.90	2.83	0.80	4.03	2.94	0.92	4.27	3.00	1.15	3.77	2.51	1.43	2.93	2.42	1.29
19	27	3.98	2.98	0.80	4.11	3.10	0.92	4.37	3.18	1.15	3.86	2.67	1.43	3.00	2.57	1.29
22	30	4.22	2.86	0.82	4.38	2.99	0.92	4.65	3.08	1.17	4.12	2.58	1.45	3.20	2.49	1.29
24	32	4.38	2.79	0.82	4.55	2.91	0.93	4.84	3.00	1.17	4.30	2.53	1.45	3.35	2.43	1.31

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	2.25	1.16	3.48	1.27	3.68	1.36	3.85	1.27	4.01	1.10	4.37	1.15
18	2.41	1.17	3.39	1.29	3.61	1.42	3.81	1.28	3.97	1.12	4.32	1.15
20	2.51	1.19	3.31	1.30	3.56	1.43	3.74	1.28	3.91	1.13	4.27	1.16
21	2.56	1.19	3.28	1.30	3.51	1.43	3.71	1.30	3.88	1.13	4.23	1.17
22	2.72	1.19	3.24	1.30	3.49	1.45	3.67	1.30	3.85	1.13	4.21	1.17
24	2.83	1.20	3.17	1.32	3.42	1.47	3.62	1.31	3.81	1.14	4.15	1.19

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-4. Mini 4 Way Cassette

3) TH052EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	4.75	3.59	0.85	5.11	3.77	1.08	5.89	4.10	1.70	4.09	3.33	1.48	4.73	3.52	2.47
16	22	5.09	3.59	0.89	5.36	3.71	1.08	6.17	4.03	1.70	4.31	3.28	1.48	4.99	3.48	2.50
18	25	5.30	3.77	0.89	5.62	3.90	1.10	6.47	4.24	1.70	4.50	3.45	1.48	5.22	3.66	2.50
19	27	5.41	3.97	0.89	5.72	4.11	1.10	6.62	4.50	1.70	4.61	3.66	1.48	5.35	3.89	2.50
22	30	5.73	3.81	0.91	6.10	3.96	1.10	7.05	4.36	1.72	4.91	3.54	1.50	5.71	3.76	2.50
24	32	5.96	3.71	0.91	6.33	3.86	1.12	7.33	4.24	1.72	5.13	3.47	1.50	5.97	3.68	2.55

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	3.35	2.03	4.69	1.79	4.98	1.93	5.20	1.82	5.43	1.54	5.93	1.60
18	3.59	2.05	4.57	1.82	4.88	2.02	5.14	1.84	5.37	1.56	5.85	1.60
20	3.74	2.09	4.46	1.84	4.81	2.04	5.05	1.84	5.29	1.58	5.79	1.62
21	3.82	2.09	4.42	1.84	4.75	2.04	5.01	1.87	5.25	1.58	5.74	1.64
22	4.05	2.09	4.36	1.84	4.71	2.07	4.96	1.87	5.21	1.58	5.71	1.64
24	4.21	2.11	4.28	1.87	4.62	2.10	4.89	1.89	5.15	1.60	5.63	1.66

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

4) TH060EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	5.62	4.03	0.88	5.82	4.15	1.18	5.91	4.16	1.56	5.00	3.86	1.91	4.69	3.58	2.33
16	22	6.03	4.03	0.92	6.10	4.08	1.18	6.18	4.09	1.56	5.27	3.80	1.91	4.94	3.53	2.36
18	25	6.28	4.23	0.92	6.39	4.29	1.21	6.49	4.31	1.56	5.51	3.99	1.91	5.17	3.72	2.36
19	27	6.41	4.45	0.92	6.51	4.52	1.21	6.64	4.57	1.56	5.64	4.24	1.91	5.30	3.95	2.36
22	30	6.79	4.27	0.94	6.94	4.36	1.21	7.07	4.43	1.58	6.01	4.10	1.94	5.66	3.82	2.36
24	32	7.06	4.16	0.94	7.20	4.24	1.23	7.35	4.31	1.58	6.28	4.01	1.94	5.91	3.74	2.41

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	4.30	2.22	5.95	2.45	6.32	2.65	6.61	2.45	6.90	2.13	7.54	2.20
18	4.61	2.25	5.79	2.49	6.20	2.76	6.53	2.48	6.82	2.15	7.44	2.20
20	4.80	2.29	5.66	2.52	6.11	2.79	6.42	2.48	6.72	2.18	7.36	2.23
21	4.90	2.29	5.62	2.52	6.03	2.79	6.38	2.52	6.68	2.18	7.29	2.26
22	5.20	2.29	5.54	2.52	5.99	2.83	6.31	2.52	6.62	2.18	7.26	2.26
24	5.41	2.32	5.43	2.56	5.86	2.87	6.22	2.55	6.54	2.21	7.16	2.28

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-5. Slim Duct

1) EH035EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	3.11	2.52	1.01	3.23	2.63	1.02	3.58	2.71	1.02	3.11	2.54	1.19	2.65	2.27	1.27
16	22	3.34	2.52	1.05	3.39	2.58	1.02	3.74	2.67	1.02	3.27	2.50	1.19	2.80	2.25	1.29
18	25	3.48	2.64	1.05	3.54	2.71	1.04	3.93	2.81	1.02	3.42	2.63	1.19	2.93	2.36	1.29
19	27	3.55	2.78	1.05	3.61	2.86	1.04	4.02	2.98	1.02	3.50	2.79	1.19	3.00	2.51	1.29
22	30	3.76	2.67	1.08	3.85	2.76	1.04	4.28	2.89	1.03	3.73	2.70	1.21	3.20	2.43	1.29
24	32	3.91	2.60	1.08	3.99	2.68	1.06	4.45	2.81	1.03	3.89	2.64	1.21	3.35	2.37	1.31

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	2.20	1.15	3.42	1.26	3.62	1.35	3.79	1.26	3.95	1.09	4.31	1.14
18	2.35	1.16	3.33	1.28	3.55	1.41	3.74	1.27	3.91	1.11	4.25	1.14
20	2.45	1.18	3.25	1.29	3.50	1.42	3.68	1.27	3.85	1.12	4.21	1.15
21	2.50	1.18	3.22	1.29	3.46	1.42	3.65	1.29	3.82	1.12	4.17	1.16
22	2.65	1.18	3.18	1.29	3.43	1.44	3.62	1.29	3.79	1.12	4.15	1.16
24	2.76	1.19	3.12	1.31	3.36	1.46	3.56	1.30	3.75	1.13	4.09	1.18

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

2) EH052EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	4.74	3.58	1.31	4.84	3.65	1.39	4.84	3.64	1.50	4.91	3.32	1.99	4.28	3.42	2.25
16	22	5.08	3.58	1.37	5.08	3.59	1.39	5.07	3.58	1.50	5.16	3.27	1.99	4.51	3.38	2.28
18	25	5.29	3.76	1.37	5.32	3.78	1.42	5.32	3.77	1.50	5.40	3.44	1.99	4.72	3.56	2.28
19	27	5.40	3.96	1.37	5.42	3.98	1.42	5.44	4.00	1.50	5.53	3.65	1.99	4.84	3.78	2.28
22	30	5.72	3.80	1.40	5.78	3.84	1.42	5.79	3.87	1.52	5.90	3.53	2.02	5.17	3.66	2.28
24	32	5.95	3.70	1.40	6.00	3.74	1.44	6.02	3.77	1.52	6.15	3.46	2.02	5.40	3.58	2.32

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	3.29	2.03	5.26	1.97	5.58	2.13	5.82	1.97	6.07	1.69	6.62	1.75
18	3.53	2.06	5.12	2.00	5.47	2.23	5.75	1.99	6.00	1.71	6.53	1.75
20	3.67	2.09	5.00	2.02	5.39	2.25	5.65	1.99	5.91	1.73	6.46	1.77
21	3.75	2.09	4.96	2.02	5.32	2.25	5.61	2.02	5.87	1.73	6.40	1.79
22	3.98	2.09	4.89	2.02	5.28	2.28	5.55	2.02	5.82	1.73	6.37	1.79
24	4.14	2.12	4.79	2.05	5.17	2.31	5.47	2.04	5.75	1.75	6.28	1.81

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-5. Slim Duct

3) EH070EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	7.17	5.18	1.05	7.34	5.29	1.38	7.44	5.35	1.96	6.15	4.82	2.26	5.29	4.35	2.43
16	22	7.68	5.18	1.10	7.70	5.20	1.38	7.79	5.26	1.96	6.47	4.75	2.26	5.57	4.29	2.46
18	25	8.00	5.43	1.10	8.06	5.46	1.41	8.18	5.54	1.96	6.77	4.99	2.26	5.84	4.51	2.46
19	27	8.17	5.72	1.10	8.21	5.76	1.41	8.37	5.88	1.96	6.93	5.30	2.26	5.98	4.80	2.46
22	30	8.66	5.49	1.13	8.75	5.55	1.41	8.91	5.69	1.99	7.39	5.13	2.29	6.39	4.64	2.46
24	32	9.00	5.35	1.13	9.08	5.41	1.43	9.26	5.54	1.99	7.71	5.02	2.29	6.67	4.54	2.51

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	4.85	2.73	7.08	2.57	7.44	2.65	7.72	2.46	8.01	2.14	8.65	2.21
18	5.20	2.76	6.90	2.61	7.29	2.77	7.63	2.49	7.92	2.16	8.53	2.21
20	5.41	2.81	6.74	2.64	7.19	2.80	7.50	2.49	7.80	2.19	8.44	2.24
21	5.52	2.81	6.69	2.64	7.10	2.80	7.45	2.53	7.75	2.19	8.36	2.27
22	5.86	2.81	6.59	2.64	7.05	2.84	7.37	2.53	7.68	2.19	8.32	2.27
24	6.09	2.84	6.46	2.68	6.90	2.88	7.26	2.56	7.59	2.22	8.21	2.29

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1-6. MSP Duct

1) DH052EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	4.80	3.75	1.28	5.01	3.82	1.39	5.18	3.88	1.58	4.84	3.67	2.02	4.36	3.48	2.32
16	22	5.14	3.75	1.34	5.26	3.75	1.39	5.42	3.81	1.58	5.10	3.61	2.02	4.59	3.44	2.35
18	25	5.35	3.93	1.34	5.51	3.95	1.42	5.69	4.01	1.58	5.33	3.79	2.02	4.81	3.61	2.35
19	27	5.47	4.14	1.34	5.61	4.16	1.42	5.82	4.26	1.58	5.46	4.03	2.02	4.93	3.84	2.35
22	30	5.80	3.97	1.37	5.98	4.01	1.42	6.20	4.13	1.60	5.82	3.90	2.05	5.27	3.72	2.35
24	32	6.03	3.87	1.37	6.21	3.90	1.44	6.44	4.01	1.60	6.08	3.82	2.05	5.50	3.63	2.40

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	3.50	2.08	5.26	1.97	5.58	2.13	5.79	2.09	5.96	1.78	7.59	1.99
18	3.75	2.10	5.12	2.00	5.47	2.23	5.72	2.11	5.90	1.80	7.49	1.99
20	3.90	2.14	5.00	2.02	5.39	2.25	5.62	2.11	5.81	1.82	7.41	2.01
21	3.98	2.14	4.96	2.02	5.32	2.25	5.58	2.14	5.77	1.82	7.34	2.03
22	4.22	2.14	4.89	2.02	5.28	2.28	5.52	2.14	5.72	1.82	7.31	2.03
24	4.39	2.16	4.79	2.05	5.17	2.31	5.44	2.17	5.66	1.84	7.21	2.06

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-6. MSP Duct

2) DH070EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	7.22	5.32	1.80	7.35	5.39	1.91	7.31	5.34	2.11	6.07	4.96	2.23	5.42	4.38	2.55
16	22	7.74	5.32	1.88	7.71	5.30	1.91	7.66	5.24	2.11	6.39	4.88	2.23	5.71	4.33	2.58
18	25	8.06	5.59	1.88	8.07	5.57	1.95	8.03	5.52	2.11	6.68	5.13	2.23	5.98	4.55	2.58
19	27	8.23	5.88	1.88	8.22	5.87	1.95	8.22	5.86	2.11	6.84	5.45	2.23	6.13	4.84	2.58
22	30	8.72	5.64	1.93	8.76	5.66	1.95	8.75	5.67	2.14	7.29	5.28	2.26	6.55	4.68	2.58
24	32	9.07	5.50	1.93	9.09	5.51	1.98	9.10	5.52	2.14	7.61	5.16	2.26	6.84	4.58	2.63

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	5.07	2.71	7.11	2.50	7.46	2.69	7.74	2.50	8.03	2.18	8.67	2.25
18	5.44	2.74	6.92	2.54	7.32	2.81	7.65	2.53	7.94	2.20	8.55	2.25
20	5.66	2.79	6.76	2.57	7.21	2.84	7.52	2.53	7.82	2.23	8.46	2.28
21	5.78	2.79	6.71	2.57	7.12	2.84	7.47	2.57	7.77	2.23	8.38	2.31
22	6.13	2.79	6.61	2.57	7.07	2.88	7.39	2.57	7.70	2.23	8.34	2.31
24	6.38	2.82	6.48	2.61	6.92	2.92	7.28	2.60	7.61	2.26	8.23	2.33

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

3) DH090EAV

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)																	
WB	DB	-15			-10			21			35			45			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	9.50	6.63	2.17	9.64	6.72	2.24	9.42	6.56	2.86	8.34	5.80	3.50	6.07	3.83	2.80	3.07	3.12	1.88
16	22	10.18	6.63	2.26	10.12	6.61	2.24	9.86	6.45	2.86	8.78	5.72	3.50	6.40	3.78	2.84	3.23	3.10	1.88
18	25	10.60	6.96	2.26	10.59	6.94	2.29	10.35	6.79	2.86	9.18	6.01	3.50	6.71	3.98	2.84	3.41	3.28	1.88
19	27	10.83	7.33	2.26	10.79	7.32	2.29	10.59	7.21	2.86	9.40	6.38	3.50	6.87	4.23	2.84	3.48	3.48	1.91
22	30	11.48	7.04	2.32	11.50	7.06	2.29	11.28	6.98	2.90	10.02	6.18	3.55	7.34	4.09	2.84	3.74	3.38	1.91
24	32	11.93	6.85	2.32	11.94	6.87	2.32	11.72	6.79	2.90	10.46	6.04	3.55	7.67	4.00	2.89	3.90	3.31	1.91

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-15		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	7.09	4.79	9.93	4.90	10.94	4.59	11.95	4.76	12.98	4.66	11.97	2.94
18	7.60	4.85	9.67	4.98	10.72	4.79	11.81	4.81	12.83	4.72	11.80	2.94
20	7.91	4.93	9.45	5.03	10.57	4.84	11.61	4.81	12.64	4.78	11.68	2.98
21	8.07	4.93	9.38	5.03	10.43	4.84	11.52	4.89	12.56	4.78	11.57	3.02
22	8.56	4.93	9.25	5.03	10.36	4.91	11.40	4.89	12.45	4.78	11.52	3.02
24	8.91	4.99	9.06	5.11	10.15	4.98	11.24	4.94	12.30	4.84	11.36	3.05

Note

1. All capacities are net.
2. DB : Dry Bulb Temperature (°C),
   WB : Wet Bulb Temperature (°C)
3. TC : Total Cooling / Heating Capacity (kW)
   Corresponding Refrigerant Piping Length : 7.5m
   Level Difference : 0m
4. SHC: Sensible Heat Capacity (kW)
5. PI : Power Input (Comp + Indoor Fan Motor + Outdoor Fan Motor + PCB) (kW)

1. Capacity/Power Consumption Table

1-6. MSP Duct

4) DH105EAV

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)																	
WB	DB	-15			-10			21			35			45			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	8.86	7.13	3.48	9.27	7.35	3.46	10.71	8.00	2.97	9.21	7.27	3.32	7.85	6.74	4.02	7.17	6.44	4.38
16	22	9.50	7.13	3.63	9.73	7.23	3.46	11.22	7.86	2.97	9.69	7.17	3.32	8.27	6.66	4.08	7.54	6.40	4.38
18	25	9.89	7.49	3.63	10.18	7.60	3.54	11.77	8.28	2.97	10.14	7.53	3.32	8.66	7.00	4.08	7.95	6.75	4.38
19	27	10.10	7.88	3.63	10.37	8.01	3.54	12.05	8.79	2.97	10.38	7.99	3.32	8.88	7.45	4.08	8.12	7.17	4.46
22	30	10.71	7.57	3.72	11.06	7.72	3.54	12.83	8.51	3.01	11.07	7.74	3.36	9.48	7.21	4.08	8.74	6.97	4.46
24	32	11.13	7.37	3.72	11.47	7.52	3.59	13.33	8.28	3.01	11.55	7.57	3.36	9.91	7.04	4.15	9.11	6.81	4.46

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE(WB)											
DB	-20		-15		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	9.65	4.89	10.53	4.70	11.12	4.48	11.06	4.05	11.01	3.13	14.69	3.54
18	9.28	4.95	10.26	4.78	10.91	4.68	10.93	4.09	10.89	3.17	14.49	3.54
20	8.74	5.04	10.02	4.83	10.75	4.73	10.74	4.09	10.73	3.21	14.34	3.59
21	8.57	5.04	9.94	4.83	10.61	4.73	10.67	4.16	10.65	3.21	14.21	3.63
22	8.23	5.04	9.81	4.83	10.53	4.79	10.55	4.16	10.57	3.21	14.14	3.63
24	7.68	5.10	9.61	4.91	10.32	4.86	10.40	4.20	10.44	3.25	13.95	3.67

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 7.5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

5) DH140EAV

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)																	
WB	DB	-15			-10			21			35			45			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	14.89	10.78	3.78	14.71	10.76	4.06	14.17	10.51	4.37	12.62	9.70	5.51	10.08	8.61	5.36	7.57	7.50	5.26
16	22	15.97	10.78	3.94	15.43	10.58	4.06	14.84	10.33	4.37	13.29	9.55	5.51	10.63	8.51	5.44	7.97	7.45	5.26
18	25	16.62	11.31	3.94	16.15	11.12	4.16	15.57	10.87	4.37	13.90	10.04	5.51	11.13	8.94	5.44	8.40	7.87	5.26
19	27	16.98	11.91	3.94	16.46	11.73	4.16	15.93	11.54	4.37	14.23	10.66	5.51	11.41	9.51	5.44	8.58	8.36	5.36
22	30	17.99	11.43	4.04	17.54	11.30	4.16	16.96	11.18	4.43	15.17	10.32	5.58	12.18	9.20	5.44	9.23	8.13	5.36
24	32	18.71	11.14	4.04	18.20	11.00	4.22	17.63	10.87	4.43	15.84	10.09	5.58	12.73	9.00	5.54	9.63	7.94	5.36

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE(WB)											
DB	-20		-15		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	10.26	5.94	13.80	6.45	14.23	5.26	14.37	5.42	19.02	6.06	19.84	4.83
18	10.99	6.01	13.44	6.55	13.95	5.50	14.20	5.48	18.81	6.14	19.58	4.83
20	11.44	6.11	13.13	6.62	13.75	5.55	13.96	5.48	18.53	6.21	19.37	4.89
21	11.68	6.11	13.03	6.62	13.57	5.55	13.86	5.57	18.41	6.21	19.19	4.95
22	12.39	6.11	12.85	6.62	13.47	5.63	13.72	5.57	18.25	6.21	19.10	4.95
24	12.89	6.18	12.59	6.72	13.20	5.71	13.52	5.62	18.04	6.28	18.84	5.01

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 7.5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

1. Capacity/Power Consumption Table

1-7. Residential MSP Duct

1) DH052EAS

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	3.18	2.89	1.97	3.41	3.04	2.16	5.28	3.94	1.54	4.35	3.52	1.62	4.39	3.51	2.23
16	22	3.40	2.89	2.06	3.57	2.99	2.16	5.53	3.87	1.54	4.58	3.47	1.62	4.63	3.47	2.26
18	25	3.54	3.03	2.06	3.74	3.14	2.21	5.80	4.08	1.54	4.79	3.64	1.62	4.85	3.65	2.26
19	27	3.62	3.19	2.06	3.81	3.31	2.21	5.94	4.33	1.54	4.90	3.87	1.62	4.97	3.88	2.26
22	30	3.84	3.06	2.11	4.06	3.19	2.21	6.33	4.19	1.56	5.22	3.75	1.64	5.31	3.75	2.26
24	32	3.99	2.98	2.11	4.21	3.11	2.24	6.57	4.08	1.56	5.45	3.66	1.64	5.55	3.67	2.30

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	3.78	1.81	5.21	2.00	5.54	2.16	5.78	2.00	6.03	1.72	6.58	1.78
18	4.06	1.83	5.08	2.03	5.43	2.26	5.71	2.02	5.96	1.74	6.49	1.78
20	4.22	1.86	4.96	2.05	5.35	2.28	5.61	2.02	5.87	1.76	6.42	1.80
21	4.31	1.86	4.92	2.05	5.28	2.28	5.57	2.05	5.83	1.76	6.36	1.82
22	4.57	1.86	4.85	2.05	5.24	2.31	5.51	2.05	5.78	1.76	6.33	1.82
24	4.75	1.88	4.76	2.08	5.14	2.34	5.43	2.07	5.71	1.78	6.24	1.84

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

2) DH070EAS

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-10			-5			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	4.42	3.99	2.63	5.67	4.69	2.55	7.19	5.11	2.35	6.06	4.68	2.80	4.91	3.96	2.48
16	22	4.74	3.99	2.74	5.95	4.61	2.55	7.53	5.02	2.35	6.38	4.61	2.80	5.17	3.91	2.51
18	25	4.93	4.19	2.74	6.22	4.85	2.61	7.90	5.29	2.35	6.67	4.84	2.80	5.42	4.11	2.51
19	27	5.04	4.41	2.74	6.34	5.11	2.61	8.09	5.61	2.35	6.83	5.14	2.80	5.55	4.37	2.51
22	30	5.34	4.23	2.81	6.76	4.93	2.61	8.61	5.43	2.38	7.28	4.98	2.84	5.93	4.23	2.51
24	32	5.55	4.12	2.81	7.01	4.80	2.65	8.95	5.29	2.38	7.60	4.87	2.84	6.19	4.13	2.56

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-15		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	5.16	2.60	6.95	2.83	7.30	3.02	7.59	2.84	7.87	2.51	8.51	2.59
18	5.53	2.63	6.77	2.88	7.16	3.15	7.50	2.87	7.79	2.54	8.40	2.59
20	5.75	2.68	6.61	2.91	7.06	3.18	7.37	2.87	7.67	2.57	8.31	2.62
21	5.87	2.68	6.56	2.91	6.97	3.18	7.32	2.92	7.62	2.57	8.23	2.65
22	6.23	2.68	6.47	2.91	6.92	3.23	7.24	2.92	7.55	2.57	8.20	2.65
24	6.48	2.71	6.34	2.96	6.78	3.27	7.14	2.95	7.47	2.60	8.08	2.68

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

1-7. Residential MSP Duct

3) DH090EAS

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	9.65	7.33	2.30	9.44	7.41	2.39	9.42	6.90	2.92	8.39	6.06	3.62	7.60	5.62	4.09
16	22	10.34	7.33	2.40	9.90	7.29	2.39	9.87	6.78	2.92	8.83	5.97	3.62	8.01	5.55	4.14
18	25	10.77	7.70	2.40	10.37	7.66	2.45	10.35	7.14	2.92	9.23	6.27	3.62	8.39	5.84	4.14
19	27	11.00	8.10	2.40	10.56	8.07	2.45	10.60	7.58	2.92	9.45	6.66	3.62	8.59	6.21	4.14
22	30	11.66	7.78	2.46	11.26	7.78	2.45	11.28	7.34	2.96	10.08	6.45	3.67	9.18	6.01	4.14
24	32	12.12	7.57	2.46	11.68	7.58	2.49	11.73	7.14	2.96	10.52	6.30	3.67	9.59	5.87	4.22

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	7.40	4.81	10.33	4.54	10.76	4.27	11.52	4.72	12.94	4.58	12.90	3.51
18	7.93	4.87	10.06	4.62	10.55	4.46	11.38	4.77	12.80	4.64	12.72	3.51
20	8.25	4.95	9.83	4.67	10.40	4.50	11.19	4.77	12.61	4.70	12.59	3.55
21	8.42	4.95	9.75	4.67	10.27	4.50	11.11	4.85	12.52	4.70	12.47	3.59
22	8.93	4.95	9.62	4.67	10.19	4.56	10.99	4.85	12.42	4.70	12.42	3.59
24	9.29	5.01	9.42	4.74	9.98	4.63	10.84	4.90	12.27	4.75	12.24	3.64

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

4) DH105EAS

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)																	
WB	DB	-15			-10			21			35			45			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	9.50	6.63	2.17	9.64	6.72	2.24	9.93	6.81	3.15	9.62	6.68	4.48	6.88	5.36	3.38	3.07	3.12	1.88
16	22	10.18	6.63	2.26	10.12	6.61	2.24	10.40	6.69	3.15	10.12	6.58	4.48	7.25	5.30	3.42	3.23	3.10	1.88
18	25	10.60	6.96	2.26	10.59	6.94	2.29	10.91	7.05	3.15	10.59	6.91	4.48	7.59	5.57	3.42	3.41	3.28	1.88
19	27	10.83	7.33	2.26	10.79	7.32	2.29	11.17	7.48	3.15	10.84	7.34	4.48	7.78	5.92	3.42	3.48	3.48	1.91
22	30	11.48	7.04	2.32	11.50	7.06	2.29	11.89	7.24	3.19	11.56	7.11	4.54	8.31	5.73	3.42	3.74	3.38	1.91
24	32	11.93	6.85	2.32	11.94	6.87	2.32	12.36	7.05	3.19	12.06	6.95	4.54	8.68	5.60	3.49	3.90	3.31	1.91

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE(WB)											
DB	-20		-15		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	7.45	5.34	10.40	5.40	10.85	5.21	12.24	5.29	13.40	4.97	13.42	2.94
18	7.99	5.41	10.12	5.48	10.64	5.44	12.09	5.34	13.25	5.03	13.24	2.94
20	8.31	5.50	9.89	5.54	10.49	5.49	11.89	5.34	13.05	5.09	13.10	2.98
21	8.48	5.50	9.81	5.54	10.36	5.49	11.80	5.43	12.96	5.09	12.98	3.02
22	9.00	5.50	9.68	5.54	10.28	5.57	11.68	5.43	12.85	5.09	12.92	3.02
24	9.36	5.56	9.48	5.63	10.07	5.65	11.51	5.48	12.70	5.15	12.74	3.05

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 7.5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

1. Capacity/Power Consumption Table

1-8. Ceiling

1) FH052EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	4.49	3.34	1.45	4.67	3.43	1.56	4.97	3.63	1.49	4.53	3.22	1.93	3.97	3.11	2.20
16	22	4.81	3.34	1.51	4.89	3.38	1.56	5.21	3.57	1.49	4.77	3.17	1.93	4.18	3.08	2.23
18	25	5.01	3.51	1.51	5.12	3.55	1.60	5.46	3.76	1.49	4.99	3.33	1.93	4.38	3.24	2.23
19	27	5.12	3.69	1.51	5.22	3.74	1.60	5.59	3.99	1.49	5.11	3.54	1.93	4.49	3.44	2.23
22	30	5.43	3.54	1.55	5.56	3.61	1.60	5.95	3.86	1.51	5.45	3.43	1.96	4.80	3.33	2.23
24	32	5.64	3.45	1.55	5.77	3.51	1.62	6.19	3.76	1.51	5.69	3.35	1.96	5.01	3.25	2.27

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	3.47	1.98	4.53	2.15	5.11	2.11	5.49	2.43	6.01	1.89	6.56	1.96
18	3.72	2.01	4.41	2.19	5.01	2.21	5.42	2.46	5.94	1.92	6.47	1.96
20	3.87	2.04	4.31	2.21	4.94	2.23	5.33	2.46	5.85	1.94	6.40	1.98
21	3.95	2.04	4.28	2.21	4.88	2.23	5.29	2.50	5.81	1.94	6.34	2.00
22	4.19	2.04	4.22	2.21	4.84	2.26	5.24	2.50	5.76	1.94	6.31	2.00
24	4.36	2.06	4.13	2.24	4.74	2.29	5.16	2.53	5.69	1.96	6.22	2.03

Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

2) FH070EAV1

(1) Cooling Capacity

Unit : °C

INDOOR		OUTDOOR TEMPERATURE(DB)														
WB	DB	-15			-10			21			35			43		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	5.35	4.25	0.92	5.67	4.45	1.08	6.41	4.52	1.70	6.08	4.38	2.56	5.11	3.92	2.64
16	22	5.74	4.25	0.96	5.95	4.38	1.08	6.71	4.44	1.70	6.40	4.32	2.56	5.39	3.87	2.67
18	25	5.97	4.47	0.96	6.22	4.60	1.10	7.04	4.67	1.70	6.69	4.54	2.56	5.64	4.07	2.67
19	27	6.10	4.70	0.96	6.34	4.85	1.10	7.21	4.96	1.70	6.85	4.82	2.56	5.78	4.33	2.67
22	30	6.46	4.51	0.98	6.76	4.68	1.10	7.68	4.80	1.72	7.30	4.67	2.59	6.17	4.19	2.67
24	32	6.72	4.39	0.98	7.01	4.55	1.12	7.98	4.67	1.72	7.62	4.56	2.59	6.45	4.10	2.72

(2) Heating Capacity

Unit : °C

INDOOR	OUTDOOR TEMPERATURE (WB)											
DB	-20		-10		-5		2		7		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16	4.69	2.84	7.08	2.46	7.44	2.65	7.72	2.46	8.01	2.14	8.65	2.21
18	5.03	2.87	6.90	2.50	7.29	2.77	7.63	2.49	7.92	2.16	8.53	2.21
20	5.23	2.92	6.74	2.53	7.19	2.80	7.50	2.49	7.80	2.19	8.44	2.24
21	5.34	2.92	6.69	2.53	7.10	2.80	7.45	2.53	7.75	2.19	8.36	2.27
22	5.66	2.92	6.59	2.53	7.05	2.84	7.37	2.53	7.68	2.19	8.32	2.27
24	5.89	2.95	6.46	2.57	6.90	2.88	7.26	2.56	7.59	2.22	8.21	2.29

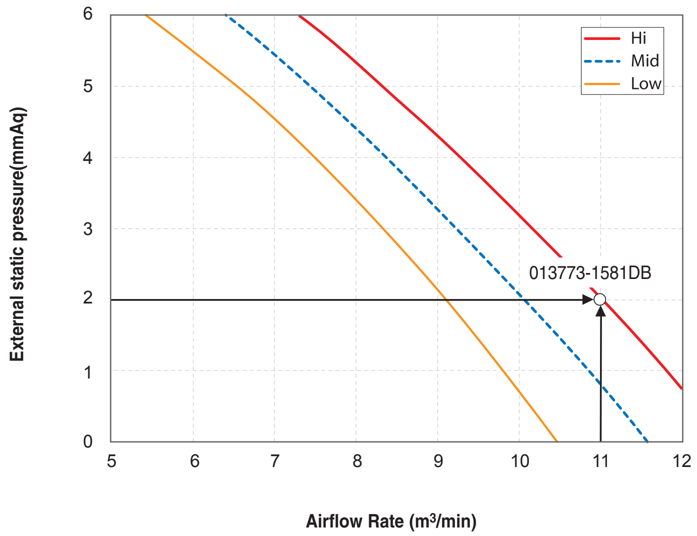
Note

1. All capacities are net.
2. DB : Dry Bulb temperature (°C),
   WB : Wet Bulb temperature (°C)
3. TC : Total cooling/heating Capacity (kW)
   Corresponding refrigerant piping length : 5m
   Level difference : 0m
4. SHC : Sensible Heat Capacity (kW)
5. PI : Power Input (Comp+indoor fan motor+outdoor fan motor+PCB/kW)

2. Graph of Air-Flow Rate vs External Static Pressure (Duct model only)

2-1. Duct Type

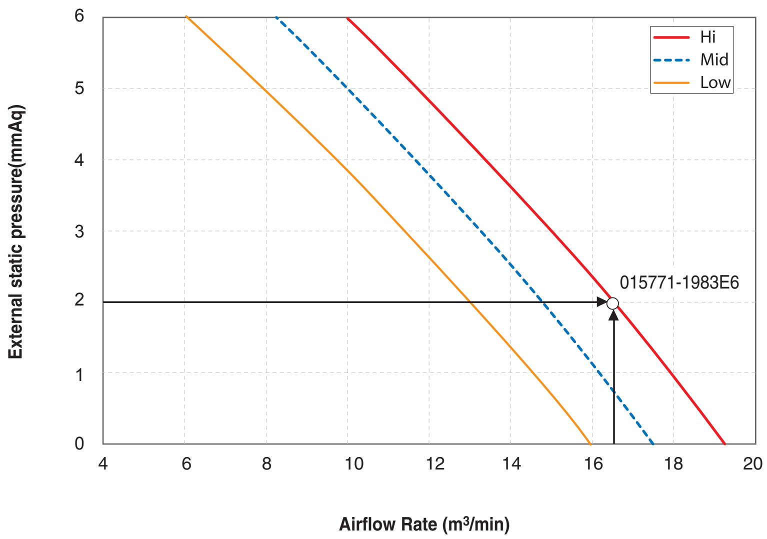
1) EH035EAV1



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	013773-158185
2	013773-1581DB
4	013774-158262

✳ : Factory default setting

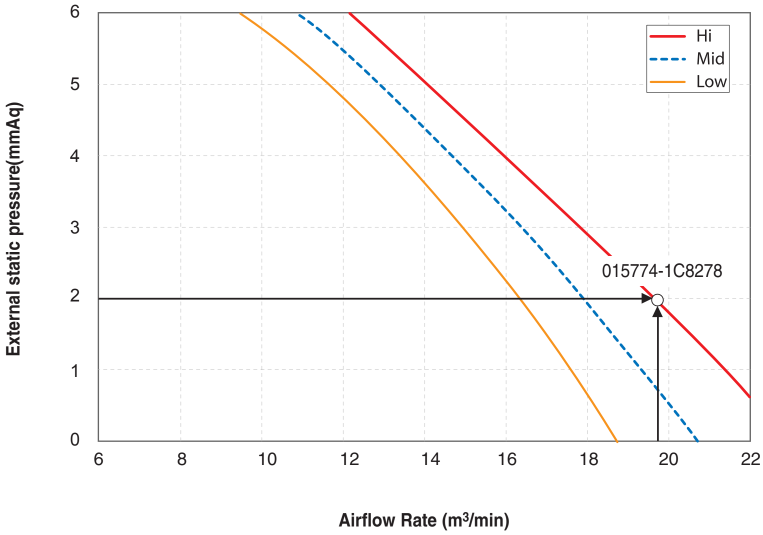
2) EH052EAV1



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	015774-1983C4
2	015771-1983E6
4	015773-198239

✳ : Factory default setting

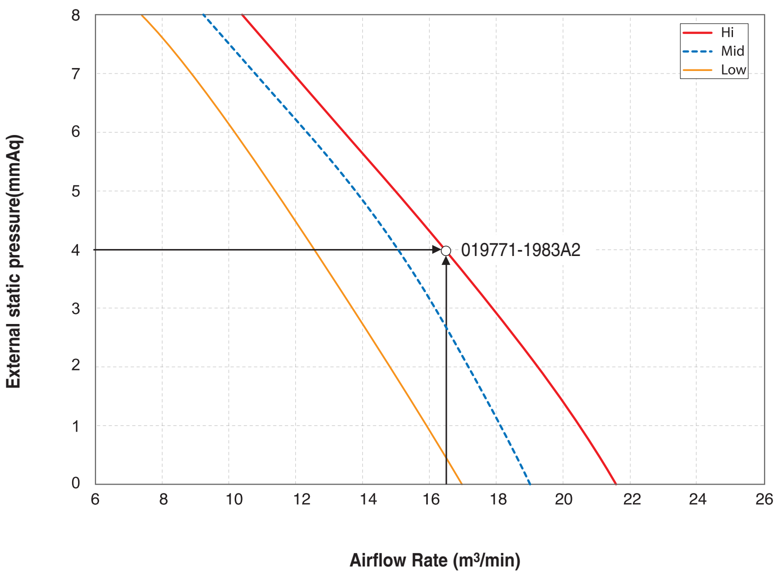
3) EH070EAV1



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	0015774-1C83FD
2	015774-1C8278
4	015774-1C8071

✷ : Factory default setting

4) DH052EAV1



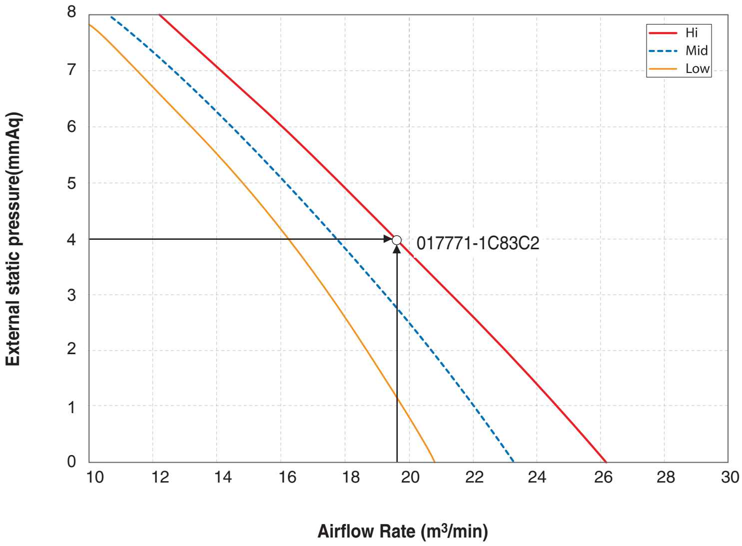
EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	018771-19825F
2	019771-198371
4	019771-1983A2
6	019771-1983E4

✷ : Factory default setting

2. Graph of Air-Flow Rate vs External Static Pressure (Duct model only)

2-1. Duct Type

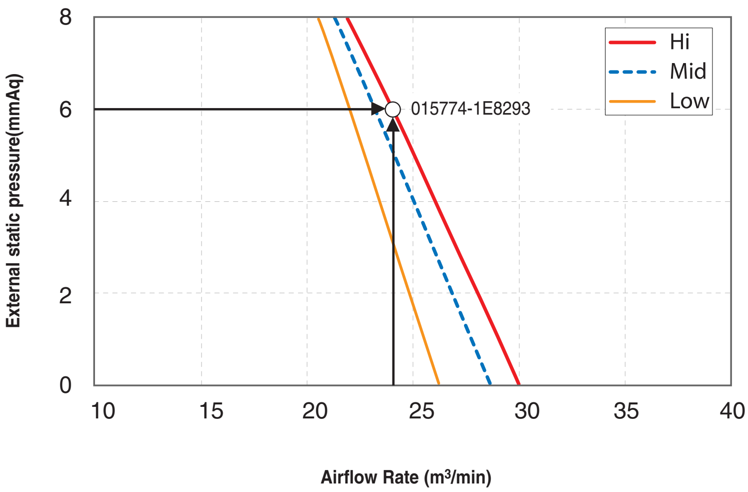
5) DH070EAV1



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	017771-1C826E
2	017771-1C8390
4	017771-1C83C2
6	017773-1C8103
8	017773-1C8196

✳ : Factory default setting

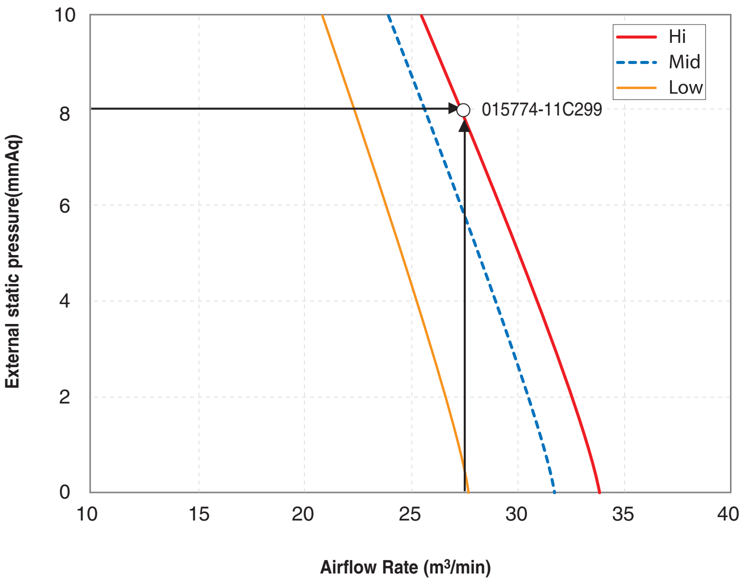
6) DH090EAV



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	015771-1E8328
2	015773-1E811B
4	015774-1E819F
6	015774-1E8293
8	015774-1E82FF

✳ : Factory default setting

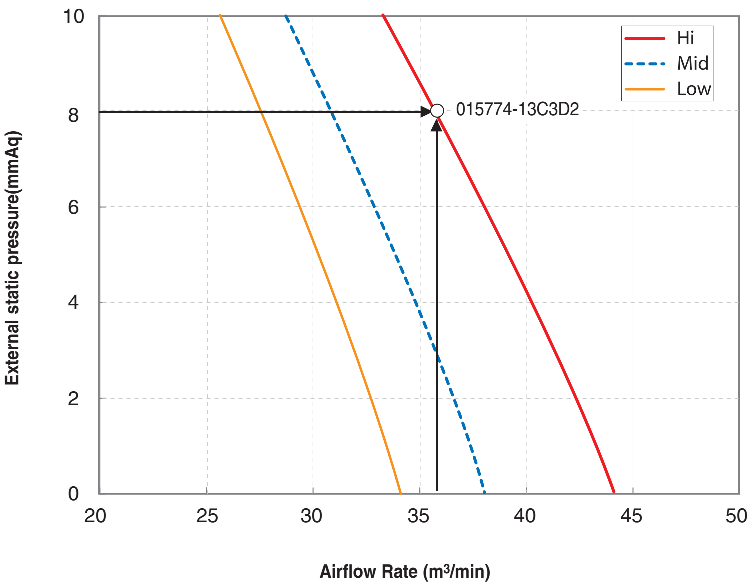
7) DH105EAV



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	015773-11C15F
2	015774-11C070
4	015774-11C092
6	015774-11C0E4
8	015774-11C299
10	015774-11C3F2

✳ : **Factory default setting**

8) DH140EAV



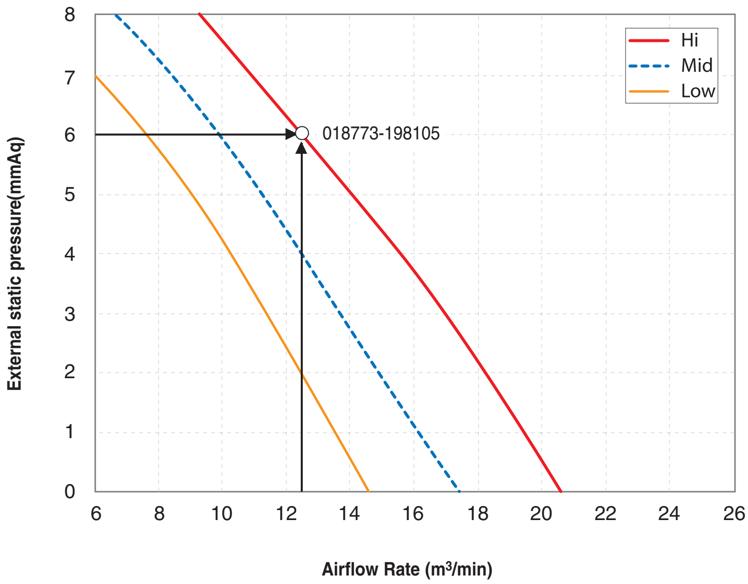
EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	015774-13C25A
2	015774-13C26D
4	015774-13C27E
6	015774-13C391
8	015774-13C3D2
10	015774-13C3F5

✳ : **Factory default setting**

2. Graph of Air-Flow Rate vs External Static Pressure (Duct model only)

2-1. Duct Type

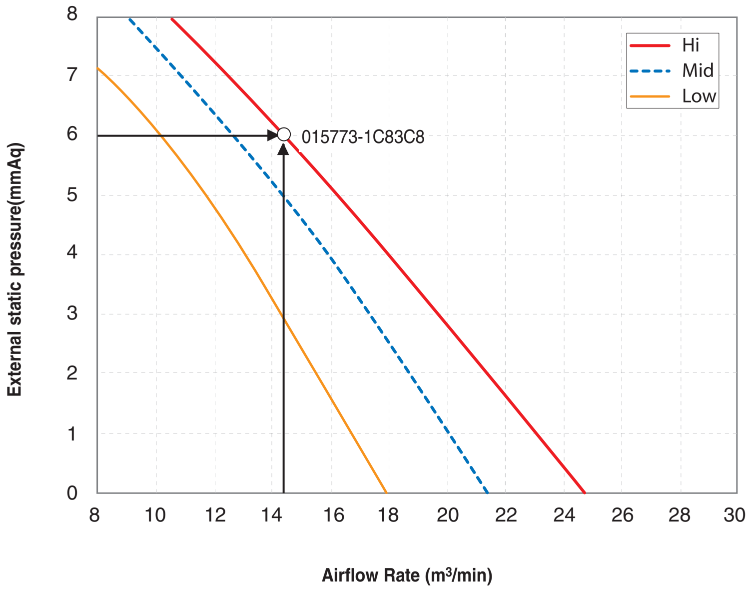
9) DH052EAS



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	018771-198247
2	018771-198360
4	018771-1983A2
6	018773-198105

✳ : Factory default setting

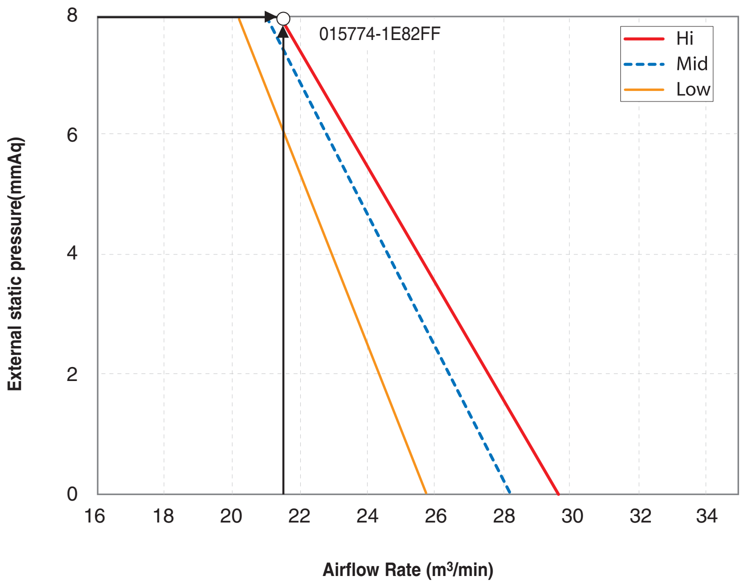
10) DH070EAS



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	015771-1C83A0
2	015771-1C83F2
4	015773-1C8185
6	015773-1C83C8

✳ : Factory default setting

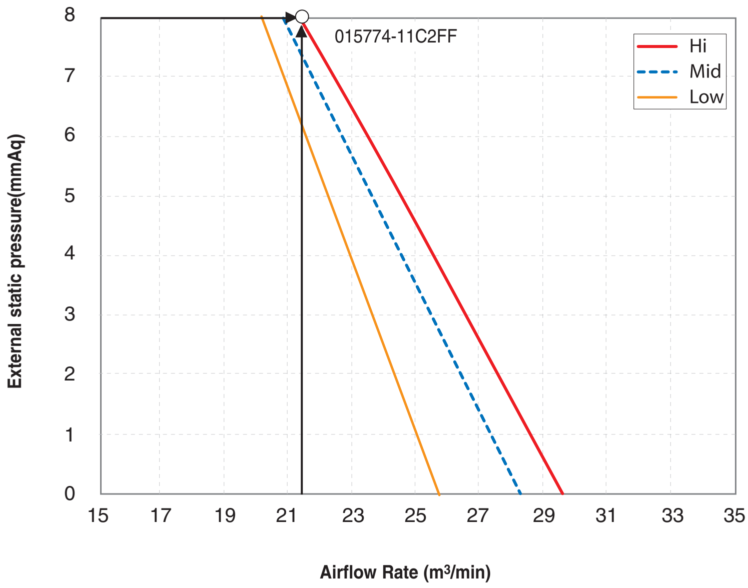
11) DH090EAS



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	015771-1E83E8
2	015773-1E811B
4	015773-1E819F
6	015774-4E8293
8	015774-1E82FF

✳ : Factory default setting

12) DH105EAS



EXTERNAL STATIC PRESSURE(mmAq)	OPTION CODE
0	015771-11C328
2	015773-11C11B
4	015774-11C19F
6	015774-11C293
8	015774-11C2FF

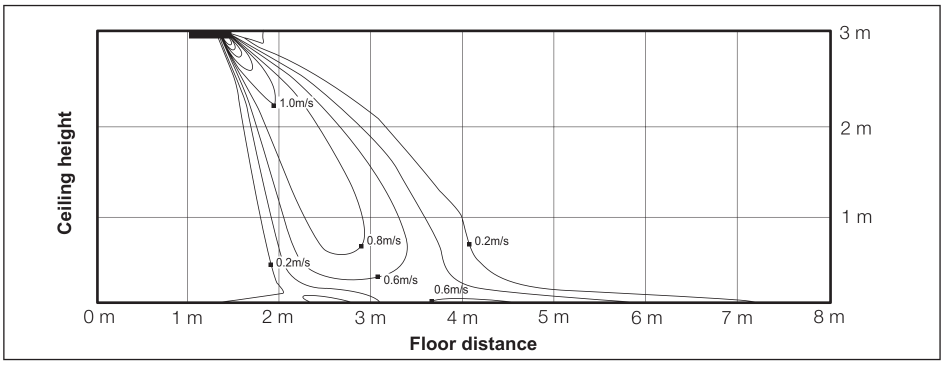
✳ : Factory default setting

3. Temperature and Air Flow Distribution

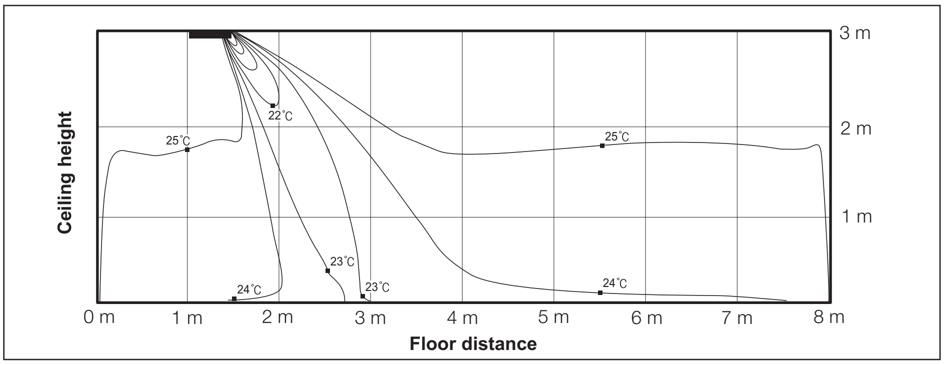
3-1. Slim 1 Way Cassette

1) SH035EAV1

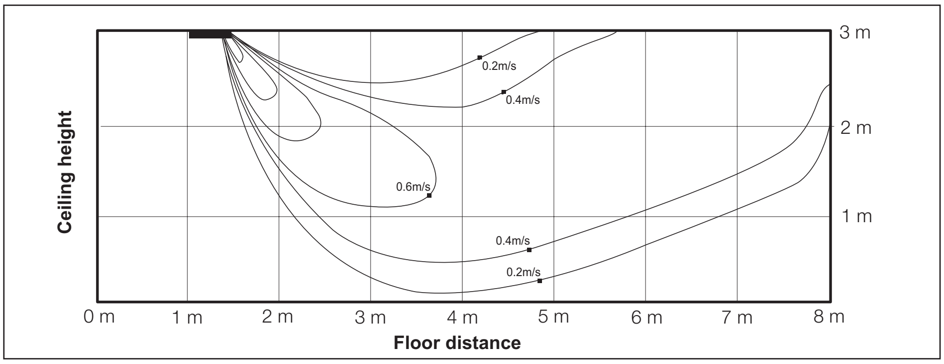
(1) Cooling air velocity distribution ◆ Discharge angle : 60°



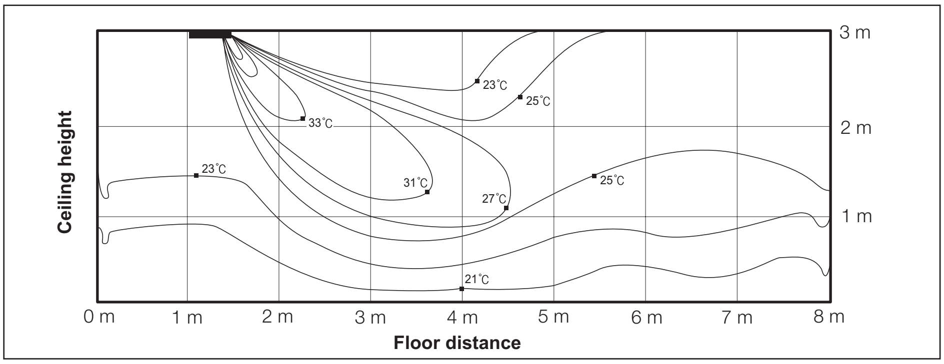
(2) Cooling temperature distribution ◆ Discharge angle : 60°



(3) Heating air velocity distribution ◆ Discharge angle : 60°



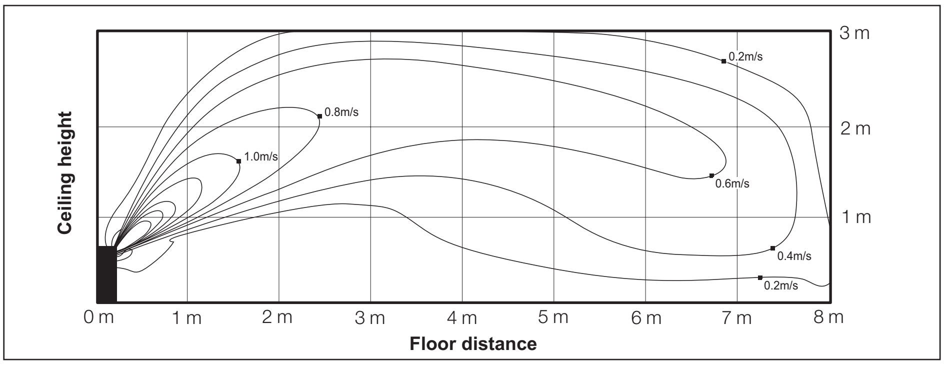
(4) Heating temperature distribution ◆ Discharge angle : 60°



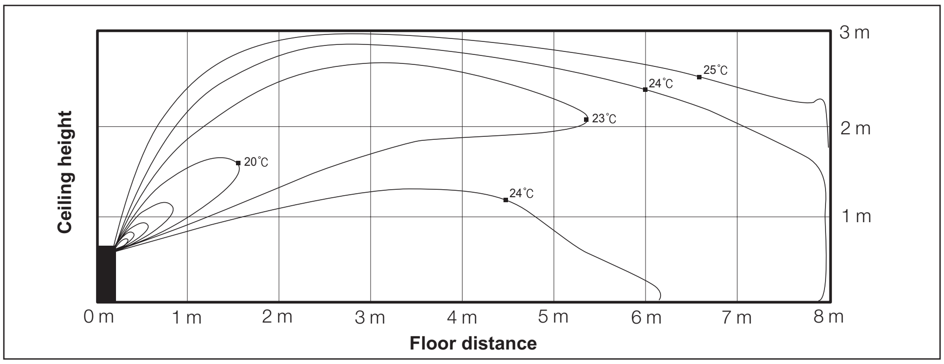
3-2. Console

1) JH035EAV1

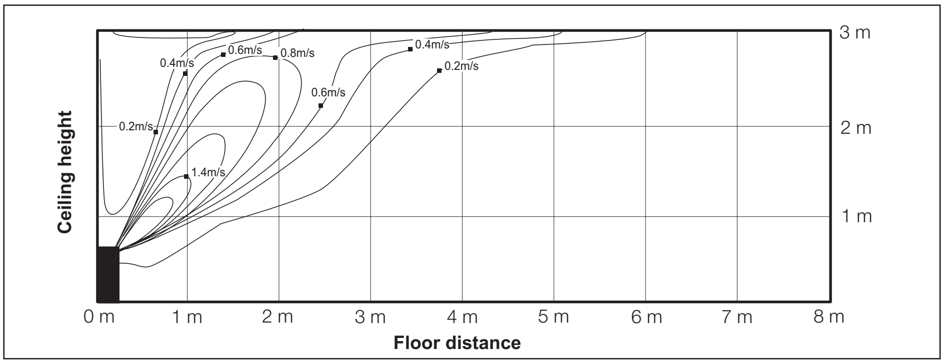
(1) Cooling air velocity distribution ◆ Discharge angle : 36°



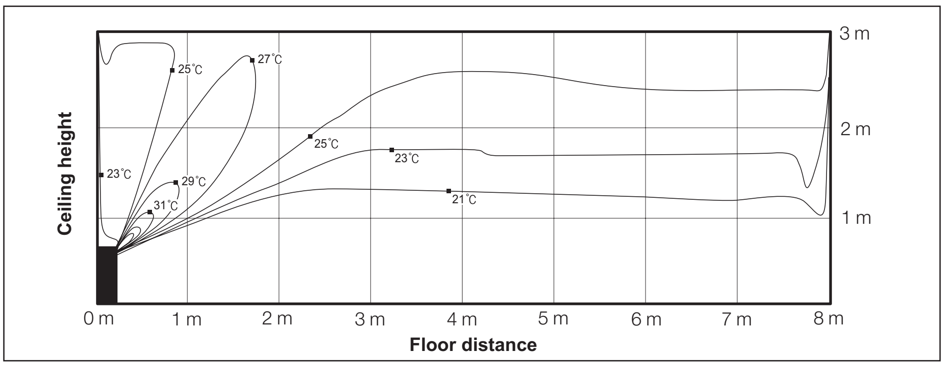
(2) Cooling temperature distribution ◆ Discharge angle : 36°



(3) Heating air velocity distribution ◆ Discharge angle : 54°



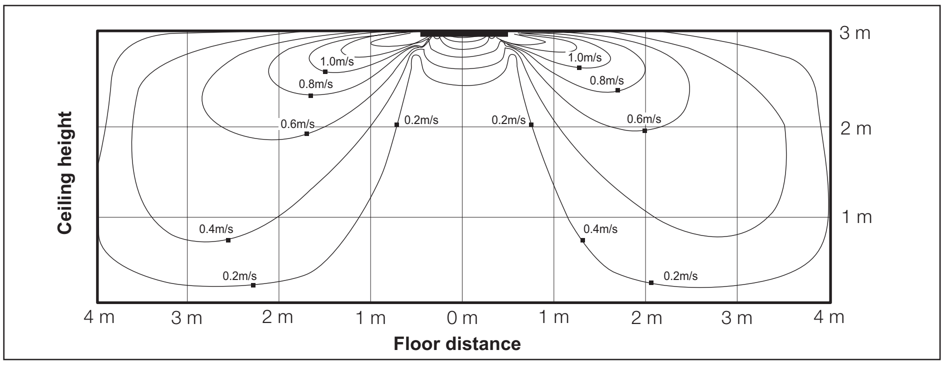
(4) Heating temperature distribution ◆ Discharge angle : 54°



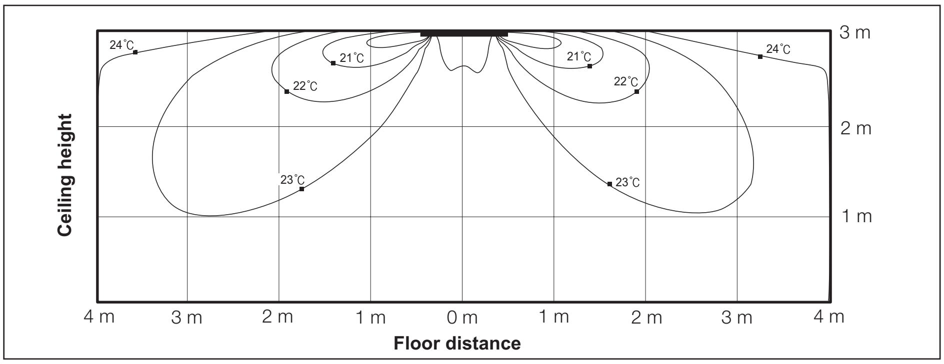
3-3. 4 Way Cassette

1) CH090EAV1

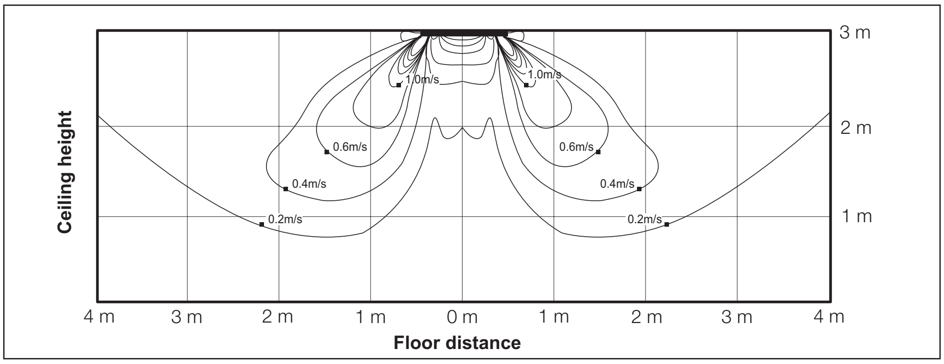
(1) Cooling air velocity distribution ◆ Discharge angle : 37°



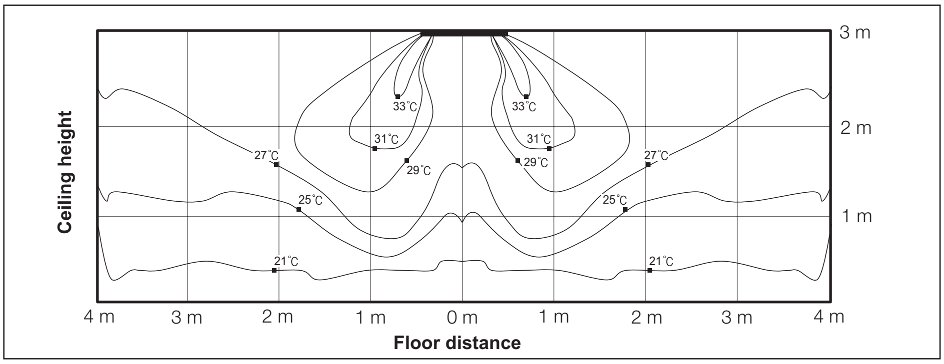
(2) Cooling temperature distribution ◆ Discharge angle : 37°



(3) Heating air velocity distribution ◆ Discharge angle : 49°



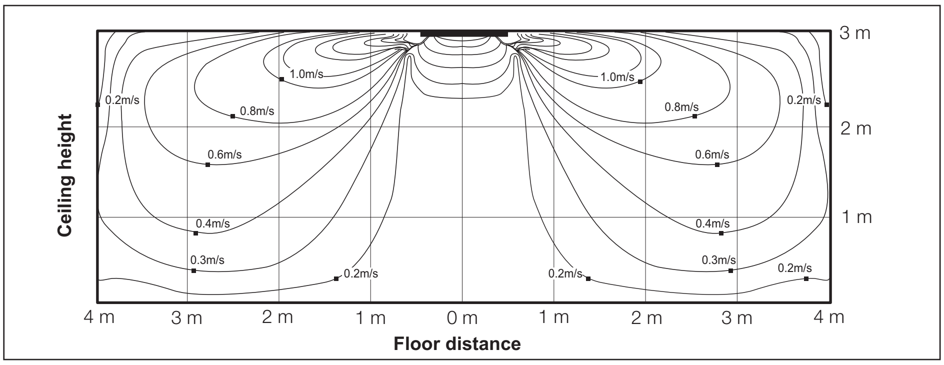
(4) Heating temperature distribution ◆ Discharge angle : 49°



2) CH140EAV

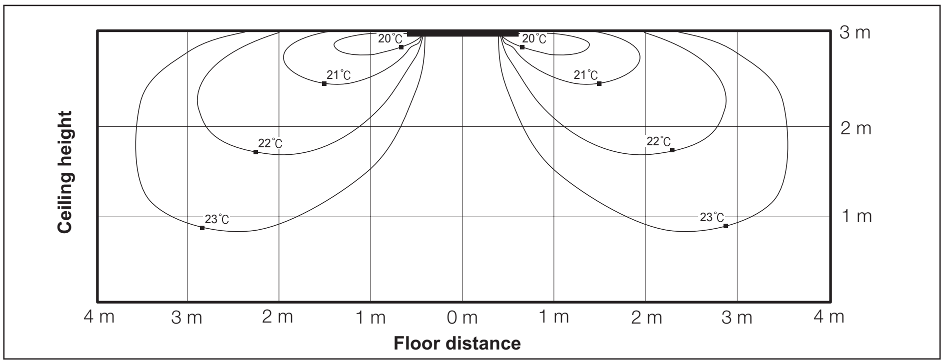
(1) Cooling air velocity distribution

◆ Discharge angle : 37°



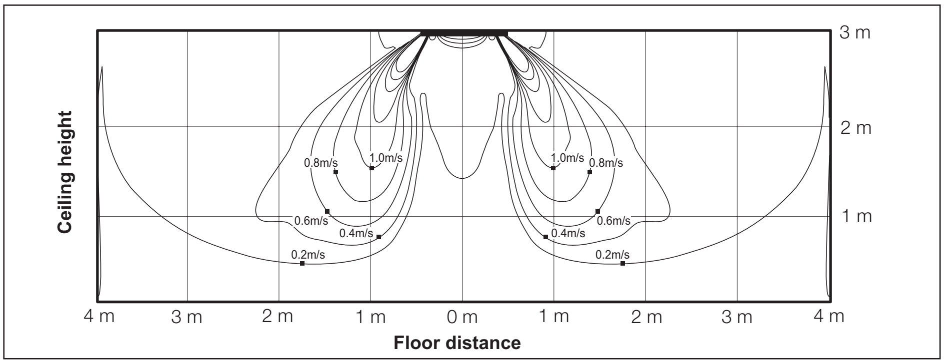
(2) Cooling temperature distribution

◆ Discharge angle : 37°



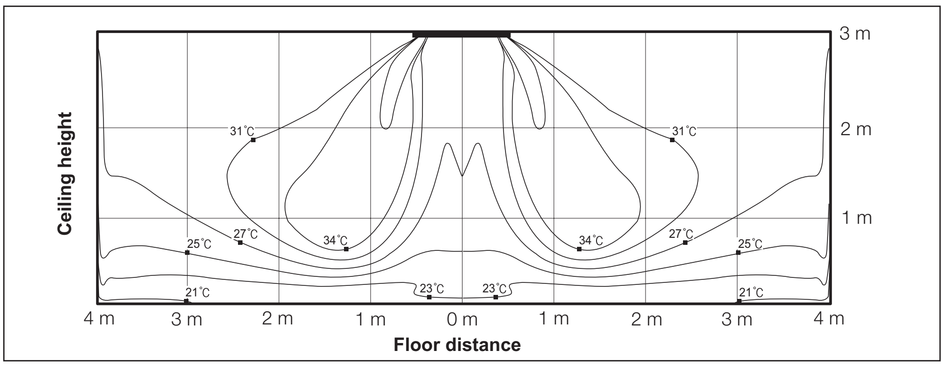
(3) Heating air velocity distribution

◆ Discharge angle : 49°



(4) Heating temperature distribution

◆ Discharge angle : 49°

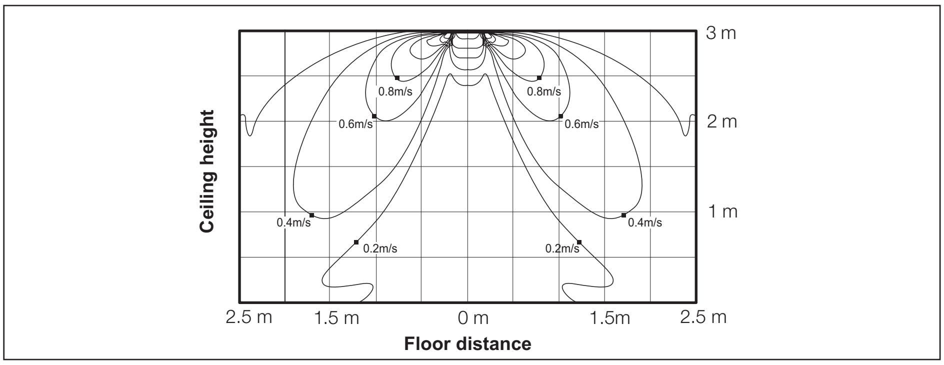


3. Temperature and Air Flow Distribution

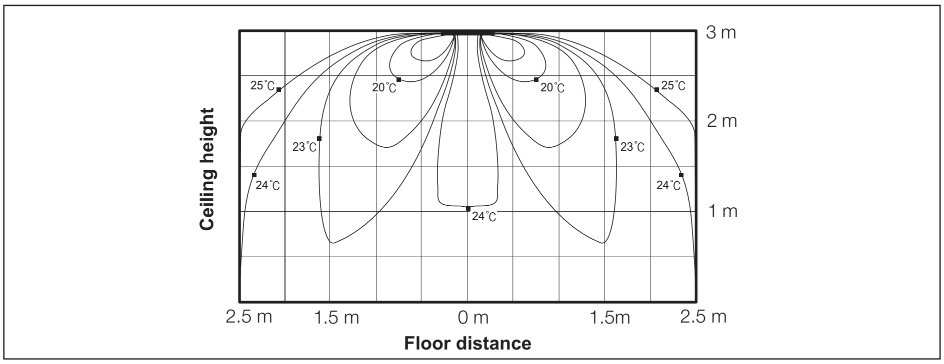
3-4. Mini 4 Way Cassette

1) TH060EAV1

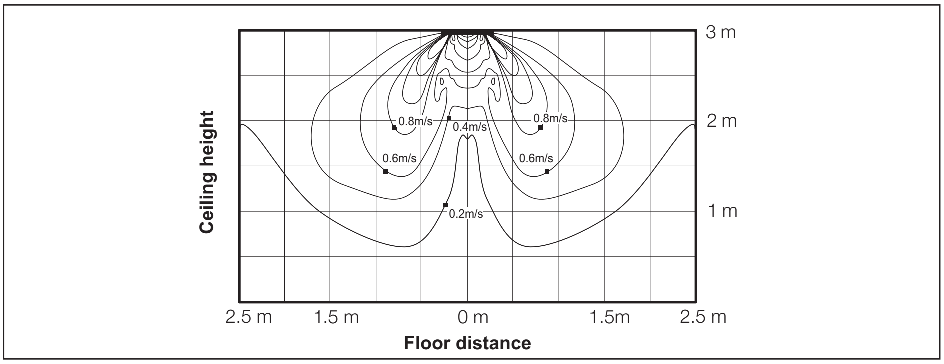
(1) Cooling air velocity distribution ◆ Discharge angle : 37°



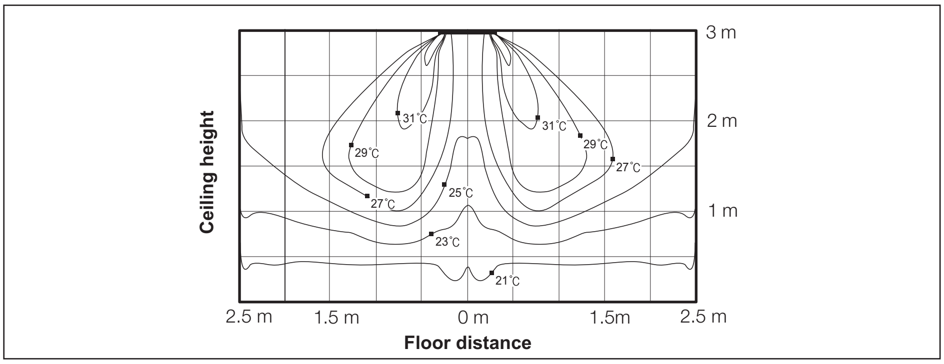
(2) Cooling temperature distribution ◆ Discharge angle : 37°



(3) Heating air velocity distribution ◆ Discharge angle : 49°



(4) Heating temperature distribution ◆ Discharge angle : 49°

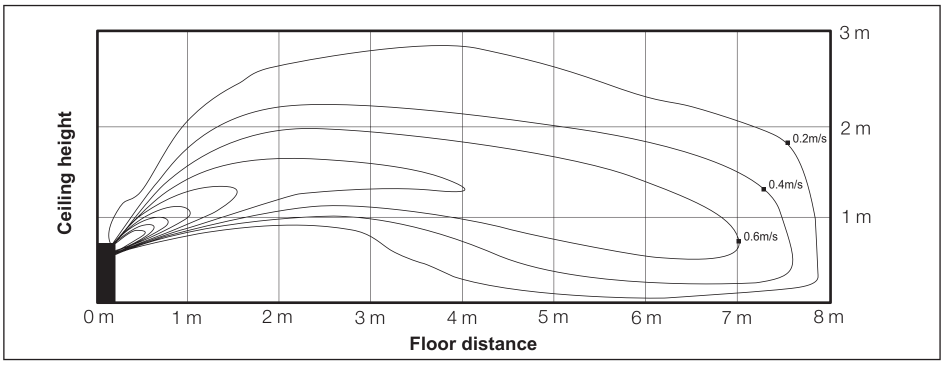


3-5. Ceiling

1) FH070EAV1(Floor Installation)

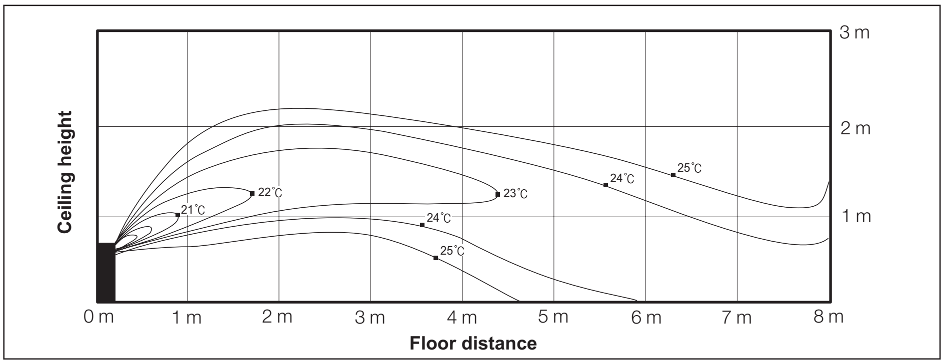
(1) Cooling air velocity distribution

◆ Discharge angle : 36°



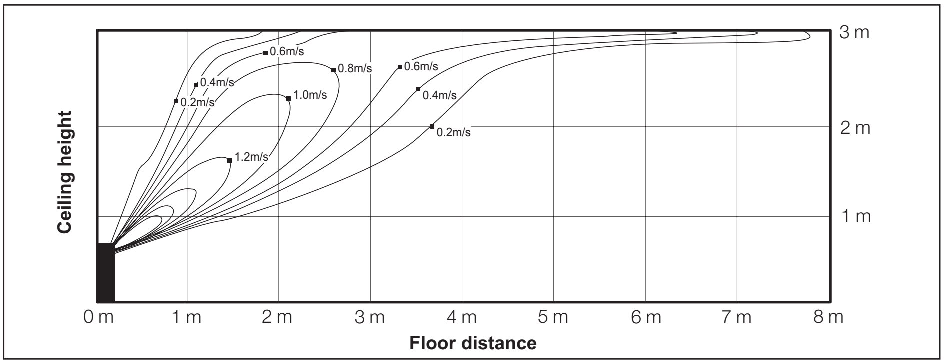
(2) Cooling temperature distribution

◆ Discharge angle : 36°



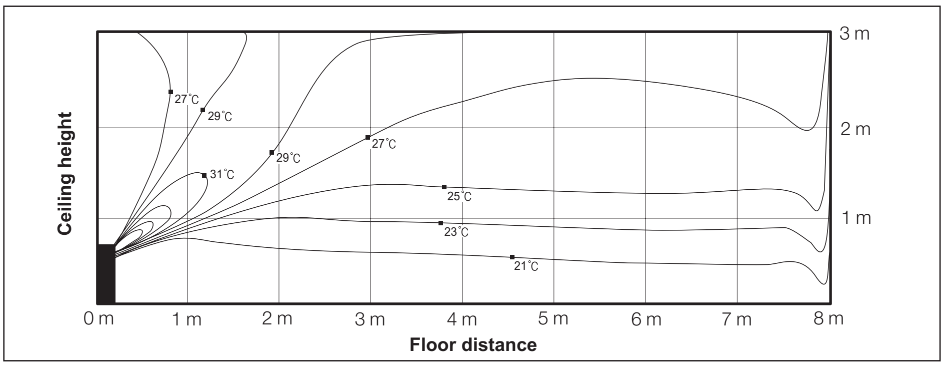
(3) Heating air velocity distribution

◆ Discharge angle : 54°



(4) Heating temperature distribution

◆ Discharge angle : 54°

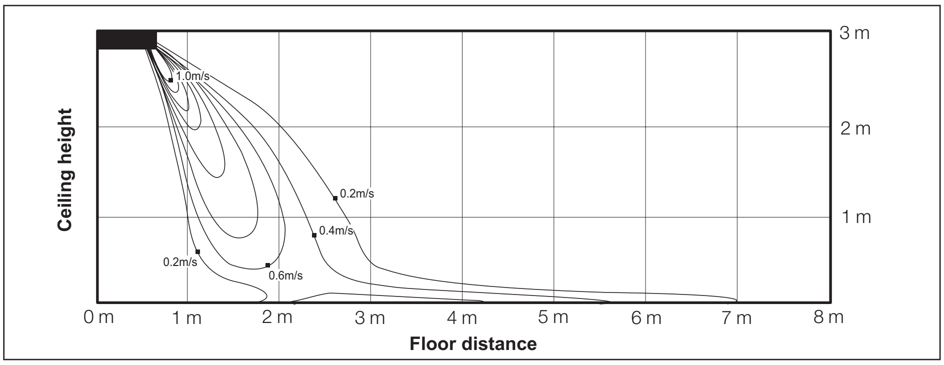


3. Temperature and Air Flow Distribution

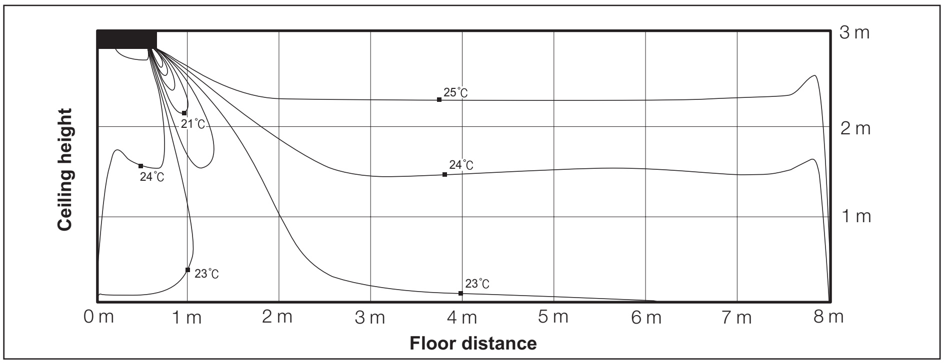
3-5. Ceiling

2) FH070EAV1(Ceiling Installation)

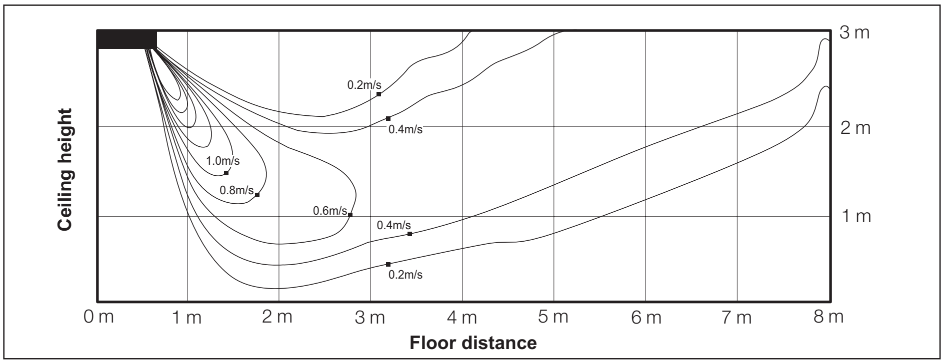
(1) Cooling air velocity distribution ◆ Discharge angle : 36°



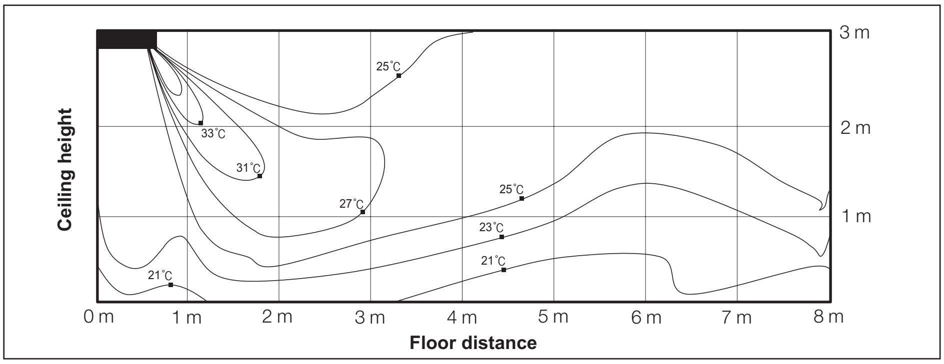
(2) Cooling temperature distribution ◆ Discharge angle : 36°



(3) Heating air velocity distribution ◆ Discharge angle : 54°



(4) Heating temperature distribution ◆ Discharge angle : 54°



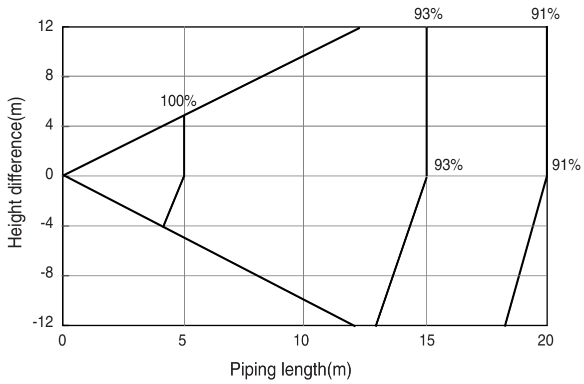
4. 4 Way Cassette Option Code (Normal / High ceiling mode)

Model		Normal ceiling mode (lower than 3.0m)	High ceiling mode (higher than 3.0m)
4 way	CH140EAV	046777-13C24E	046777-13C360
	CH105EAV	045777-11C22A	045777-11C24C
	CH090EAV	045777-1E820A	045777-1E822C
	CH090EAS	045777-1E820A	045777-1E822C
	CH070EAV1	045777-1C80FB	045777-1C821D
Mini 4 way	TH060EAV1	045774-1B80D5	045774-1B8219
	TH052EAV1	048774-198080	048774-1980C4
	TH035EAV1	045773-158109	045773-15814D
	TH026EAV1	045771-1383D9	045771-1383FB

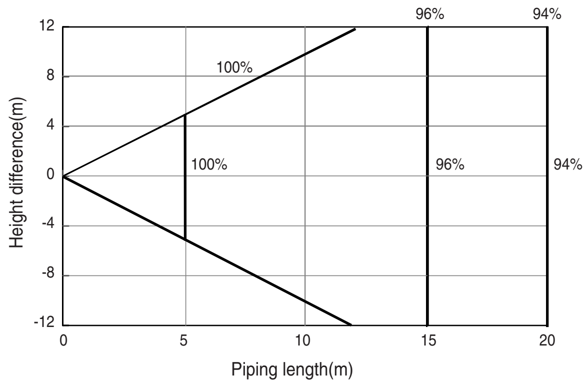
5. Capacity Correction

1) UH026EAV1/UH035EAV1

Cooling

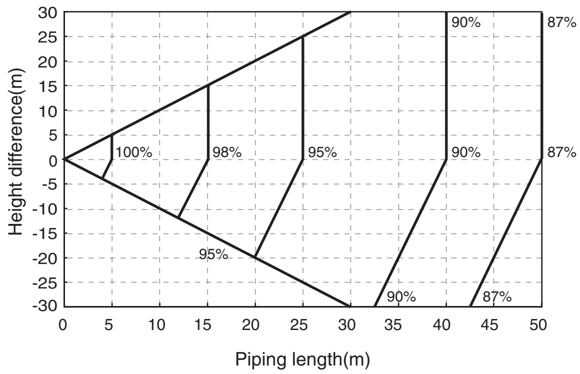


Heating

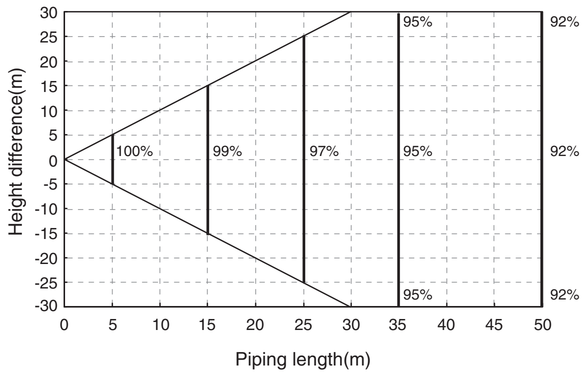


2) UH052EAV1/UH060EAV1/UH070EAV1

Cooling

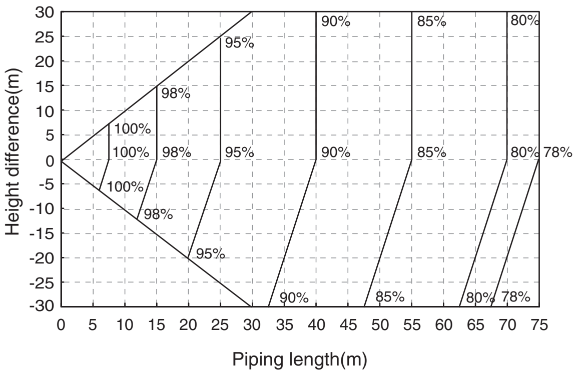


Heating

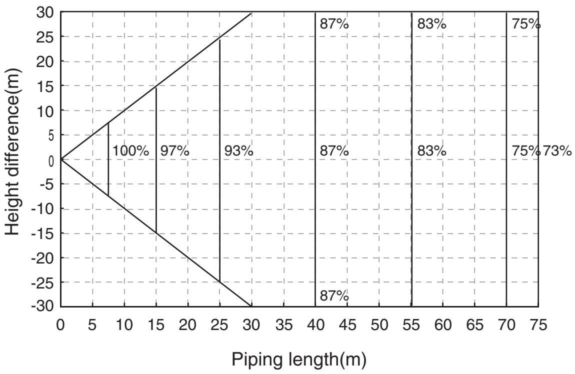


3) UH090EAV/UH105EAV/UH140EAV

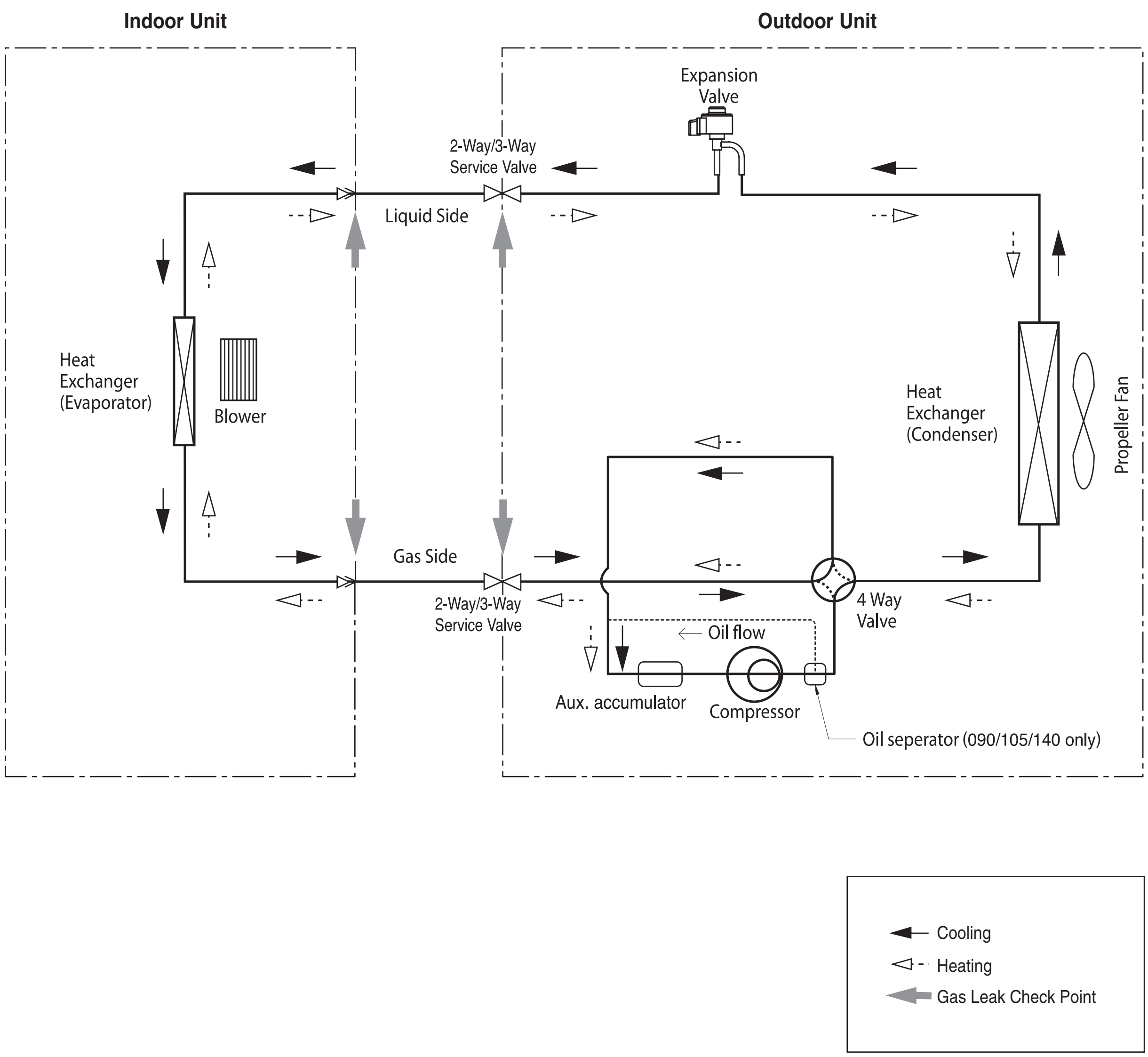
Cooling



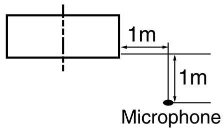
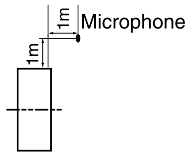
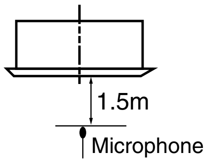
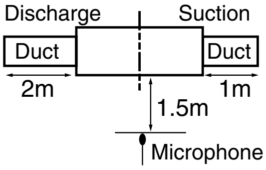
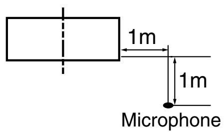
Heating



6. Cycle Diagram

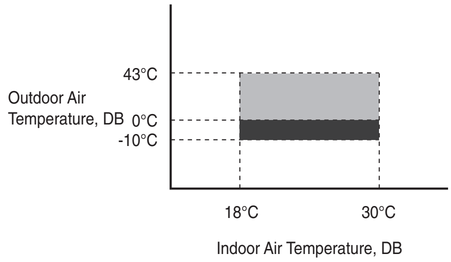
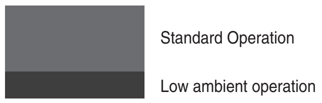
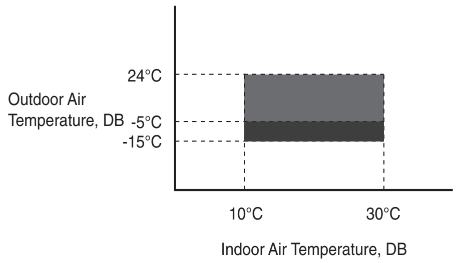


7. Sound Level (Pressure/Power)

TYPE	MEASURING LOCATION	INDOOR UNIT MODEL	OUTDOOR UNIT MODEL	INDOOR UNIT			OUTDOOR UNIT	
				Sound Pressure Level		Sound Power Level	Sound Pressure Level	Sound Power Level
				Hi	Low	Hi	Cooling/Heating	Cooling/Heating
Slim 1 way		SH026EAV1	UH026EAV1	30	25	43	47	60
		SH035EAV1	UH035EAV1	32	27	45	47	60
Console		JH026EAV1	UH026EAV1	38	23	51	47	60
		JH035EAV1	UH035EAV1	39	24	52	47	60
		JH052EAV1	UH052EAV1	44	25	57	49	62
Mini 4 way cassette		TH026EAV1	UH026EAV1	30	25	43	47	60
		TH035EAV1	UH035EAV1	34	27	47	47	60
		TH052EAV1	UH052EAV1	41	33	54	49	62
		TH060EAV1	UH060EAV1	41	33	54	52	65
4 way cassette		CH070EAV1	UH070EAV1	36	30	49	52	65
		CH090EAS	UH090EAS	39	32	52	52	65
		CH090EAV	UH090EAV	39	32	52	56	69
		CH105EAV	UH105EAV	40	33	53	56	69
		CH105EAV	UH105GAV	40	33	53	56	69
		CH140EAV	UH140EAV	45	38	58	59	72
		CH140EAV	UH140GAV	45	38	58	59	72
Slim duct		EH035EAV1	UH035EAV1	32	27	45	47	60
		EH052EAV1	UH052EAV1	33	30	46	49	62
		EH070EAV1	UH070EAV1	36	32	49	52	65
MSP duct		DH052EAV1	UH052EAV1	37	33	50	49	62
		DH070EAV1	UH070EAV1	39	35	52	52	65
		DH090EAV	UH090EAV	39	35	52	56	69
		DH105EAV	UH105EAV	39	35	52	56	69
		DH105EAV	UH105GAV	39	35	52	56	69
		DH140EAV	UH140EAV	43	38	56	59	72
		DH140EAV	UH140GAV	43	38	56	59	72
		DH052EAS	UH052EAS	37	33	50	49	62
		DH070EAS	UH070EAS	38	34	51	52	65
		DH090EAS	UH090EAS	39	35	52	52	65
		DH105EAS	UH105EAS	40	33	53	56	69
Ceiling		FH052EAV1	UH052EAV1	38	32	51	49	62
		FH070EAV1	UH070EAV1	41	36	54	52	65

8. Operation Range

1) UH026EAV1/UH035EAV1/UH052EAS/UH070EAS

<table>
<tr><th>OPERATING MODE</th><th>RANGE</th></tr>
<tr><td>Cooling
</td><td></td></tr>
<tr><td>Heating
</td><td></td></tr>
<tr><td>Power source voltage</td><td>Rating ±10%</td></tr>
<tr><td>Starting voltage</td><td>Min. 90% of Rating</td></tr>
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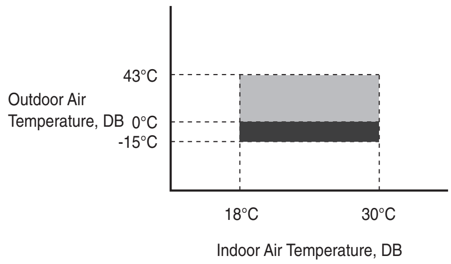
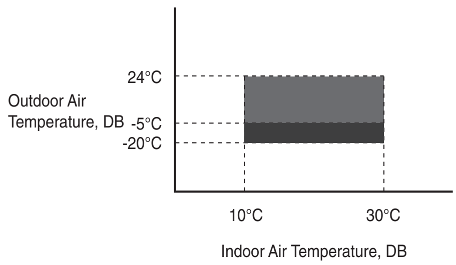
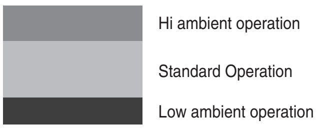
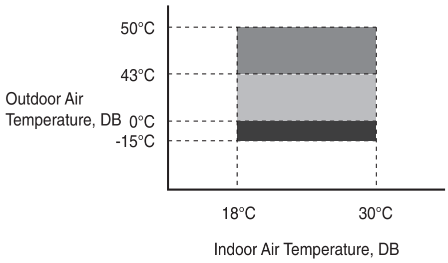
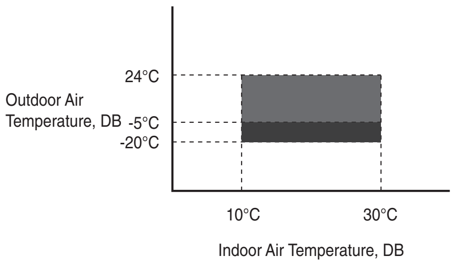
2) UH052EAV1/UH060EAV1/UH070EAV1

<table>
<tr><th>OPERATING MODE</th><th>RANGE</th></tr>
<tr><td>Cooling
</td><td></td></tr>
<tr><td>Heating
</td><td></td></tr>
<tr><td>Power source voltage</td><td>Rating ±10%</td></tr>
<tr><td>Starting voltage</td><td>Min. 90% of Rating</td></tr>
</table>

3) UH090EAV/UH105EAV/UH105GAV/UH140EAV/UH140GAV/UH090EAS/UH105EAS

OPERATING MODE	RANGE
Cooling 	
Heating 	
Power source voltage	Rating ±10%
Starting voltage	Min. 90% of Rating

Technical Data Book

05 Operation Logic

1. How the System Works

1-1. Control Outline

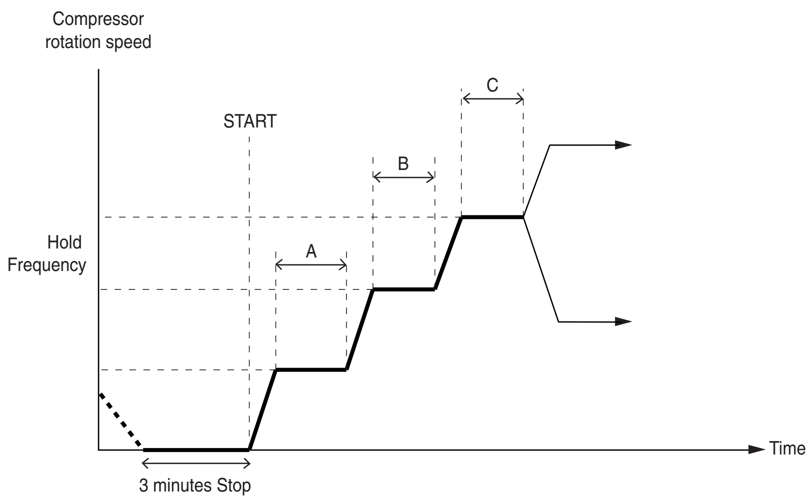
COMPONENT	OUTPUT	CONTROL VARIABLE	INPUT VARIABLE	CONTROL METHOD
BLDC Compressor	Rotation Speed	Room Temperature	Setting Temperature Room Temperature	Fuzzy control
EEV (Electronic expansion valve)	Open step (0-480)	Discharge Temperature	Compressor Speed Outdoor Temperature	PD control
Outdoor Fan Motor	BLDC type : Rotation Speed A/C type : TAP+ON/OFF duty	Fan Speed	Compressor Speed Outdoor Temperature Condensing Temperature	Smart control
4way valve	ON /OFF	Cooling/Heating	Operation mode	

1-2. Start Sequence

◆ Compressor starts at thermo-ON condition but start will be suspended in next cases.
① 3 minutes from Power On reset.
② 3 minutes from last compressor stop

- After starting, compressor rotation speed always goes up to the hold frequency and stays for compressor lubricating.

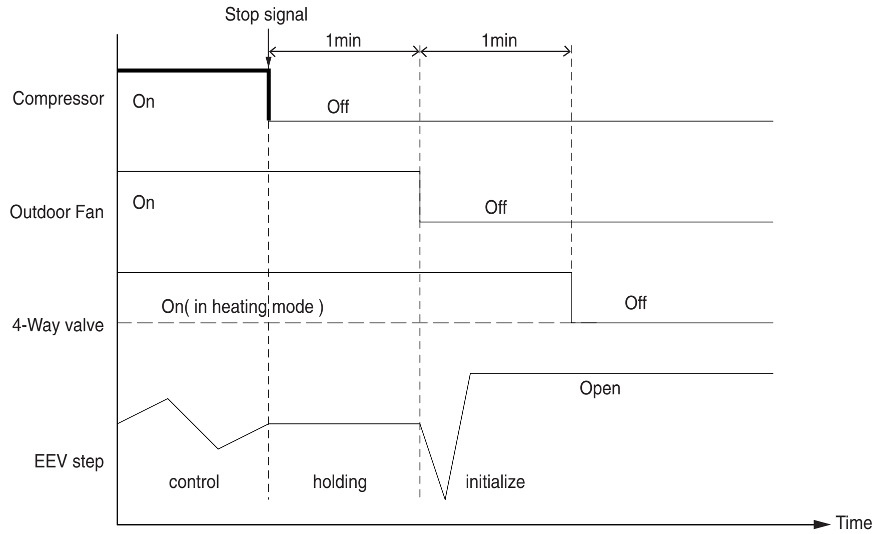
- Rotation speed varies according to room temperature and other condition.



OUTDOOR UNIT	COMPRESSOR HOLD REGION	HOLD FREQUENCY	HOLDING TIME
2.6/3.5kW	A	26Hz	30sec
	B	52Hz	60sec
	C	88Hz	30sec
5.2/6.0/7.0kW	A	26Hz	0sec
	B	49Hz	60sec
	C	88Hz	0sec
9.01/10.5/14.0kW	A	30Hz	30sec
	B	52Hz	60sec
	C	63Hz	60sec

1-3. Stop Sequence

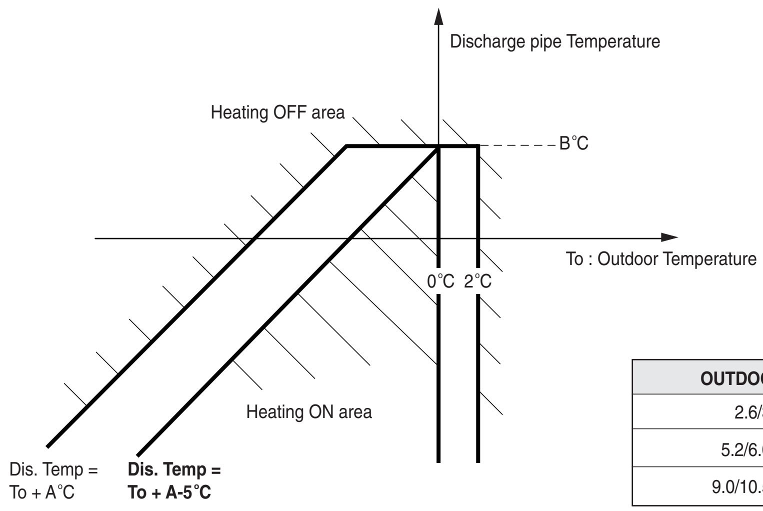
◆ After compressor stopping, Outdoor Fan, EEV step and 4 way valve operation sequence is as the chart below.



1-4. Compressor Heating

◆ In low compressor temperature and standby condition, the controller heats the compressor by passing the current through the compressor motor with no rotation.
This function is to prevent system from liquid compression of refrigerant at the beginning of operation.
Turn-on and turn-off heating temperature is as the chart below.

- Turn on will be suspended for 10 minutes after compressor stop.
  1 hour pause after 3hours continuous heating for controller protection.



OUTDOOR UNIT	A	B
2.6/3.5kW	15˚C	10˚C
5.2/6.0/7.0kW	10˚C	5˚C
9.0/10.5/14.0kW	15˚C	10˚C

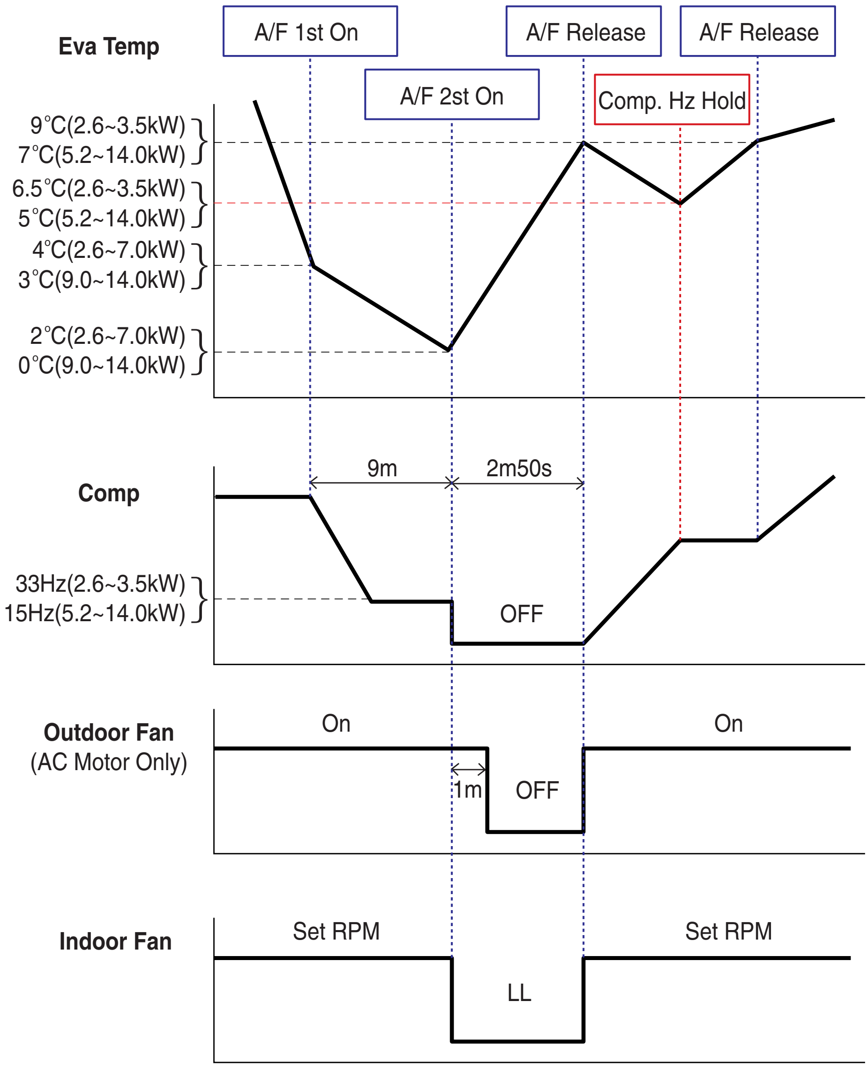
2-1. Anti-Freezing Control (Cooling Mode)

◆ Anti-Freezing control prevents frost on the indoor unit evaporator.
When the frost build up on the indoor unit evaporator, it may disturb air flow.
In Cool or Dry mode, if the indoor unit evaporator sensor detects temperature under 4˚C, the compressor frequency is down to 15Hz~35Hz. (Compressor frequency range may differ depending on the model.)
Anti-Freezing Control will be inactivated when the temperature increases to 7˚C~10˚C after compressor frequency has been decreased.

For example of 2.6 kW,

1. When temperature becomes below 4˚C, Hz is down to 33 Hz for 9 min.
2. When temperature becomes below 2˚C, the compressor stops.
3. When temperature increased to 9˚C, the compressor restarts.

Sequence is shown below.



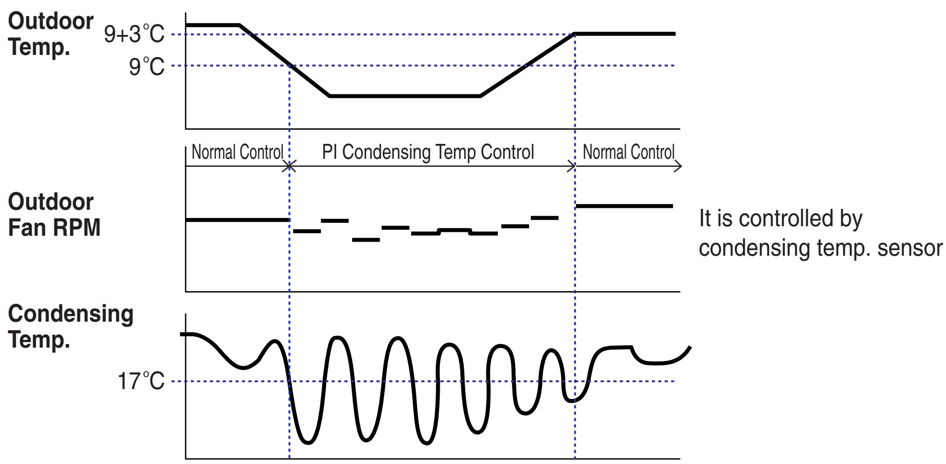
✳ **A/F: Anti-freezy control.**

2-2. Low Ambient Control

1) Condensing temperature control (Using BLDC motor)

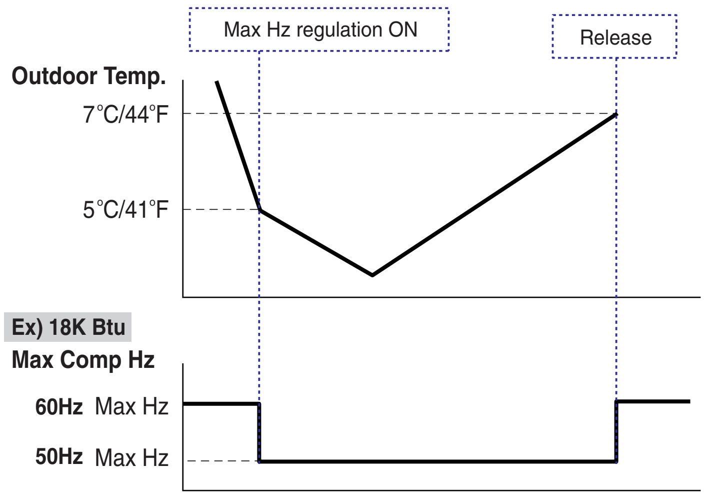
◆ Activation condition of condensing temperature control depending on the outdoor temperature.
- Cooling opeartion & low ambient temperature.
  (ex. UH140EAV: activating ambient temperature is below 9˚C, it depends on model.)

◆ Protecting Evaporator Freezing.



2) Max Comp. frequency regulation (At the low ambient temperature in cooling mode)

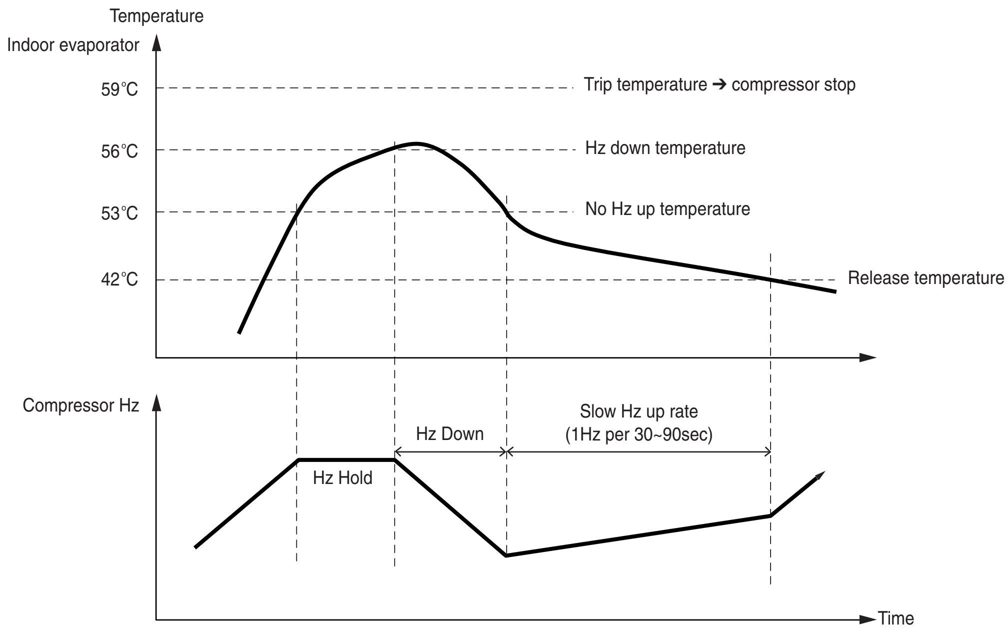
◆ Depending on the outdoor temperature,each model has its own maximum allowable frequency.



◆ For example of 18K Btu/h.
All the ambient temerature of below 5˚C, maximum frequency is limited to 50Hz.

2-3. Overload Prevention Control (Heating Mode)

◆ This control is to protect system from overload operation in heating mode.



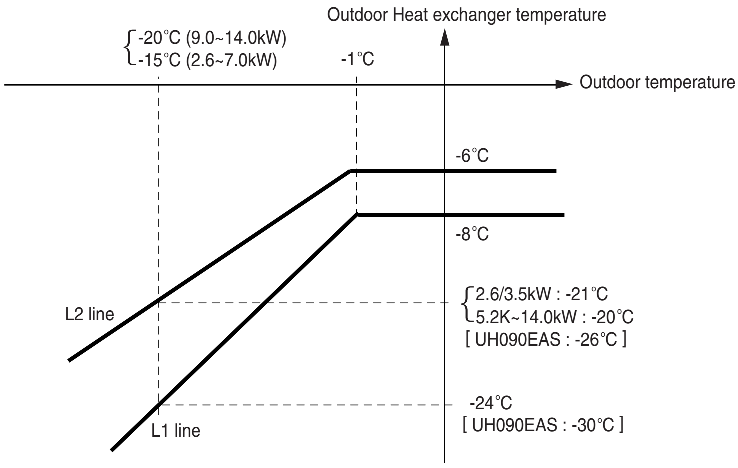
2-4. Defrost Control (Heating Mode)

◆ This control is detecting frost on the outdoor heat exchanger and removing it.
During defrost period, system is changed to cooling operation.

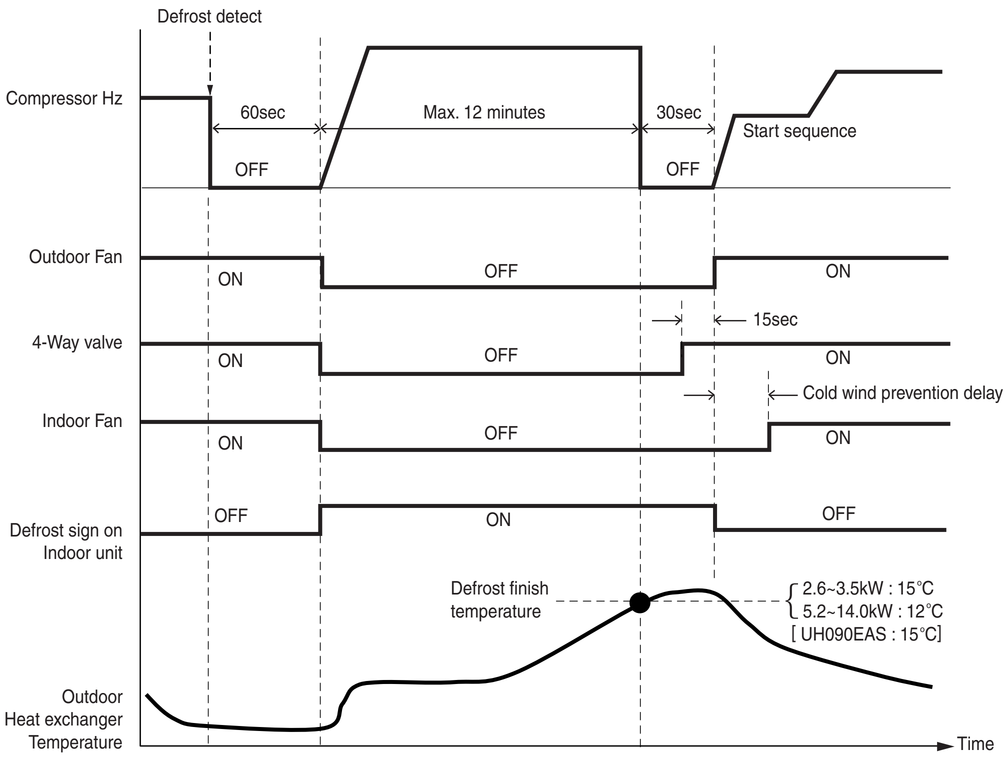
1) Defrost start condition

A : Compressor running and Outdoor Heat exchanger temperature < L2 line for 120 minutes continuously.
B : Compressor non-stop running for 35 minutes and Outdoor Heat exchanger temperature < L1 line for 3 minutes continuously.

Defrost operation starts when either A or B is satisfied.

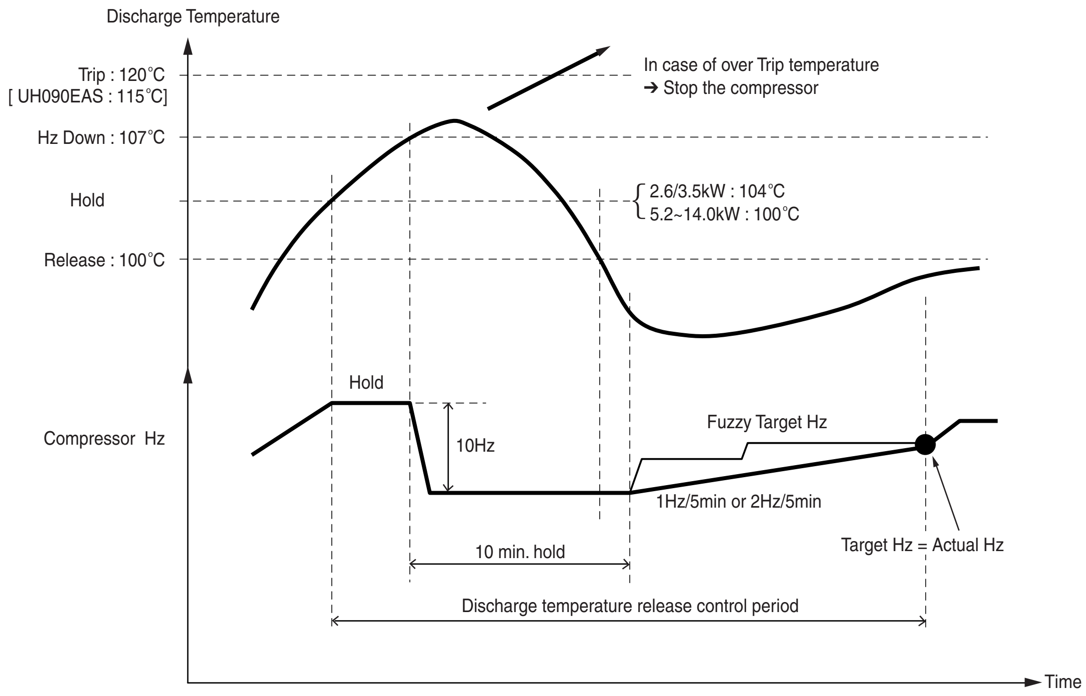


2) Defrost sequence



2-5. Discharge Temperature Release Control

◆ This control is to protect system from overload operation.



◆ This control has 2 stages. One is Hz down or Hz hold, and the other is Hz up rate limitation.

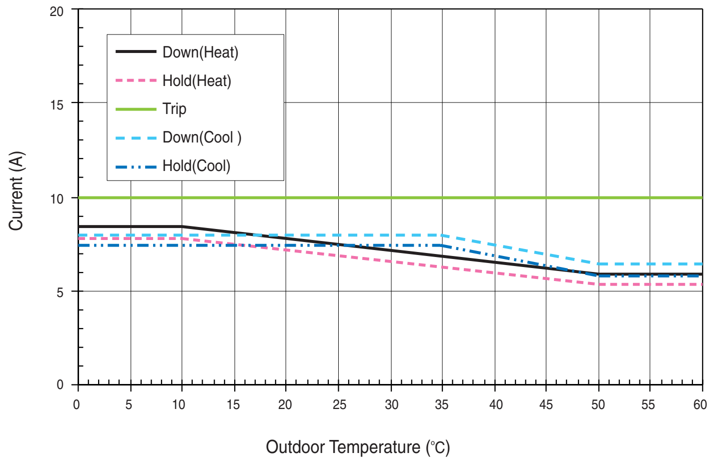
- Hz Down
  Once temperature goes over Hz Down temperature, the controller makes compressor Hz down by 10Hz and waits for 10 minutes.
  After that judging again if doing 10Hz down or not.

- Hz Up Rate Limitation
  After temperature going down under hold temperature, compressor Hz up rate is limited to slow rate.
  This limitation continues until the actual Hz reaches the target Hz calculated by fuzzy control.

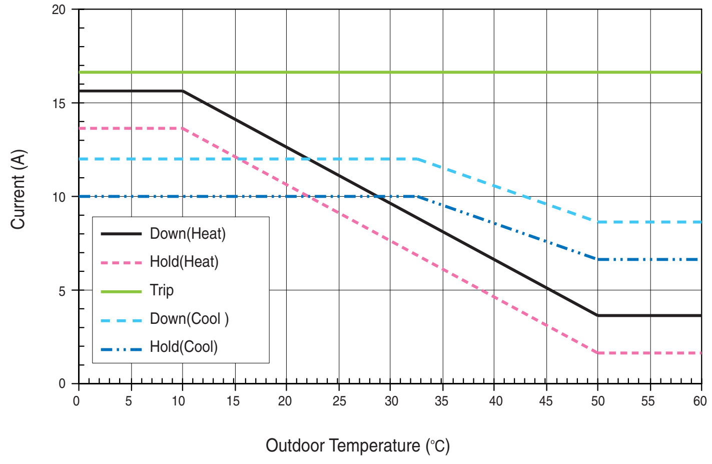
2-6. Current Release Control

◆ This control is for protecting controller break down by over current.
Control current depends on the outdoor temperature and operation mode because of heat up capacity of power semiconductors in the controller.

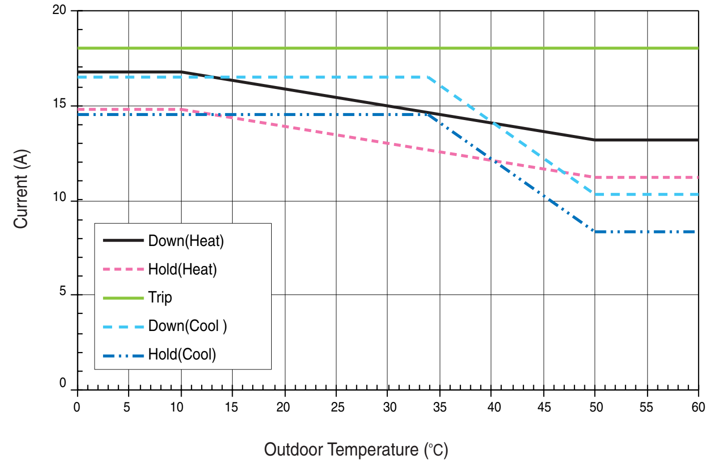
1) 2.6/3.5kW (Single phase)



2) 5.2kW (Single phase)



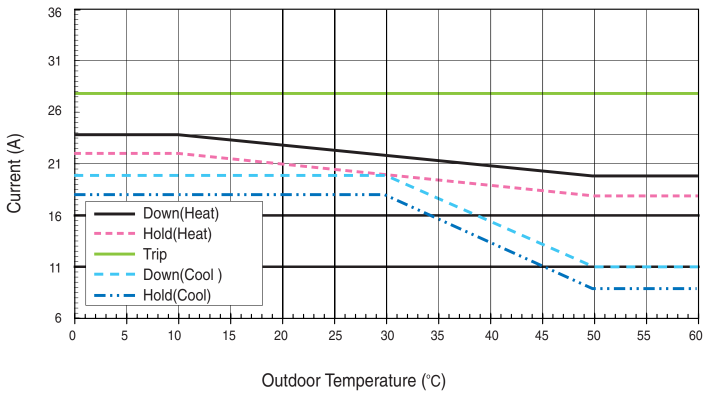
3) 6.0/7.0kW (Single phase)



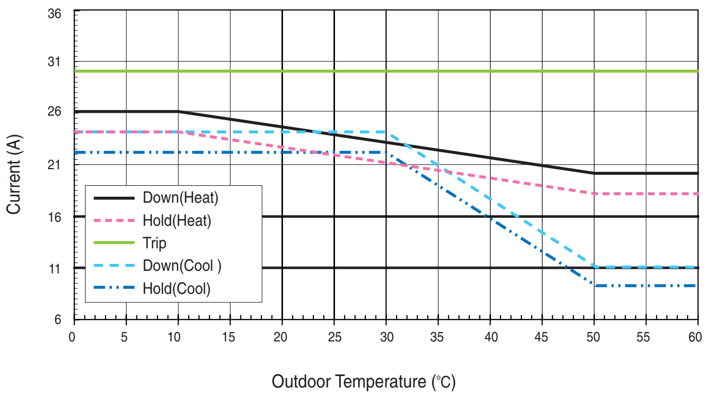
Operation Logic

2-6. Current Release Control

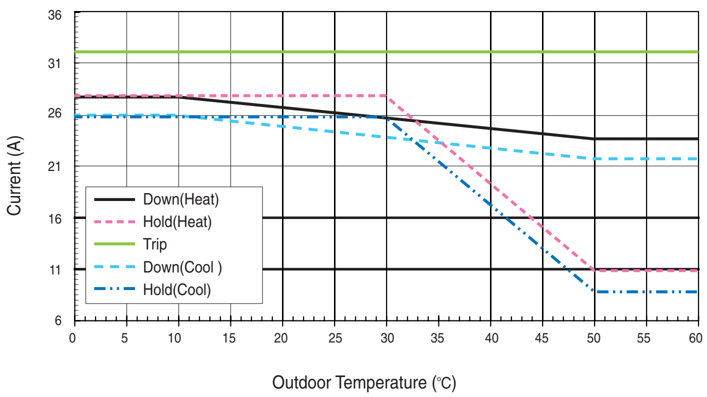
4) 9.0kW (Single phase)



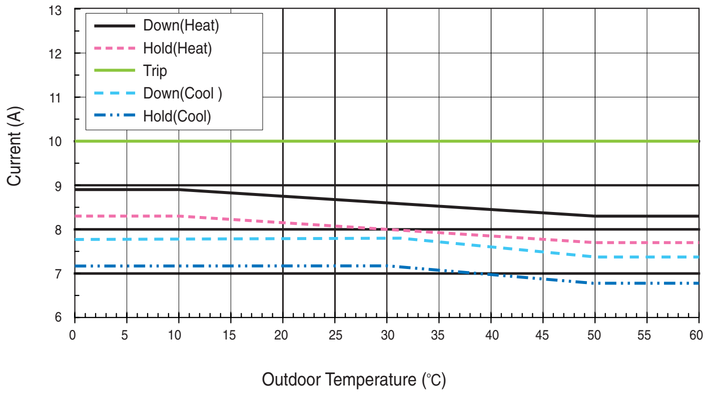
5) 10.5kW (Single phase)



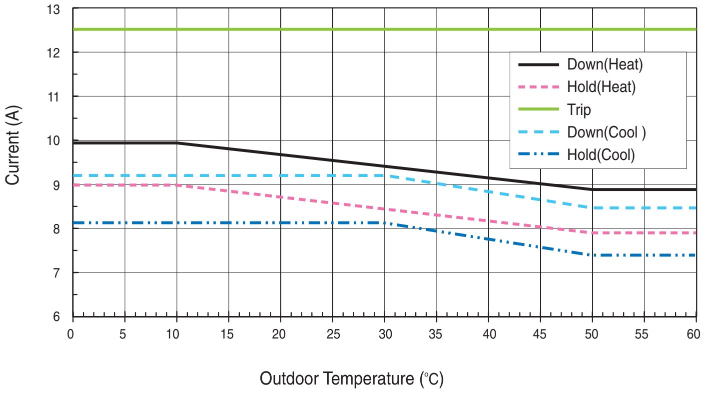
6) 14.0kW (Single phase)



7) 10.5kW (3-phase)



8) 14.0kW (3-phase)



◆ Control Current Level

- Trip
  The current level over which the compressor stops immediately .

- Down
  The current level over which compressor speed starts down.
  Compressor speed down stops at the hold current level or under.

- Hold
  The current level over which compressor speed holds but down is available.
  Under the hold level, compressor speed up is available to the maximum.

2-7. Protection Control by Outdoor Temperature

◆ The system does not operate at the low outdoor temperature in cooling mode and in high outdoor temperature in heating mode for system protection from overload.

■ **Operating range**

OUTDOOR UNIT	COOLING MODE	HEATING MODE
UH026EAV1 / 035EAV1 / 052EAS / 070EAS	-10~43˚C	-15~24˚C
UH052EAV1 / 060EAV1 / 070EAV1	-15~43˚C	-20~24˚C
UH090EAV / 105EAV / 140EAV / 090EAS / 105EAS / 105GAV / 140GAV	-15~50˚C	-20~24˚C

◆ At the beginning of operation, system detects outdoor temperature and determine operating condition.
Once it is started, system is operating regardless of outdoor temperature.

2-8. Inverter Protection Control

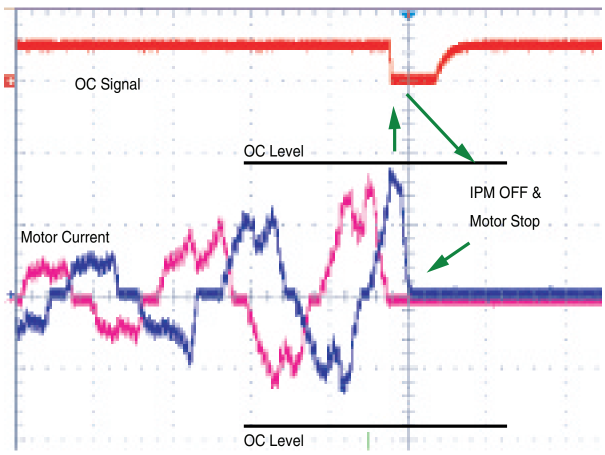
◆ Inverter controller has a hardware and software protection logic for which protects compressor and controller itself.
Typical protection is as follows.

1) IPM Over current protection/OC error/DC peak error (E464)

(1) Control
When peak current of compressor exceeds designed current, compressor stops operating immediately.

(2) Protection purpose
Compressor rotor magnet demagnetizing
IPM(power semiconductor) breakdown

(3) Cause
There are many reasons.
Indoor air flow blocked in heating mode by blade closing, covering air inlet with curtain, etc.
Compressor motor or wiring short circuit, Off the compressor wire connector during rotation, Compressor lock, Compressor magnet demagnetizing, Compressor rotation error, High compressor load in low speed rotation, PCB short circuit, IPM breakdown, etc.



2) Compressor overload protection in low speed (E465)

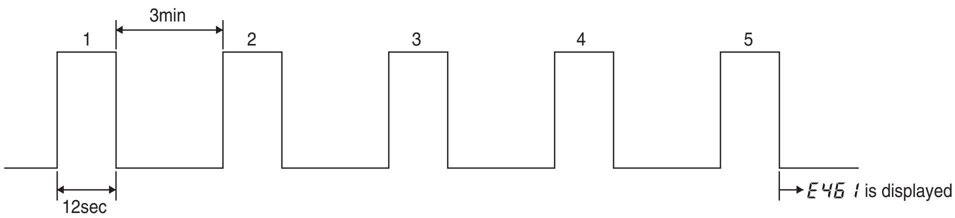
(1) Control
When system is operating under overload condition at the low Hz(ex. under 1800rpm/30Hz), first frequency is grtting down to 780rpm/13Hz. Second, system stops operating when release condition is not satisfied.

(2) Protection purpose
Compressor damage
IPM(semiconductor) breakdown

(3) Cause
When condensing pressure exceeds designed pressure.

3) Compressor starting error detection (E461)

(1) Control
E461 is displayed when compresson fails to start after starting failure of 5 times is detected.



(2) Cause
Compressor wire trouble(disconnect etc.),
Compressor trouble(locking, motor wire trouble etc.),
PCB trouble(Power Driver open mode etc.)

4) Compressor rotation error (E467)

(1) Control
E467 is displayed when targeted rpm is different from actual rpm after mismatched rpm of 3 times is detected.

(2) Protection purpose
Overcurrent trouble, Abnormal compressor vibration.

(3) Cause
Power line voltage changes quickly.
Cycle load changed quickly.
Compressor liquid back. Compressor trouble.
PCB trouble(noise etc).
Compressor motor magnet demagnetizing

Technical Data Book

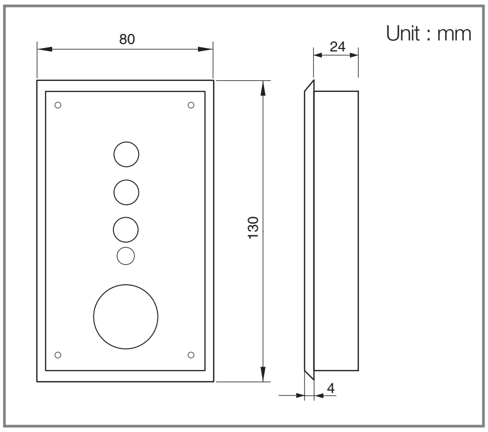
06 Control Systems

1. Individual Control System

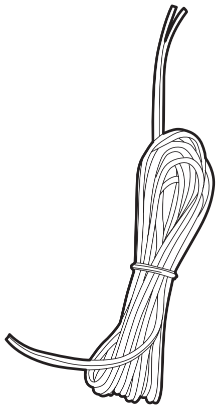
1-1. Wireless Signal Receiver Kit

1) Features

MRK-A00



MRK-A00



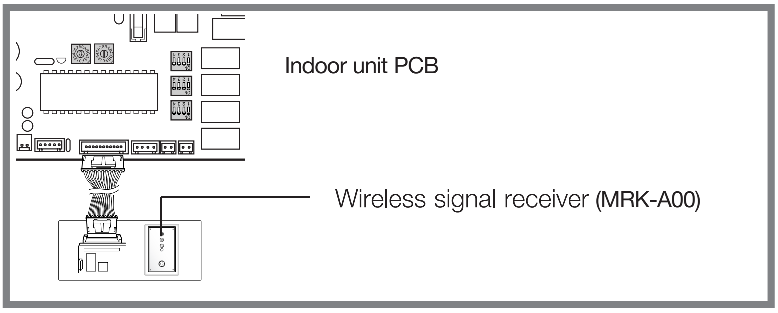
Wireless signal receiver

- Concealed wireless signal receiver
- Filter replacement sign
- Fan operation display
- Operation Timer setting display
- Operation On/Off button
- Operation On display LED (blue)
- Defrost operation display LED (red)

2) Wiring

(1) Connect one end of the receiver wire (MRW-10A) with the receiver kit (MRK-A00).

(2) Connect the other end of the receiver wire (MRW-10A) with the duck indoor unit PCB (CN91).



Note ◆ Wire length : 10m

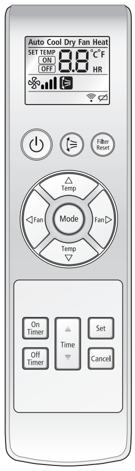
◆ Receiver kit is only available for a duct indoor unit.

1-2. Wireless Remote Controller

1) Features

MR-AH01

MR-CH01



Easy and convenient operation control

- Operation ON/OFF
- Fan speed control
- Operation temperature setting
- Filter replacement alarm reset
- Air flow control
- Simple ON/OFF timer
- Indoor unit option code setting

Note **Functional difference**

◆ MR-AH01: Able to carry out ON/OFF reservation time UP

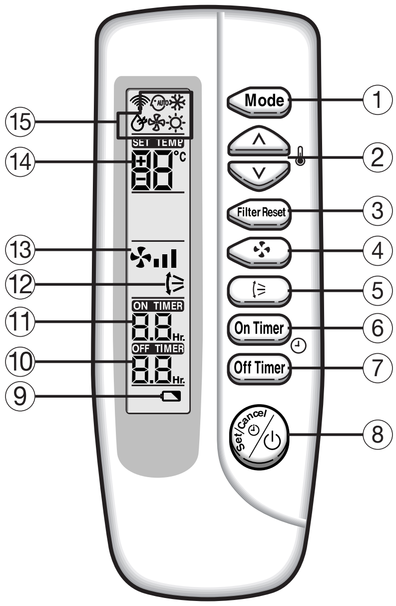
◆ MR-CH01: Able to carry out ON/OFF reservation time UP/DOWN

1. Individual Control System

1-2. Wireless Remote Controller

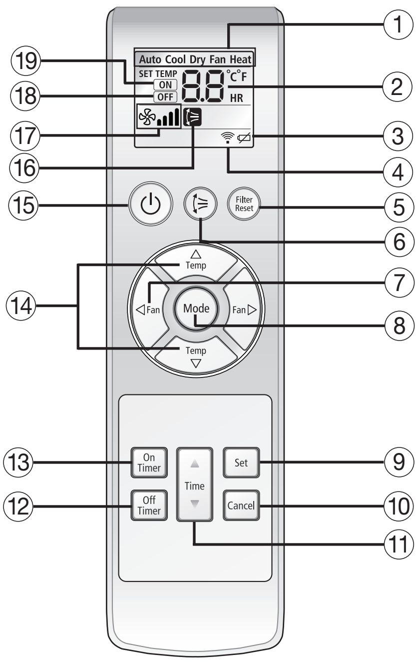
2) Description of buttons and functions

MR-AH01



No.	Name	Description
①	Operation mode setting button	Press the button to select an operation mode.
②	Temperature setting button	Press the button to set the temperature by 1°C.
③	Filter replacement alarm reset button	Press the button to turn off the filter replacement alarm display LED on the indoor panel.
④	Fan speed button	Press this button to select one of the fan speeds. (Auto, Low, Medium and High.)
⑤	Air flow setting button	Press the button to adjust the air flow direction.
⑥	On timer button	If the button is pressed once, it enters On operation reservation mode. (Press button to increase time by 30 minutes.)
⑦	Off timer button	If the button is pressed once, it enters Off operation reservation mode. (Press button to increase time by 30 minutes.)
⑧	On/Off button	Press this button to turn on an indoor unit. Press again to turn off the indoor unit. During On/Off timer setting, it either completes or cancels the timer setting.
⑨	Battery life display	Indicates the battery life.
⑩	Off timer display	Indicates that the Off timer setting is on.
⑪	On timer display	Indicates that On timer setting is on.
⑫	Louver swing display	Indicates that the louver is in swing mode.
⑬	Fan speed display	Indicates the Fan speed settings (Low, Medium, High, or Auto.)
⑭	Set temperature display	Indicates the set temperature.
⑮	Operation mode display	Indicates the selected operation mode.

MR-CH01



No.	Name	Description
①	Operation mode display	Indicates the operation mode.
②	Set temperature display	Indicates the set temperature.
③	Battery life icon	Indicates the battery life.
④	Signal transmission icon	Indicates that wireless signal is transmitted.
⑤	Filter replacement alarm reset button	Press this button to turn off filter replacement alarm LED on the indoor panel.
⑥	Air flow setting button	Press this button to adjust the air flow direction.
⑦	Fan speed button	Press the button to select a fan speed (Auto, Low, Medium, or High).
⑧	Operation mode setting button	Press this button to select the operation mode (Auto, Cooling, Heating, Dry, Fan mode).
⑨	Timer set button	Press this button to complete On/Off timer setting.
⑩	Timer cancel button	Press this button to cancel On/Off timer setting.
⑪	Timer setting button	△ ▽ Press these buttons to increase or decrease time by 30 minutes.
⑫	Off timer button	Press the button to enter the operation Off timer.
⑬	On timer button	Press this button to enter the operation On timer.
⑭	Temperature setting button	△ Temp Temp ▽ Press this button to increase or decrease the set temperature by 1°C.
⑮	On/Off button	Press this button to turn on the indoor unit. Press again to turn off the indoor unit.
⑯	Louver swing Icon	Indicates that the louver is in swing mode.
⑰	Fan speed display	Indicates the fan speed settings (Low, Medium, High, and Auto).
⑱	Off timer display	Indicates that Off timer setting is on.
⑲	On timer display	Indicates that On timer setting is on.

1-2. Wireless Remote Controller

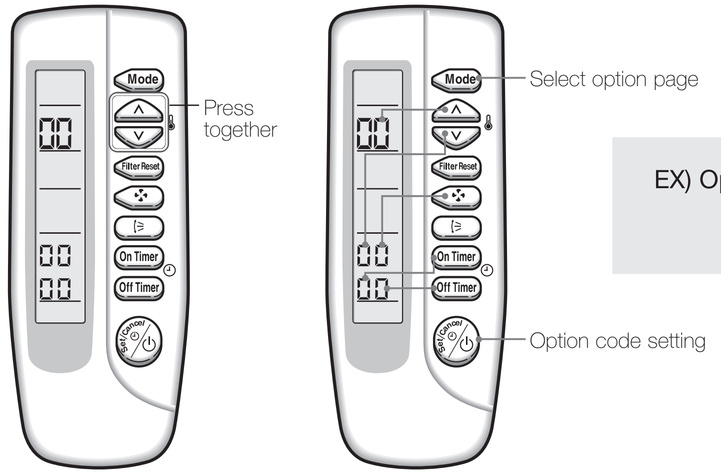
3) Additional functions

◗ Option Code Setting

MR-AH01

(1) Remove batteries from the remote controller.
(2) Press Temp. UP and Temp. DOWN buttons at the same time and then insert the batteries again.
(3) Press the Mode button to select between upper/lower option codes.
(4) Set the option code by pressing Set/Cancel button.

Enter the option code mode   Option code setting

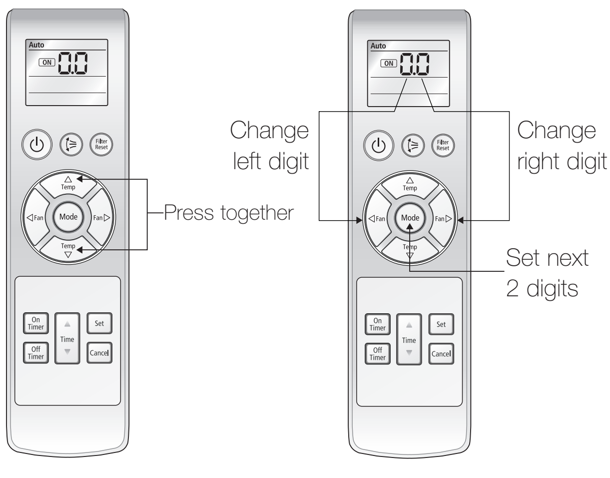


EX) Option code : **0**66064 - **1**70373
Page 0   Page 1

MR-CH01

(1) Remove one battery from the wireless remote controller.
(2) Press Temp ▼ ▲ together and put the battery back to enter the option code setting mode.
(3) Set option code 2 digits. And press “Mode” and set next 2 digits.
(Whenever press “Mode” then change display :
On Auto ➔ Cool ➔ Dry ➔ Fan ➔ Heat ➔ Off Auto ➔ Cool ➔ Dry ➔ Fan ➔ Heat)
Caution : To input option code, timer indicator must be On
(4) Press the On/Off power button to change the option code.

Enter the option code mode   Option code setting



EX) Option code
027402 - **1**4221A ➔ Only 10digits are set.
Set order : 27 - 40 - 24 - 22 - 1A
On Auto Cool Dry Fan Heat

1-3. Wired Remote Controller

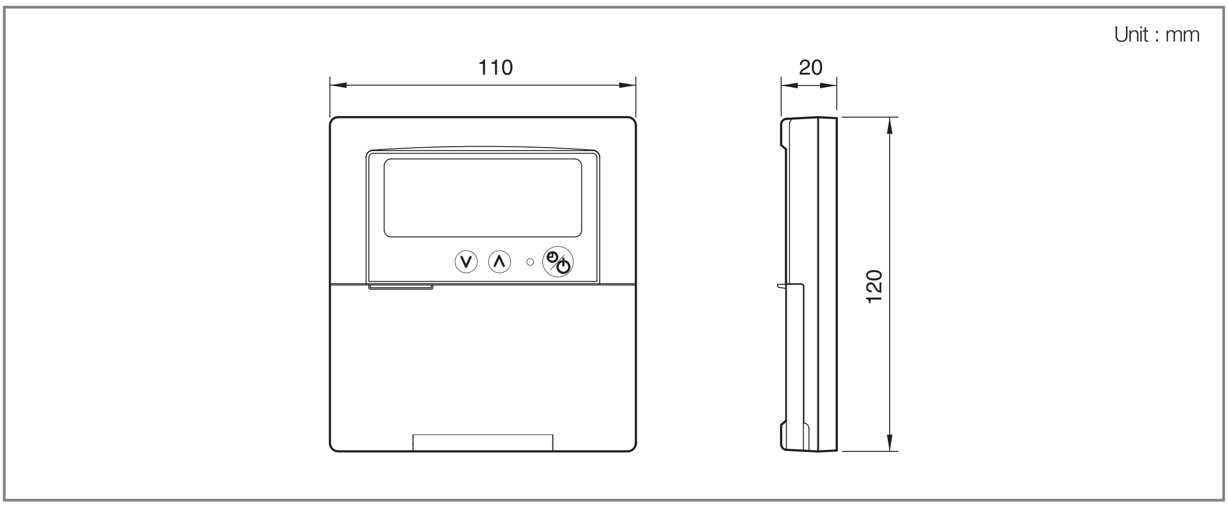
1) MWR-TH01

(1) Features

Easy and convenient operation control

- On/Off control
- Operation mode, Temperature setting, Fan speed, Air flow direction
- Simple operation ON/OFF timer
- Error display
- Filter replacement alarm and reset
- Single indoor unit or multiple indoor group control (Able to control Max. 16 indoor units)

(2) Dimensional drawing

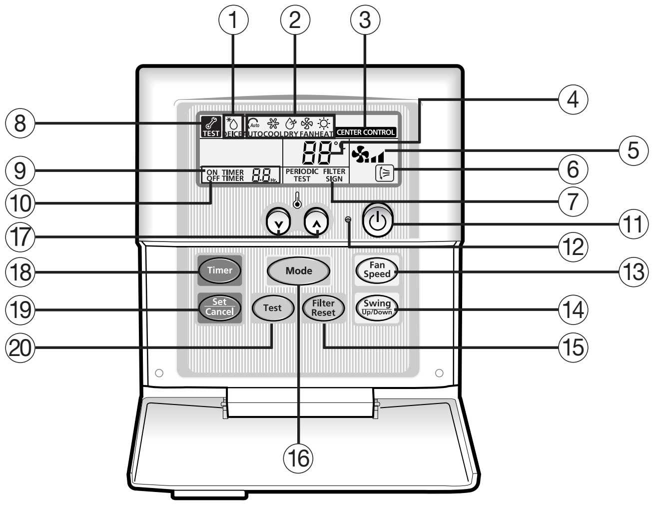


1. Individual control system

1-3. Wired Remote Controller

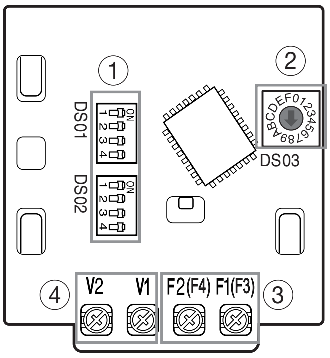
1) MWR-TH01

(3) Description of buttons and functions



No.	Name	Description
①	Defrost operation icon	Displayed when Defrost operation is started.
②	Operation mode icon	Indicates the current operation mode.
③	Central control display	Indicates that the remote controller prohibition option is set. (Only upper controller, such as the Centralized controller, can control indoor unit).
④	Set temperature display	Indicates the set temperature.
⑤	Fan speed display	Indicates the fan speed setting. (Low, Medium, High, or Auto)
⑥	Louver swing icon	Indicates that the louver is in swing mode.
⑦	Filter replacement alarm display	Indicates that filter replacement time has passed.
⑧	Error indicator	Indicates that an error occurred in indoor units, outdoor unit, or wired remote controller.
⑨	On timer display	Indicates that On timer setting is on.
⑩	Off timer display	Indicates that Off timer setting is on.
⑪	Operation On/Off button	Press this button to turn on all indoor units connected to the wired remote controller. Press again to turn off all connected indoor units.
⑫	Operation LED	Turned on if indoor unit which is connected to the wired remote controller operates ON.
⑬	Fan speed button	Press the button to select one fan speed (Auto, Low, Medium, or High.)
⑭	Air flow setting button	Press this button to adjust the air flow direction.
⑮	Filter replacement alarm reset button	Press this button to clear the filter replacement alarm on the display.
⑯	Operation mode setting button	Press this button to select operation mode in the following order: Auto-Cool-Dry-Fan-Heat.
⑰	Temperature setting button	Press Up / Down buttons to set the temperature.
⑱	Timer button	1) When an indoor unit is turned Off: When the button is pressed, it enters the operation OFF timer mode to decrease time by 30 minutes. 2) When an indoor unit is turned On: When the button is pressed, it enters the operation ON timer mode to increase time by 30 minutes.
⑲	Operation timer set/ cancel button	When there is no operation timer setting: no change. When an operation timer is under way: confirm the reservation. When there is an operation timer setting: cancel the reservation.
⑳	Error checking button	When TEST icon appears, press this button to check the error code that has occurred.

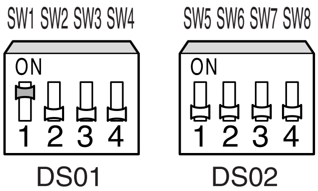
PCB Description



No.	Name	Description
1	Option switches	It is possible to set additional functions for wired remote controller.
2	Master / Slave setting switch (Address switch)	It is used for “2-Remote controller”.
3	Communication wiring terminal	Connection to indoor unit (F3/F4).
4	Power wiring terminal (12VDC)	Connection to indoor unit (V1/V2).

(4) Additional functions

◗ Option switch

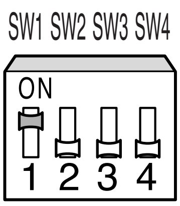


It is possible to set additional functions for wired remote controller with option switches on the wired remote controller PCB.

※ Except SW1, the default switch settings are all OFF.

Switch No.	OFF	ON
SW 1	For cooling model only (If the operation mode is selected, heating operation display is skipped.)	For cooling and heating model
SW 2	Connect the wired remote controller to an indoor unit communication line, COM2(F3/F4).	Connect the wired remote controller to an indoor unit communication line, COM1 (F1/F2).
SW 3	Temperature display in Celsius (°C)	Temperature display in Fahrenheit (°F)
SW 4	Able to use both wireless remote controller and wired remote controller for indoor unit control.	Unable to use wireless remote control for indoor unit control.
SW 5	Set the RMC address of the connected indoor unit with the wired remote controller.	Cancel the indoor unit's RMC address set by the wired remote controller then use indoor unit PCB setting.

◗ Master/Slave setting switch (Address switch)



❶ When 1 indoor unit or 1 group is connected with 1 wired remote controller; set to 0 (Default: 0)

❷ When 1 indoor unit or 1 group is connected with 2 wired remote controllers; One wired remote controller must be set as Master and the other as Slave.

- MASTER : Set the switch to 0
- SLAVE : Set the switch to 1

1-3. Wired Remote Controller

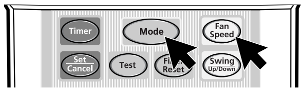
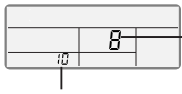
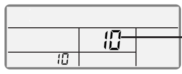
1) MWR-TH01

(4) Additional functions

◗ Group (RMC) address assignment

❈ Indoor unit and wired remote controller should be connected by COM2 (F3/F4) communication line.

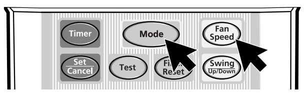
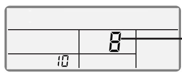
❈ RMC address assignment function is only applicable when an indoor unit is connected with wired remote controller one-by-one.

Order	Detailed description	Display
1	Set SW5 of the wired remote controller to OFF. Press both Fan speed button and Mode button for about 5 seconds.	
2	If the “RMC address setup” mode entered, the main address of the indoor unit and the RMC address are displayed on LCD of the wired remote controller. ❈ If the group address has already been set, it displays the current RMC address. If not, it displays “88”.	 Display the RMC address that has been already set. Display the main address of the connected indoor unit.
3	Use the temperature setting button to set to a desired RMC address. At this time, group address display flashes.	 Display changed RMC address.
4	Press operation On/Off button once to apply set RMC address to the indoor unit with a buzz. Press operation On/Off button once more to exit from RMC setting mode.	

◗ Group (RMC) address assignment cancel

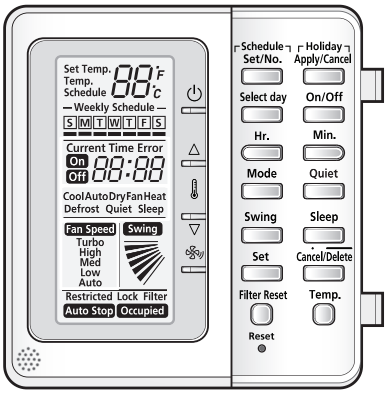
❈ Indoor unit and wired remote controller should be connected by COM2 (F3/F4) communication line.

❈ RMC address assignment function is only applicable when an indoor unit is connected with wired remote controller one-by-one.

Order	Detailed description	Display
1	Set SW5 of the wired remote controller to ON. Press both Fan speed button and Mode button for about 5 seconds.	
2	If the “RMC address cancel” mode entered normally, the main address and RMC address that have been set are displayed on the LCD of wired remote controller set in an indoor unit and PCB.	 RMC address display that has been set up in PCB
3	Press operation On/Off button to apply the set RMC address to the indoor unit with a buzz. Press operation On/Off button once again to exit from RMC setup cancel mode.	

2) MWR-WS00

(1) Features



Easy air conditioner control

- Operation ON / OFF control
- Set operation mode, setting temperature, fan speed, air flow direction
- Error display
- Filter replacement alarm display and reset
- Single indoor unit control or multiple indoor unit group control (Able to control max. 16 indoor units)

Weekly operating schedule setting

- Able to set desired operation mode, setting temperature, and fan speed to operate based on weekly reservation.
- Able to apply schedule exception day.

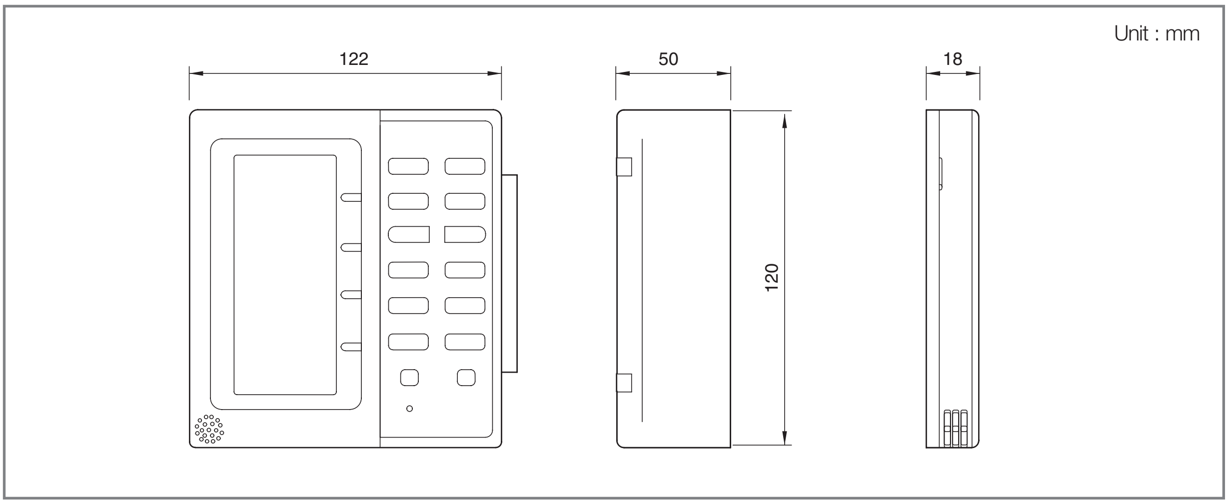
Energy saving operation

- Upper/Lower temperature limit setting
- Automatic operation stop function

User convenience function

- Button lock function
- Real-time clock function: current time, day display function
- Built-in room temperature sensor
- Indoor unit operation state display
- Service mode support
  - Indoor unit cycle data monitoring
  - Indoor unit option code setting and monitoring

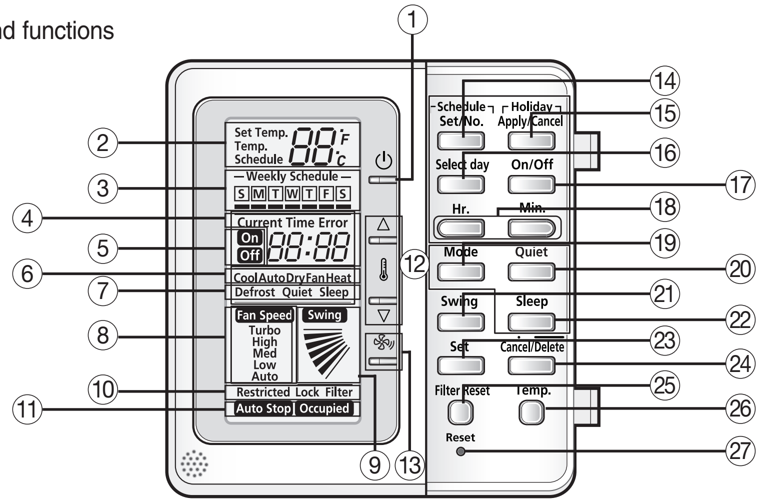
(2) Dimensional drawing



1-3. Wired Remote Controller

2) MWR-WS00

(3) Description of buttons and functions



①	Operation On/Off button	
	Press this button to turn on all connected indoor units. Press again to turn off all connected indoor units.	
②	Setting temperature / indoor temperature / schedule display	
	• When operation is On, it displays **Set Temp.** and the set temperature of one of the connected indoor units. • If "Temp." button is pressed, it displays **Temp.** and the room temperature. • If Schedule Set/No button is pressed, it displays **Schedule** and the selected day's schedule number.	
③	Current day and schedule existence display	
	Displays existence of operation schedule setting for a week • In normal mode: displays □ on the current day (ex: Monday M). • Schedule setup mode: displays □ on the selected day . • If there is a schedule setting for the day, ▬ displays under the day (ex: if there is a schedule setting for Monday M).	
④	Current time and error display	
	• In normal mode: displays **Current Time** and the current time. • If there is an indoor unit error: When an error occurs, displays **Error** and the error code. • During schedule setup: turns off all and displays the scheduled time only.	
⑤	On/Off schedule state display	
	Shows if the current day's scheduled operation is On or Off state.	
⑥	Operation mode display	
	Indicates the operation mode. (Cool, Auto, Dry, Fan, Heat).	
⑦	Special function display 1	
	Defrost : Displayed when Defrost operation is started. **Quiet** : Displayed when Quiet operation is selected. **Sleep** : Displayed when Sleep operation is selected.	
⑧	Fan speed setting display	
	Displays the fan speed setting (Auto, Low, Med, High, or Turbo.)	
⑨	Air flow direction setting display	
	Displays air flow direction setting.	
⑩	Special function display 2	
	Restricted : Displayed when a function that is not supported by indoor unit is selected. **Lock** : Displayed when button lock function is set. **Filter** : Displayed when filter replacement time is reached.	

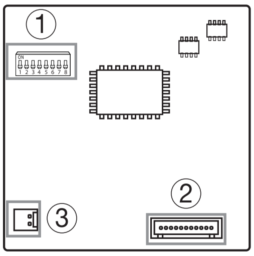
⑪	Special function display 3
	Auto Stop : Displayed when automatic stop function is set. Occupied : Displayed when the wired/wireless remote controller is prohibited by upper-layer devices.
⑫	Temperature setting button (applicable only for Cooling, Heating and Auto.)
	If △ is pressed, increase by 1°C (°F). If ▽ is pressed, decrease by 1°C (°F).
⑬	Fan speed setting button
	Press this button to change the fan speed in the following order Auto ➔ Low ➔ Med ➔ High ➔ Turbo.
⑭	Schedule Set / No button
	Press this button to enter the schedule setting mode. During the schedule setting mode, it makes it possible to show an operation schedule status or to set a new schedule with the button input.
⑮	Holiday Apply / Cancel button (only applicable for schedule setting mode)
	Press this button to deactivate the operation schedule of the selected number. Press this button again to activate the operation schedule of the selected number.
⑯	Select day button (only applicable for schedule setting mode)
	Press this button to change days in the following order: S ➔ M ➔ T ➔ W ➔ T ➔ F ➔ S.
⑰	On/Off button (only applicable for schedule setting mode)
	Press this button to enter On schedule setting mode. Press this button again to enter Off schedule setting mode.
⑱	Hr. Min button (only applicable for schedule setting mode)
	Press Hr. button to increase time by 1 hour. Press Min button briefly to increase time by 1 minute. Give a long press to increase time by 10 minutes.
⑲	Mode button
	Press this button to change the operation mode in the following way: Cool ➔ Dry ➔ Fan ➔ Heat ➔ Auto.
⑳	Quiet button
	Press this button to select the Quiet indoor unit operation.
㉑	Swing button
	Press this button to change the air flow direction.
㉒	Sleep button
	Press this button to select the Sleep operation for an indoor unit.
㉓	Set button (only applicable for schedule setting mode)
	After completing a schedule setting (time, operation mode, fan speed, desired temperature), press this button to store the schedule.
㉔	Cancel/Delete button (only applicable for schedule setting mode)
	Press this button briefly to exit the schedule setting mode. Give a long press to delete the set schedule.
㉕	Filter replacement alarm reset button
	Press this button to clear the filter replacement alarm display.
㉖	Temp. button
	Press this button to display the room temperature.
㉗	Reset button
	Press this button briefly to set the current time. Give a long press to change the current time and schedule setting to the default mode.

1-3. Wired Remote Controller

2) MWR-WS00

(3) Description of buttons and functions

PCB Description

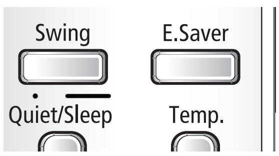


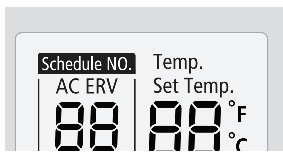
No.	Name	Description
①	Option switches	It is possible to set additional functions for wired remote controller.
②	Software upgrade connector	It is used to upgrade the micro-controller’s software.
③	Communication & Power connector	- Red, blue wire : Connection to indoor unit (F3/F4). - Orange, yellow wire :Connection to indoor unit (V1/V2).

(4) Additional functions

◗ Function keys

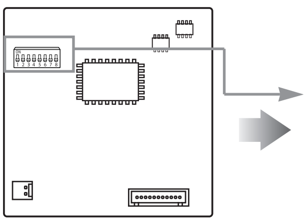
Tracking Function	
Function	① If an additional indoor unit is connected to the wired remote controller, ② If a connected indoor unit is deleted. ③ If wired remote controller is replaced. it is compulsory to carry out Tracking in the wired remote controller for indoor units.
Control	Press both Set button and Cancel button on the wired remote controller for 5 seconds. Then LCD backlight is turned on again and the temperature display is shown like below. At this time, there is no change in the operation status of the indoor unit.

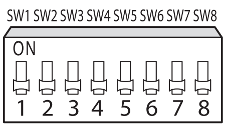




❇ Tracking is underway.

◗ Option switch





Able to set an additional function for wired remote controller with the 8 option switches on the PCB of wired remote controller.

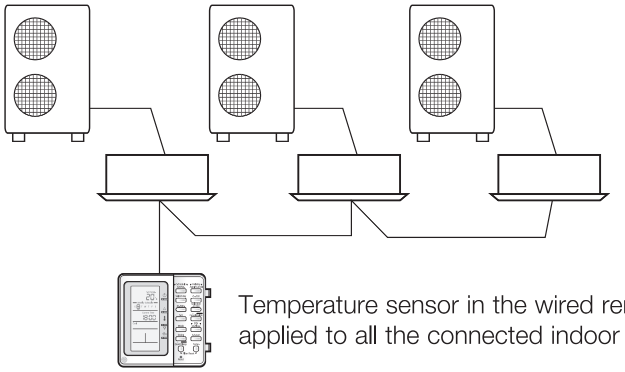
❇ Default switch settings are all OFF.

Switch No.	OFF	ON
SW 1	For cooling and heating model	For cooling model only (If the operation mode is selected, heating operation display is skipped.)
SW 2	Able to use both wireless remote controller and wired remote controller for indoor unit control.	Unable to use wireless remote controller.
SW 3	If two wired remote controllers are used to control 1 indoor unit (group), it is set as a master wired remote controller.	If two wired remote controllers are used to control 1 indoor unit (group), it is set as a Slave wired remote controller.
SW 4	Temperature display in Celsius (°C).	Temperature display in Fahrenheit (°F).
SW 5	Use the temperature sensor in the indoor unit for indoor unit control.	Use the temperature sensor in the wired remote controller for indoor unit control.
SW 6	No function	Use the average value of temperature sensors of wired remote controller and indoor unit for indoor unit control.
SW 7	No function	No function
SW 8	Service mode monitoring	Service mode setting

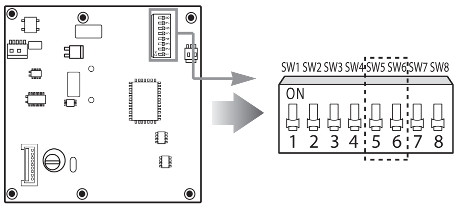
Note

IF SW5 is ON, then “setting temperature value under the heating mode” is set to 0°C.

◗ Temperature control with built-in temperature sensor

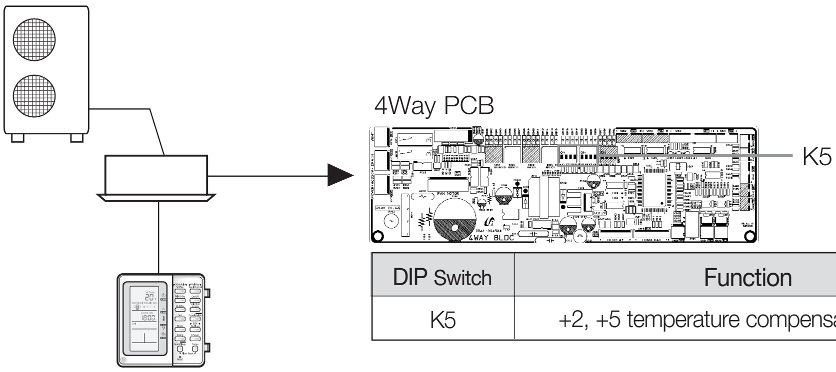


Temperature sensor in the wired remote controller can be applied to all the connected indoor units.



DIP Switch		Function
SW 5	OFF	Use the temperature sensor in the indoor unit.
	ON	Use the temperature sensor in the wired remote control.
SW 6	OFF	Reserved.
	ON	Use the average value of the temperature sensors in the indoor unit(s) and the wired remote controller(SW5 in ON). Here, the wired remote controller chooses the indoor unit of the lowest MAIN address, or one of the indoor units at random.

◗ Heating mode temperature compensation



DIP Switch	Function
K5	+2, +5 temperature compensation.

DIP Switch		Function
SW 5	ON	Use the temperature sensor in the wired remote control.

What happens to heating mode temperature compensation (+2°C or +5°C) when the use of the wired R/C built-in temperature is enabled ?

- The heating mode temperature compensation is cleared. (0°C)
- If you want to use compensation, set value in the service mode menu 8.

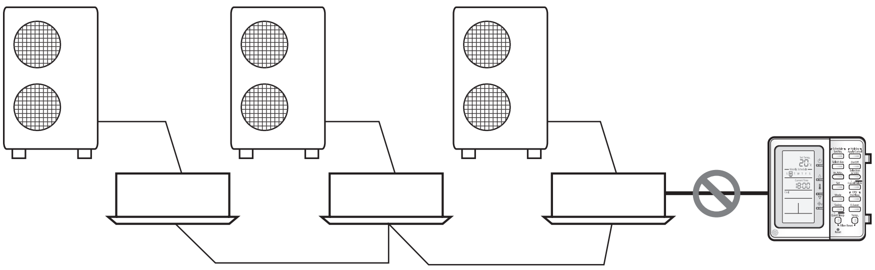
1-3. Wired Remote Controller

2) MWR-WS00

(4) Additional functions

◗ Power failure of wired remote controller

① Temperature control wire built-in temperature sensor



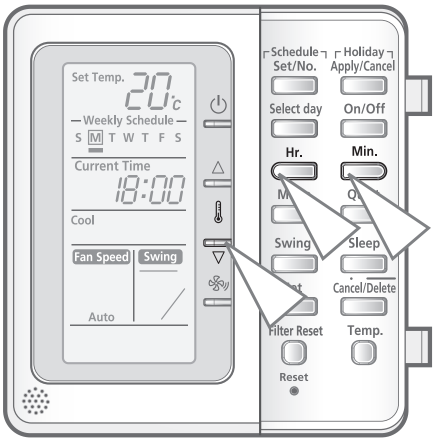
What if communication block occurs on the wired remote controller when its built-in temperature use is enabled ? (Block due to either power failure or disconnection only)

- When communication is blocked over 3 minutes,
  - ❶ Indoor unit ignores the built-in temperature sensor and accepts its sensor in the indoor unit.
  - ❷ Ignores heating mode temperature compensation setting by the remote controller and accepts K5 switch setting on the indoor unit PCB.
- When communication resumes,
  - ❶ Built-in temperature use is recovered.
  - ❷ Setting temperature compensation in heating mode changes to 0°C.

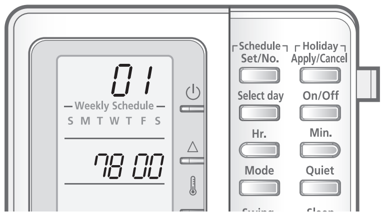
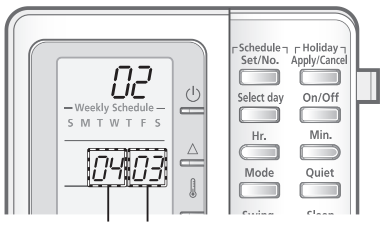
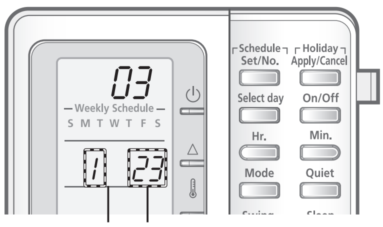
② Recovery of parameter setting

Function	Power failure recovery	Parameter storage
Current time	YES (for 2 days)	Wired R/C
Schedule setting	YES	Wired R/C
Built-in temperature sensor Compensation	NO (re-setting required)	Wired R/C
Indoor unit RMC address	YES	Indoor unit
Option code setting	YES	Indoor unit
Button lock setting	NO (re-setting required)	NONE
Upper/Lower set temperature limit	YES	Wired R/C
Automatic Stop	YES	Wired R/C
Fan direction setting	NO (re-setting required)	NONE
Indoor unit RPM compensation	NO (re-setting required)	NONE
Stop EEV step under Heating mode	NO (re-setting required)	NONE
Filter replacement time	NO (re-setting required)	NONE
Indoor unit heating compesation(+2, +5)	NO (re-setting required)	NONE

◗ Service mode menu description



Press Hr., Min. and temperature setting ▽ button for more than 5 seconds to enter Service mode.

<table>
<tr><th>Menu</th><th>Detailed Description</th><th>Display</th></tr>
<tr><td>01</td><td>SW 8 OFF: Option code monitoring
SW 8 ON: Option code setting
Option code :
Detailed indoor unit functions such as indoor unit model type, indoor unit capacity, blackout restoration, and drain pump control are set by the combination of 12-digit or 24-digit numbers.
(ex. 0d7800-198091)</td><td></td></tr>
<tr><td>02</td><td>SW 8 OFF : Indoor unit address monitoring
SW 8 ON : Indoor unit address (RMC address only) setting
Indoor unit address:
Address used for indoor unit communication and control
(Set by a rotary switch of the indoor unit PCB)
1) Main address: Indoor unit's physical address
2) RMC address: Address used in the central control
RMC (1) : Interface module channel address
RMC (2) : Indoor unit group address</td><td>
Main address
Left: RMC (1) address
Right: RMC (2) address</td></tr>
<tr><td>03</td><td>SW 8 OFF / ON: Monitor indoor unit cycle data
<table><tr><th>Menu</th><th>Data</th></tr><tr><td>1</td><td>Indoor temperature</td></tr><tr><td>2</td><td>EVA-IN temperature</td></tr></table></td><td>
Menu Data</td></tr>
</table>

Note

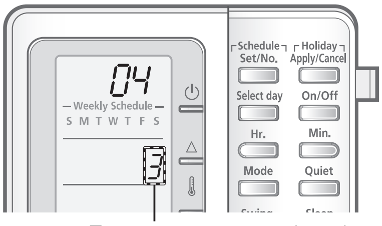
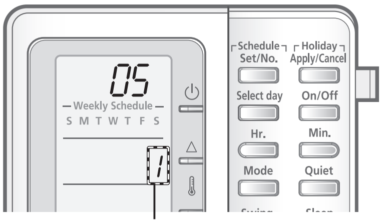
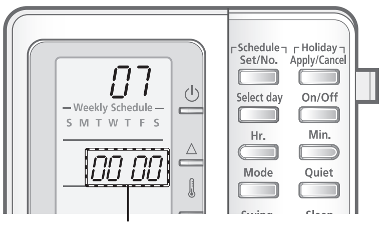
In case of indoor unit group control, only menu 4, 13, 14 can be available.

1-3. Wired Remote Controller

2) MWR-WS00

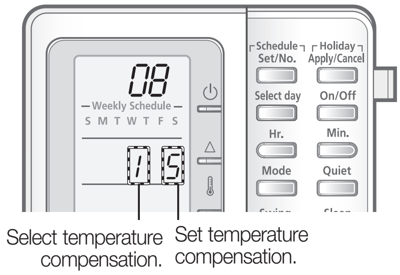
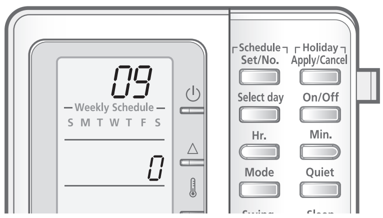
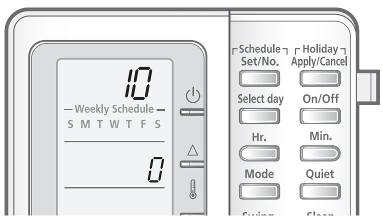
(4) Additional functions

◗ Service mode menu description

Menu	Detailed Description	Display
04	SW 8 OFF : Monitor the compensation value of the temperature sensor in the wired remote controller SW 8 ON : Set the compensation value for temperature sensor in the wired remote controller. **Compensate temperature sensor for wired remote controller:** To compensate and display the measured temperature on the temperature sensor in the wired remote controller. (ex : Actually measured temperature 20°, and compensate 5° → It is displayed as 25° when indoor temperature is displayed).	 Temperature compensation value (-9~9°)
05	SW 8 OFF : Monitor whether indoor unit's FAN RPM compensation is used SW 8 ON : Set indoor unit FAN RPM compensation **Compensation of FAN RPM of the indoor unit:** A function to increase the FAN RPM in the indoor unit (ex : When compensation is set, RPM is changed from low to medium.) 0 : Use the default RPM of the indoor unit (Use the indoor unit PCB switch setting as it is.) 1 : Set indoor unit RPM 1 level Up compensation. 2 : Cancel indoor unit RPM compensation.	 RPM compensation state
07	SW 8 OFF : Monitor the filter replacement time SW 8 ON : Set the filter replacement time **Filter replacement time:** Set the indoor unit filter replacement time. 0000 : Use the default setting for indoor units. (Use the default setting for indoor unit PCB switch.) 1000 : Replacement display after 1000 hours. 2000 : Replacement display after 2000 hours.	 Filter replacement notice time setting

Note

In case of indoor unit group control, only menu 4, 13, 14 can be available.

Menu	Detailed Description	Display
08	SW 8 OFF : Monitor the setting temperature compensation value under the Heating mode. SW 8 ON : Set the setting temperature compensation value. **Setting temperature compensation value of the heating operation:** Compensate the setting temperature used for heating operation control. (ex :User setting temperature 30°. Heating operation compensation temperature 5°. → Heating operation control based on the set temperature of 35°.) Select temperature compensation values : 1) 0 – Use indoor unit PCB setting value 2) 1 – Use wired remote controller setting value Temperature compensation: -9~9 °C	
09	SW 8 OFF / ON: Monitor if central control is in use. (Check the indoor unit PCB switch setting status) 0: Use central control 1: No central control used	
10	SW 8 OFF / ON : Monitor if the drain pump is in use. (Check the indoor unit PCB switch setting status) 0: Drain pump use 1: No drain pump used	

Note

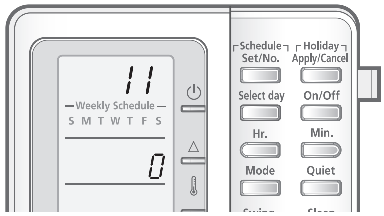
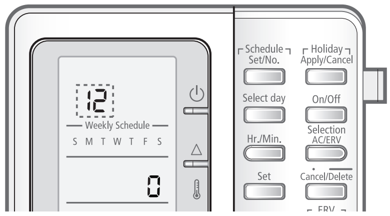
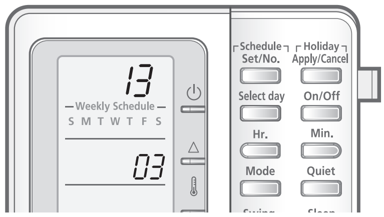
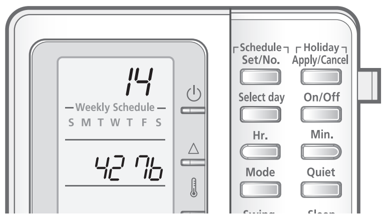
In case of indoor unit group control, only menu 4, 13, 14 can be available.

1-3. Wired Remote Controller

2) MWR-WS00

(4) Additional functions

◗ Service mode menu description

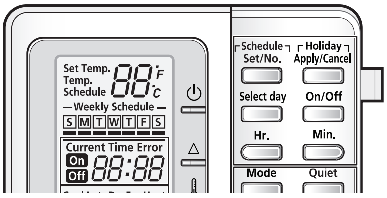
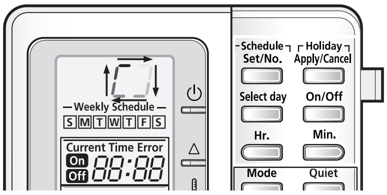
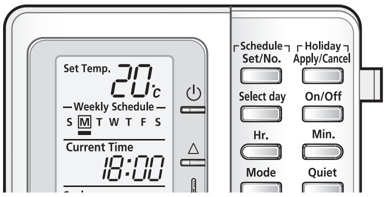
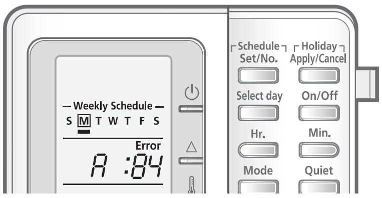
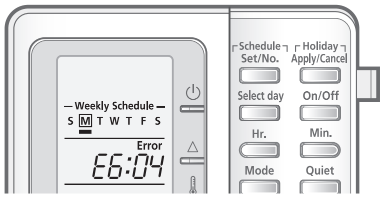
Menu	Detailed Description	Display
11	SW 8 OFF / ON: Monitor if electric heater is in use. (Check the indoor unit PCB switch setting status) 0: Electric heater use 1: No electric heater used	
12	SW 8 OFF / ON: Monitor if hot water control is in use. (Check the indoor unit PCB switch setting status) 0: Hot water control use 1: No hot water control used	
13	SW 8 OFF / ON: Display connected indoor unit quantity.	
14	SW 8 OFF / ON: Display wired remote controller software version.	

Note

In case of indoor unit group control, only menu 4, 13, 14 can be available.

(5) Installation

◗ Operation checking

Operation	Display
Power input	 LCD is turned on for about 1second, all segments are lit.
Indoor unit Tracking	 Temperature display indicates Tracking is under way.
Normal connection of indoor unit	 Displays the operation status of the connected indoor unit.
Communication error	  Display A84 and E604 in turn. After checking the communication line wiring between indoor unit and wired remote controller, carry out power reset or tracking (Set + Cancel). (A84 : Wired remote controller, E604 : Communication failure error between indoor unit and wired remote controller)

Note

In case of indoor unit group control, only menu 4, 13, 14 can be available.

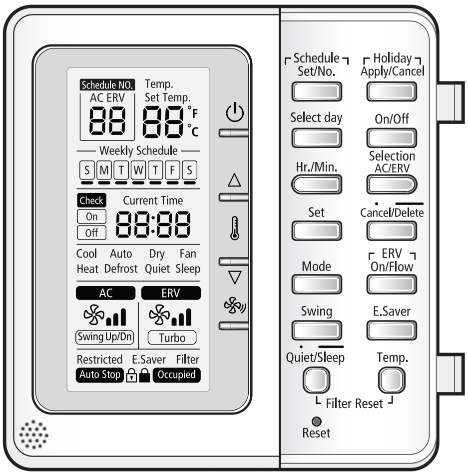
Control Systems

1. Individual control system

1-3. Wired Remote Controller

3) MWR-WE00

(1) Features



Note

Indoor unit can use MWR-WE00 without ERV.
ERV cannot use MWR-WE00 without indoor unit

Easy air conditioner and ERV control

- A/C and ERV unified controller
- A/C operation ON / OFF
- A/C set operation mode, setting temperature, air flow direction, fan speed
- ERV operation ON/OFF, fan speed
- Error display
- Filter replacement alarm display and reset
- Single indoor unit control or multiple indoor unit control (Max 16 units)

Weekly operating schedule setting

- Weekly operating schedule (A/C only, ERV only, A/C + ERV)
- Able to set desired A/C operation mode, setting temperature and fan speed to operate based on weekly reservation.
- Able to apply schedule exception day.

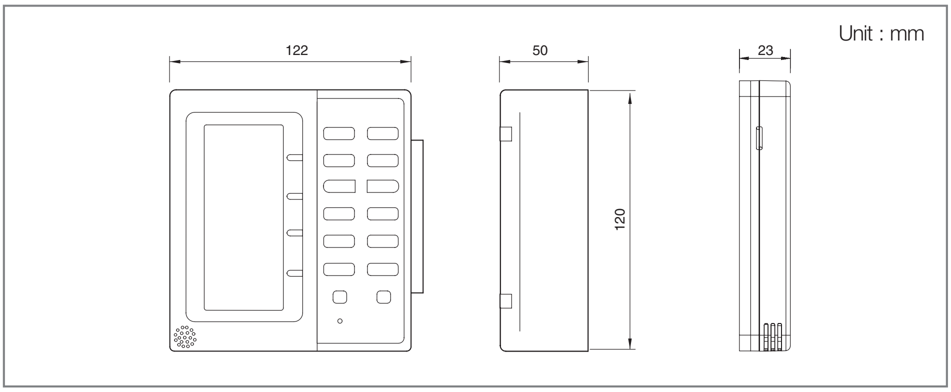
Energy saving operation

- Upper/Lower temperature limit setting
- Automatic operation stop function
- Energy saving operation mode

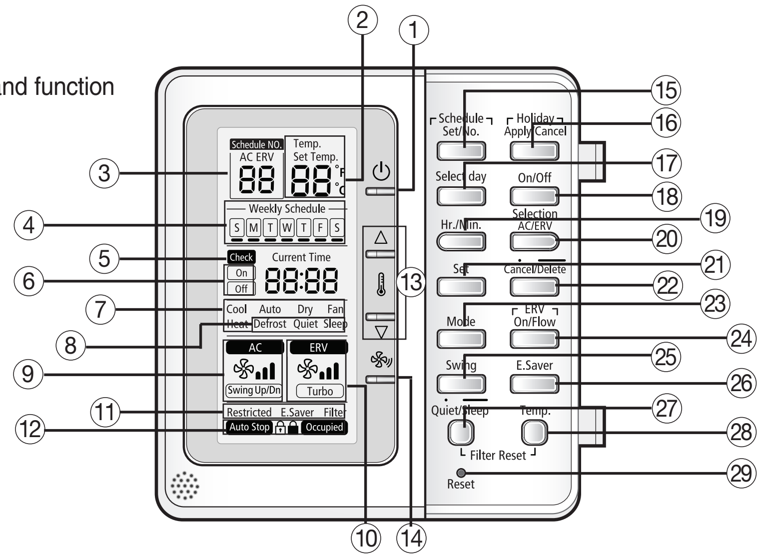
User convenience function

- Child lock
- Different button permission levels.
  (Operation mode, temperature setting, ON/OFF, fan speed)
- Real-time clock function: current time, day display function
- Built-in room temperature sensor
- Indoor unit operation state display.
- Service mode support
- Indoor unit cycle data monitoring
- Indoor unit option code monitoring and setting
- Indoor unit dip switch state monitoring

(2) Dimensional drawing



(2) Description of button and function



①	Operation On/Off button
	Press this button to turn On/Off all connected units. 1) A/C and ERV interlocking control (See service mode- menu14) - Turn On : Indoor unit turns On / ERV turns On as automatic ventilation mode, high fan speed - Turn Off : All unit Off 2) No A/C and ERV interlocking control : Turn On/Off all connected indoor unit
②	Temperature display (Setting / room)
	• When operation is On, it displays **Set Temp.** and the set temperature of one of the connected indoor units. • If, "Temp." button is pressed, it displays **Temp.** and the room temperature. • Do not display temperature during "Dry" and "Fan" mode • Temperature range (Celsius: -9 ~ 40 °C Fahrenheit: 0 ~ 99 °F) • Out of range display: "LO" or "HI"
③	Schedule number and schedule applied unit display
	Displays schedule number and schedule applied unit.
④	Current day and schedule existence display
	Displays existence of operation schedule setting for a week • In normal mode: displays □ on the current day (ex: Monday M). • Schedule setup mode: displays □ on the selected day. • If there is a schedule setting for the day ▬ displays under the day (ex: if there is a schedule setting for Monday M).
⑤	Current time and error display
	• In normal mode: displays **Current Time** and the current time. • If there is an indoor unit error: When an error occurs, displays **Check** and the error code. • During schedule setup: turns off all and displays the scheduled time only.
⑥	On/Off schedule state display
	Shows if the current day's scheduled operation is On or Off state
⑦	A/C operation mode display
	Indicates the A/C operation mode. (Cool, Auto, Dry, Fan, Heat).
⑧	Special function display 1
	Defrost : Displayed when Defrost operation is started. **Quiet** : Displayed when Quiet operation is selected. **Sleep** : Displayed when Sleep operation is selected.
⑨	A/C fan speed setting and louver swing state display
	• Displays the fan speed setting (Auto, Low, Med, High). • Displays Swing Up/Dn when louver swings.

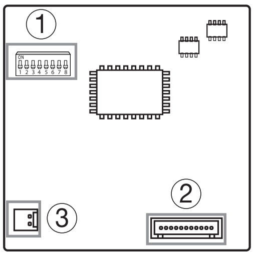
Control Systems

1. Individual control system

⑩	ERV fan speed setting display
	• Displays the fan speed setting (Med, High, or Turbo)
⑪	Special function display 2
	Restricted : Displayed when a function that is not supported by indoor unit is selected. E,Saver : Displayed when energy saving function is set. Filter : Displayed when filter replacement time is reached.
⑫	Special function display 3
	Auto Stop : Displayed when automatic stop function is set. : Displayed when whole button lock (Child lock). : Displayed when different level button lock is set. Occupied : Displayed when the wired/wireless remote controller is prohibited by upper-layer devices.
⑬	Temperature setting button (applicable only for Cooling, Heating, Dry and Auto).
	If △ is pressed, increase by 1°C (°F). If ▽ is pressed, decrease by 1°C (°F).
⑭	Fan speed setting button
	Press this button to change the fan speed in the following order Auto ➔ Low ➔ Med ➔ High.
⑮	Schedule Set / No. button
	Press this button to enter the schedule setting mode. During the schedule setting mode, it makes it possible to show an operation schedule status or to set a new schedule with the button input.
⑯	Holiday Apply / Cancel button (only applicable for schedule setting mode)
	Press this button to deactivate the operation schedule of the selected number. Press this button again to activate the operation schedule of the selected number.
⑰	Select day button (only applicable for schedule setting mode)
	Press this button to change days in the following order: S ➔ M ➔ T ➔ W ➔ T ➔ F ➔ S
⑱	On/Off button (only applicable for schedule setting mode)
	Press this button to enter On schedule setting mode. Press this button again to enter Off schedule setting mode.
⑲	Hr. / Min. button (only applicable for schedule setting mode)
	Press this button to set time.(Hour and minute)
⑳	Unit selection button
	Press this button to select the unit to apply schedule. (Press order :A/C + ERV ➔ A/C only ➔ ERV only) If ERV is not installed, then the unit is fixed as A/C.
㉑	Set button (only applicable for schedule setting mode)
	After completing a schedule setting (time, operation mode, fan speed, desired temperature), press this button to store the schedule.
㉒	Cancel/Delete button (only applicable for schedule setting mode)
	Press this button briefly to exit the schedule setting mode. Give a long press to delete the set schedule.
㉓	Mode button
	Press this button to change the operation mode in the following way: Cool ➔ Dry ➔ Fan ➔ Heat ➔ Auto (If K1 is ON ➔ Heating mode is skip / If K7 is ON ➔ Auto mode is skip)
㉔	ERV operation and fan speed button
	Press this button to turn On / Off, and to set fan speed. (Press order : Turn on ➔ High fan ➔ Turbo fan ➔ Med fan ➔ Turn off)
㉕	Swing button
	Press this button to change the air flow direction.
㉖	Energy saving operation button
	Press this button to select energy saving operation. If ERV is not installed, then it doesn't work
㉗	Quiet / sleep button
	Press this button briefly to select Quiet operation. Give a long press to select sleep operation.
㉘	Temp. button
	Press this button to display the room temperature.
㉙	Reset button
	Give a long press to reset all schedule setting.

(3) Description of buttons and functions

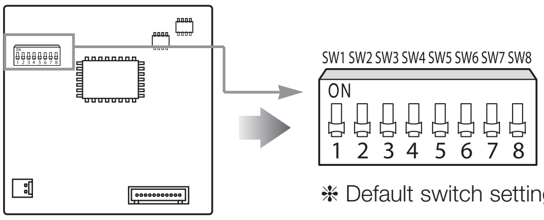
PCB Description



No.	Name	Description
1	Option switches	It is possible to set additional functions for wired remote controller.
2	Software upgrade connector	It is used to upgrade the micro-controller's software.
3	Communication & Power connector	- Red, blue wire : Connection to indoor unit (F3/F4). - Orange, yellow wire : Connection to indoor unit (V1/V2).

(4) Additional functions

◗ Option switch



Able to set an additional function for wired remote controller with the 8 option switches on the PCB of wired remote controller.

❇ Default switch settings are all OFF.

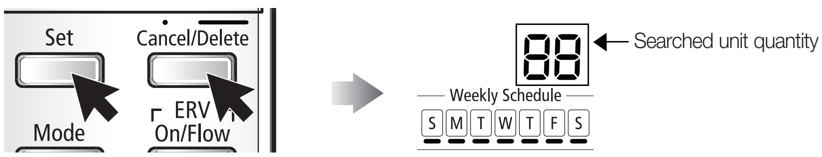
Switch No.	OFF	ON
SW 1	For cooling and heating model	For cooling model only (If the operation mode is selected, heating operation display is skipped.)
SW 2	Able to use both wireless remote controller and wired remote controller for indoor unit control.	Unable to use wireless remote controller.
SW 3	If two wired remote controllers are used to control 1 indoor unit (group), it is set as a master wired remote controller.	If two wired remote controllers are used to control 1 indoor unit (group), it is set as a Slave wired remote controller.
SW 4	Temperature display in Celsius (°C).	Temperature display in Fahrenheit (°F).
SW 5	Use the temperature sensor in the indoor unit for indoor unit control.	Use the temperature sensor in the wired remote controller for indoor unit control.
SW 6	No function	Use the average value of temperature sensors of wired remote controller and indoor unit for indoor unit control.
SW 7	Auto mode enable	Auto mode disable
SW 8	No function	No function

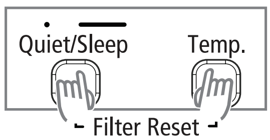
1-3. Wired Remote Controller

3) MWR-WE00

(3) Description of buttons and functions

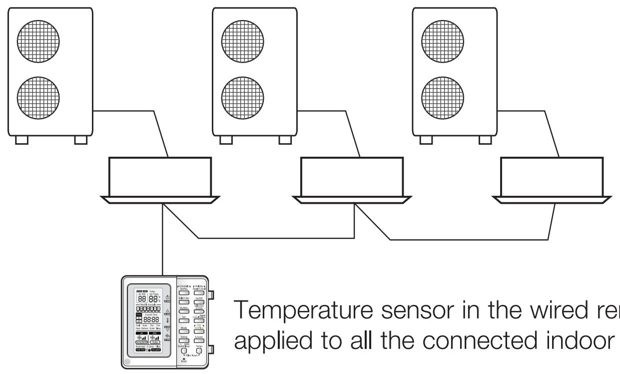
◗ Function keys

Tracking Function	
Function	① If an additional indoor unit / ERV is connected to the wired remote controller, ② If a connected indoor unit is deleted. ③ If wired remote controller is replaced. ④ If option switch is changed it is compulsory to carry out Tracking in the wired remote controller for indoor units.
Control	Press both Set button and Cancel button on the wired remote controller for 5 seconds. Then LCD backlight is turned on again and the temperature display is shown like below. At this time, there is no change in the operation status of the indoor unit. 

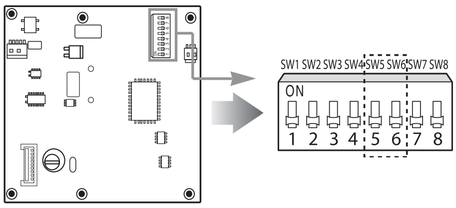
Filter reset	
Function	Clear the filter replacement alarm display
Control	Press “Quiet/sleep” and “Temp.” button together for 3 seconds. Then it clear the filter replacement alarm display and reset filter usage time count. 

(4) Additional functions

◗ Temperature control with built-in temperature sensor

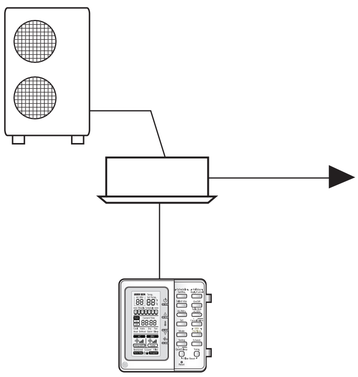


Temperature sensor in the wired remote controller can be applied to all the connected indoor units.

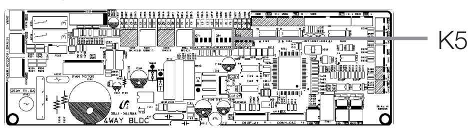


DIP Switch		Function
SW 5	OFF	Use the temperature sensor in the indoor unit.
	ON	Use the temperature sensor in the wired remote control.
SW 6	OFF	Reserved.
	ON	Use the average value of the temperature sensors in the indoor unit(s) and the wired remote controller(SW5 in ON). Here, the wired remote controller chooses the indoor unit of the lowest MAIN address, or one of the indoor units at random.

◗ Heating mode temperature compensation



4Way PCB



DIP Switch	Function
K5	+2, +5 temperature compensation.

DIP Switch		Function
SW 5	ON	Use the temperature sensor in the wired remote control.

What happens to heating mode temperature compensation (+2°C or +5°C) when the use of the wired R/C built-in temperature is enabled ?

- The heating mode temperature compensation is cleared. (0°C)

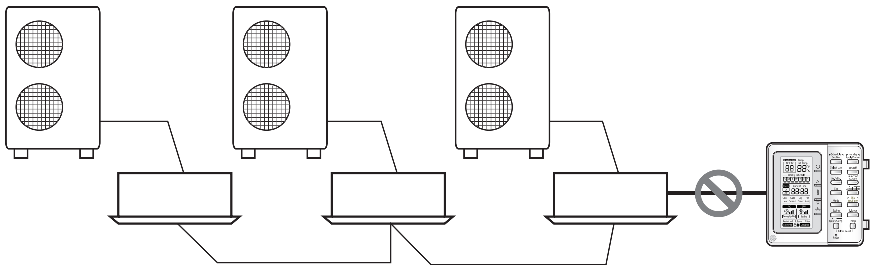
1-3. Wired Remote Controller

3) MWR-WE00

(4) Additional functions

◗ Power failure of wired remote controller

① Temperature control wire built-in temperature sensor



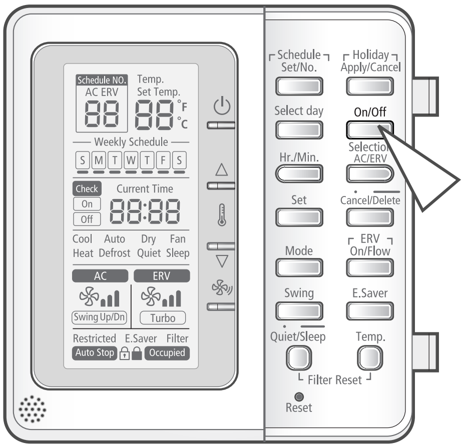
What if communication block occurs on the wired remote controller when its built-in temperature use is enabled ?
(Block due to either power failure or disconnection only)

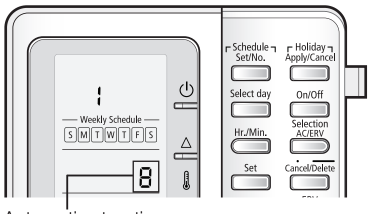
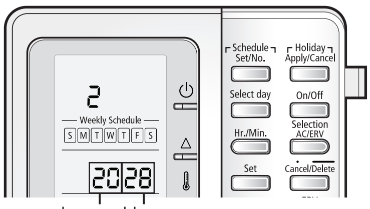
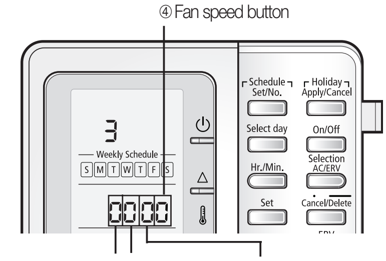
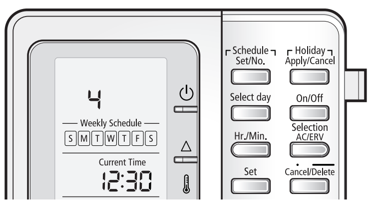
• When communication is blocked over 3 minutes,
  ❶ Indoor unit ignores the built-in temperature sensor and accepts its sensor in the indoor unit.
  ❷ Use setting temperature compensation in heating mode option.(Indoor unit K5)
• When communication resumes,
  ❶ Built-in temperature use is recovered.
  ❷ Setting temperature compensation in heating mode changes to 0°C

② Recovery of parameter setting

Function	Power failure recovery	Parameter storage
Current time	YES (for 2 days)	Wired R/C
Schedule setting	YES	Wired R/C
Option code setting	YES	Indoor unit
Built-in temperature sensor Compensation	YES	Wired R/C
Botton lock setting (All button lock)	YES	Wired R/C
Button permission level setting	YES	Wired R/C
Upper/Lower set temperature limit	YES	Wired R/C
Automatic Stop	YES	Wired R/C
E.Saver operation mode use	YES	Wired R/C
ERV interlocking control use	YES	Wired R/C

◗ User setting mode menu description



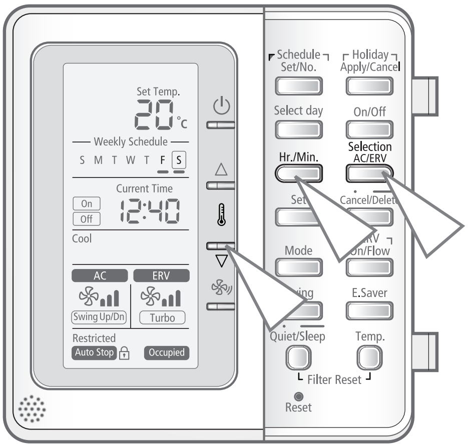
Menu	Detailed Description	Display
01	**Automatic stop setting** This menu can set to turn off the unit after a set period of time has passed since any button on the remote controller was last pressed. Setting time range: 0~12 (Hr)	
02	**Temperature limit setting** This menu can set to allow only a certain temperature range. By setting the lower and upper temperature limits, the set temperature can be selected only within the set range. Lower range: 16~30°C (In cooling mode : 18°C) Upper range: 18~30°C ❊ After power reset, the setting value is restored	
03	**Button permission level setting** This menu can set button permission. ① On/Off button ② Temperature setting button ③ Mode button ④ Fan speed Setting value 0: Allowed 1: Not allowed User can set multiple button permission. During child lock, this setting is ignored. ❊ After power reset, the setting value is restored.	
04	**Current time and day setting** This menu can set current time and day.	

1-3. Wired Remote Controller

3) MWR-WE00

(4) Additional functions

◗ Service mode

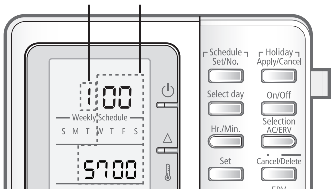
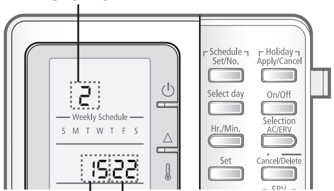
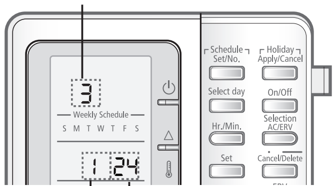
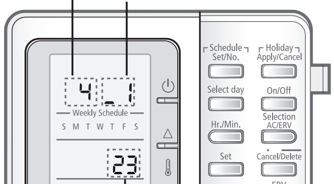
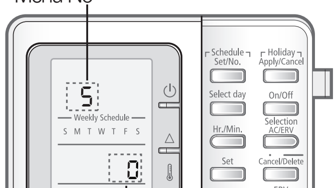


Press Hr./Min., Selection AC/ERV, temperature setting button for more than 5 seconds to enter Service mode.

Menu	Description	Monitoring	Setting
1	Indoor unit option code		
2	Indoor unit Main / group Address		
3	Indoor unit cycle data		
4	The compensation value of the temperature sensor in the wired remote controller		
5	Indoor unit FAN RPM compensation		
6	EEV step for the stopped indoor unit under the Heating mode.		
7	Filter replacement time		
8	The setting temperature compensation value under the Heating mode.		
9	Central control is in use.		
10	The drain pump is in use.		
11	Electric heater is in use.		
12	Hot water control is in use.		
13	External control is in use.		
14	ERV interlocking control is in use		
15	Connected indoor unit / ERV quantity.		
16	Wired remote controller dip switch setting state		
17	Wire remote controller software version		

- When multiple indoor units are connected, wired remote controller displays only master indoor unit’s information. (Master indoor unit - K10 OFF)
- If indoor unit doesn’t support service mode, only menu 4, 14, 15, 16, 17 can be available.
- Menu 1, 4, 14 setting data is restored after power reset.

◗ Service mode menu description

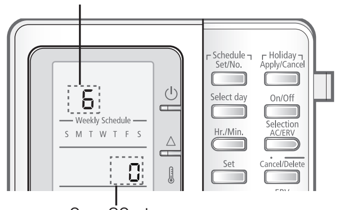
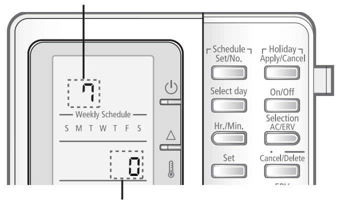
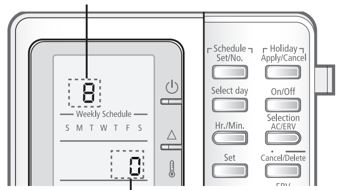
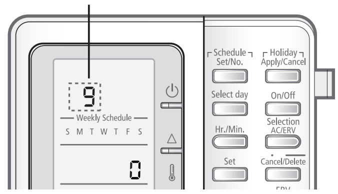
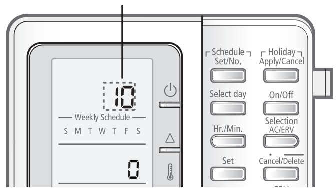
Menu	Detailed Description	Display
01	**Option code :** Detailed indoor unit functions such as indoor unit model type, indoor unit capacity, blackout restoration, and drain pump control are set by the combination of 12-digit or 24-digit numbers. (ex. 005700-123004)	
02	**Indoor unit address:** Address used for indoor unit communication and control (Set by a rotary switch of the indoor unit PCB) 1) Main address: Indoor unit's physical address 2) RMC address: Address used in the central control RMC (1) : Interface module channel address RMC (2) : Indoor unit group address	
03	**Monitor indoor unit cycle data** <table><tr><th>NO</th><th>Data</th></tr><tr><td>1</td><td>Indoor temperature</td></tr><tr><td>2</td><td>EVA-IN temperature</td></tr><tr><td>3</td><td>EVA-OUT temperature</td></tr><tr><td>4</td><td>EEV step</td></tr></table>	
04	**Compensate temperature sensor for wired remote controller:** To compensate and display the measured temperature on the temperature sensor in the wired remote controller(-9.9~9.9°C) (ex : Actually measured temperature 20°C, and compensate 5°C → It is displayed as 25°C when indoor temperature is displayed). ❇ Compensation value range : -9.9~9.9°C	
05	**Compensation of FAN RPM of the indoor unit:** Displays current indoor unit Fan RPM compensation setting state. (Check indoor unit PCB switch K3 setting status) 0 : Use compensation 1 : No use compensation	

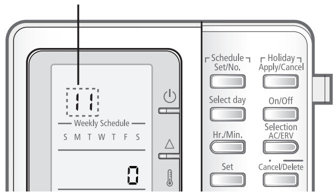
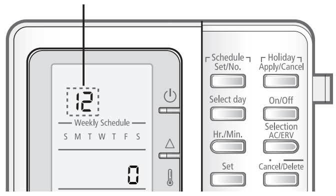
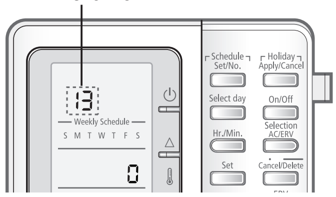
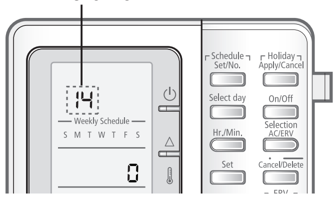
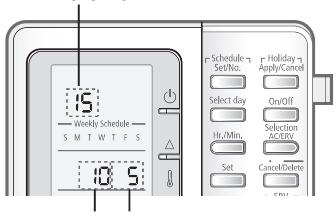
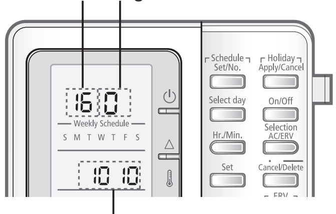
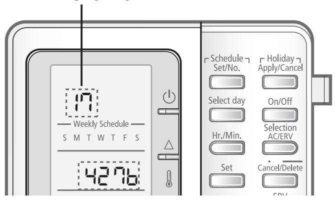
1-3. Wired Remote Controller

3) MWR-WE00

(4) Additional functions

◗ Service mode menu description

Menu	Detailed Description	Display
06	EEV step for the stopped indoor unit during heating mode Displays current indoor unit setting EEV step for the stopped indoor unit during heating mode (Check indoor unit PCB switch K9 setting status) 0 : 0 or 80 step 1 : Fixed step to 80	Menu No  0 or 80 step
07	Filter replacement time Displays current indoor unit filter replacementTime setting (Check indoor unit PCB switch K9 setting status) 0 : Replacement display after 2000hours 1 : Replacement display after 1000hours	Menu No  Filter replacement notice time seeting
08	Setting temperature compensation value under heating mode Compensate the setting temperature used for heating operation control. Displays current indoor unit setting state. (Check indoor unit PCB switch K5 setting status) 0: 5°C (mini 4way, 4way cassette : 2°C) 1: 2 °C (mini 4way, 4way cassette : 5°C)	Menu No  Setting value
09	Central control in use (Check the indoor unit PCB switch setting status) 0: Use central control 1: No central control used	Menu No 
10	The drain pump in use (Check the indoor unit PCB switch setting status) 0: Drain pump use 1: No drain pump used	Menu No 

Menu	Detailed Description	Display
11	**The electric heater in use** (Check the indoor unit PCB switch setting status) 0: Electric heater use 1: No electric heater used	
12	**The water coil in use** (Check the indoor unit PCB switch setting status) 0: Hot water control use 1: No hot water control used	
13	**External control in use** Displays current indoor unit external control use setting (Check indoor unit PCB switch K11 setting status) 0 : Use 1 : No use	
14	**ERV interlocking control in use** Monitor and set ERV interlocking control use 0 : Use 1 : No use	
15	**Display the connected Indoor unit/ ERV quantity** Ex) The connected unit quantity - Indoor unit : 10 units - ERV : 5 units	
16	**The wired remote controller DIP switch setting state** Page / Swich / State 0 / K1, 2, 3, 4 / 0 : OFF 1 / K5, 6, 7, 8 / 1 : ON Ex) K1-ON K2-OFF K3-ON K4-OFF	
17	**Display the wired remote controller software version** Ex) Software version : 427B	

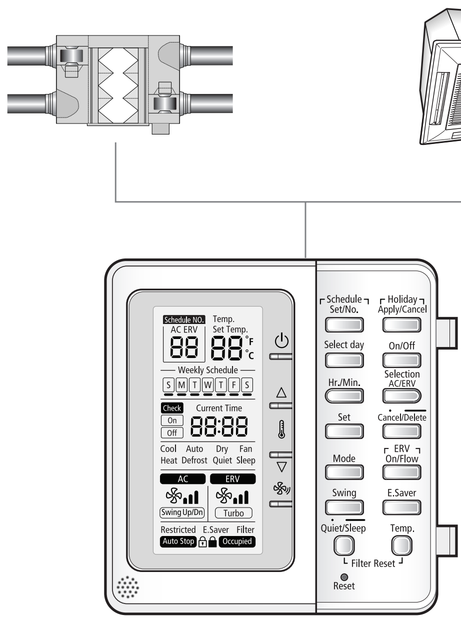
1-3. Wired Remote Controller

3) MWR-WE00

(4) Additional functions

◗ E.Saver - Energy saving operation mode

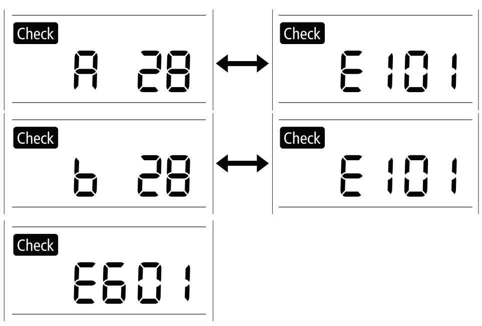
1(ERV) : 1(Indoor unit)



- By comparing indoor room temperature, setting temperature and outdoor temperature, wired remote controller changes ERV operation mode and fan speed.
- 1 Indoor unit must connect 1 ERV. (1:1 connection)
- When Occupied is displayed, energy saving mode does not work.
- Energy saving operation works during “Cooling”, “Auto-cooling” and “Dry” operation mode.

◗ Error display

- Indoor unit error: Displays “A” and indoor unit main address with error code.
- ERV error : Displays “b” and ERV main address with error code
- Wired remote controller error: Without address display, displays error code only.
- Display priority : Wired remote controller error > Indoor unit/ outdoor unit error > ERV error
- When multiple units occur error: Master unit > Earliest main address unit
- When main address is overlapped- Displays earliest COM 2 address unit.



Main Address #28 indoor unit occurs E101

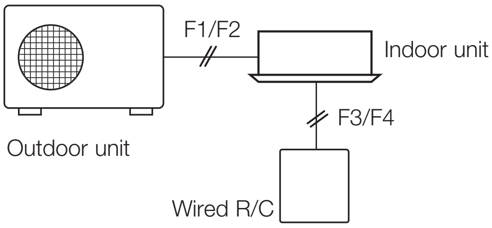
Main Address #28 ERV occurs E101

Wired remote controller occurs E601

4) Connection examples

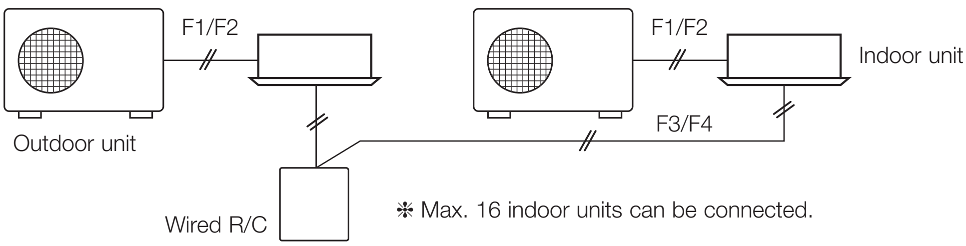
Wired R/C
- MWR-TH01
- MWR-WS00
- MWR-WE00

Individual control Control 1 indoor unit with 1 wired remote controller



Control	Connected indoor unit
Display	Operation status of the connected indoor unit

Group control (1) Control multiple indoor units connected to different outdoor units with 1 wired remote controller



❈ Max. 16 indoor units can be connected.

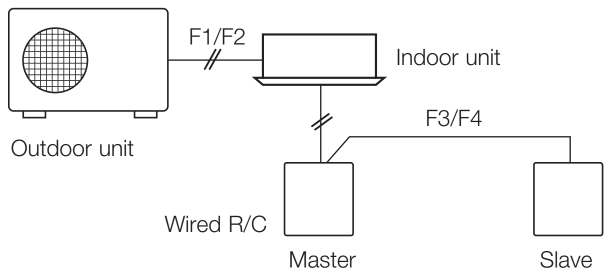
Control		All connected indoor units
Display	MWR-TH01	Operation status of one of the connected indoor units on a random basis.
	MWR-WS00	Operation status of one of the connected indoor units by the following standard. - In case that all the Main addresses are different : displays the indoor unit which has the earliest Main address. - In case that there exist the overlapped Main addresses and they are the earliest : displays one of them on a random basis. - In case that there exist the overlapped Main address and they are not the earliest : displays the indoor unit which has the earliest Main address.

1. Individual control system

1-3. Wired Remote Controller

4) Connection examples

Group control (2)	1 indoor unit with 2 wired remote controllers

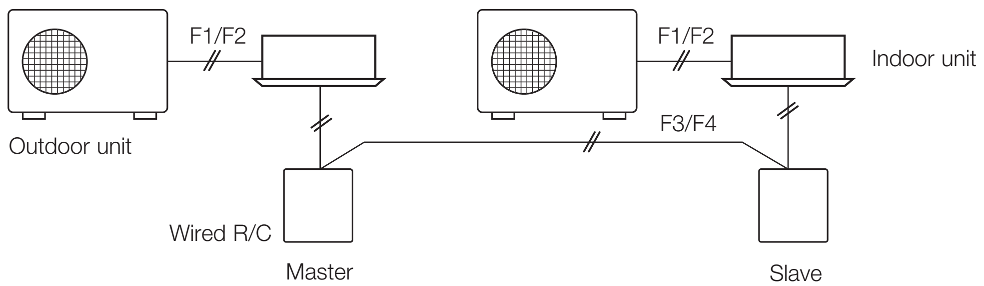


❇ Max. 16 indoor units can be connected.

- One of the two remote controllers must be set as a Master.
- It is not possible to use the different type of remote controller for 2-remote controller. (Ex: MWR-WS00 + MWR-TH01 → Impossible)

Control	All connected indoor units
Display	Two wired remote controllers identically display the operation status of the indoor unit

Group control (3)	Control multiple indoor units connected to different outdoor units with 2 wired remote controllers



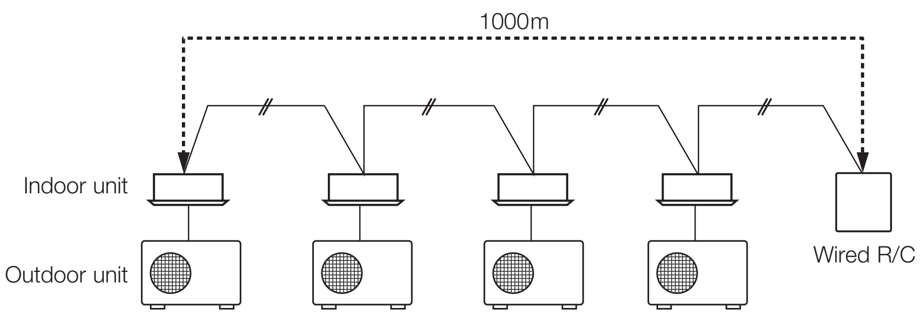
- One of the two remote controller must be set as a Master.
- It is not possible to use the different type of remote controller for 2-remote controller. (Ex: MWR-WS00 + MWR-TH01 → Impossible)

Control	All connected indoor units
Display	Two wired remote controllers identically display the operation status of the indoor unit

Note
- ◆ Type of applicable indoor unit: cassette, duct, wall mount, ceiling, console
- ◆ Power (V1/V2) : DC 12V
- ◆ Communication (F4/F3): RS485 communication (non-polarity)
- ◆ Max. number of indoor units that can be connected to one wired remote controller: Max. 16 units

◗ Length of transmission wiring

Max. distance between the fartest indoor unit and the wired remote controller : 1000m



5) Error Code

Display a type of error occurred in indoor units, outdoor units and, wired remote controller.
(The following is errors related to a wired remote controller)

Error code	Description	Remark
601	Wired remote controller ↔ Indoor unit communication error	When communication with indoor units is blocked for 3 minutes.
602	Wired remote controller communication error between Master ↔ Slave	When two wired remote controllers are used for one indoor unit, communication between has been blocked.
603	Communication packet error	-
604	Wired remote controller ↔ Indoor unit tracking failure error	Occurs when an indoor unit is not installed.
605	Wired remote controller ↔ 7-day scheduler communication error	When communication with 7-day scheduler is blocked for 3 minutes.
606	COM1, COM2 cross installation error	When the wired remote controller is installed onto indoor unit COM1 (F1/F2).
607	2 Master wired remote controllers	When two Master wired remote controllers are installed in one COM2 communication line.
618	Excessive number of indoor units installation error	When more than 16 indoor units are connected to wired remote controller.
619	Multiple Celsius / Fahrenheit indoor unit error	When indoor units set in Celsius or Fahrenheit are together connected to the wired remote controller.
620	Celsius / Fahrenheit setting error	When indoor unit is set in Celsius, its wired remote controller is set to Fahrenheit, or vise versa.
621	Option switch setting error of the Master/Slave wired remote controller	-
626	Connect ERV to MWR-WE00 without indoor unit	-
653	Wired remote controller (MWR- WS00)temperature sensor error (Short/Open)	-
654	EEPROM error	-

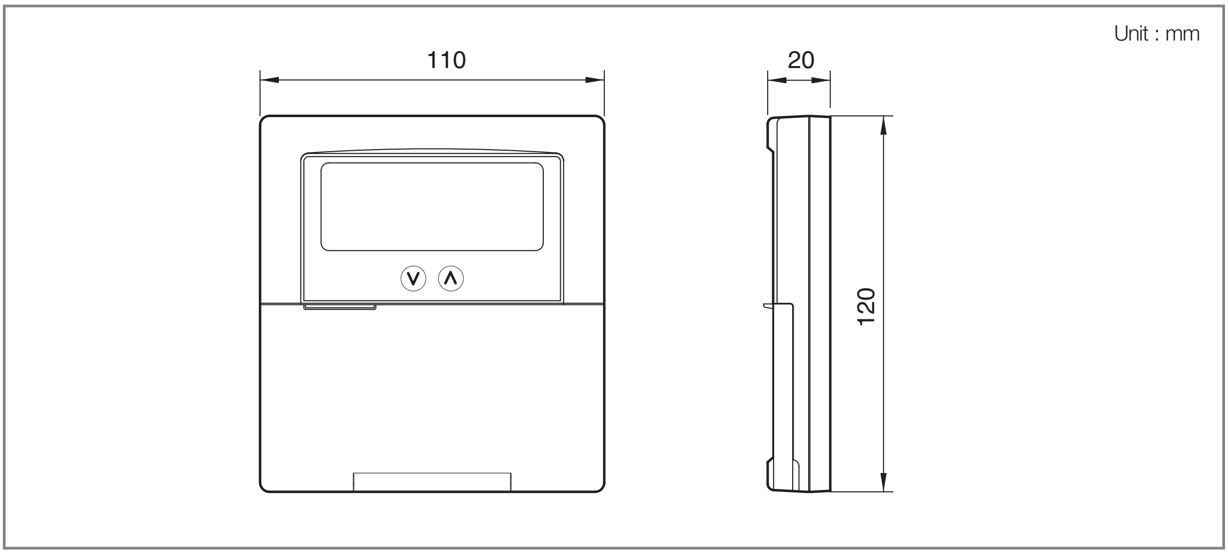
1-4. 7-day Scheduler (MWR-BS00)

(1) Features

Weekly operation schedule setup

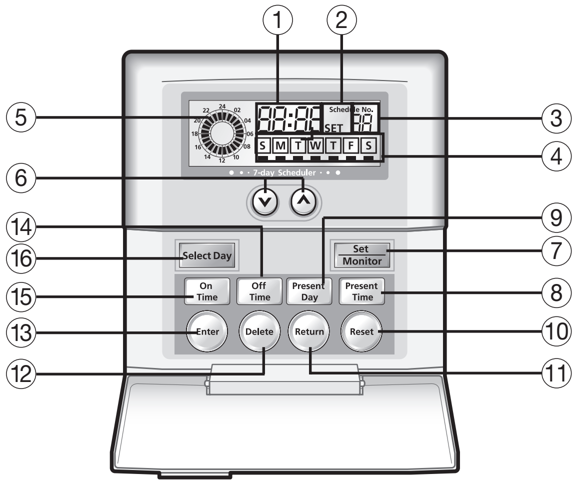
- Air conditioner On/Off schedule setting
- Max. 124 schedule operation settings
- Automatic schedule operation repeat
- Current time and day display

(2) Dimensional drawing



(3) Description of buttons and functions

PCB Description

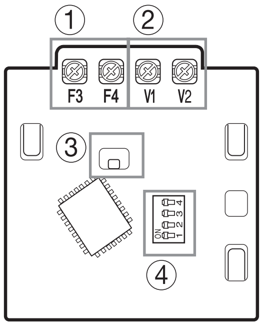


No.	Name	Description
①	Digital time display	Displays the current time in the monitoring mode, while displaying schedule time in the scheduling mode.
②	Display mode	For the scheduling set mode, SET is displayed. whereas the monitoring mode does not display.
③	Schedule indication	If the scheduler function is being used, it displays [ ] (rotation). Otherwise, it displays no .
④	Schedule day	Displays the present day and indicates if there is an operation schedule for each day.
⑤	Analog watch	Displays the On time/ Off time for the specific schedule.
⑥	Time adjustment button	Press Up/Down buttons to adjusts the operating schedule time and the current time.
⑦	Schedule setup button	Press this button to enter or exit the schedule setting mode.
⑧	Current time button	Press this button to set or check the current time (refer to the user manual).
⑨	Current day button	Press this button to set or check the current day (refer to the user manual).
⑩	Reset button	Press this button to delete all schedule settings. At this time, the current time returns to the default mode.
⑪	Return button	Press this button to return from the schedule setup mode to the monitoring mode.
⑫	Delete button	After selecting On or Off time schedule, press this button to cancel the schedule.
⑬	Enter button	Press this button to confirm the setting.
⑭	Off time button	Press this button to set or check the Off time schedule.
⑮	On time button	Press this button to set or check the On time schedule.
⑯	Day selection button	Press this button to change and select the days in the following order S → M → T → W → T → F → S

1-4. 7-day Scheduler (MWR-BS00)

(3) Description of buttons and functions

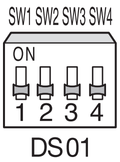
PCB Description



No.	Name	Description
①	Communication wiring terminal	Connection to a wired remote controller (MWR-TH01) (F3/F4).
②	Power wiring terminal (12VDC)	Connection to a wired remote controller (MWR-TH01) (V1/V2).
③	Communication LED	Communication with the wired remote controller
④	Option switches	It is possible to set additional functions for wired remote controller.

(4) Additional functions

◗ Option switch



Able to set additional functions with the four option switches in the 7-day scheduler PCB.

❈ Default switch settings are all OFF.

Switch No.	OFF	ON
SW 1	-	-
SW 2	Able to use the On/Off button in wired remote controller connected to a 7-day scheduler	Unable to use the On/Off button in wired remote controller connected to a 7-day scheduler (Available for other buttons)
SW 3	-	-
SW 4	-	-

(5) Installation

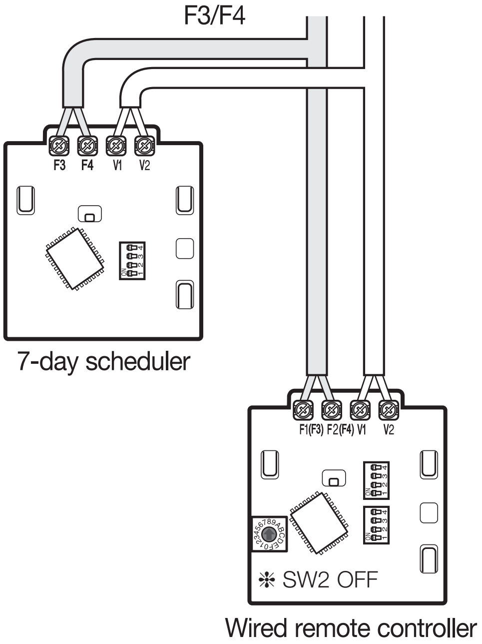
◗ Required product

To use 7-day scheduler, it should be connected to the one of these products one-by-one.

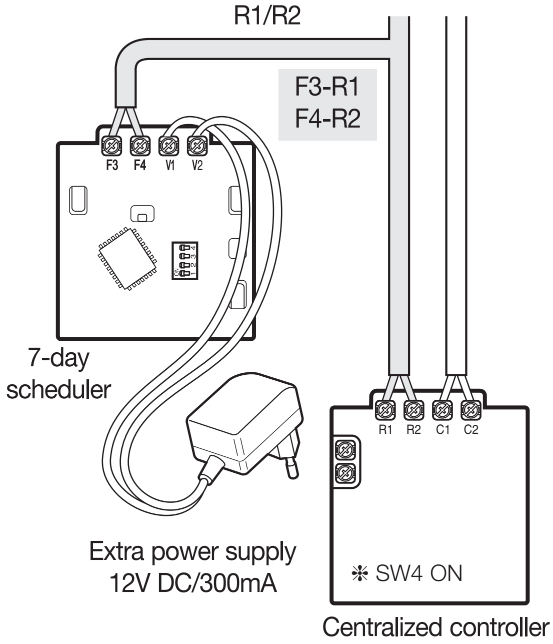
- Wired remote controller: MWR-TH01
- Centralized controller: MCM-A202A

◗ Wiring

- Wired remote controller: MWR-TH01



- Centralized controller: MCM-A202A

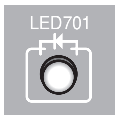


◗ Operation checking

- Display after applying the power

❶ Right after the power application, LCD and all segments will turn on for about 1 second.
❷ Displays the current time and schedule reservation status

- Checking the communication status
  LED701 on PCB: Displays the communication status between the wired remote controller or centralized controller. If it is flashing, it indicates normal operation.

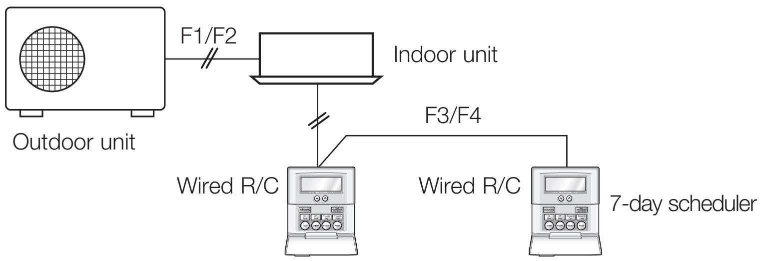


Control Systems

1-4. 7-day Scheduler (MWR-BS00)

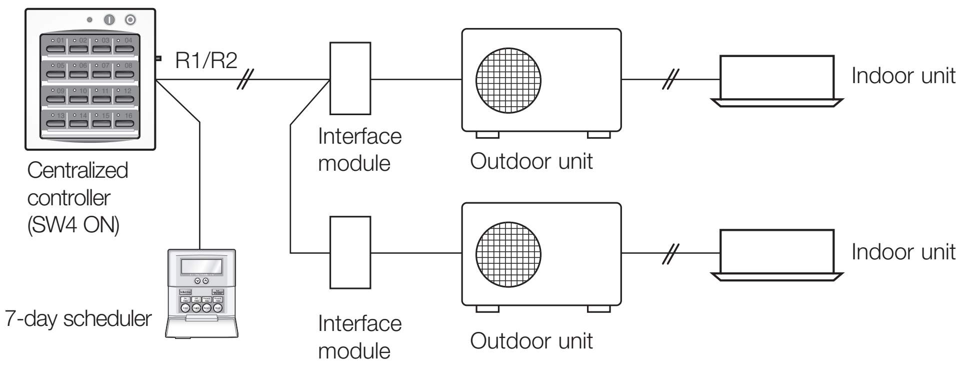
(6) Connection examples

	Wired remote controller connection (MWR-TH01)



Control	Apply schedule operation to all indoor units connected to the wired remote controller.

	Connected to the centralized controller



Control	Apply schedule operation to all indoor units connected to the centralized controller.

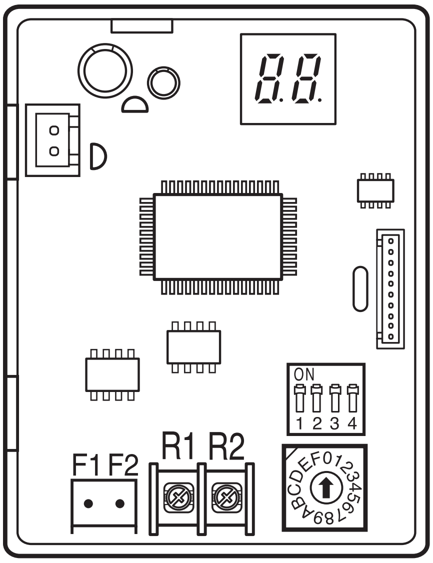
Note
- ◆ Applied indoor unit types: cassette, duct, wall-mounted, ceiling, console
  (When 7-day scheduler is used with a wired remote controller, COM2(F3/F4) supports indoor units only.)
- ◆ Power (V1/V2): DC 12V / 50mA
- ◆ Communication (F3/F4): RS485 communication (non-polarity)
- ◆ Max. number of controllable indoor units:
  - Max. 16 indoor units when 7-day scheduler is used with a wired remote controller
  - Max. 16 groups when 7-day scheduler is used with a centralized controller

2. Centralized Control System

2-1. Interface Module

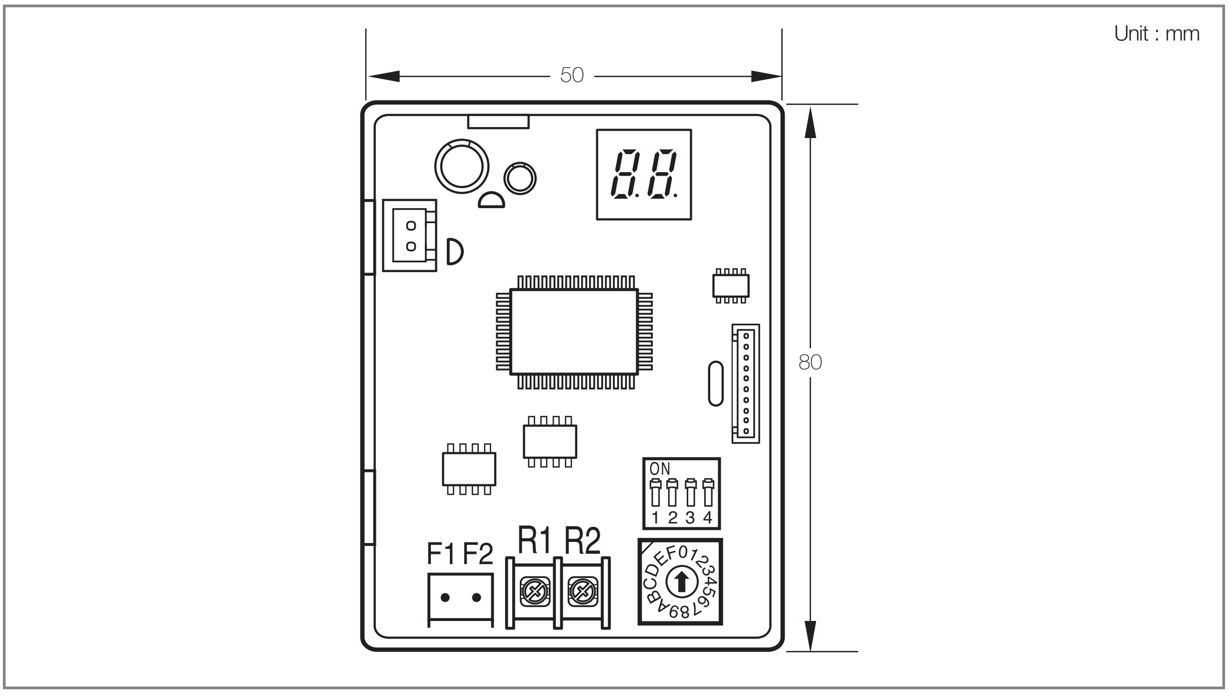
1) MIM-B04A

(1) Features



- Communication device interfacing indoor/outdoor units with external control system
- Mainly used for upper system like centralized controllers/functions controllers/DMS
- 1 interface module for 1 outdoor unit
  (DVM PLUS outdoor unit can have 2 interface units for over 16 indoor units.)

(2) Dimensional drawing

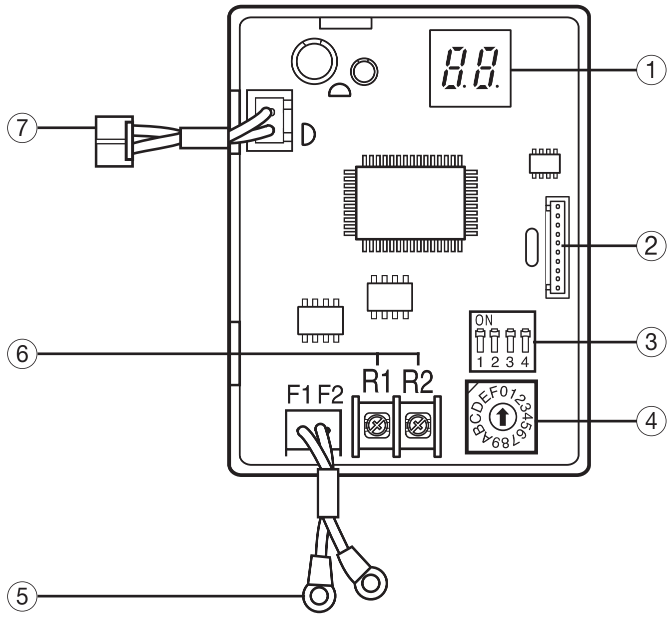


2. Centralized Control System

2-1. Interface Module

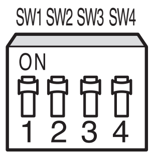
1) MIM-B04A

(3) Explanation of part names



No.	Name	Description
1	Communication checking 7-Segment	Displays the communication state
2	Software update connector	Using this connector, I/M software can be updated.
3	Option setting switches	Set additional function
4	Address setting switch	Set I/M address
5	Communication connector (I/M ↔ Outdoor unit)	Connect to outdoor unit (Indoor unit) F1/F2
6	Communication connector (I/M ↔ Centralized controller)	Connect to centralized controller R1/R2
7	Power connector	DC12V power input connector (Connect to outdoor unit PCB)

◗ Option switch



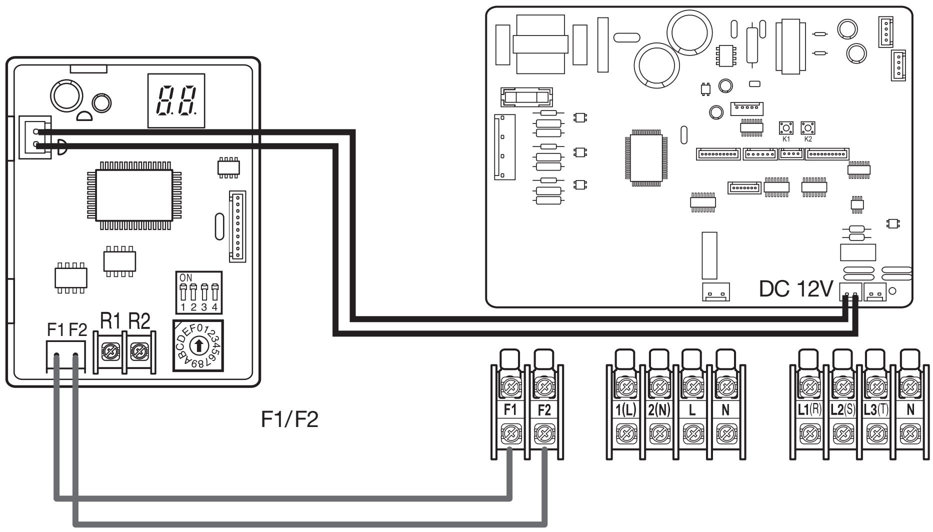
- SW1 : Only for DVM PLUS outdoor unit
- SW3,4 : For software upgrade

Switch No.	OFF	ON
SW 1	Manages indoor units with K10 to OFF	Manages indoor units with K10 to ON
SW 2	-	-
SW 3, 4	Set for software updating	Normal operation

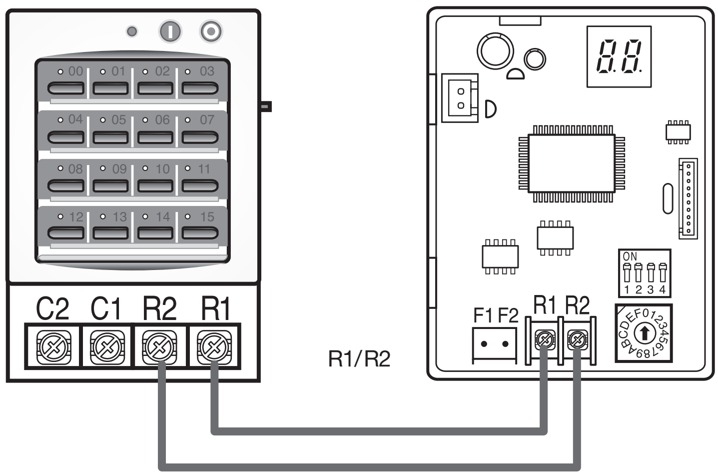
(4) Installation

◗ Wiring

❶ Connection between interface module and outdoor unit



❷ Connection between interface module and centralized controller



Specification

- Power (V1/V2) : DC 12V/50mA
- Communication line
  - F1/F2 (Connect to Outdoor unit) : RS-485 (No-polarity), VCTF (0.75~1.5mm²)
  - R1/R2 (Connect to Centralized controller) : RS-485 (No-polarity), VCTF (0.75~1.5mm²)
- 1 outdoor unit can connect only 1 interface module

Control Systems

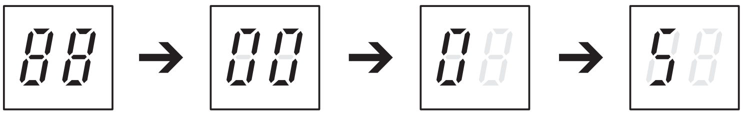
2-1. Interface Module

1) MIM-B04A

(4) Installation

◗ Operation display

❶ When I/M is connected to F1/F2 (Outdoor unit)

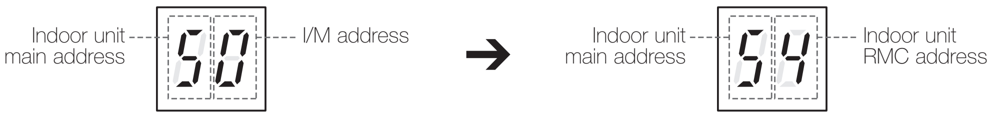


Power input | Outdoor unit detection | During tracking | Tracking completed

❈ Display all indoor unit main addresses alternatively at the left segment (for all indoor units with K2 to OFF)

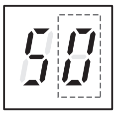
❷ When I/M is connected to R1/R2 (Centralized controller)

a) If centralized controller K4 switch is ON (Low speed)



During tracking with centralized controller | Tracking completed

b) If centralized controller K4 switch is OFF (High speed)



During tracking with centralized controller

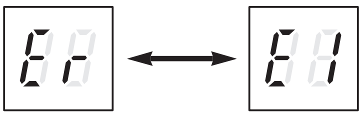
❈ During tracking
- 2 : During tracking (Centralized controller K3 is ON : Room tracking)
- 3 : During tracking (Centralized controller K3 is OFF : Group tracking)
- G : It appears when the tracking mode is changed

Tracking completed

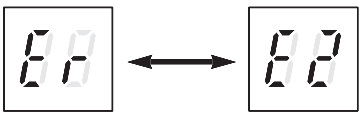
❈ Display after tracking completed
- U : Centralized controller calls I/M itself.
- d : Centralized controller calls other I/Ms
- c : Centralized controller sends control command

◗ Error display

❶ Communication error between outdoor unit ↔ Interface module or indoor units ↔ Interface module



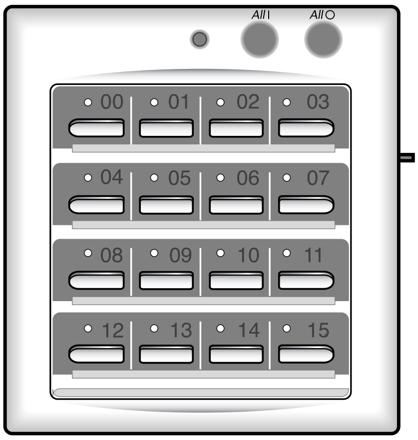
❷ Communication error between centralized controller ↔ Interface module



❈ When E1 and E2 errors occur together, E1 is displayed first.

2-2. Centralized Controller (MCM-A202A)

1) Features



- Maximum 16-group controller (Max. 256 Indoor units)
- Whole/Individual indoor unit control (On/Off)
- Restriction on the use of wireless/wired remote controllers
- Cooling and heating mode control
- Indoor unit error display

Specification

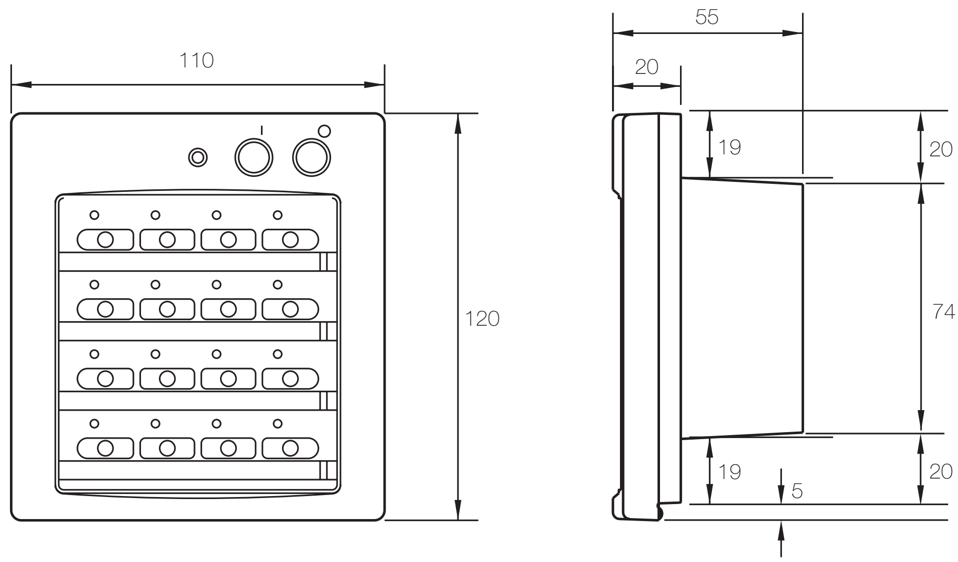
- Power supply : AC 220VAC, 50/60Hz
- Power consumption : Max. 5W
- Communication length : Max. 1000m from the end to the other end of RS485 connection
- Interface
  - Lower layer : R1/R2 (Interface module, 7-day scheduler)
  - Upper layer : C1/C2 (Function controller, DMS, S-NET II Plus, S-NET mini)

Note **S-NET II Plus is not supported when MCM-A202A is connected to the interface module, MIM-B13A.**

◆ Number of interface device
- Interface module : Max.16
- 7-day scheduler : 1

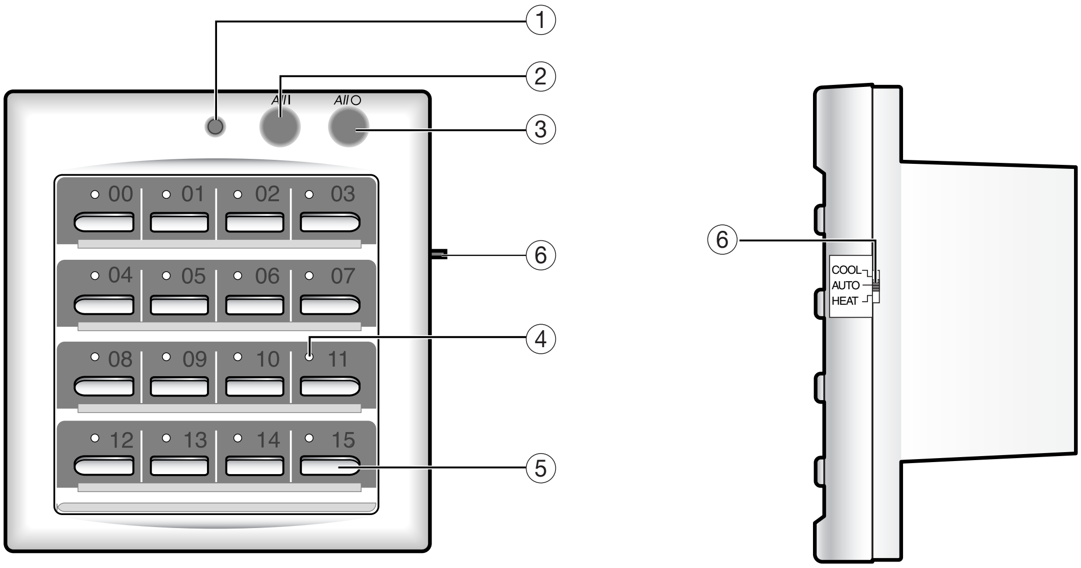
2) Dimensional drawing

Unit : mm



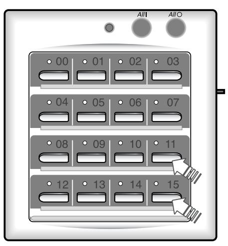
2-2. Centralized Controller (MCM-A202A)

3) Buttons and display



No.	Name	Description
①	Indoor unit operation LED	It lights on when more than one indoor unit operates. It flickers during indoor unit tracking process after power reset.
②	All ON button	Press All ON button to turn on all the indoor units. It is also used to prohibit use of wired/wireless remote controllers for indoor units under Level 3. It is mainly used to toggle remote controller use dynamically under Level 3.
③	All OFF button	Press All OFF button to turn off all the indoor units.
④	Individual indoor unit operation LED	It lights on when its equivalent indoor unit operates. It also flickers when the indoor unit has an error.
⑤	Indoor unit control button	Press each indoor unit button to control the equivalent unit operation.
⑥	Operation mode selection switch	Set operation mode selection switch to a certain mode and press indoor unit control button to control operation mode. Whenever pressing any button on the controller, set operation mode is delivered to the indoor unit.

Note ◆ Press LED 11 and LED 15 together for 5 seconds to reset the centralized controller.

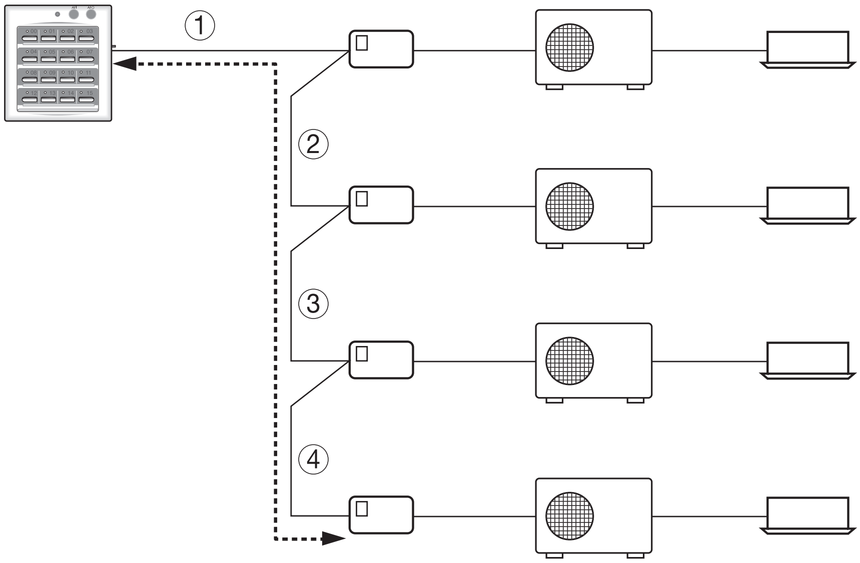


Software reset

4) Communication wiring length

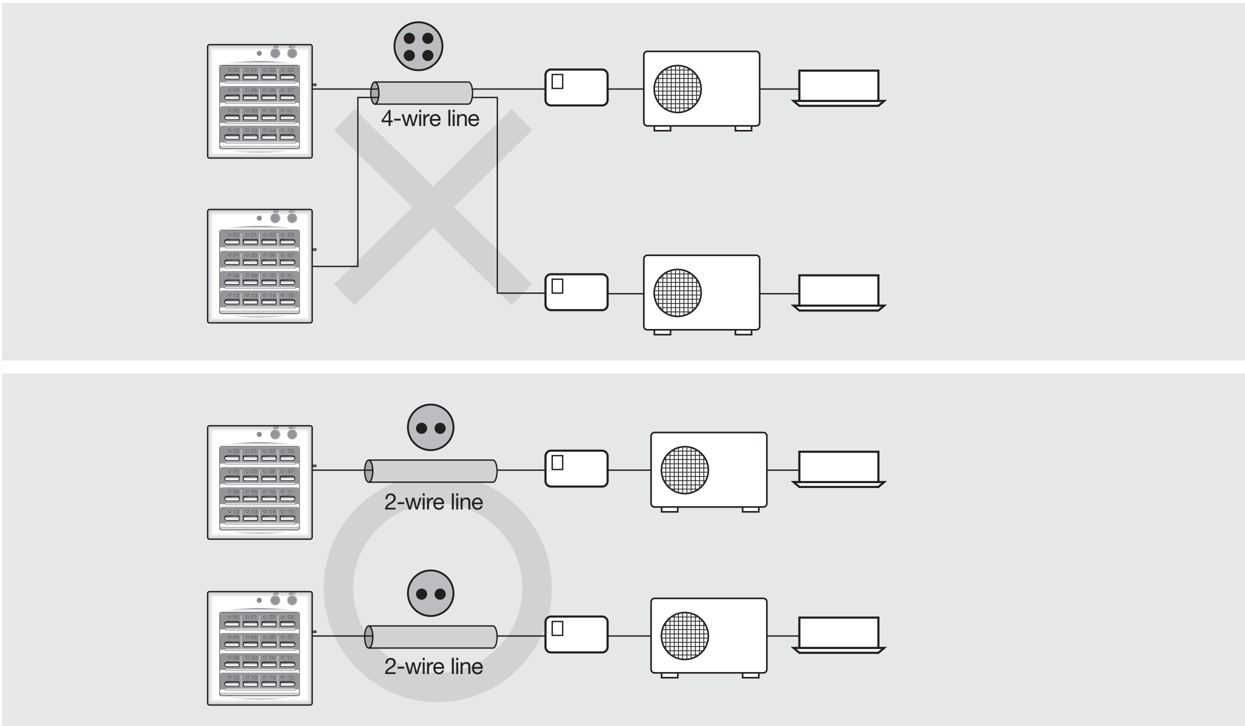
Maximum communication wiring length is 1000m between the centralized controller to the most remote interface module.

① + ② + ③ + ④ ≤ 1000m



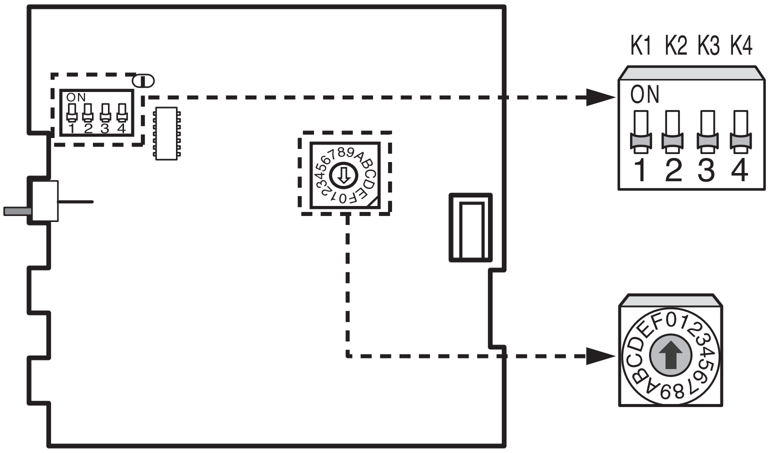
5) Precaution on wiring with interface modules

Each connection between the centralized controller and the interface modules must be made using the separate communication wires to prevent crosstalk.



2-2. Centralized Controller (MCM-A202A)

6) Rotary & Option switch

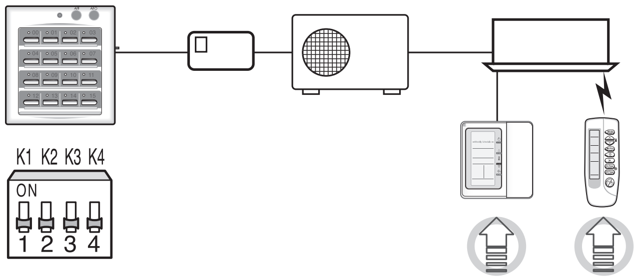


DIP SW		Description
K1	K2	Restriction setting on wired/wireless remote control use
OFF	OFF	Wired/Wireless remote control use is allowed all the time. Level 0
ON	OFF	Wired/Wireless remote control use is allowed only if indoor unit is ON by the centralized controller. When indoor units are OFF by the centralized controller, remote control use is prohibited. Level 1
OFF	ON	Wired/Wireless remote control use is prohibited. Level 2
ON	ON	Dynamic switching of remote control use between 'Allowed' and 'Prohibited' by using All ON button.
K3		Group/Room tracking mode OFF : Group mode tracking ON : Room mode tracking ❇ Under Group mode, button control is allowed and not under Room mode
K4		Upper controller compatibility setting OFF : DMS or S-NET mini supported ON : Function controller or S-NET II Plus supported Note S-NET II Plus is not supported when MCM-A202A is connected to the interface module, MIM-B13A.

7) Option switch K1, K2 – Remote control use

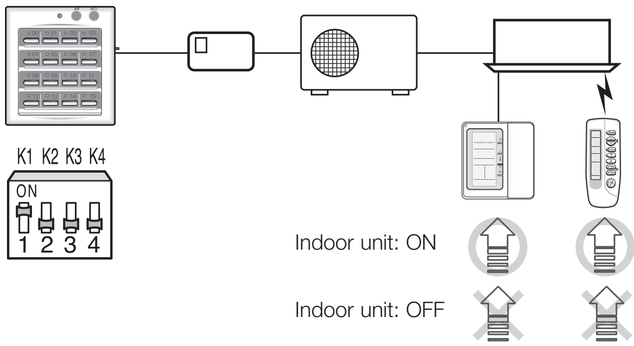
LEVEL 0

- ‘Allowed’ remote controller



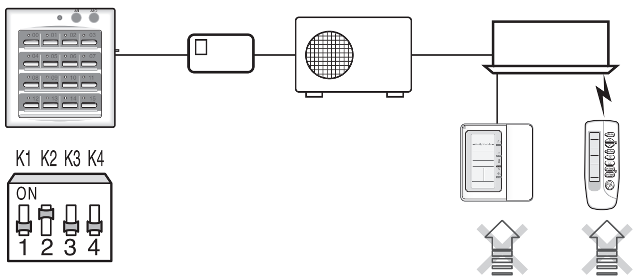
LEVEL 1

- Turned on by Centralized controller – ‘Allowed’
- Turned off by Centralized controller – ‘Prohibited’



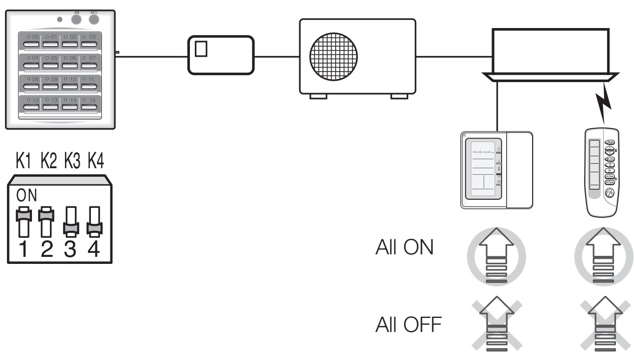
LEVEL 2

- ‘Prohibited’ remote controller



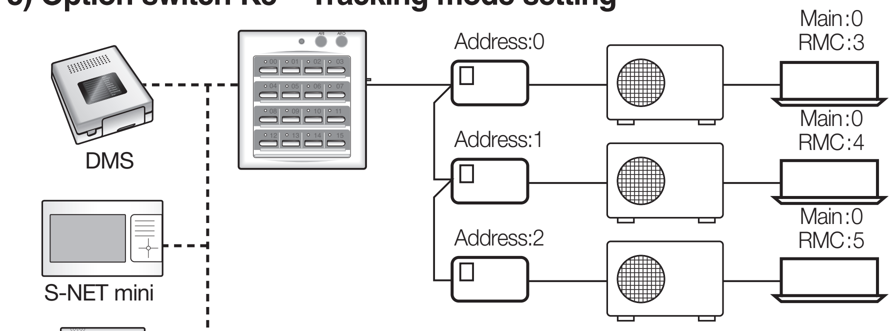
LEVEL 3

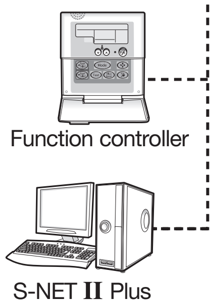
- All ON state – ‘Allowed’
- All OFF state – ‘Prohibited’



2-2. Centralized Controller (MCM-A202A)

8) Option switch K3 – Tracking mode setting





Group mode – Indoor unit control/monitoring with the RMC address
Room mode - Indoor unit control/monitoring with the Main address

➘ Interface with DMS and S-NET mini – Set K4 to the OFF position

DMS S-NET mini	Centralized controller (K4=OFF)	DMS, S-NET mini operation	Centralized controller operation
Group mode	K3=OFF Group mode	Control/monitoring by RMC 3,4,5	• On/Off control by RMC 3,4,5 • Indoor unit LED display • All ON LED display
Group mode	K3=ON Room mode	Control/monitoring by RMC 3,4,5	• Indoor unit control not allowed • Indoor unit LED OFF • All ON LED display
Room mode	K3=OFF Group mode	Control/monitoring by Interface module 0 - Main 0 Interface module 1 - Main 0 Interface module 2 - Main 0	• On/Off control by RMC 3,4,5 • Indoor unit LED display • All ON LED display
Room mode	K3=ON Room mode	Control/monitoring by Interface module 0 - Main 0 Interface module 1 - Main 0 Interface module 2 - Main 0	• Indoor unit control not allowed • Indoor unit LED OFF • All ON LED display

➘ Interface with S-NET II Plus – Set K4 to the ON position

S-NET II Plus	Centralized controller (K4=ON)	S-NET II Plus operation	Centralized controller operation
Group mode	K3=OFF Group mode	Control/monitoring by RMC 3,4,5	• On/Off control by RMC 3,4,5 • Indoor unit LED display • All ON LED display
Group mode	K3=ON Room mode	Control/monitoring by RMC 3,4,5	• Tracking mode setting error • LED 4,5,6,7 ➔ Rotating display
Room mode	K3=OFF Group mode	Control/monitoring by Interface module 0 - Main 0 Interface module 1 - Main 0 Interface module 2 - Main 0	• Tracking mode setting error • LED 0,1,2,3 ➔ Rotating display
Room mode	K3=ON Room mode	Control/monitoring by Interface module 0 - Main 0 Interface module 1 - Main 0 Interface module 2 - Main 0	• Indoor unit control not allowed • Indoor unit LED OFF • All ON LED display

❈ S-NET II Plus does not support MIM-B13A interface.

➘ Interface with function controller – Set K4 to the ON position

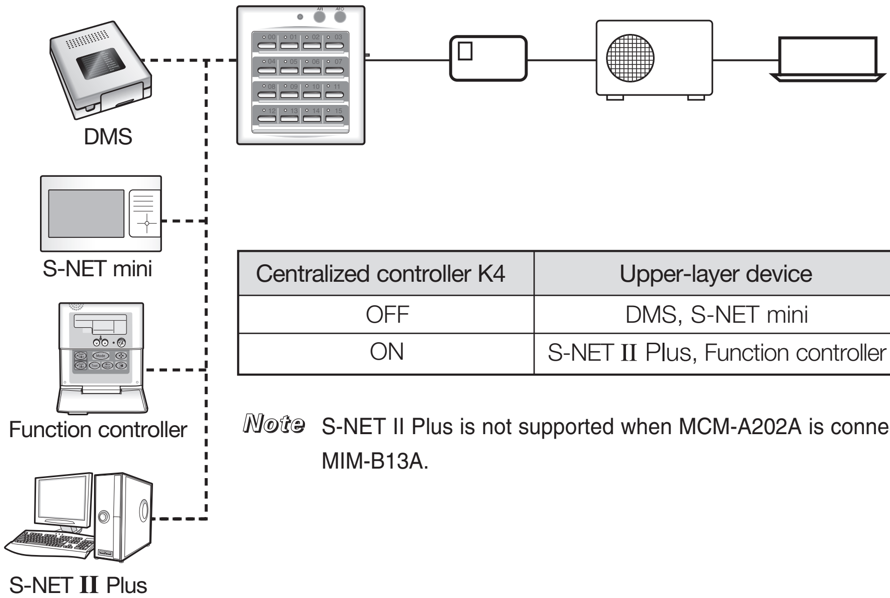
Function controller	Centralized controller (K4=ON)	Function controller operation	Centralized controller operation
Group mode	K3=Not used	Control/monitoring by RMC 3,4,5	• On/Off control by RMC 3,4,5 • Indoor unit LED display • All ON LED display

❈ Function controller controls indoor units based on their RMC address.
Room mode is not supported for interface with the function controller.

9) Option switch K4 – Upper-layer device compatibility

(1) Upper- layer controller interface

Upper-layer devices can be chosen for interface with the centralized controller based on the option switch K4 setting.

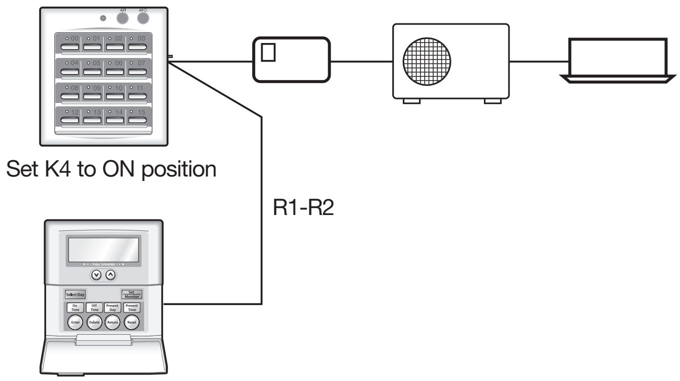


Centralized controller K4	Upper-layer device	Lower-layer device
OFF	DMS, S-NET mini	Interface module
ON	S-NET II Plus, Function controller	7-day scheduler, Interface module

Note S-NET II Plus is not supported when MCM-A202A is connected to the interface module, MIM-B13A.

(2) 7-Day scheduler interface

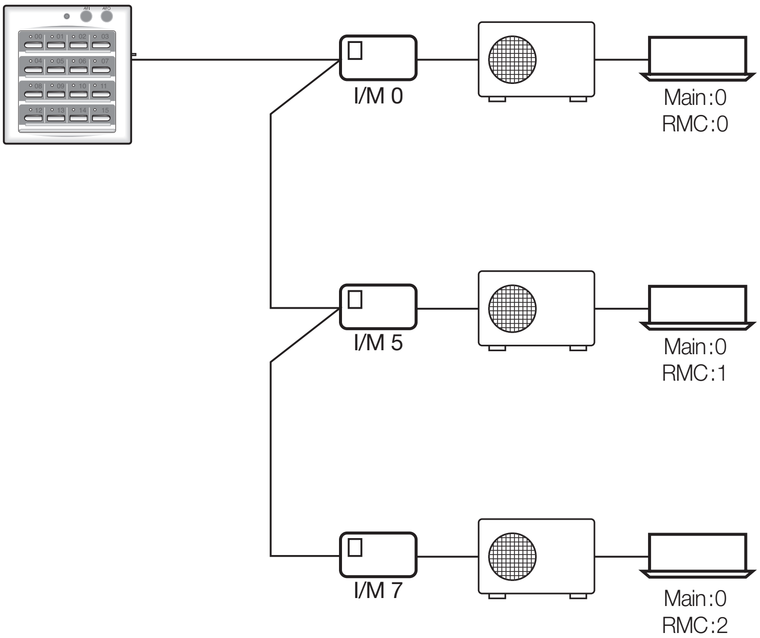
All the indoor units controlled by the centralized controller can be also managed by the 7-day scheduler according to the schedule settings.



2-2. Centralized Controller (MCM-A202A)

10) Various LED display

After power reset to the centralized controller, it carries out indoor unit tracking process through the interface modules.



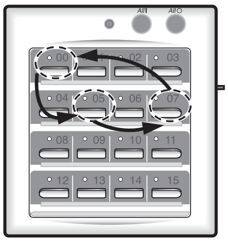
❶ During tracking interface modules, LED whose number is equivalent to interface module address instantaneously flickers. (In LED 00 ➔ LED 05 ➔ LED 07 order)

❷ If one of the interface modules does not register all its indoor units, centralized controller also does not complete tracking process and continues to flicker its LEDs which are matched to interface module address (Continuously rotating LED 00 ➔ LED 05 ➔ LED 07 flickering).

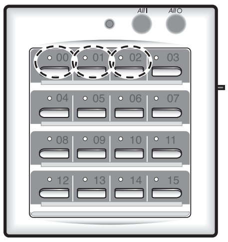
(1) Under group mode tracking (K3 to OFF)

❶ When there occurred an error in one of the indoor units, RMC-matching LED on the centralized controller flickers.

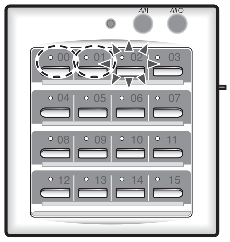
❷ If communication between them are blocked for some reasons, entire RMC-matching LEDs on the centralized controller blink at the same time.



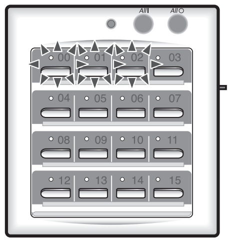
Under tracking



Tracking completed



Error in RMC2 indoor unit
LED 03 blinking

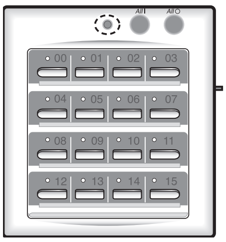


Communication block
in interaction with I/Ms
➔ All LEDs blinking

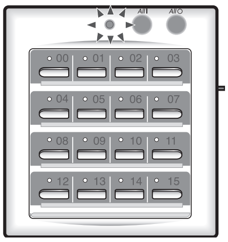
(2) Under room mode tracking (K3 to ON)

❶ After completion of indoor unit tracking, all LEDs stay in the OFF state.

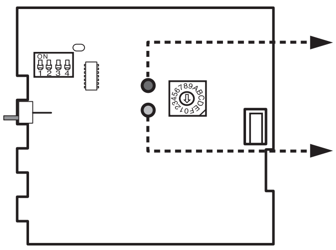
❷ When there occurs block in communication of interface module, only All ON LED blinks.



Indoor unit operation
➔ All ON LED lighting



Error in I/M, indoor units
➔ All ON LED blinking

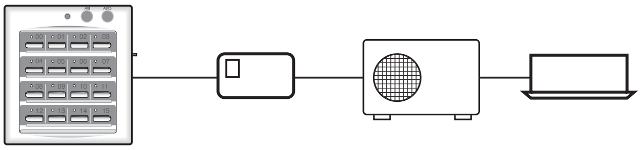


Red LED – It flickers during communication with upper-layer devices (DMS, S-NET mini, Function controller, S-NET II Plus)

Green LED – It flickers while interacting with interface modules.

2-2. Centralized Controller (MCM-A202A)

11) Compatibility with interface module

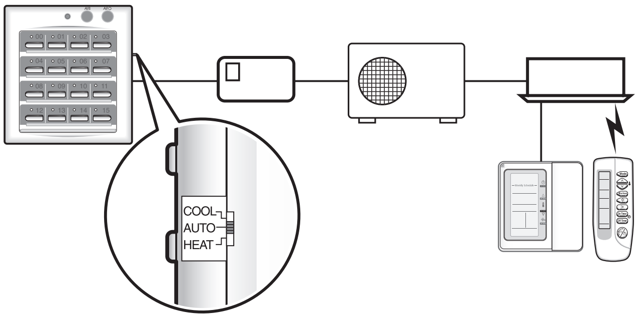


- MIM-B04A : DVM, DVM PLUS, mini DVM(R407), CAC
- MIM-B13A : DVM PLUS II, DVM PLUS III, HR II, mini DVM(R410A), FJM, ERV

❈ Old versions MIM-B13, MIM-B04, MIM-B00 are also supported to MCM-A202A.

12) Operation mode selection switch

It is mainly used to set indoor unit operation mode to Cooling, Heating or Auto.



◗ Indoor unit operation

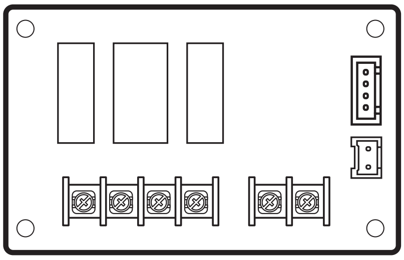
❶ When all the indoor units are in the OFF state after power reset,
- Cooling mode set ➔ Cooling operation in 24℃ set temperature, Auto airflow and Stop fan direction.
- Heating mode set ➔ Heating operation in 27℃ set temperature, Auto airflow and Stop fan direction.
- Auto mode set ➔ Auto operation in 24℃ set temperature, Auto airflow and Stop fan direction.

❷ When the indoor units are operated in certain mode,
- If the selected mode is matched to the current operation mode, indoor units keep their current operation mode.
- If the selected and current modes are not matched, indoor units are controlled to the set mode of the centralized controller.
  - Cooling mode set ➔ Cooling operation in 24℃ set temperature, Auto airflow and Stop fan direction.
  - Heating mode set ➔ Heating operation in 27℃ set temperature, Auto airflow and Stop fan direction.
  - Auto mode set ➔ Auto operation in 24℃ set temperature, Auto airflow and Stop fan direction.

3. External Contact Control System

3-1. External Contact Interface Module (MIM-B14)

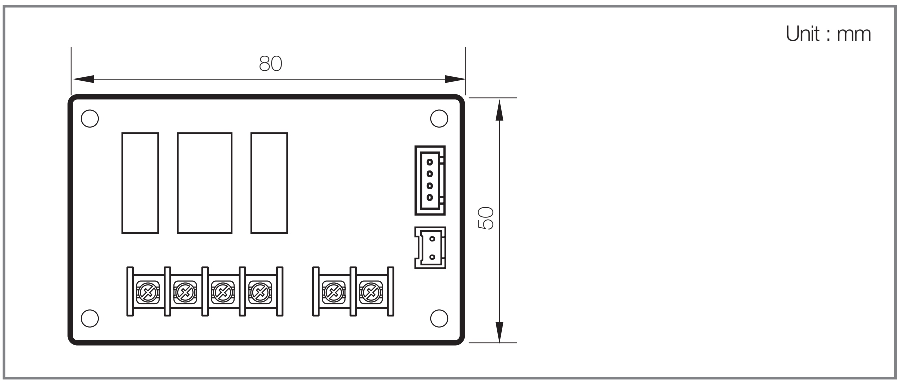
1) Features



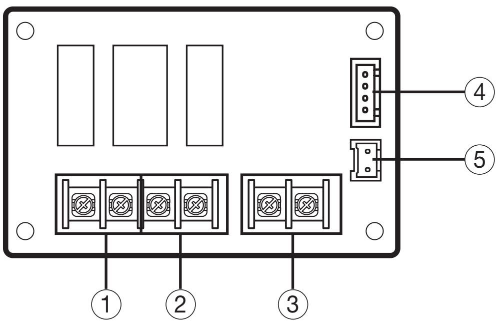
Interlock DVM air-conditioner with external controller

- Indoor unit On/Off control by the external contact
  (Usable equipment :Card-key,Timer,Sensor)
- Output the indoor unit thermo ON/OFF state
- Output the indoor unit error state

2) Dimensional drawing



3) Explanation of part names

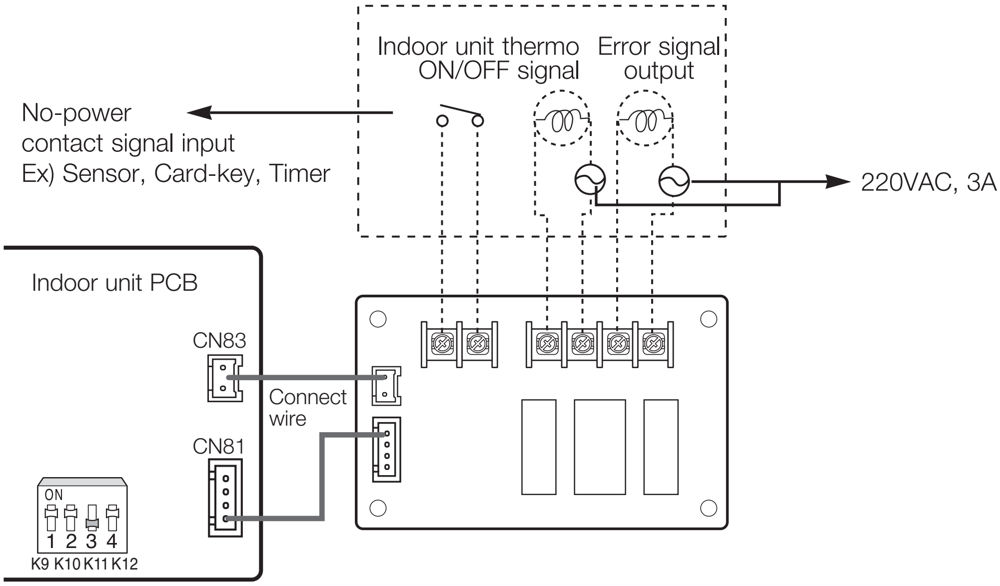


No.	Input/Output	Contact rating	Operation
1	Error state	220VAC, 3A	Normal : Close, Error : Open
2	Indoor unit thermo ON/OFF state	220VAC, 3A	Start : Close, Stop : Open
3	Operation signal input load	5VDC, 5mA	
4	Connector for indoor unit		
5	Connector for indoor unit		

3-1. External Contact Interface Module (MIM-B14)

4) Installation

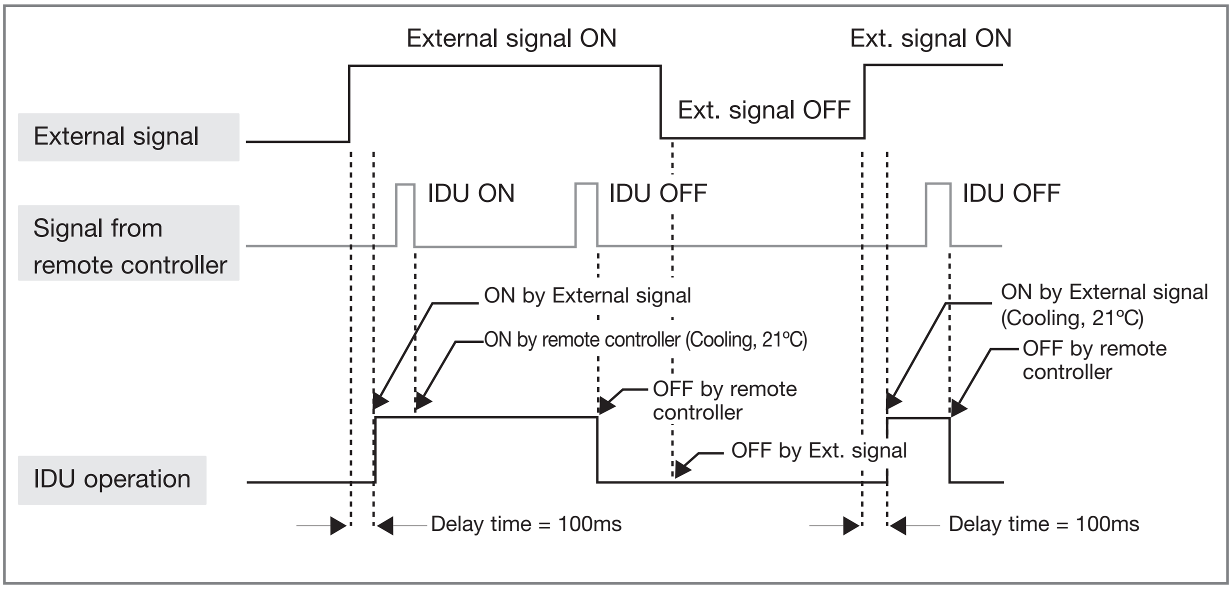
External contact line wiring



Note
- ◆ External operation input load :5VDC/5mA.
- ◆ The length of wiring between MIM-B14 and external control equipment is 100m max.
- ◆ To control by external signal, K11 switch of indoor unit's PCB must be set to "OFF".
- ◆ After installed, the first operation will be conducted with Auto mode, Set temp. 24 °C, Auto Fan speed.

5) Control

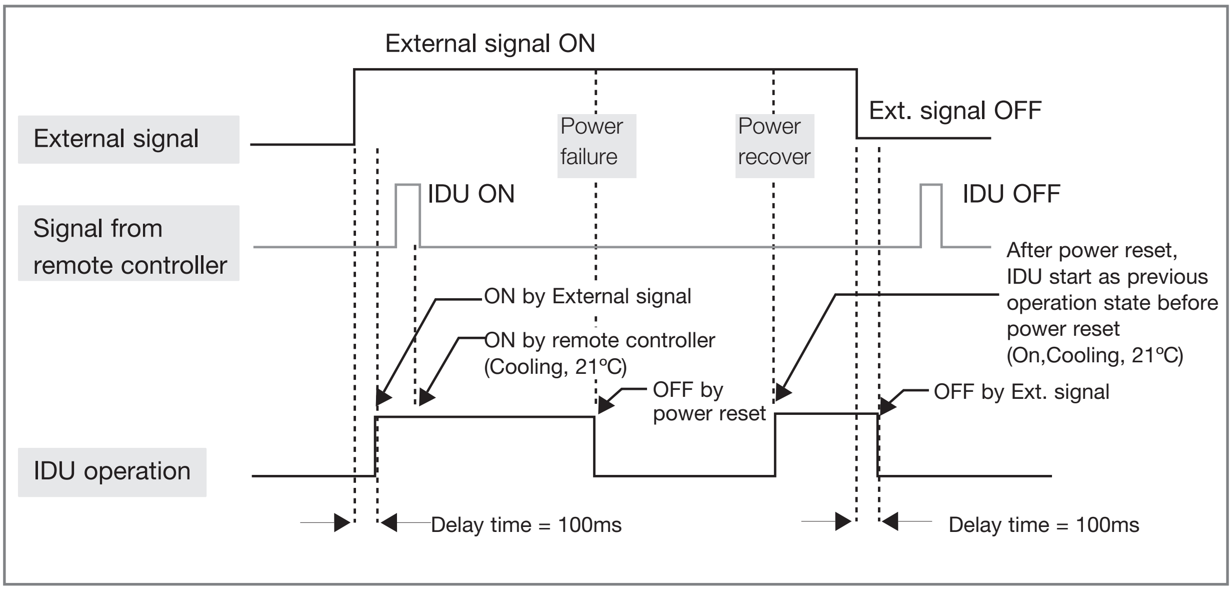
Timing diagram for external contact control (1)



❈ Note : IDU stands for Indoor Unit.

NO prioritized operation between the R/C and the external contact I/M

Timing diagram for external contact control (2)



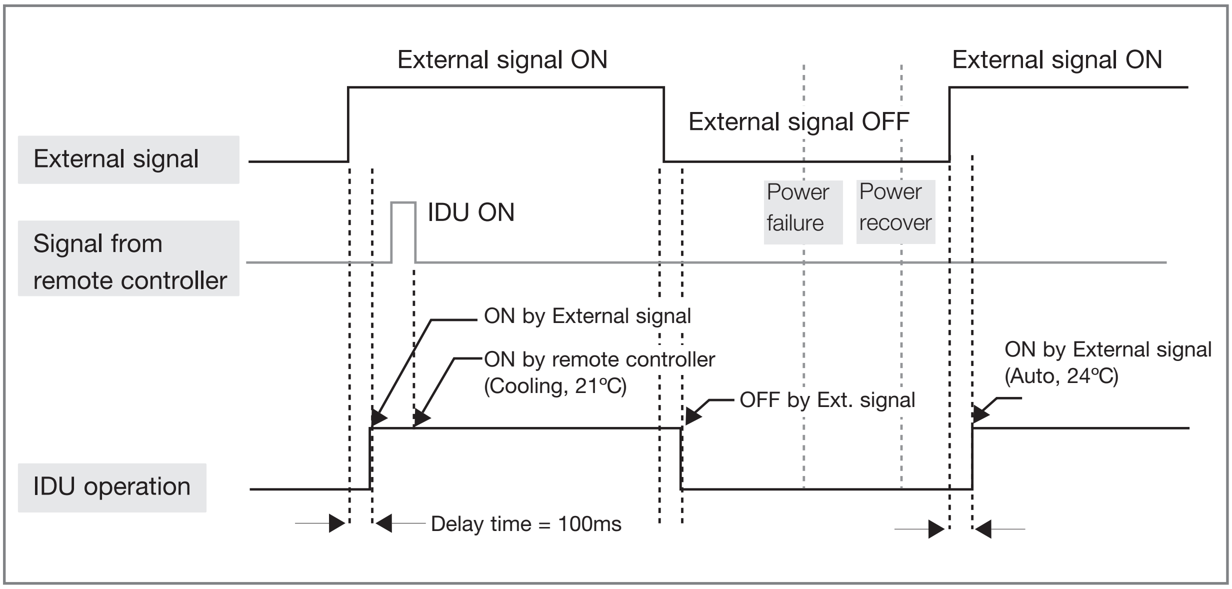
❈ Note : IDU stands for Indoor Unit.

After power reset, indoor unit operates as previous state. (IDU has power recovery function)

3. External Contact Control System

5) Control

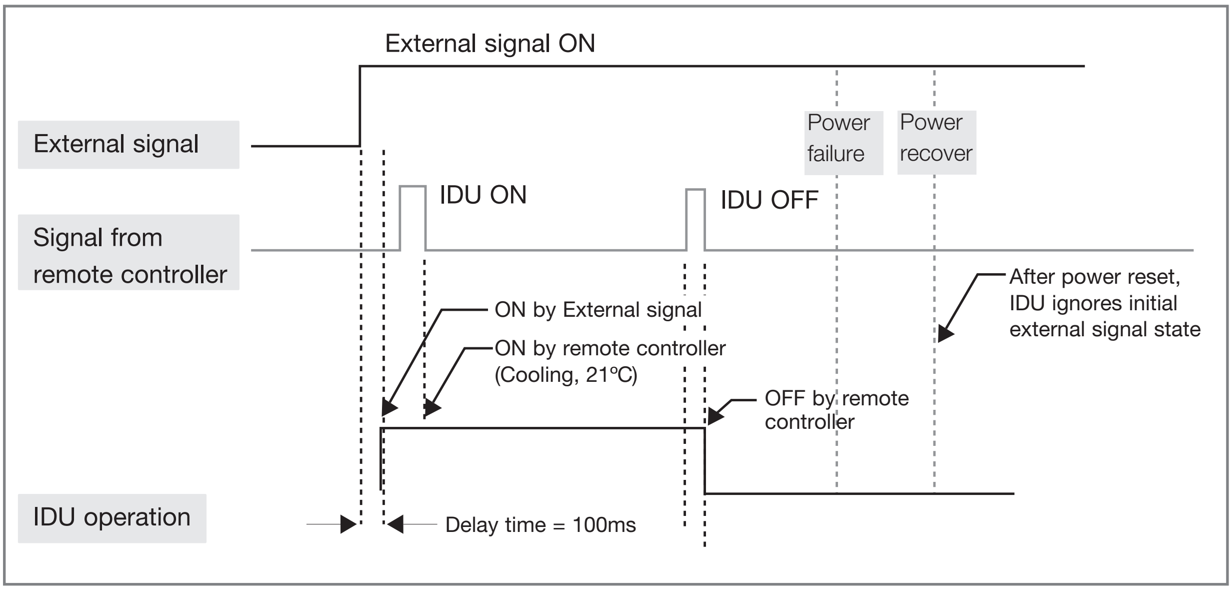
Timing diagram for external contact control (3)



❇ Note : IDU stands for Indoor Unit.

After power reset, if IDU is turn ON by external contact, it starts as Auto mode, 24°C Auto fan speed.

Timing diagram for external contact control (4)



❇ Note : IDU stands for Indoor Unit.

After power reset, IDU ignores initial external signal state.

07 System Diagram

1. Wiring

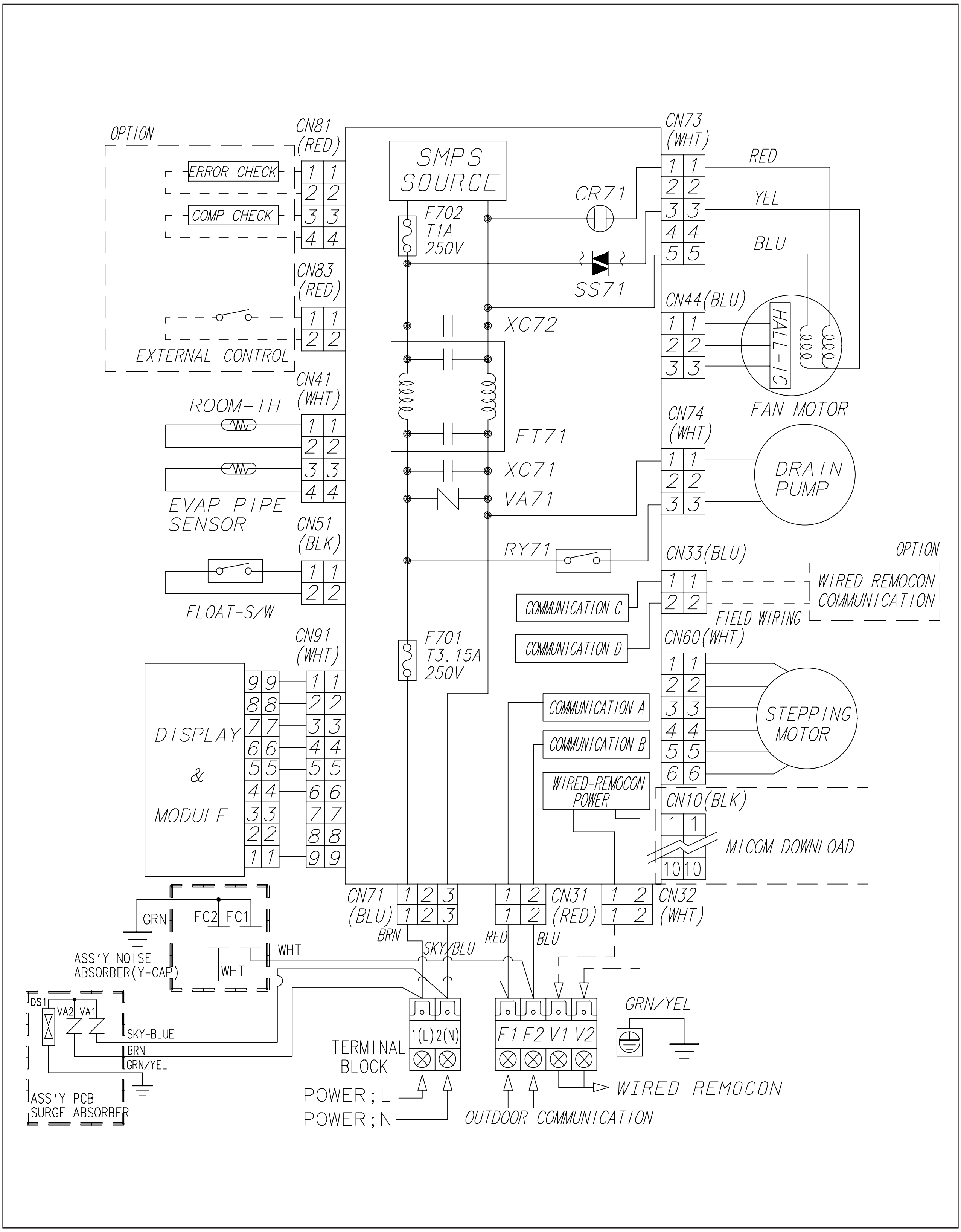
2. PBA

3. Circuit

1. Wiring

1-1. Slim 1 Way Cassette

1) SH026EAV1/SH035EAV1



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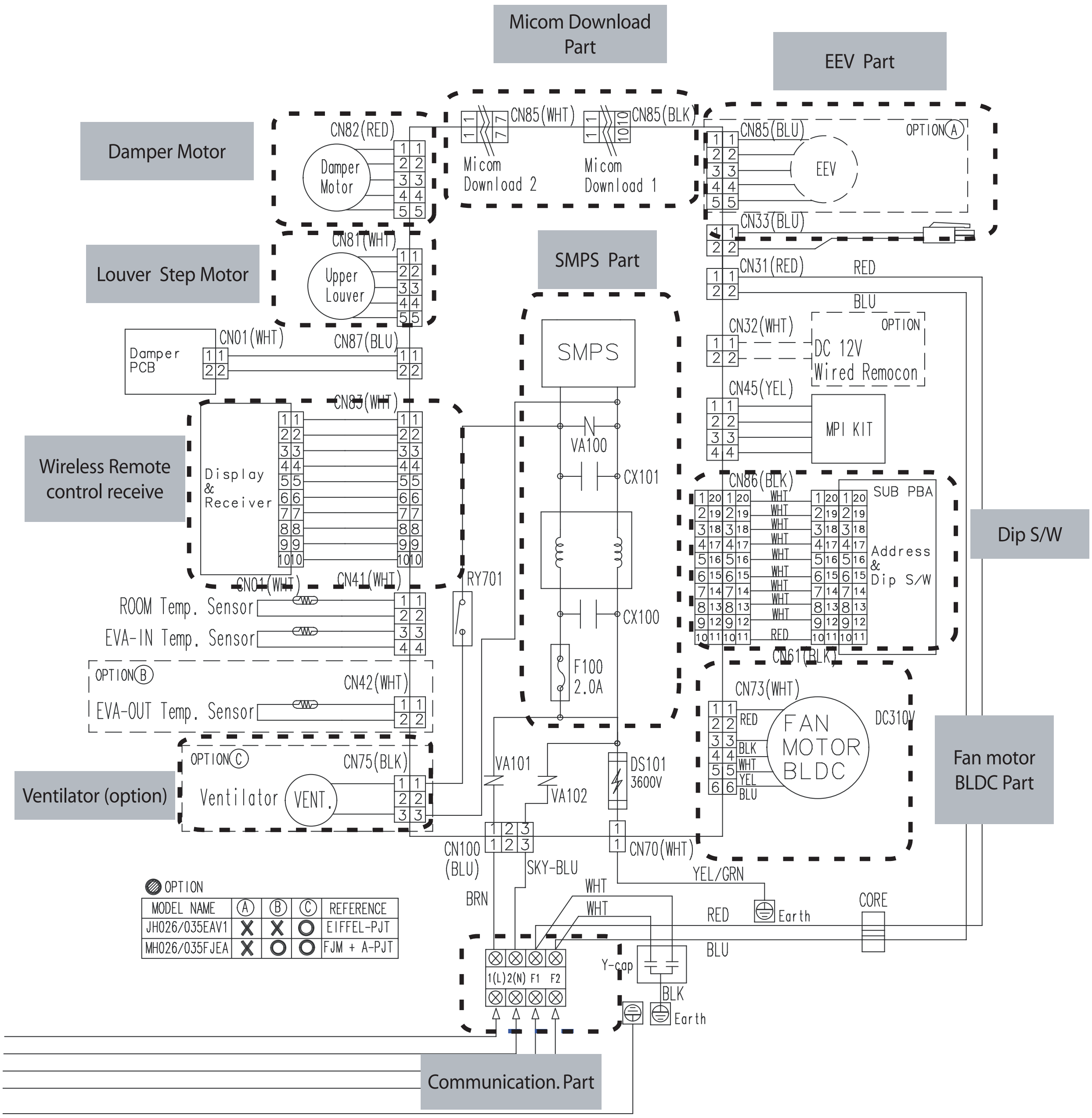
1-2. Console

1) JH026EAV1/JH035EAV1/JH052EAV1



OPTION

MODEL NAME	Ⓐ	Ⓑ	Ⓒ	REFERENCE
JH026/035EAV1	X	X	O	EIFFEL-PJT
MH026/035FJEA	X	O	O	FJM + A-PJT

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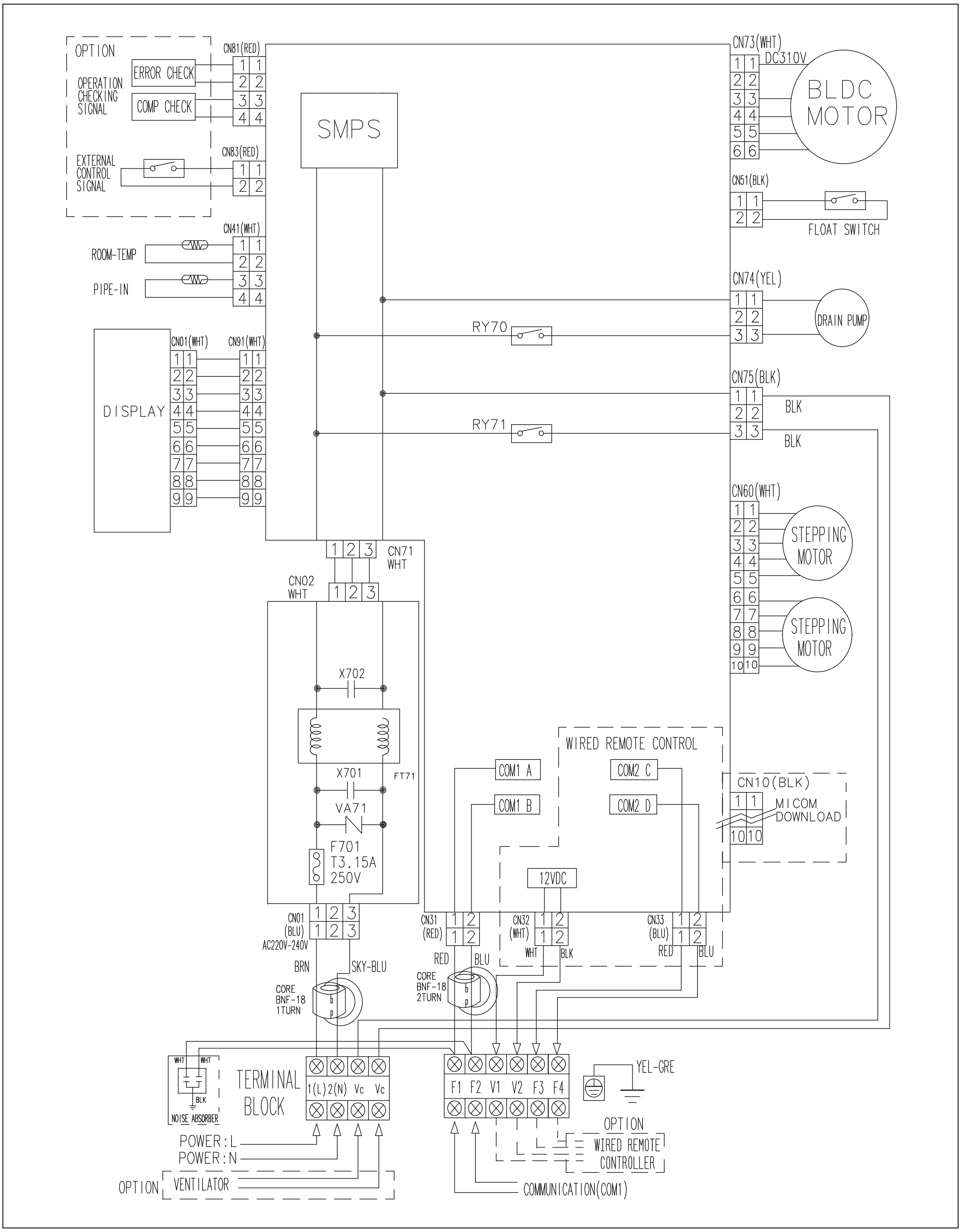
1-3. 4 Way Cassette

1) CH070EAV1/CH090EAV/CH105EAV/CH140EAV



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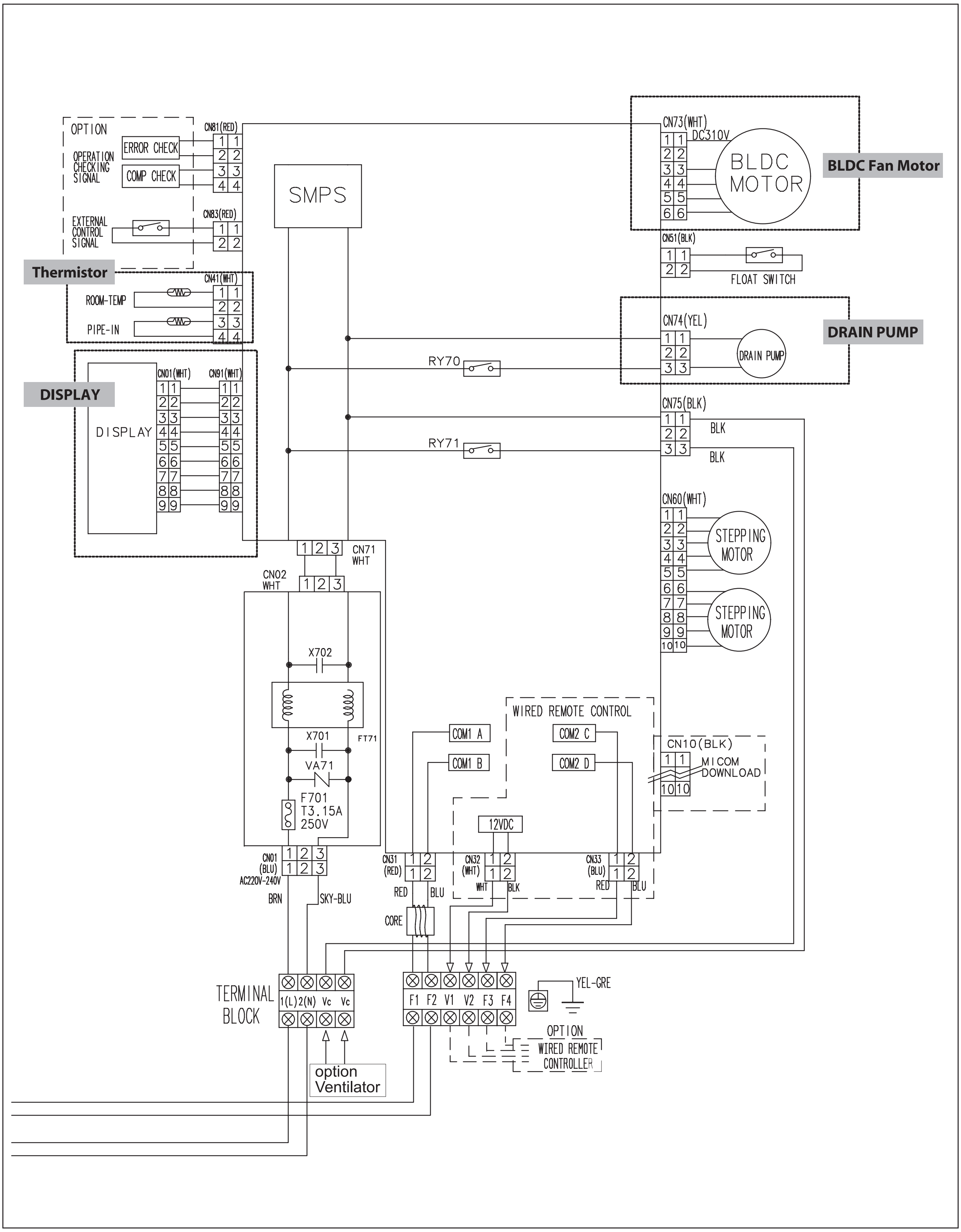
1-4. Mini 4 Way Cassette

1) CH090EAS



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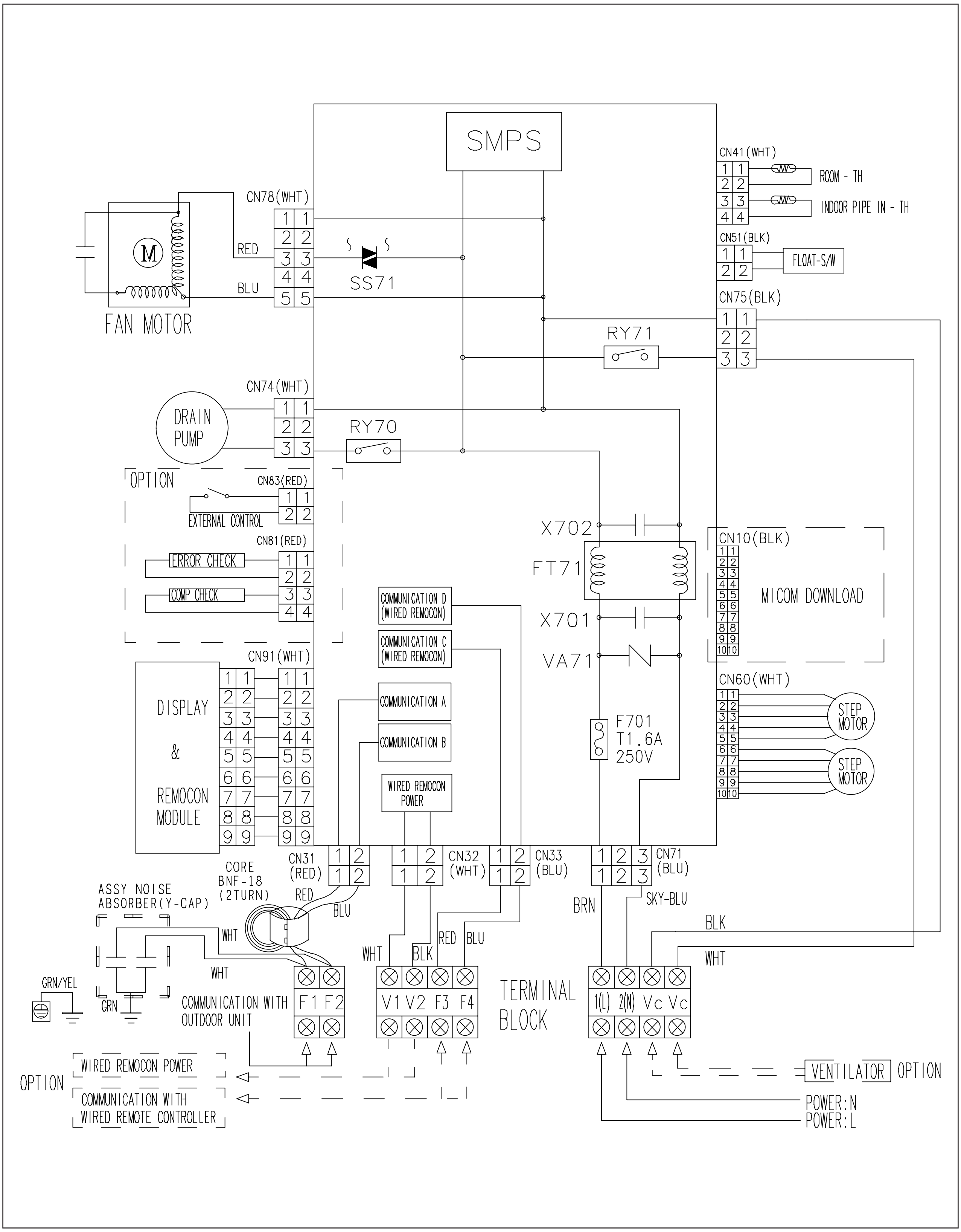
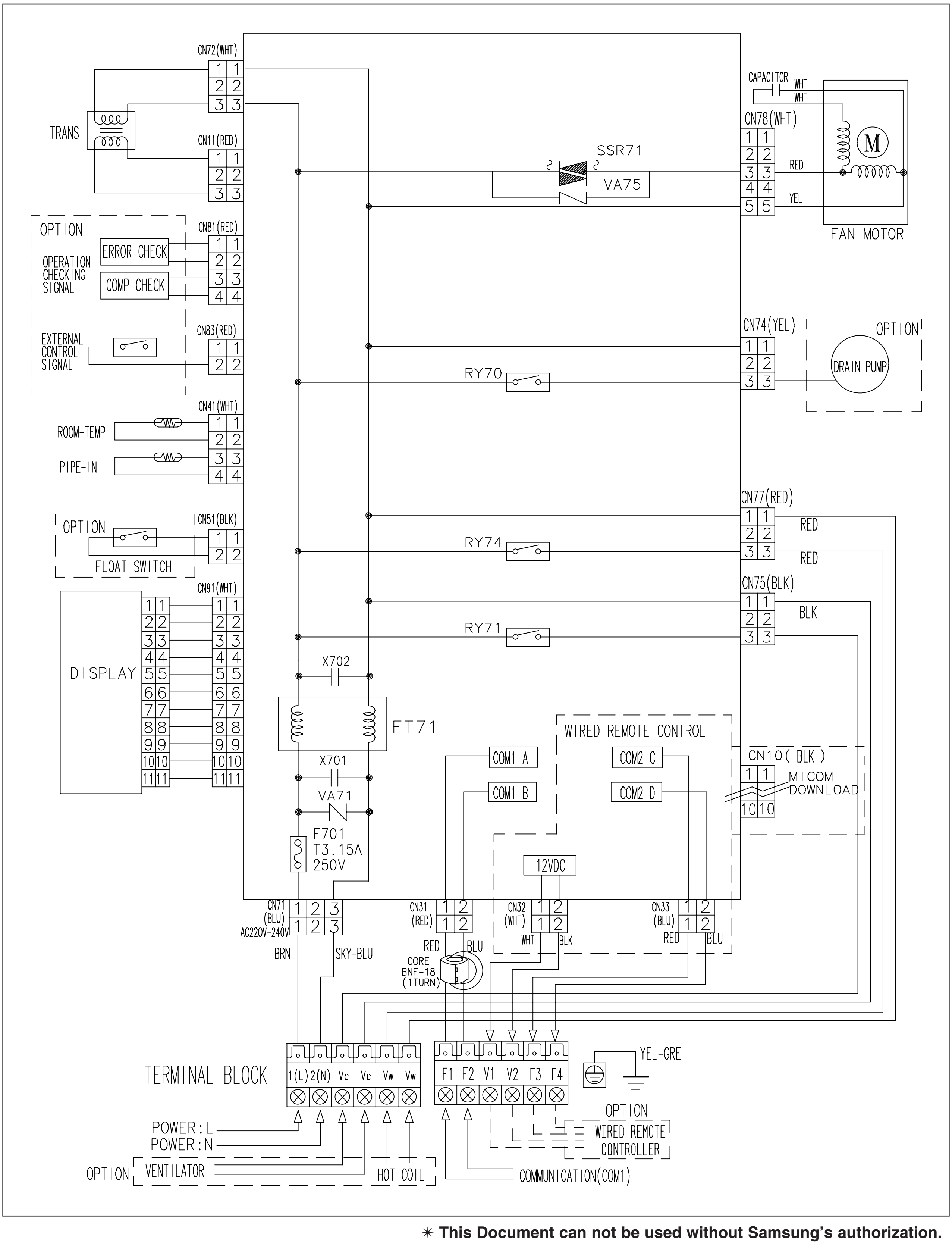
1-4. Mini 4 Way Cassette

1) TH026EAV1/TH035EAV1/TH052EAV1/TH060EAV1



1-5. Slim Duct

1) EH035EAV1/EH052EAV1/EH070EAV1



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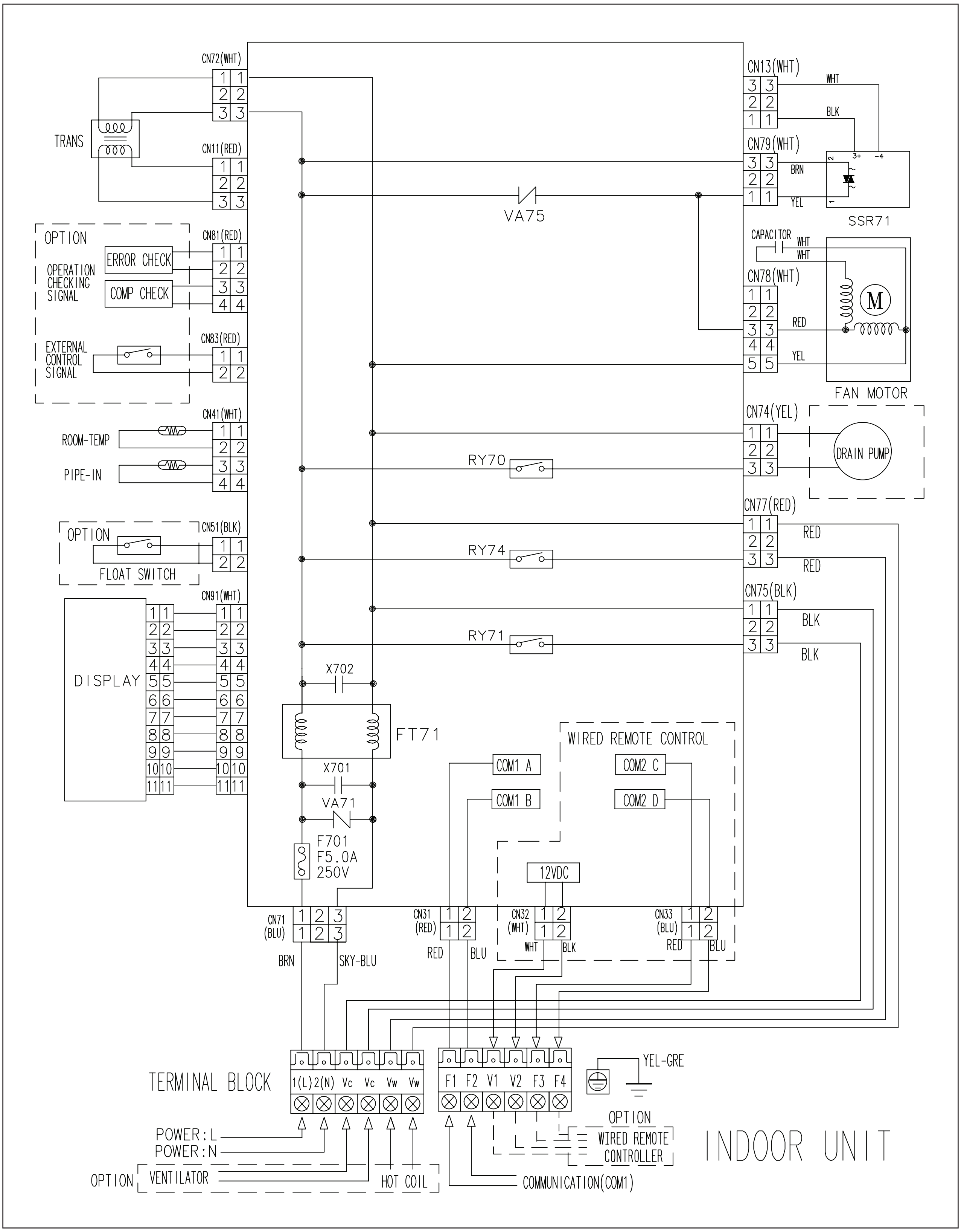
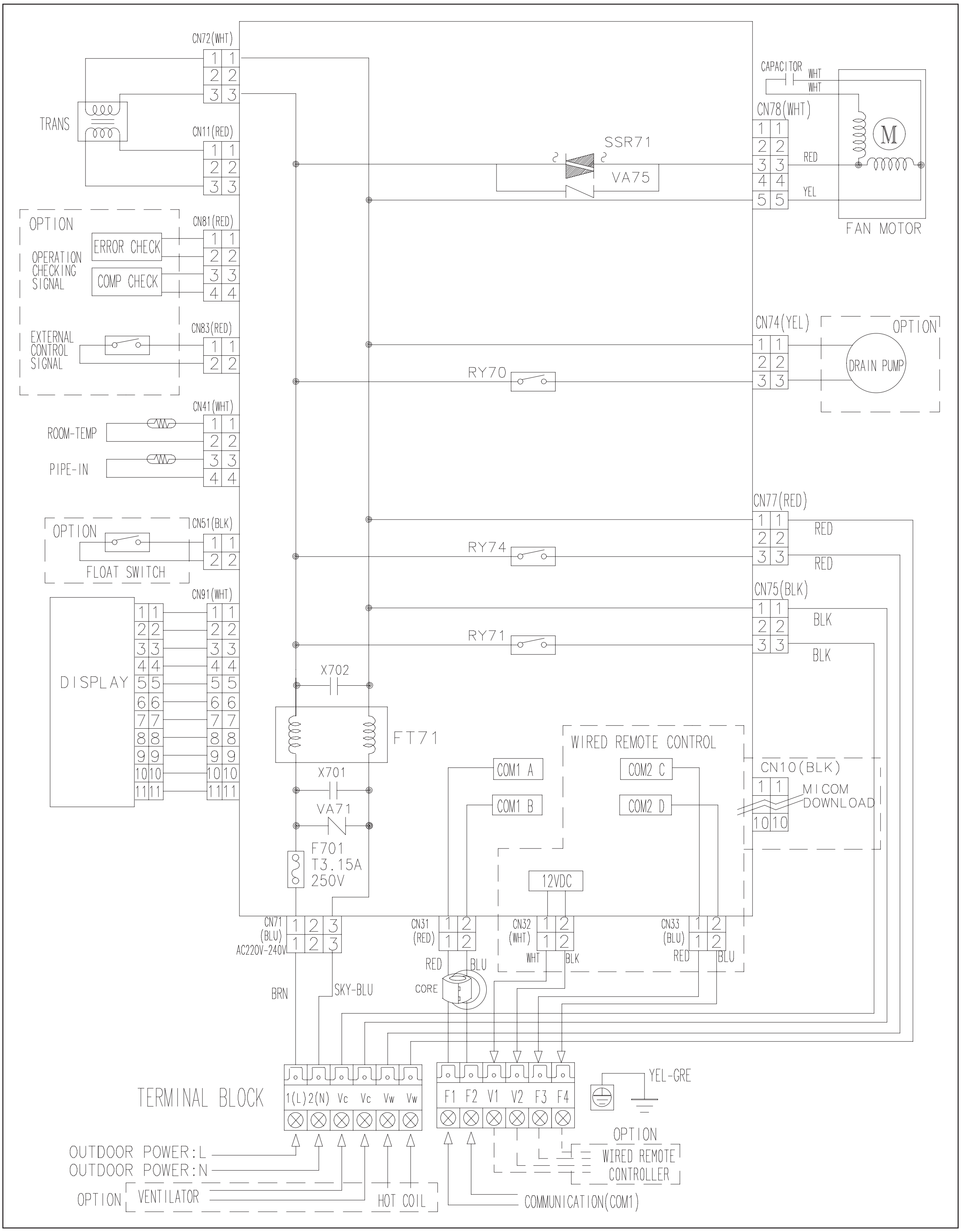
1-6. MSP Duct

1) DH052EAV1/DH070EAV1/DH090EAV1/DH105EAV/DH140EAV/DH105EAS

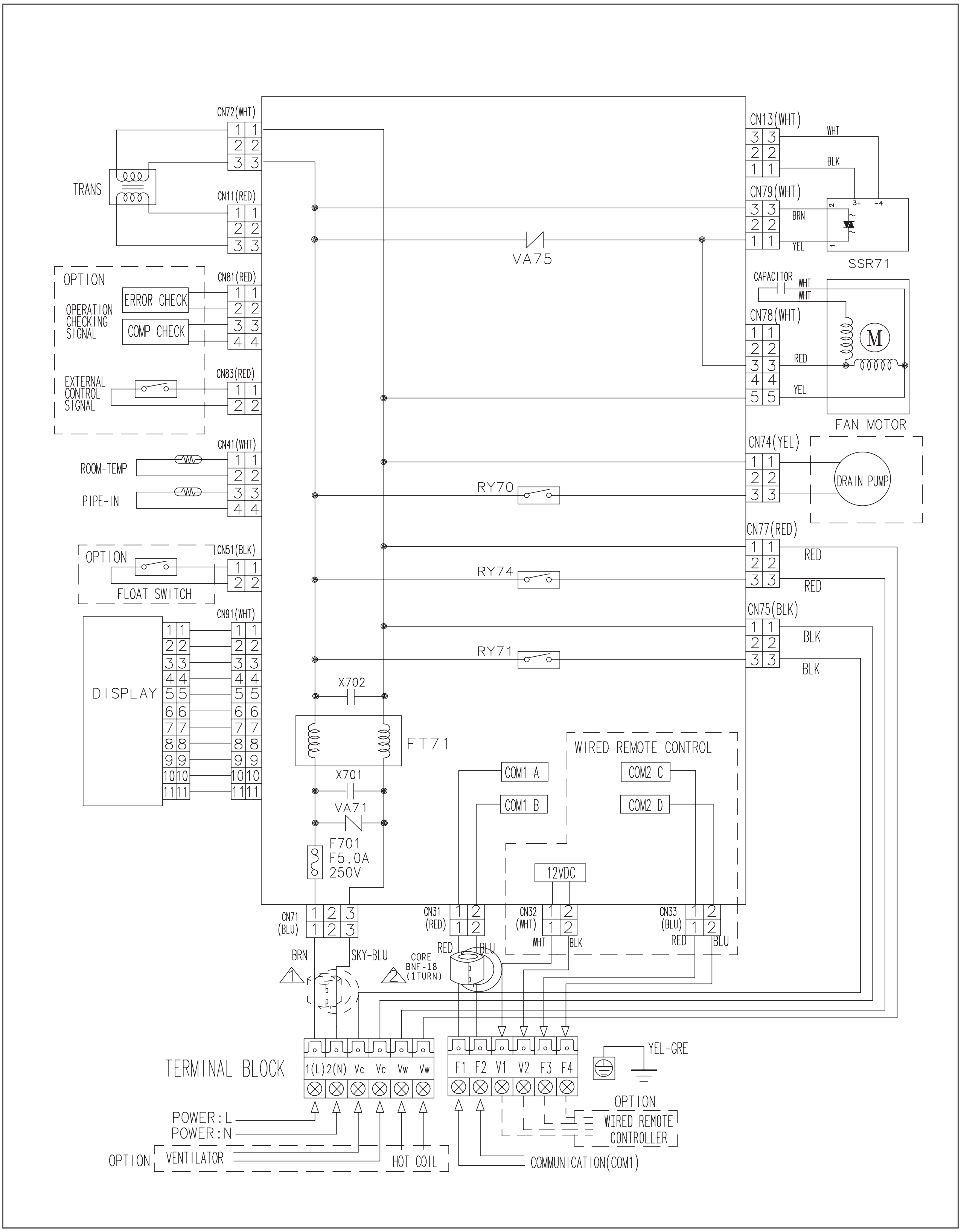


2) DH052EAS/DH070EAS



1-6. MSP Duct

3) DH090EAS



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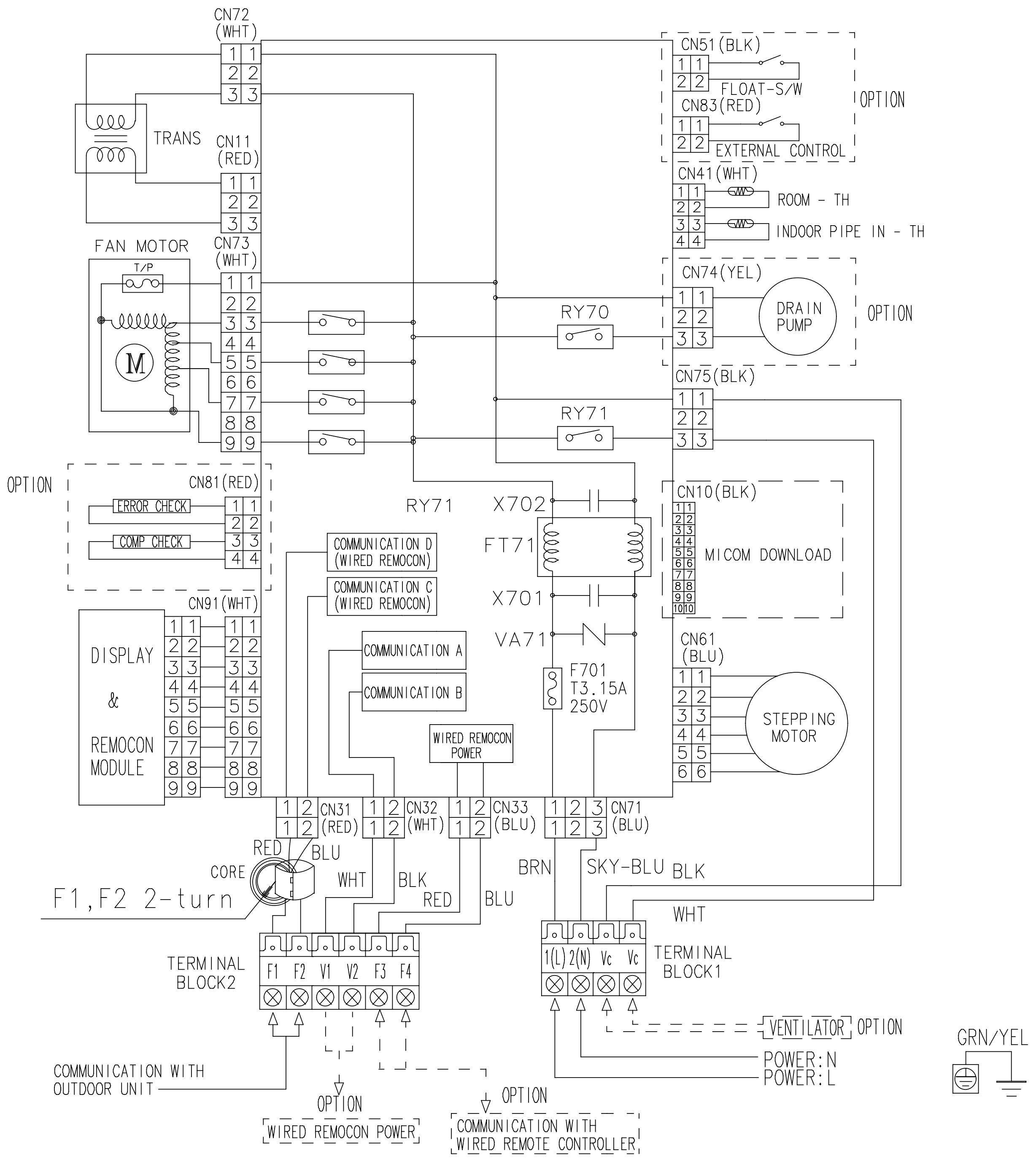
1-7. Ceiling

1) FH052EAV1/FH070EAV1

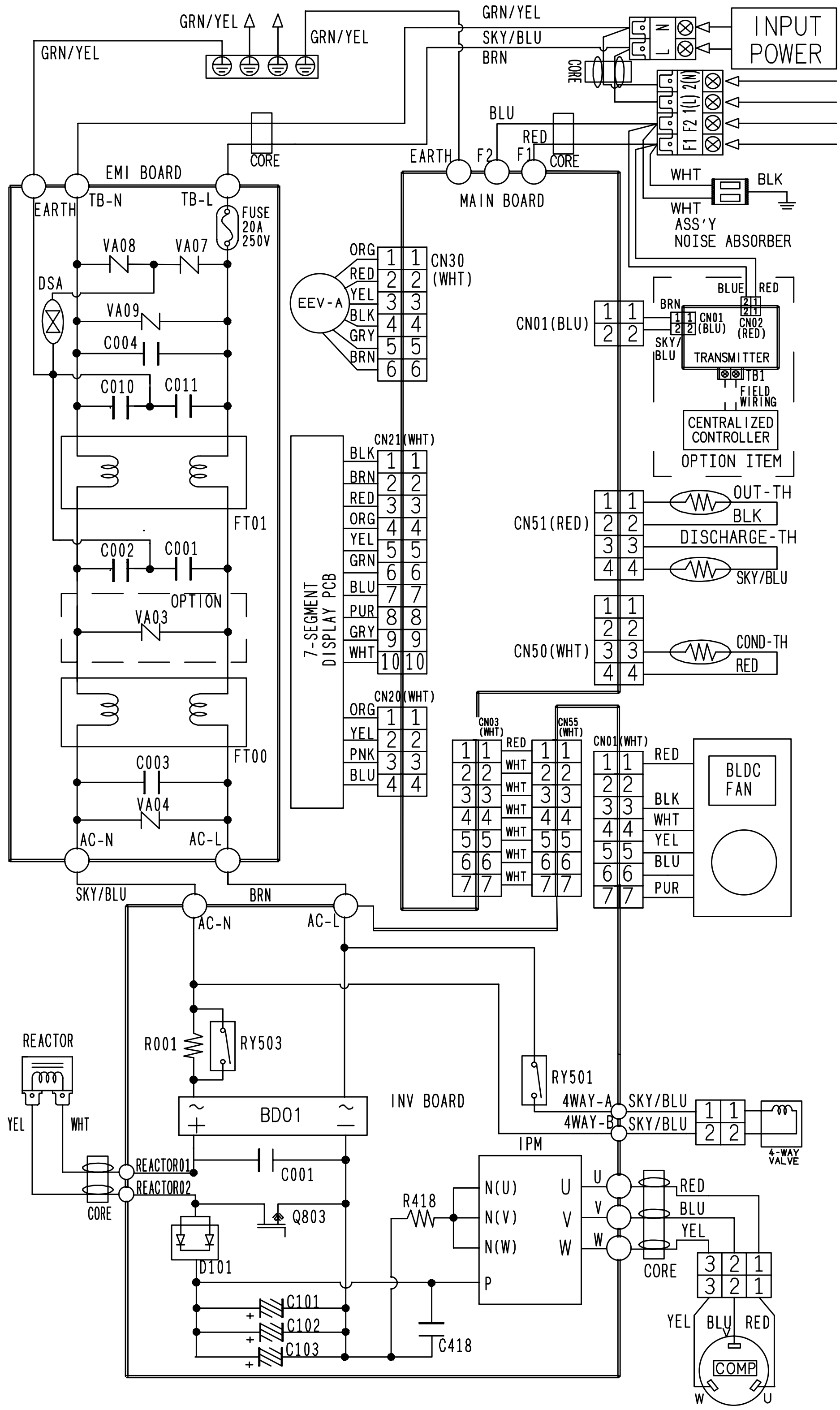


✳ This Document can not be used without Samsung's authorization.

System Diagram

1-8. Outdoor Unit

1) UH026EAV1/UH035EAV1



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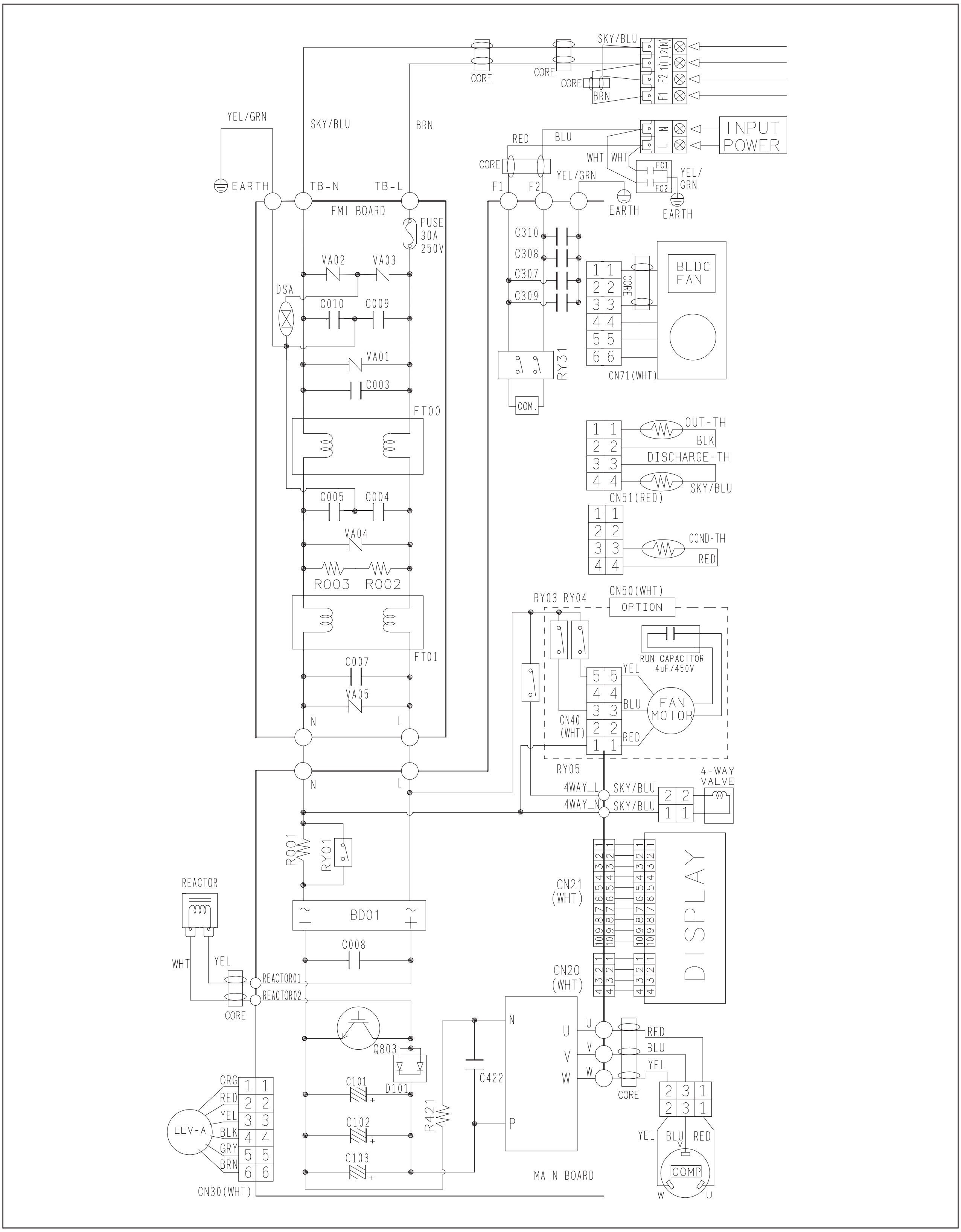
2) UH052EAV1/UH060EAV1/UH070EAV1



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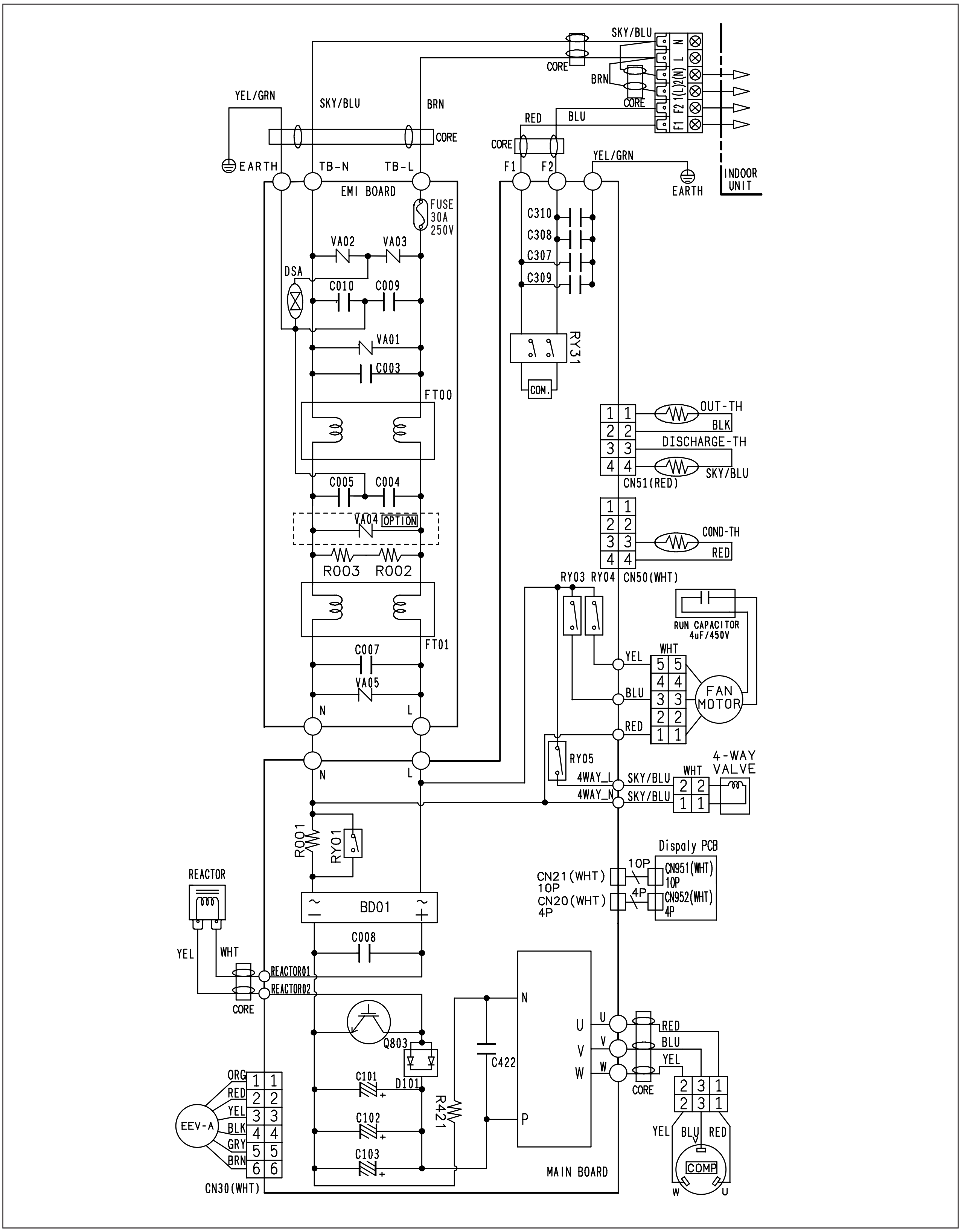
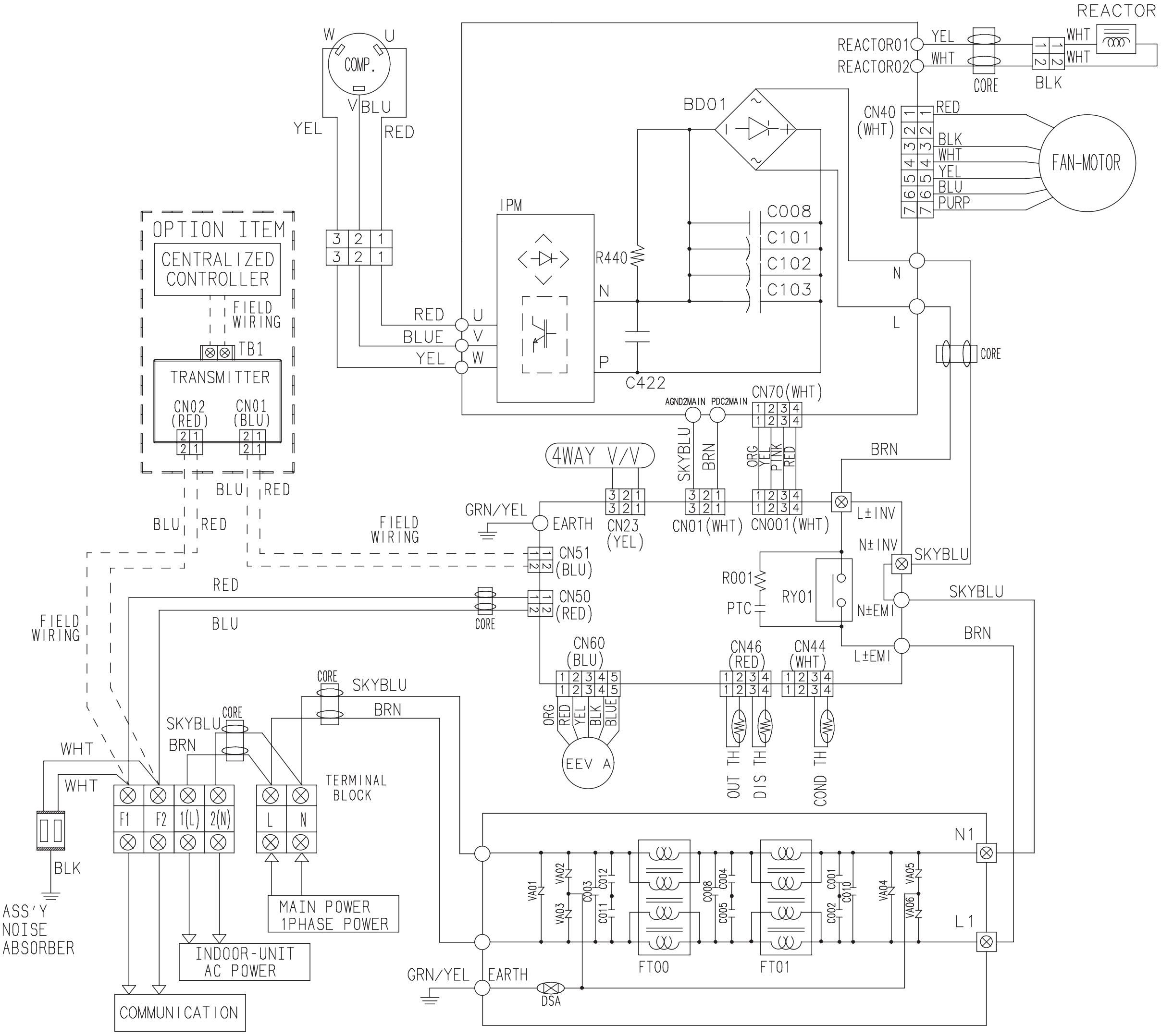
System Diagram

1-8. Outdoor Unit

3) UH052EAS/UH070EAS



4) UH090EAS



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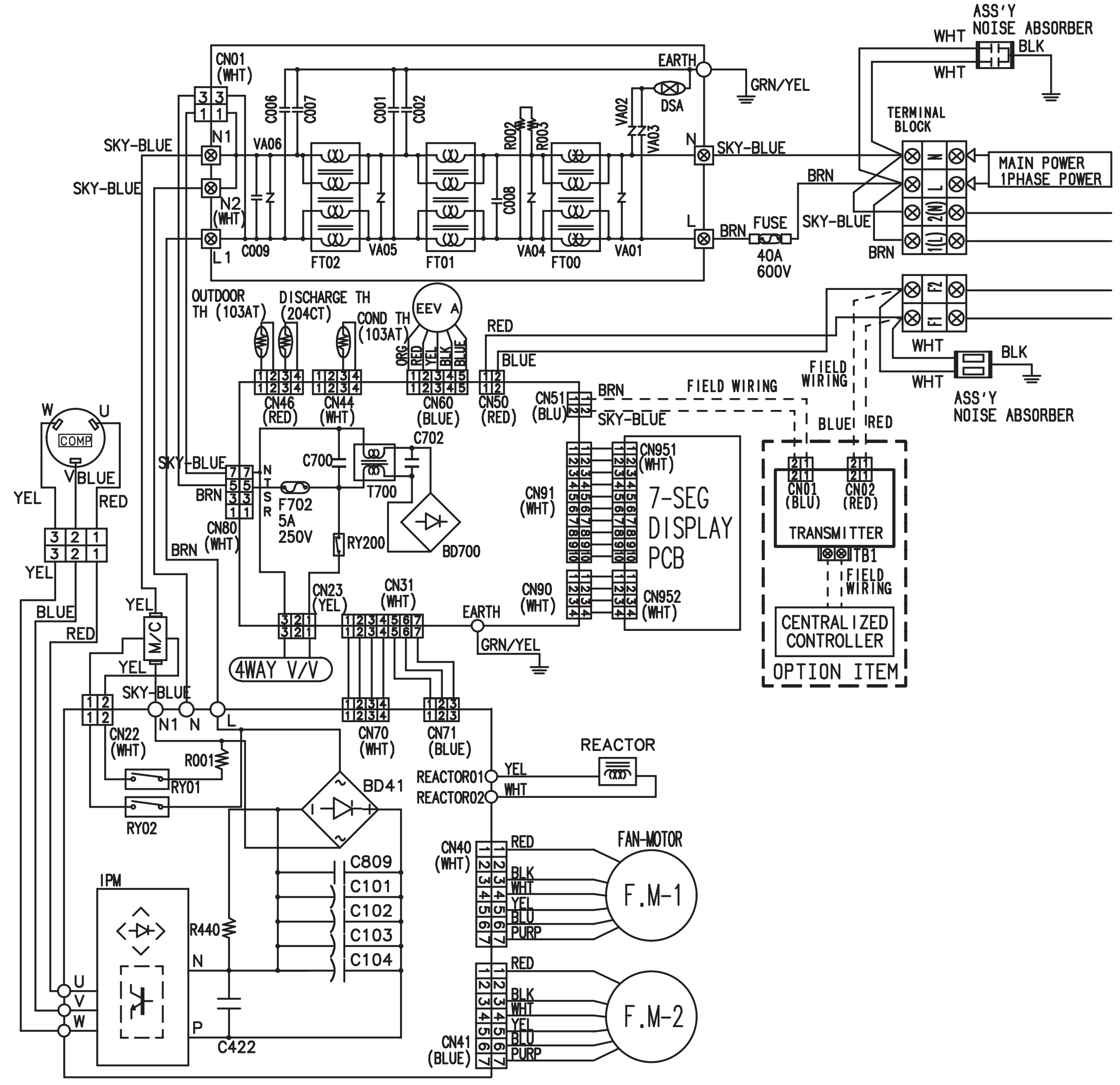
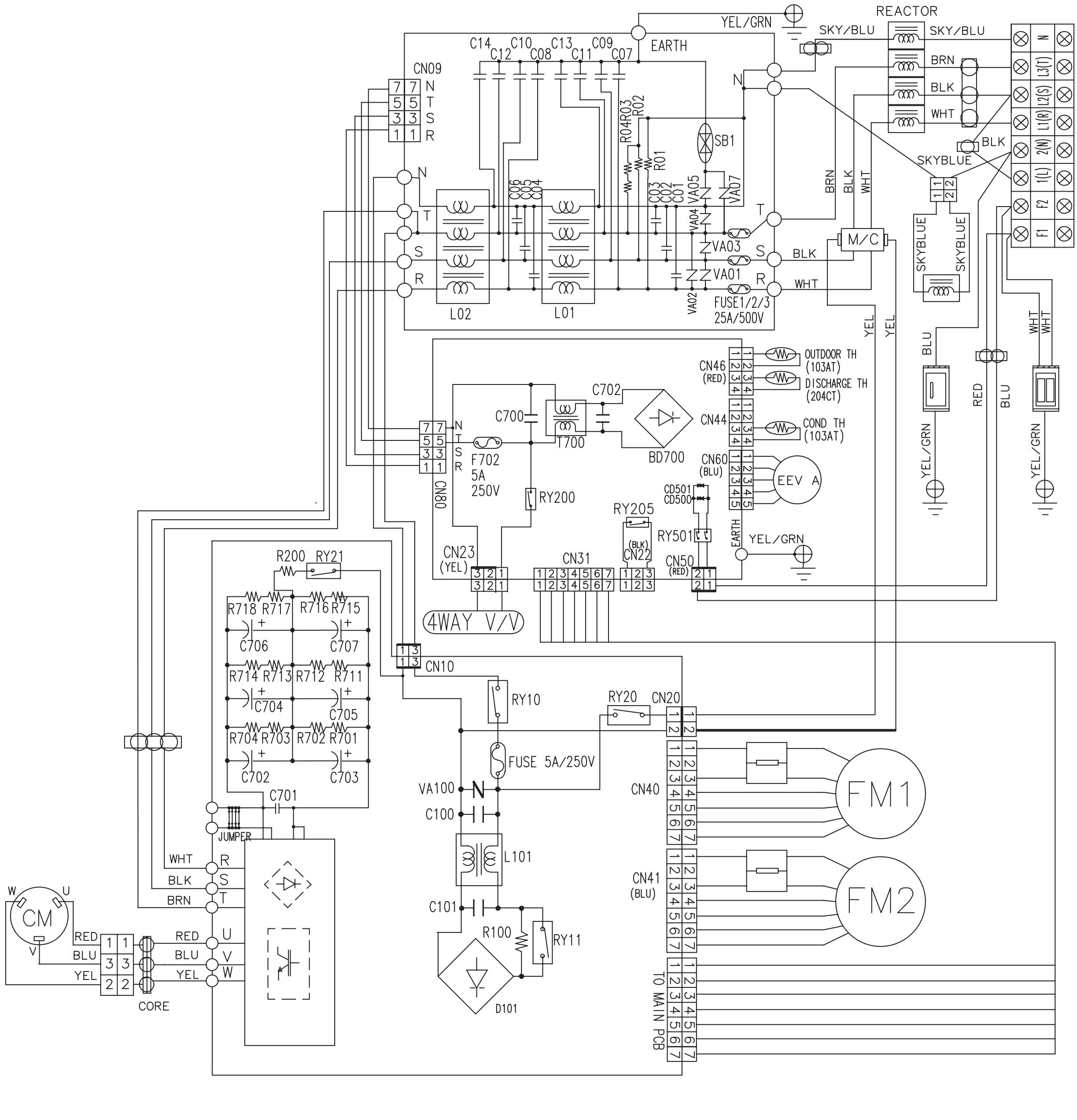
System Diagram

1-8. Outdoor Unit

5) UH090EAV/UH105EAV/UH140EAV/UH105EAS



6) UH105GAV/UH140GAV



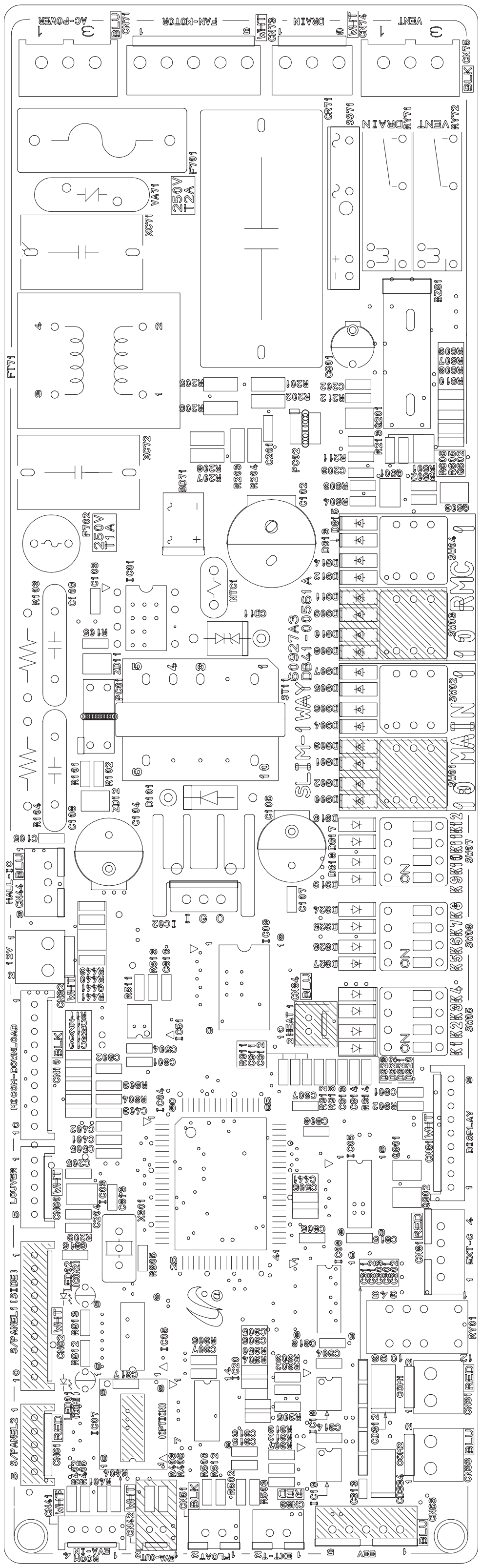
2. PBA

2-1. Ass'y PBA List

PRODUCT	INDOOR UNIT		OUTDOOR UNIT	
	Model Name	PBA Code	Model Name	Ass'y Control Out Code
Slim 1 Way cassette	SH026EAV1	DB93-04768C	UH026EAV1	DB93-05837B
	SH035EAV1		UH035EAV1	DB93-05837A
Console	JH026EAV1	DB93-06165A	UH026EAV1	DB93-07080B
	JH035EAV1		UH035EAV1	DB93-07080A
	JH052EAV1	DB93-06165D	UH052EAV1	DB93-07081C
Mini 4 Way cassette	TH026EAV1	DB93-03451B	UH026EAV1	DB93-05837B
	TH035EAV1		UH035EAV1	DB93-05837A
	TH052EAV1		UH052EAV1	DB93-05838C
	TH060EAV1		UH060EAV1	DB93-05838B
4 Way cassette	CH070EAV1	DB93-04120A	UH070EAV1	DB93-05838A
	CH090EAV	DB93-04120E	UH090EAV	DB93-05841C
	CH090EAS	DB93-04120F	UH090EAS	DB93-07103A
	CH105EAV	DB93-04120C	UH105EAV	DB93-05841B
	CH105EAV		UH105GAV	DB93-04389B
	CH140EAV		UH140EAV	DB93-05841A
	CH140EAV		UH140GAV	DB93-04389A
Slim duct	EH035EAV1	DB93-03213K	UH035EAV1	DB93-05837A
	EH052EAV1		UH052EAV1	DB93-05838C
	EH070EAV1		UH070EAV1	DB93-05838A
MSP duct	DH052EAV1	DB93-03213N	UH052EAV1	DB93-05838C
	DH070EAV1		UH070EAV1	DB93-05838A
	DH090EAV	DB93-03213M	UH090EAV	DB93-05841C
	DH105EAV	DB93-03213H	UH105EAV	DB93-05841B
	DH105EAV		UH105GAV	DB93-04389B
	DH140EAV		UH140EAV	DB93-05841A
	DH140EAV		UH140GAV	DB93-04389A
	DH052EAS	DB93-03213L	UH052EAS	DB93-05838E
	DH070EAS		UH070EAS	DB93-05838D
	DH090EAS		UH090EAS	DB93-07103A
	DH105EAS	DB93-04120E	UH105EAS	DB93-05841D
Ceiling	FH052EAV1	DB93-03375B	UH052EAV1	DB93-05838C
	FH070EAV1		UH070EAV1	DB93-05838A

2-2. Slim 1 Way Cassette

1) SH026EAV1/SH035EAV1



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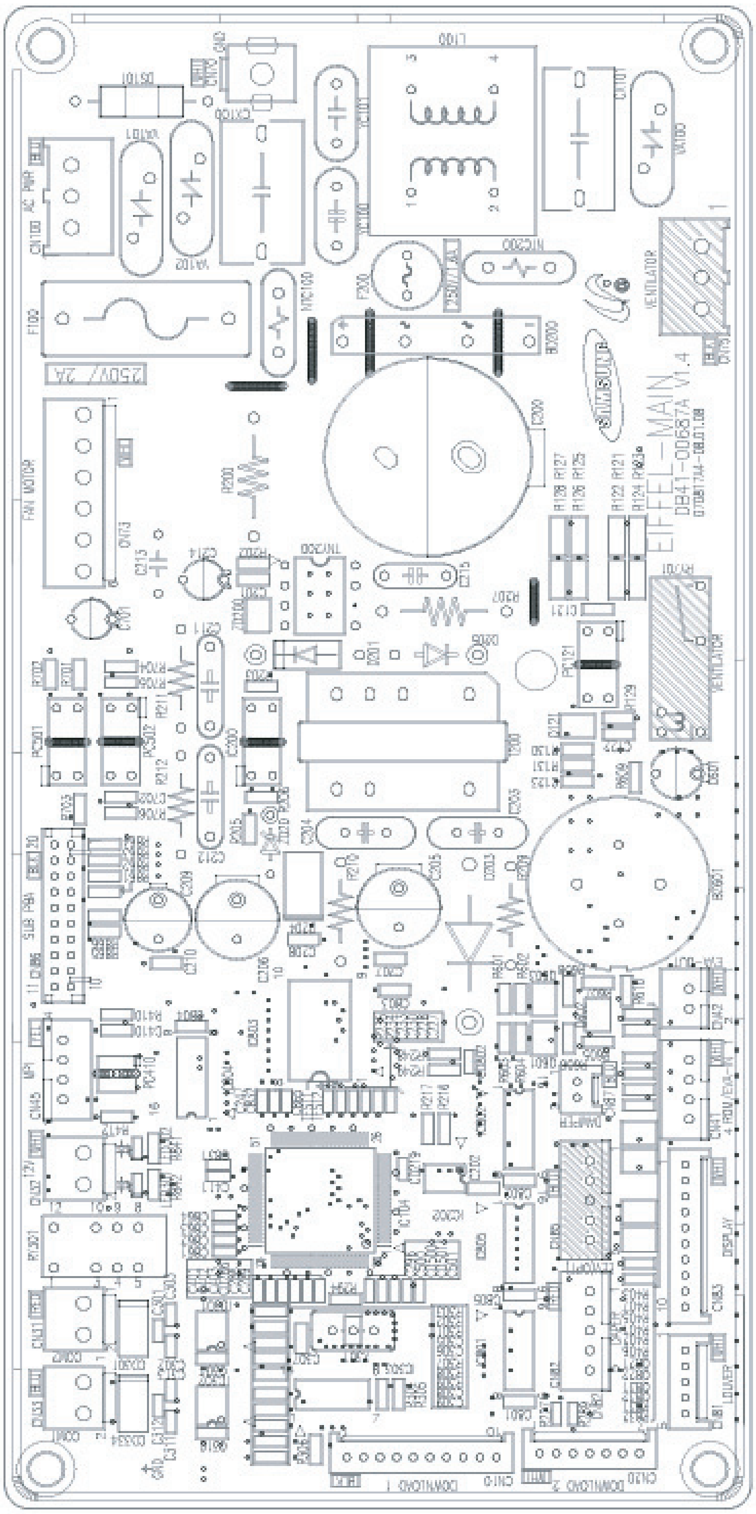
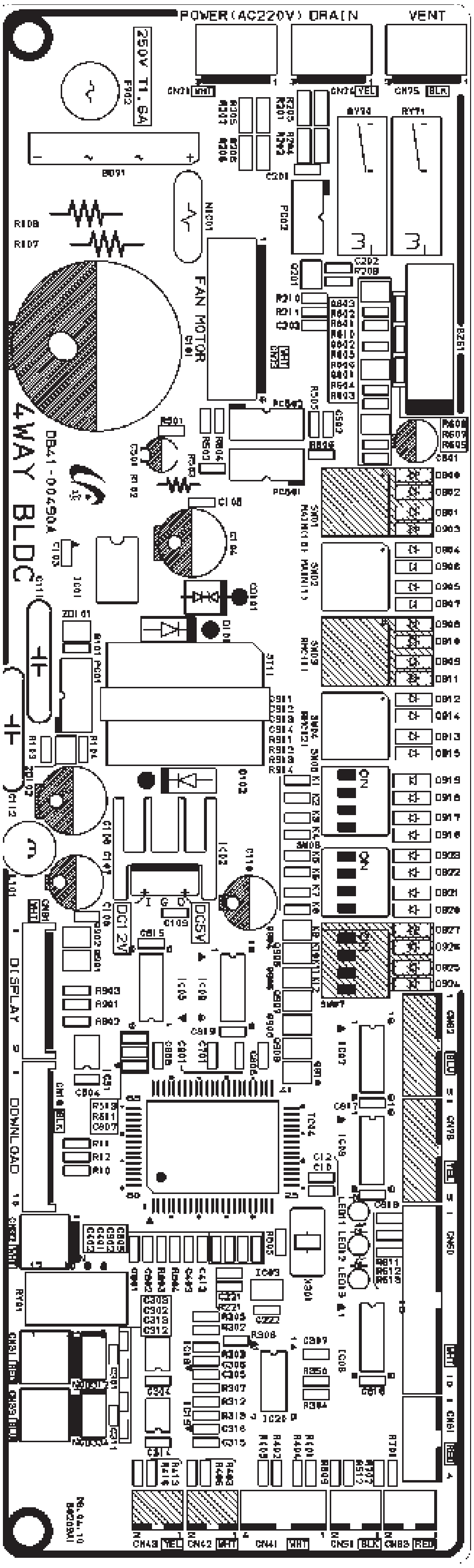
2-3. Console

1) JH026EAV1/JH035EAV1/JH052EAV1



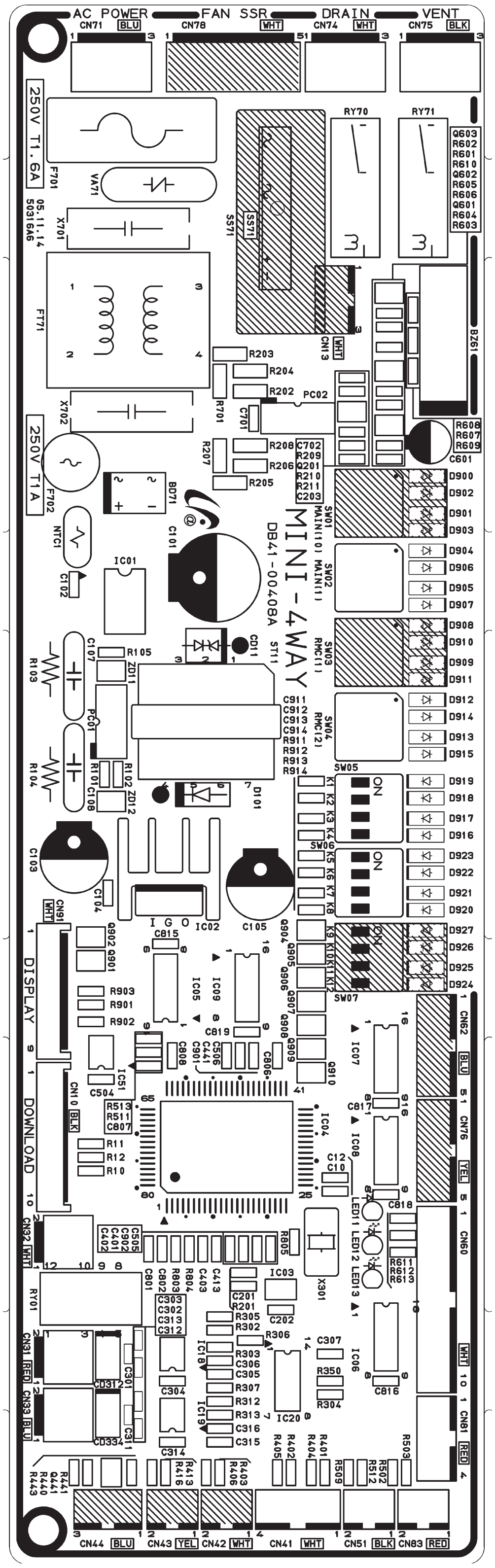
2-4. 4 Way Cassette

1) CH070EAV1/CH090EAV/CH105EAV/CH140EAV/CH090EAS



2-5. Mini 4 Way Cassette

1) TH026EAV1/TH035EAV1/TH052EAV1/TH060EAV1



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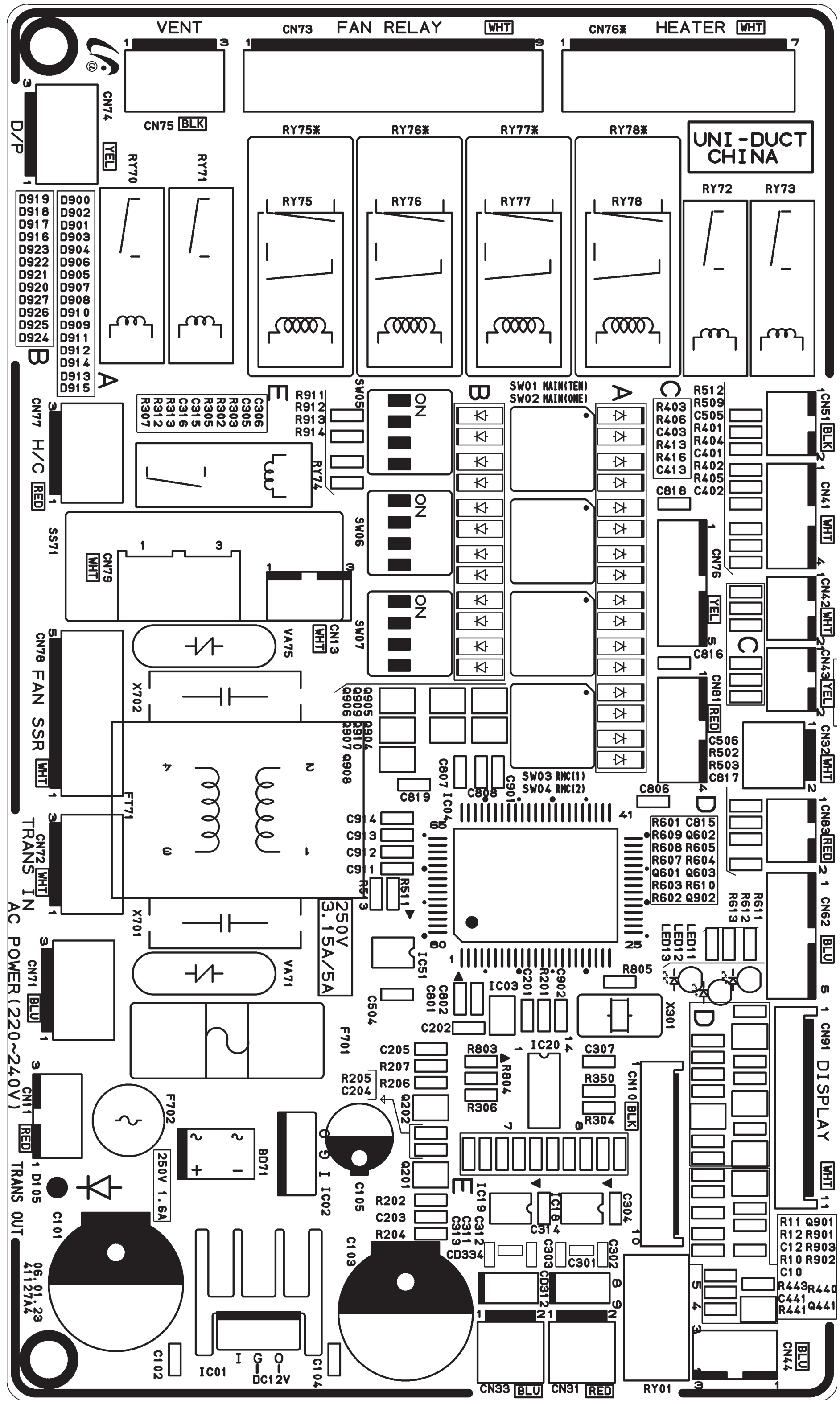
2-6. Slim Duct/MSP Duct

1) EH026EAV1/EH052EAV1/EH070EAV1/DH052EAV1/DH070EAV1/DH090EAV/DH105EAV/DH140EAV/DH052EAS/DH070EAS/DH090EAS/DH105EAS



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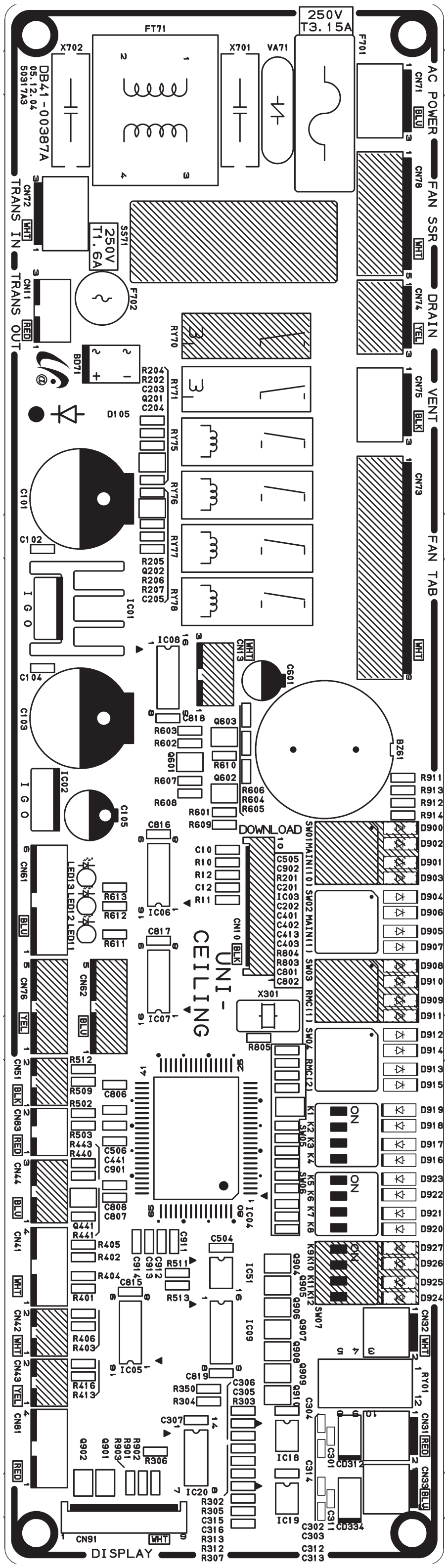
2-7. Ceiling

1) FH052EAV1/FH070EAV1



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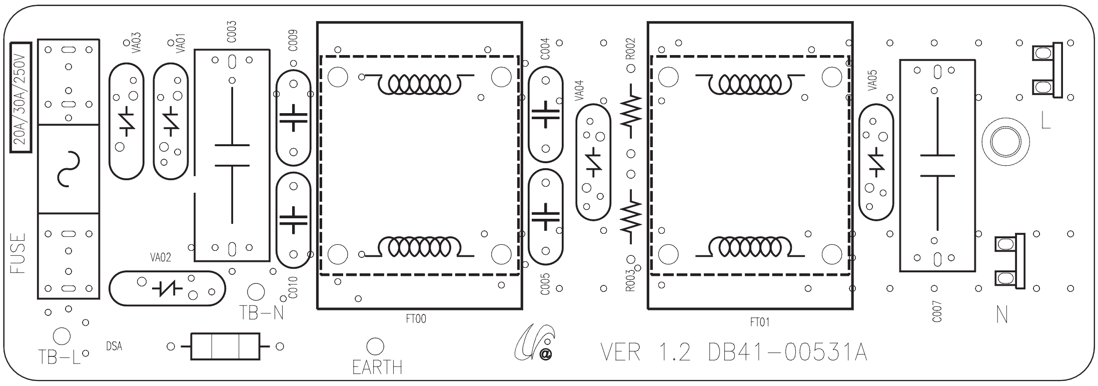
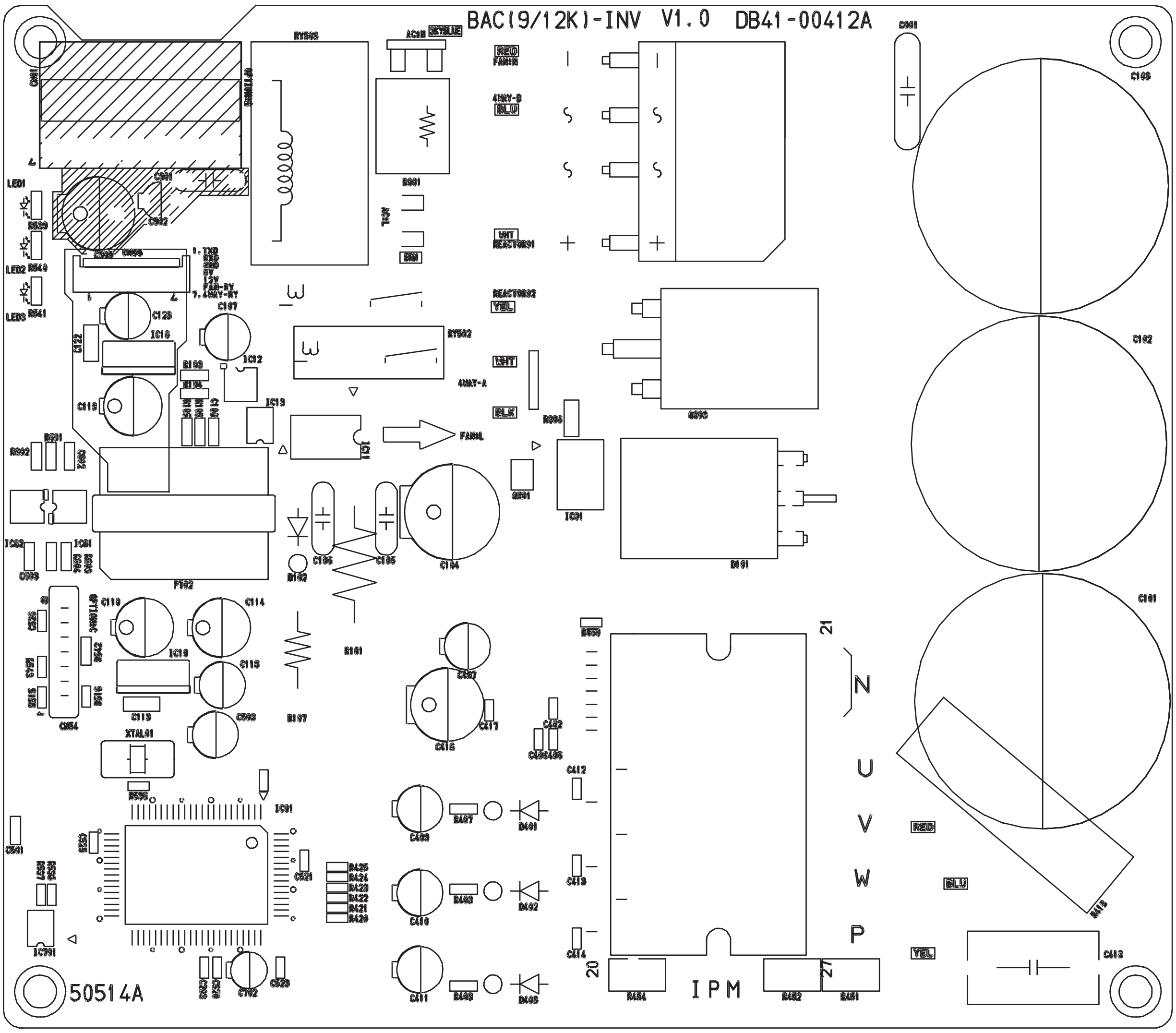
2-8. Outdoor Unit

1) EMI PCB (UH026EAV1/UH035EAV1)



2) Inverter PCB (UH026EAV1/UH035EAV1)



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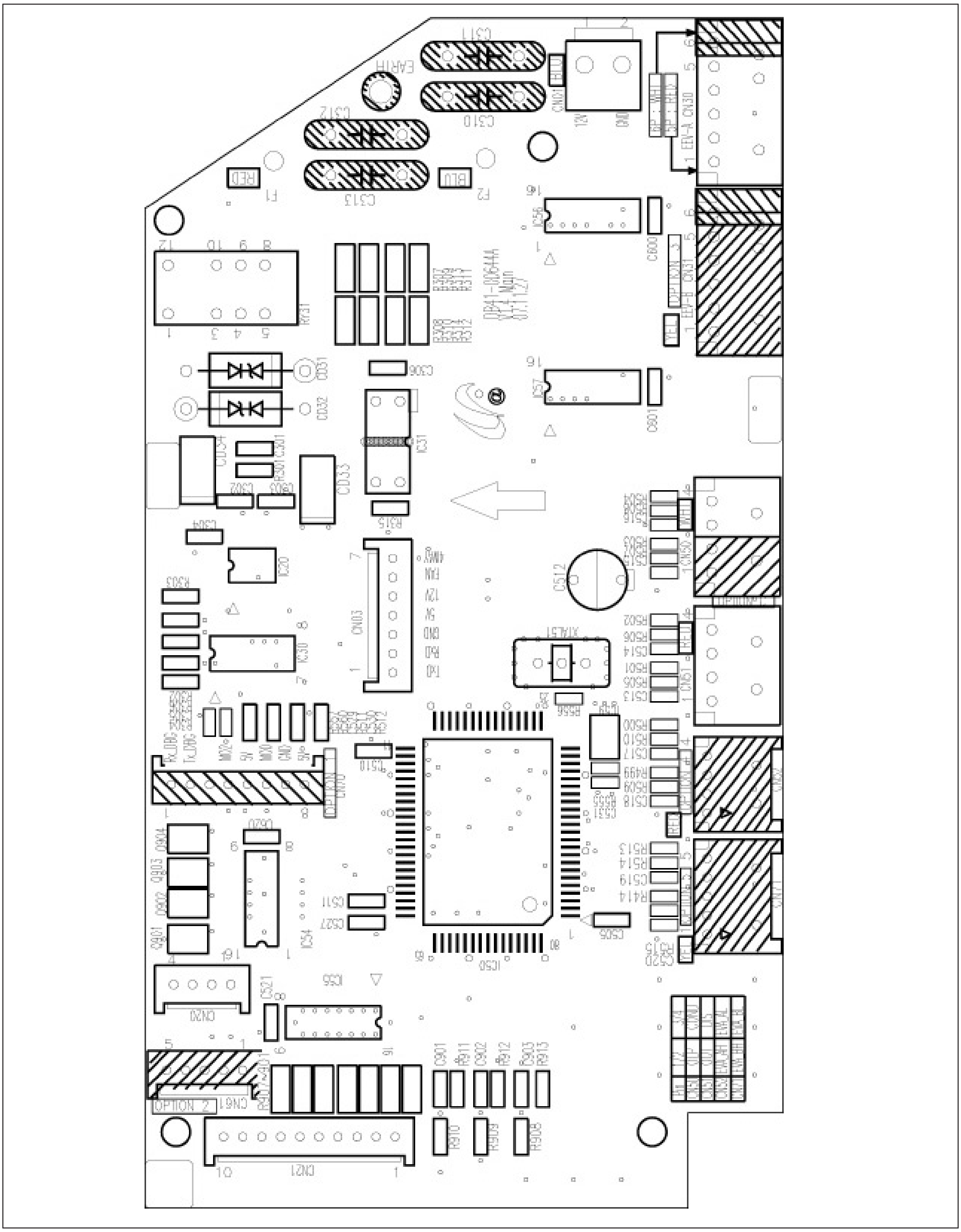
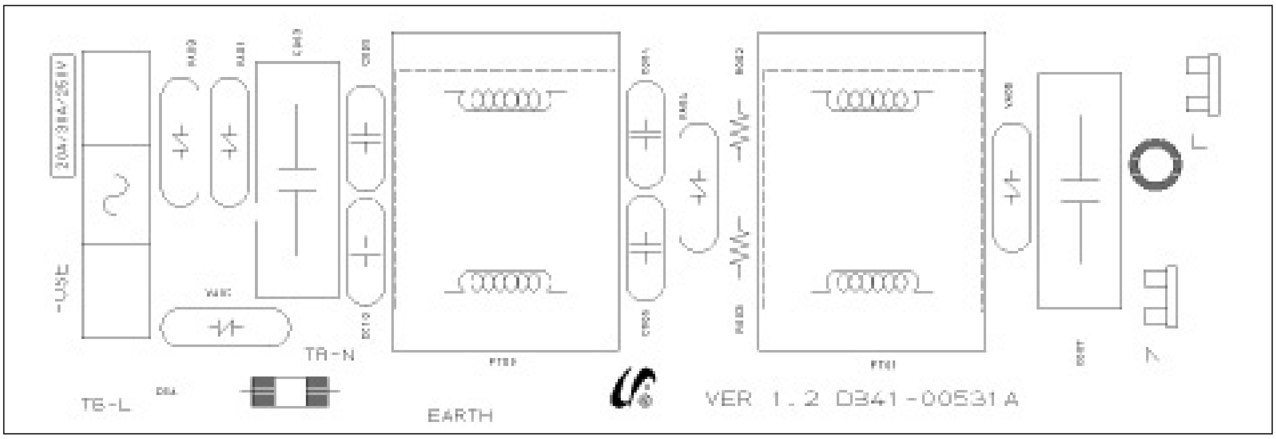
2-8. Outdoor Unit

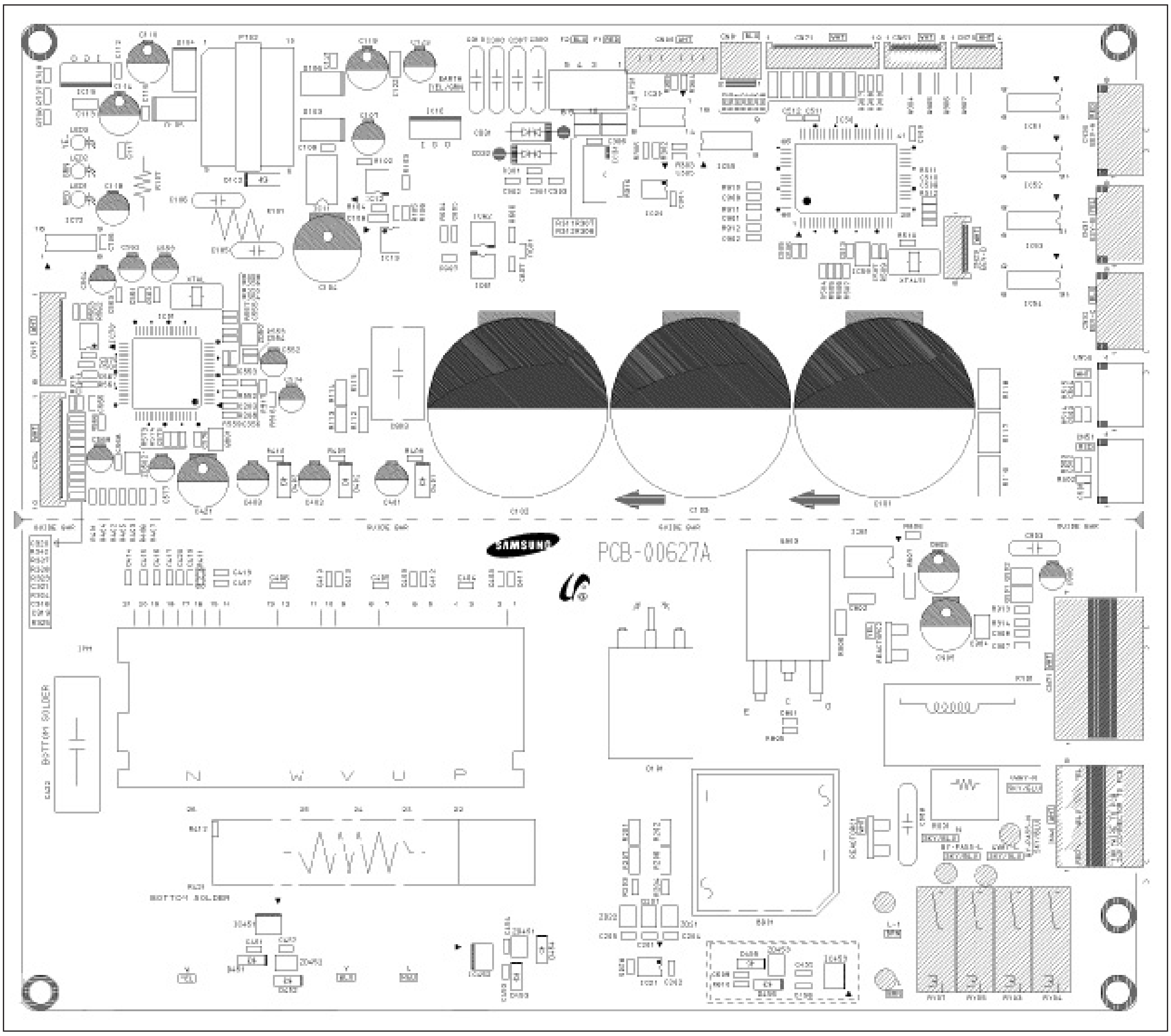
3) Main PCB (UH026EAV1/UH035EAV1)



4) EMI PCB (UH052EAV1/UH060EAV1/UH070EAV1/UH052EAS/UH070EAS)



5) Inverter PCB (UH052EAV1/UH060EAV1/UH070EAV1/UH052EAS/UH070EAS)



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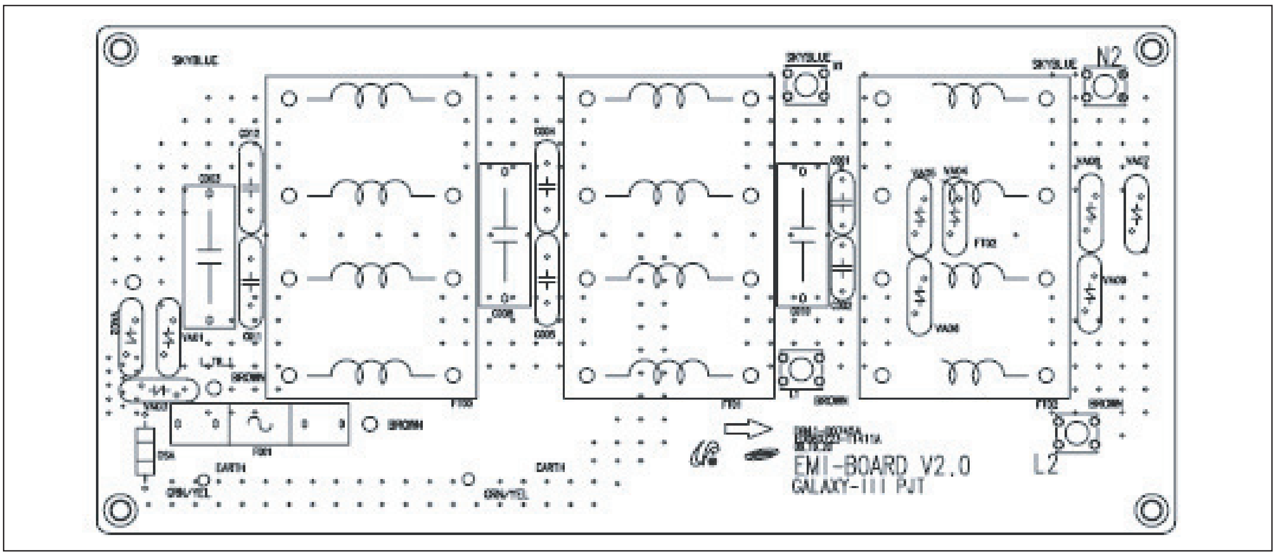
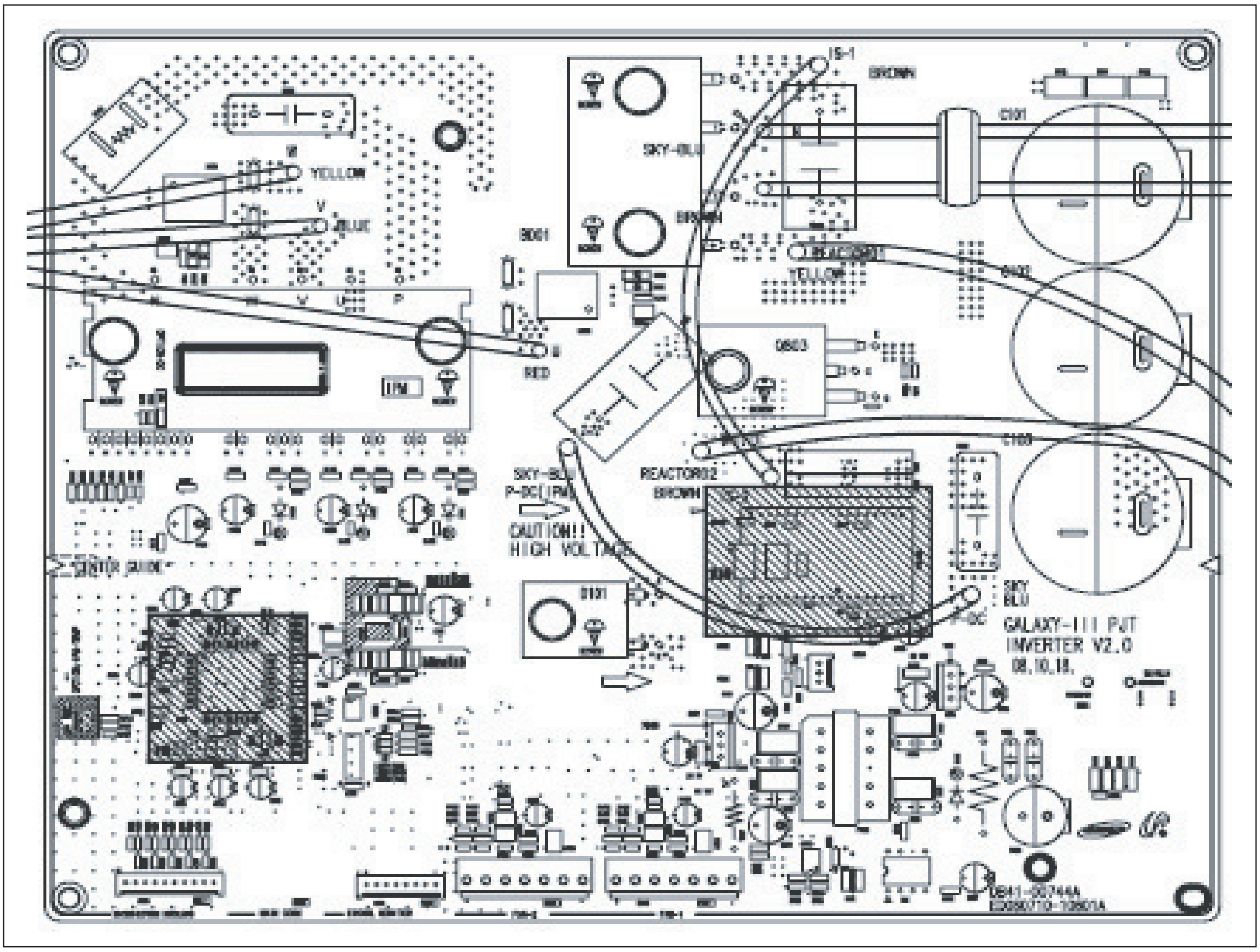
2-8. Outdoor Unit

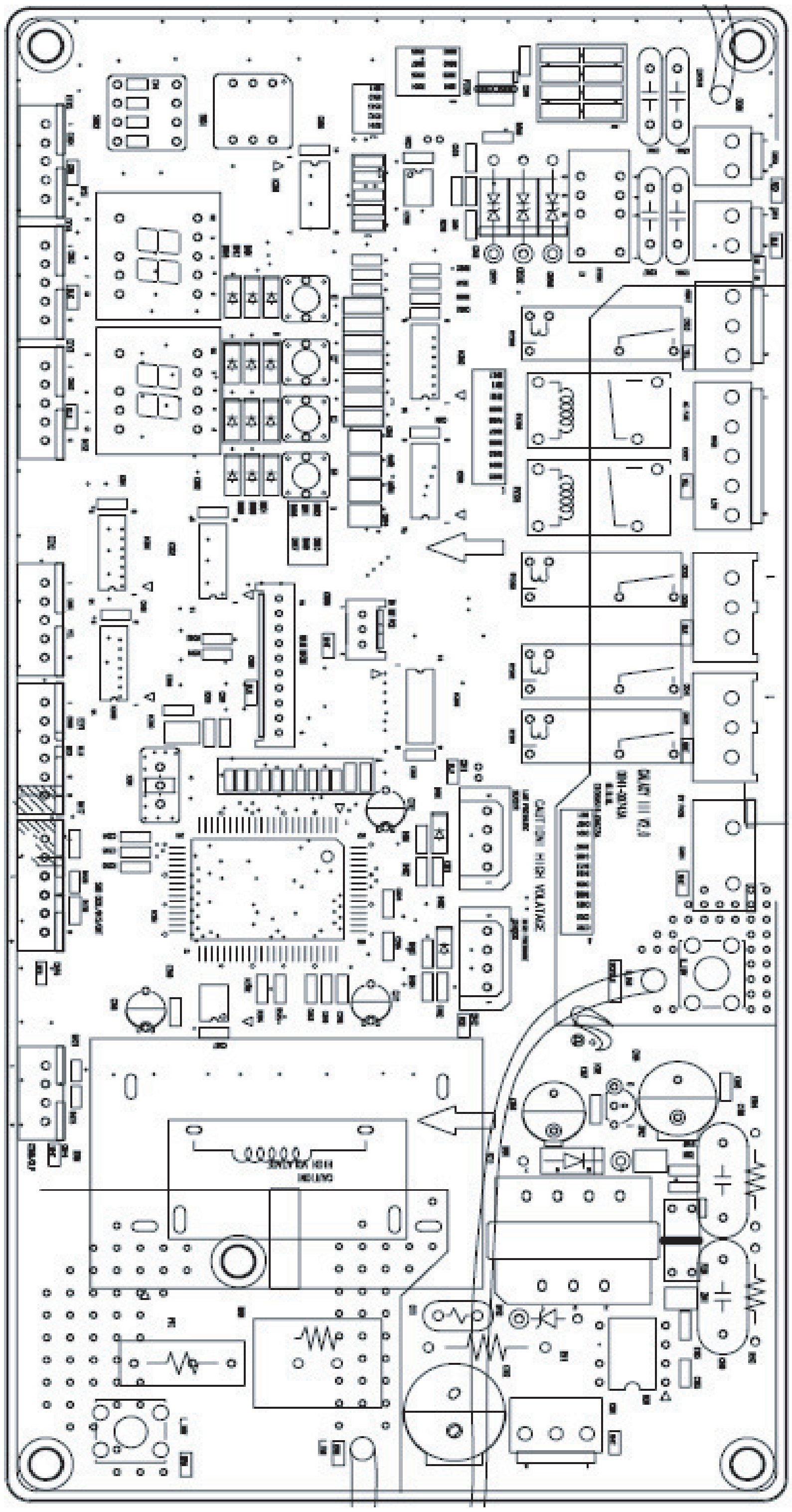
6) EMI PCB (UH090EAS)



7) Inverter PCB (UH090EAS)

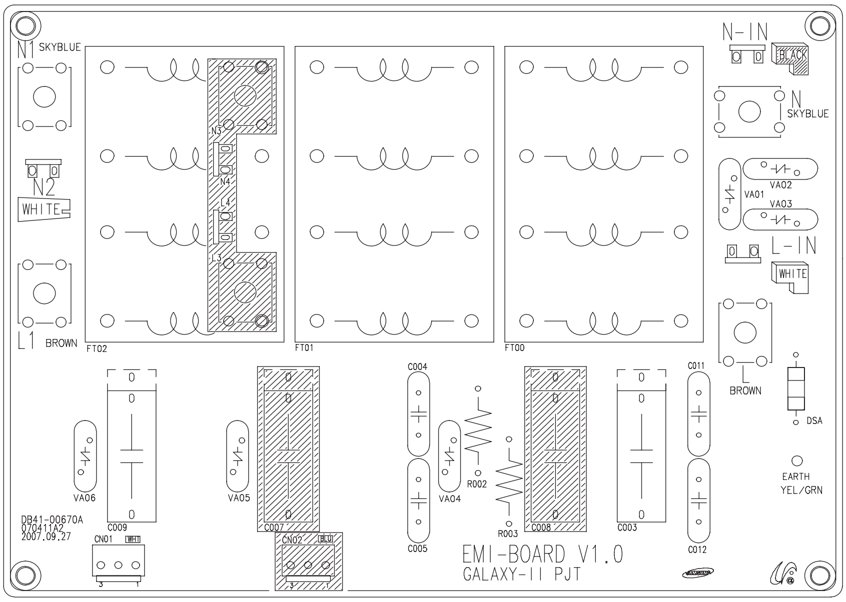


8) Main PCB (UH090EAS)

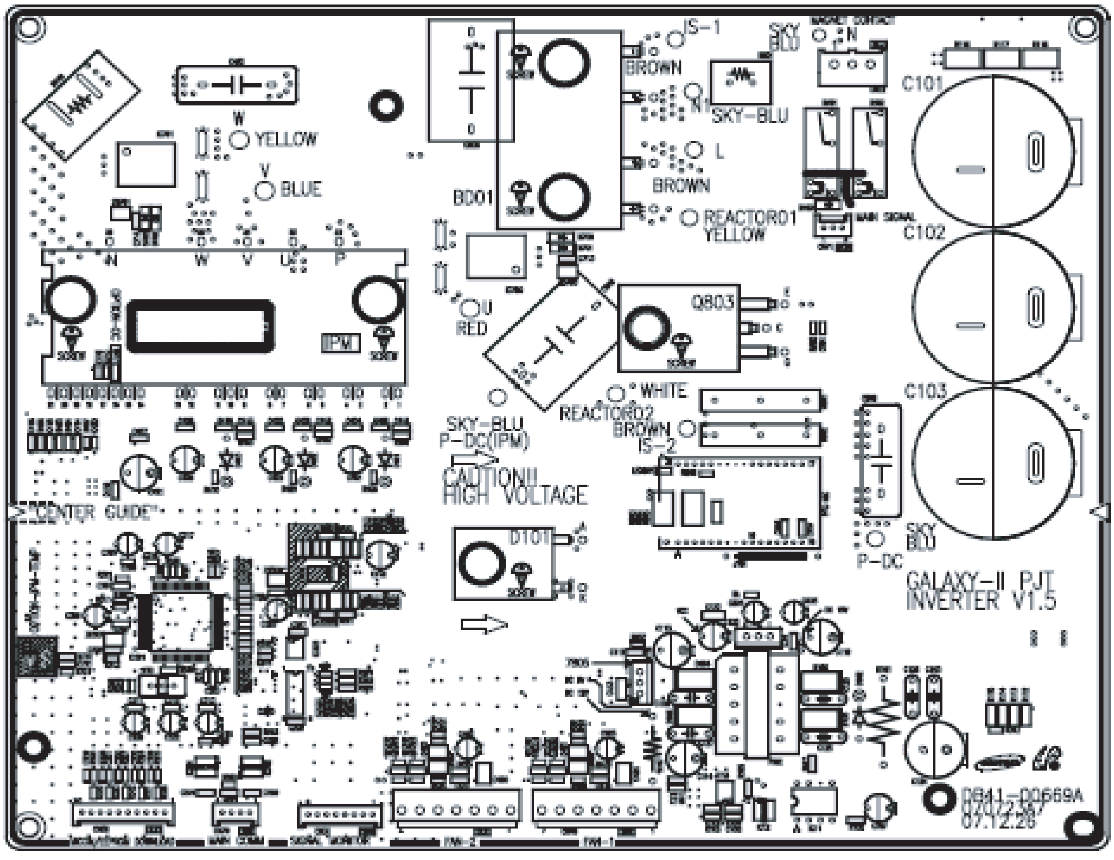


2-8. Outdoor Unit

9) EMI PCB (UH090EAV/UH105EAV/UH140EAV/UH105EAS)



10) Inverter PCB (UH090EAV/UH105EAV/UH140EAV/UH105EAS)



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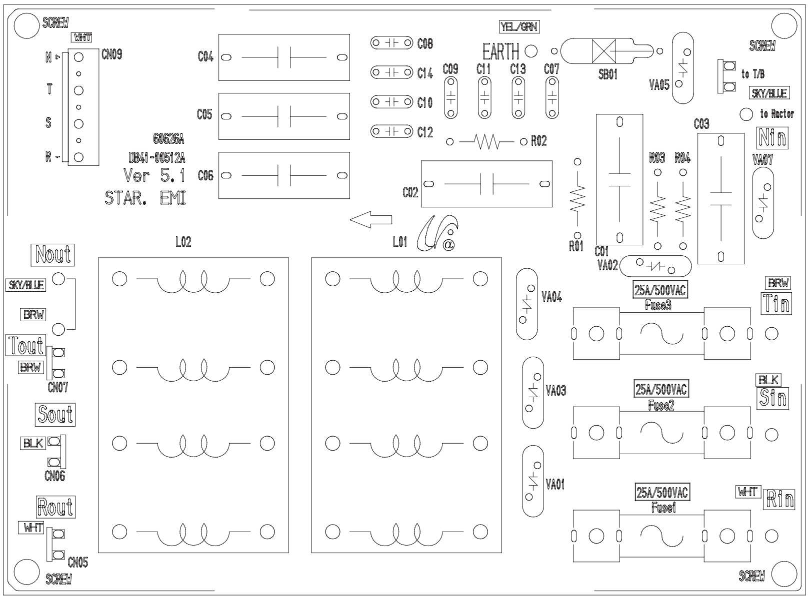
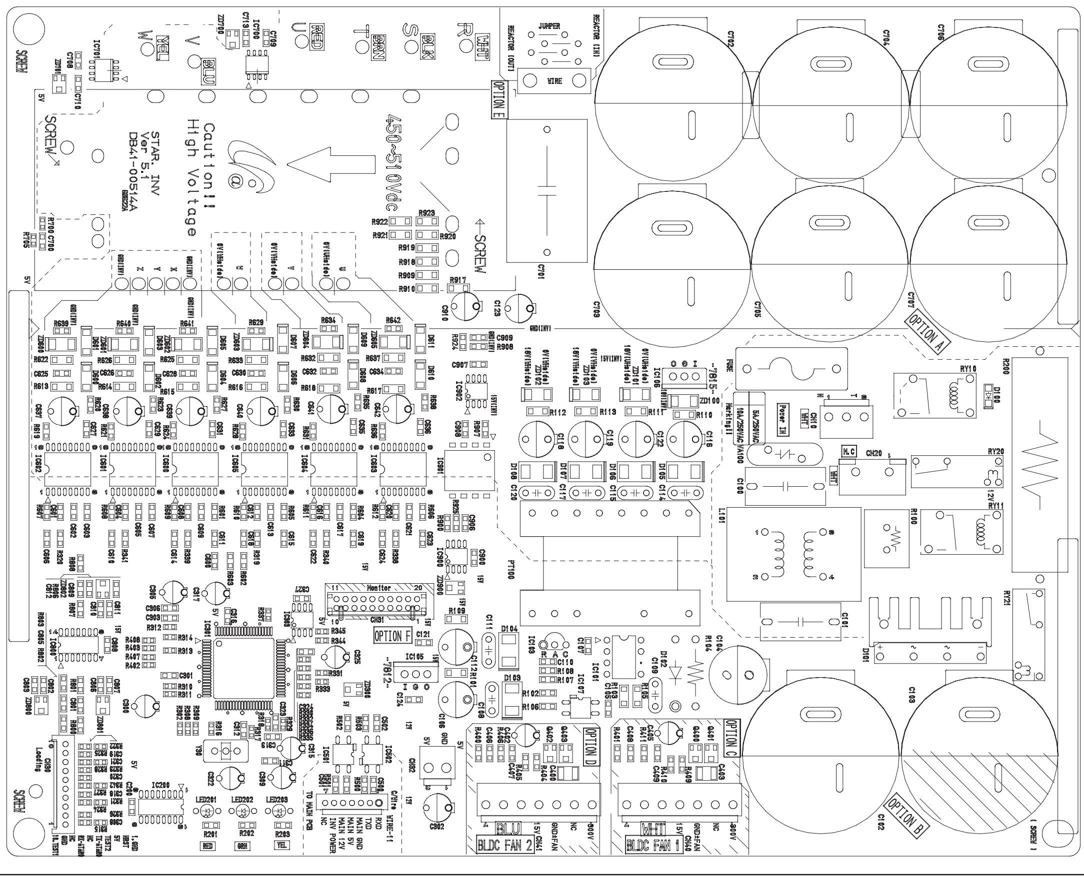
11) EMI PCB (UH105GAV/UH140GAV)

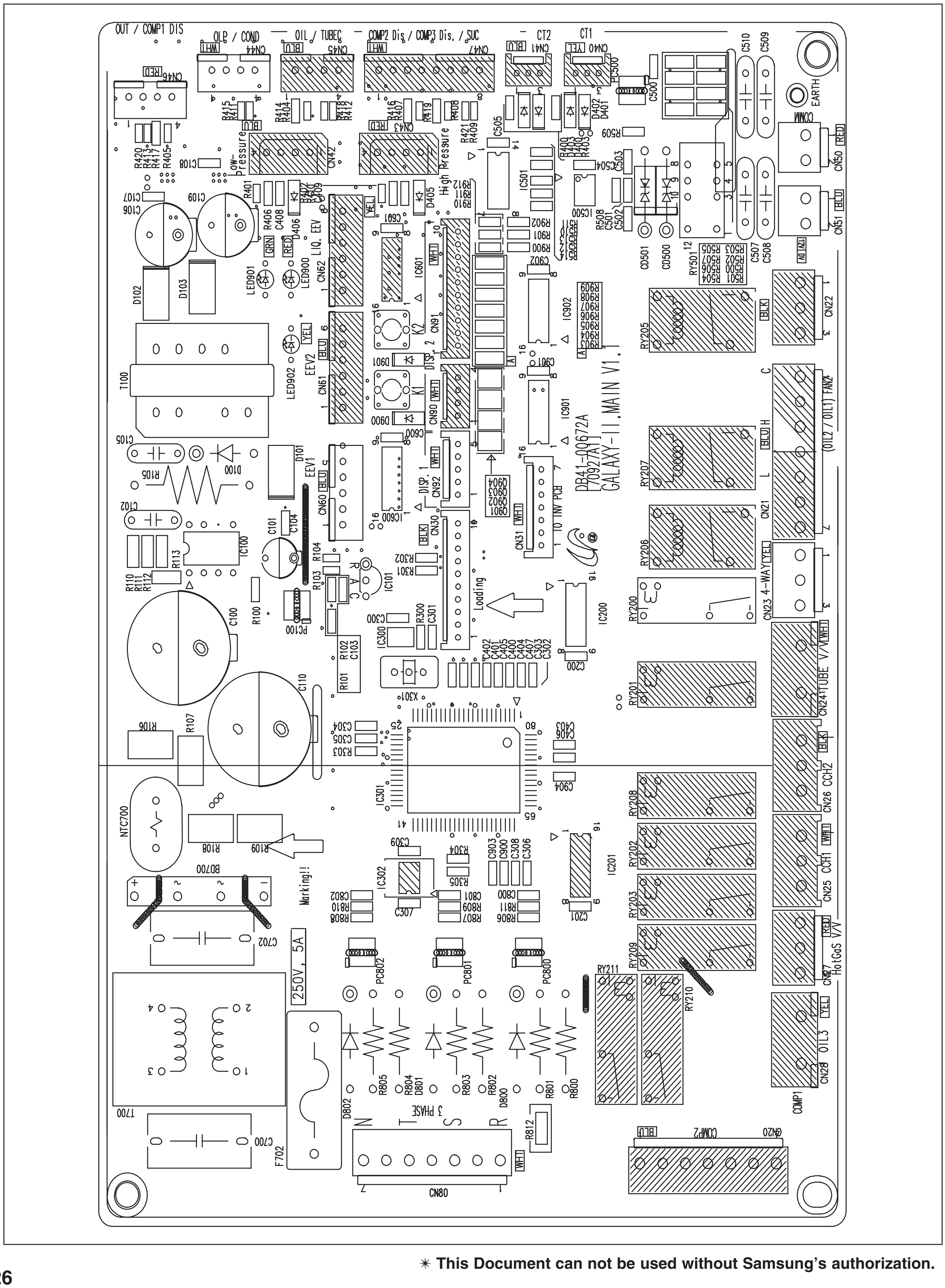


12) Inverter PCB (UH105GAV/UH140GAV)



2-8. Outdoor Unit

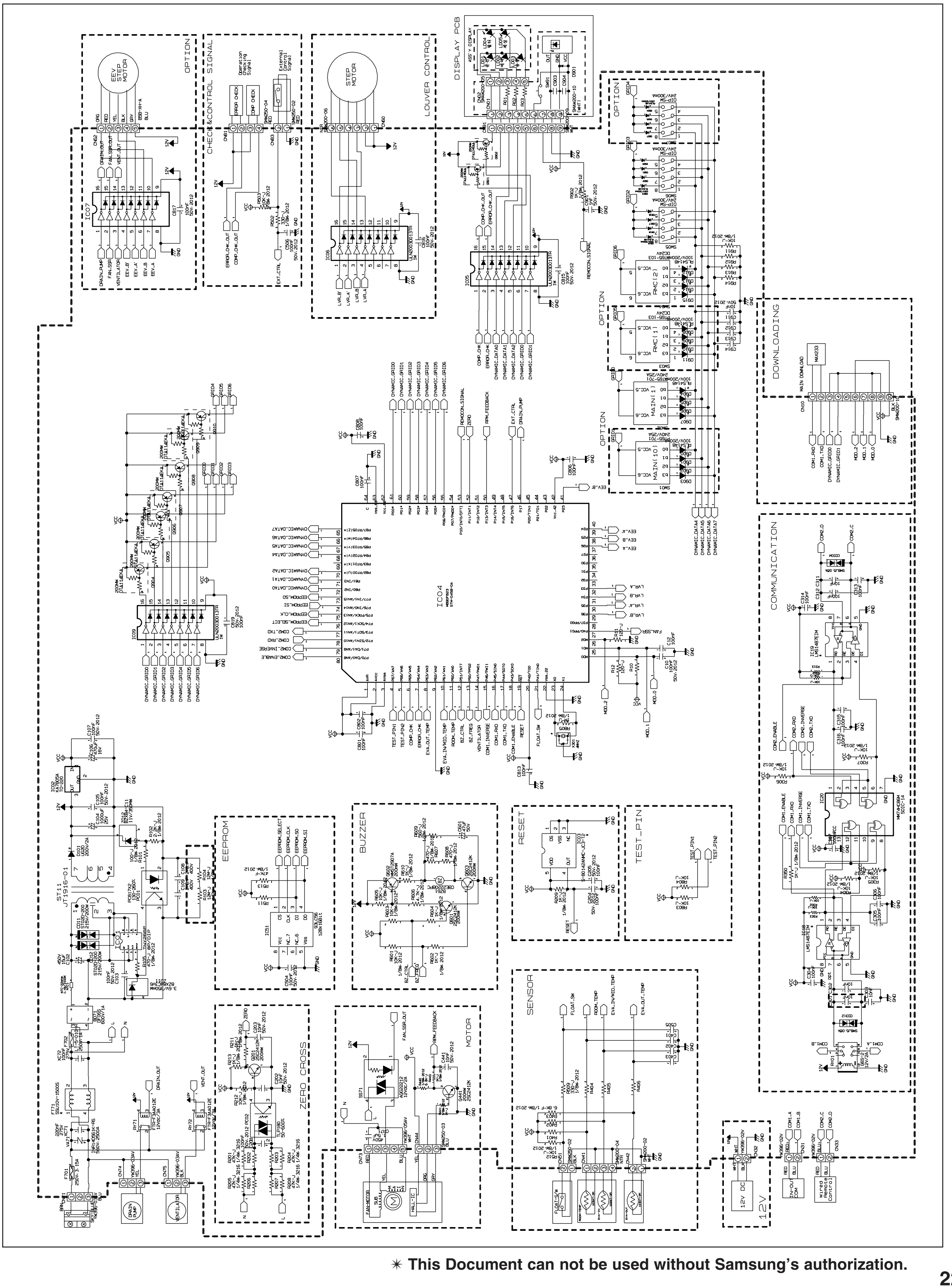
13) Main PCB (UH090EAV/UH105EAV/UH140EAV/UH105EAS/UH105GAV/UH140GAV)



3. Circuit

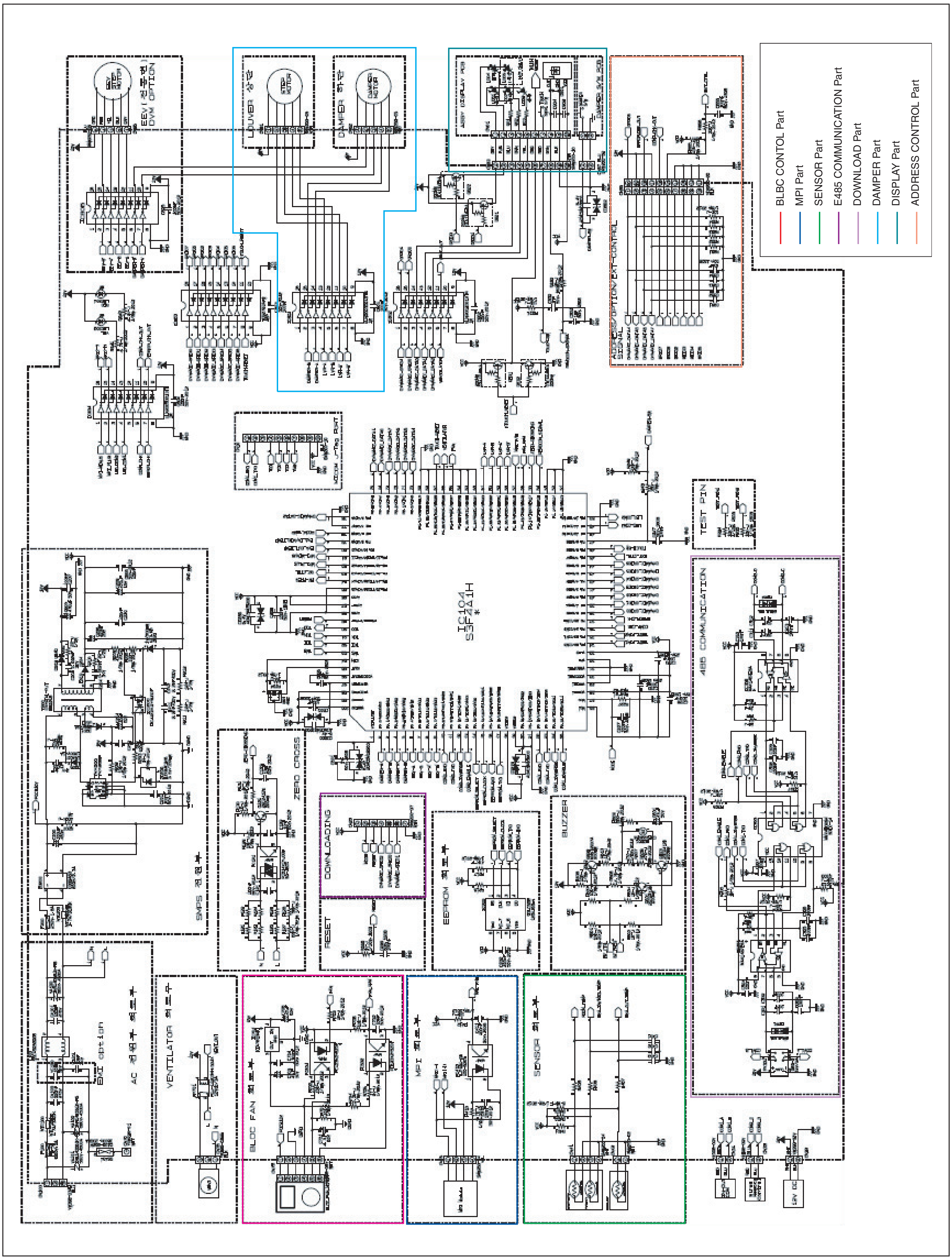
3-1. Slim 1 Way Cassette

1) SH026EAV1/SH035EAV1



3-2. Console

1) JH026EAV1/JH035EAV1/JH052EAV1



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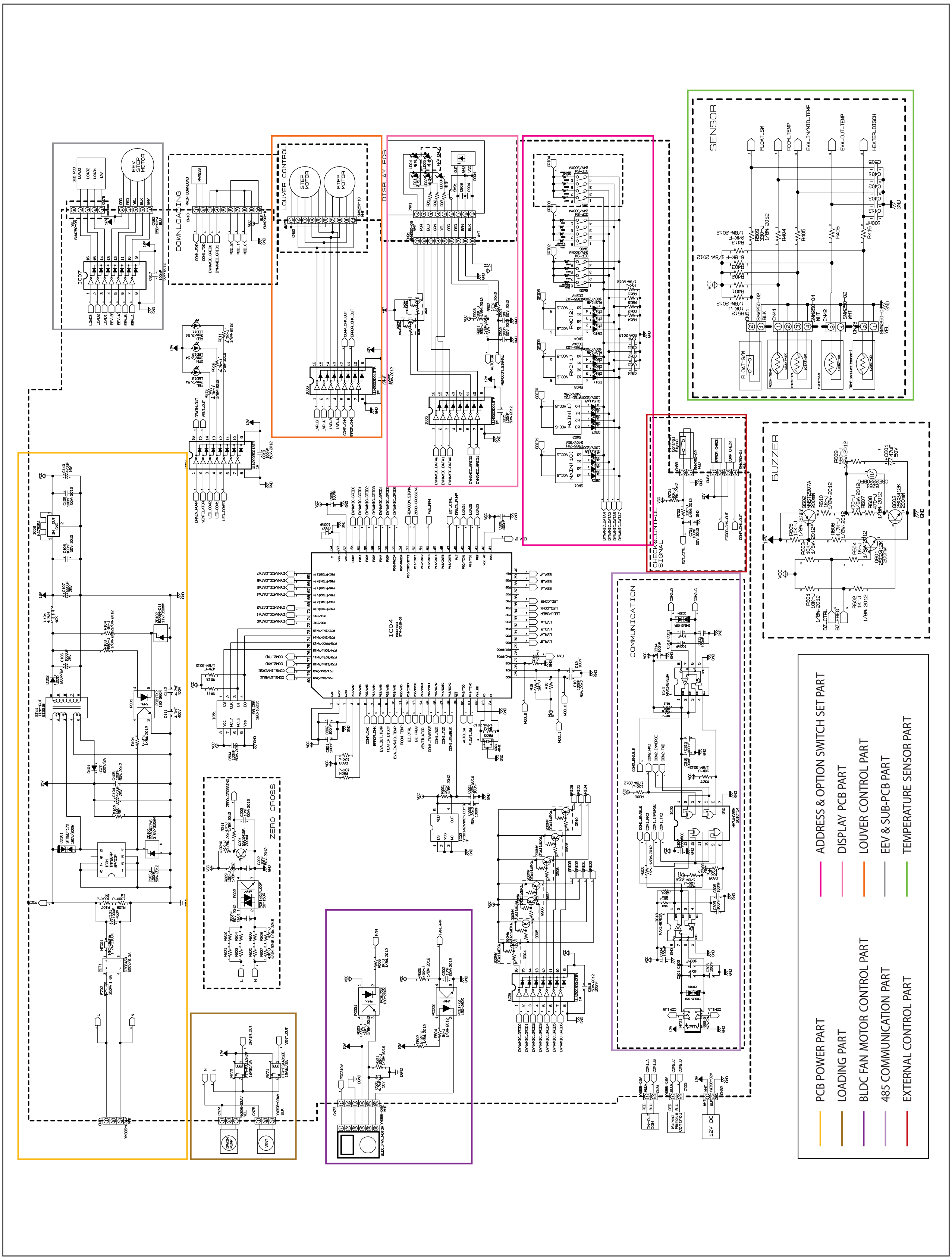
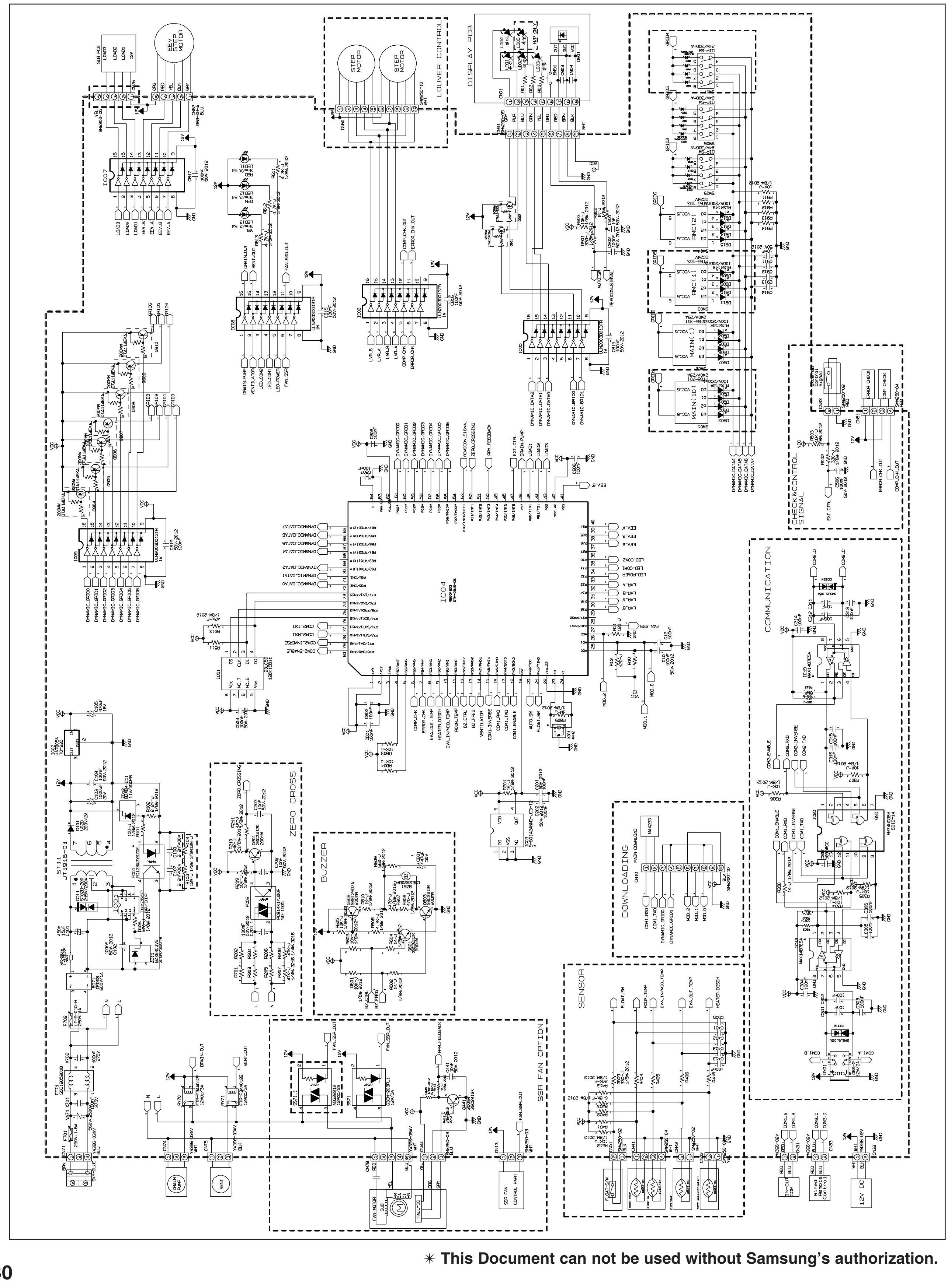
3-3. 4 Way Cassette

1) CH070EAV1/CH090EAV/CH105EAV/CH140EAV/CH090EAS



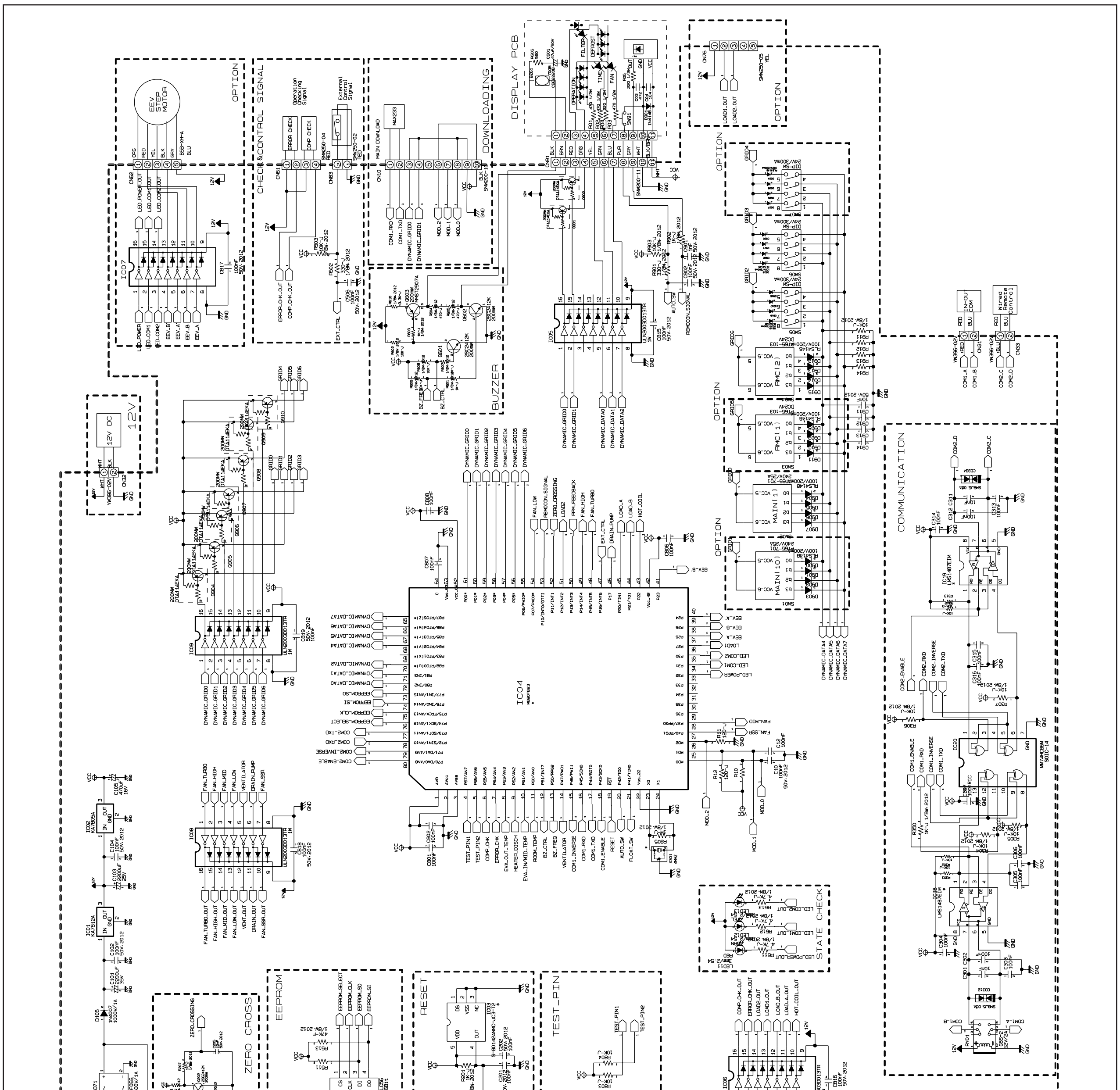
3-4. Mini 4 Way Cassette

1) TH026EAV1/TH035EAV1/TH052EAV1/TH060EAV1



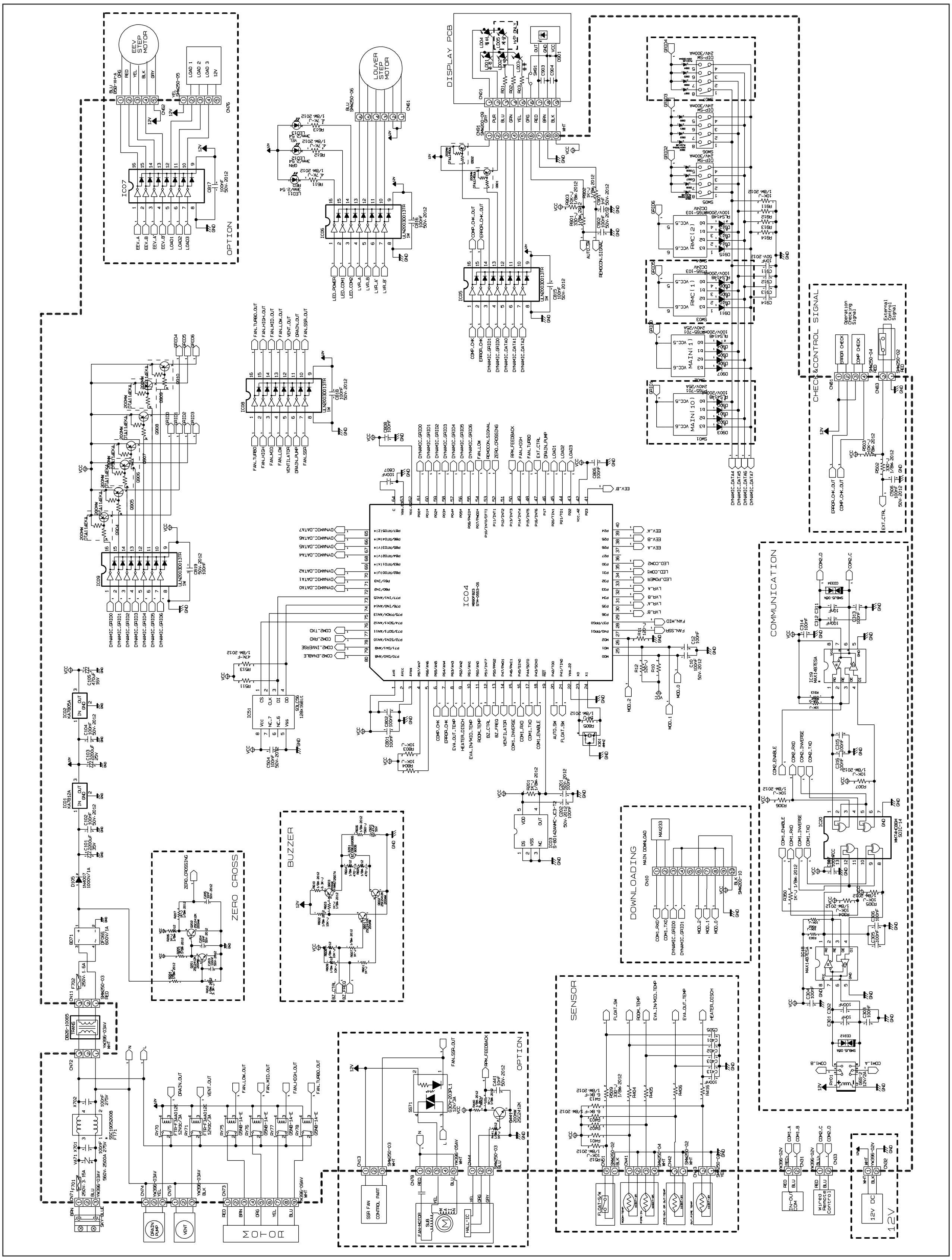
3-5. Slim Duct/MSP Duct

1) EH035EAV1/EH052EAV1/EH070EAV1/DH052EAV1/DH070EAV1/DH090EAV/DH105EAV/DH140EAV/DH052EAS/DH070EAS/DH090EAS/DH105EAS



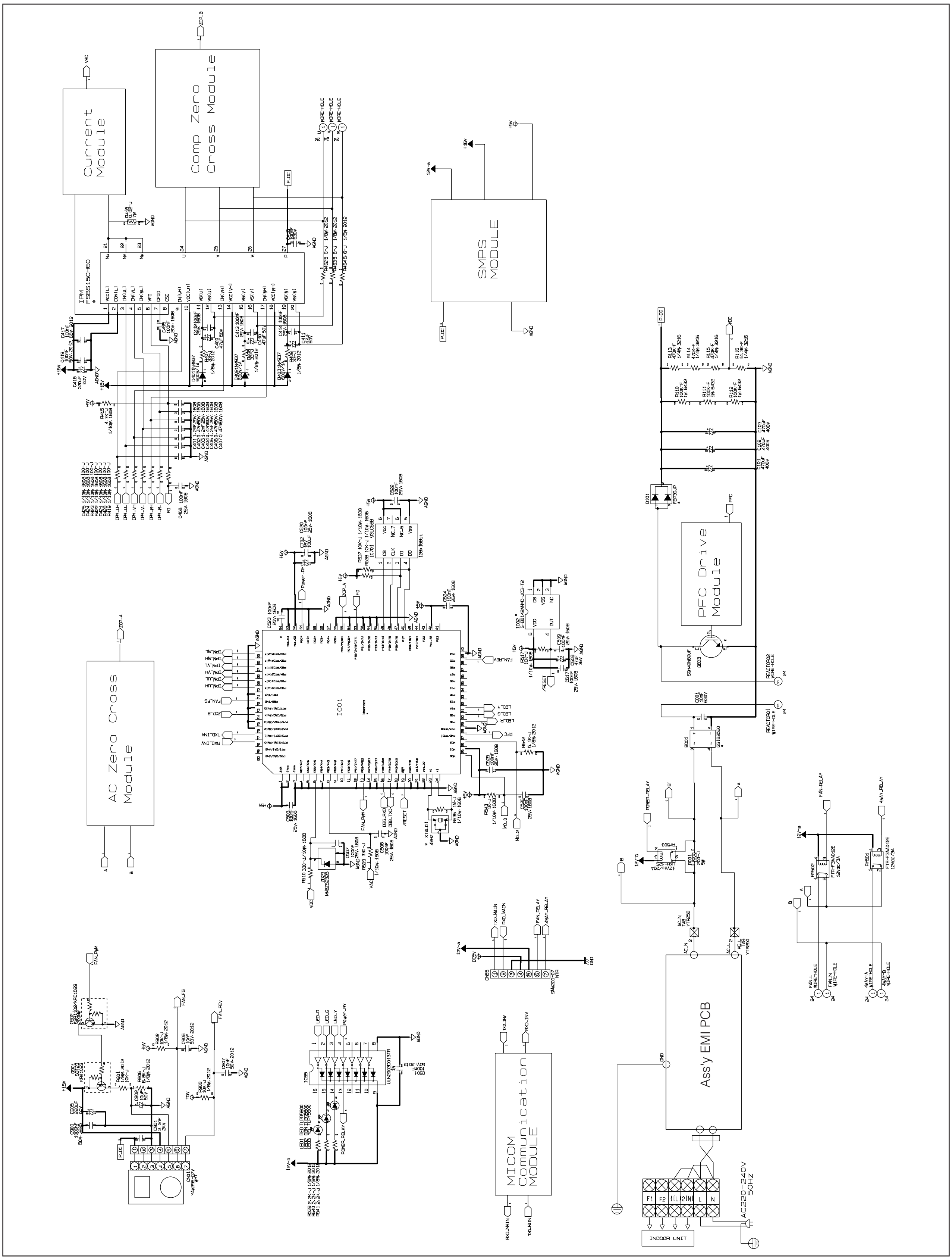
3-6. Ceiling

1) FH052EAV1/FH070EAV1



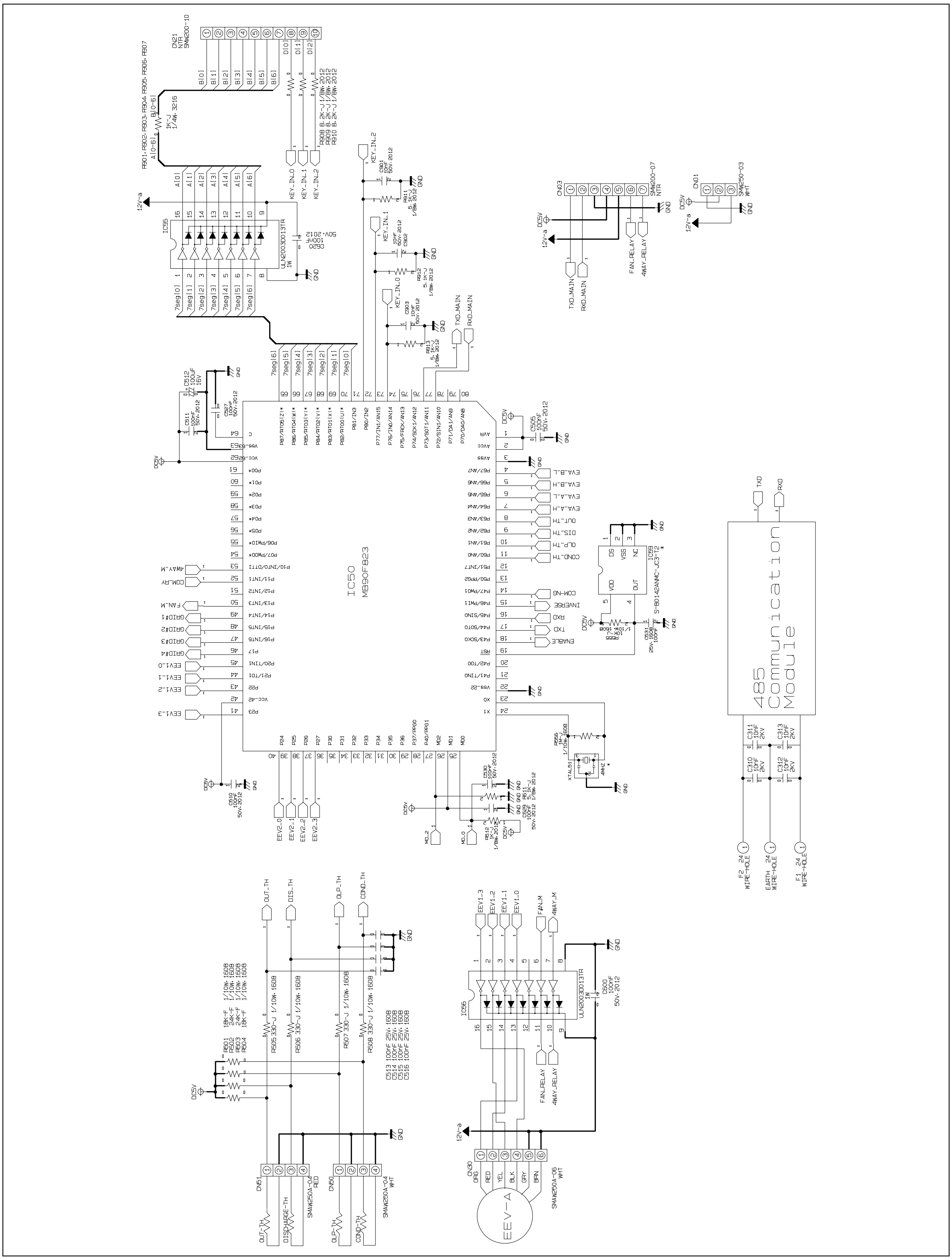
3-7. Outdoor Unit

1) Inverter PCB (UH026EAV1/UH035EAV1)

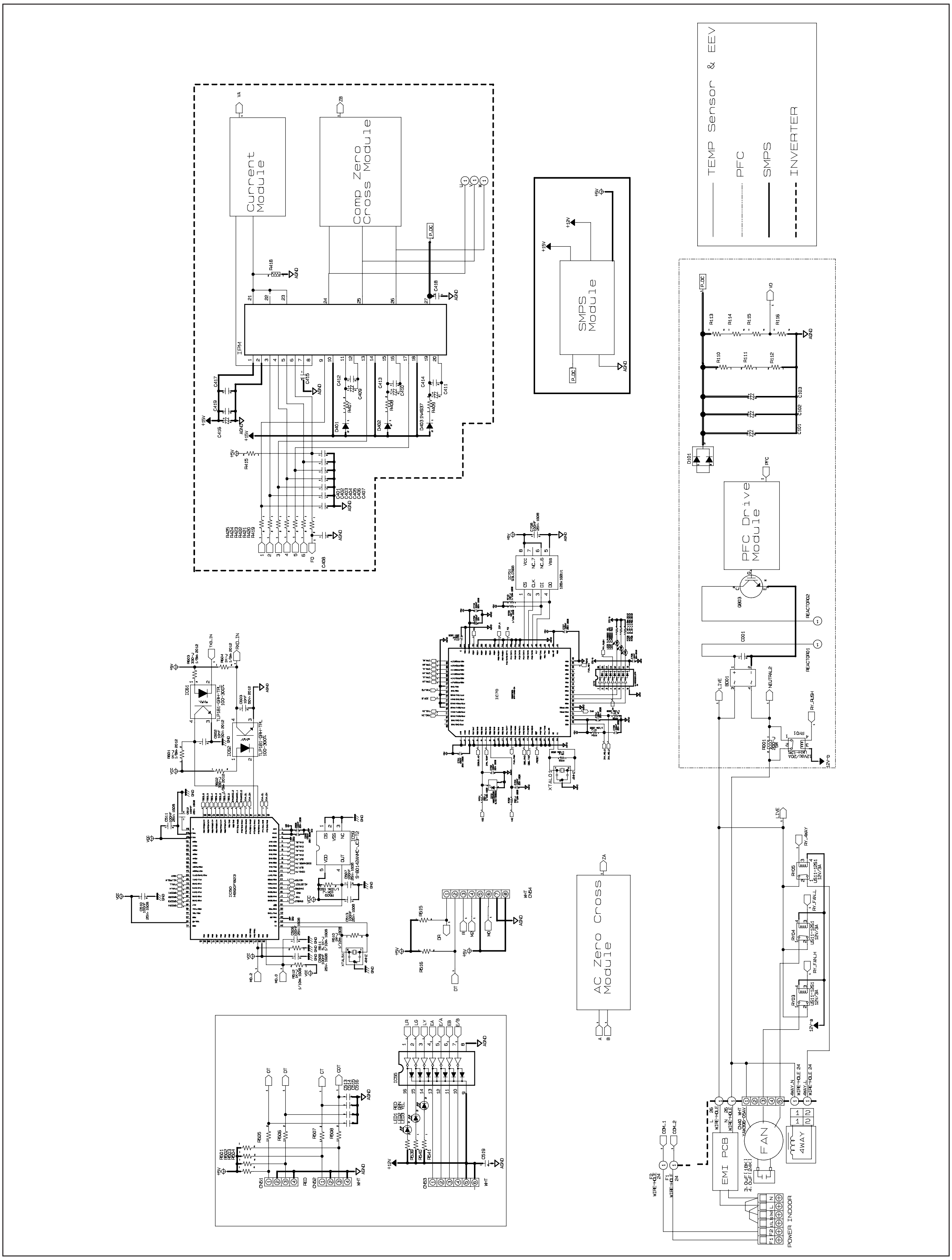


3-7. Outdoor Unit

2) Main PCB (UH026EAV1/UH035EAV1)



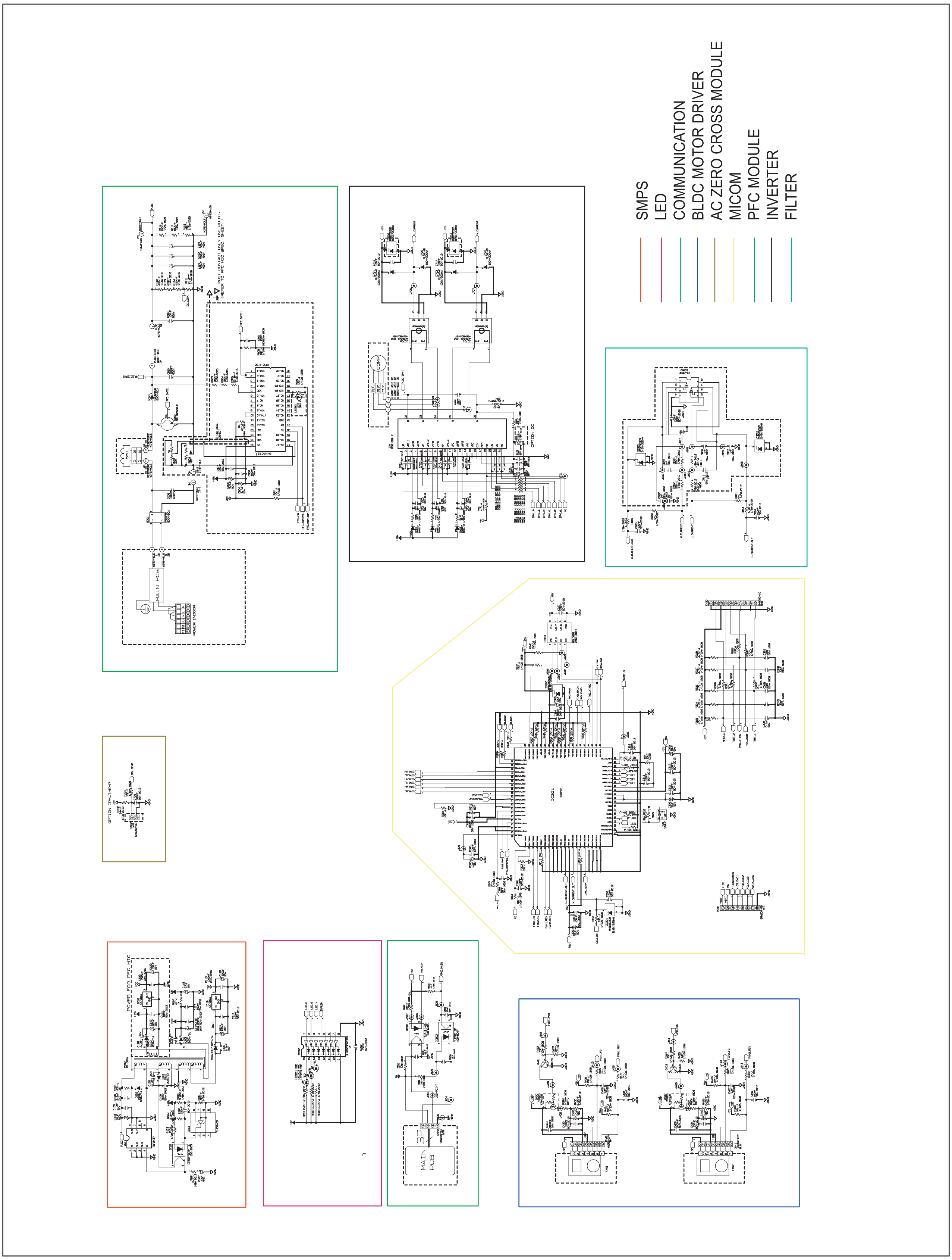
3) Inverter (UH052EAV1/UH060EAV1/UH070EAV1/UH052EAS/UH070EAS)



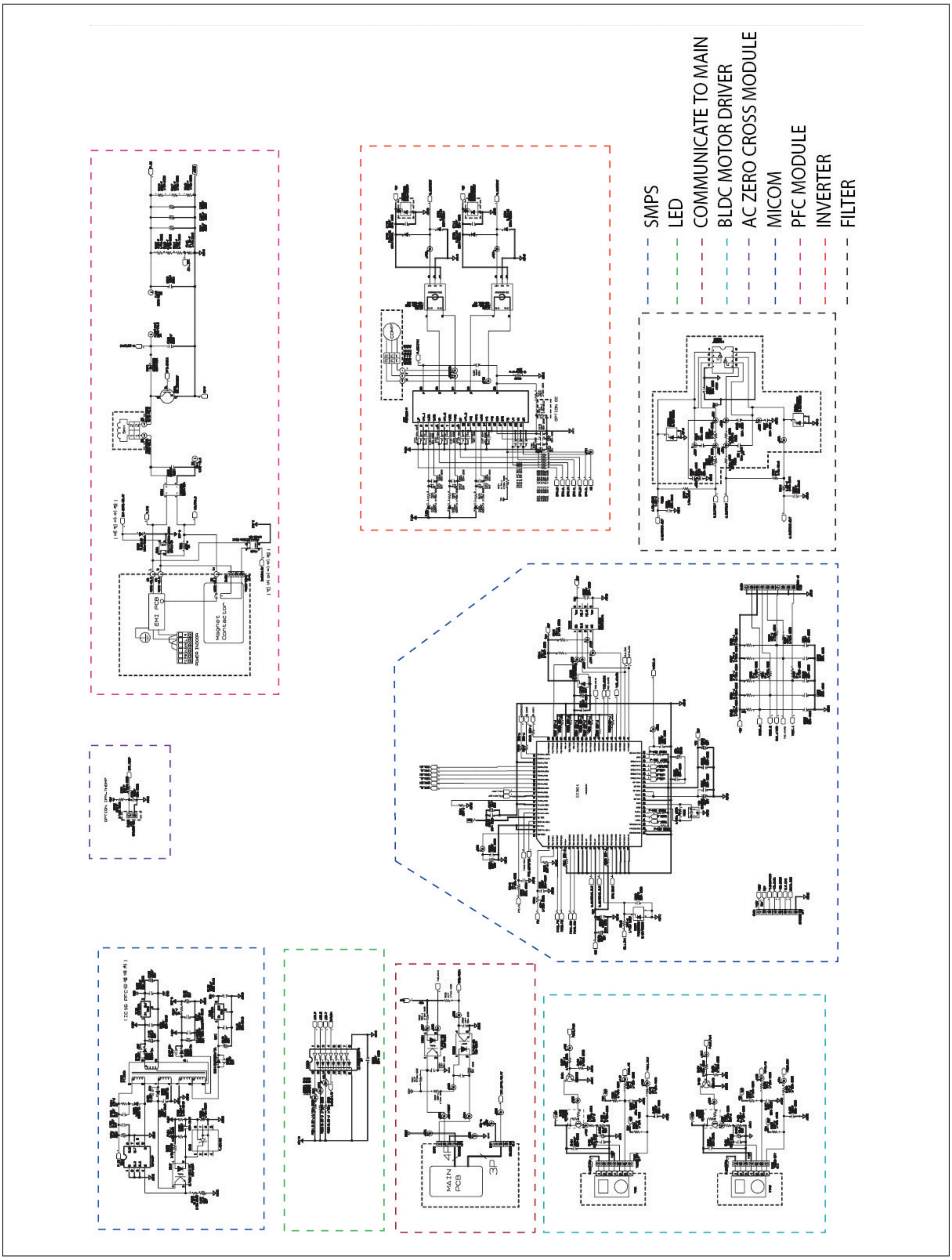
System Diagram

3-7. Outdoor Unit

4) Inverter (UH090EAS)

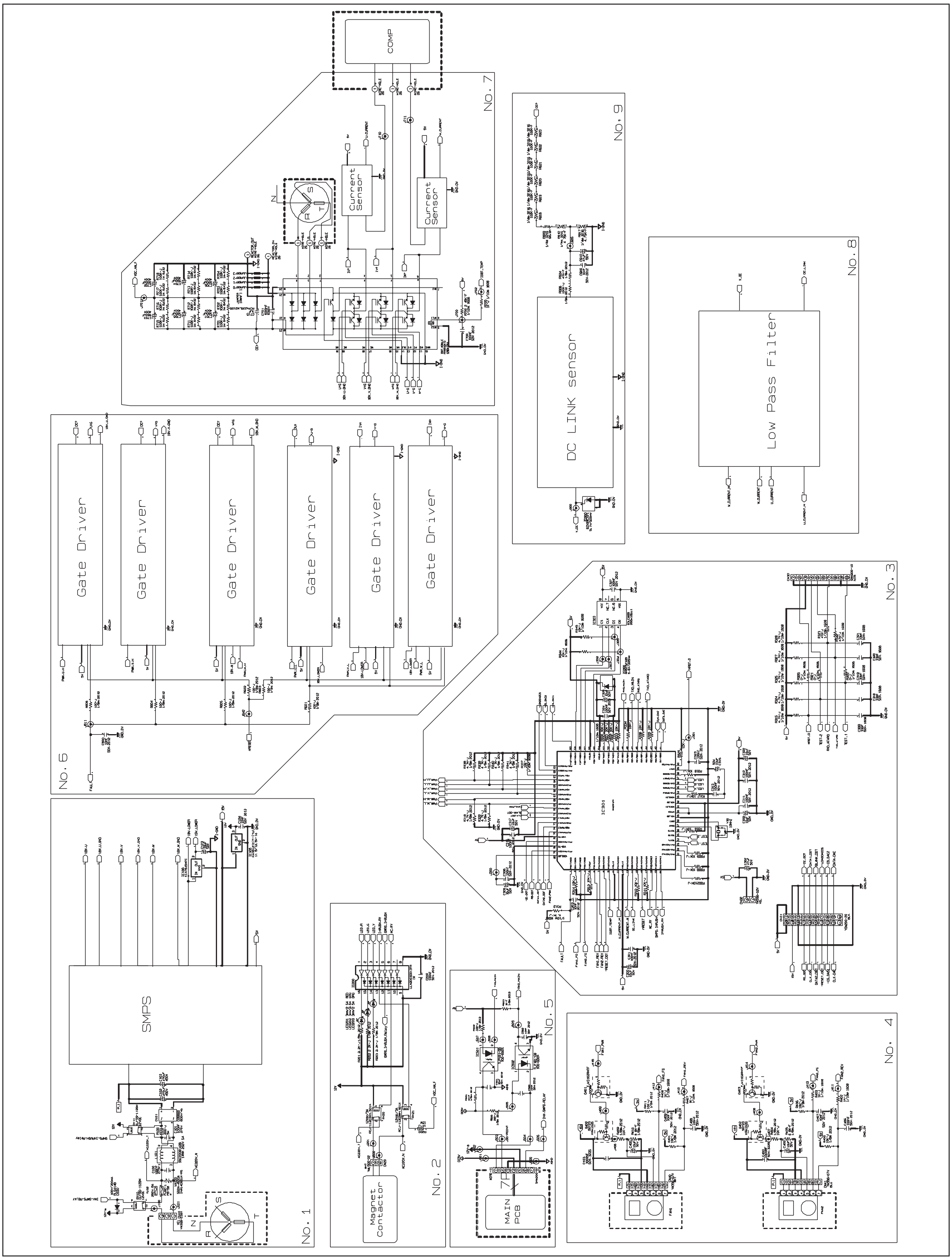


5) Inverter PCB (UH090EAV/UH105EAV/UH140EAV/UH105EAS)

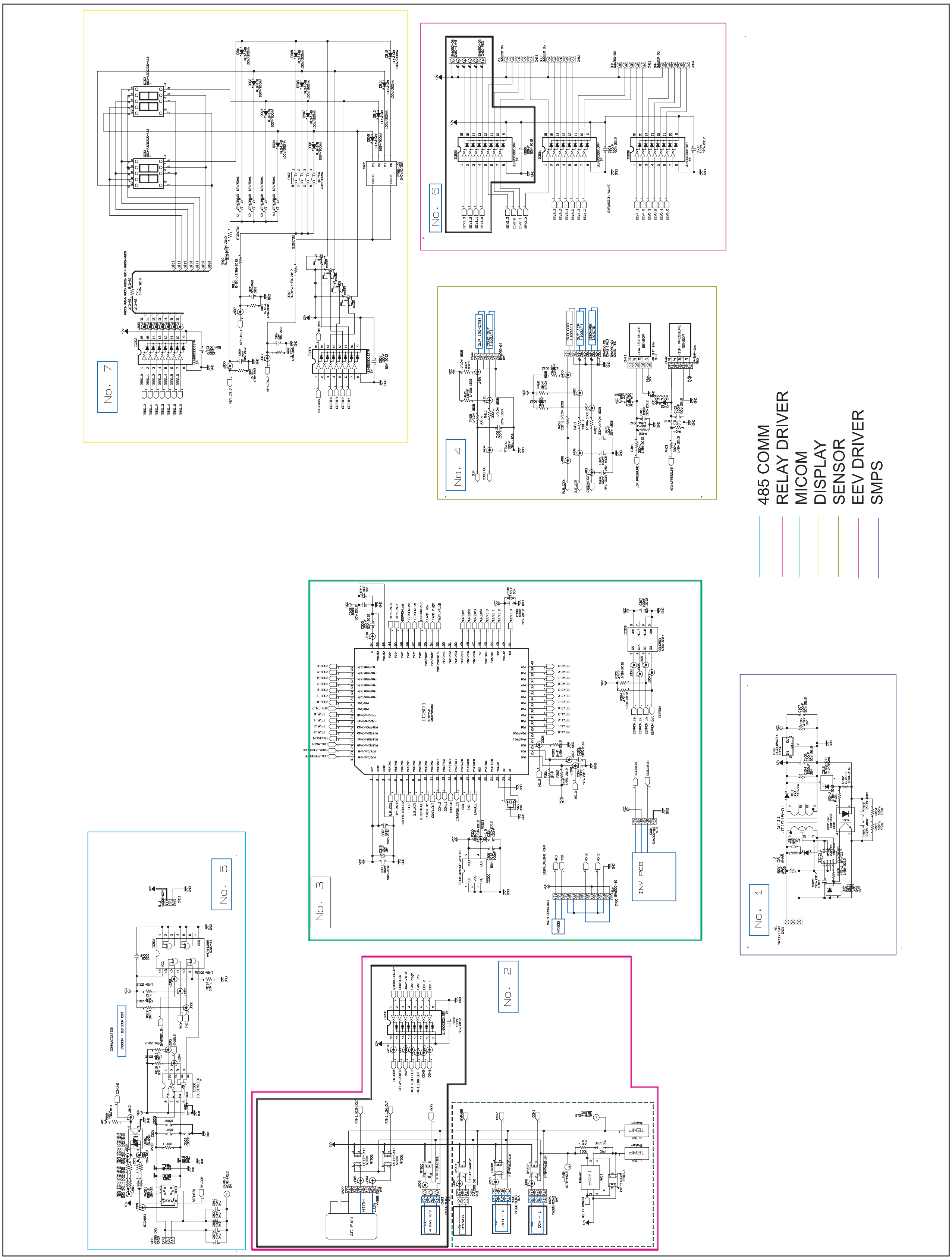


3-7. Outdoor Unit

6) Inverter PCB (UH105GAV/UH140GAV)

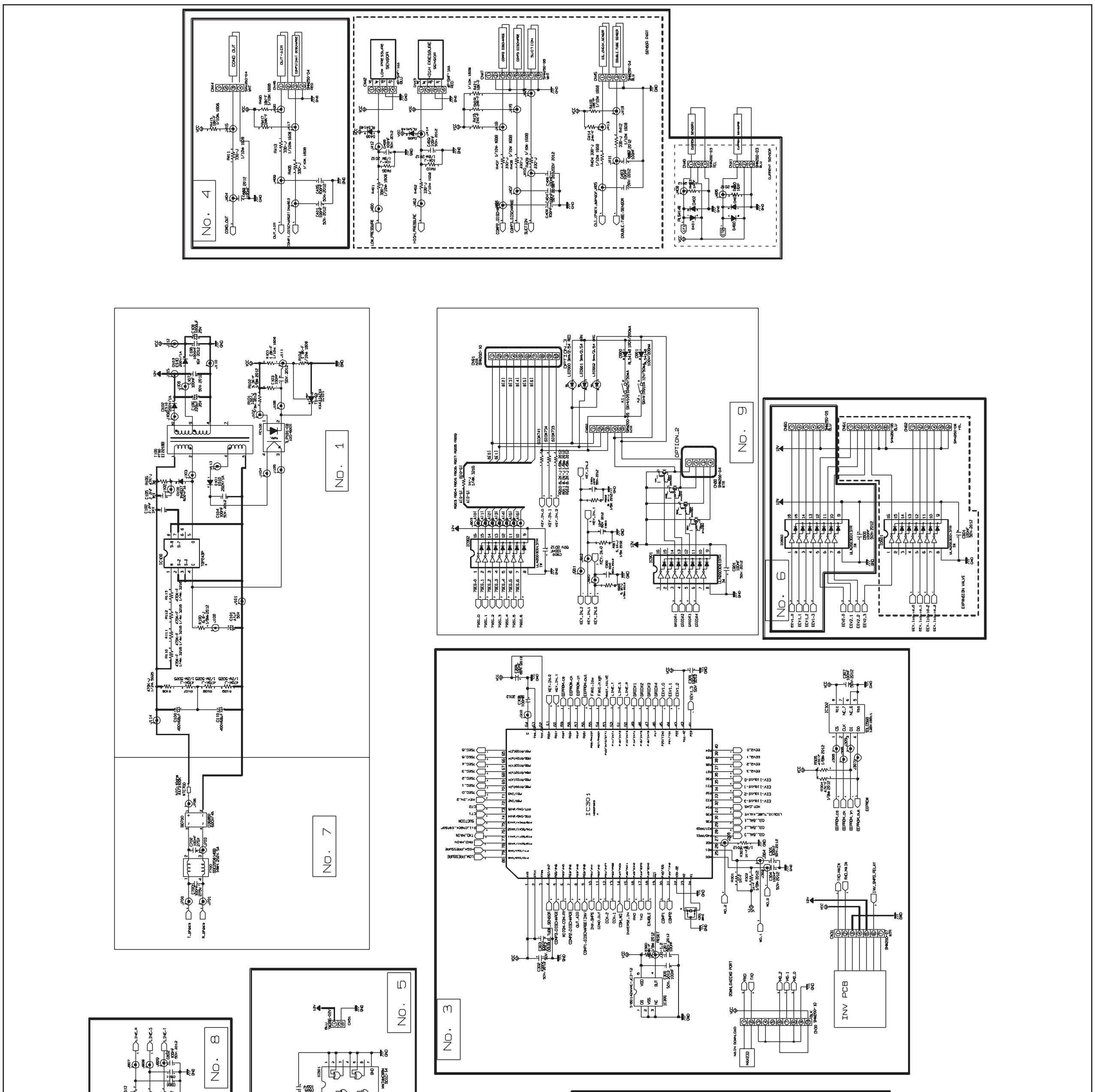


7) Main PCB (UH090EAS)



3-7. Outdoor Unit

8) Main PCB (UH090EAV/UH105EAV/UH140EAV/UH105EAS/UH105GAV/UH140GAV)



08 Error Display & FAQ

1. Indoor/Outdoor Unit Error Display

1-1. SH026EAV1/SH035EAV1

1) Error detection and reoperation

◆ If an error occurs during operation, the LED flashes to indicate that there is a problem then all operations stop except LED.

◆ When resuming operation with remote controller and switch, it determines error mode after normal operation.

2) Indoor unit LED lamp display at error detected

Error LED Lamp Display					Cause	Actions to Take
Operation (Green)	Defrost (Red)					
×	×	◑	×	×	• Breakaway from the room temperature sensor connector. • Cut the room temperature sensor wire.	• Check the connection between the room temperature wire and the main PCB of the indoor unit. • Check the pattern of the room temperature sensor part of the main PCB of the indoor unit and if parts are open or shorted.
◑	×	◑	×	×	• Disjoint of the in/out sensor connector of the indoor heat exchanger. • Cut the In/out sensor wire of the indoor heat exchanger	• Check the connection between the main PB of the indoor unit and heat exchange sensor wire. • Check the pattern of the heat exchanger of the main PCB of the indoor unit and if parts are open or shorted
×	×	×	◑	×	• Indoor fan motor is non-operative. • Indoor fan motor is operating slowly. • Indoor fan motor operates at an excessive speed.	• Check if a motor connector has been dismounted (CN44. CN73) • Check the fastening of the motor fan.
◑	×	×	◑	×	• Disjointed or cut off of outdoor temperature sensor. • Disjointed or cut off of the outdoor sensor of heat exchanger (COND). • Dismounted/ cut off of the outdoor discharge sensor.	• Check the PCB display window of the outdoor unit then refer to a breakdown diagnosis.
×	×	◑	◑	×	• Communication error between indoor units and outdoor units for more than 2 minutes. • 3 min. error of the outdoor unit tracking (multi-product specification). • Inconsistency between the number of installed units and communication units (multi-product specification).	• Check the connection between indoor and outdoor units. • Check the settings for indoor Main/ RMC address switch.
×	×	◑	◑	◑	• The detection of secondary high temperature at COND (outdoor heat exchanger). • The detection of secondary high temperature at discharge. • Reverse detection error.	• Check the PCB display window of the outdoor unit then refer to breakdown diagnosis.
×	×	×	◑	◑	• Deviation of float sensor connector • Cut of float sensor wire.	• Check the connection between main PCB and float sensor in the indoor unit.

● : On, ◑ : Flickering, × : OFF

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

Error LED Lamp Display					Cause	Actions to Take
Operation (Green)	Defrost (Red)					
×	×	◑	×	◑	• Option setup error on peripherals	• Check the setting of DIP switch (SW05, SW06, SW07)
◑	×	◑	◑	×	• EEPROM part defect • EEPROM circuit defect	• Check non-delivery/ cool delivery/ non-insertion of IC51 Part Pin • Check non-delivery/ cool delivery/ non-insertion of IC51 peripheral circuit components.
◑	◑	◑	◑	◑	• EEPROM option none input/erroneous input.	• Re-input of option code for indoor unit

● : On, ◑ : Flickering, × : OFF

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

1. Indoor/Outdoor Unit Error Display

1-2. JH026EAV1/JH035EAV1/JH052EAV1

1) Error detection and reoperation

◆ If an error occurs during operation, the LED flashes to indicate that there is a problem then all operations stop except LED.
◆ When resuming operation with remote controller and switch, it determines error mode after normal operation.

2) Indoor unit LED lamp display at error detecting

Abnormal Conditions	LED Lamp Display					REMARK
	White					
	MPI				⏻	
Power reset	×	×	×	×	◑	-
Error of temperature sensor in the indoor unit (Open/Short)	×	×	◑	×	×	-
Error of heat exchanger sensor in the indoor unit	×	×	◑	×	◑	-
Indoor fan motor is non-operative Indoor fan motor is operating slowly Indoor fan motor operates at an excessive speed	×	◑	×	×	×	Indoor motor fan error
Error of the outdoor temperature sensor Error of the condensor temperature sensor Error of the discharge temperature sensor	×	◑	×	×	◑	-
1. Indoor and outdoor unit time out 2. Abnormal data reception more than 60 packet 3. Indoor unit is not connected 4. Communication error between the outdoor unit Main-Inverter Micom (After 1 minute of Main-Inverter detection)	×	◑	◑	×	×	1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)
Communication error between indoor units	◑	◑	◑	×	×	-
[Self diagnosis]Power voltage detection between indoor and outdoor unit communication cable [Self diagnosis]Outdoor unit refrigerant leakage(Gas leak) [Self diagnosis]Outdoor fan restriction error [Inverter]Inverter compressor operation failure [Inverter]DC peak error [Inverter]DC Link voltage 150V or less, 410V or more [Inverter]Compressor rotation error [Inverter]Electric current error [Inverter]DC Link sensor error [Inverter]EEPROM READ/WRITE error [Inverter]Inverter zerocrossing error Setting the outdoor unit capacity option error	◑	◑	◑	×	×	-
Error of setting option switches for optional accessories	◑	×	◑	×	×	-
EEPROM error	×	◑	◑	×	×	-
EEPROM option error	◑	◑	◑	◑	◑	-
MPI no feedback Error	◑	×	×	×	×	-

1-3. TH026EAV1/TH035EAV1/TH052EAV1/TH060EAV1/CH070EAV1/CH090EAV/CH105EAV/CH140EAV/CH090EAS

1) Error detection and reoperation

◆ If an error occurs during operation, the LED flashes to indicate that there is a problem then all operations stop except LED.
◆ When resuming operation with remote controller and switch, it determines error mode after normal operation.

2) Indoor unit LED lamp display at error detected

Abnormal Conditions	LED Lamp Display					REMARK
	Green	Red	Yellow	Green	Orange	
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 condensor temperature sensor Error of the discharge temperature sensor	◑	×	×	◑	×	-
Indoor and outdoor unit time out Abnormal data reception more than 60 packet Indoor unit is not connected Communication error between the outdoor unit Main-Inverter Micom (After 1 minute of Main-Inverter detection)	×	×	◑		×	1.Indoor unit error (Display is unrelated with operation) 2.Outdoor unit error (Display is unrelated with operation)
[Self diagnosis] Power voltage detection between indoor and outdoor unit communication cable. [Self diagnosis] Outdoor unit refrigerant leakage(Gas leak) [Self diagnosis] Outdoor fan restriction error [Inverter] Inverter compressor operation failure [Inverter] DC peak error [Inverter] DC Link voltage 150V or less, 410V or more [Inverter] Compressor rotation error [Inverter] Electric current error [Inverter] DC Link sensor error [Inverter] EEPROM READ/WRITE error [Inverter] Inverter zero crossing error Setting the outdoor unit capacity option error	×	×	◑	◑	◑	-
Detection of the float switch	×	×	×	◑	◑	-
Error of setting option switches for optional accessories	×	×	◑	×	◑	-
EEPROM error	◑	×	◑	◑	×	-
EEPROM option error	◑	◑	◑	◑	◑	-

● : On, ◑ : Flickering, × : OFF

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

1. Indoor/Outdoor Unit Error Display

1-4. FH052EAV1/FH070EAV1

1) 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.

2) Indoor unit LED lamp display at error detecting

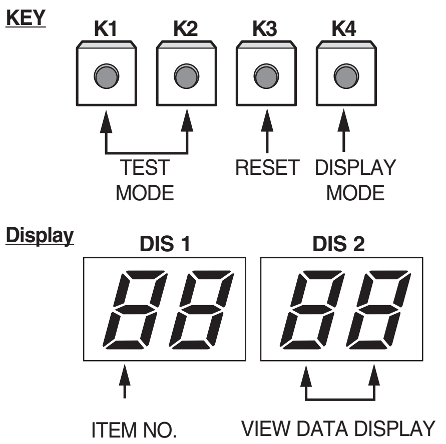
Error Type	LED Lamp Display						REMARK
Power reset	×	◑	×	×	×	×	-
Error of temperature sensor in the indoor unit (Open/Short)	×	×	◑	×	×	×	Displayed on appropriate indoor unit which is operating
Error of heat exchanger sensor in the indoor unit	×	◑	◑	×	×	×	Displayed on appropriate indoor unit which is operating
Error of the outdoor temperature sensor Error of the condenser temperature sensor Error of the discharge temperature sensor	×	◑	×	◑	×	×	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Indoor and outdoor unit time out Abnormal data reception more than 60 packet Indoor unit is not connected Communication error between the outdoor unit Main-Inverter Micom(After 1 minute of Main-Inverter detection)	×	×	◑	◑	×	×	Error of indoor unit : Displayed on the indoor unit regardless of operation
[Self diagnosis] Power voltage detection between indoor and outdoor unit communication cable [Self diagnosis] Outdoor unit refrigerant leakage (Gas leak) [Self diagnosis] Outdoor fan restriction error [Inverter] Inverter compressor operation failure [Inverter] DC peak error [Inverter] DC Link voltage 150V or less, 410V or more [Inverter] Compressor rotation error [Inverter] Electric current error [Inverter] DC Link sensor error [Inverter] EEPROM READ/WRITE error [Inverter] Inverter zero crossing error Setting the outdoor unit capacity option error	×	×	◑	◑	◑	×	-
Error of setting option switches for optional accessories	×	×	◑	×	◑	×	-
EEPROM error	×	◑	◑	◑	×	×	-
EEPROM option error	◑	◑	◑	◑	◑	◑	-

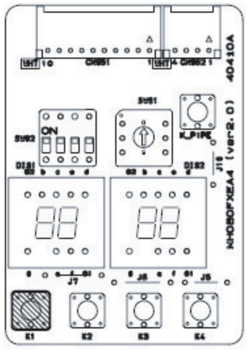
● : On, ◑ : Flickering, × : OFF
◆ If you turn off the air conditioner when the LED is flickering, the LED will also turned off.

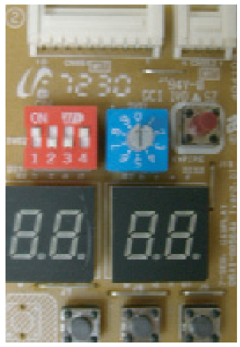
1-5. Outdoor Unit 7-segment Error Display

1) 7-segment

(1) Setting of PCB Display of the Outdoor unit







Function / Number of press times	Component	Component	Component	Component
1	Test operation at heating mode	Test operation at cooling mode	Reset	View mode change
1	End	End	-	-

(2) K4 View mode Display changes

Push	Display Explanation
1	Target Compressor Frequency
2	Order Compressor Frequency
3	Current Discharge Temperature
4	Target Discharge Temperature
5	EEV current step
6	Condenser Temperature
7	Outdoor Temperature
8	Indoor Eva-pipe Temperature
9	Indoor Temperature
10	Indoor Fan RPM
11	Outdoor Fan RPM
12	Current
13	Safety Control
14	Version(Main Micom)
15	Current Compressor Frequency

1. Indoor/Outdoor Unit Error Display

1-5. Outdoor Unit 7-segment Error Display

2) Outdoor unit

Error mode	Content	Measure	Product operation status in case of error Outdoor unit compressor/ Outdoor unit Fan	Error type
101	Indoor unit communication error	Check the communication line for indoor units, check the power supply of the communication phase (DC)	Operation-Off	Communication error
102	Communication time-out error between indoor/outdoor unit 6-packet over error	Check the communication line for indoor units, check the power supply of the communication phase (DC)	Operation-Off	Communication error
121	Indoor temperature sensor (open/short error)	Check the temp. sensor of the indoor unit room. Check the indoor PCB connector CN21(white)	Operation-Off	Indoor sensor error
122	Indoor unit Eva In sensor (open/short)	Check the indoor unit drainage pipe sensor Check the indoor PCB connector CN21 (white)	Operation-Off	Indoor sensor error
128	Dismount of indoor unit Eva In sensor	Check the drainage pipe has been dismounted	Operation-Off	Indoor sensor error
153	Secondary detection of indoor floating switch	Check the indoor unit's float sensor Check the indoor PCB connector CN51 (black)	Operation-Off	Self-diagnosis error
201	Indoor unit not connected	Check the indoor unit connection Check the indoor unit option	Operation-Off	Communication error
203	Communication error between indoor/outdoor unit INV and Main Micom (1 min.)	Check the Main MICOM Check the inverter MICOM	Operation-Off	Communication error
221	Outdoor temperature sensor error	Check the connection status of the sensor Check the sensor location Check the resistance values of sensor	Operation-Off	Outdoor sensor error
237	Cond. temperature sensor error	Check the connection status of the sensor Check the sensor location Check the resistance values of sensor	Operation-Off	Outdoor sensor error
251	[inverter] Emission temperature sensor error	Check the connection status of the sensor Check the sensor location Check the resistance values of sensor	Operation-Off	Outdoor sensor error
416	Excessive temperature emission	Not an error (discharge temp. control)	Operation-Off	Outdoor unit protection control error
425	Power cable connection error	Check the status of power connection	Operation-Off	Outdoor sensor error

Error mode	Content	Measure	Product operation status in case of error	Error type
			Outdoor unit compressor/ Outdoor unit Fan	
450	Non-connection error of indoor and outdoor Communication wire (connected to the power terminal)	Check the status of power connection Check the connection status of the communication line	Operation-Off	Self-diagnosis error
458	Outdoor fan 1 error	Check the input power connection status Check the connection status between the motor and PCB in outdoor unit Check the fuse of indoor/outdoor units	Operation-Off	Self-diagnosis error
461	[inverter] Compressor operation error	Check the connection status of the compressor Check the resistance between different phases in compressor	Operation-Off	Outdoor unit protection control error
462	Discharge current error/ PFC over-current error	Check the input power Check refrigerant is filled Check outdoor fan operates normally	Operation-Off	Outdoor unit protection control error
464	[inverter] IPM over current error	Check refrigerant is filled Check the connection status of compressor and if it operates normally Check for any obstacles around indoor/ outdoor units	Operation-Off	Outdoor unit protection control error
467	[inverter] Compressor rotation error	Check the connection status of the compressor Check the resistance between different phases in compressor	Operation-Off	Outdoor unit protection control error
468	[inverter] Current sensor error	Check PCB operates normally	Operation-Off	Outdoor unit protection control error
469	[inverter] DC link voltage sensor error	Check the connection of input power Check the status of RY21 and R2000 of Inverter PCB	Operation-Off	Outdoor unit protection control error
471	[inverter] OTP error	Check PCB operates normally	Operation-Off	Outdoor unit protection control error
475	Outdoor fan 2 error	Check the connection status of input power Check the connection status of motor and outdoor PCB Check the fuse of indoor/outdoor unit	Operation-Off	Self-diagnosis error
554	Gas leakage error	Check refrigerant is filled Check the indoor EVA sensor	Operation-Off	Self-diagnosis error
556	Inconsistent volume	Check the indoor unit's option code	Operation-Off	Outdoor unit protection control error

1-6. Wired Remote Controller Error Display(COM2)

1) Wired remote controller

- ◆ If an error occurs is displayed on the wired remote controller.
- ◆ To see an error code, please press the test button.

Error mode	Content	Measure	Product operation status in case of error Outdoor unit compressor/ Outdoor unit Fan	Error type
101	Indoor unit communication error	Check the communication line for indoor units, check the power supply of the communication phase (DC)	Operation-Off	Communication error
102	Communication time-out error between indoor/outdoor unit 6-packet over error	Check the communication line for indoor units, check the power supply of the communication phase (DC)	Operation-Off	Communication error
121	Indoor temperature sensor (open/short error)	Check the temp. sensor of the indoor unit room. Check the indoor PCB connector CN21(white)	Operation-Off	Indoor sensor error
122	Indoor unit Eva In sensor (open/short)	Check the indoor unit drainage pipe sensor Check the indoor PCB connector CN21 (white)	Operation-Off	Indoor sensor error
128	Dismount of indoor unit Eva In sensor	Check the drainage pipe has been dismounted	Operation-Off	Indoor sensor error
153	Secondary detection of indoor floating switch	Check the indoor unit's float sensor Check the indoor PCB connector CN51 (black)	Operation-Off	Self-diagnosis error
201	Indoor unit not connected	Check the indoor unit connection Check the indoor unit option	Operation-Off	Communication error
203	Communication error between indoor/outdoor unit INV and Main Micom (1 min.)	Check the Main MICOM Check the inverter MICOM	Operation-Off	Communication error
221	Outdoor temperature sensor error	Check the connection status of the sensor Check the sensor location Check the resistance values of sensor	Operation-Off	Outdoor sensor error
237	Cond. temperature sensor error	Check the connection status of the sensor Check the sensor location Check the resistance values of sensor	Operation-Off	Outdoor sensor error
251	[inverter] Emission temperature sensor error	Check the connection status of the sensor Check the sensor location Check the resistance values of sensor	Operation-Off	Outdoor sensor error
416	Excessive temperature emission	Not an error (discharge temp. control)	Operation-Off	Outdoor unit protection control error
425	Power cable connection error	Check the status of power connection	Operation-Off	Outdoor sensor error

Error mode	Content	Measure	Product operation status in case of error Outdoor unit compressor/ Outdoor unit Fan	Error type
450	Non-connection error of indoor and outdoor Communication wire (connected to the power terminal)	Check the status of power connection Check the connection status of the communication line	Operation-Off	Self-diagnosis error
458	Outdoor fan 1 error	Check the input power connection status Check the connection status between the motor and PCB in outdoor unit Check the fuse of indoor/outdoor units	Operation-Off	Self-diagnosis error
461	[inverter] Compressor operation error	Check the connection status of the compressor Check the resistance between different phases in compressor	Operation-Off	Outdoor unit protection control error
462	Discharge current error/ PFC over-current error	Check the input power Check refrigerant is filled Check outdoor fan operates normally	Operation-Off	Outdoor unit protection control error
464	[inverter] IPM over current error	Check refrigerant is filled Check the connection status of compressor and if it operates normally Check for any obstacles around indoor/ outdoor units	Operation-Off	Outdoor unit protection control error
467	[inverter] Compressor rotation error	Check the connection status of the compressor Check the resistance between different phases in compressor	Operation-Off	Outdoor unit protection control error
468	[inverter] Current sensor error	Check PCB operates normally	Operation-Off	Outdoor unit protection control error
469	[inverter] DC link voltage sensor error	Check the connection of input power Check the status of RY21 and R2000 of Inverter PCB	Operation-Off	Outdoor unit protection control error
471	[inverter] OTP error	Check PCB operates normally	Operation-Off	Outdoor unit protection control error
475	Outdoor fan 2 error	Check the connection status of input power Check the connection status of motor and outdoor PCB Check the fuse of indoor/outdoor unit	Operation-Off	Self-diagnosis error
554	Gas leakage error	Check refrigerant is filled Check the indoor EVA sensor	Operation-Off	Self-diagnosis error

1-6. Wired Remote Controller Error Display(COM2)

1) Wired remote controller

◆ If an error occurs is displayed on the wired remote controller.

◆ To see an error code, please press the test button.

Error mode	Content	Measure	Product operation status in case of error	Error type
			Outdoor unit compressor/ Outdoor unit Fan	
556	Inconsistent volume	Check the indoor unit's option code	Operation-Off	Outdoor unit protection control error
601	Communication error between indoor unit and wired remote controller	Check the connection wire linking indoor unit and wired remote controller	Normal operation	Wired remote controller control error
602	Communication error between master and slave wired remote controller	Check the option switch that distinguishes master and slave (Available only for 1 master unit and 1 slave unit)	Normal operation	Wired remote controller control error
606	Cross installation error of COM1/COM2	Check the connection of outdoor unit and wired remote controller is linked to Com2 terminal of the indoor unit	Normal operation	Wired remote controller control error
EA	Wired remote controller COM2 setting option error	Check the Dip switch for Com1 and Com2 is set to Com2	Normal operation	Wired remote controller control error

2. Check List

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

2) Is the link cable linking the indoor unit and the outdoor unit linked properly?
The indoor unit and the outdoor unit shall be linked by 4 cables.
Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
Otherwise the air conditioner may not operate properly.

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

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

3. FAQ

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.

3. FAQ

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 2m 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 2m 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.

CAC

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